

Note to Designer:  
 The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO.	DESCRIPTION OF REVISIONS	DATE	MADE BY	CHKD. BY
1	Original Issue	7-12		
2				
3				
4				

		STEEL LIST																			
Mark	Bent	90° Dia.		96° Dia.		102° Dia.		108° Dia.		114° Dia.		120° Dia.		126° Dia.		132° Dia.		138° Dia.		144° Dia.	
		No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth
a1	A	4	#5 7'-0	4	#5 7'-3	4	#5 7'-6	4	#5 7'-9	4	#5 8'-3	4	#5 8'-6	5	#5 8'-9	5	#5 9'-0	5	#5 9'-6	5	#5 9'-9
a2	A	4	#5 7'-9	4	#5 8'-0	4	#5 8'-3	4	#5 8'-6	4	#5 9'-3	4	#5 9'-6	4	#5 9'-9	5	#5 10'-0	5	#5 10'-6	5	#6 10'-9
a3	A	3	#5 8'-6	4	#5 9'-0	4	#5 9'-3	4	#5 9'-6	4	#5 10'-3	4	#5 10'-6	4	#5 10'-9	4	#5 11'-0	5	#6 11'-6	5	#6 12'-0
a4	A	3	#5 9'-3	3	#5 9'-9	4	#5 10'-0	4	#5 10'-3	4	#5 11'-3	4	#6 11'-6	4	#5 11'-9	4	#6 12'-0	4	#6 12'-9	5	#7 13'-0
a5	A	3	#5 10'-3	3	#5 10'-6	3	#5 10'-9	4	#6 11'-3	4	#6 12'-0	4	#7 12'-6	4	#6 13'-0	4	#7 13'-0	4	#7 13'-9	4	#7 14'-3
a6	A	3	#5 11'-0	3	#6 11'-3	3	#6 11'-6	3	#6 12'-0	4	#7 13'-0	4	#7 13'-6	4	#7 14'-0	4	#7 14'-3	4	#7 15'-0	4	#8 15'-3
a7	A	3	#6 11'-9	3	#6 12'-3	3	#6 12'-6	3	#7 13'-0	3	#7 14'-0	4	#7 14'-6	4	#7 15'-0	4	#8 15'-3	4	#8 16'-0	4	#8 16'-6
a8	A	3	#5 6'-3	3	#5 6'-9	3	#5 7'-0	3	#5 7'-3	3	#5 7'-6	3	#5 7'-9	3	#5 8'-0	3	#5 8'-3	3	#5 8'-9	3	#5 9'-0
a9	A	3	#5 8'-3	3	#5 8'-6	3	#5 8'-9	3	#5 8'-9	3	#5 9'-0	3	#5 9'-0	3	#5 9'-3	3	#5 9'-6	3	#5 9'-9	3	#5 10'-9
a10	A	3	#5 10'-3	3	#5 10'-6	3	#5 10'-6	3	#5 10'-6	3	#6 10'-9	3	#6 10'-9	3	#6 11'-3	3	#6 11'-6	3	#6 12'-3	3	#6 12'-6
a11	A	2	#6 12'-0	2	#6 12'-3	3	#6 12'-3	3	#7 12'-6	2	#6 12'-0	2	#7 12'-3	3	#7 12'-9	3	#7 13'-3	3	#7 13'-9	3	#7 14'-3
a12	A									2	#7 13'-6	2	#7 13'-9	2	#7 14'-3	2	#8 14'-6	3	#8 15'-6	3	#8 16'-0
b1	str	2	#4 22'-6	2	#4 23'-6	2	#4 24'-6	2	#4 25'-6	2	#4 26'-6	2	#4 27'-9	2	#4 28'-9	2	#4 29'-9	2	#4 30'-9	2	#4 31'-9
