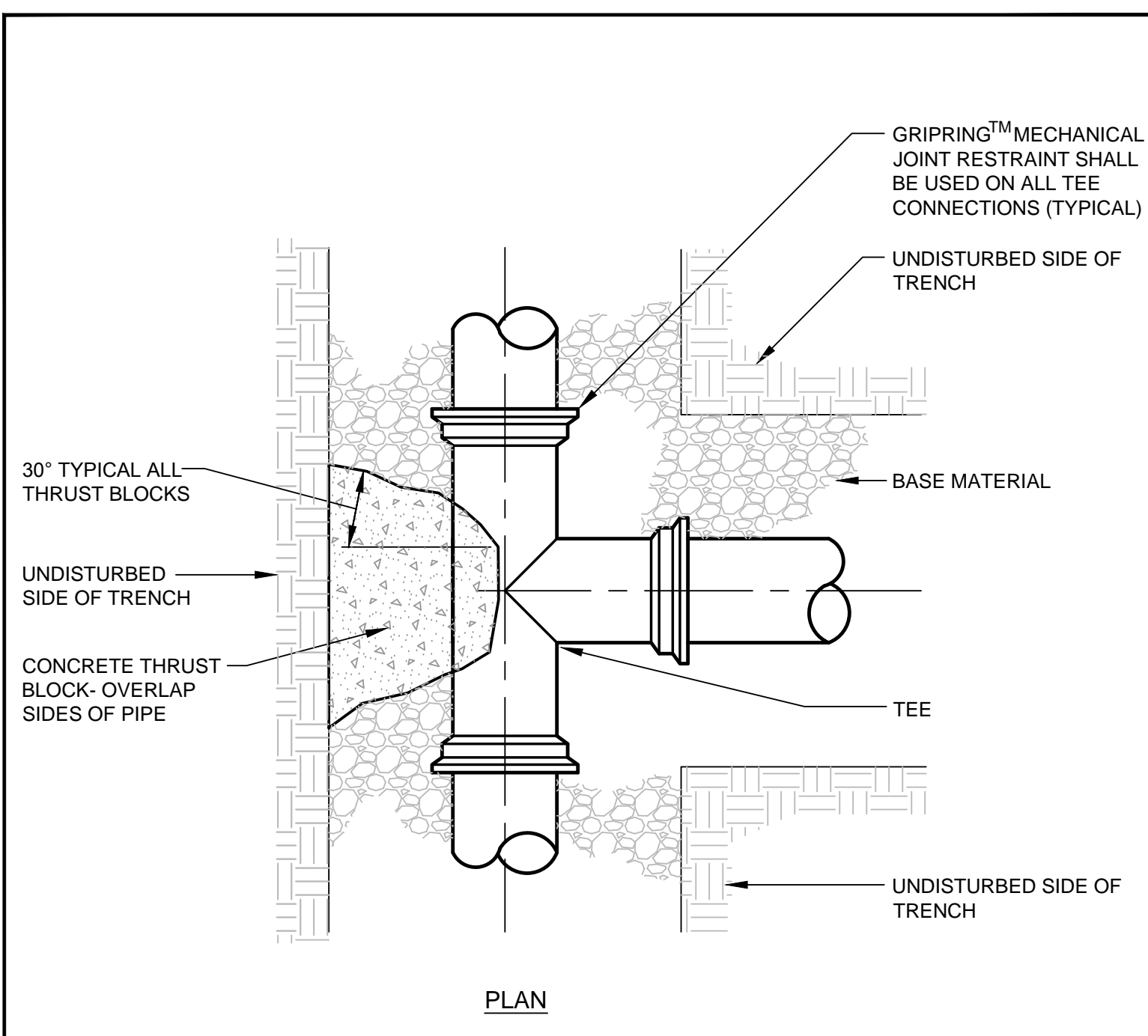


THRUST/RETAINER GLAND SCHEDULE		
1/4 BEND	(90°)	USE POURED-IN-PLACE THRUST BLOCK WITH GRIPRING™ MECHANICAL JOINT RESTRAINT
1/8 BEND	(45°)	THRUST BLOCK W/ GRIPRING™
1/16 BEND	(22 1/2°)	THRUST BLOCK W/ GRIPRING™
1/32 BEND	(11 1/4°)	THRUST BLOCK W/ GRIPRING™

