

2. PROJECTION MEASURED FROM OUTSIDE OF VESSEL TO EXTREME FACE OF FLANGE.

3. NOZZLE BOLT HOLES TO STRADDLE 0"-180" CENTERLINE OR ITS PARALLEL UNLESS NOTED OTHERWISE.

3. GASKET FINISH: 125-250 Ra FOR NOZZLE FLANGES, 125 Ra OR SMOOTHER FOR GIRTH FLANGES

4. HYDRO-TEST SHALL BE PERFORMED WITH WATER CONTAINING NO MORE THAN 50 PPM CHLORIDE. VESSEL SHALL BE DRAINED AND ALL RESIDUAL WATER MUST BE REMOVED IMMEDIATELY FOLLOWING TEST.

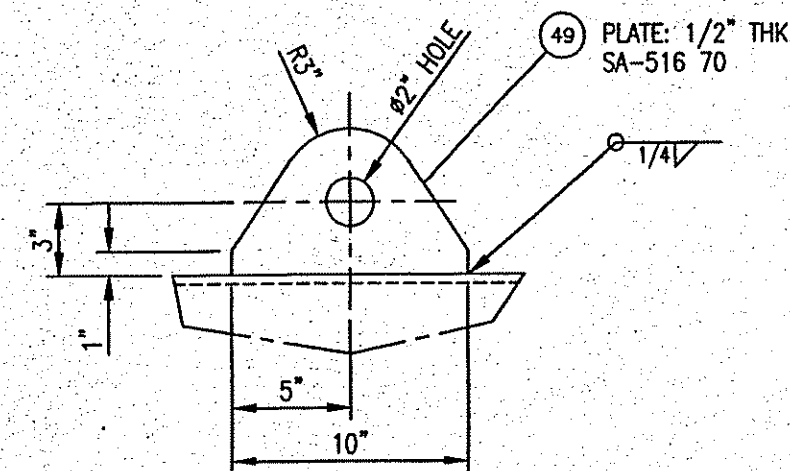
5. WELDING PROCEDURES:

|     |                   |      |                   |
|-----|-------------------|------|-------------------|
| # 1 | SMAW C.S. TO C.S. | # 18 | FCAW C.S. TO C.S. |
| # 4 | SMAW C.S. TO C.S. | # 21 | GTAW C.S. TO C.S. |
| # 5 | SMAW C.S. TO C.S. | # 36 | FCAW S.S. TO C.S. |
| # 4 | GTAW C.S. TO S.S. | # 37 | FCAW S.S. TO C.S. |
| # 8 | SMAW S.S. TO S.S. | # 43 | GTAW S.S. TO C.S. |
| # 9 | SMAW S.S. TO C.S. |      |                   |

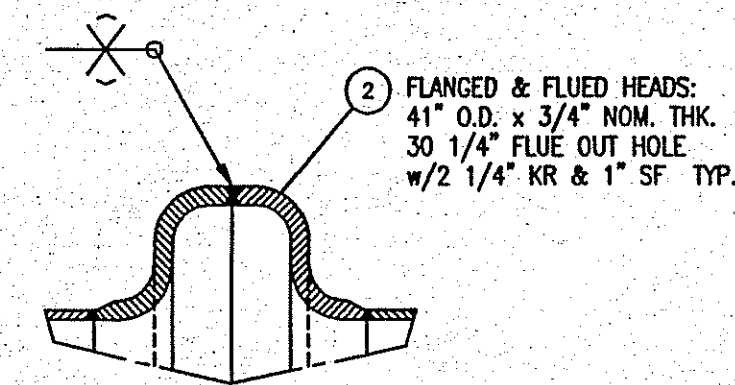
6. NAMEPLATE BRACKET IS SA-240 304 "T" SHAPE, 4 1/4" HIGH x 6 1/2" LONG ON 4 1/2" STAND-OFF (WELDED TO VESSEL).

