

**NOTES:**

1. A MINIMUM FALL OF .10' ON MANHOLES THROUGH STRUCTURES AND A MINIMUM FALL OF .20' ON MANHOLES WITH 90° BENDS IS REQUIRED.
2. INSTALL MANHOLES AT DISTANCES NO GREATER THAN 400' APART.
3. PLACE MANHOLE STEPS SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.
4. GROUT ALL DOGHOUSES AND LIFT HOLES.
5. INSTALL MARKING POSTS AT ALL MANHOLES LOCATED OUTSIDE OF STREET SECTION. SEE PLATE NO. MISC-01.
6. DO NOT CONNECT SERVICES TO MANHOLES.
7. THE CITY WILL REQUIRE OUTSIDE DROPS WHEN INVERT ELEVATION DIFFERENCES EXCEED 2', AND SLOPED BENCHES FOR ALL DROPS LESS THAN 2'.
8. SLOPE ALL BENCHES AT A MINIMUM SLOPE OF 2%.
9. A CONCRETE COLLAR SHALL BE INSTALLED AROUND THE RINGS AND CASTING.
10. STRUCTURES GREATER THAN 4' DEPTH REQUIRE STEPS.

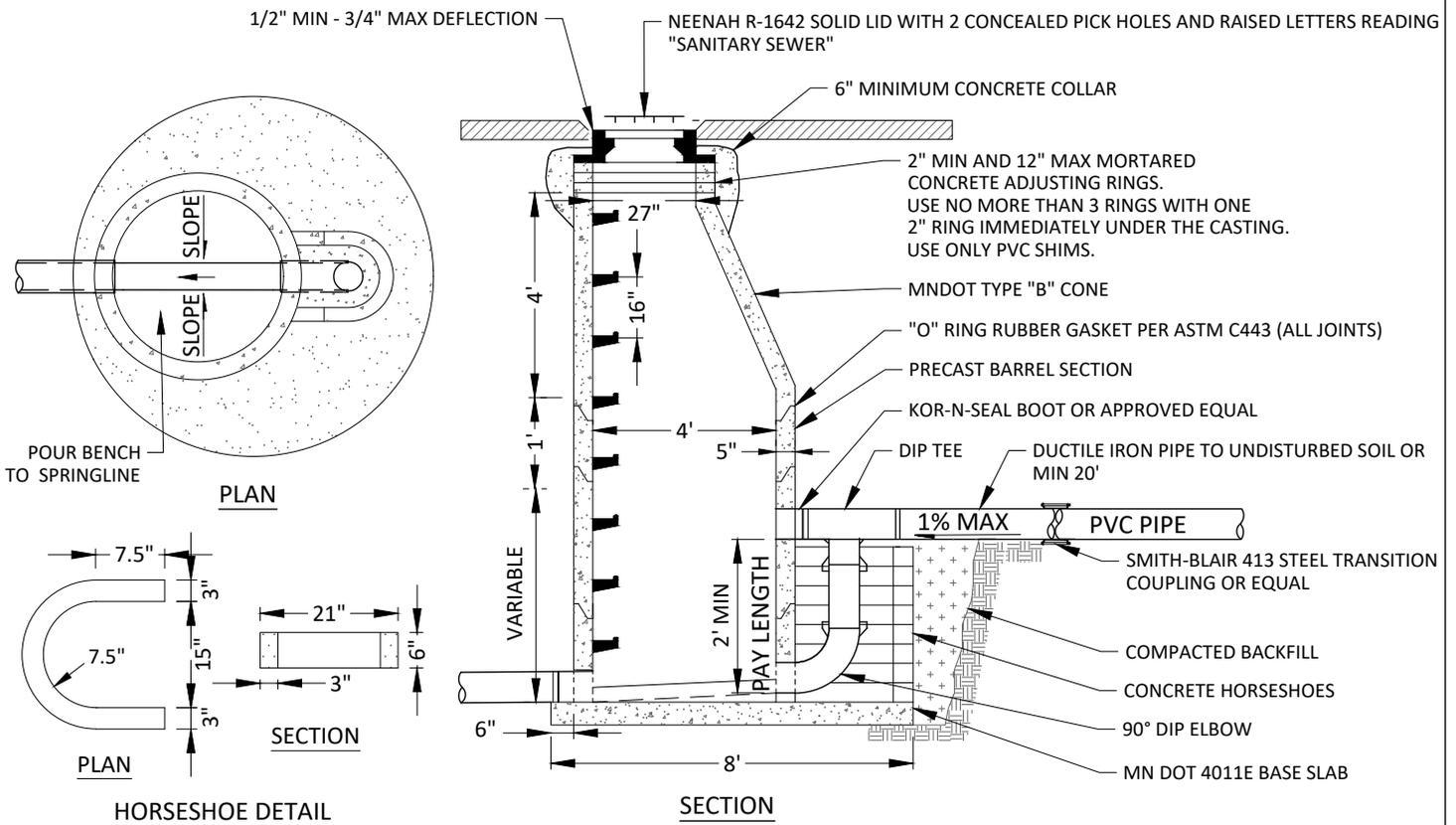


CITY OF INVER GROVE HEIGHTS  
 PUBLIC WORKS ENGINEERING DIVISION  