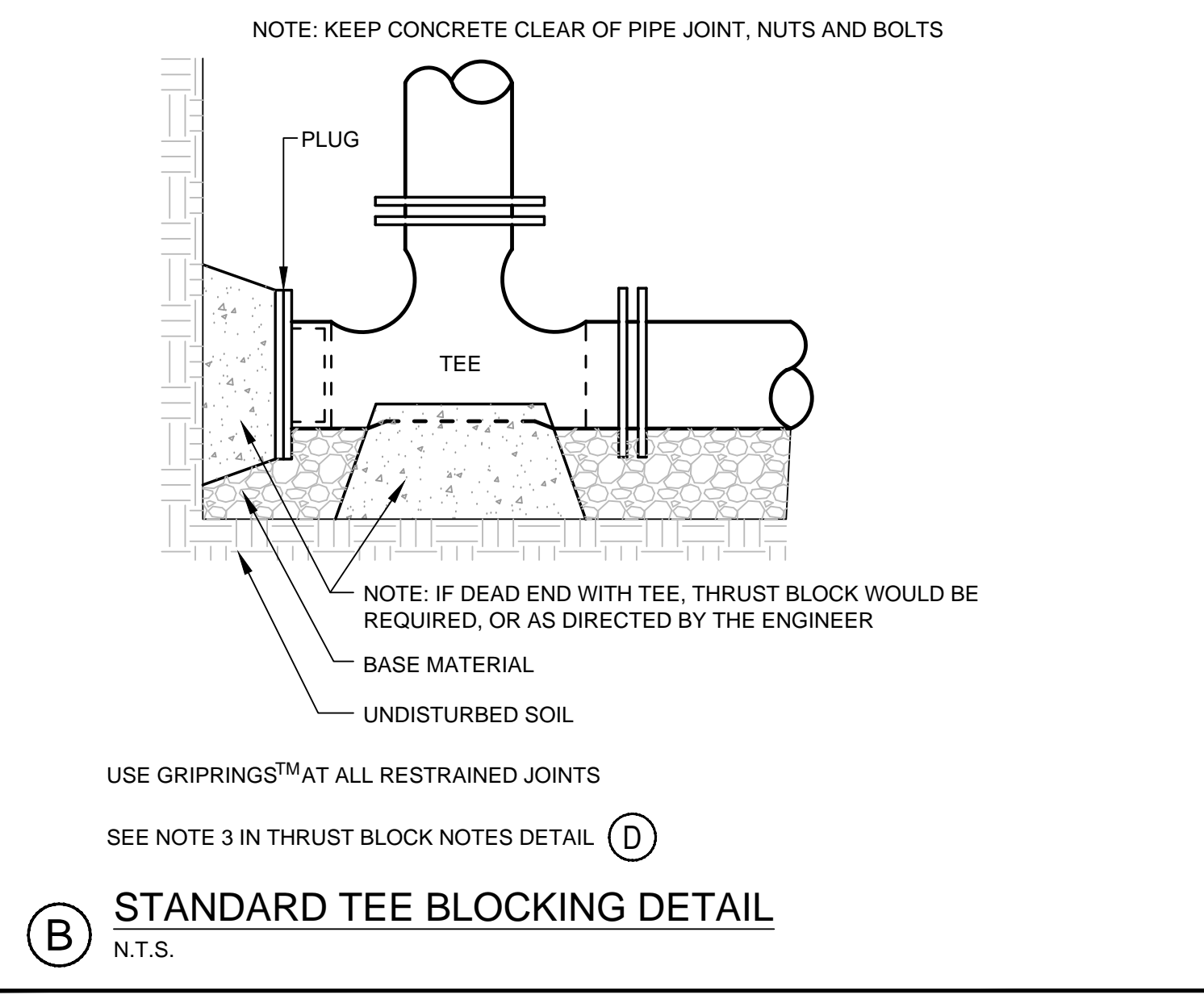
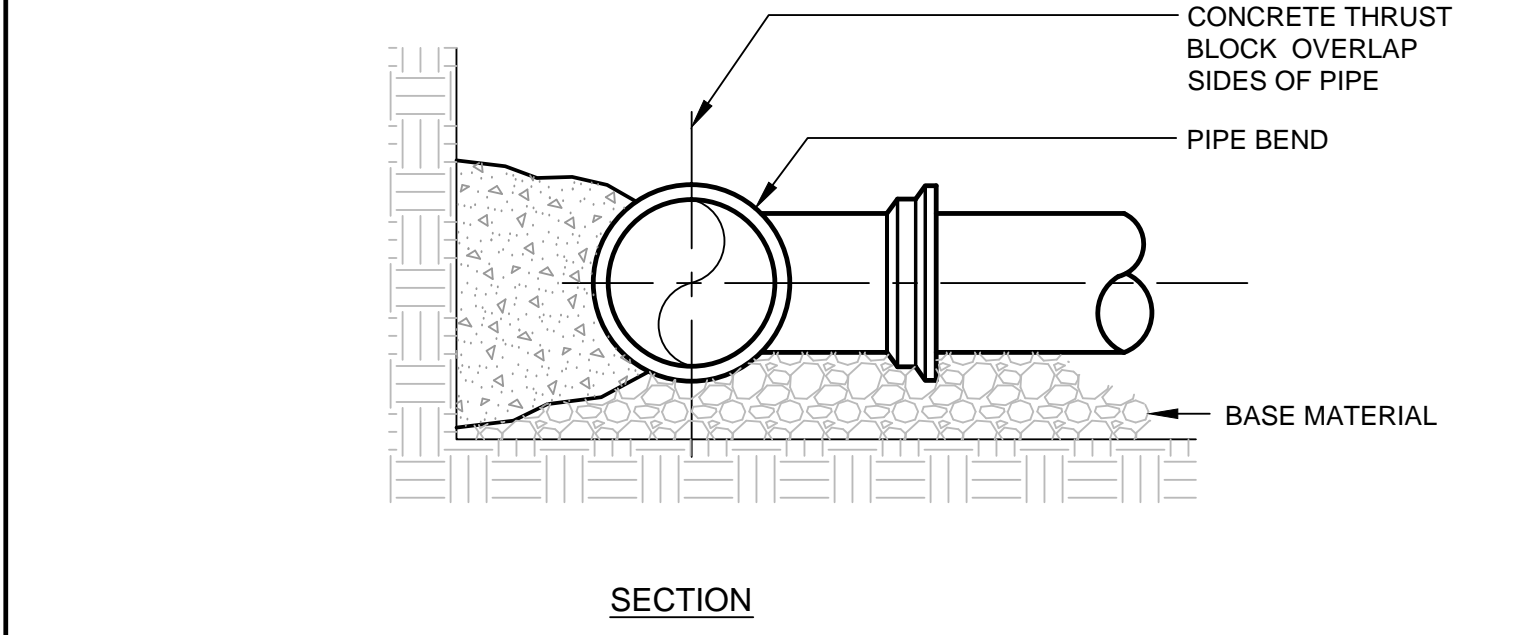
THE ABOVE SCHEDULE IS SUBJECT TO THE APPROVAL OF THE ON-SITE INSPECTOR DUE TO SOILS AND WORKING PRESSURES IN THE AREA.

- NOTES:
1. THE PORTLAND WATER DISTRICT MAY HAVE INSPECTION FEES AND REQUIRE OBSERVATION OF ALL PIPING INSTALLATION BEFORE BURIAL. REFER TO SPECIFICATIONS.
 2. REFER TO SPECIFICATIONS FOR TESTING AND CHLORINATION REQUIREMENTS.
 3. ALL HYDRANTS AND VALVES TO BE EPOXY COATED, NUTS & BOLTS TO BE STAINLESS STEEL.
 4. SERVICE RODS FOR DOMESTIC SERVICE OR AIR VALVES TO BE STAINLESS STEEL.

(A) TYPICAL THRUST BLOCK PLACEMENT ON BENDS DETAIL
N.T.S.



