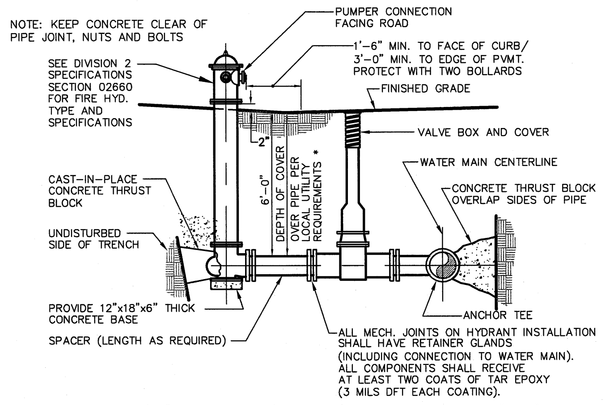
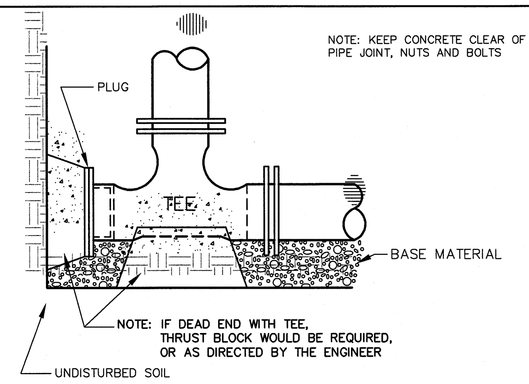


* 6'-0" MINIMUM FOR PORTLAND WATER DISTRICT; HYDRANT TO "OPEN" RIGHT

SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

A C-13 FIRE HYDRANT INSTALLATION DETAIL

N.T.S.

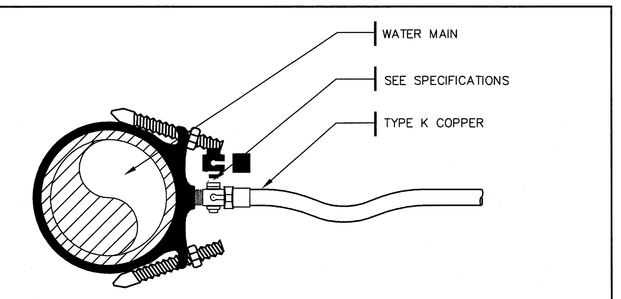


USE GRIPRINGS ™ AT ALL RESTRAINED JOINTS

SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

D C-13 STANDARD TEE BLOCKING

N.T.S.

