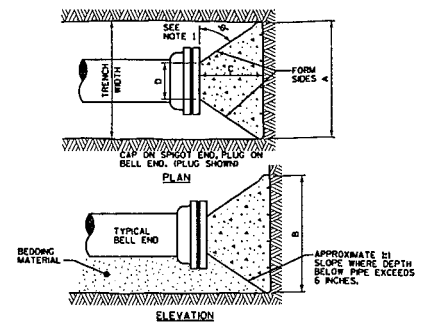


PIPE SIZE	B1	D1	B2	D2	B3	D3
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-0"	1'-6"
10"	1'-2"	1'-2"	1'-7"	1'-7"	2'-3"	1'-10"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"

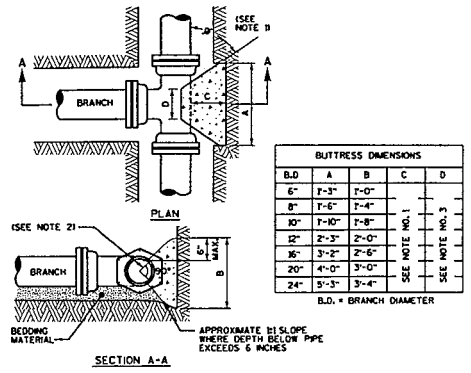
BUTTRISS FOR BENDS DETAIL
SCALE: NONE



- NOTES:**
1. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°.
 2. DIMENSION 'D' EQUALS APPROX. L.D. OF PIPE LESS 2 INCHES. THE CONCRETE SHOULD NOT INTERFERE WITH THE MECHANICAL JOINTS.
 3. WHERE BUTTRESSES ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED.
 4. BUTTRISS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSL. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSL.
 5. BUTTRISS TO BE POURED AGAINST FIRM UNDISTURBED SOIL OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
 6. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSL.
 7. ALL BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

DIA.	A	B	C	D
6"	1'-6"	1'-2"	1'-0"	1'-0"
8"	2'-0"	1'-4"	1'-0"	1'-0"
12"	2'-5"	1'-10"	1'-0"	1'-0"
16"	3'-4"	2'-4"	1'-0"	1'-0"
20"	4'-3"	2'-10"	1'-0"	1'-0"
24"	5'-2"	3'-4"	1'-0"	1'-0"

BUTTRISS FOR PLUGS DETAIL
SCALE: NONE

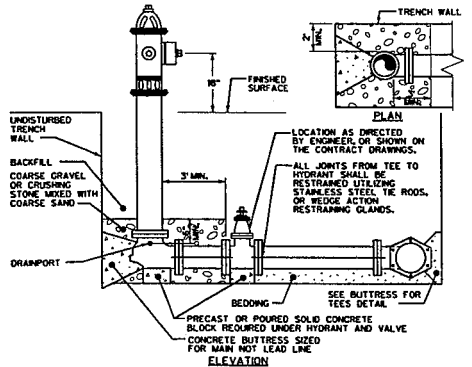


B.D.	A	B	C	D
6"	1'-3"	1'-0"	1'-0"	1'-0"
8"	1'-6"	1'-4"	1'-0"	1'-0"
10"	1'-10"	1'-8"	1'-0"	1'-0"
12"	2'-3"	2'-0"	1'-0"	1'-0"
16"	3'-2"	2'-6"	1'-0"	1'-0"
20"	4'-0"	3'-0"	1'-0"	1'-0"
24"	3'-3"	3'-4"	1'-0"	1'-0"

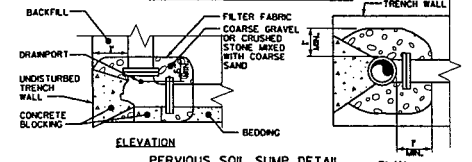
B.D. = BRANCH DIAMETER

- NOTES:**
1. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ GREATER THAN OR EQUAL TO 45°.
 2. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AT A MINIMUM.
 3. DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
 4. BUTTRISS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSL. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSL.
 5. BUTTRISS TO BE POURED AGAINST FIRM UNDISTURBED SOIL OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
 6. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSL.
 7. ALL BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

BUTTRISS FOR TEES DETAIL
SCALE: NONE

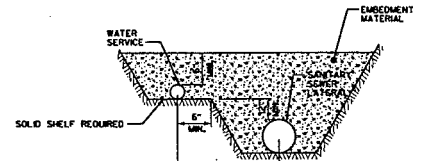


IMPERVIOUS SOIL SUMP DETAIL



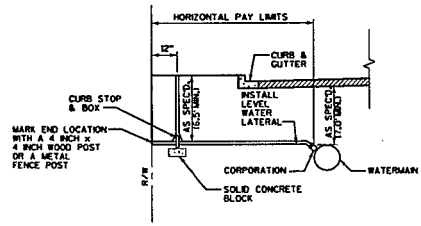
PERVIOUS SOIL SUMP DETAIL

HYDRANT AND LEAD CONNECTION DETAIL
SCALE: NONE



- GENERAL NOTES:**
1. WATER SERVICES 3 INCHES IN DIAMETER AND LARGER SHALL BE LAID WITH A CLEAR HORIZONTAL SEPARATION NOT LESS THAN 2 FEET FROM THE SANITARY LATERAL.

WATER SERVICE AND SANITARY SEWER LATERAL DETAIL
SCALE: NONE



- GENERAL NOTES:**
1. SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.
 2. CONCRETE STANDARDS SHALL SUPERCEDE THE DIMENSIONS FROM THE PROPERTY LINE.

WATER SERVICE DETAIL
SCALE: NONE