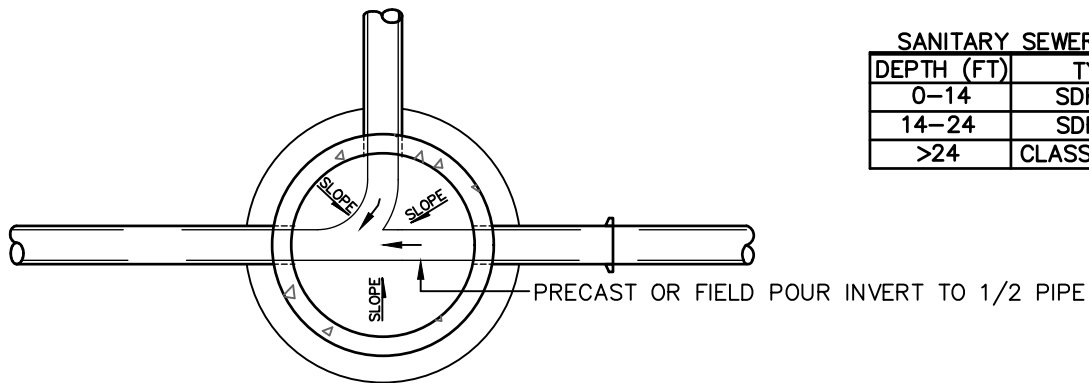


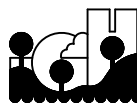
SECTION

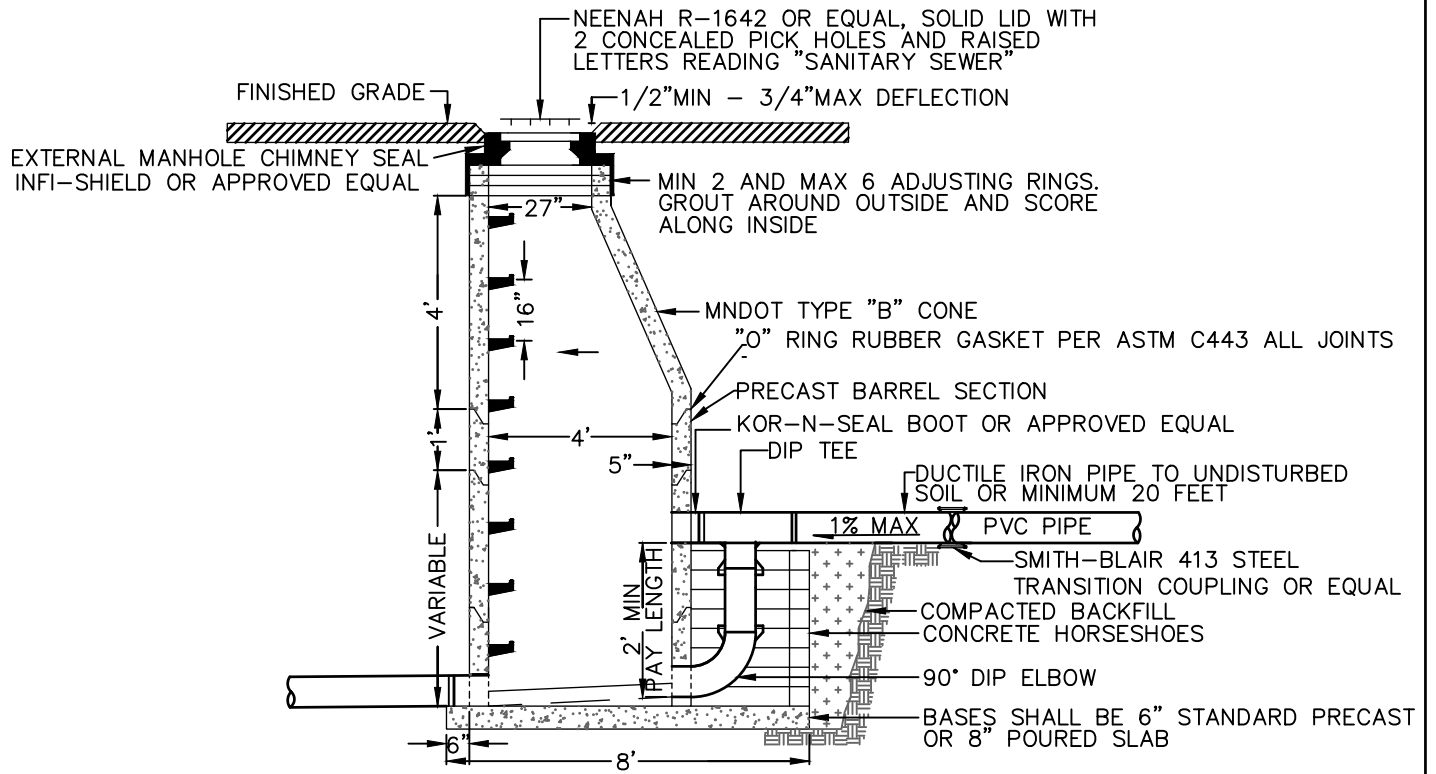


PLAN

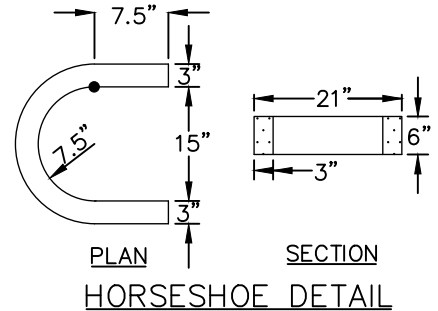
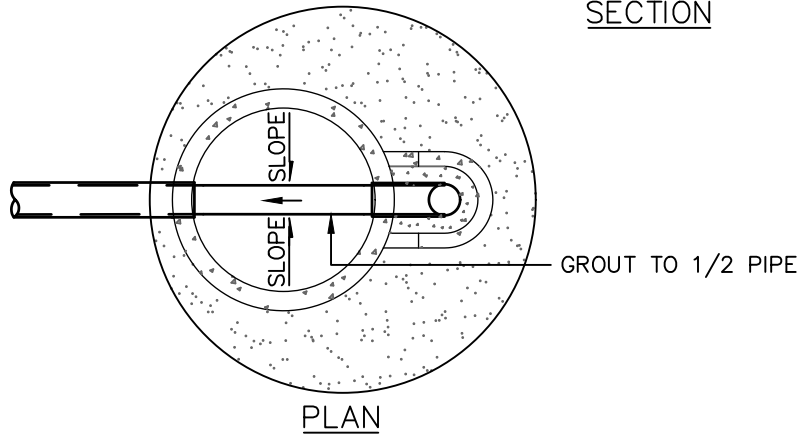
SANITARY SEWER PIPE	
DEPTH (FT)	TYPE
0-14	SDR 35
14-24	SDR 26
>24	CLASS 52 DIP

- 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. MANHOLES SHALL BE INSTALLED AT DISTANCES NO GREATER THAN 400' APART.
 3. MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.
 4. GROUT ALL DOGHOUSES AND LIFT HOLES.
 5. MARKING POSTS SHALL BE INSTALLED AT ALL MANHOLES LOCATED OUTSIDE OF STREET SECTION. SEE PLATE NO. MISC-01.
 6. SERVICES SHALL NOT ENTER MANHOLES.
 7. OUTSIDE DROPS ARE REQUIRED WHEN THE LOWEST AND HIGHEST INVERT ELEVATION DIFFERENCES EXCEED 2'. FOR ALL DROPS LESS THAN 2', SLOPED BENCHES ARE REQUIRED.
 8. AN EXTERNAL MANHOLE CHIMNEY SEAL SHALL BE INSTALLED AROUND THE RINGS AND CASTING.





