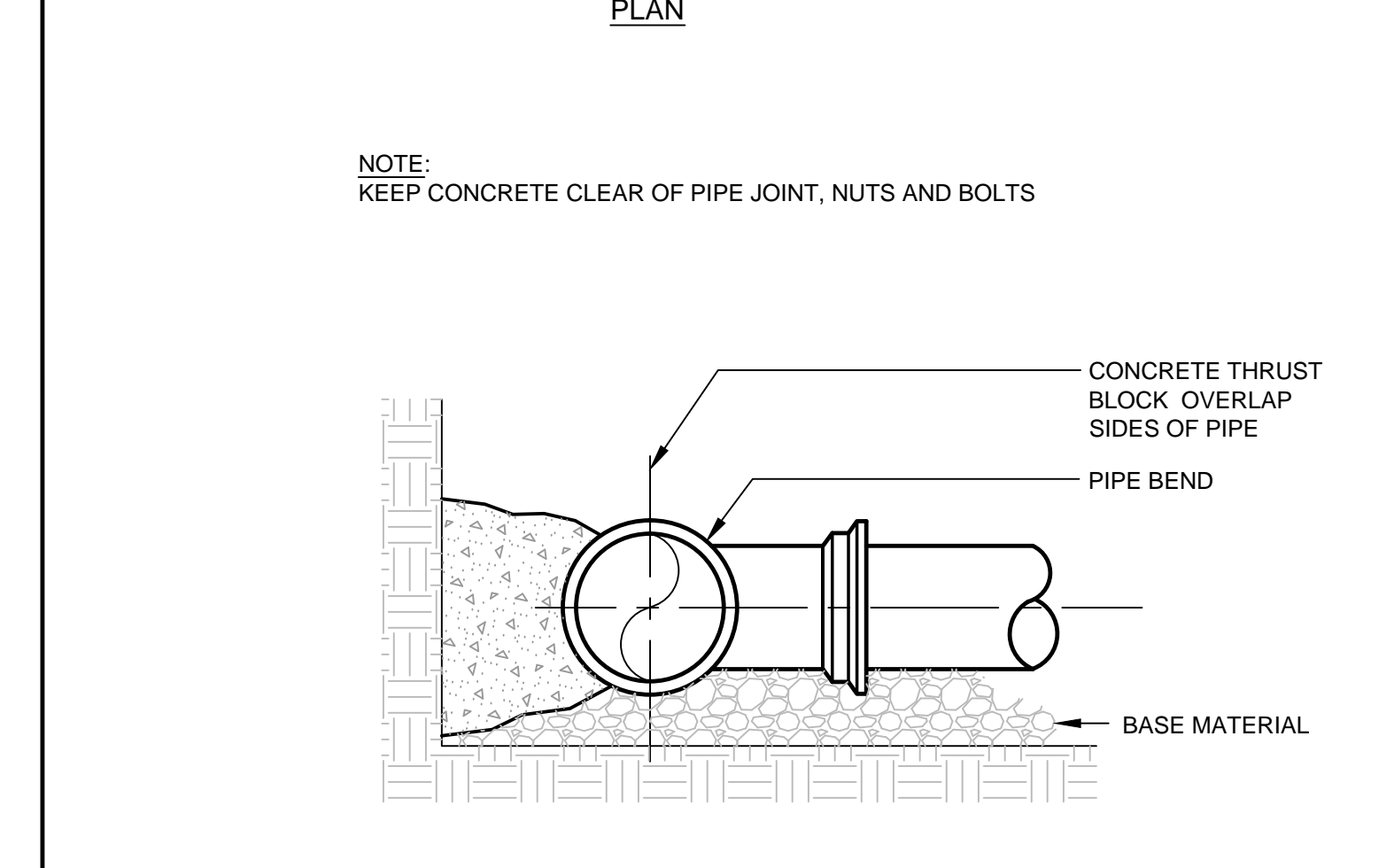
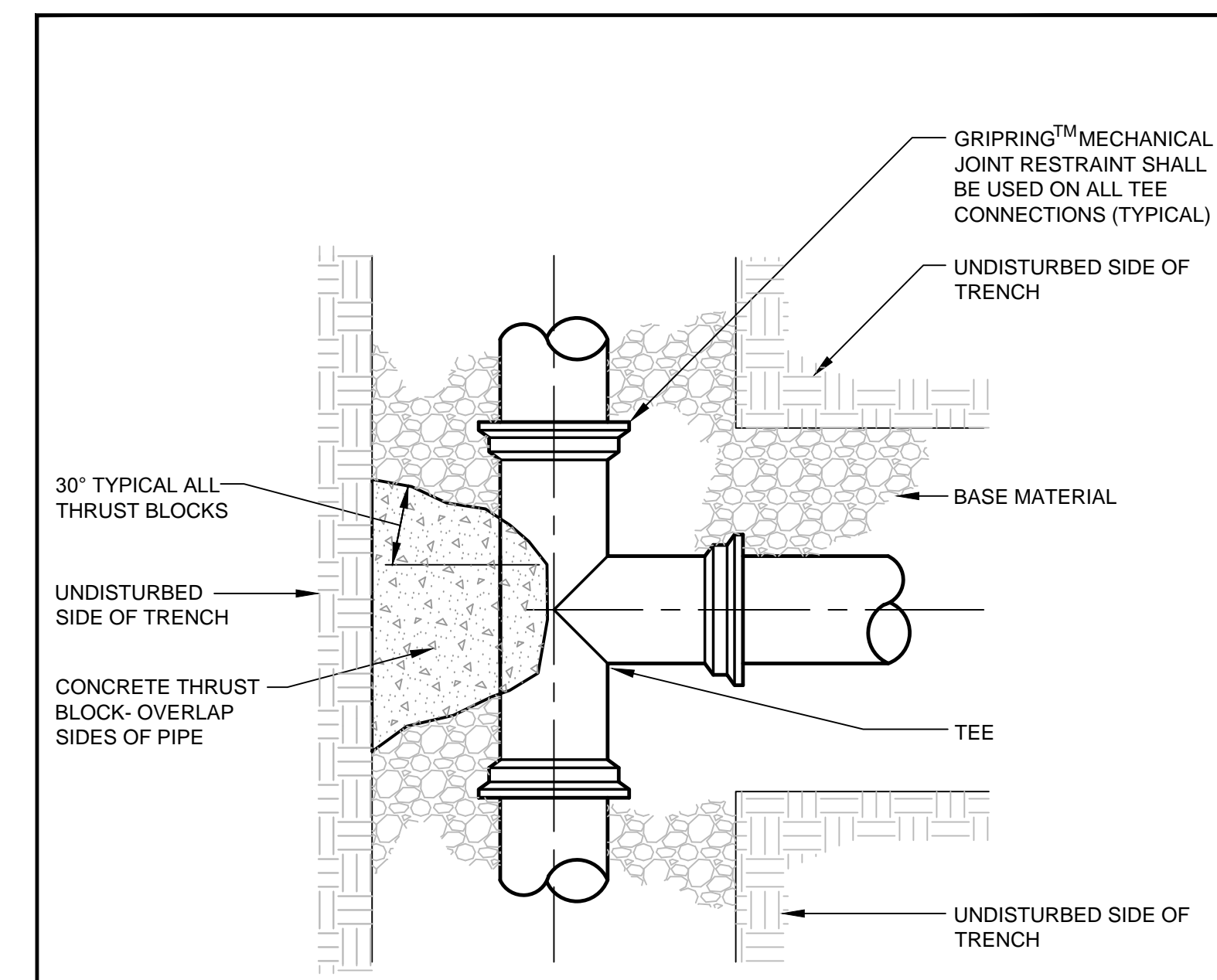


THRUST/RETAINER GLAND SCHEDULE		
1/4 BEND	(90°)	USE POURED-IN-PLACE THRUST BLOCK WITH GRIPRING™ MECHANICAL JOINT RESTRAINT
1/8 BEND	(45°)	THRUST BLOCK W/ GRIPRING™
1/16 BEND	(22 1/2°)	THRUST BLOCK W/ GRIPRING™
1/32 BEND	(11 1/4°)	THRUST BLOCK W/ GRIPRING™

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.

