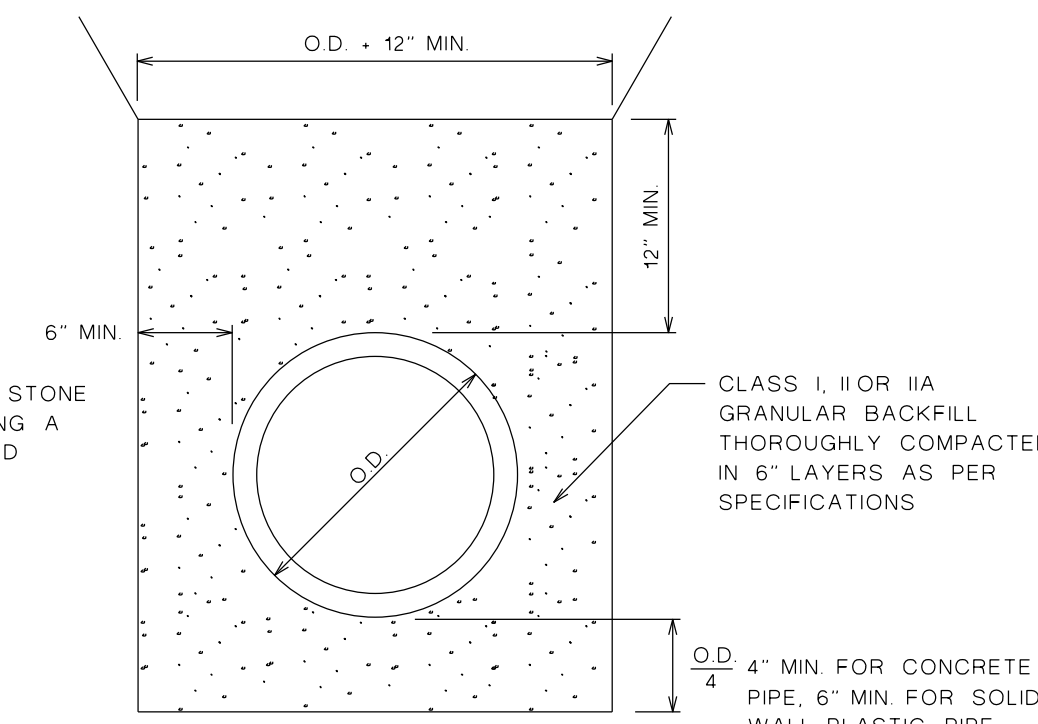
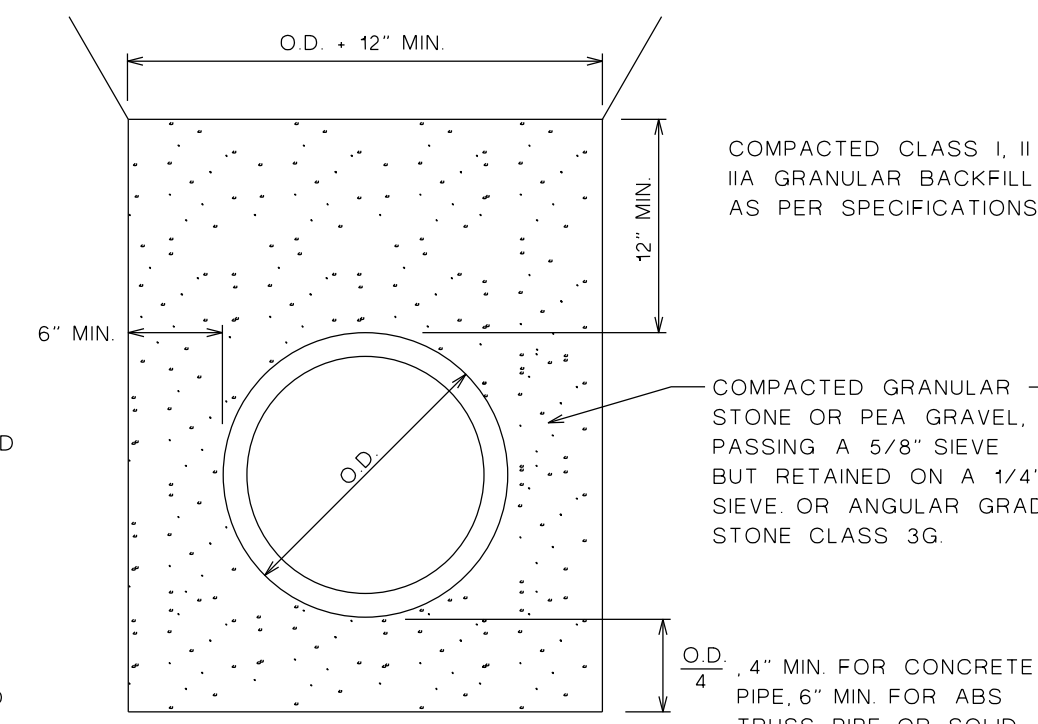