SECTION

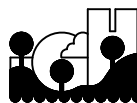


- NOTES:
1. A MINIMUM FALL OF .10' ON MANHOLES THROUGH STRUCTURES AND A MINIMUM FALL OF .20' ON MANHOLES WITH 90° BENDS IS REQUIRED.
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 3. MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.
 4. GROUT ALL DOGHOUSES AND LIFT HOLES.
 5. MARKING POSTS SHALL BE INSTALLED AT ALL MANHOLES LOCATED OUTSIDE OF STREET SECTION. SEE PLATE NO. MISC-01.
 6. SERVICES SHALL NOT ENTER MANHOLES.
 7. NO CONSTRUCTED INSIDE DROPS ALLOWED.
 8. HORSESHOES FILLED WITH CONCRETE MORTAR ON ALL SIDES.
 9. AN EXTERNAL MANHOLE CHIMNEY SEAL SHALL BE INSTALLED AROUND THE RINGS AND CASTING.
 10. ALL CONNECTIONS BETWEEN DIP AND PVC SHALL BE MADE WITH SMITH BLAIR 413 STEEL TRANSITION COUPLING OR APPROVED EQUAL.

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SANITARY SEWER PIPE

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

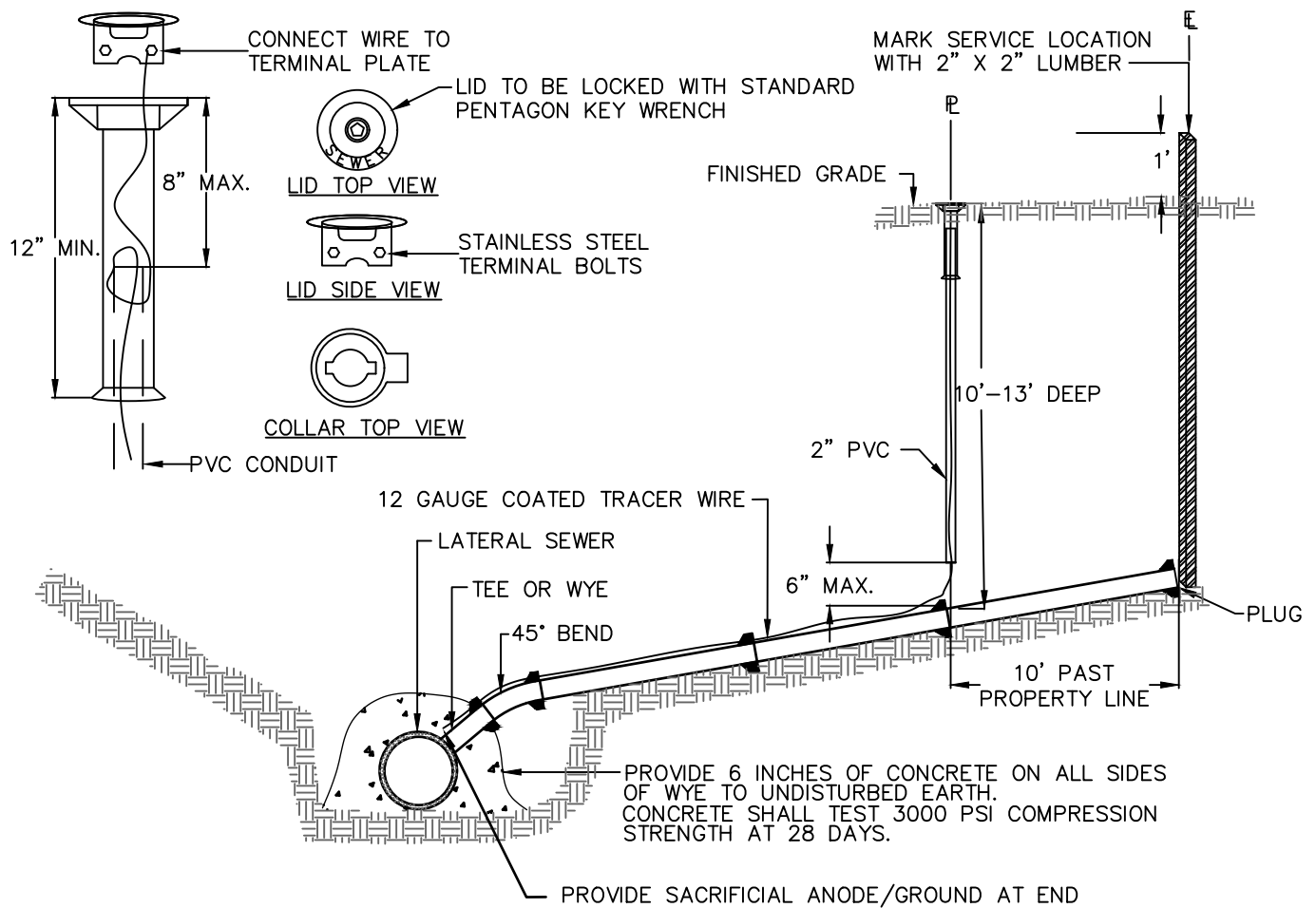


SANITARY DROP MANHOLE

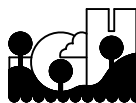
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

1/15

PLATE NO.
SAN-02



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. CLEANOUTS ARE REQUIRED FOR EVERY 100' OF SERVICE.
5. ALL SEWER SERVICES SHALL HAVE A 2" X 2" WOOD LOCATION MARKER PLACED AT THE END OF THE SERVICE. MARKER SHALL EXTEND 1' ABOVE GRADE.
6. TRACER WIRE ACCESS BOX (VALVCO OR APPROVED EQUAL) SHALL BE PROVIDED 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, TRACER WIRE SHALL BE PLACED IN 2" PVC CONDUIT. 2" CONDUIT SHALL EXTEND 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. TRACER WIRE SHALL BE PLACED CONTINUOUS 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.



