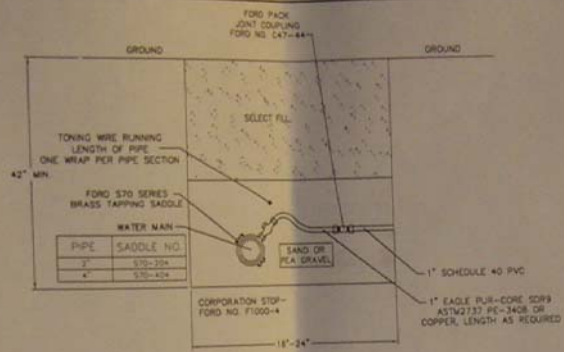
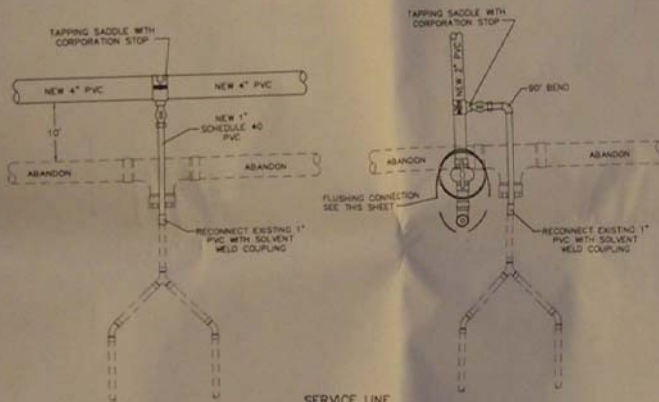
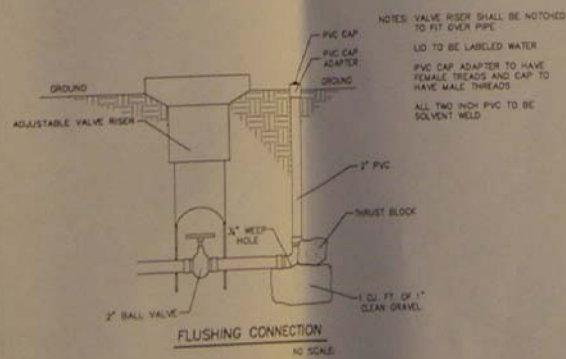




TYPICAL SERVICE CONNECTION

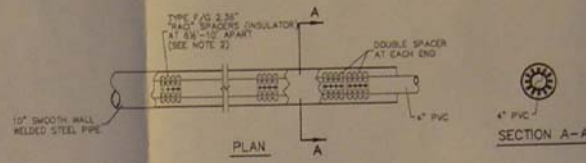


SERVICE LINE
RECONNECTION DETAIL
NO SCALE



FLUSHING CONNECTION
NO SCALE

- NOTES
1. STEEL CASING SHALL BE 10" IN DIAMETER AND HAVE A WALL THICKNESS OF 0.188" MIN.
 2. WHERE MECHANICALLY JOINTED PIPES, FLANGES, COUPLINGS OR BELLS ARE INVOLVED, RINGS SHOULD BE INSTALLED WITHIN 1 FOOT ON EACH SIDE OF THE BELL AND ONE IN THE CENTER OF THE PIPE, WHEN 18 TO 30 FOOT LENGTHS ARE USED.
 3. ALL CASINGS MUST BE BACKFILLED WITH 1" CLEAN ROCK, CAPPED WITH 4" OF ASPHALT OR CONCRETE AND HAVE A MINIMUM OF 2' OF COVER.