7. TOLERANCES:  
PER WTC STANDARD, CUSTOMER STANDARD (WHEN APPLICABLE) & TEMA. MORE STRINGENT TOLERANCES WILL CONTROL.

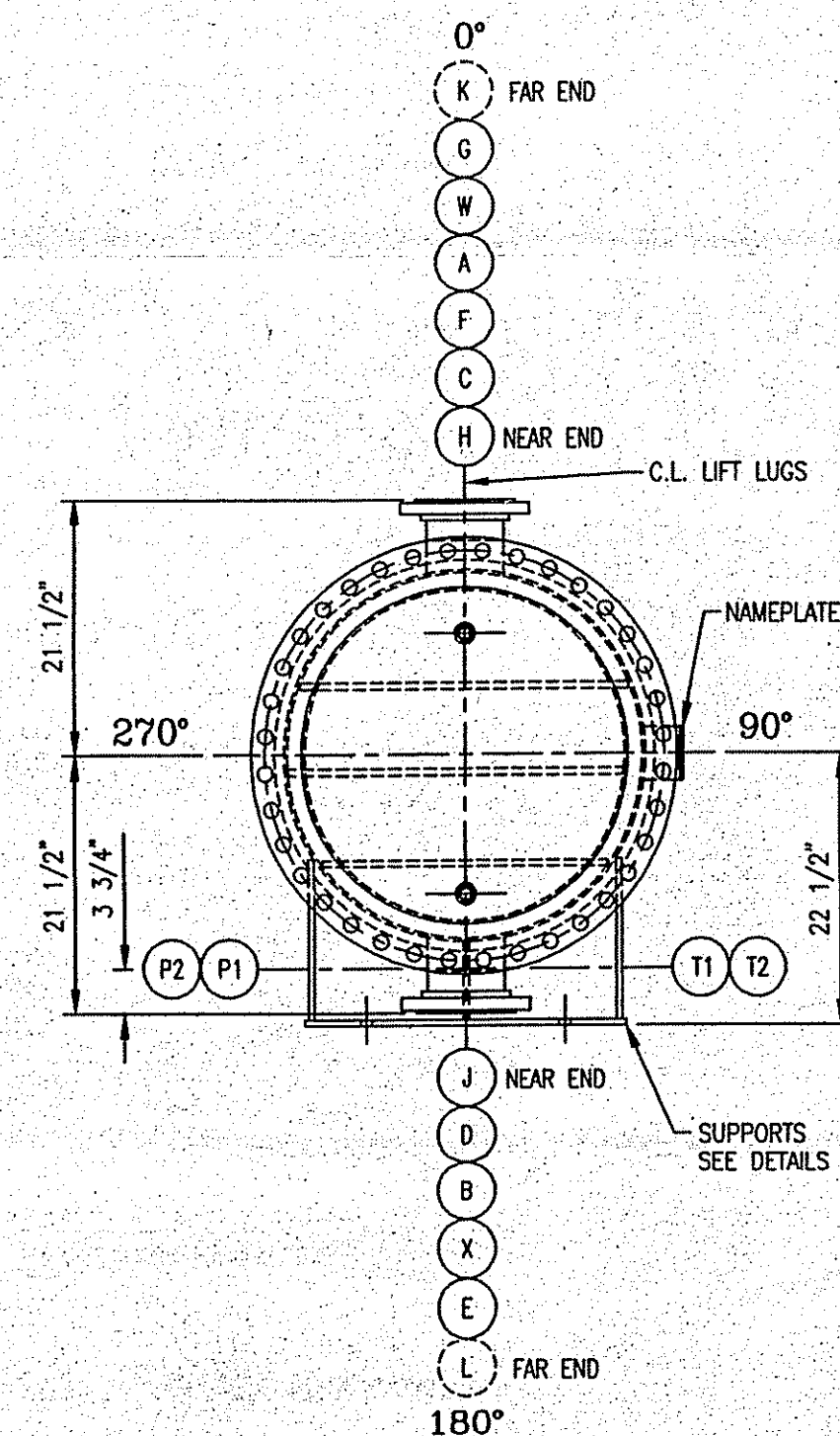
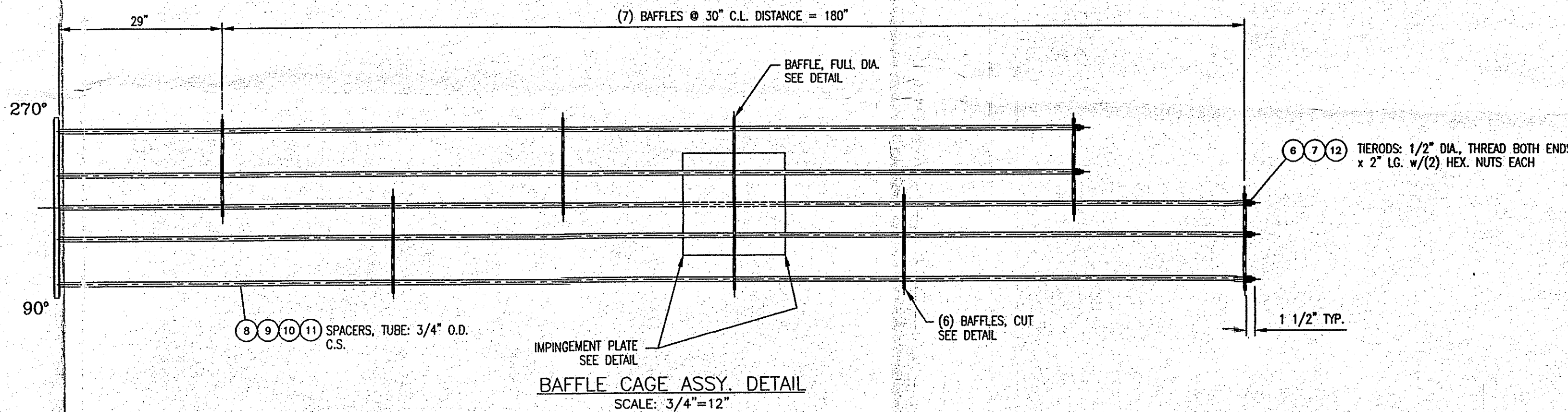
8. SURFACE FINISH:  
CS: CLEAN TO SSPC-SP1 (SOLVENT CLEAN), PRIME WITH (1) COAT THERMOX 215 FINISH WITH (1) COAT THERMOX 216.  
SS: BLAST TO SSPC-SP10 (NEAR WHITE), PRIME WITH (1) COAT THERMOX 215 FINISH WITH (1) COAT THERMOX 216.