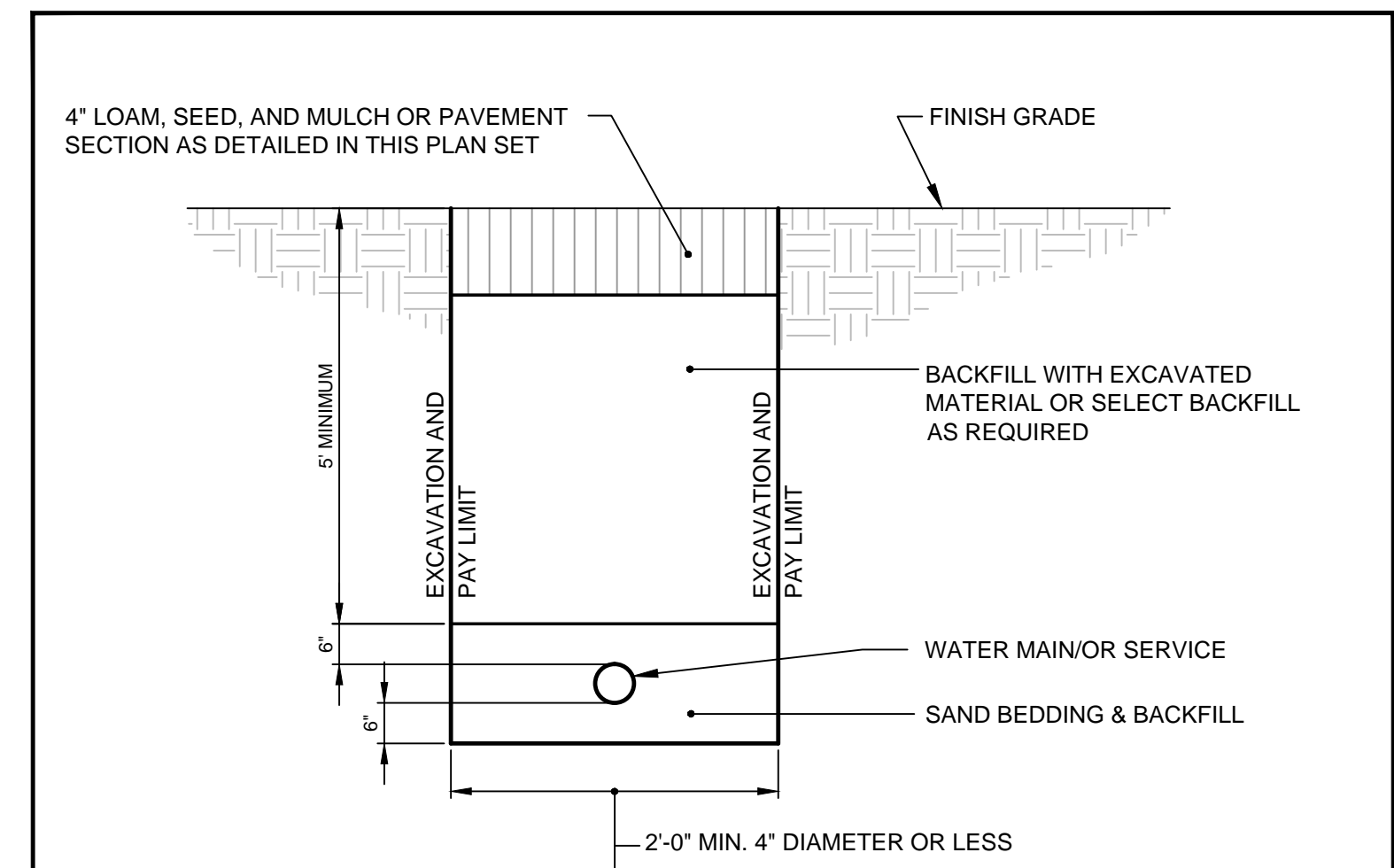
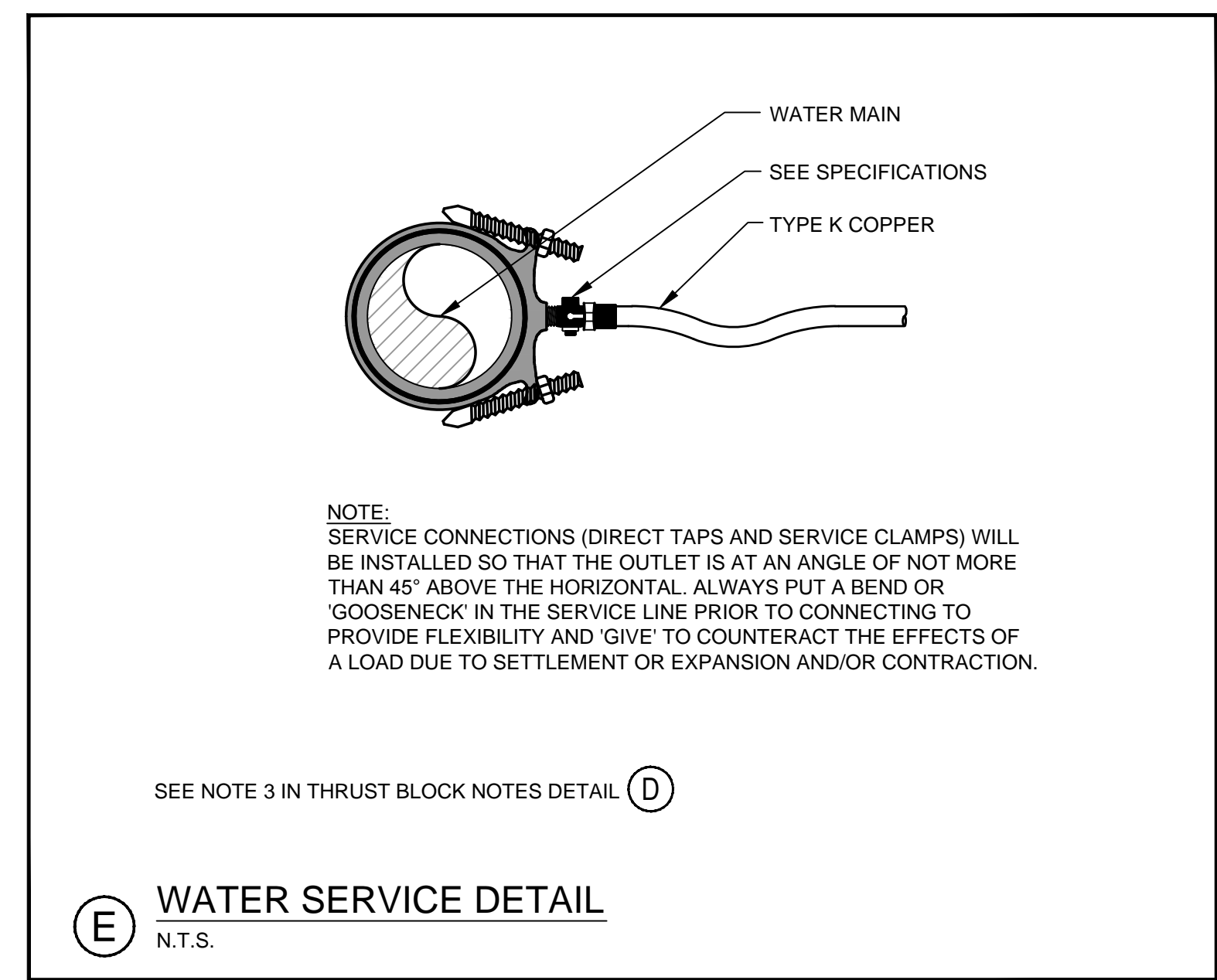


**(C)** TYPICAL THRUST BLOCK PLACEMENT ON TEES DETAIL  
N.T.S.

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™.