**SANITARY STANDARD  
 MANHOLE**

Plate No.

**SAN-01**

Revised 03/23



**NOTES:**

1. A MINIMUM FALL OF .10' ON MANHOLES THROUGH STRUCTURES AND A MINIMUM FALL OF .20' ON MANHOLES WITH 90° BENDS REQUIRED.
2. INSTALL MANHOLES AT DISTANCES NO GREATER THAN 400' APART.
3. PLACE MANHOLE STEPS SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.
4. GROUT ALL DOGHOUSES AND LIFT HOLES.
5. INSTALL MARKING POSTS AT ALL MANHOLES LOCATED OUTSIDE OF STREET SECTION. SEE PLATE NO. MISC-01.
6. DO NOT CONNECT SERVICES TO MANHOLES.
7. NO CONSTRUCTED INSIDE DROPS ALLOWED.
8. SLOPE ALL BENCHES AT A MINIMUM SLOPE OF 2%.
9. FILL HORSESHOES WITH CONCRETE MORTAR ON ALL SIDES.
10. INSTALL A 6" MIN. CONCRETE COLLAR AROUND THE RINGS AND CASTING.
11. FOR ALL CONNECTIONS BETWEEN DIP AND PVC, USE A SMITH BLAIR 413 STEEL TRANSITION COUPLING OR APPROVED EQUAL.
12. STRUCTURES GREATER THAN 4' DEPTH REQUIRE STEPS.

