

MINIMUM RESTRAINT LENGTH (FT) ON BOTH SIDES OF THE FITTING				
FITTING TYPE / NOMINAL SIZE	6"	8"	12"	16"
11 1/4° BEND	2	3	4	6
22 1/2° BEND	5	6	9	11
45° BEND	10	13	18	23
90° BEND	23	30	43	56
DEAD END	31	40	57	46
TOP SIDE OF A VERTICAL OFFSET <sup>1</sup>	19	25	35	46
TEE RUN X BRANCH <sup>2</sup> 6" BY	24			
TEE RUN X BRANCH <sup>2</sup> 8" BY	22	34		
TEE RUN X BRANCH <sup>2</sup> 12" BY	18	31	51	
TEE RUN X BRANCH <sup>2</sup> 16" BY	14	28	48	67
REDUCER <sup>3</sup> 8" BY	17			
REDUCER <sup>3</sup> 12" BY	42	30		
REDUCER <sup>3</sup> 16" BY	62	54	31	

<sup>1</sup> ALL JOINTS WITHIN THE LOWERED SECTION OF THE WATERMAIN SHALL BE RESTRAINED OR SHALL BE SOLID PIPE. THE ABOVE DISTANCES REFLECT THE REQUIRED RESTRAINT DISTANCE ON THE NORMALLY ELEVATED WATERMAIN EITHER SIDE OF THE 45° FITTING OF THE VERTICAL OFFSET (OR LOWERING)

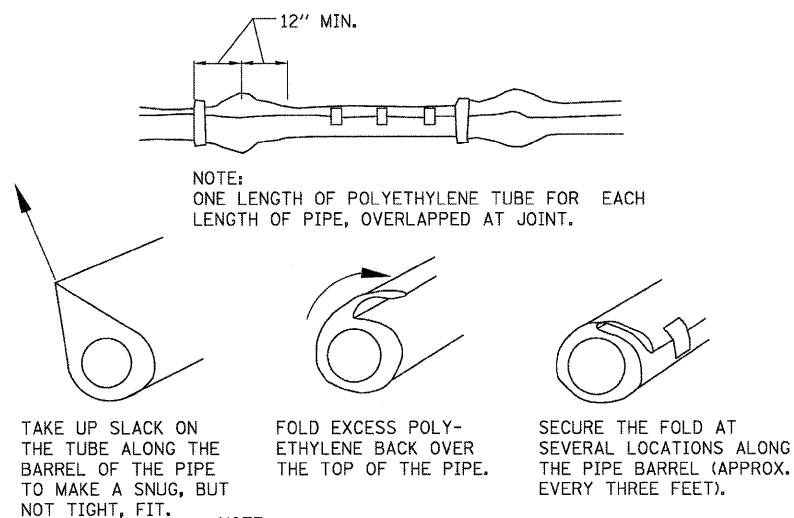
<sup>2</sup> MINIMUM OF 8 FT SOLID PIPE IS REQUIRED ON BOTH SIDES OF THE FITTING ON THE RUN SIDE. DISTANCE INDICATES THE LENGTH OF RESTRAINT ON THE BRANCH SIDE OR THE SIDE PERPENDICULAR TO THE TEE RUN WATERMAIN.

<sup>3</sup> INDICATES THE DISTANCE FROM THE LARGER END OF THE REDUCER.

**NOTES:**

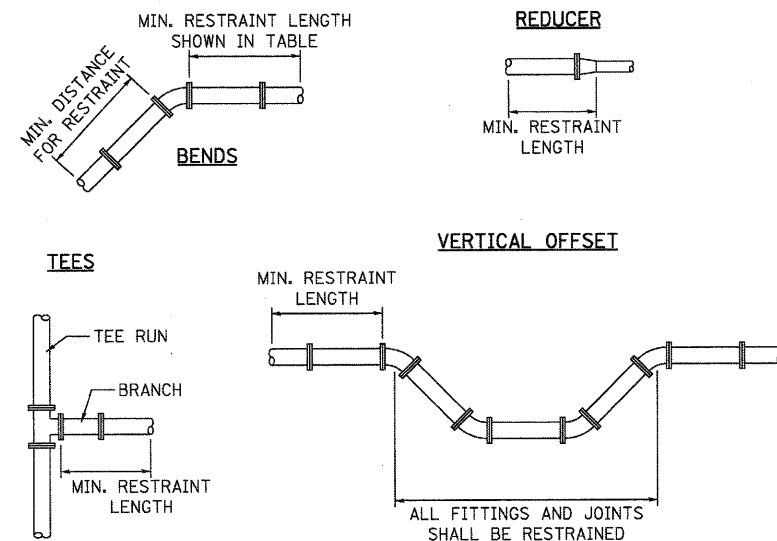
- 1) ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
- 2) THE ENTIRE RESTRAINT SYSTEM FROM THE FITTING TO THE MINIMUM RESTRAINT DISTANCE MUST BE INSPECTED BY THE CITY OF DEKALB OR IT'S REPRESENTATIVE PRIOR TO BACKFILLING.