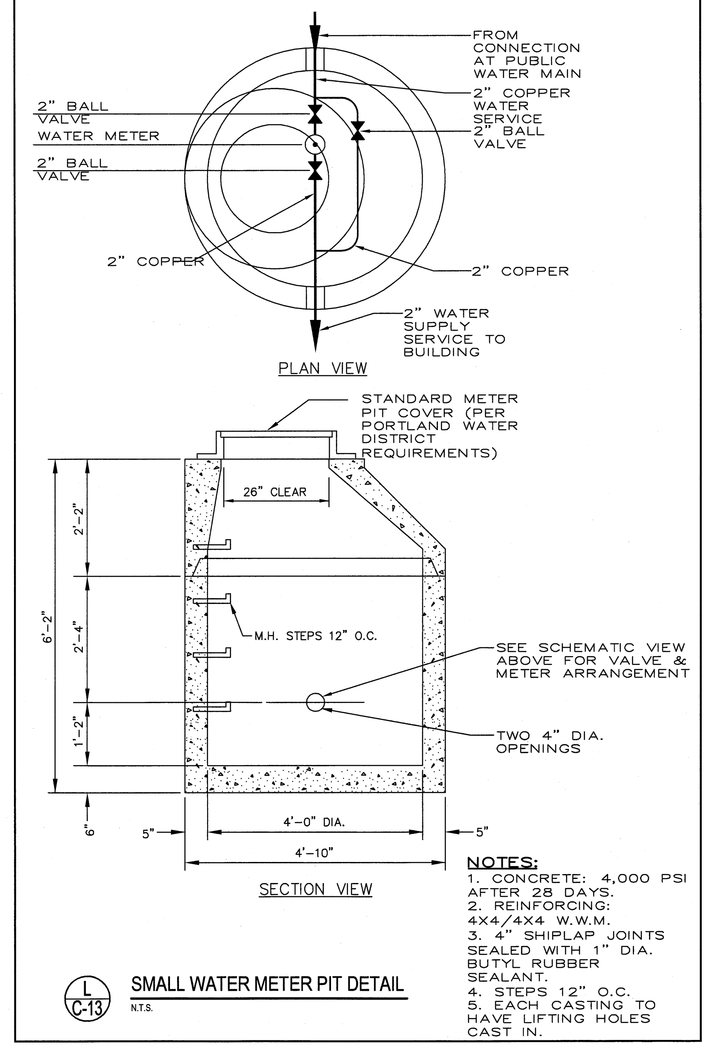


NOTE: SERVICE CONNECTIONS (DIRECT TAPS AND SERVICE CLAMPS) WILL BE INSTALLED SO THAT THE OUTLET IS AT AN ANGLE OF NOT MORE THAN 45° ABOVE THE HORIZONTAL. ALWAYS PUT A BEND OR 'GOOSENECK' IN THE SERVICE LINE PRIOR TO CONNECTING TO PROVIDE FLEXIBILITY AND 'GIVE' TO COUNTERACT THE EFFECTS OF A LOAD DUE TO SETTLEMENT OR EXPANSION AND/OR CONTRACTION.

G C-13 WATER SERVICE

N.T.S.

SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

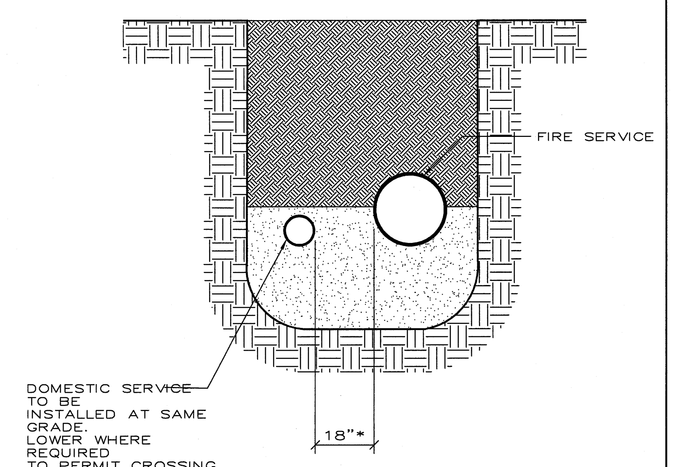


NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: 4X4/4X4 W.W.M.
3. 4" SHIPLAP JOINTS SEALED WITH 1" DIA. BUTYL RUBBER SEALANT.
4. STEPS 12" O.C.
5. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

L C-13 SMALL WATER METER PIT DETAIL

N.T.S.



*18" TYPICAL – DEFLECT TO PERMIT 12" CLEARANCE BETWEEN EDGE OF FIRE LINE AND MANHOLE WALL OF DOMESTIC METER PIT.

M C-13 TWIN WATER SERVICE TRENCH DETAIL

N.T.S.

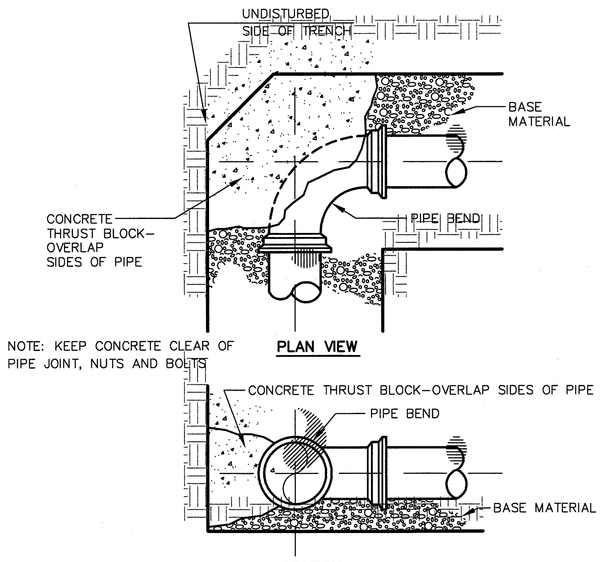
1. INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.
2. ANY MODIFICATION TO THRUST BLOCK SIZING OR PIPE RESTRAINT REVISIONS SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD
3. ANY WORK RELATING TO WATER PIPING OR DETAILS SHALL BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS
4. ALL RESTRAINED JOINTS MUST HAVE GRIPRING™ RESTRAINTS.

BEARING SURFACE REQUIRED IN SQUARE FEET

PIPE SIZE	1/32 BEND	1/16 BEND	1/8 BEND	1/4 BEND	TEES/CAPS
6"/8"	5.0	5.0	5.0	6.5	5.0
12"	11.5	11.5	11.5	20.0	22.0

B C-13 THRUST BLOCK NOTES

N.T.S.