**SANITARY SEWER PIPE**

DEPTH (FT)	TYPE
0-14	SDR 35
14-24	SDR 26
>24	CLASS 52 DIP



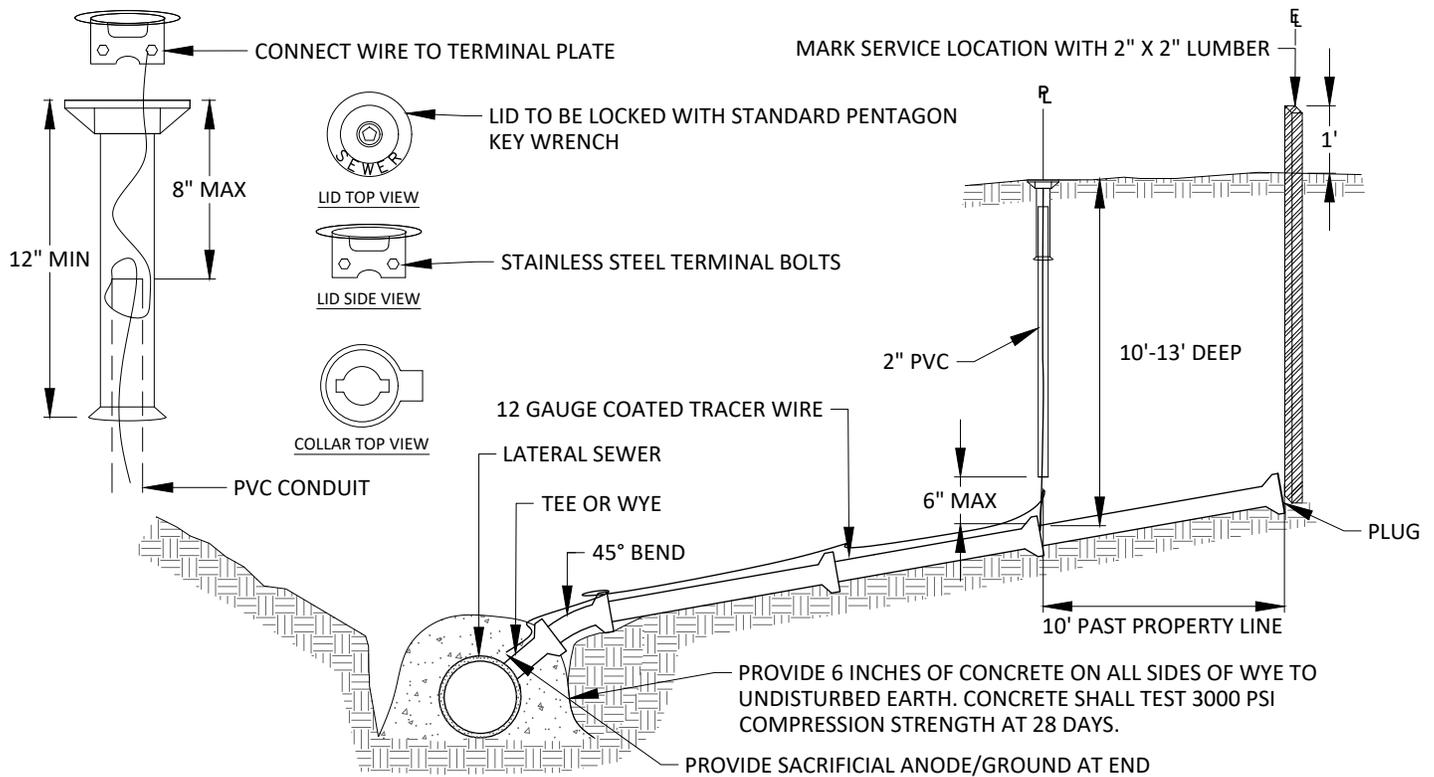
CITY OF INVER GROVE HEIGHTS  
PUBLIC WORKS ENGINEERING DIVISION

**SANITARY DROP MANHOLE**

Plate No.

