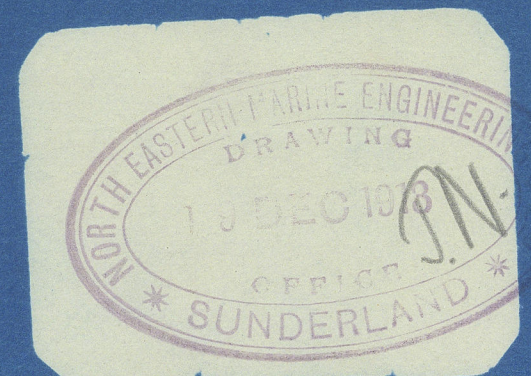


SUNDERLAND ENGINE WORKS

BOILER

DRAWING 4462 SCALE - 1 INCH TO A FOOT SCHEDULE "L."

WRITTEN DIMENSIONS ONLY TO BE TAKEN

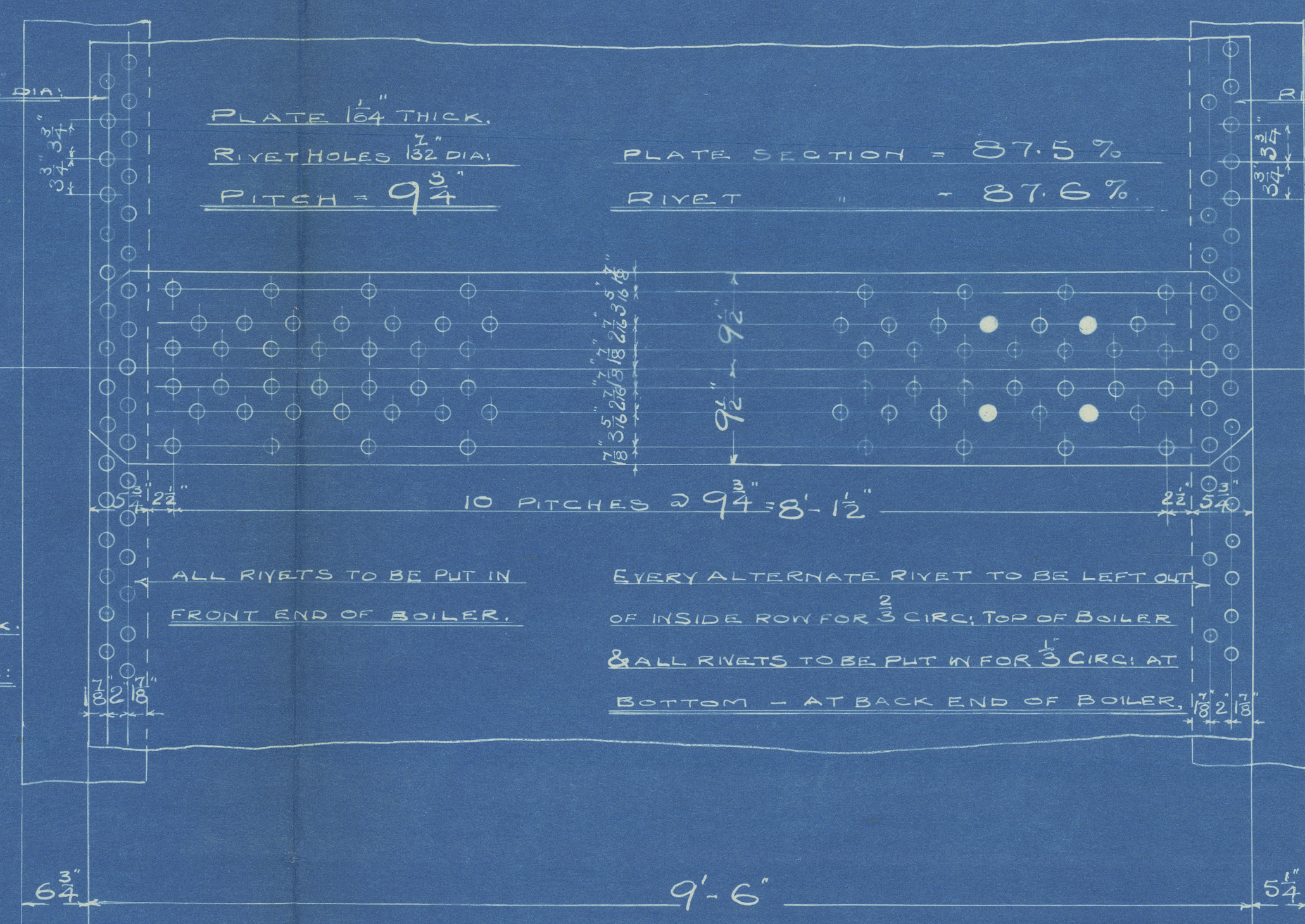


24/12/13

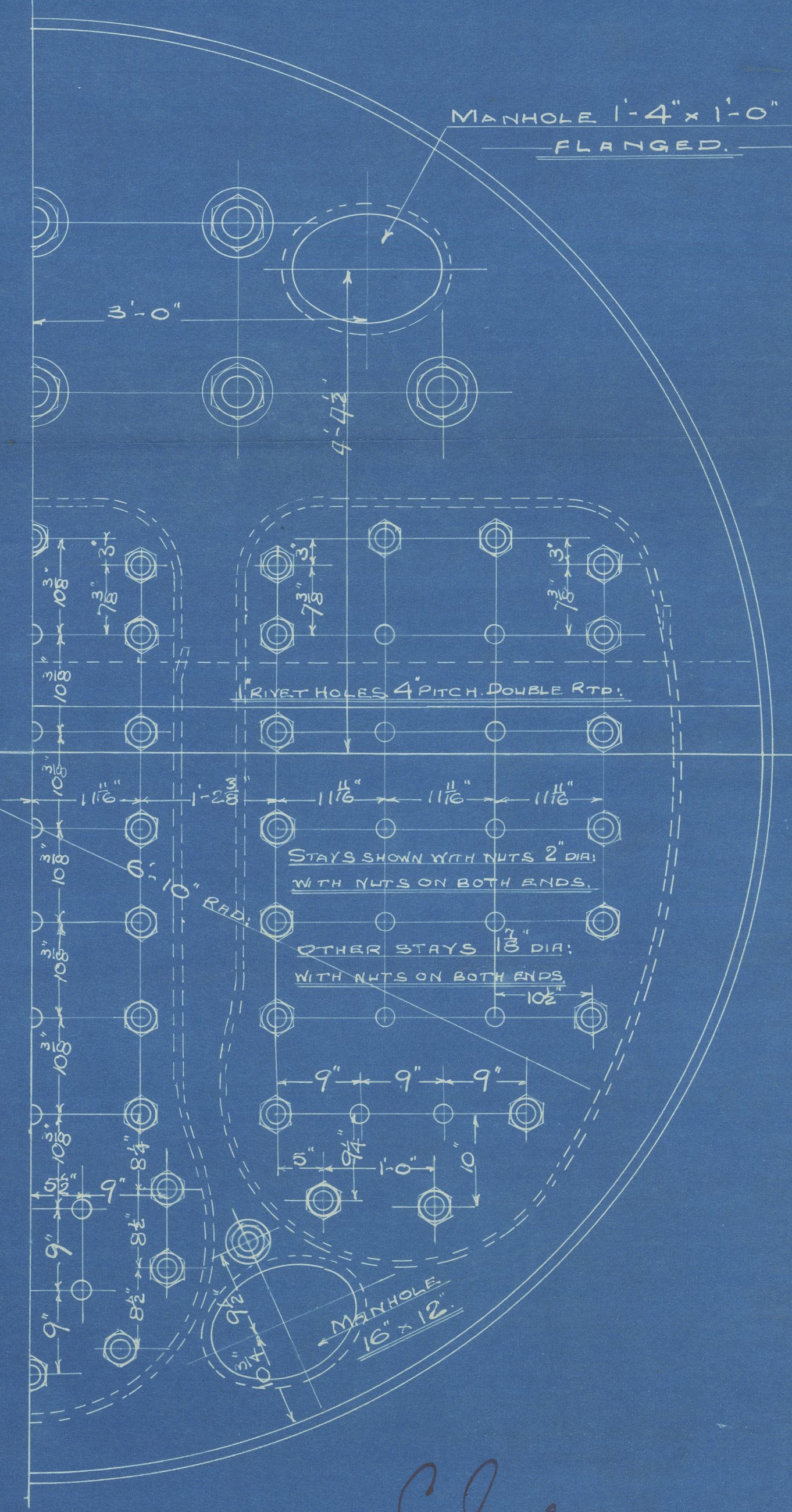