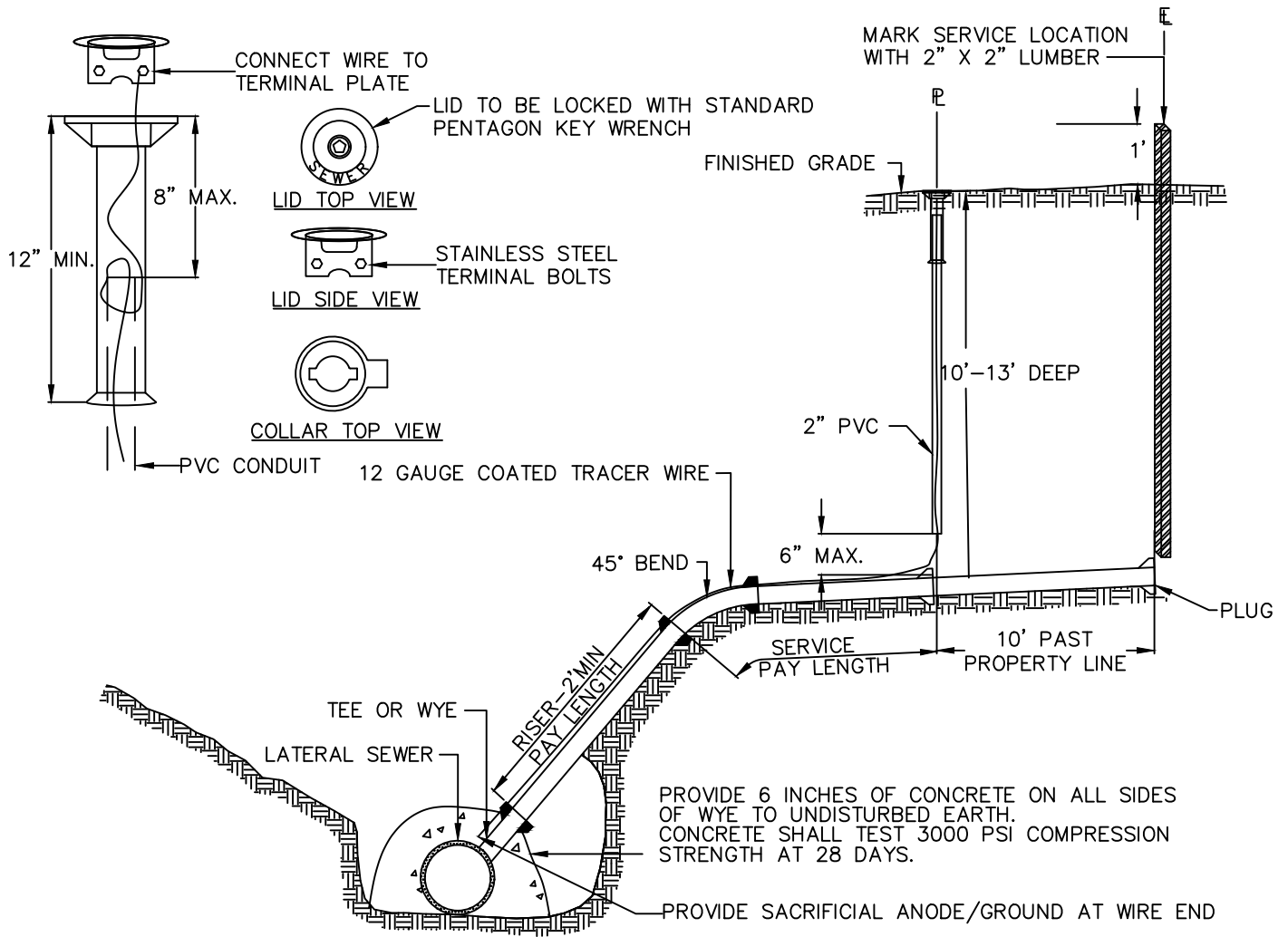
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TYPICAL SANITARY SEWER CONNECTION

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

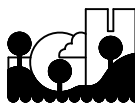
2/15

PLATE NO.
SAN-03



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. CLEANOUTS ARE REQUIRED FOR EVERY 100' OF SERVICE.
5. ALL SEWER SERVICES SHALL HAVE A 2" X 2" WOOD LOCATION MARKER PLACED AT THE END OF THE SERVICE. MARKER SHALL EXTEND 1' ABOVE GRADE.
6. TRACER WIRE ACCESS BOX (VALVCO OR APPROVED EQUAL) SHALL BE PROVIDED 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, TRACER WIRE SHALL BE PLACED IN 2" PVC CONDUIT. 2" CONDUIT SHALL EXTEND 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. TRACER WIRE SHALL BE PLACED CONTINUOUS 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.