**SAN-02**

Revised 03/23



**NOTES:**

1. INSTALL SEWER SERVICE 3' DOWNSTREAM FROM PROPOSED WATER SERVICE.
2. IF MAIN IS SDR 26 OR SDR 35 THEN TEE, PIPE, AND ALL BENDS SHALL BE SDR 26 TO THE PROPERTY LINE. IF MAIN IS DIP THEN TEE, PIPE, AND ALL BENDS SHALL BE DIP TO THE PROPERTY LINE.
3. SERVICE LINE SHALL BE A MINIMUM OF 4" FOR RESIDENTIAL AND 6" FOR COMMERCIAL PROPERTIES. MINIMUM SLOPE FOR 4" AND 6" SERVICE PIPE IS 2% AND 1% RESPECTIVELY.
4. INSTALL CLEANOUTS EVERY 100' OF SERVICE.
5. INSTALL A 2" BY 2" WOOD LOCATION MARKER AT THE END OF EACH SEWER SERVICE. EXTEND MARKER 1' ABOVE GRADE.
6. INSTALL TRACER WIRE ACCESS BOX (VALVCO OR APPROVED EQUAL) AT PROPERTY LINE. BOXES IN PAVED DRIVEWAY AREAS REQUIRE A FORD A-1 COVER OR APPROVED EQUAL. TRACER WIRE BOX LID SHALL BE MARKED "SEWER".
7. TRACER WIRE SHALL BE DIRECT BURIAL #12 AWG, STEEL CORE SOFT DRAWN HIGH STRENGTH (380#) TRACER WIRE W/30 MIL HDPE GREEN COLOR JACKET, 30 VOLT RATING (COPPERHEAD INDUSTRIES, OR APPROVED EQUAL).
8. PLACE WIRE ALONG AXIS OF PIPE AND NOT IN DIRECT CONTACT WITH PVC PIPE. FROM END OF SANITARY SERVICE TO THE ACCESS BOX, PLACE TRACER WIRE SHALL BE IN 2" PVC CONDUIT. EXTEND 2" CONDUIT TO WITHIN 8" OF FINISHED GRADE.
9. CONNECT TRACER WIRE TO TERMINAL PLATE OF ACCESS BOX AND PROVIDE FOR 2' PIGTAIL FROM CONDUIT END.
10. RUN TRACER WIRE CONTINUOUSLY FROM END TO END.
11. PROVIDE #5 MAGNESIUM ANODE AT TRACER WIRE END. REMOVE ANODE PROTECTIVE PLASTIC COVER AND APPLY WATER AS DIRECTED BY THE MANUFACTURER.
12. STAMP SERVICE LOCATION INTO ADJACENT CONCRETE CURB.

