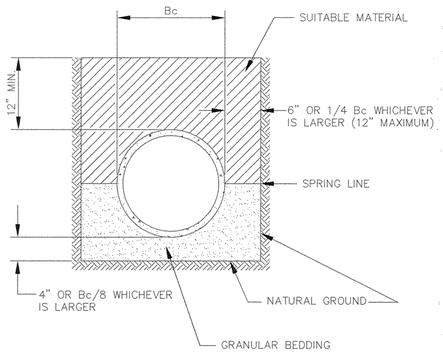
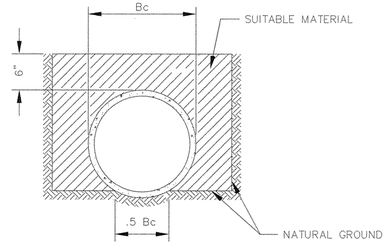


NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

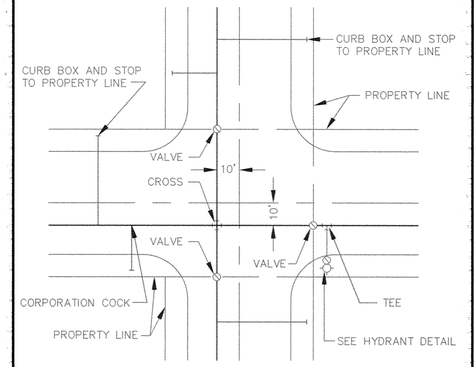
CLASS B PIPE BEDDING



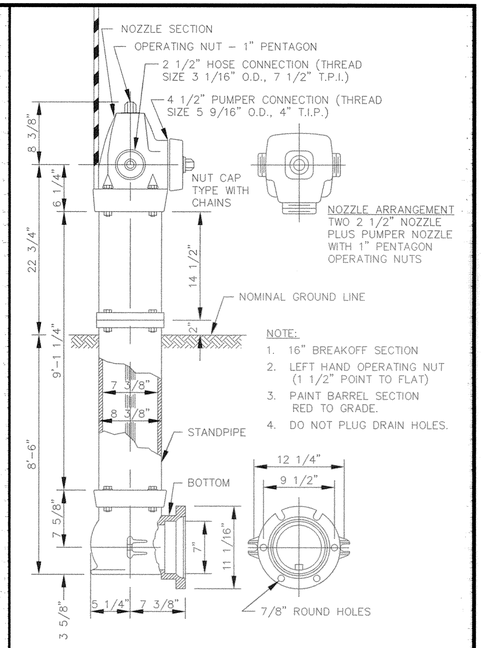
THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE PIPE BARREL FOR AT LEAST 50% OF THE OUTSIDE DIAMETER. THE REMAINDER OF THE PIPE IS SURROUNDED TO A HEIGHT OF AT LEAST 6" ABOVE ITS TOP BY SELECT FILL MATERIALS, PLACED BY HAND TOOLS AND COMPACTED TO COMPLETELY FILL ALL SPACES UNDER AND ADJACENT TO THE PIPE.

NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

CLASS C PIPE BEDDING

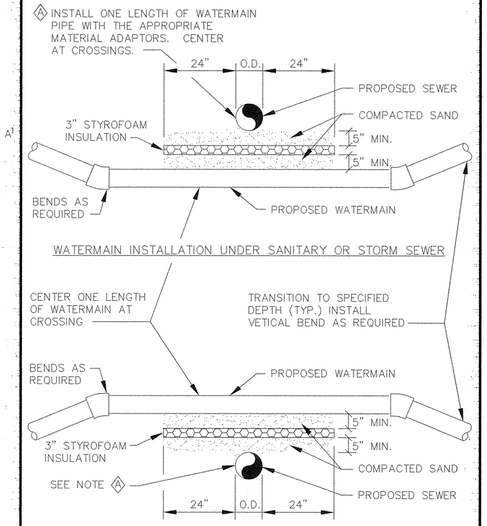


TYPICAL WATER LAYOUT



NOTE: HYDRANT LOCATING DEVICES REQUIRED – SEE SPECIFICATIONS.

