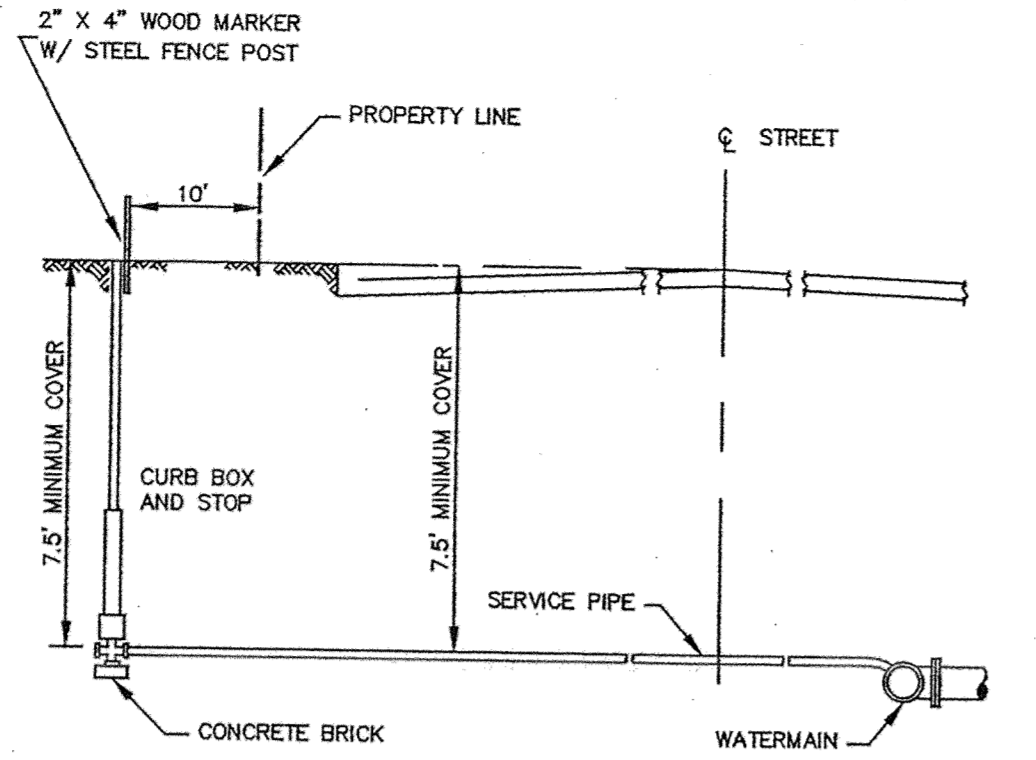


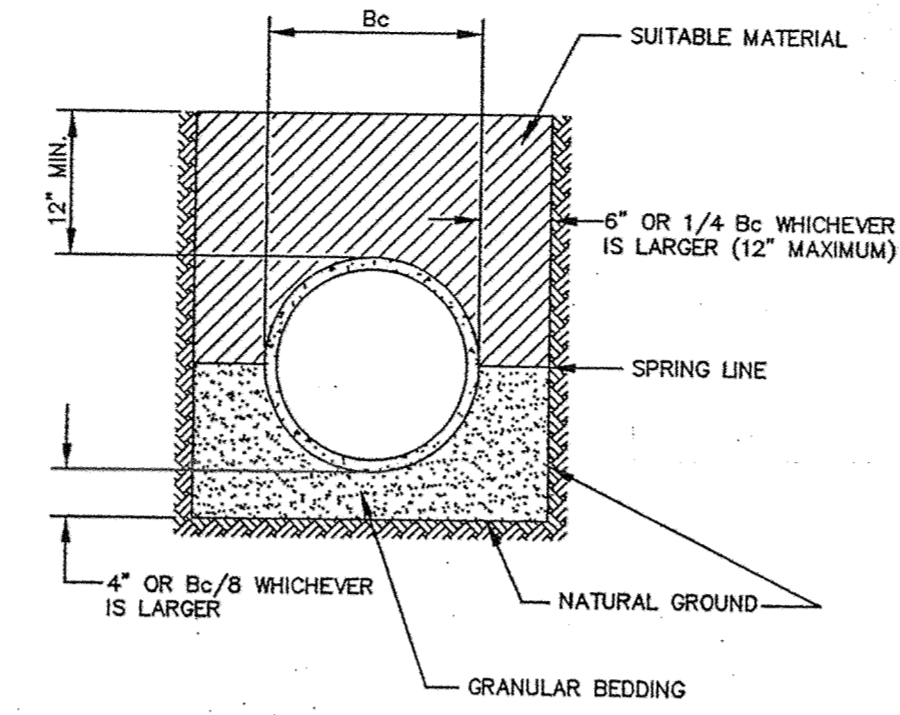
NOTE: ALL HYDRANT LEADS SHALL BE RESTRAINED FROM THE MAIN TO THE HYDRANT THROUGH THE USE OF THREADED RODS OR MECHANICAL AS RESTRAINTS IN ACCORDANCE WITH THE STANDARD DETAIL PLATES.