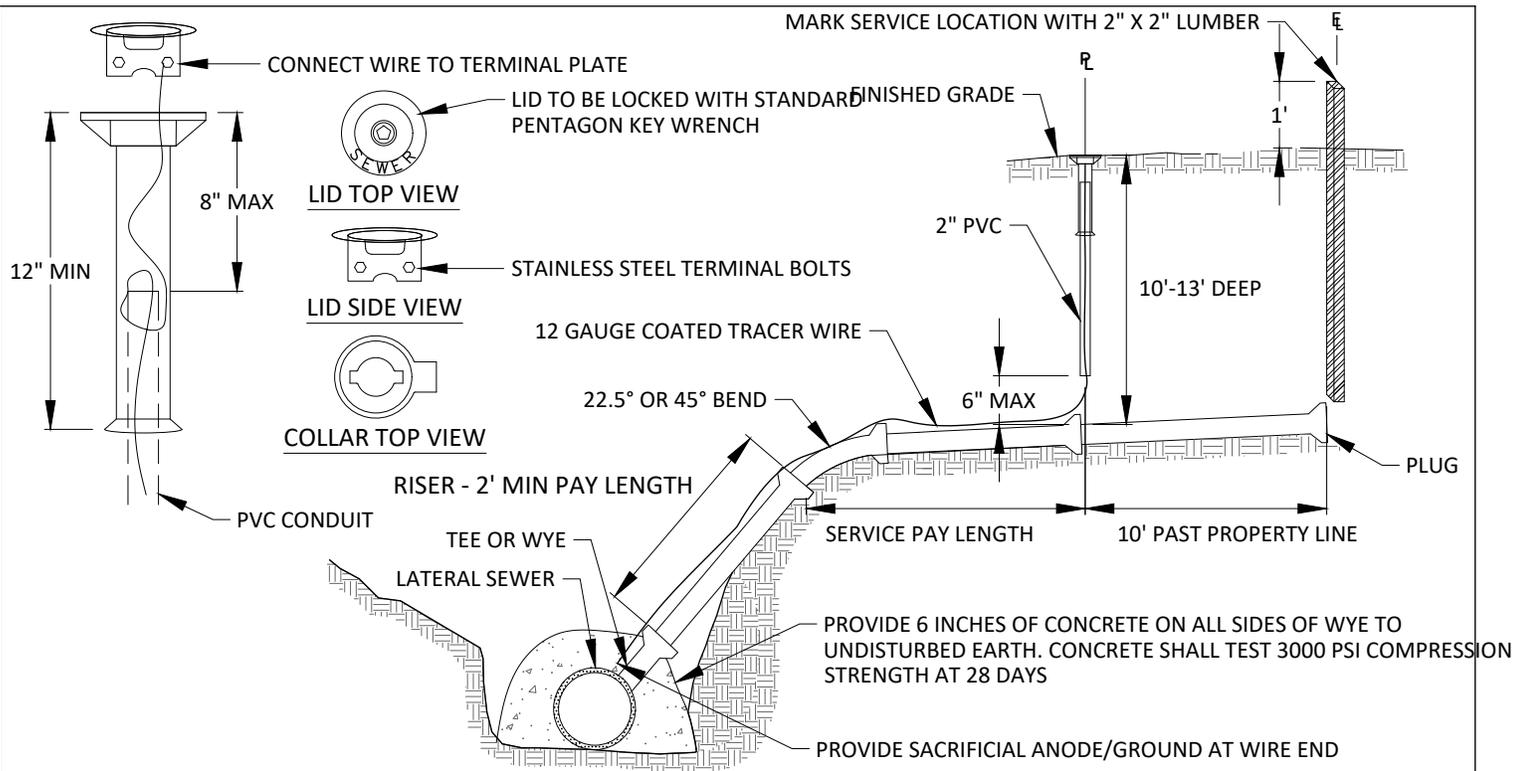


CITY OF INVER GROVE HEIGHTS  
PUBLIC WORKS ENGINEERING DIVISION  
**SANITARY SEWER  
CONNECTION**

Plate No.

**SAN-03**

Revised 02/23



**NOTES:**

1. SERVICE SHALL BE A MINIMUM OF 10' AND A MAXIMUM OF 13' DEEP AT PROPERTY LINE AND EXTEND A MINIMUM OF 10' PAST PROPERTY LINE. SEWER SERVICE SHALL BE LOCATED 3' DOWNSTREAM FROM PROPOSED WATER SERVICE.
2. IF MAIN IS SDR 26 OR SDR 35 THEN TEE, PIPE, AND ALL BENDS SHALL BE SDR 26 TO THE PROPERTY LINE. IF MAIN IS DIP THEN TEE, PIPE, AND ALL BENDS SHALL BE DIP TO THE PROPERTY LINE.
3. SERVICE LINE SHALL BE A MINIMUM OF 4" FOR RESIDENTIAL AND 6" FOR COMMERCIAL PROPERTIES. MINIMUM SLOPE FOR 4" AND 6" SERVICE PIPE IS 2% AND 1% RESPECTIVELY.
4. INSTALL CLEANOUTS FOR EVERY 100' OF SERVICE.
5. INSTALL ALL A 2" BY 2" WOOD LOCATION MARKER AT THE END OF EACH SEWER SERVICE. EXTEND MARKER 1' ABOVE GRADE.