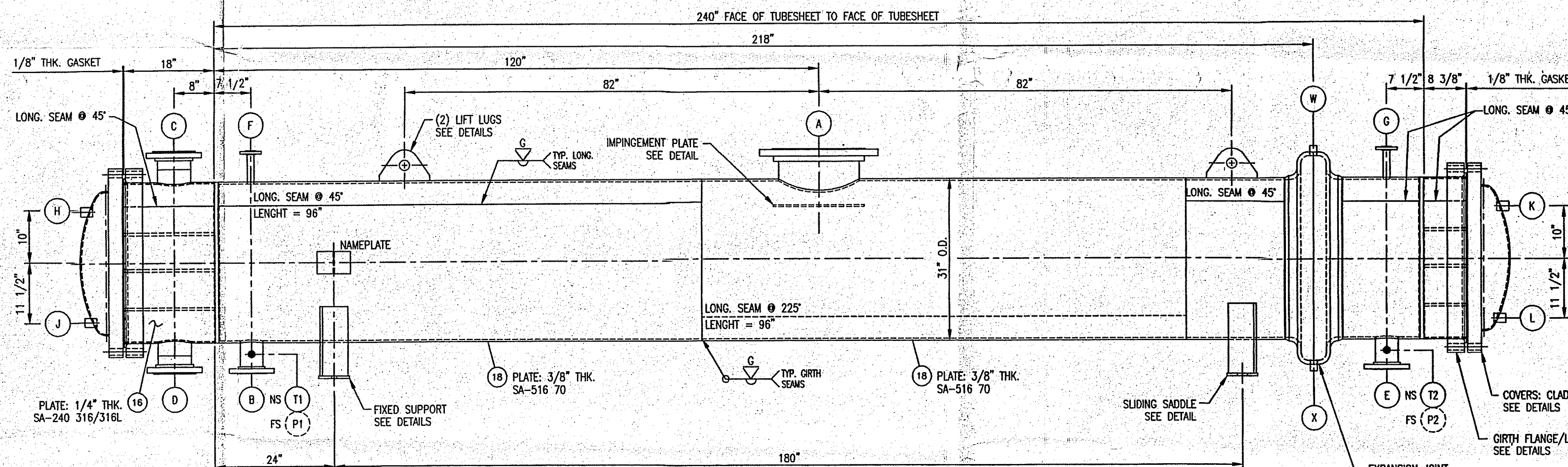
LIFT LUG DETAIL  
TYP. (2) PLACES'  
SCALE: 1 1/2"=12"



