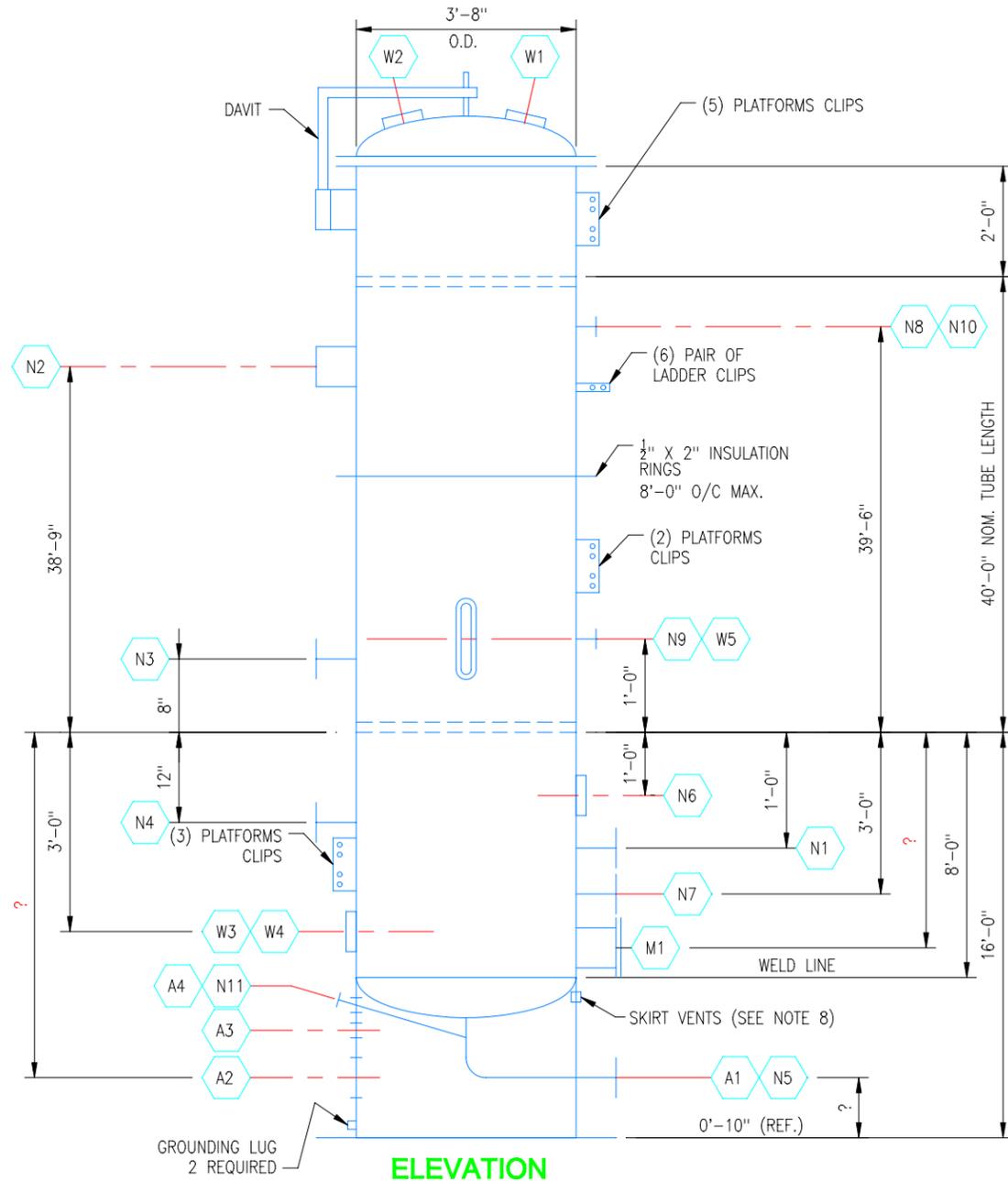
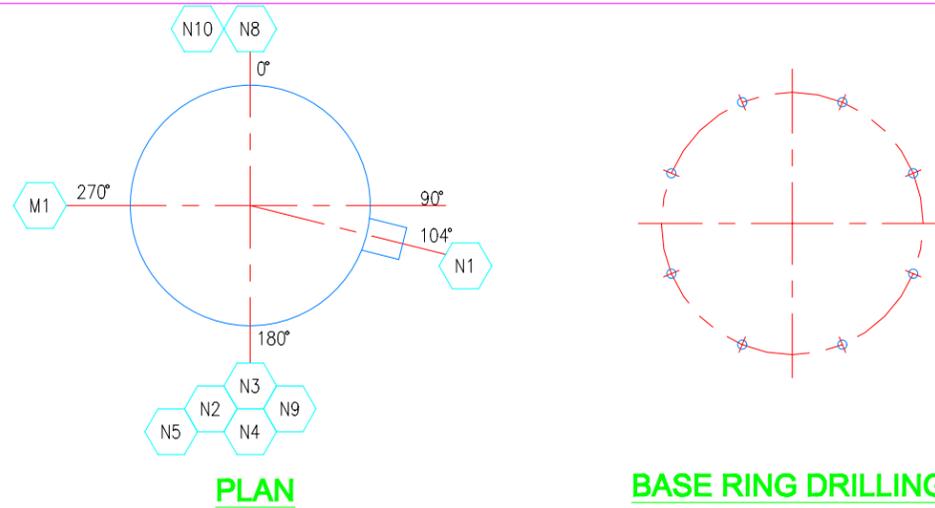