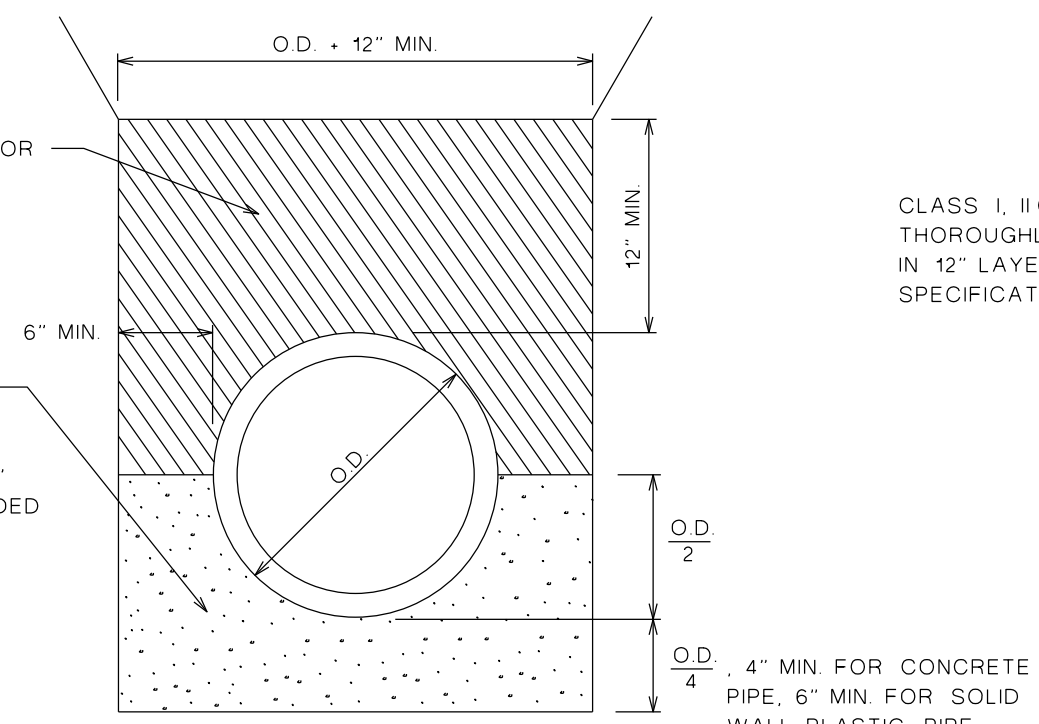
CLASS A BEDDING DETAIL



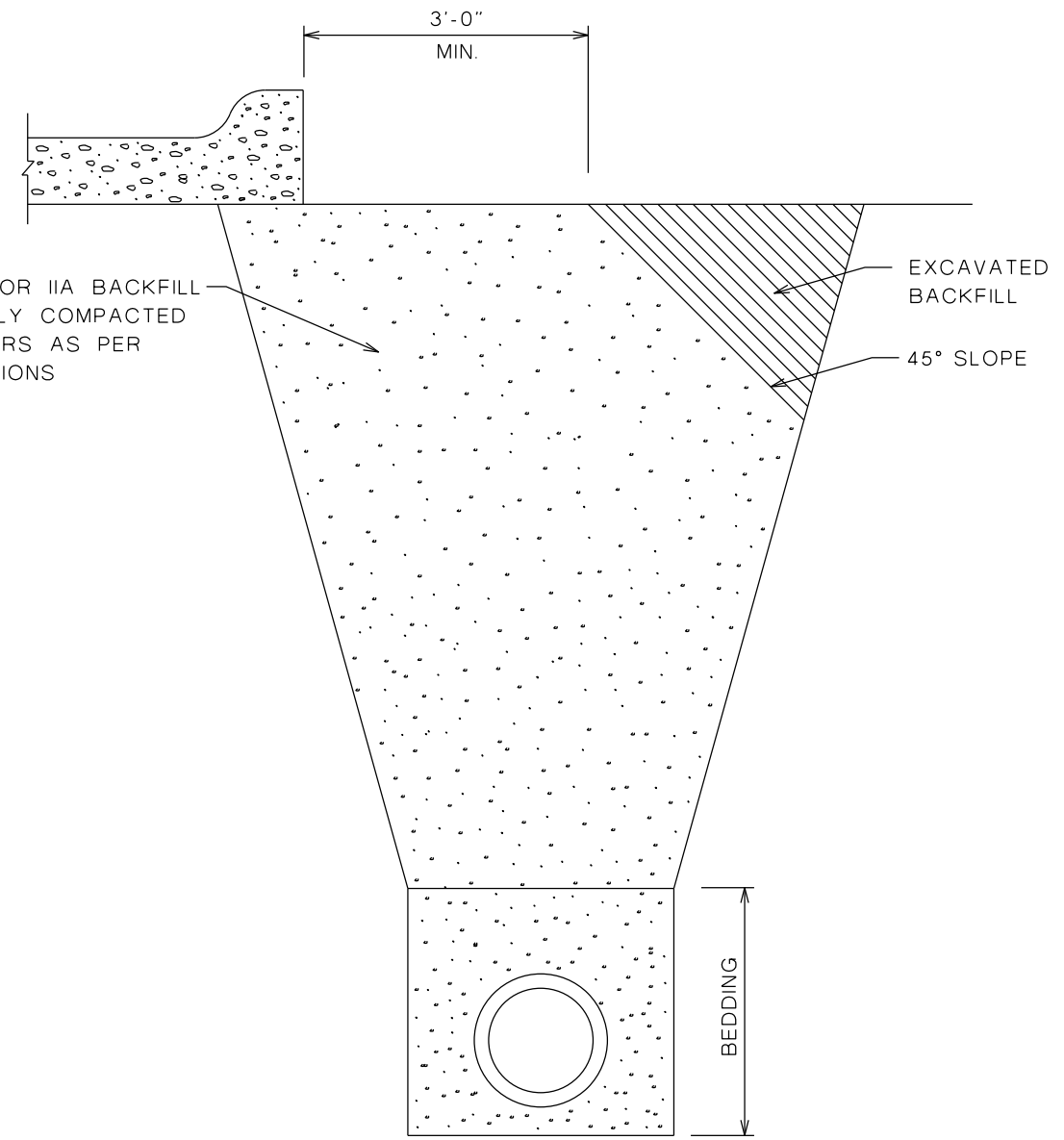
CLASS B BEDDING DETAIL



CLASS B MODIFIED BEDDING DETAIL



CLASS C BEDDING DETAIL



DETAIL FOR BACKFILLING WITHIN 3 FEET OF EXISTING OR PROPOSED PAVEMENT

- WHERE TRENCHES ARE UNDER ROAD SURFACES, PAVEMENTS INCLUDING RETURNS, CURBS, DRIVEWAYS, SIDEWALKS, PARKING AREAS OR WHERE THE EDGE OF THE TRENCH IS WITHIN THREE (3) FEET OF AN EXISTING OR PROPOSED CONCRETE OR ASPHALT PAVEMENT OR SIDEWALK SUCH TRENCHES SHALL BE BACKFILLED WITH COMPACTED SAND AS PER SPECIFICATIONS.
- DURING BACKFILL OPERATIONS THE AREA OF THE TRENCH THAT IS TO BE SAND FILLED AND COMPACTED SHALL BE MAINTAINED AT LEAST SIX (6) INCHES ABOVE THAT PORTION BACKFILLED WITH EXCAVATED MATERIALS AT ALL TIMES.