NOTE: KEEP CONCRETE CLEAR OF PIPE JOINT, NUTS AND BOLTS



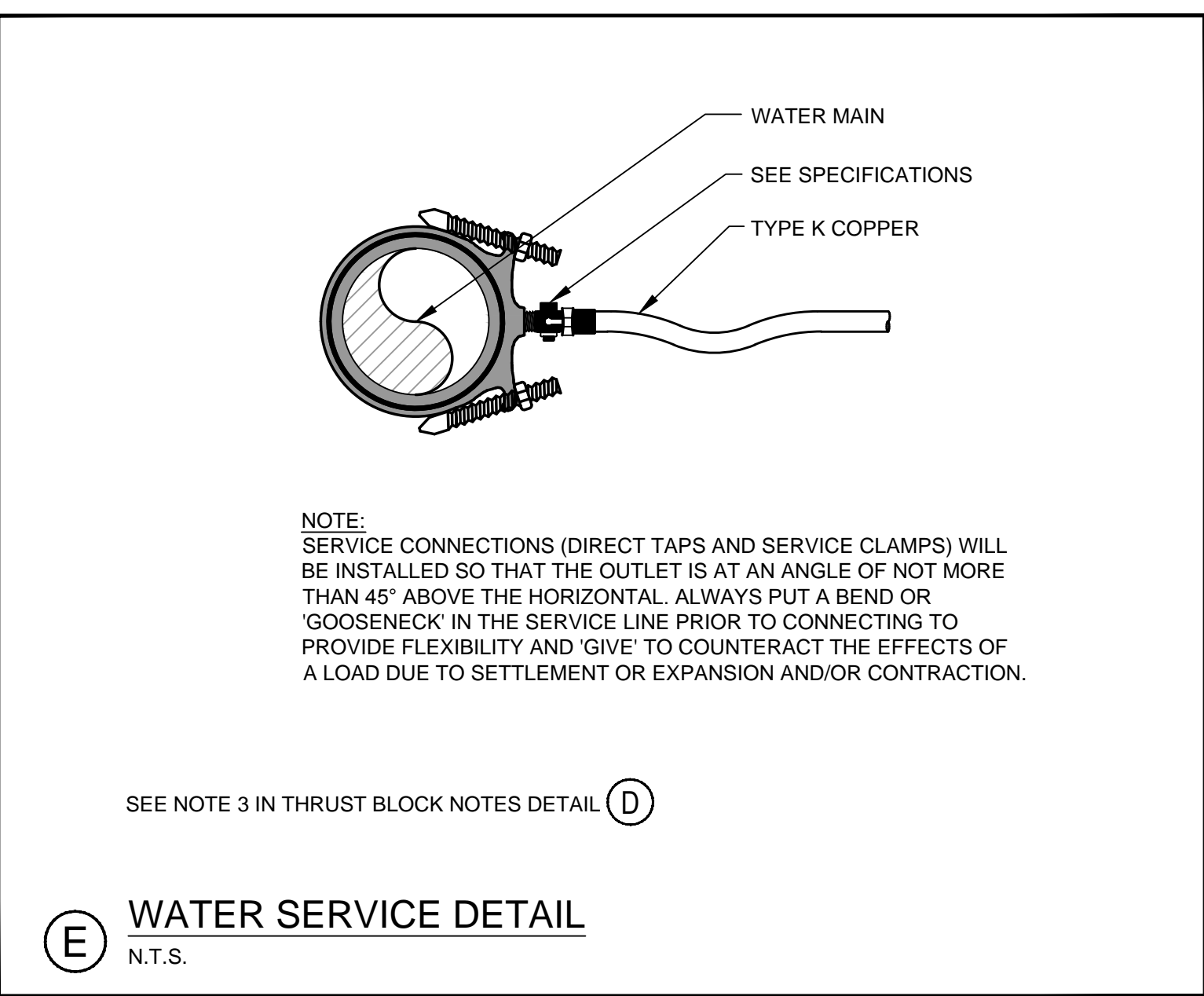
(B) STANDARD TEE BLOCKING DETAIL
N.T.S.

(C) TYPICAL THRUST BLOCK PLACEMENT ON TEES DETAIL
N.T.S.