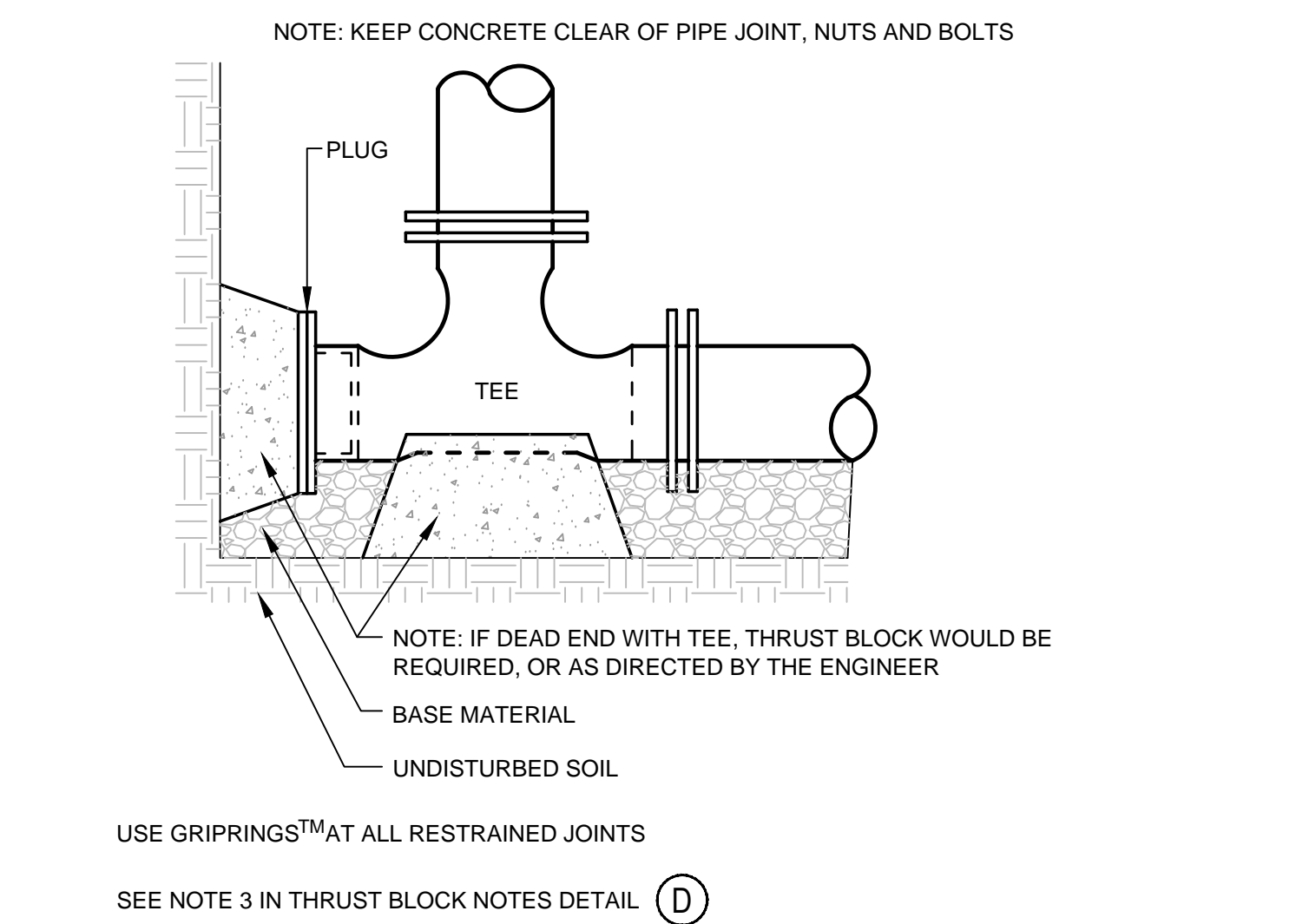
PIPE SIZE	BEARING SURFACE REQUIRED IN SQUARE FEET				
	1/2 BEND	1/4 BEND	1/8 BEND	1/16 BEND	TEES/CAPS
6" / 8"	5.0	5.0	5.0	6.5	5.0
