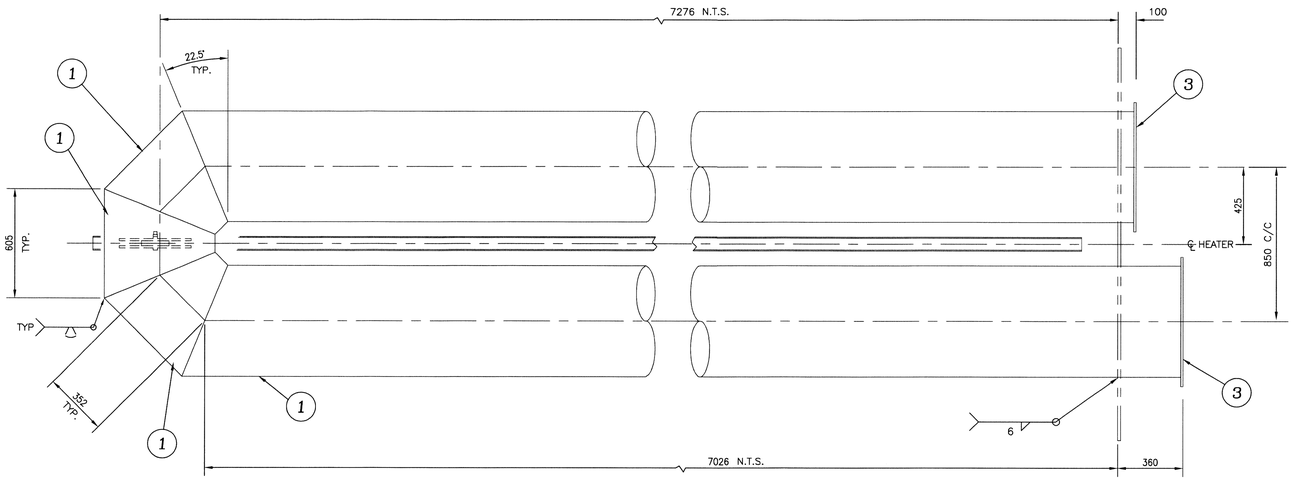
APPROVED

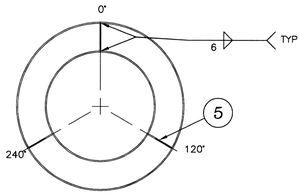
BILL OF MATERIALS

M– MTR REQ'D C– RESTRICTED CHEMISTRY O– RESTRICTED ORIGIN
N– NACE REQ'D S– RESTRICTED SUPPLIER I– IMPACT TEST REQ'D

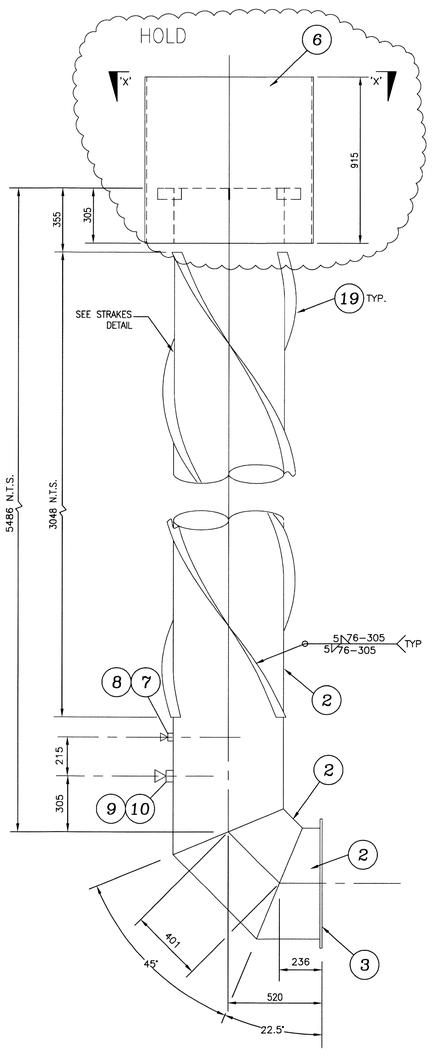
ITEM	QTY.	DESCRIPTION		LENGTH	MATERIAL REQ.
1	LIN.	PLATE: 3/8" THK. x 74.22 CIRC. ROLLED TO 24" OD CUT AS SHOWN	SA-516-70N	15580	–
2	LIN.	PLATE: 1/4" THK. x 74.61 CIRC. ROLLED TO 24" OD CUT AS SHOWN	G40.21/300W	6130	–
3	3	PLATE: 1/2" THK. x 711 O.D. / 614 I.D. SEE DETAIL	G40.21/300W	--	–
4	3	GASKET: 1/8" THK.(GC-77)	DURLON 8500	--	–
5	3	FLAT BAR: 1/4" THK. x 2 1/2" WD	SA-36	152	–
6	1	PLATE: 1/4" THK. x 2893 CIRC. ROLL TO 36" ID	G40.21/300W	915	–
7	1	PLUG: 1" 3000#	SA-182-F304	--	–
8	1	HALF CPLG: 1" 3000#	SA-182-F304	--	–
9	1	PLUG: 1 1/2" 3000#	SA-182-F304	--	–
10	1	HALF CPLG: 1 1/2" 3000#	SA-182-F304	--	–
11	1	CHANNEL: C3 x 4.1	G40.21/300W	7449	–
12	1	PLATE: 1" THK. x 152 OD / 28 ID	G40.21/300W	--	–
13	2	PLATE: 1/2" THK. TRIM TO SUIT	G40.21/300W	--	–
14	2	FLAT WASHER: 1" ø	C.S.	--	–
15	1	BOLT: 1"ø	GR.5	4 1/2"	–
16	2	NUT: 1"ø	GR.5	--	–
17	108	BOLT: 1/2"ø	GR.5	1 3/4"	–
18	108	NUT: 1/2"ø	GR.5	--	–
19	3	FLAT BAR 3/16" THK x 2 1/2" WD (ROLL HARDWAY TO 85 11/16" ID)	SA-36	12'	–



