

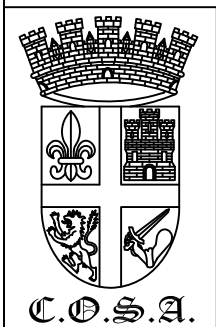
MINIMUM RESTRAINED LENGTH (L) IN FEET

NOMINAL PIPE SIZE	SAND (SP)					SAND-CLAY MIX (SC)					CLAY (CL)					SILT (ML)				
	ELBOWS (DEG.)				DEAD END	ELBOWS (DEG.)				DEAD END	ELBOWS (DEG.)				DEAD END	ELBOWS (DEG.)				DEAD END
	11	22	45	90		11	22	45	90		11	22	45	90		11	22	45	90	
4"	2	4	9	22	49	2	3	7	16	36	2	3	7	17	29	3	6	12	28	69
6"	3	6	12	30	69	2	5	10	23	50	2	5	10	24	41	4	8	16	39	96
8"	4	8	16	39	90	3	6	12	30	66	3	6	13	31	55	5	10	21	50	125
10"	5	9	19	46	107	4	7	15	36	80	4	7	15	37	66	6	12	24	59	148
12"	5	11	22	54	126	4	8	17	42	94	4	9	18	44	79	7	14	28	68	174

NOTE: BASED ON THE THRUST FORCE IN TABLE ABOVE.

NOTES:

1. CONTRACTOR TO USE PROPER NUMBER OF RESTRAINERS.
2. ALSO SEE DETAILS SS-38A&W31A, AND SS-38B&W31B.
3. ALL VALVES SHALL BE TREATED AS DEAD ENDS.
4. ALL CROSSES AND TEE'S SHALL BE RESTRAINED AS DIRECTED BY CITY INSPECTOR.
5. ALL UTILITY UPGRADES SHALL REQUIRE VISUAL VERIFICATION OF RESTRAINT PER THIS DETAIL.



MECHANICAL RESTRAINT DETAILS

REVISION  
DATE:

FEB 2017

NOT TO  
SCALE

SS-38&W-31