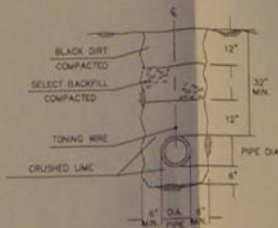


ENCASED BORING
DETAIL
NO SCALE

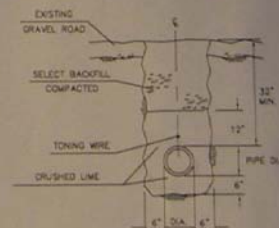


TYPICAL WATER MAIN
SEWER LINE CROSSING
NO SCALE

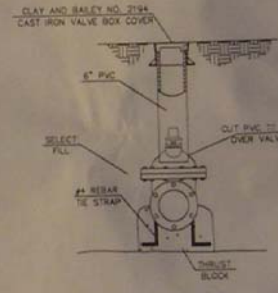
TYPICAL WATER MAIN
SEWER LINE HORIZONTAL SEPARATION
NO SCALE



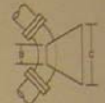
TRENCH DETAIL
DIRT SURFACE
NO SCALE



TRENCH DETAIL
ROCK SURFACE
NO SCALE



TYPICAL VALVE &
VALVE BOX DETAIL
NO SCALE



BENDS & WYE'S



TEE'S & TAPPING SLEEVES

BENDS									
SIZE	ANGLE	B	C	D	E	F	G	H	I
1"	11 1/4	27	47	47	27	47			
1"	22 1/2	27	47	47	27	47			
1"	45	27	47	47	27	47			
1"	90	27	107	47	87	47			
2"	11 1/4	37	57	47	47	47			
2"	22 1/2	37	57	47	47	47			
2"	45	47	87	47	57	47			
2"	90	47	117	47	87	47			
3"	11 1/4	47	107	47	87	47			
3"	22 1/2	47	107	47	87	47			
3"	45	57	127	47	87	47			
3"	90	57	157	47	117	47			
4"	11 1/4	47	117	47	87	47			
4"	22 1/2	47	117	47	87	47			
4"	45	67	137	47	117	47			
4"	90	67	167	47	147	47			
6"	11 1/4	67	137	127	247	127			
6"	22 1/2	67	137	127	247	127			
6"	45	87	157	127	247	147			
6"	90	87	187	127	247	147			
8"	11 1/4	87	157	127	247	127			
8"	22 1/2	87	157	127	247	127			
8"	45	97	177	127	247	147			
8"	90	97	207	127	247	147			
10"	11 1/4	87	157	127	247	127			
10"	22 1/2	87	157	127	247	127			
10"	45	97	177	127	247	147			
10"	90	97	207	127	247	147			

TEE'S									
SIZE	B	C	D	E	F	G	H	I	J
1"x1/2"	4"	8"	5"	4"					
1"x1/2"	4"	10"	6"	4"					
1"x1/2"	4"	14"	10"	4"					
1"x1/2"	4"	18"	12"	4"					
1"x1/2"	4"	24"	14"	4"					
1"x1/2"	4"	30"	16"	4"					
1"x1/2"	4"	36"	18"	4"					
1"x1/2"	4"	42"	20"	4"					
1"x1/2"	4"	48"	22"	4"					
1"x1/2"	4"	54"	24"	4"					
1"x1/2"	4"	60"	26"	4"					
1"x1/2"	4"	66"	28"	4"					
1"x1/2"	4"	72"	30"	4"					

1. TAPPING SLEEVES TO HAVE THRUST BLOCKS SAME SIZE AS REQUIRED FOR TEE'S.
2. CONCRETE TO BE 4000 PSI ON 28 DAY BREAK.
3. FOR THRUST BLOCKS NOT LISTED OR SHOWN, THE ENGINEER OR CITY SHALL NOTIFY THE CONTRACTOR OF THE SIZE AND PLACEMENT.

BIG ISLAND
WATERLINE IMPROVEMENTS

KREHBIEL ENGINEERING, INC.
CONSULTING ENGINEERS
DANVER, MASSACHUSETTS

PROJECT NO. 918

DATE: 04/01/04

REVISION: 000002

DETAILS

6 OF 6