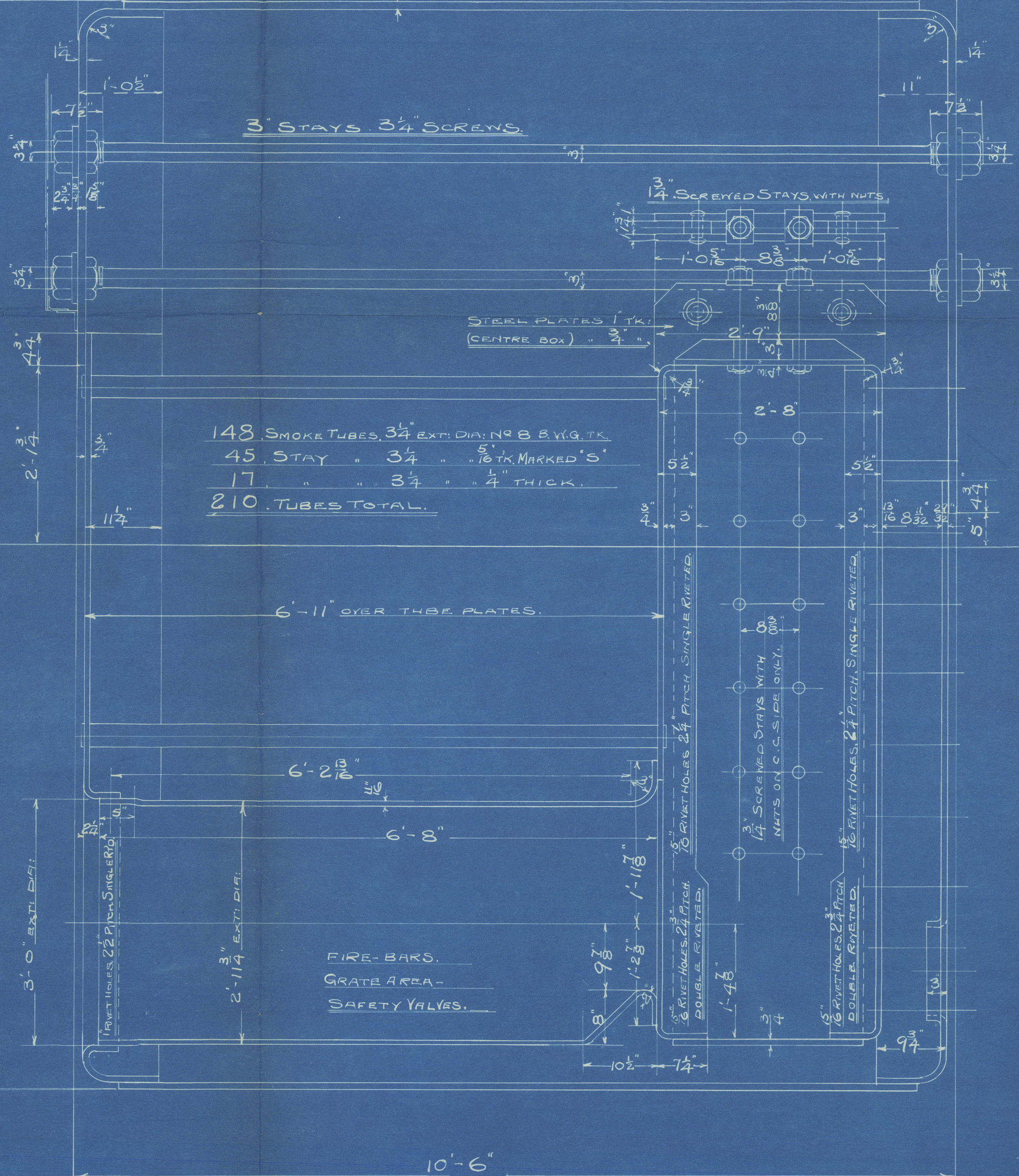
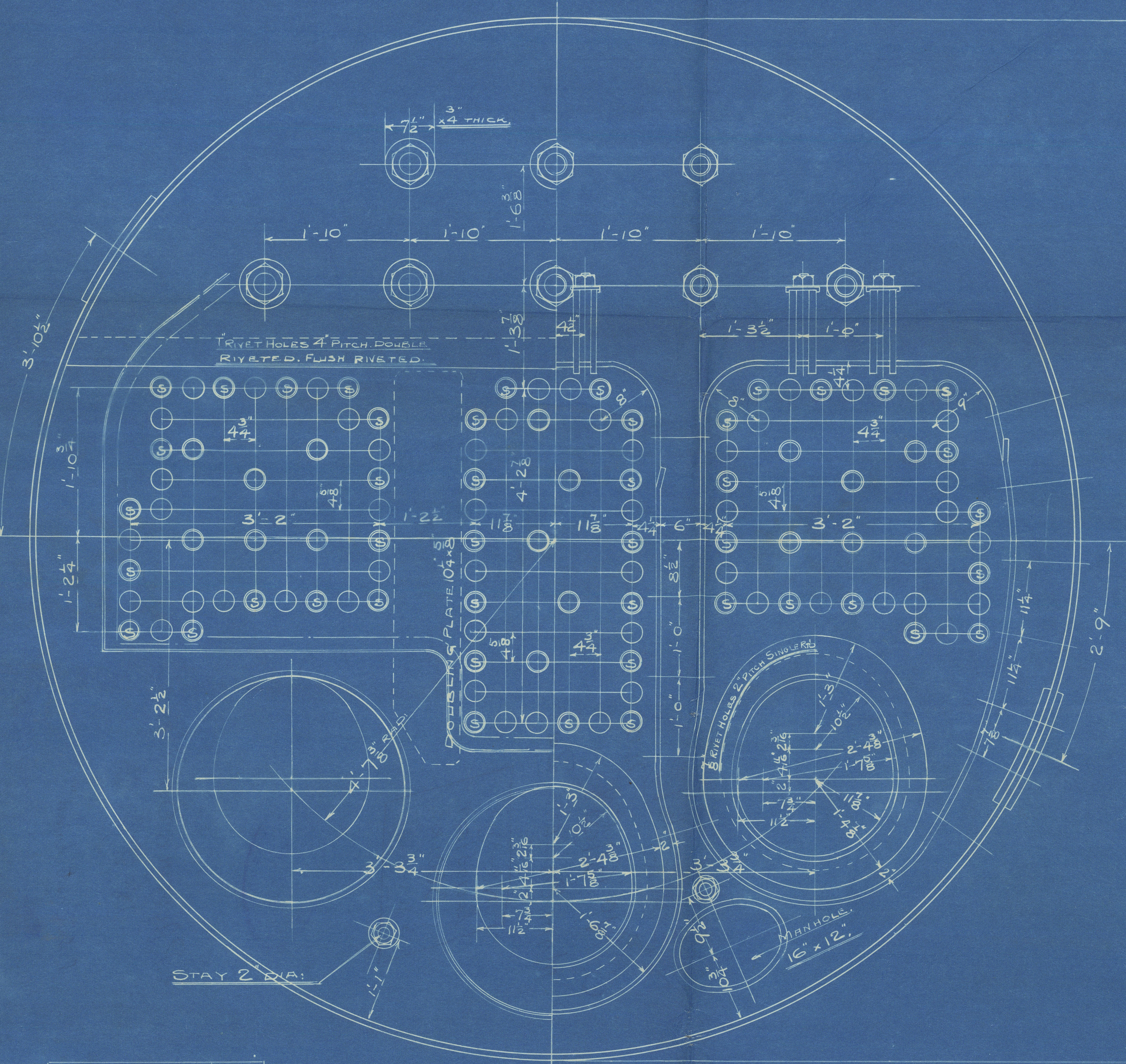
BUTT STRAPS { INSIDE 1" THICK.
OUTSIDE 1" THICK.

