

MINIMUM LENGTH (FT) TO BE RESTRAINED ON EACH SIDE OF FITTING(S), *

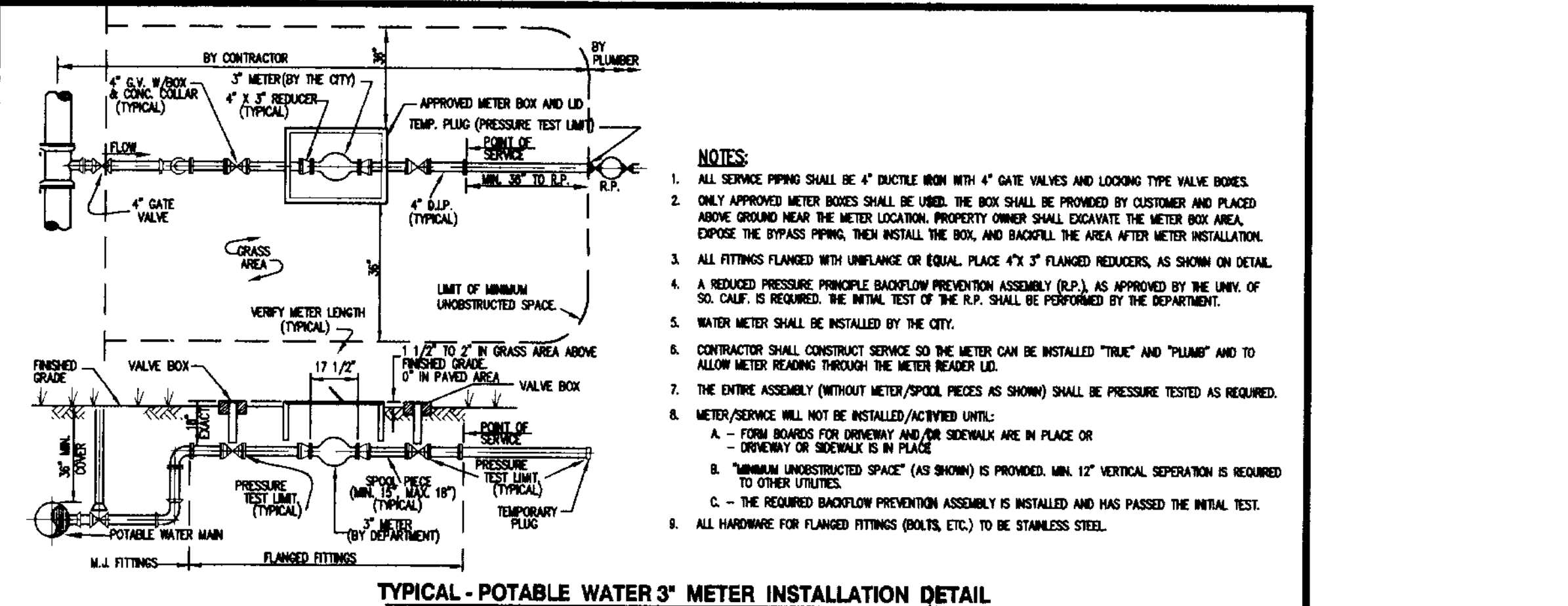
FITTING	PIPE SIZE								
	8"	8"	10"	12"	16"	20"	24"	30"	36"
90° BEND	54	72	90	90	108	108	108	108	108
45° BEND	36	36	36	36	54	54	54	54	54
22-1/2° BEND	18	18	18	18	18	18	18	18	18
11-1/4° BEND	18	18	18	18	18	18	18	18	18
PLUG OR BRANCH OF TEE	54	72	90	90	108	108	108	108	108

* SEE NOTE 7.

NOTES:

- FITTINGS SHALL BE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
- INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN SHOWN IN THE TABLE.
- WHERE TWO OR MORE FITTINGS ARE TOGETHER, USE FITTING WHICH YIELDS GREATEST LENGTH OF RESTRAINED PIPE.
- IN LINE VALVES AND THROUGH RUN OF TEES OUTSIDE LIMITS OF RESTRAINED JOINTS FROM OTHER FITTINGS NEED NOT BE RESTRAINED UNLESS OTHERWISE INDICATED.
- LENGTHS SHOWN IN THE TABLE HAVE BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE AS PUBLISHED BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:
TEST/WORKING PRESSURE: 150 P.S.I.*
SOIL DESCRIPTION: SAND
LAYING CONDITIONS: TRENCH TYPE 3 - / DEPTH OF BURY = 3'
- FOR PIPE ENCASED IN POLYETHYLENE, USE VALUES GIVEN IN PARENTHESES OR INCREASE THE GIVEN VALUE BY A FACTOR OF 1.5.
- TO BE COMPLETED BY THE DESIGN ENGINEER.

CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT
RESTRAINED PIPE DETAIL



DESIGNED BY	JWR	8/04				
DRAWN BY	41903-COV	8/04				
CHECKED BY	JWR	8/04				
APPROVED BY			REV PER CITY COMMENTS	1	9/23/04	JWR
	NAME	DATE	REVISIONS	NO.	DATE	BY

JOSEPH ROLES AND ASSOC., INC.
CONSULTING ENGINEERS
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PLANTATION, FLORIDA 33317
PHONE (864) 681-1946
CERTIFICATE OF AUTHORIZATION NO. 3948

RETAIL CENTER AT WINSTON PARK
LYONS ROAD AND WINSTON PARK BLVD.
COCONUT CREEK, FLORIDA
WATER DETAILS

DATE: AUGUST, 2004
SCALE: N.T.S.
PROJECT NO. 102-419-03
SHEET NO. 4 OF 10