ERSTD-WM
RODDING DETAIL
 City of Elk River
 STANDARD PLATE NO. **3402**



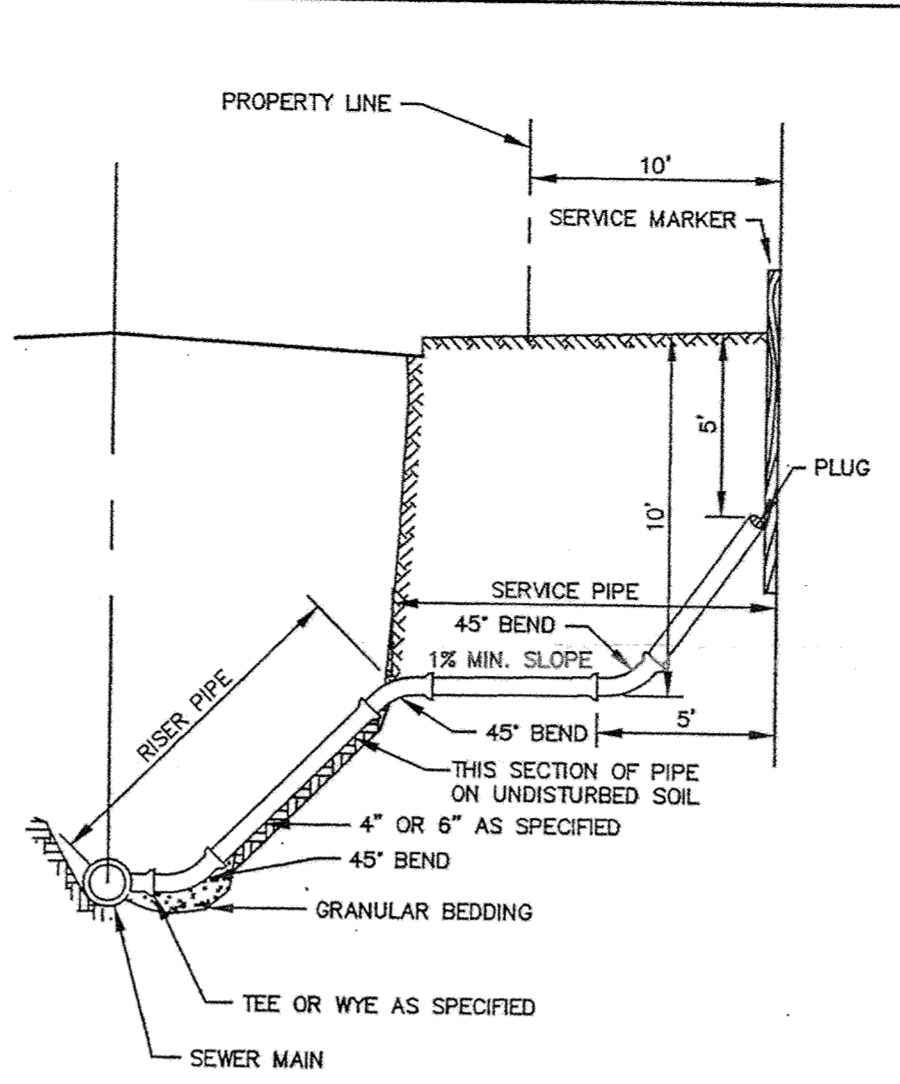
PROVIDE ONE - 1.0' HORIZONTAL LOOP IN SERVICE LINE