DO NOT SCALE THIS DRAWING



NOZZLE SCHEDULE							DESIGN DATA		
MK	SIZE	RATING	FACING	PROJ.	SERVICE	REMARKS	SHELL SIDE		TUBE SIDE
N1	14"	25 PSIG	BUTT WELD	6"	SIDE VAPOR DISCH	TO TP-4104	ASME CODE:		ASME VIII DIV 1
N2	14"	25 PSIG	BUTT WELD	6"	DEHYDRATED VAPOR	FR TP-4302	YEAR:		ASME VIII DIV 1
N3	6"	150 LB	LJ FLG	6"	ETHANOL DISCH, LIQUID/COND	TO TP-4107	STAMP REQ'D.:		YES
N4	8"	150 LB	LJ FLG	6"	RECIRC-INLET/SIDE FEED	FR PC-4104	NATL. BRD. REG.:		YES
N5	12"	150 LB	LJ FLG	6"	RECIRC OUTLET (BOTTOM)	TO PC-4104	TEMA CLASS:		C
N6	3"	25 LB	WELD PAD	N/A	LEVEL TRANSMITTER	LT-014			C
N7	8"	25 LB	LJ FLG	6"	FEED	FR PC-4101	SPEC. GR.-CONTENTS:		0.770
N8	1.5"	150 LB	LJ FLG	6"	UPPER VENT		DESIGN PRESS: psig		75
N9	1.5"	150 LB	LJ FLG	6"	LOWER VENT		OPER. PRESS: psia		38
N10	1.5"	150 LB	LJ FLG	6"	SPARE W/ BLIND		DESIGN TEMP: °F		250
N11	6"	150 LB	LJ FLG	6"	SEPARATOR DRAIN	FR TP-4104	OPER. TEMP: °F		222
M1	24"				MANWAY W/HINGE OR DAVIT		CORR. ALLOWANCE:		NONE
W1			WELD PAD	N/A	SIGHTGLASS W/4" VIEW		STRESS RELIEVE:		
W2			WELD PAD	N/A	SIGHTGLASS W/4" VIEW		TESTS:		
W3			WELD PAD	N/A	SIGHTGLASS W/4" VIEW				
W4			WELD PAD	N/A	SIGHTGLASS W/4" VIEW		WIND: BASIC WIND SPEED: 80 MPH		SEISMIC: $A_v = 0.05$
W5			WELD PAD	N/A	GAGE GLASS W/2"x12" VIEW		WIND IMPORTANCE FACTOR: 1.0		$A_o = 0.05$
A1	24"	ATMO.	PLAIN	3"	N5 SKIRT PENETRATION		WEIGHT EMPTY: VENDOR TO PROVIDE (lbs)		
A2	24"	ATMO.	PLAIN	3"	SKIRT ACCESS		WEIGHT FLOODED: VENDOR TO PROVIDE (lbs)		
A3	3"	ATMO.	PLAIN	3"	FIRE PROTECTION		VOLUME: VENDOR TO PROVIDE (gal)		
A4	10"	ATMO.	PLAIN	3"	N11 SKIRT PENETRATION		WEIGHT INSULATION:		