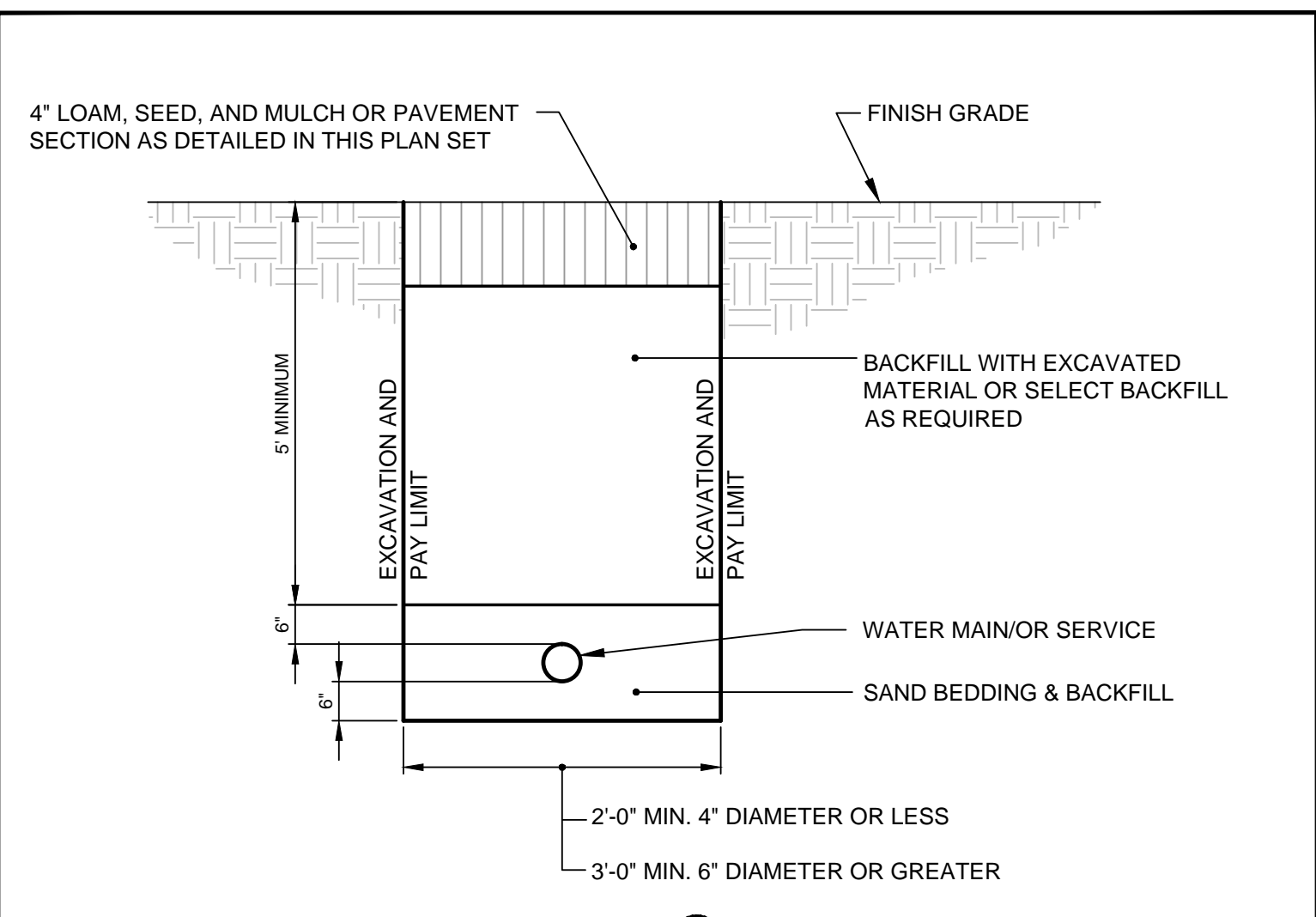
1. INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.
2. ANY MODIFICATION TO THRUST BLOCK SIZING OR PIPE RESTRAINT REVISIONS SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD.
