ADJUST CASTING TO 1/4"-3/4" MAX BELOW FINISHED GRADE

NEENAH R-1733 (LIGHTWEIGHT) SELF SEALING LID AND CASTING, 2 CONCEALED PICK HOLES AND RAISED LETTERS READING "SANITARY SEWER", SEE PLATE NO. SAN-06

CONCRETE COLLAR TO ENCASE CASTING AND CONCRETE ADJUSTING RINGS. USE CONCRETE CURB AND GUTTER MIX OR MORTAR MIX (SPEC 2506.2B) FOR COLLAR. SEE PLATE NO. SAN-06

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

MNDOT TYPE "B" CONE

RUBBER O-RING GASKET JOINTS

PRECAST R.C.P. BARREL SECTION 5" MIN

KOR-N-SEAL BOOT OR APPROVED EQUAL

SECTION

BASE TO BE CAST INTEGRALLY WITH BOTTOM BARREL SECTION. MINIMUM THICKNESS OF PRECAST BASE IS 6" FOR 14' DEEP OR LESS, AND INCREASES 1" THICKNESS FOR EVERY 4' OF DEPTH GREATER THAN 14'

SANITARY SEWER PIPE

<table>
<thead>
<tr>
<th>DEPTH FT</th>
<th>TYPE</th>
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<tbody>
<tr>
<td>0-14</td>
<td>SDR 35</td>
</tr>
<tr>
<td>14-24</td>
<td>SDR 26</td>
</tr>
<tr>
<td>&gt;24</td>
<td>C-900</td>
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NOTES:
1. A MINIMUM FALL OF .10' ON MANHOLES THROUGH STRUCTURES AND A MINIMUM FALL OF .20' ON MANHOLES WITH 90 DEGREE BENDS IS REQUIRED.
2. MANHOLES SHALL BE INSTALLED AT DISTANCES NO GREATER THAN 400' APART.
3. GROUT ALL INTERIOR DOGHOUSES AND LIFT HOLES TO INSPECTORS APPROVAL.
4. MARKING POSTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AT ALL MANHOLES LOCATED OUTSIDE OF THE STREET SECTION.
5. SERVICES SHALL NOT ENTER MANHOLES UNLESS APPROVED BY THE CITY ENGINEER.
6. NO MANHOLE STEPS ALLOWED.
7. 2", 4" AND 6" ADJUSTING RINGS ARE ACCEPTABLE.

STANDARD DETAIL NO. SAN-01

SANITARY STANDARD MANHOLE

APPROVAL 12/6/2017
CITY ENGINEER

CITY OF RICHFIELD ENGINEERING DIVISION
NOTES:
1. A MINIMUM FALL OF .10' ON MANHOLES THROUGH STRUCTURES AND A MINIMUM FALL OF .20' ON MANHOLES WITH 90 DEGREE BENDS IS REQUIRED.
2. MANHOLES SHALL BE INSTALLED AT DISTANCES NO GREATER THAN 400' APART.
3. GROUT ALL INTERIOR DOGHouses AND LIFT HOLES TO INSPECTOR'S APPROVAL.
4. MARKING POSTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AT ALL MANHOLES LOCATED OUTSIDE OF STREET SECTION.
5. SERVICES SHALL NOT ENTER MANHOLES UNLESS APPROVED BY THE CITY ENGINEER.
6. NO INSIDE DROPS ALLOWED.
7. HORSESHOES SHALL BE FILLED WITH CONCRETE MORTAR ON ALL SIDES.
8. NO MANHOLE STEPS ALLOWED.
9. 2", 4" AND 6" ADJUSTING RING ARE ACCEPTABLE.
NOTES:
1. IF MAIN-LINE IS SDR 26 OR SCHEDULE 40 THEN WYE, PIPE AND ALL BEND SHALL BE SDR 26 OR SCHEDULE 40 TO PROPERTY LINE.
2. WYE, PIPE AND ALL BENDS SHALL BE A MINIMUM OF 4" FOR RESIDENTIAL AND 6" FOR COMMERCIAL.
3. MINIMUM SLOPE FOR 4" AND 6" SERVICE IS 2%
4. CLEANOUTS REQUIRED FOR EVERY 100' OF SERVICE.
5. EXCESSIVE SANITARY SEWER MAIN-LINE DEPTH MUST BE RECEIVED AND APPROVED BY THE CITY ENGINEER.
6. CONNECT TO EXISTING SERVICE PIPE WITH APPROVED COMMERCIAL ADAPTOR AND ENCASE IN CONCRETE MINIMUM OF 6" AROUND.
NOTES:
1. INSTALL CLEANOUTS EVERY 100 FEET INTERVALS.
2. CLEAN OUT SERVICE TIES SHALL BE RECORDED WITH CITY PROPERTY RECORD AND UTILITY AS-BUILT RECORDS.
3. BENDS AND RISER TO BE SAME SIZE AS SERVICE PIPE.