PLATE 1/4" THICK.
RIVET HOLES 1 1/2" DIA.
PITCH = 9"

PLATE SECTION = 87.5%
RIVET = 87.6%



TO PASS LLOYD'S SURVEY.	
SHELL 2 1/2" x 15 1/2" (45" x 2) STAYS	= 180 LBS PER SQ. IN.
WORKING PRESSURE	= 180 " " "
TEST	= 360 " " "
HEATING SURFACE ON TUBES	1236 SQ. FT.
" " OTHER PARTS	366 " " "
" " TOTAL	1602 " " "
EX. FRONT TUBE PLATE	1567 " " "
EFFECTIVE AREA OF STAYS	
3 1/2" STAY TUBES 16 TK 9 THREADS PER IN.	217 SQ. IN.
3 1/2" " " 4" 9" " " " 164 " " "	
3" MAIN STAYS 6 " " " 706 " " "	
2" " " 6 " " " 251 " " "	
2" SCREWED " 11 " " " 279 " " "	
1 1/2" " " 11 " " " 243 " " "	
1 1/4" " " 11 " " " 21 " " "	
ALL PLATES RIVETS & STAYS - STEEL	
TUBES - WROUGHT IRON	
HOLES TO BE DRILLED IN PLACE AFTER BENDING	
TENSILE STRENGTH OF SHELL PLATES NOT LESS THAN 28 TONS	
" " GIRDER	" " " 28 " "
" " MAIN STAYS	" " " 28 " "



DRAWN BY...J.A.S.
CHECKED BY...
TRACED BY...G.R.
CHECKED BY...J.H.S.

24.12.13

CONTRACT 2158.2 OFF.

N.E.M.E.C. L^D
C. N^o 2158

MAIN BOILERS. 2.OFF

N^o 3203.
LLOYD'S TEST.
360 LBS.
3-4-14 W.B.



S.P. AUSTIN & SONS L^D.

✓ N^o 272 3/4

RETAIN

"S.S. Costerland"

UNDERLAND RPT. NO. 26221

W894-0068



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Foundation