3. ANY WORK RELATING TO WATER PIPING OR DETAILS SHALL BE IN ACCORDANCE WITH THE PORTLAND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

BEARING SURFACE REQUIRED IN SQUARE FEET					
PIPE SIZE	1/4 BEND	1/8 BEND	1/16 BEND	1/32 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

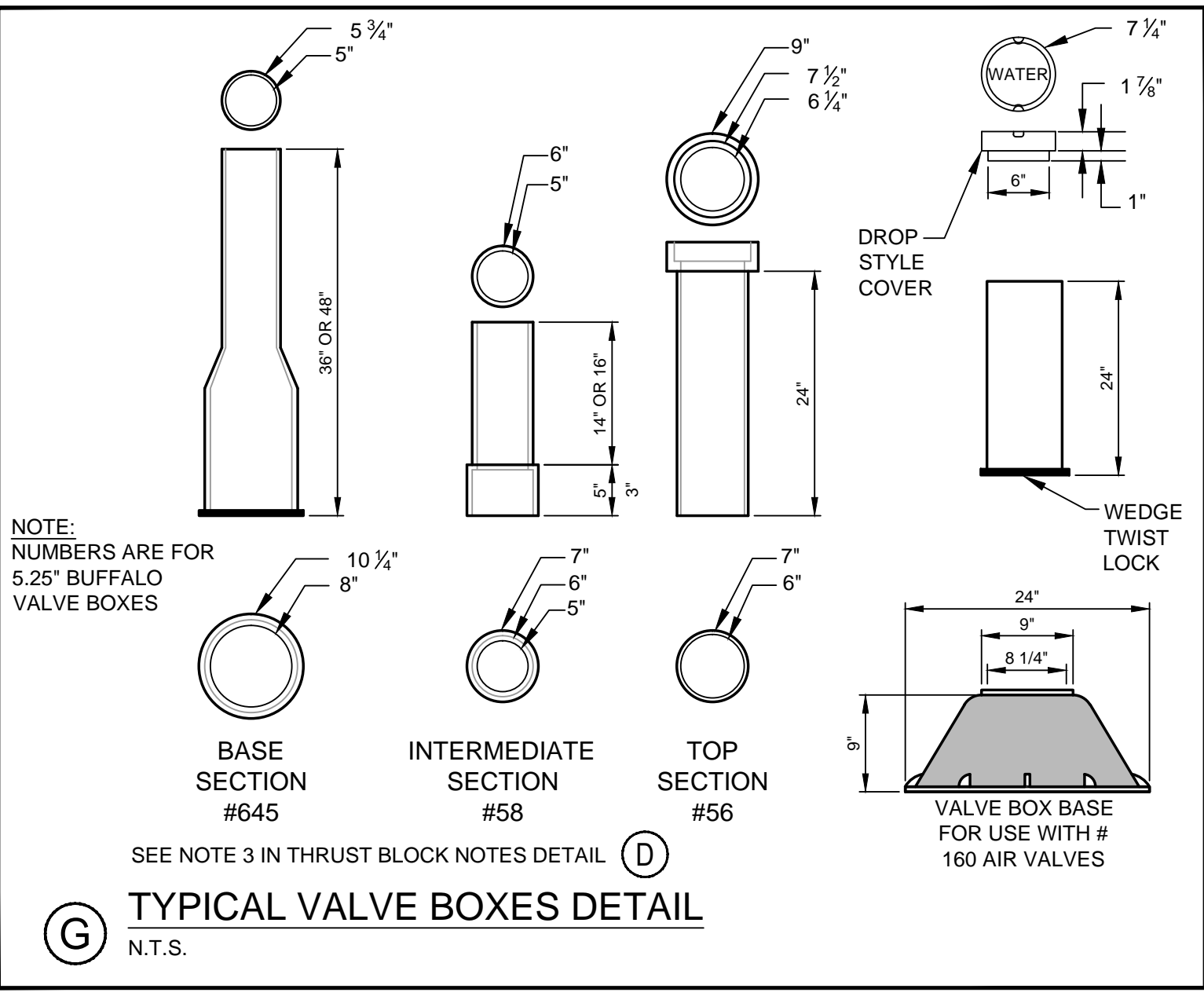
(D) THRUST BLOCK NOTES
N.T.S.