NOTES:

- THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN & STRUCTURAL INTEGRITY OF THE TANK.
- WIND AND SEISMIC LOAD PER BOCA 1996 SNOW LOAD, $P_g = 20$ PSF
- ALL NON CONTACT SURFACES TO BE CARBON STEEL
- FABRICATOR TO SUPPLY BRACKETS FOR VENDOR NAMEPLATE AND THERMAL KINETICS SYSTEMS NAMEPLATE
- ALL CARBON STEEL PARTS ATTACHED TO STAINLESS STEEL PARTS SHALL BE ATTACHED USING 304L STAINLESS STEEL. SCAB PLATES SHALL BE USED WITH ATTACHMENTS FOR VESSEL WALL THICKNESS OF 3/16" OR LESS. 304L STAINLESS STEEL PARTS MAY BE USED INSTEAD OF CARBON STEEL AT THE VENDORS OPTION.
- ALL NOZZLES SHALL BE SQUARE, PLUMB, AND ACCURATELY LOCATED TO THE FOLLOWING TOLERANCES:
 - A) OVERALL DIAMETER AND HEIGHT: $\pm 1/2"$
 - B) FLATNESS: $\pm 1/4"$
 - C) NOZZLE LOCATION: $\pm 1/4"$ FROM CENTERLINES
 - D) PROJECTION: $\pm 1/8"$ FROM OUTSIDE SHELL TO FACE OF NOZZLE
 - E) FLANGE FACES: $1/2"$ IN ANY PLANE
- FABRICATOR TO PROVIDE VESSEL COMPLETE WITH LIFTING AND TRAILING LUGS FOR HANDLING AND ERECTION
- FABRICATOR SHALL PROVIDE AND ORIENT (4) EA. 2" SCH. 40 SKIRT VENTS APPROX. EQUAL SPACING AND TO CLEAR ALL SKIRT OPENINGS, SEAMS, SUPPORT CLIPS, ETC.

SPECIFICATIONS:

GF-1-73338: GENERAL FABRICATION STANDARDS FOR PRESSURE VESSELS & HEAT EXCHANGERS

REF. DWG'S:

- 6018-MD-4001
-
-

NOZZLE LOADS					
MK	F_R (lbs)	M_R (ft/lbs)	MK	F_R (lbs)	M_R (ft/lbs)
N1	4400	6332	N5	3900	5607
N2	4400	6332	N7	2300	3374
N3	1500	2394	N11	1500	2394
N4	2300	3374			

MATERIALS OF CONSTRUCTION		
ITEM	MATERIAL	COMMENTS
SHELL	304L SS	
HEADS	304L SS	2:1 ELLIPTICAL
TUBE	SA-249-304L SS	
TUBESHEET	304L SS	
INTERNAL SUPPORTS	304L SS	BAFFLES & TIE RODS
GASKETS	IFG5500	
BOLTING	SEE SPEC GF-1-73338	
LADDER	CS	CLIPS ONLY
PLATFORMS	CS	CLIPS ONLY
VESSEL SUPPORTS	CS	SKIRT
PAINT: SEE SPEC GF-1-73338 CL-1		
SURFACE PREP: SEE SPEC GF-1-73338 CL-1		
INSULATION: 2" FIBERGLASS PURCHASER TO PROVIDE		

CONFIDENTIAL

BC REBOILER/200 PROOF CONDENSER

THERMAL KINETICS
Engineering, PLLC & Systems, LLC

Evaporation/Distillation/Chemical Reaction/Process Design & Energy Conservation

667 Tiftt Street Buffalo, NY 14220

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SPEC. No.: GF-1-73338	SCALE: NONE	SIZE: B
DRAWN BY: JEM	DATE: 5-23-06	CHECKED BY: DATE: DRAWING No.: 6018-MQ-4103

EQUIPMENT No.: ET-4104	PROJECT No.: 73338	PROJECT NAME: CENTRAL ILLINOIS
SHEET No.: 1 of 1	DRAWING No.: 6018-MQ-4103	REV: B

REV	REVISION	DATE ISSUED	CHK BY	APP
B	ISSUED FOR REVIEW & COMMENT	7-14-06	KAR	JL
A	ISSUED FOR BID	6-23-06	RJS	-

B-SIZE (11x17)