ERSTD-WM
TYPICAL SERVICE DETAIL
 City of Elk River
 STANDARD PLATE NO. **3403**



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

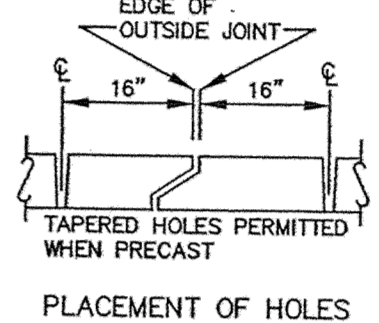
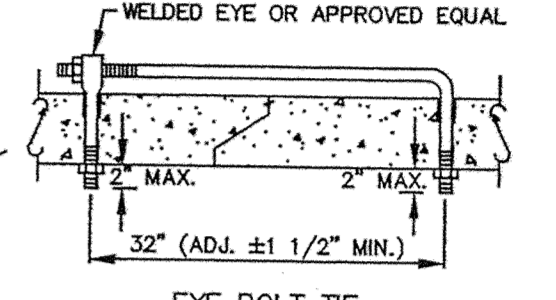
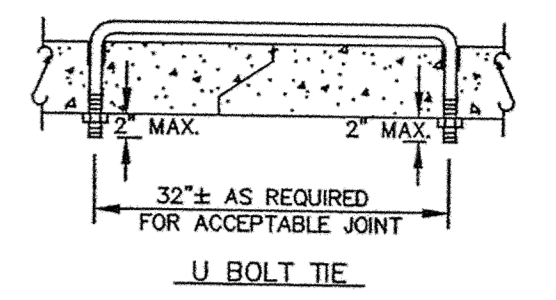
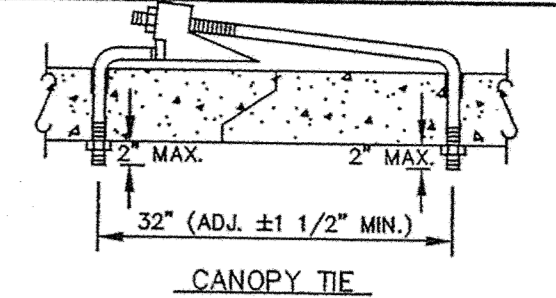
ERSTD-SA
CLASS B PIPE BEDDING
 City of Elk River
 STANDARD PLATE NO. **4006**