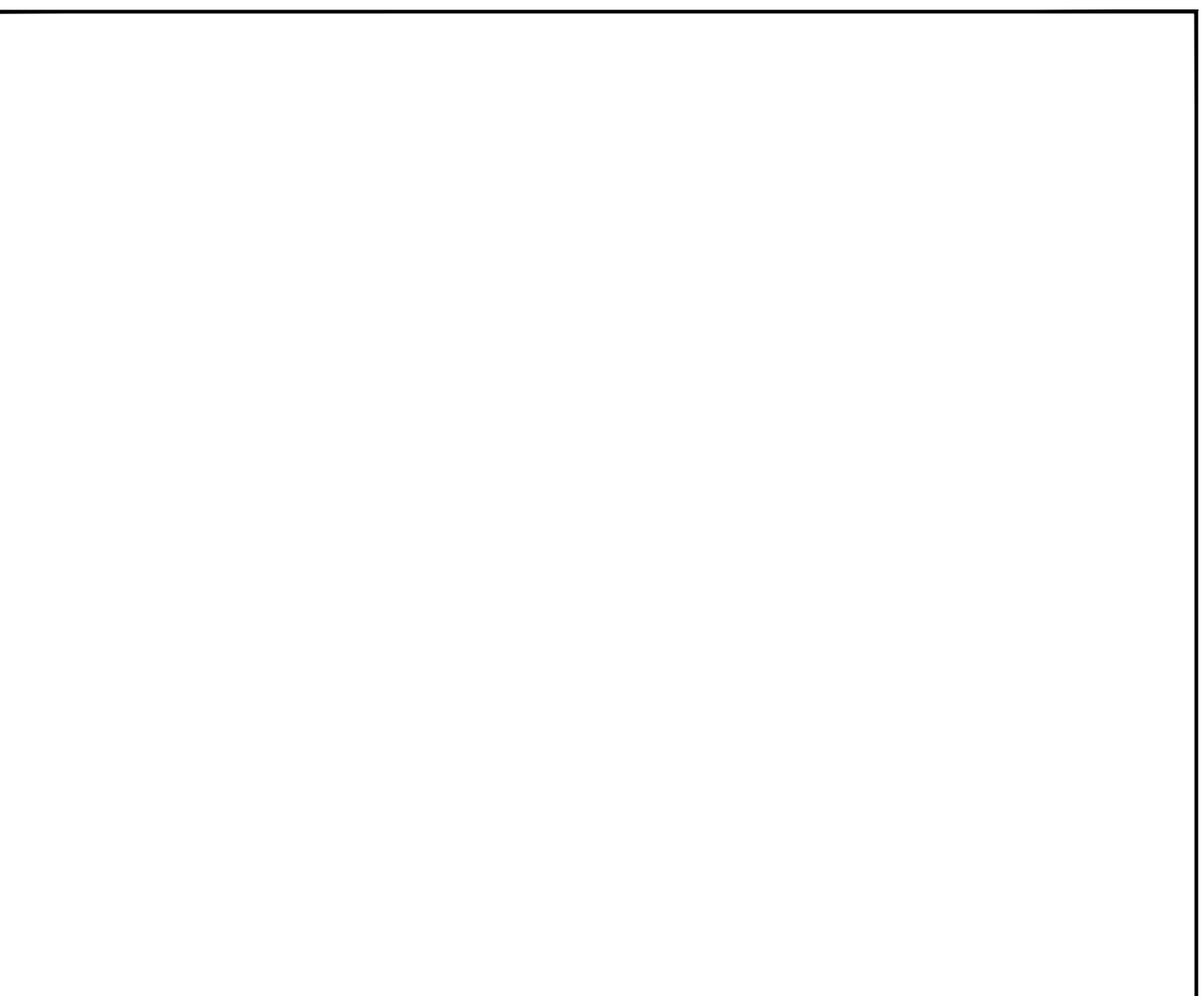
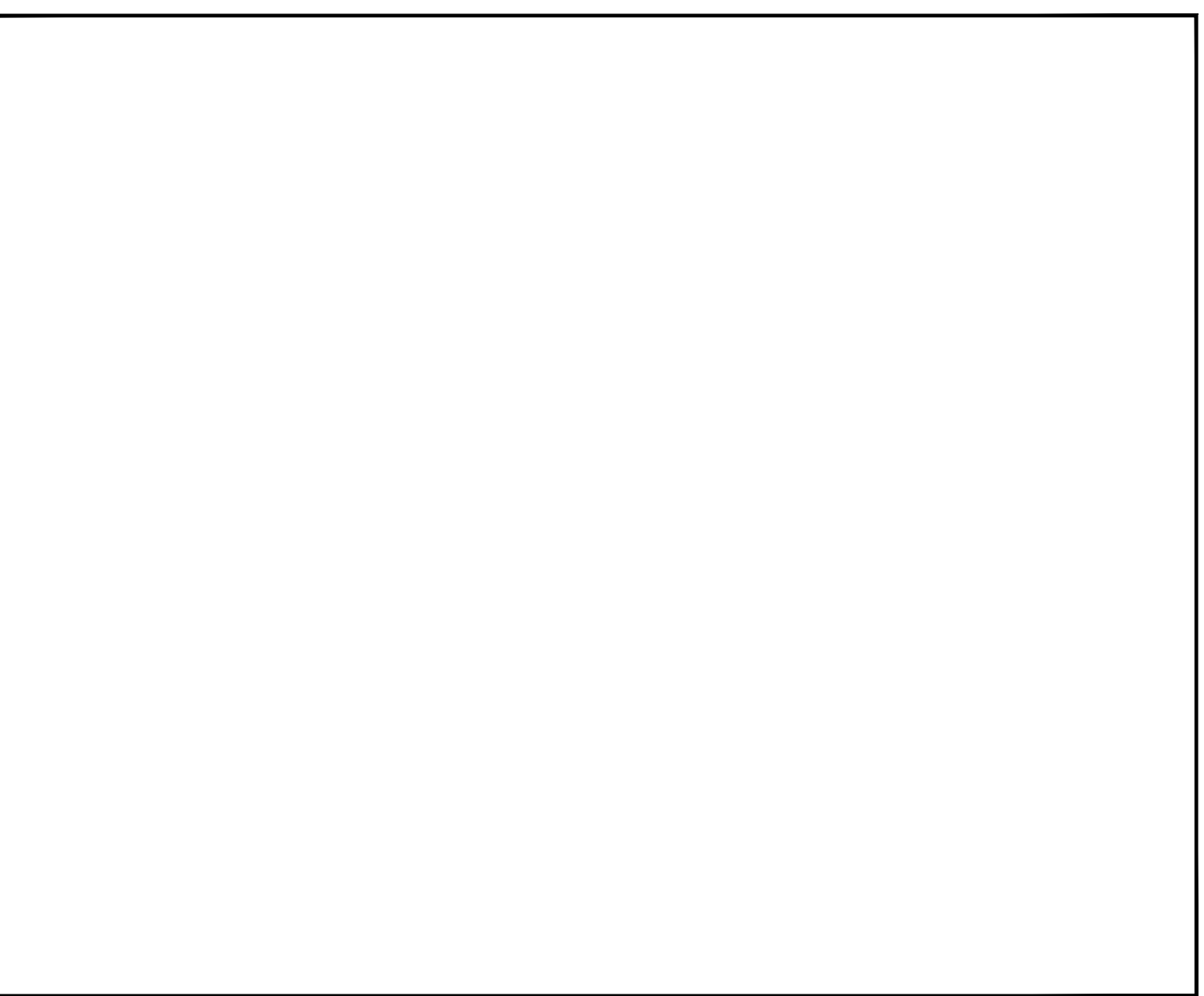
(E) WATER SERVICE DETAIL
N.T.S.



(F) WATER SERVICE TRENCH SECTION
N.T.S.



(G) TYPICAL VALVE BOXES DETAIL
N.T.S.



		PROJECT CANAL LANDING AMENDED SITE PLAN PHASE III SHEET TITLE WATER SYSTEM DETAILS	
1 REV DATE DESCRIPTION REVISIONS	06.15.15 PRELIMINARY PHASE III AMENDED SITE PLAN TO CITY OF PORTLAND	CLIENT CANAL LANDING LLC 100 WEST COMMERCIAL STREET PORTLAND, ME 04101	DRAWN: PBF DATE: APRIL 2015 DESIGNED: SRB SCALE: AS SHOWN CHECKED: SRB JOB NO. 3091.04 FILE NAME: 3091.04-DET SHEET C-8.2