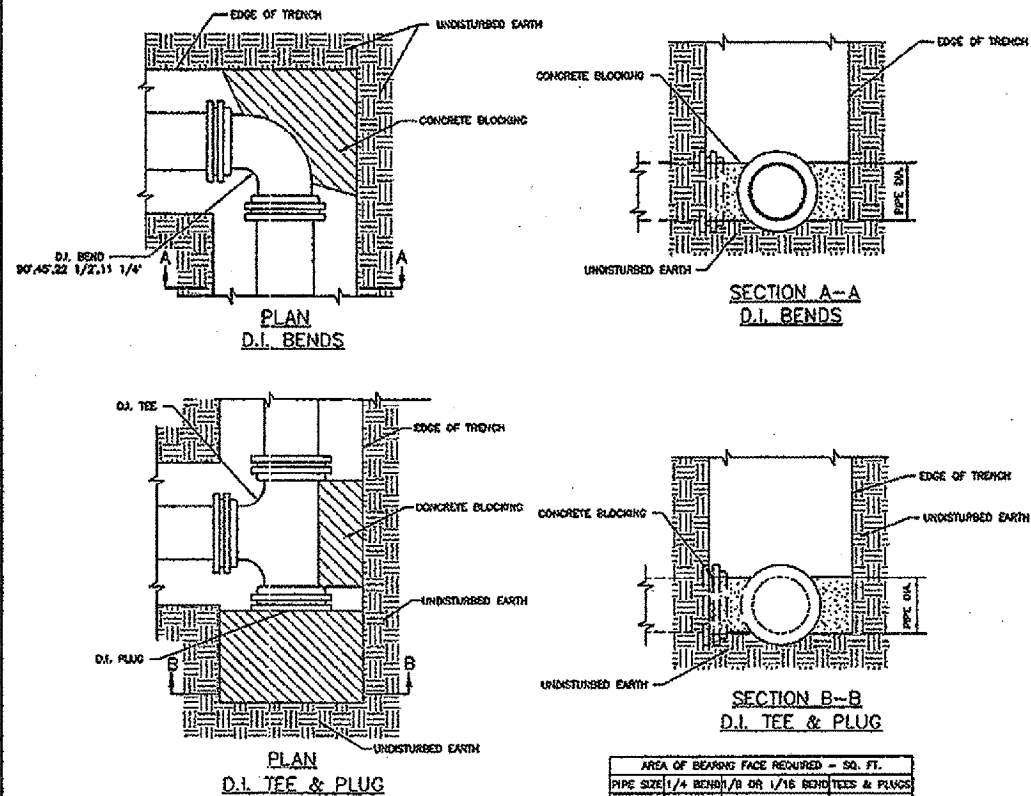


ENGINEERS
ARCHITECTS
SURVEYORS
SCIENTISTS

Farnsworth GROUP

100 E. WASHINGTON STREET
PONTIAC, ILLINOIS 61754
(815) 844-5271 / (815) 844-8147 FAX
www.fw.com

DATE: 10/12/04
 1. 10/12/04 REVISED SHEET OF WATER MAIN
 2. 04/20/04 REVISED FOR SUBMITTAL
 3. 02/25/04 REVISED PER EAST COMMENTS



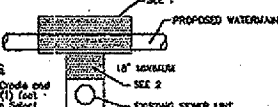
AREA OF BEARING FACE REQUIRED - SQ. FT.

PIPE SIZE	1/4 BEND	1/8 OR 1/16 BEND	TEES & PLUGS
4.5" Ø	3	3	3
10	4	3	3
12	5	3	4
16	11	4	7
18	16	5	10
20	18	8	12

NOTE:
RETAINER GLANDS SHALL BE USED
ADJACENT TO HEAD ENDS AS DIRECTED
BY THE ENGINEER. NO ADDITIONAL
COMPENSATION WILL BE ALLOWED.

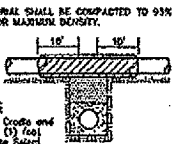
1 TYPICAL CONCRETE BLOCKING DETAIL
NOT TO SCALE

PROPOSED WATERMAIN ABOVE EXISTING SEWER LINE WITH 18" MINIMUM SEPARATION.
NOTE: CLASS IV MATERIAL SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY.



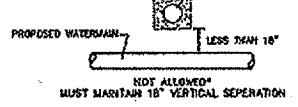
SURVEILANCES
 1. One Select Granular Grade and Gravel Backfill to one (1) foot over top of pipe and use Select Encapsulated Material (Class IV) and compact for 10 feet on either side of sewer line.
 2. If Select Granular Backfill exists, remove within width of existing sewer line trench and replace with Select Encapsulated Material (Class IV) and compact.

PROPOSED WATERMAIN ABOVE EXISTING SEWER LINE WITH LESS THAN 18" SEPARATION.



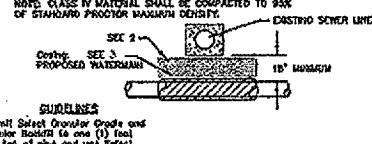
SURVEILANCES
 1. One Select Granular Grade and Gravel Backfill to one (1) foot over top of pipe and use Select Encapsulated Material (Class IV) and compact for 10 feet on either side of sewer line.
 2. If Select Granular Backfill exists, remove within width of existing sewer line trench and replace with Select Encapsulated Material (Class IV) and compact.
 3. Use a casing for proposed watermain and seal ends of casing.
 4. Pipe leads shall not be allowed between watermain or watermain casing and sewer.