b2	str	6	#4 22'-0	6	#4 23'-0	6	#4 24'-0	6	#4 25'-0	6	#4 26'-0	8	#4 27'-0	8	#4 28'-0	8	#4 29'-0	8	#4 30'-0	8	#4 31'-0
b3	str	2	#4 16'-9	2	#4 18'-9	2	#4 20'-6	2	#4 23'-0	2	#4 25'-0	2	#4 25'-0	2	#4 20'-9	2	#4 23'-0	2	#4 24'-9	2	#4 28'-9
b4	str	2	#4 10'-6	2	#4 12'-6	2	#4 14'-3	2	#4 16'-3	2	#4 18'-9	2	#4 16'-6	2	#4 16'-9	2	#4 18'-6	2	#4 20'-6	2	#4 22'-6
b5	str	2	#4 4'-3	2	#4 6'-3	2	#4 8'-3	2	#4 10'-3	2	#4 12'-6	2	#4 8'-3	2	#4 10'-3	2	#4 12'-3	2	#4 14'-6	2	#4 16'-3
b6	str					2	#4 2'-0	2	#4 4'-0	2	#4 6'-3	2	#4 2'-0	2	#4 4'-0	2	#4 6'-6	2	#4 8'-3	2	#4 10'-0
b7	str	2	#4 11'-6	2	#4 12'-0	2	#4 12'-6	2	#4 13'-0	2	#4 13'-9	2	#4 14'-3	2	#4 14'-9	2	#4 15'-6	2	#4 16'-0	2	#4 16'-6
b8	str	4	#4 10'-0	4	#4 10'-6	6	#4 11'-0	6	#4 11'-6	6	#4 12'-0	6	#4 12'-6	6	#4 13'-0	6	#4 13'-6	8	#4 14'-0	8	#4 14'-6
b9	str	2	#4 9'-3	2	#4 10'-3	2	#4 8'-3	2	#4 9'-0	2	#4 10'-3	2	#4 11'-3	2	#4 12'-0	2	#4 13'-0	2	#4 11'-3	2	#4 12'-3
b10	str	2	#4 6'-9	2	#4 7'-6	2	#4 5'-9	2	#4 6'-6	2	#4 7'-9	2	#4 8'-9	2	#4 9'-3	2	#4 10'-3	2	#4 8'-9	2	#4 9'-9
b11	str	2	#4 4'-0	2	#4 5'-0	2	#4 3'-6	2	#4 4'-3	2	#4 5'-3	2	#4 6'-0	2	#4 6'-9	2	#4 7'-9	2	#4 6'-0	2	#4 7'-0
b12	str	2	#4 1'-6	2	#4 2'-3	2	#4 1'-0	2	#4 1'-9	2	#4 2'-9	2	#4 3'-6	2	#4 4'-0	2	#4 5'-0	2	#4 3'-6	2	#4 4'-6
c	str	4	#4 10'-6	4	#4 11'-0	4	#4 11'-6	4	#4 12'-0	4	#4 12'-6	4	#4 13'-0	4	#4 13'-6	4	#4 14'-0	4	#4 14'-6	4	#4 15'-0
d	A	6	#6 12'-3	6	#6 12'-9	6	#6 13'-3	6	#7 13'-9	6	#7 14'-6	6	#7 15'-0	6	#7 15'-6	6	#8 16'-0	6	#8 16'-6	6	#8 17'-0
e1	C	4	#5 3'-6	4	#5 3'-9	4	#5 3'-9	4	#5 4'-0	4	#5 4'-0	4	#5 4'-3	4	#5 4'-3	5	#5 4'-6	5	#5 4'-6	5	#5 4'-9
e2	C	4	#5 4'-0	4	#5 4'-3	4	#5 4'-3	4	#5 4'-6	4	#5 4'-9	4	#5 4'-9	4	#5 5'-0	4	#5 5'-3	5	#5 5'-3	5	#5 5'-6
e3	C	3	#5 4'-6	4	#5 4'-9	4	#5 4'-9	4	#5 5'-3	4	#5 5'-3	4	#5 5'-6	4	#5 5'-9	4	#6 6'-0	4	#6 6'-0	5	#6 6'-3
e4	C	3	#5 5'-0	3	#5 5'-3	4	#5 5'-3	4	#5 5'-9	4	#6 6'-0	4	#6 6'-0	4	#6 6'-3	4	#6 6'-6	4	#7 7'-6	4	#7 8'-0
