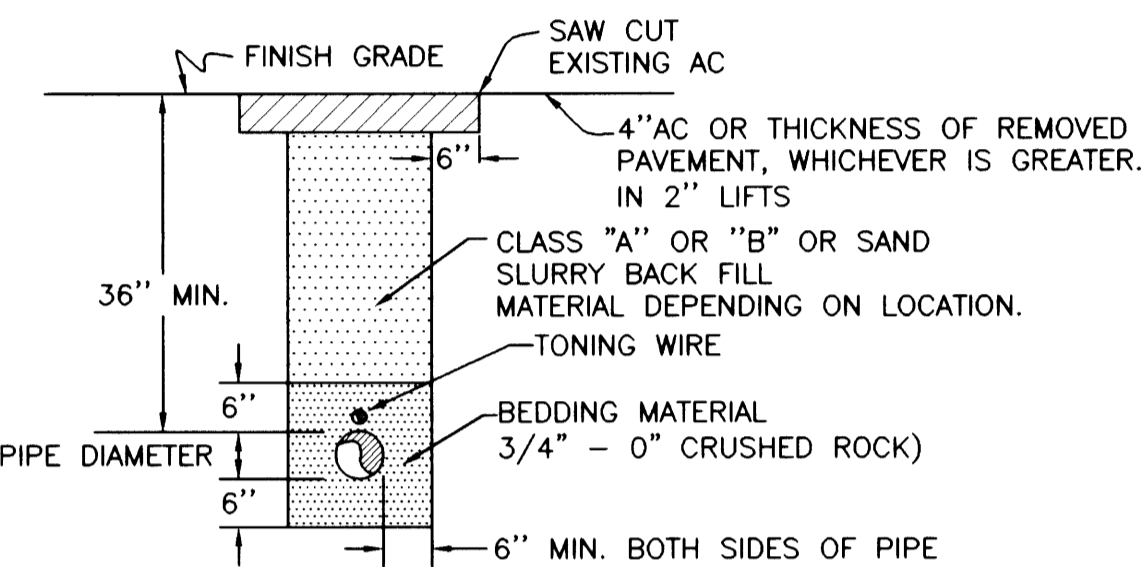


TYPICAL 2" BLOWOFF ASSEMBLY DETAIL



TYPICAL WATER MAINLINE TRENCH DETAIL

FILED
 Date: 12/17/2004 Pj: JP
 This survey consists of:
 Map:
 Narrative:
 Corner Pts:
 DOUGLAS COUNTY SURVEYOR

THRUST BLOCKING

HORIZONTAL BLOCKING

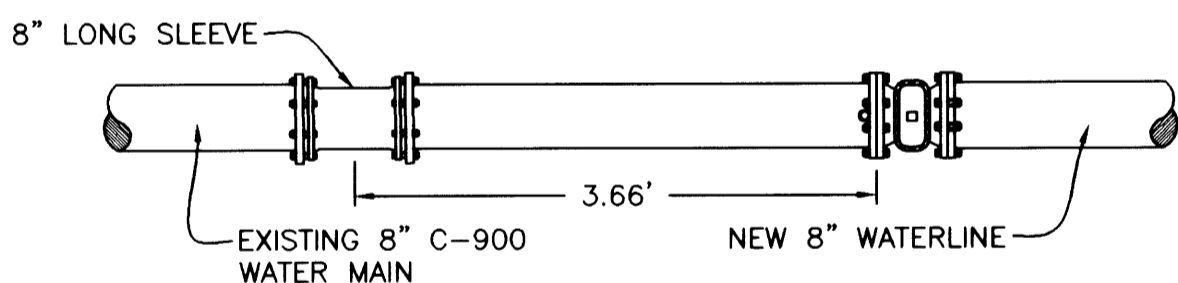
VERTICAL BLOCKING

TABLE A THRUST AT FITTINGS IN POUNDS AT 150 POUNDS PER SQUARE INCH OF WATER PRESSURE				TABLE B SAFE BEARING LOAD OF VARIOUS SOILS	
PIPE SIZE	PLUG OR TEE	90° BEND	45° BEND	22 1/2° BEND	SAFE BEARING LOAD, LB./SQ. FT.
4"	2780	3920	2130	1080	MULCH, PEAT, ETC... 0
6"	5700	8060	4370	2210	CLAY 1000
8"	9870	13,950	7560	3830	SAND 2000
10"	16,130	22,800	12,360	6260	SAND & GRAVEL 3000
12"	22,970	32,460	17,580	8910	SAND & GRAVEL CEMENTED WITH CLAY 4000
					HARD SHALE 10,000