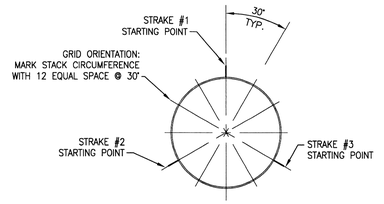
PLAN VIEW OF FIRETUBE

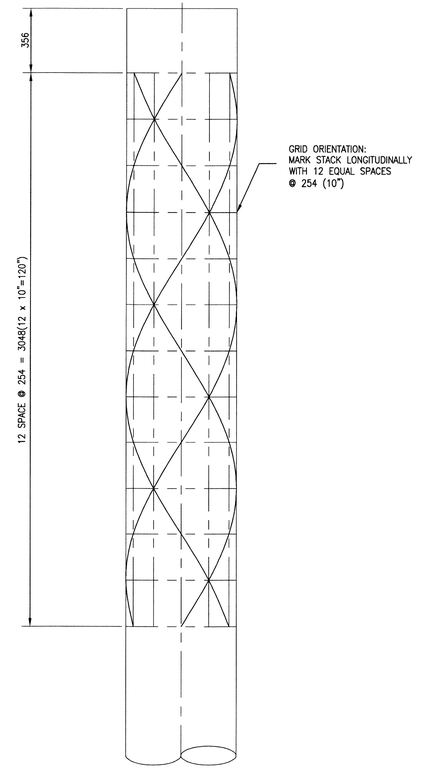


SECTION 'X'– 'X'



STACK





GENERAL NOTES:

1. TACK WELD ONE END OF STRAKE TO STARTING POSITION
2. STRETCH STRAKE TO FINISH POSOTION AND TACK WELD.
3. HOT FORM STRAKE AS REQUIRED TO ENSURE PROPER FIT WITH STACK.
4. EACH STRAKE TO REVOLVE 360°.

STRAKES DETAIL

SIDE VIEW OF FIRETUBE

ELEVATION VIEW OF FIRETUBE

FIRETUBE/STACK FLANGE

WELD PROCEDURES

WELD PROCEDURES	
MI-GSS-1	BUTTWELDS
MI-GSS-1	ROOT
MI-GSS-1	FILL & CAP MISC. TACKWELDS

MALONEY STANDARD NDE AND INSPECTION REQUIREMENTS

1) MAGNETIC PARTICLE INSPECTION IS REQUIRED ON THE FOLLOWING ITEMS:
MITRE WELDS
–ROOT PASS (BACK SIDE ONLY) AND/OR BACKWELD (WHEN ACCESSIBLE)
–COMPLETED WELDS

2) 100% RADIOGRAPHY ON FIRETUBE MITRES.

3) VISUAL INSPECTION IS REQUIRED ON ALL WELDS
–ALL MITRE WELDS ARE TO BE SMOOTH IN CONTOUR WITH NO ABRUPT RIDGES, VALLEYS, OVERLAP,ETC.
–ALL REMAINING WELDS ARE TO BE EXAMINED AS PER ASME SECTION VIII, DIVISION 1, REQUIREMENTS
–WELD PROFILE IS TO BE IN COMPLIANCE WITH ASME SECTION VIII, DIVISION 1, UW–35 AND JOINT MISALIGNMENT IS TO BE IN COMPLIANCE WITH UW–33

REV	DESCRIPTION	DATE	BY	CHK	APP	REV'D CALC REQ.	ADMIN
–						–	–
–						–	–
–						–	–
–						–	–
0	ISSUED FOR CONSTRUCTION	08-08-27	CL			–	–
A	ISSUED FOR APPROVAL	08-06-12	CL	EC	AN	–	–

REVISIONS

PERMIT TO PRACTICE ALBERTA NO. P-6912

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CUSTOMER

TITLE: Z-4000-LINE HEATER PACKAGE
24" O.D. FIRETUBE & STACK

PROJECT # AND NAME: BC0127-004-HORSESHOE-WELLSITE

DRAWN	DATE	APPROVED	SCALE	WIP NO.
CL	08-06-11	AN	1:16	015940-82

NO. REQ'D	DRAWING NO.	SHT. NO.	REV.
1	015940-4-82	1 OF 1	0