12"	11.5	11.5	11.5	20.0	22.0

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

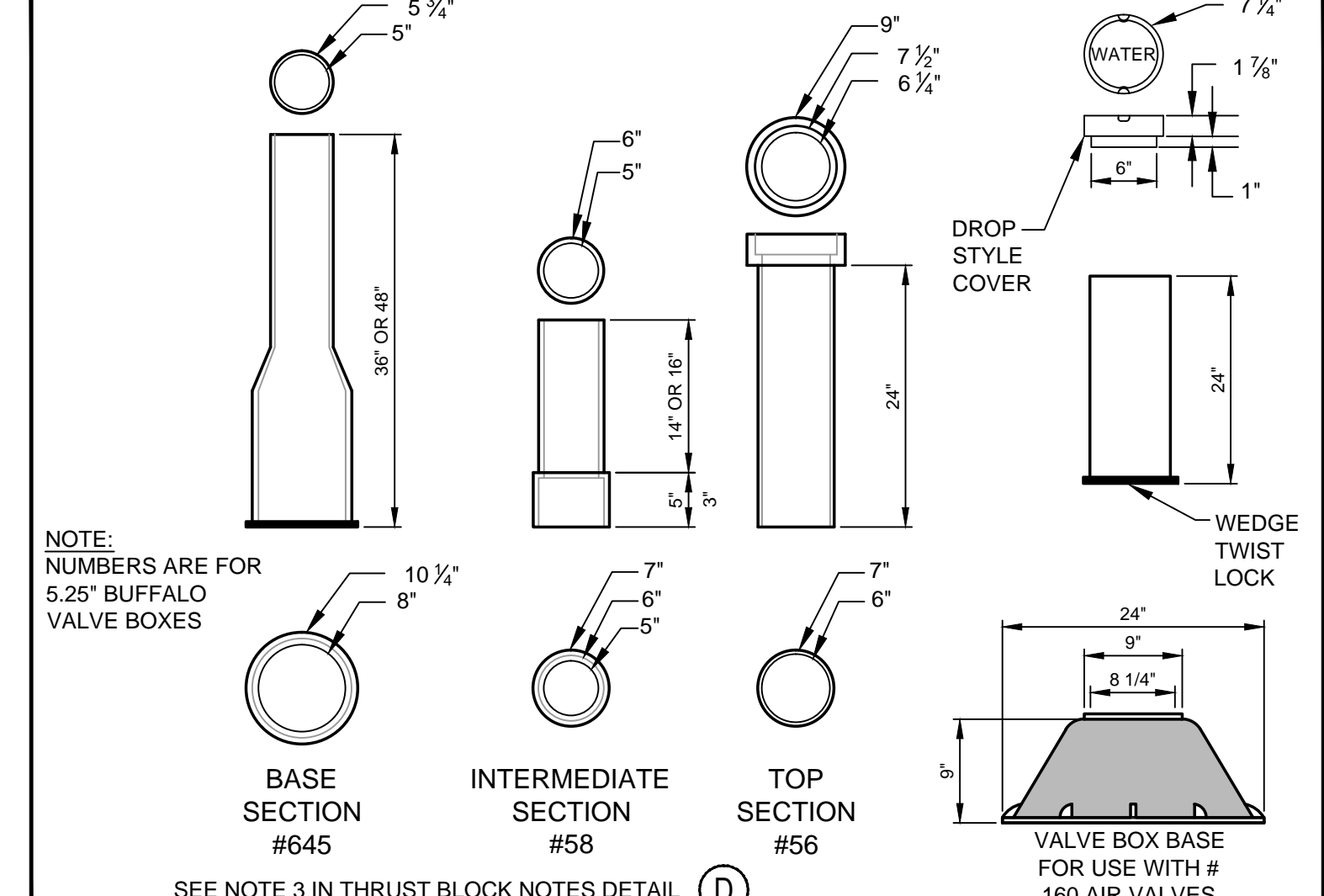


**(E)** WATER SERVICE DETAIL  
N.T.S.