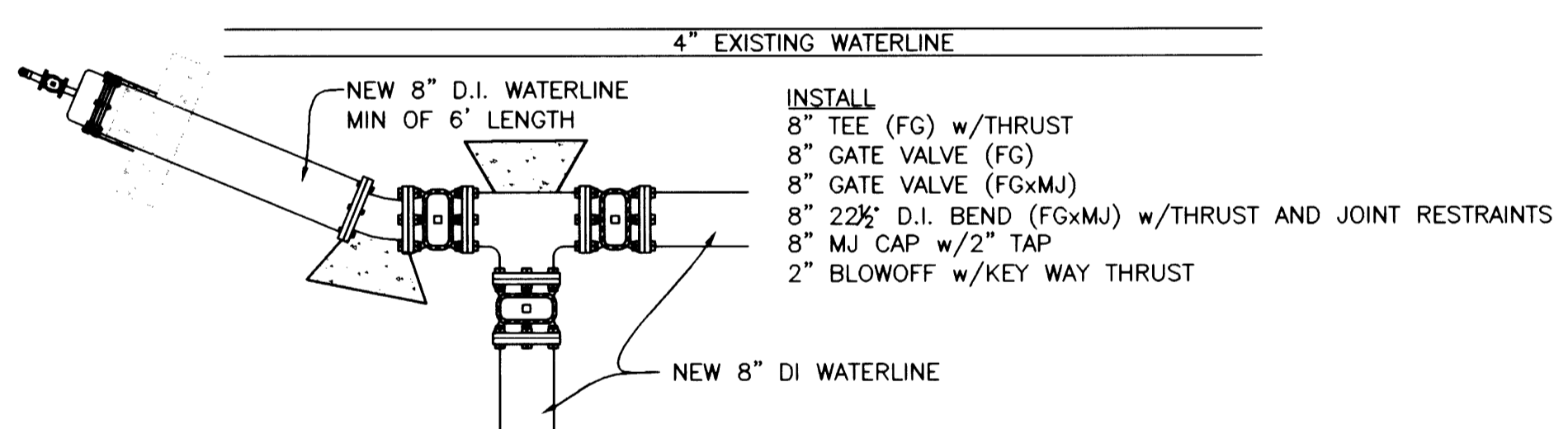
NOTES:
 1. THRUST BLOCKING SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE ANCHORED. THE MINIMUM BEARING AREA AGAINST UNDISTURBED EARTH FOR THRUST BLOCKING SHALL BE CALCULATED BY DIVIDING THE THRUST (TABLE A) BY THE SAFE BEARING LOAD (TABLE B). EXAMPLE: A 6", 45° HORIZONTAL BEND WILL BE BLOCKED AGAINST CLAY. THE REQUIRED BLOCKING AREA AGAINST UNDISTURBED EARTH, A=4370 lb./1000 lb./sq.ft.=4.37 sq. ft..
 2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 psi AT 28 DAYS.
 3. THRUST BLOCKING SHALL BE PLACED SO THAT THE PIPE AND FITTING JOINTS WILL BE ACCESSIBLE FOR REPAIRS. INSTALL 6 mil POLYETHYLENE SHEETING BETWEEN CONTACT POINTS OF CONCRETE AND FITTINGS.
 4. THRUST BLOCKING FOR PIPES LARGER THAN 12", PRESSURES GREATER THAN 150 psi OR OTHER SITUATIONS NOT SHOWN HERE ON SHALL BE AS DIRECTED BY THE ENGINEER.

CITY OF ROSEBURG	WATER DEPARTMENT	DATE: 10/10/1983	STANDARD 102
		REV: 5-11-1999	DWG. NO.