INSTALL METER BOX AND COVER (FORD A-1) OR APPROVED EQUAL OVER ALL PVC CLEANOUTS LOCATED IN PAVED DRIVEWAYS AND/OR PARKING STALLS

HUB WITH THREADED METAL PLUG TO BE SET AT FINAL GRADE. METAL TOP PLUG MADE OF MATERIAL TO ALLOW LOCATES VIA METAL DETECTOR

PVC SEWER PIPE

VARIER

SERVICE WYE

45° LONG SWEEP ELBOW

90° LONG SWEEP ELBOW

END OF LINE

PVC SEWER PIPE

STANDARD DETAIL NO.
SAN-04

SEWER SERVICE CLEANOUT

APPROVAL 12/6/2017
CITY ENGINEER

CITY OF RICHFIELD ENGINEERING DIVISION
NOTES: 1. SEE STANDARD DETAIL NO SAN-03 FOR TYPICAL SANITARY SEWER SERVICE CONNECTION DETAIL.
2. CLEAN CUT ALL PIPE ENDS.
MIN 1 AND MAX 4 ADJUSTING RINGS, MORTAR (DESIGNED FOR UNDERGROUND UTILITY INSTALLATION) BETWEEN CASTING, RINGS AND STRUCTURE

CONCRETE COLLAR TO ENCASE CASTING AND CONCRETE ADJUSTING RINGS. USE CONCRETE CURB AND GUTTER MIX OR MORTAR MIX (SPEC.2506.28) FOR COLLAR

NOTES:
1. WEIGHT- 122 LBS
2. MACHINE BEARING SURFACE.
3. LETTERED SANITARY SEWER W/2 CONCEALED PICKHOLES
4. H-20 LOAD OR GREATER.
5. \( \frac{3}{8} \)" NEOPRENE O-RING GASKET SET IN \( \frac{3}{8} \)" x \( \frac{1}{2} \)" MACHINE GROOVE AND CHEMICALLY FASTENED IN PLACE.
6. NO DROP IN PAVING RINGS ALLOWED.
NEENAH R-1733 (5044 LIGHTWEIGHT SELF-SEALING SOLID LID)

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

CONCRETE COLLAR TO ENCASE CASTING AND CONCRETE ADJUSTING RINGS. USE CONCRETE CURB AND GUTTER MIX OR MORTAR MIX (SPEC.2506.26) FOR COLLAR

NOTES:
1. WEIGHT- 122 LBS
2. MACHINE BEARING SURFACE.
3. LETTERED SANITARY SEWER W/2 CONCEALED PICKHOLES
4. H-20 LOAD OR GREATER.
5. \( \frac{3}{8} \) NEOPRENE O-RING GASKET SET IN \( \frac{3}{4} \) x \( \frac{3}{4} \) MACHINE GROOVE AND CHEMICALLY FASTENED IN PLACE.
6. NO DROP IN PAVING RINGS ALLOWED.

R-1733 SERIES MANHOLE WITH SELF SEALING LID (TOP SLAB)
NOTES: 1. BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE PIPE UNLESS MODIFIED IN THE CONTRACT DOCUMENTS.
2. BEDDING REQUIRED FOR ALL MAINS AND SERVICES.
MARK SEWER SERVICE LOCATION WITH 2"X2" LUMBER FROM SERVICE INVERT TO A POINT 2' ABOVE GROUND PAINT GREEN

A 1" MINUS CLEAN CRUSHED ROCK (MNDOT SPEC. 3149 H) REQUIRED WHERE TRENCH IS UNSTABLE, OR WHERE CRUSHED ROCK IS USED FOR PIPE BEDDING.

B IF GROUND WATER IS PRESENT, CONTINUE PIPE UNTIL ABOVE GROUND WATER.

NOTE: 1. FOR SIZE AND TYPE OF MATERIALS SEE PLANS 2. ALL FITTINGS SHALL BE SOLVENT WELD (GLUED).
NOTE: 1. CONNECTION TO EXISTING SANITARY SEWER MANHOLE SHALL BE CORE DRILLED WITH A SNAP IN BOOT.