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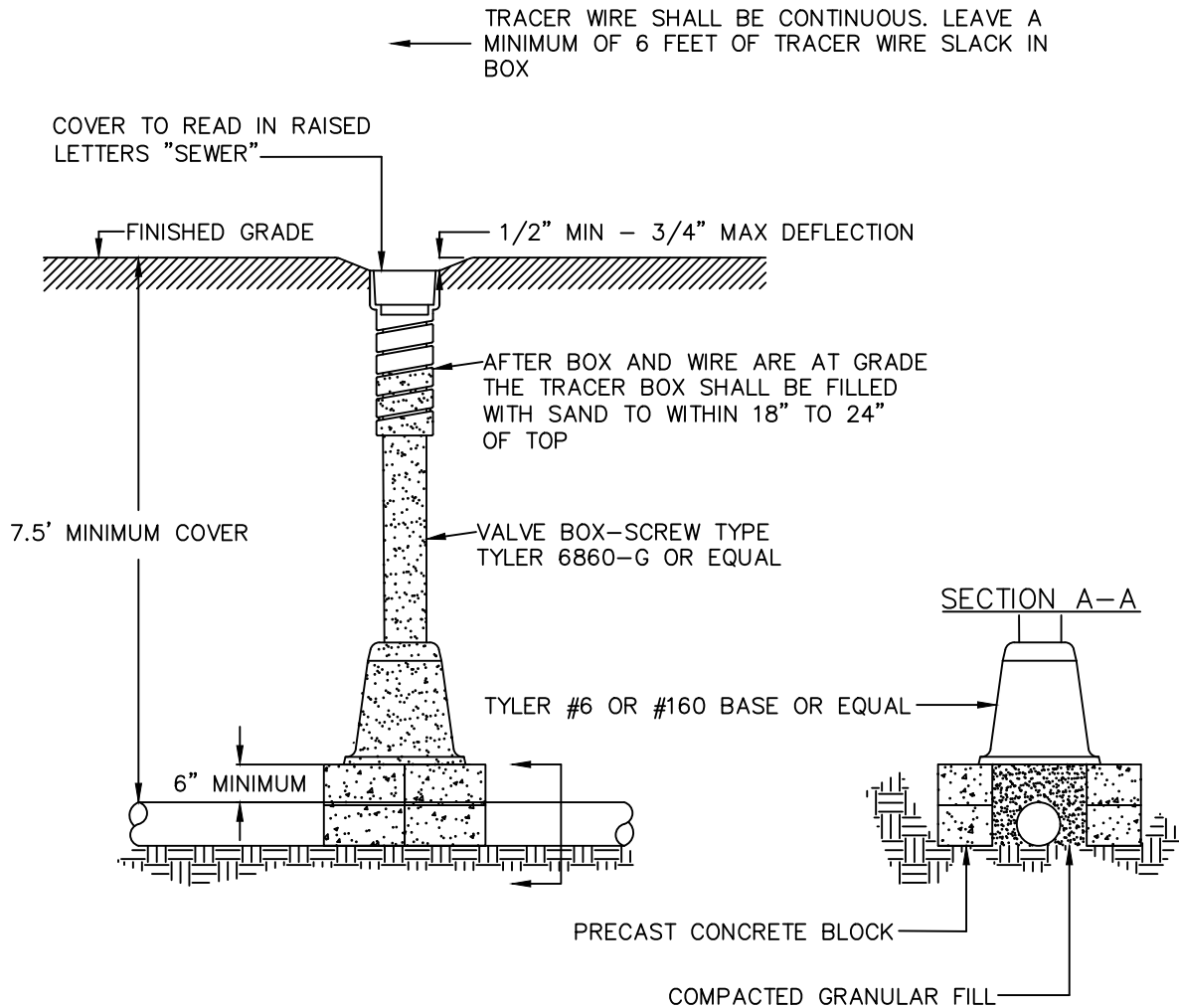


DEEP SANITARY SEWER CONNECTION

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

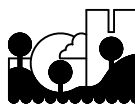
2/15

PLATE NO.
SAN-04



- 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. MARKING POSTS SHALL BE PLACED AT ALL FORCE MAIN TRACER BOXES LOCATED OUTSIDE OF STREET SECTIONS.

