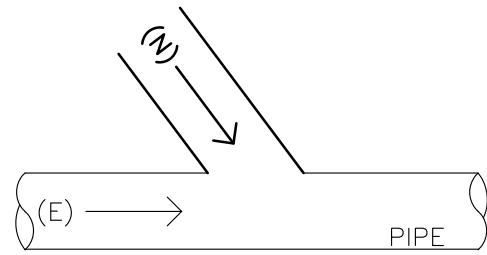


CASE A



CASE B

CASE A:

- A1. Chip a hole between 1" and 2" larger than the pipe OD. Salvage the reinforcing from the manhole / catch basin. Steel shall be bent outward from the manhole.
- A2. Concrete the pipe in place using a Class 4, 3/8" concrete mix, incorporating reinforcing steel. Concrete shall completely fill the void between the pipe and the manhole and form a collar around the pipe behind the manhole of sufficient length and thickness to cover the reinforcing steel with 2" of concrete. Concrete shall be flush with interior of existing facility. Any voids that appear in the seal between the manhole and the pipe after setting shall be patched with a non-shrink grout.
- A3. Pipe shall be flush cut with the manhole inside wall.
- A4. Whenever possible, the new pipe should enter the manhole at an angle, pointing the flow downstream.
- A5. The manhole shall be replaced and enlarged when the penetration from the new line will result in an inadequate section of the manhole remaining between the new penetration and existing penetrations to properly support the structure.

Case B:

- B1. Where a catch basin or manhole exist within 33' of the proposed connection, or the new pipe is less than 12" in size and serves a private property, the connection may be made without the installation of a manhole at the junction point. In either case, the new pipe must be at least one size smaller than the existing pipe. In all other cases a manhole shall be installed.
- B2. Connection to an existing HDPE line shall be made using a manufactured wye connection cut into the existing line with connection of the wye to the line made in accordance with the manufacturers recommendation.
- B3. Connection to an existing RCP line shall be made in the manner described above for connection to an existing manhole. New penetrations must be made a minimum of 3 feet from any existing penetrations.
- B4. Connection to an existing CMP line shall be done by replacing the portion of the CMP at the junction point with a City approved pipe material and completing the connection as specified above and constructing a collar to connect the new section to the existing CMP.

In all cases connections shall not be made to the City's storm drain system until calculations have been received and approved by the City showing the existing system is capable of handling the additional water for the required design storm per the City's Waterway Management Plan and Drainage Design Manual

| REVISIONS               | BY        | APP          | DATE         |
|-------------------------|-----------|--------------|--------------|
| <i>New Standard</i>     | <i>MH</i> | <i>JDW</i>   | <i>10-04</i> |
|                         |           |              |              |
|                         |           |              |              |
| STANDARD CURRENT AS OF: |           | January 2010 |              |



STORM DRAIN CONNECTIONS