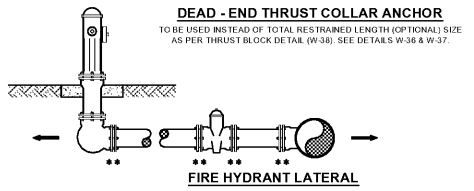


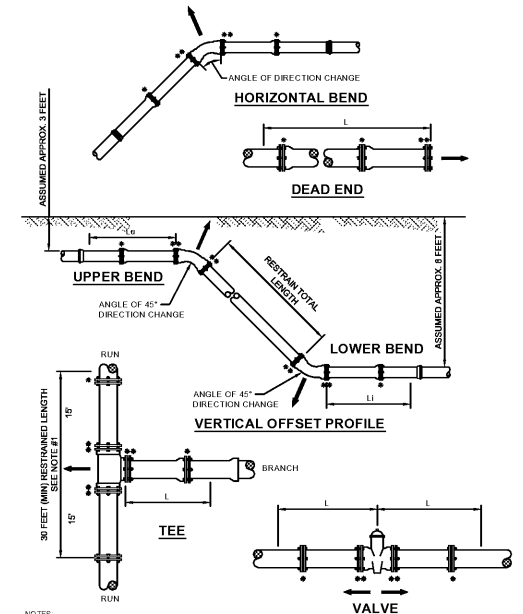
NO. OF TIE RODS REQUIRED

3" - 8"	DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)
10" - 12"	DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)
14" - 16"	DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)
18" - 20"	DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)
24"	DIAMETER MAIN - 12 TIE RODS REQUIRED PER JOINT (3/4" ROD)
30" - 36"	DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD)
42" - 48"	DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
54"	DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)



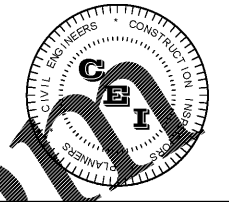
- GENERAL NOTE:
1. PAY ITEM *** DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
 2. PAY ITEM **** DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
 3. ——— INDICATES DIRECTION OF THRUST FORCE.

MECHANICAL RESTRAINT DETAILS - I
JANUARY 2018 PLATE W-31C



- NOTES:
1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN).
 2. PAY ITEM *** DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
 3. PAY ITEM **** DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.

MECHANICAL RESTRAINT DETAILS - II
JANUARY 2018 PLATE W-31D



CAMPO
ENGINEERING, INC.

FBPR CERTIFICATE OF AUTHORIZATION NO.: 26726

1725 EAST 5TH AVENUE
TAMPA, FL. 33605
PHONE: (813) 215-7372
FAX: (813) 902-8782

PROJECT TITLE

**YULEE O'REILLYS
AUTO PARTS**

NASSAU COUNTY, FLORIDA

CLIENT

GRYBOSKI, HOWE & GRAVELY
101 S. BAY BLVD., SUITE B-3
P.O. BOX 732
ANNA MARIA, FLORIDA 34216

REVISIONS

NO.	DESCRIPTION	DATE
△		
△		
△		

ISSUE DATE: 08/2017
REVIEWED BY: ALC
DRAWN BY: LAB
DESIGNED BY: ALC

PROJECT NUMBER
CEI 18-035



Anthony L. Celani 76056 11/26/2018
NAME SEAL NO. DATE

SHEET TITLE

UTILITY DETAILS

SHEET NUMBER

C-9

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