- BEDDING DETAIL NOTES**
- THE BEDDING DETAILS ARE FOR ALL SEWERS PLACED IN OPEN CUT EXCAVATIONS
 - ON PIPES OF 30" DIAMETER OR LESS THE TRENCH WIDTH AT THE TOP OF THE PIPE SHALL NOT EXCEED THE EXTERNAL DIAMETER OF THE PIPE PLUS 16" FOR PIPES LARGER THAN 30" DIAMETER THE TRENCH WIDTH AT THE TOP OF THE PIPE SHALL NOT EXCEED THE EXTERNAL DIAMETER OF THE PIPE PLUS 24"
 - FROM ONE FOOT ABOVE THE TOP OF THE PIPE TO THE PROPOSED GRADE THE TRENCH SHALL BE BACKFILLED IN ACCORDANCE WITH SECTION 706 OF THE SPECIFICATIONS FOR SANITARY AND STORM SEWERS.
 - CLASS B MODIFIED BEDDING SHALL BE REQUIRED FOR ALL SANITARY SEWER CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER (ANGULAR STONE CLASS 3G SHALL BE THE BEDDING MATERIAL FOR TRUSS PIPE)
 - CLASS C BEDDING SHALL BE THE MINIMUM BEDDING REQUIRED FOR ALL STORM SEWER CONSTRUCTION
 - SANITARY SEWERS 8" - 15" IN DIAMETER SHALL BE CONSTRUCTED OF PVC TRUSS PIPE W/GASKETED JOINT SANITARY SEWERS 18" IN DIAMETER AND LARGER SHALL BE CONSTRUCTED OF CLASS IV OR BETTER R.C.S.P.(W/PREMIUM JOINT)

LEGEND

PLAN VIEW

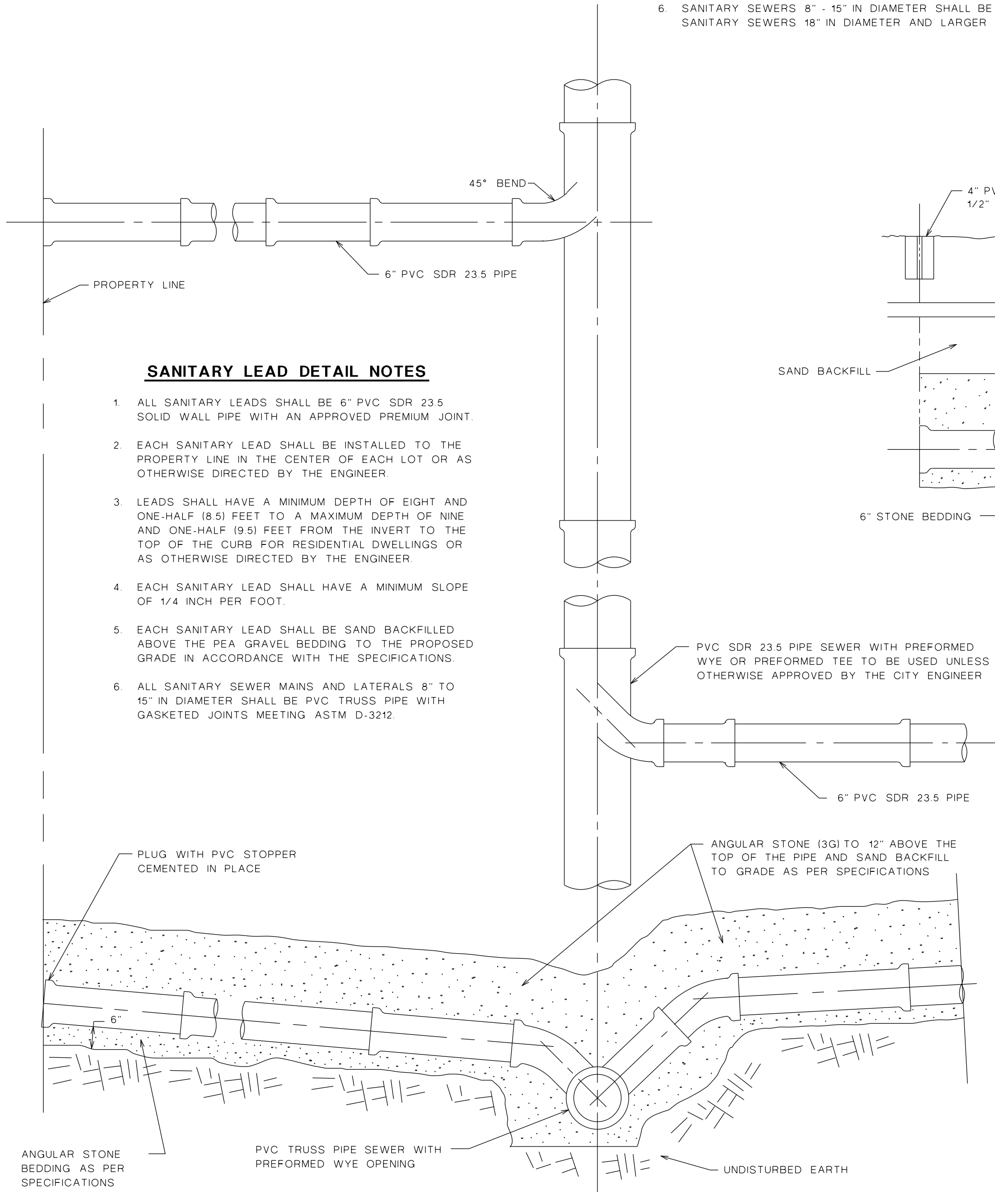
| | |
|---|---------|
| CENTER LINE | --- |
| EXIST. SEWER | --- |
| EXIST. GAS MAIN | -G- -G- |
| EXIST. UNDERGROUND ELECTRIC | -E- -E- |
| EXIST. WATER MAIN | --- |
| PROPOSED INSTALLATION | --- |
| EXIST. MANHOLE | ○ |
| PROPOSED MANHOLE | ● |
| UTILITY POLES | ⊕ |
| FIRE HYDRANT | ⊕ |
| GATE VALVE IN WELL | ⊕ |
| EXIST. CATCH BASIN | ⊕ |
| PROP. CATCH BASIN | ⊕ |
| EXIST. INLET | ⊕ |
| PROP. INLET | ⊕ |
| EXIST. FENCE | X-X-X |
| EXIST. SWALE OR DITCH | → |
| EXIST. CULVERT | --- |
| EXIST. CULVERT (WITH HDDRS.) | --- |
| TREES (DECIDUOUS) | ⊙ |
| TREES (EVERGREEN) | ⊙ |
| PROP. PAV'T. (PAVING PLAN) | --- |
| EXIST. PAV'T. (SEWER & WATERMAIN PLANS) | --- |
| EXIST. GRAVEL ROAD | --- |
| EXIST. SIDEWALK & PROP. LINE | --- |
| EXIST. HOUSE OR BLDG & LEAD WALK | --- |
| PAVEMENT REMOVAL ONLY | XXXXXX |
| PAVEMENT REMOVAL & REPLACE | XXXXXX |
| TUNNEL, JACK OR BORE SEWER OR WATER MAINS | --- |