6. INSTALL TRACER WIRE ACCESS BOX (VALVCO OR APPROVED EQUAL) AT PROPERTY LINE. BOXES IN PAVED DRIVEWAY AREAS REQUIRE A FORD A-1 COVER OR APPROVED EQUAL. TRACER WIRE BOX LID SHALL BE MARKED "SEWER".
7. TRACER WIRE SHALL BE DIRECT BURIAL #12 AWG, STEEL CORE SOFT DRAWN HIGH STRENGTH (380#) TRACER WIRE W/30 MIL HDPE GREEN COLOR JACKET, 30 VOLT RATING (COPPERHEAD INDUSTRIES, OR APPROVED EQUAL).
8. PLACE WIRE ALONG AXIS OF PIPE AND NOT IN DIRECT CONTACT WITH PVC PIPE. FROM END OF SANITARY SERVICE TO THE ACCESS BOX, PLACE TRACER WIRE IN 2" PVC CONDUIT. 2" EXTEND CONDUIT TO WITHIN 8" OF FINISHED GRADE.
9. CONNECT TRACER WIRE TO TERMINAL PLATE OF ACCESS BOX AND PROVIDE FOR 2' PIGTAIL FROM CONDUIT END.
10. RUN TRACER WIRE CONTINUOUSLY FROM END TO END.
11. PROVIDE #5 MAGNESIUM ANODE AT TRACER WIRE END. REMOVE ANODE PROTECTIVE PLASTIC COVER AND APPLY WATER AS DIRECTED BY THE MANUFACTURER.