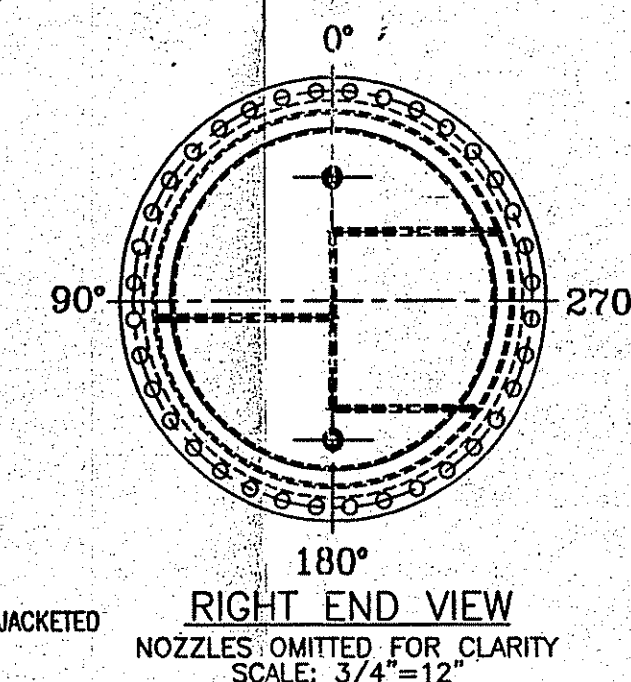
EXPANSION JOINT DETAIL  
SCALE: 1 1/2"=12"



LEFT END VIEW  
TRUE ORIENTATION  
SCALE:  $3/4"=12"$



ELEVATION VIEW  
SEE END VIEW FOR TRUE ORIENTATION  
SCALE: 3/4"=12"



RIGHT END VIEW  
NOZZLES OMITTED FOR CLARITY  
SCALE: 3/4"=12"

[illegible]

### SCHEDULE OF OPENINGS

CODE: ASME SECTION VIII DIV.1 2001 A02 TEMA EIGHTH EDITION 1999

DESIGN CONDITIONS: CLASS: B

SHELL SIDE: 175 PSIG AT 375 °F

TUBE SIDE: 175 PSIG AT 375 °F

COVER JKT: 175 PSIG AT 375 °F

SHELL SIDE MAWP: 175 PSIG, LIMITED BY: TUBESHEET

TUBE SIDE MAWP: 175 PSIG, LIMITED BY: TUBESHEET

COVER JKT MAWP: 175 PSIG, LIMITED BY: DESIGN

SHELL SIDE RADIOGRAPHY: NONE STRESS RELIEF: N/A

TUBE SIDE RADIOGRAPHY: NONE STRESS RELIEF: N/A

SHELL SIDE JOINT EFFICIENCY: 70%

TUBE SIDE JOINT EFFICIENCY: 70%

SHELL SIDE CORROSION ALLOWANCE: 1/16"

TUBE SIDE CORROSION ALLOWANCE: NONE

HYDROSTATIC TEST: SHELL SIDE: 228 PSIG

TUBE SIDE: 228 PSIG

COVER JKT: 228 PSIG

SHIPPING WEIGHT: 12515 LBS. BUNDLE WEIGHT: 6900 LBS.

TEST WEIGHT: 19020 LBS. SPECIFIC GRAVITY: 1.0

NUMBER OF PASSES, SHELL SIDE: 1

NUMBER OF PASSES, TUBE SIDE: 6

HEAT TRANSFER AREA: 2356 FT.<sup>2</sup>

|                                 |       |                              |
|---------------------------------|-------|------------------------------|
| TYPE OF HEADS:                  |       | _____                        |
| SHELL SIDE:                     | _____ | _____                        |
| TUBE SIDE:                      | _____ | BOLTED, FLAT                 |
| COVER JACKET:                   | _____ | ASME F&D                     |
| HEAD MATERIALS:                 |       |                              |
| SHELL SIDE:                     | _____ | _____                        |
| TUBE SIDE:                      | _____ | SA-516 70 CLAD w/316/316L    |
| COVER JACKET:                   | _____ | SA-516 70                    |
| SHELL MATERIALS:                |       |                              |
| SHELL SIDE:                     | _____ | SA-516 70                    |
| TUBE SIDE:                      | _____ | SA-240 316/316L              |
| TUBES:                          | _____ | SA-789 S31803                |
| TUBESHEETS:                     | _____ | SA-240 S31803                |
| BAFFLES:                        | _____ | SA-36                        |
| TIE RODS:                       | _____ | SA-36                        |
| GIRTH FLANGES:                  | _____ | SA-105                       |
| EXPANSION JOINT:                | _____ | SA-516 70                    |
| EXPANSION JOINT TYPE:           | _____ | _____                        |
| NOZZLE FLANGES, SHELL SIDE:     | _____ | SEE NOZZLE SCHEDULE          |
| RATING:                         | _____ | 150#                         |
| FACING:                         | _____ | SEE NOTE 3                   |
| NOZZLE FLANGES, TUBE SIDE:      | _____ | SEE NOZZLE SCHEDULE          |
| RATING:                         | _____ | 150#                         |
| FACING:                         | _____ | SEE NOTE 3                   |
| EXTERNAL PIPE SPEC. SHELL SIDE: | _____ | SEE NOZZLE SCHEDULE          |
| EXTERNAL PIPE SPEC. TUBE SIDE:  | _____ | SEE NOZZLE SCHEDULE          |
| COUPLINGS, COVER JACKET:        | _____ | SEE NOZZLE SCHEDULE          |
| COUPLINGS, TUBE SIDE:           | _____ | SEE NOZZLE SCHEDULE          |
| IMPINGEMENT PLATE:              | _____ | SA-36                        |
| CLADDING:                       | _____ | SA-240 316/316L              |
| BOLTING:                        | _____ | SA-193 B7 / SA-194 2H        |
| TEPHONICS, GORTEX ON 316 S.S.   |       |                              |
| GIRTH FLANGE GASKETS:           | _____ | CORRUGATED CORE, 0.125" THK. |
| NOZZLE GASKETS:                 | _____ | N/A                          |
| SUPPORTS:                       | _____ | SA-516 70                    |
| INSULATION:                     | _____ | NONE                         |
| PAINT:                          | _____ | SEE NOTE 8                   |