e5	C	3	#5 5'-6	3	#5 5'-9	3	#6 6'-0	4	#6 6'-3	4	#7 7'-6	4	#7 7'-6	4	#7 8'-0	4	#7 8'-3	4	#7 8'-6	4	#8 9'-0
e6	C	3	#5 6'-0	3	#6 6'-3	3	#7 7'-3	3	#7 7'-9	4	#7 8'-0	4	#7 8'-3	4	#7 8'-6	4	#8 9'-0	4	#8 9'-3	4	#9 10'-3
e7	C	3	#6 6'-6	3	#7 7'-6	3	#7 8'-0	3	#7 8'-3	3	#8 8'-9	3	#8 9'-0	4	#8 9'-6	4	#9 10'-3	4	#9 10'-6	4	#9 10'-6
e8	C	2	#6 6'-6	2	#7 8'-0	2	#7 8'-3	2	#7 8'-6	2	#8 9'-0	2	#8 9'-6	2	#8 9'-9	2	#9 10'-6	2	#9 10'-9	2	#9 11'-3
e9	C	11	#6 6'-6	12	#7 8'-0	13	#7 8'-3	13	#7 8'-6	14	#8 9'-0	15	#8 9'-6	16	#8 9'-9	16	#9 10'-6	17	#9 10'-9	18	#9 11'-3
e10	C	5	#6 6'-6	5	#7 8'-0	5	#7 8'-3	6	#7 8'-6	6	#8 9'-0	6	#8 9'-6	6	#8 9'-9	7	#9 10'-6	7	#9 10'-9	7	#9 11'-3
e11	C	2	#5 6'-6	2	#6 6'-9	3	#6 7'-0	3	#7 8'-3	2	#7 8'-6	2	#7 8'-9	2	#7 9'-3	2	#8 9'-9	3	#8 10'-0	3	#8 10'-6
e12	C	3	#5 5'-6	3	#5 5'-9	3	#5 6'-0	3	#6 6'-3	2	#6 7'-0	2	#6 7'-0	3	#6 7'-6	3	#7 8'-6	3	#7 8'-9	3	#7 9'-3
e13	C	3	#5 4'-6	3	#5 4'-9	3	#5 4'-9	3	#5 5'-3	3	#5 6'-0	3	#5 6'-3	3	#5 6'-6	3	#6 6'-9	3	#6 6'-9	3	#6 7'-0
e14	C	3	#5 3'-6	3	#5 3'-9	3	#5 3'-9	3	#5 4'-0	3	#5 5'-0	3	#5 5'-3	3	#5 5'-6	3	#5 5'-9	3	#5 5'-9	3	#5 6'-0
e15	C									3	#5 4'-0	3	#5 4'-3	3	#5 4'-3	3	#5 4'-6	3	#5 4'-9	3	#5 4'-9
f1	str	4	#4 5'-3	4	#4 5'-6	4	#4 5'-9	5	#4 6'-0	5	#4 6'-3	5	#4 6'-6	5	#4 6'-9	5	#4 7'-0	5	#4 7'-3	6	#4 7'-6
f2	str	4	#4 6'-9	4	#4 7'-0	4	#4 7'-3	4	#4 7'-6	5	#4 7'-9	5	#4 8'-3	5	#4 8'-6	5	#4 8'-9	5	#4 9'-0	5	#4 9'-3
f3	str	4	#4 8'-3	4	#4 8'-6	4	#4 8'-9	4	#4 9'-3	4	#4 9'-6	4	#4 10'-0	5	#4 10'-3	5	#4 10'-6	5	#4 10'-9	5	#4 11'-3
f4	str	3	#4 9'-9	4	#4 10'-0	4	#4 10'-3	4	#4 11'-0	4	#4 11'-3	4	#4 11'-9	4	#4 12'-3	5	#4 12'-6	5	#4 12'-9	5	#4 13'-3
f5	str	3	#4 4'-6	3	#4 4'-9	2	#4 5'-0	2	#4 5'-3	2	#4 5'-6	3	#4 5'-9	3	#4 6'-0	3	#4 6'-3	3	#4 6'-6	3	#4 6'-9
f6	str	2	#4 6'-9	2	#4 7'-3	2	#4 6'-9	2	#4 7'-0	2	#4 7'-6	2	#4 7'-9	2	#4 8'-3	2	#4 8'-6	3	#4 8'-9	3	#4 9'-3