PROFILE

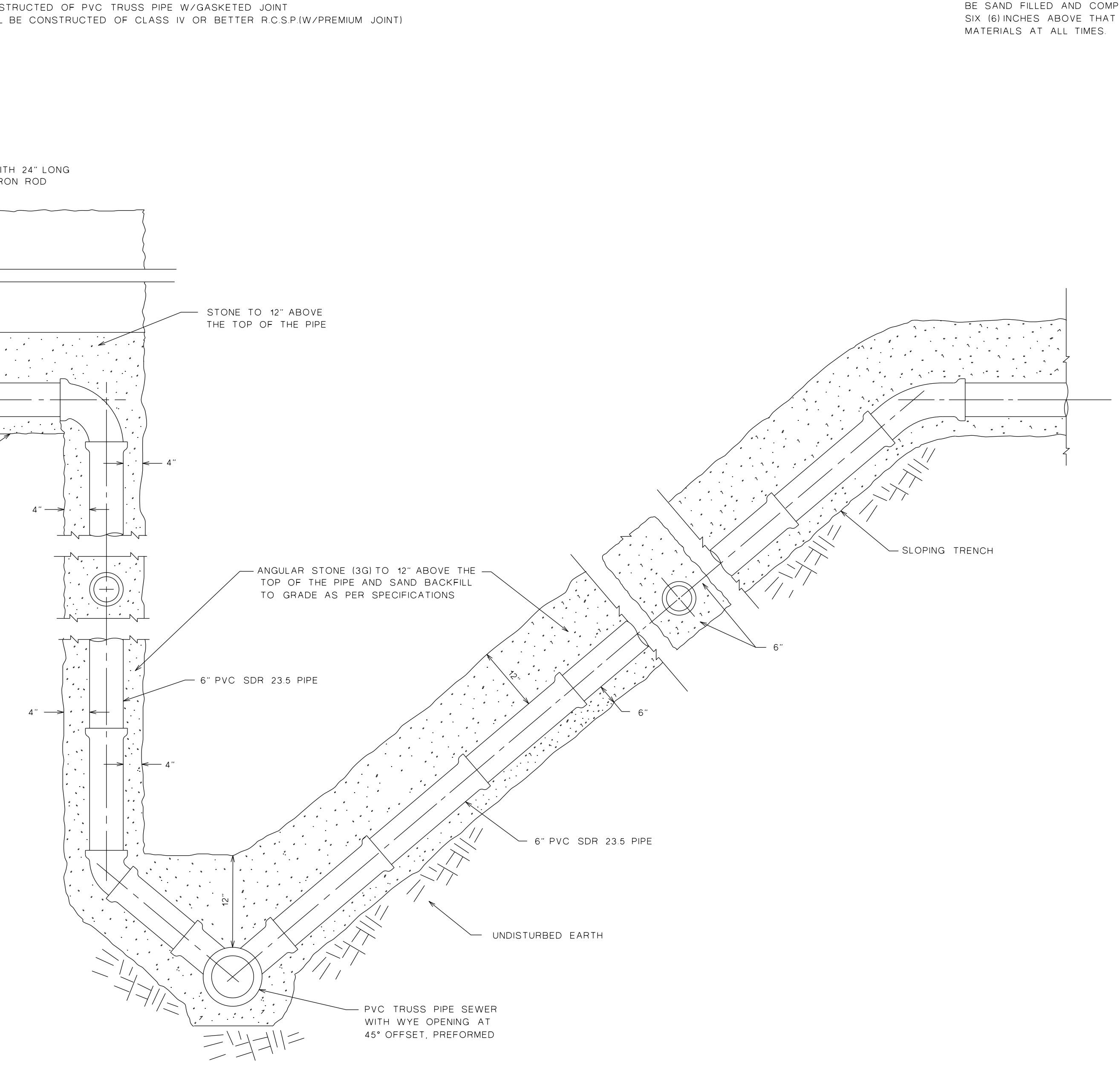
| | |
|-----------------------------|-----|
| CENTER LINE | --- |
| NORTH OR WEST R OR SIDEWALK | --- |
| SOUTH OR EAST R OR SIDEWALK | --- |
| NORTH OR WEST HOUSE GRADE | --- |
| SOUTH OR EAST HOUSE GRADE | --- |
| PROPOSED GRADE | --- |
| PROPOSED SEWER | --- |
| EXISTING SEWER | --- |