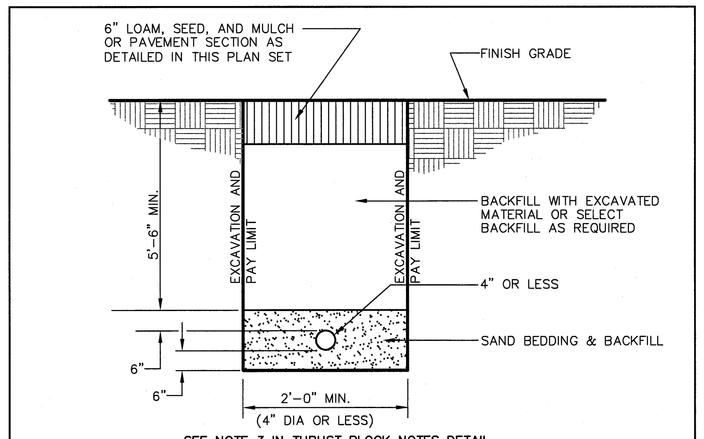
THRUST/RETAINER GLAND SCHEDULE		
1/4 BEND	(90°)	USE POURED–IN–PLACE THRUST BLOCK WITH GRIPRING™ MECHANICAL JOINT RESTRAINT
1/8 BEND	(45°)	THRUST BLOCK w/ GRIPRING™
1/16 BEND	(22 1/2°)	THRUST BLOCK w/ GRIPRING™
1/32 BEND	(11 1/4°)	THRUST BLOCK w/ GRIPRING™

THE ABOVE SCHEDULE IS SUBJECT TO THE APPROVAL OF THE ON–SITE INSPECTOR DUE TO SOILS AND WORKING PRESSURES IN THE AREA.

SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

E C-13 TYPICAL THRUST BLOCK PLACEMENT ON BENDS

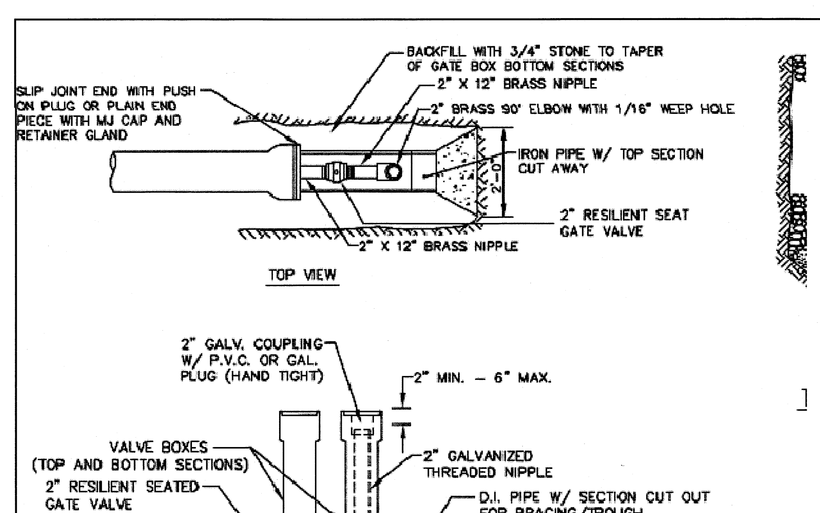
N.T.S.



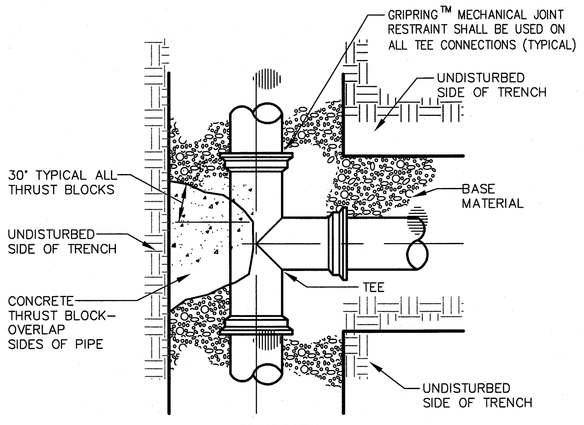
SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

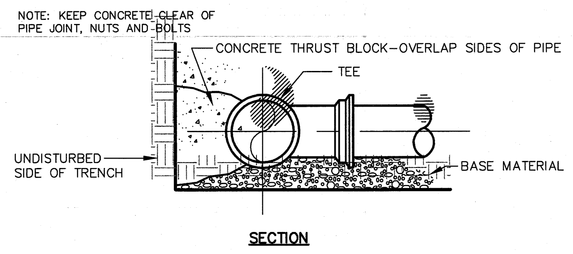
H C-13 WATER SERVICE TRENCH SECTION

N.T.S.