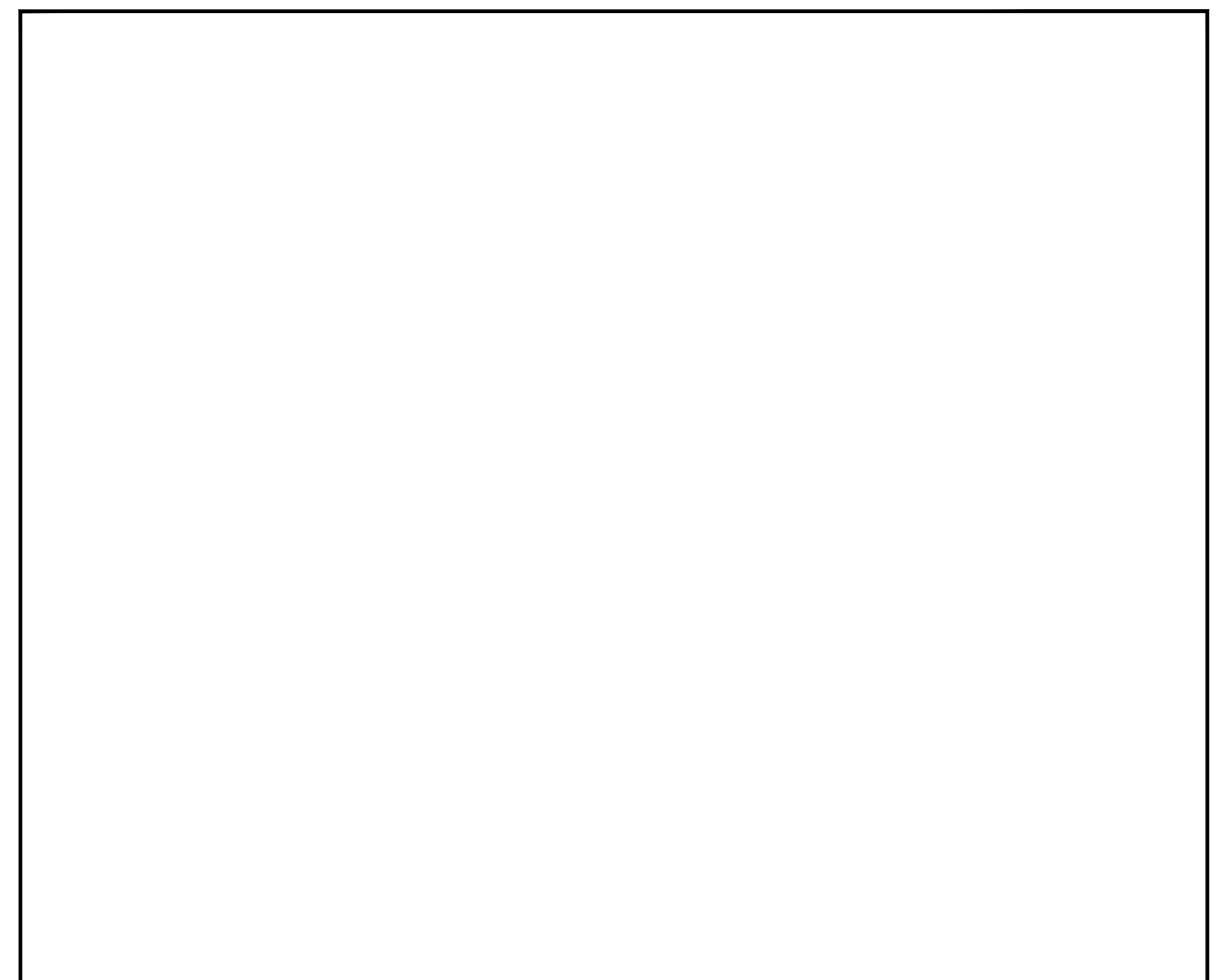
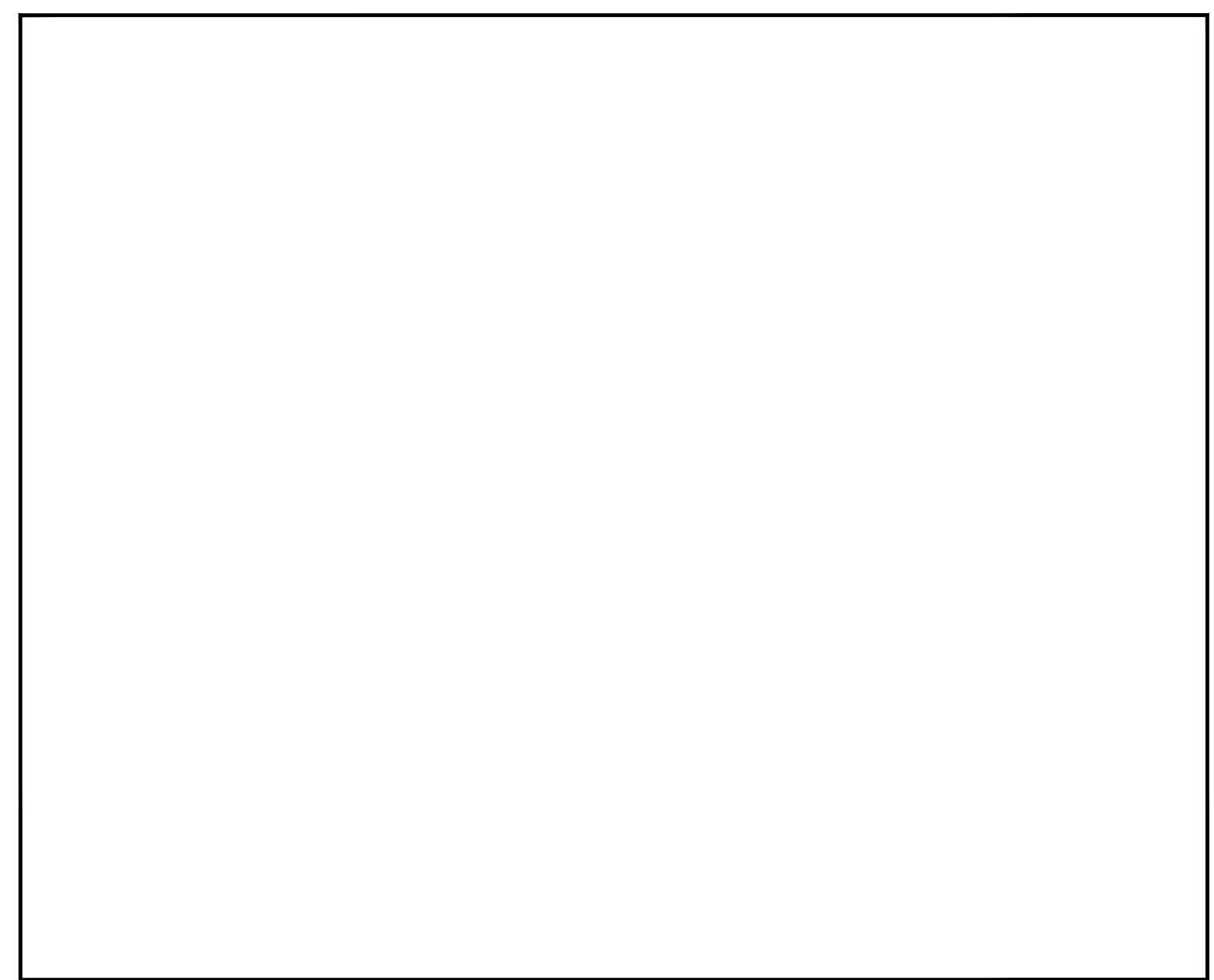
**(F)** WATER SERVICE TRENCH SECTION  
N.T.S.



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



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



			PROJECT <b>CANAL LANDING          AMENDED SITE PLAN PHASE III</b> SHEET TITLE <b>WATER SYSTEM DETAILS</b>	<b>FAY, SPOFFORD &amp; THORNDIKE</b> ENGINEERS - PLANNERS - SCIENTISTS 778 MAIN ST., SUITE 8, SOUTH PORTLAND, ME 04106
1 REV DATE DESCRIPTION REVISIONS	05.22.15 PRELIMINARY PHASE III AMENDED SITE PLAN TO CITY OF PORTLAND	P. E. STEPHEN BUSHEY LIC. # 7429	CLIENT <b>CANAL LANDING LLC</b> 100 WEST COMMERCIAL STREET PORTLAND, ME 04101	DRAWN: PBF DESIGNED: SRB CHECKED: SRB FILE NAME: 3091.04-DET SHEET <b>C-8.2</b>
		DATE: APRIL 2015 SCALE: AS SHOWN JOB NO. 3091.04		