TO BE USED AS SERVICE CONNECTIONS ON DEEP LINES

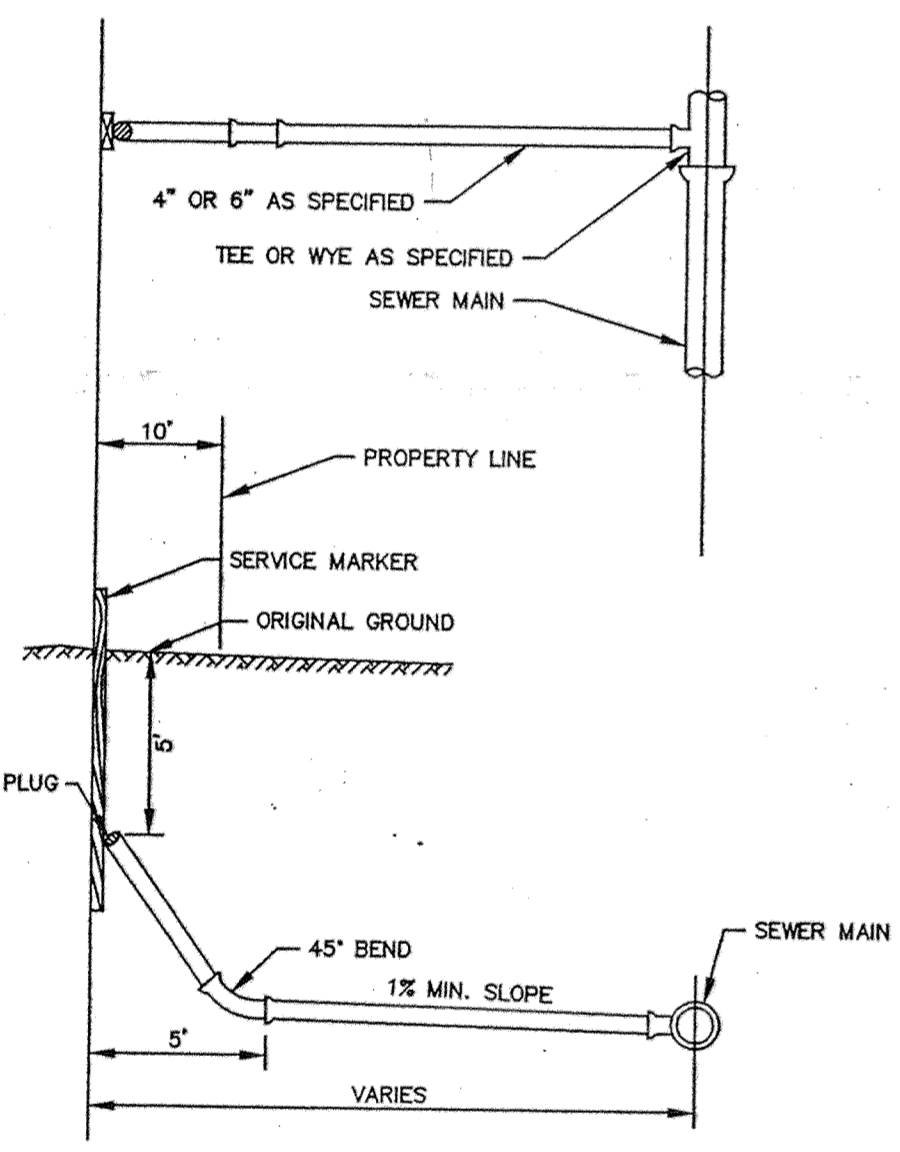
ERSTD-SA
SERVICE RISER SECTION
 City of Elk River
 STANDARD PLATE NO. **4008**

PIPE SIZE	THREAD DIAMETER
12	5/8"
15	5/8"
18	5/8"
21	5/8"
24	5/8"
27	5/8"
30	3/4"
33	3/4"
36	3/4"
42	3/4"
48	3/4"
54	3/4"
60	3/4"
66	3/4"
72	1"
78	1"
84	1"
90	1"
96	1"
102	1"
108	1"
120	1"
132	1"