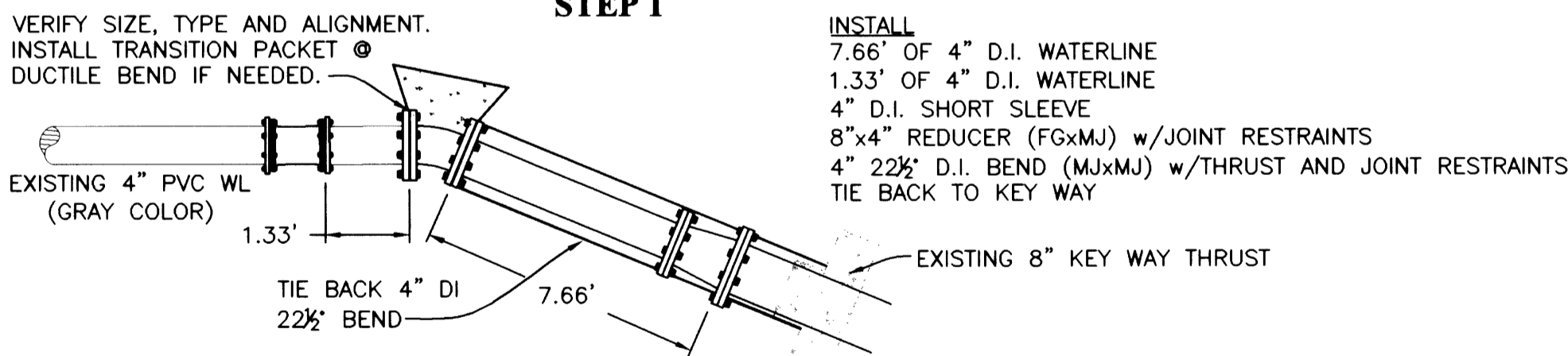
NOTES:
 ALL PIPE AND FITTINGS FOR TIE-IN TO BE CLEAN AND WIPED w/CHLORINE PRIOR TO INSTALLATION
 ALIGN NEW MAINLINES IN BOTH ALIGNMENT AND GRADE w/EXISTING WATERLINES. CONNECTION TO EXISTING WATERLINE CAN ONLY BE MADE AFTER INSTALLATION, TESTING & DISINFECTION OF NEW WATERLINE HAS BEEN COMPLETED.