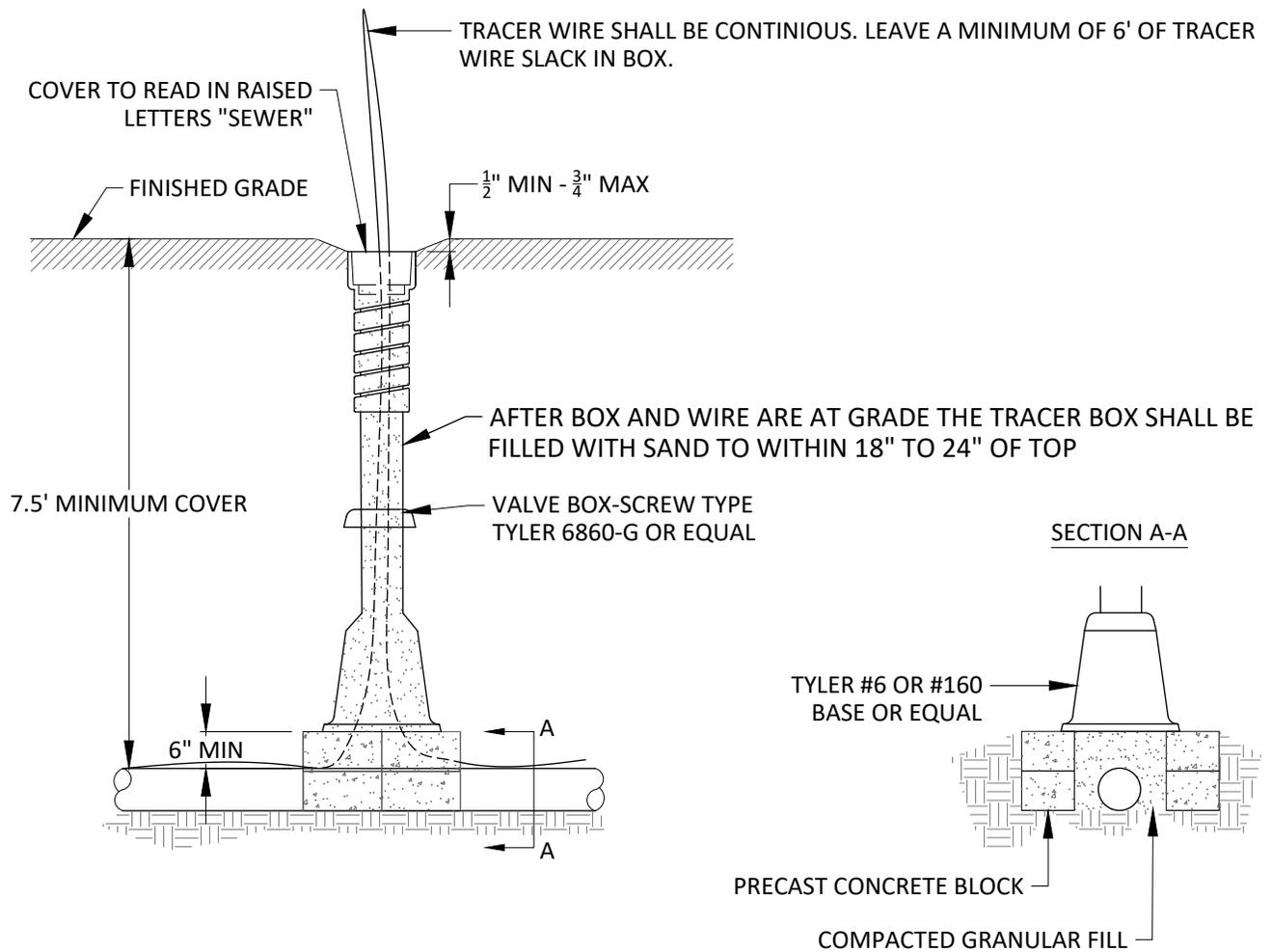


CITY OF INVER GROVE HEIGHTS  
PUBLIC WORKS ENGINEERING DIVISION  
**DEEP SANITARY SEWER  
CONNECTION**

Plate No.

**SAN-04**

Revised 02/23



**NOTES:**

1. TRACER WIRE SHALL BE DIRECT BURIAL #12 AWG, STEEL CORE SOFT DRAWN HIGH STRENGTH (380#) TRACER WIRE W/30 MIL HDPE GREEN COLOR JACKET, 30 VOLT RATING (COPPERHEAD INDUSTRIES OR ACCEPTED EQUAL).
2. EXCEPT FOR APPROVED SPLICED-IN CONNECTIONS, TRACER WIRE SHALL BE CONTINUOUS FROM END TO END.
3. SPLICED OR REPAIRED WIRE CONNECTIONS IN THE TRACER WIRE SYSTEM SHALL BE UL LISTED FOR DIRECT BURIAL, WATER AND CORROSION PROOF (DRYCONN KING, DRYCONN DIRECT BURY LUG OR ACCEPTED EQUAL). SPLIT-BOLT AND TWISTED WIRE SPLICES WILL NOT BE ACCEPTED.
4. NO INSIDE ADJUSTMENT SECTIONS ARE ALLOWED (IE. NO INSERTS).
5. INSTALL MARKING POSTS AT ALL FORCE MAIN TRACER BOXES LOCATED OUTSIDE OF STREET SECTIONS.