PROPOSED WATERMAIN BELOW EXISTING SEWER LINE WITH LESS THAN 18" MINIMUM SEPARATION.



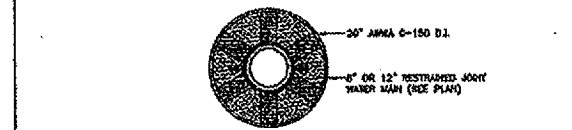
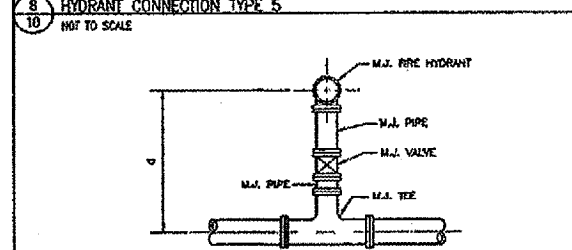
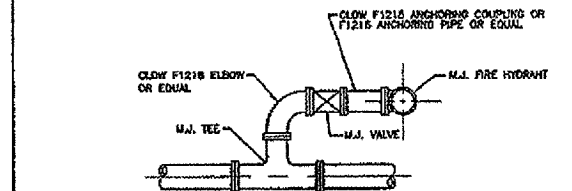
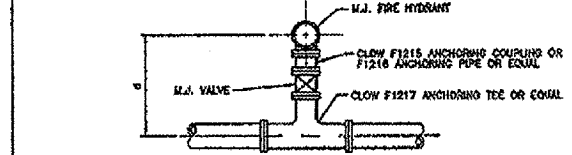
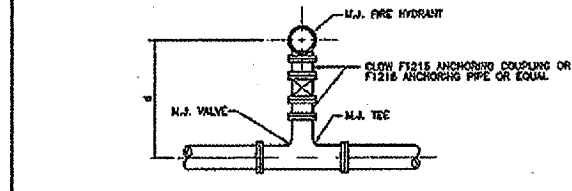
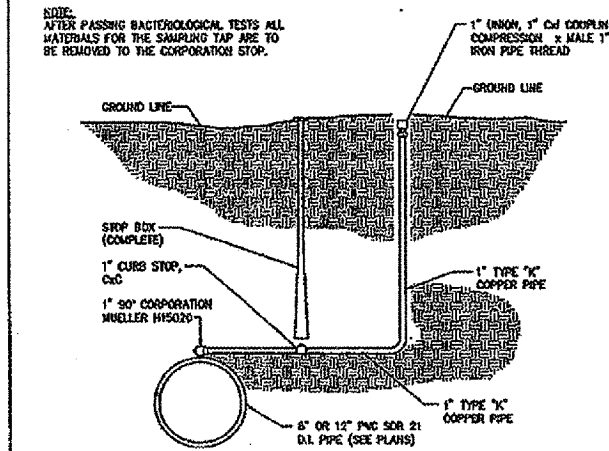
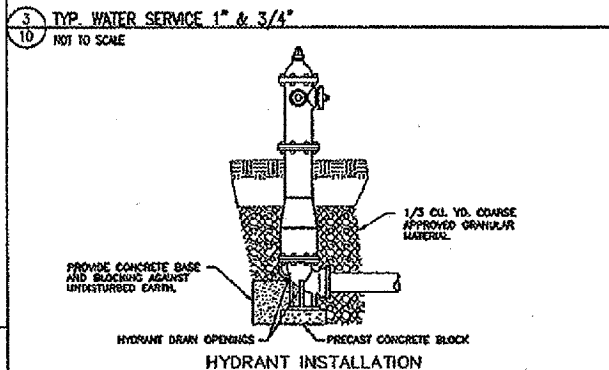
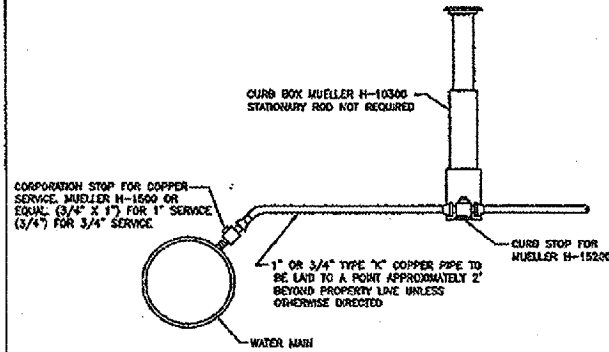
NOT ALLOWED*
MUST MAINTAIN 18" VERTICAL SEPARATION

PROPOSED WATERMAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM SEPARATION.



SURVEILANCES
 1. One Select Granular Grade and Gravel Backfill to one (1) foot over top of pipe and use Select Encapsulated Material (Class IV) and compact for 10 feet on either side of sewer line.
 2. If Select Granular Backfill exists, remove within width of existing sewer line trench and replace with Select Encapsulated Material (Class IV) and compact.
 3. Use a casing for proposed watermain and seal ends of casing.

2 WATER AND SEWER SEPARATION REQUIREMENTS
NOT TO SCALE



CITY OF PONTIAC

MUNICIPAL AIRPORT WATERMAIN IMPROVEMENTS

LIVINGSTON COUNTY, ILLINOIS

Date: 10-12-04
 Design/Drawn: DAS/GLB
 Approved: BDF
 Book No.: 2471/42
 Project No.: 104778

DETAILS

SHEET NUMBER

10

SHEET OF 10

File No: 24-7877