STANDARD 2" BLOW OFF





C C-13 TYPICAL THRUST BLOCK PLACEMENT ON TEES

N.T.S.

NOTES:

1.) THE PORTLAND WATER DISTRICT (PWD) MAY HAVE INSPECTION FEES AND REQUIRE OBSERVATION OF ALL PIPING INSTALLATION BEFORE BURIAL AND ADVANCE NOTICE BEFORE TESTING AND DISINFECTION. REFER TO SPECIFICATIONS.

2.) FOR WATER MAIN LAYOUT SEE DRAWINGS C–14

3.) FOR WATER MAIN PROFILE SEE DRAWING C–37

4.) FOR WATER MAIN TRENCH DETAILS SEE DETAIL G ON THIS SHEET AND I C-27

5.) REFER TO SPECIFICATIONS FOR TESTING AND CHLORINATION REQUIREMENTS.

6.) ALL HYDRANTS AND VALVES TO BE EPOXY COATED, NUTS & BOLTS TO BE STAINLESS STEEL.

7.) SERVICE RODS FOR DOMESTIC SERVICE OR AIR VALVES TO BE STAINLESS STEEL.

8.) CONNECTION TO MAIN TO BE MADE BY CONTRACTOR APPROVED BY PWD.

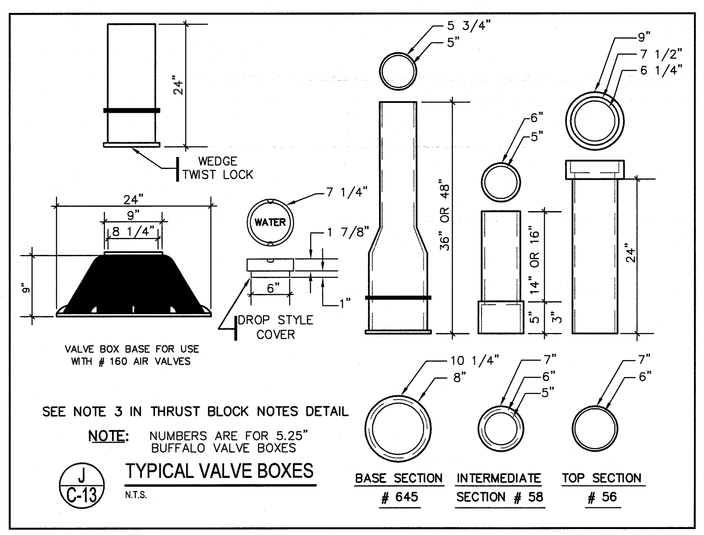
F C-13 NOTES

TYPICAL AIR VALVE SECTION (1")

N.T.S.

SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

I C-13



SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

NOTE: NUMBERS ARE FOR 5.25" BUFFALO VALVE BOXES

J C-13 TYPICAL VALVE BOXES

N.T.S.

DeLUCA–HOFFMAN ASSOCIATES, INC.
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, ME 04106
(207) 775–1121
DHAI@DeLucaHoffman.com

STATE OF MAINE — WILLIAM G. HOFFMAN #4105 — REGISTERED PROFESSIONAL ENGINEER

P.E. William G. Hoffman

LIC. #4105

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1 02/04/2004 Submitted for planning board workshop
2 05/10/2004 80% Submission
3 05/24/2004 Submission
4 06/28/2004 Released for Bid

East End Elementary School

Portland Public Schools
Portland, Maine

Strohen Blatt Architects
10 Danforth Street
Post Office Box 583 DTS
Portland, Maine 04112-0583
Voice: 207.761.5911
Fax: 207.761.2105
Email: sba@strohenblatt.com

Consultants

Civil Engineer
DeLuca-Hoffman Associates

Landscape Architect
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Structural Engineer
Pinkham & Greer

Mechanical Engineer
Bennett Engineering

Electrical Engineer
Bartlett Design

Kitchen Design
TJM Consulting

Green Consultant
Fore Solutions

Job No.: 2370
Date: March 22, 2004
Scale: As noted
Drawn by: rds
Checked by: wgh

Drawing Title:
Water Main Details

C-24