SANITARY LEAD DETAIL NOTES

- ALL SANITARY LEADS SHALL BE 6" PVC SDR 23.5 SOLID WALL PIPE WITH AN APPROVED PREMIUM JOINT.
- EACH SANITARY LEAD SHALL BE INSTALLED TO THE PROPERTY LINE IN THE CENTER OF EACH LOT OR AS OTHERWISE DIRECTED BY THE ENGINEER.
- LEADS SHALL HAVE A MINIMUM DEPTH OF EIGHT AND ONE-HALF (8.5) FEET TO A MAXIMUM DEPTH OF NINE AND ONE-HALF (9.5) FEET FROM THE INVERT TO THE TOP OF THE CURB FOR RESIDENTIAL DWELLINGS OR AS OTHERWISE DIRECTED BY THE ENGINEER.
- EACH SANITARY LEAD SHALL HAVE A MINIMUM SLOPE OF 1/4 INCH PER FOOT.
- EACH SANITARY LEAD SHALL BE SAND BACKFILLED ABOVE THE PEA GRAVEL BEDDING TO THE PROPOSED GRADE IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL SANITARY SEWER MAINS AND LATERALS 8" TO 15" IN DIAMETER SHALL BE PVC TRUSS PIPE WITH GASKETED JOINTS MEETING ASTM D-3212.



STANDARD SANITARY LEAD DETAIL - SHALLOW SEWER UNDER 16 FEET



STANDARD SANITARY LEAD DETAIL - DEEP SEWER 16 FEET AND OVER

| | | | |
|-----------|--------|--------------------------------|--------|
| 1/08/08 | C.M.K. | UPDATED PIPE TYPES | |
| 8/24/06 | R.M.A. | UPDATED BEDDING MATERIAL NOTES | |
| 2/24/93 | W.L.K. | UPDATED & REDRAWN | |
| REVISIONS | DATE | BY | CHANGE |

DIVISION OF ENGINEERING
CITY OF WARREN, MICHIGAN

PIPE BEDDING AND SEWER DETAILS

| | |
|---------------------|---------------------|
| SCALE: NONE | DESIGNED BY: T.S.S. |
| APPROVED BY: J.V.H. | DRAWN BY: W.L.K. |
| SHEET 1 OF 1 SHEETS | DATE: 2/24/93 |