|                                                                                                                                                                                                                                      |            |                                                                                                                                                                                    |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">U</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">NBI</div> </div> |            | NAT'L BD. SERIAL NO. 3086<br>FABRICATED & CERTIFIED BY<br><div style="font-size: 2em; font-weight: bold; text-align: center;">WARD</div> TANK AND EXCHANGER CORP<br>CHARLOTTE N.C. |  |
| <div style="border: 1px solid black; padding: 5px;">         W<br/><br/><br/> </div>                                                                                                                                                 |            |                                                                                                                                                                                    |  |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px;">SHELL</div> <div style="border: 1px solid black; padding: 5px;">MAWP: 175 PSI @ 375 F</div> </div>                  |            |                                                                                                                                                                                    |  |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px;">JKT./TUBE SIDE</div> <div style="border: 1px solid black; padding: 5px;">MAWP: 175 PSI @ 375 F</div> </div>         |            |                                                                                                                                                                                    |  |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px;">SHELL</div> <div style="border: 1px solid black; padding: 5px;">DMGT: -20 °F @ 175 PSI</div> </div>                 |            |                                                                                                                                                                                    |  |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px;">JKT./TUBE SIDE</div> <div style="border: 1px solid black; padding: 5px;">DMGT: -20 °F @ 175 PSI</div> </div>        |            |                                                                                                                                                                                    |  |
| TEST PRESS. SHELL: 228 PSI                                                                                                                                                                                                           |            | JKT./TUBE SIDE: 228 PSI                                                                                                                                                            |  |
| MFGR. S. N.                                                                                                                                                                                                                          | HC-5155    | YR. BUILT: 2003                                                                                                                                                                    |  |
| CUSTOMER                                                                                                                                                                                                                             | KOKA       |                                                                                                                                                                                    |  |
| P.O. NO.                                                                                                                                                                                                                             | 4800122878 | DATE: 3/18/03                                                                                                                                                                      |  |
| NOMENCLATURE #30-240 NUN HEAT EXCHANGER                                                                                                                                                                                              |            |                                                                                                                                                                                    |  |
| EQUIP. NO. E-6511-2R                                                                                                                                                                                                                 |            |                                                                                                                                                                                    |  |
| JKT MAWP 175 PSI AT 375°F                                                                                                                                                                                                            |            | TEST AT 228 PSI                                                                                                                                                                    |  |

NAMEPLATE STAMPING DETAIL



**WARD TANK AND  
HEAT EXCHANGER CORP**  
6670 E. HARRIS BLVD.  
CHARLOTTE, NC 28215

|                                     |                        |           |                                     |              |
|-------------------------------------|------------------------|-----------|-------------------------------------|--------------|
| CUSTOMER                            | KOSA<br>WILMINGTON, NC |           | PURCHASE ORDER NUMBER<br>4800122878 |              |
| TITLE<br>#30-240 NJN HEAT EXCHANGER |                        |           |                                     |              |
| EQUIPMENT NO.                       | E-6511-2R              |           | SCALE                               | AS NOTED     |
| APPROVED BY                         | DATE                   | 7/1/03    | DRAWING NUMBER                      | REV. NO.     |
| DRAWN BY                            | DATE                   | 3/20/2003 | 2003-HC-5155                        | 3            |
| BRADSHAW                            |                        |           |                                     | SHEET 1 OF 3 |

AS-BUILT PRINT

WARD TANK AND  
HEAT EXCHANGER CORP  
By: B. HUFFMAN  
Date: 7/1/03

REFERENCE  
DRAWING only!

# 104379