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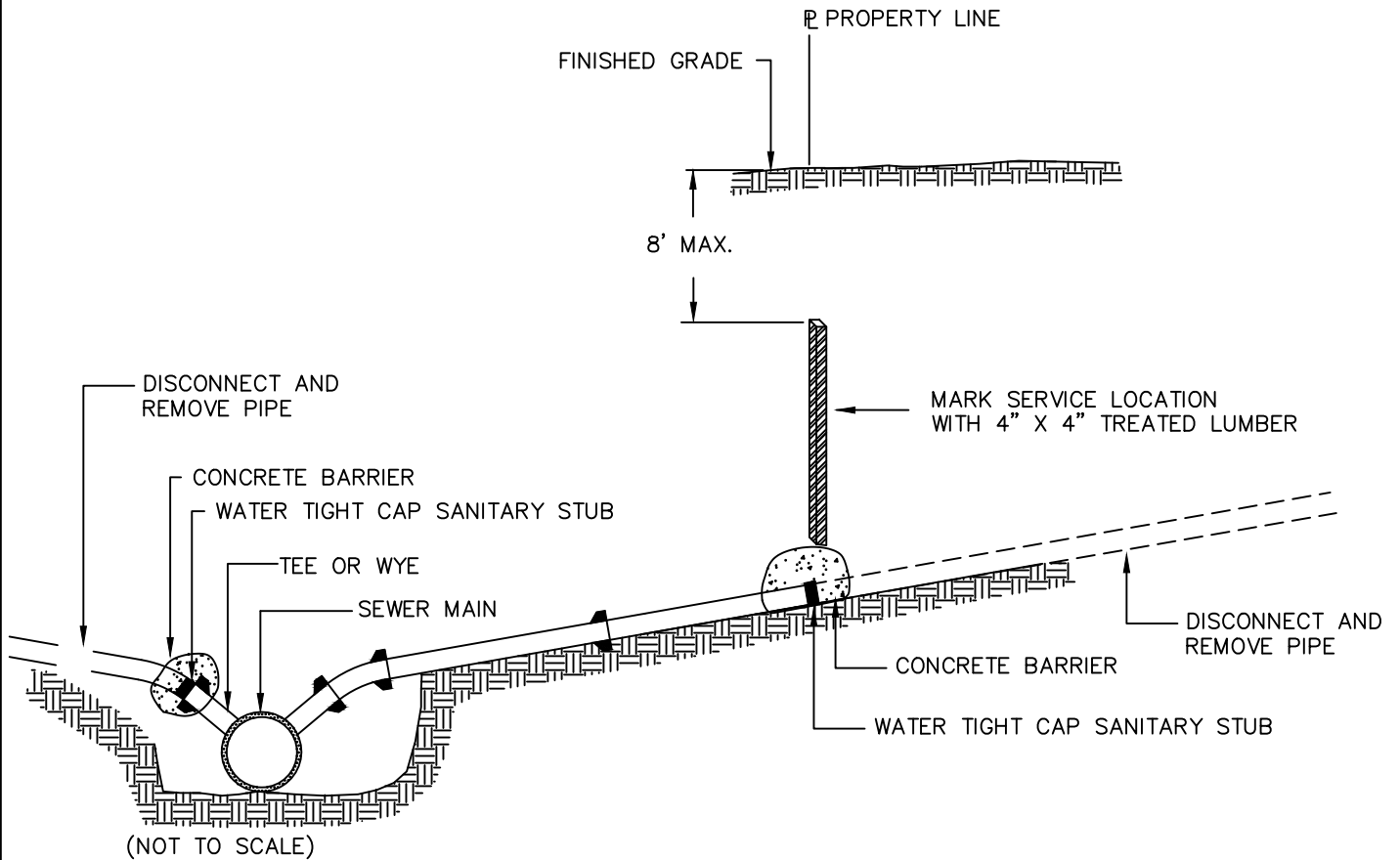


FORCE MAIN TRACER WIRE BOX

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

2/15

PLATE NO.
SAN-05



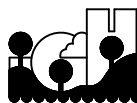
GPS LOCATIONS NEEDED:

_____	NORTHING LOCATION OF STUB	_____	ELEVATION OF STUB
_____	EASTING LOCATION OF STUB	_____	DEPTH OF STUB FROM GROUND LEVEL

NOTES

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

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TYPICAL SEWER SERVICE DISCONNECTION

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

7/19

PLATE NO.
SAN-06