**WATERMAIN RESTRAINT LENGTH TABLE**



**POLYETHYLENE ENCASMENT**

N.T.S.

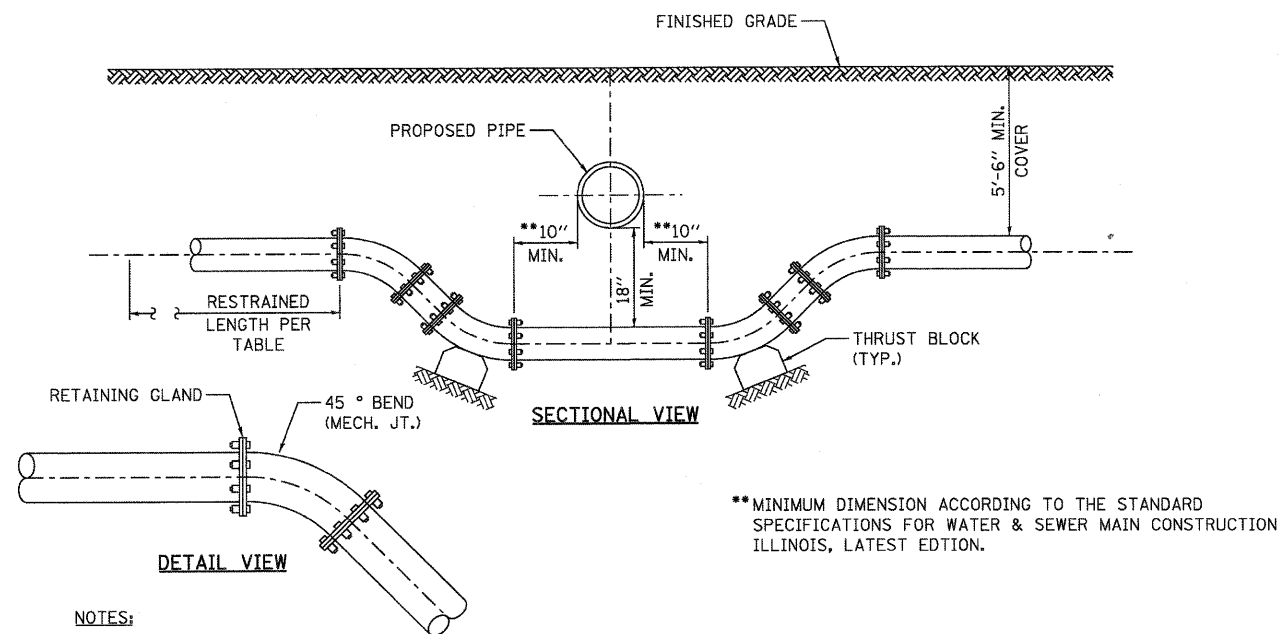


**NOTES:**

- 1) THE EXACT LENGTHS FOR RESTRAINTS ARE SHOWN IN THE WATERMAIN RESTRAINT LENGTH TABLE SHOWN IN THESE PLANS.

**WATERMAIN RESTRAINT DETAIL**

N.T.S.



**NOTES:**

- 1) FOR SIZES LARGER THAN 16", SPECIAL DESIGN WILL BE REQUIRED.
- 2) THE MECHANICAL JOINTS SHALL BE RESTRAINED WITH THE MEGALUG SERIES 1100 AS MANUFACTURED EBBA IRON INC. OR APPROVED EQUAL. ALSO, THE BELL AND SPIGOT JOINTS SHALL BE RESTRAINED ON EITHER SIDE OF THE MECHANICAL JOINTS BY EBBA IRON 1700 SERIES RESTRAINT OR APPROVED EQUAL AND THE RESTRAINT DISTANCE SHALL BE IN ACCORDANCE WITH THE WATERMAIN RESTRAINT LENGTH TABLE AND WATERMAIN RESTRAINT DETAIL SHOWN IN THESE PLANS.

**WATERMAIN ADJUSTMENT DETAIL**

N.T.S.

FILE NAME = \\A:\Projects\2011\1102054 - Bethany\Bentley\Drawings\1102054-Watermain\1102054-Watermain-Adjustment-Details.dwg

USER NAME = nparris	DESIGNED - DPB	REVISED -
PLOT SCALE =	DRAWN - NDP	REVISED -
PLOT DATE = 7/6/2011	CHECKED - SBP	REVISED -
	DATE - 7/8/11	REVISED -