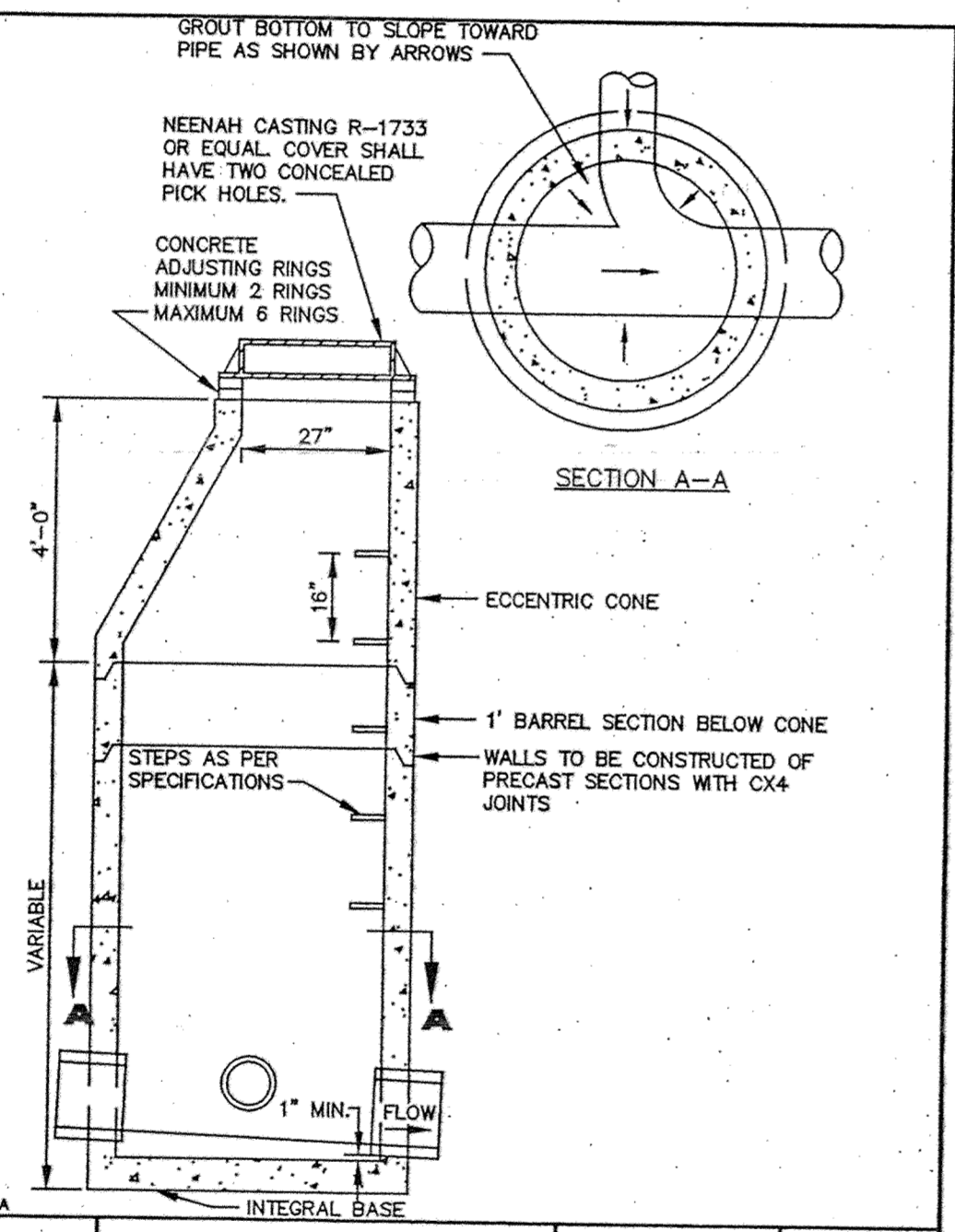


NOTE:
 1. HOLES SHALL BE CAST-IN OR DRILLED 16" FROM OUTSIDE EDGE OF JOINT.
 2. NUTS AND WASHERS ARE NOT REQUIRED ON INSIDE OF PIPE WITH 27" DIAMETER OR LESS.
 3. TIES ARE NOT REQUIRED FOR BELL PIPE 24" AND SMALLER. ON OTHER SIZES, TIE MAY BE INSERTED FROM INSIDE.
 4. CUT THREADS MAY BE USED IF WASHER AND NUT ARE USED.
 5. PIPE SIZES LISTED ARE INSIDE DIAMETER OF ROUND PIPE OR EQUIVALENT DIAMETER OF PIPE ARCH.