f7	str	2	#4 9'-3	2	#4 9'-9	2	#4 8'-6	2	#4 8'-9	2	#4 9'-3	2	#4 10'-0	2	#4 10'-3	2	#4 10'-6	2	#4 11'-3	2	#4 11'-6
f8	str					2	#4 10'-6	2	#4 10'-9	2	#4 11'-3	2	#4 12'-0	2	#4 12'-6	2	#4 12'-9	2	#4 13'-6	2	#4 14'-0
g	str	6	#4 11'-6	6	#4 12'-3	6	#4 12'-9	6	#4 13'-6	6	#4 14'-3	6	#4 15'-0	6	#4 15'-6	6	#4 16'-3	6	#4 17'-0	6	#4 17'-9
m1	str	5	#4 24'-0	5	#4 25'-0	5	#4 26'-0	6	#4 27'-3	6	#4 28'-3	6	#4 29'-3	6	#4 30'-6	7	#4 31'-6	7	#4 32'-6	7	#4 33'-9
m2	str	1	#4 24'-0	1	#4 25'-0	1	#4 26'-0	1	#4 27'-3	1	#4 28'-3	1	#4 29'-3	1	#4 30'-6	1	#4 31'-6	1	#4 32'-6	1	#4 33'-9
m3	str	5	#4 16'-6	5	#4 17'-3	5	#4 18'-3	6	#4 19'-0	6	#4 19'-9	6	#4 20'-6	6	#4 21'-6	7	#4 22'-3	7	#4 23'-3	7	#4 24'-0
m4	str	1	#4 16'-6	1	#4 17'-3	1	#4 18'-3	1	#4 19'-0	1	#4 19'-9	1	#4 20'-6	1	#4 21'-6	1	#4 22'-3	1	#4 23'-3	1	#4 24'-0
n1	str	5	#4 20'-0	5	#4 21'-0	5	#4 22'-0	6	#4 23'-0	6	#4 24'-0	6	#4 25'-0	6	#4 26'-0	7	#4 27'-0	7	#4 28'-0	7	#4 29'-0
n2	str	1	#4 20'-0	1	#4 21'-0	1	#4 22'-0	1	#4 23'-0	1	#4 24'-0	1	#4 25'-0	1	#4 26'-0	1	#4 27'-0	1	#4 28'-0	1	#4 29'-0
p	str	4	#5 13'-9	4	#5 14'-6	4	#5 15'-3	4	#5 16'-0	4	#5 16'-9	4	#5 17'-6	4	#5 18'-3	4	#5 19'-3	4	#5 20'-0	4	#5 20'-9
q	str	2	#6 15'-9	2	#6 16'-6	2	#6 17'-3	2	#6 18'-0	2	#6 18'-9	2	#6 19'-6	2	#6 20'-3	2	#6 21'-3	2	#6 22'-0	2	#6 22'-9
u	B	60	#4 7'-0	62	#4 7'-0	66	#4 7'-0	68	#4 7'-0	72	#4 7'-0	74	#4 7'-0	78	#4 7'-0	80	#4 7'-0	84	#4 7'-0	86	#4 7'-0
v	str	6	#4 23'-0	6	#4 24'-0	6	#4 24'-9	6	#4 25'-9	6	#4 26'-6	6	#4 27'-6	6	#4 28'-3	6	#4 29'-3	6	#4 30'-0	6	#4 31'-0
w	str	6	#4 10'-3	6	#4 10'-9	6	#4 11'-3	6	#4 11'-9	6	#4 12'-3	6	#4 12'-9	6	#4 13'-3	6	#4 13'-9	6	#4 14'-3	6	#4 14'-9

		PIPE DIAMETER									
Mark	Bent	90°	96°	102°	108°	114°	120°	126°	132°	138°	144°
		A	0'-3	0'-6	0'-3	0'-6	0'-3	0'-6	0'-3	0'-6	0'-3
B	2'-2	2'-2	2'-3	2'-3	2'-4	2'-4	2'-5	2'-5	2'-6	2'-6	
C	1'-9	1'-10	1'-11	2'-0	2'-1	2'-2	2'-3	2'-4	2'-5	2'-6	
D	3'-1	3'-4	3'-6	3'-9	3'-11	4'-2					