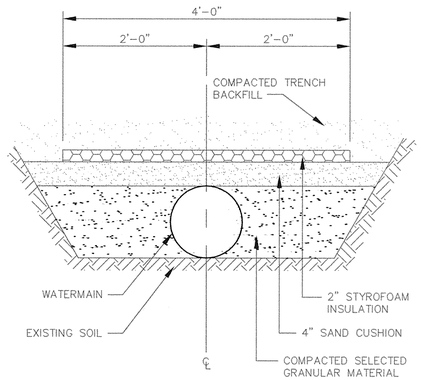
PACER HYDRANT DETAIL



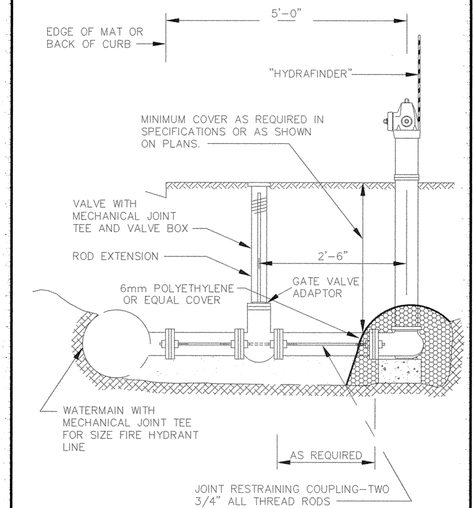
NOTES:

1. WHEN WATERMAIN AND SANITARY SEWER CROSSINGS HAVE LESS THAN 18" VERTICAL SEPARATION, INSTALL CROSSING AS SHOWN.
2. WHEN WATERMAIN COVER IS LESS THAN 7.5 FEET, INSTALL WATERMAIN UNDER SANITARY SEWER.

WATERMAIN CROSSING

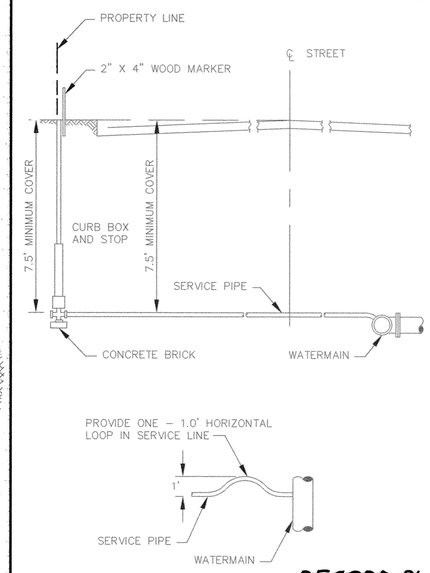


PIPE INSULATION DETAIL



NOTE:
ALL HYDRANT LEADS SHALL BE RESTRAINED FROM THE MAIN TO THE HYDRANT THROUGH THE USE OF THREADED RODS OR MEGALUGS AS RESTRAINTS IN ACCORDANCE WITH THE STANDARD DETAIL PLATES.

RODDING DETAIL



PLAN

RECORD PLAN
JUNE, 2003

TYPICAL SERVICE DETAIL

DESIGNED BY: _____ DRAWN BY: LK
APPROVED BY: _____ JOB NUMBER 810641J
CAD DATE: January 24, 2005 2:03:55 p.m.
CAD FILE: 810641J\asbuilts\810641-D2A.DWG (JCUNNIN)

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE _____ DATE _____
PRINTED NAME JOHN M. ANDERSON LIC.NO. 25889

NO.	DATE	BY	REVISION DESCRIPTION

1326 ENERGY PARK DRIVE
ST. PAUL, MINNESOTA 55108
(612) 644-4389
Howard R. Green Company
CONSULTING ENGINEERS

FOX HAVEN
CITY OF ELK RIVER

WATERMAIN DETAILS

SHEET NO.
D2

SAFCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 60242
POSITION EDGE OF PAGE ON THIS LINE