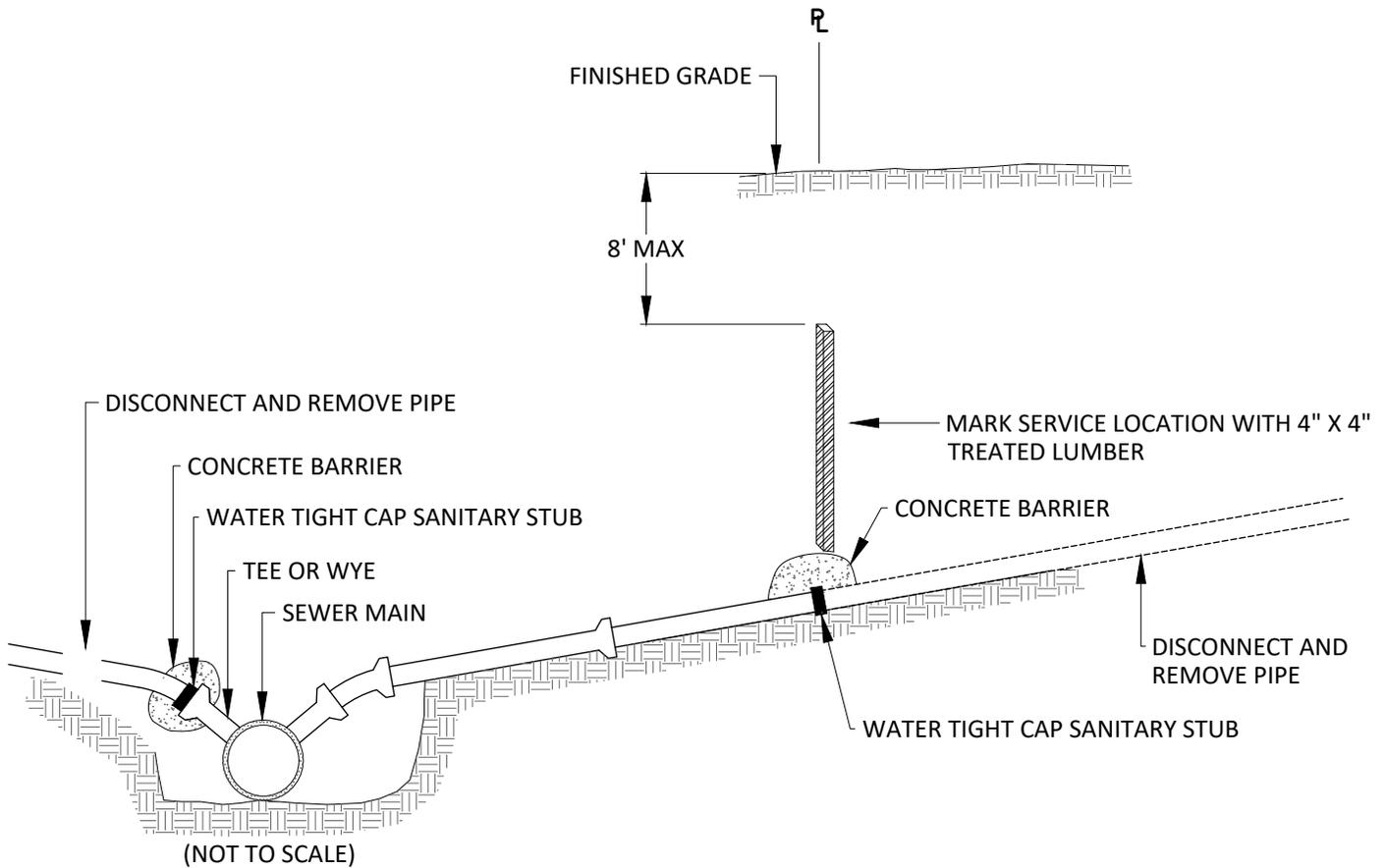


CITY OF INVER GROVE HEIGHTS  
 PUBLIC WORKS ENGINEERING DIVISION  
**FORCE MAIN TRACER WIRE  
 BOX**

Plate No.

**SAN-05**

Revised 02/23



GPS LOCATIONS NEEDED:

\_\_\_\_\_ NORTHING LOCATION OF STUB      \_\_\_\_\_ ELEVATION OF STUB

\_\_\_\_\_ EASTING LOCATION OF STUB      \_\_\_\_\_ DEPTH OF STUB FROM GROUND LEVEL

NOTES:

1. DISCONNECT SERVICE NEAR PROPERTY LINE OR MAIN IN ACCORDANCE WITH INVER GROVE HEIGHTS UTILITY DEPARTMENT INSTRUCTIONS.
2. MARK SERVICE WITH 4 X 4 TREATED LUMBER. TOP OF LUMBER SHALL NOT BE MORE THAN 8 FEET BELOW FINISHED GRADE.
3. GPS COORDINATES AND DEPTH OF SANITARY STUB MUST BE ACQUIRED AND SUBMITTED TO CITY ENGINEERING DEPARTMENT.
4. CAP SERVICE STUB WITH A WATER TIGHT SEAL AND SURROUND WITH CONCRETE. DRY POUR IS ALLOWABLE.



CITY OF INVER GROVE HEIGHTS  
 PUBLIC WORKS ENGINEERING DIVISION  
**TYPICAL SEWER SERVICE  
 DISCONNECT**

Plate No.  
**SAN-06**  
 Revised 02/23