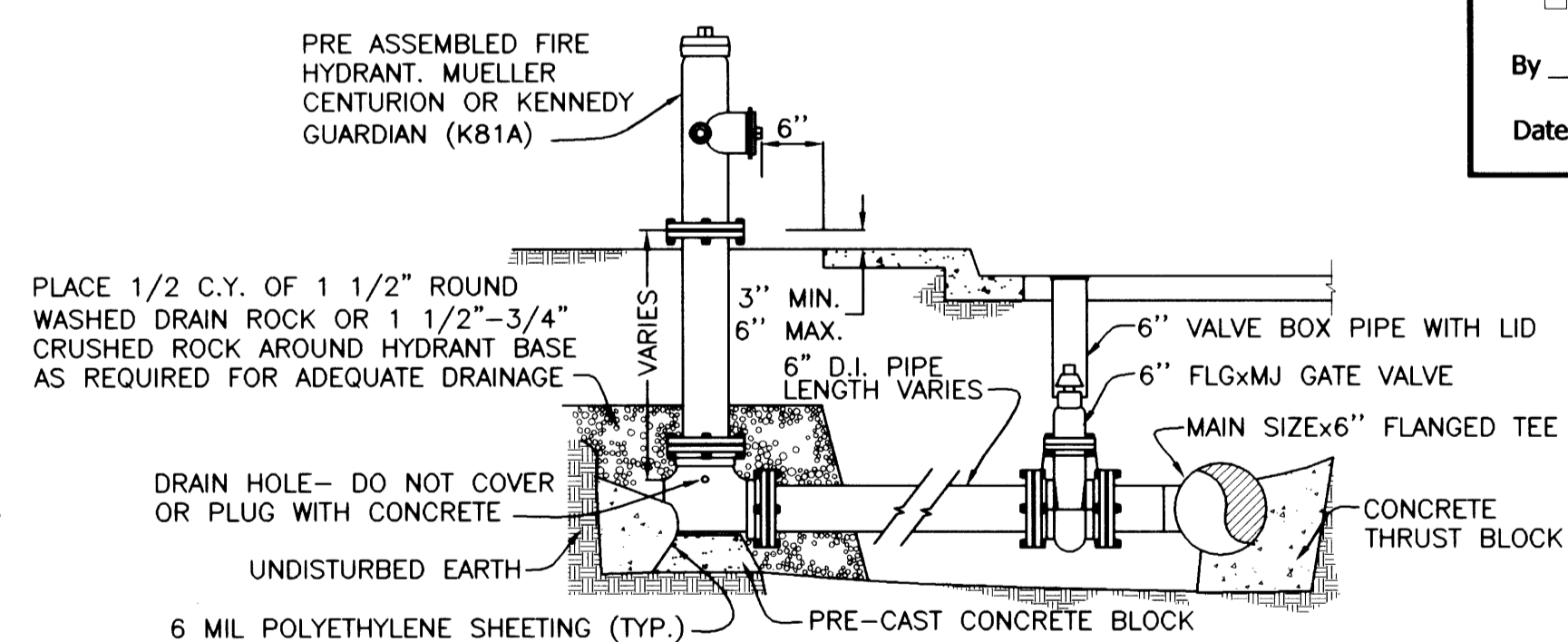
WATER TIE-IN DETAIL A



TIE-IN DETAIL B STEP 1



TIE-IN DETAIL B STEP 2

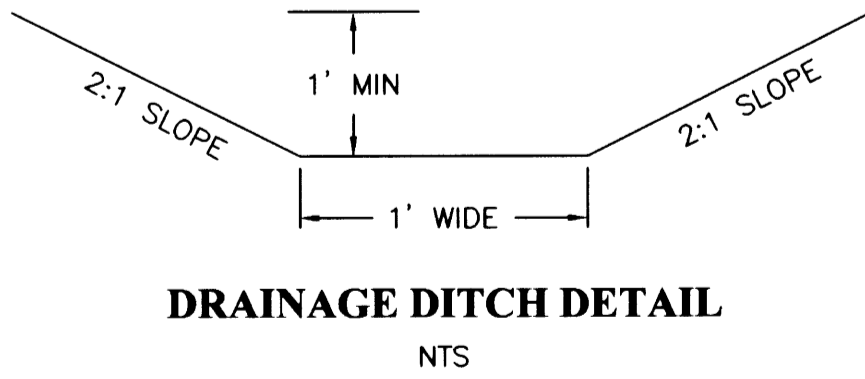


TYPICAL FIRE HYDRANT INSTALLATION (THRUST BLOCKED)

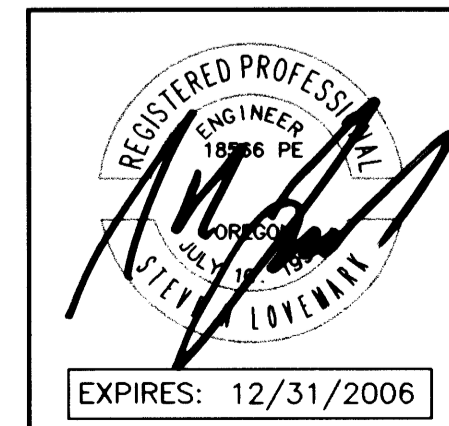
CITY OF ROSEBURG
 Public Works Dept.
 Development Plan Review

Approved for Development
 Approved with Conditions

By: _____
 Date: _____



DRAINAGE DITCH DETAIL NTS



Rev.	Date	Dwg	Description
1	1/24/05	ANV	AGENCY REVIEW
2	08/16/05	JDL	AS-BUILTS

505 SE Main Street
 Roseburg, Oregon 97470
 PHONE (541) 673-0166
 FAX (541) 440-9392
 iemail@ieengineering.com

Project Name:
RED HAWK ESTATES
 (LOOKINGGLASS RD. SUBDIVISION)

Title:
DETAILS

DES JPM	PROJECT NO. 0333-16
DWG BWC	DATE: NOVEMBER 29, 2004
CHK SNL	SCALE: N/A
APP SNL	SHEET: 6 OF 8

Co. Rd. # 910

CO. RD. #910 DETAILS

DO NOT DUPLICATE

R910DET1