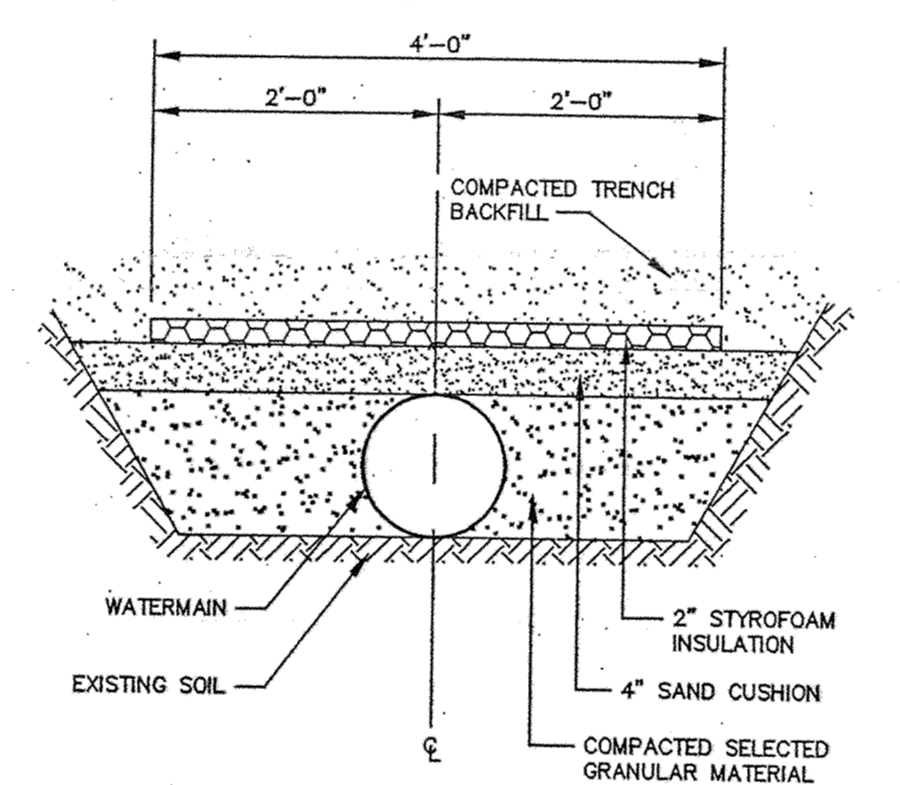
ERSTD-SM
CONCRETE PIPE JOINT TIES
 City of Elk River
 STANDARD PLATE NO. **2503**



ERSTD-SA
TYPICAL HOUSE SERVICE
 City of Elk River
 STANDARD PLATE NO. **4007**



ERSTD-SA
STANDARD MANHOLE
 City of Elk River
 STANDARD PLATE NO. **4000**



ERSTD-WM
PIPE INSULATION DETAIL
 City of Elk River
 STANDARD PLATE NO. **3407**

- 3. AS-BUILT
- 2. Change address and add WIMCO inlet protection detail
- 1. Per City Comments

I hereby certify that this plan 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

Name: *Brian F. Kallig*
 Brian F. Kallig
 Reg. No. 25817 Date: 7/8/04

Revisions:
 1. 7/8/04
 2. 8/3/04
 3. 1/14/05

Date: 6/3/04
 Designed: BFK
 Drawn: BFK

SHEET TITLE
DETAILS

OWNER
GSS PROPERTIES LLC
 8857 ZEALAND AVENUE NORTH
 BROOKLYN PARK, MINNESOTA 55445

PROJECT **KLIEVER LAKE FIELDS 2ND ADDITION**
 ELK RIVER, MINNESOTA

RECORD PLAN 1/14/05

SHEET 13 OF 13 SHEETS