

Yard No. 515

ENG N° 515

AUX BOILER

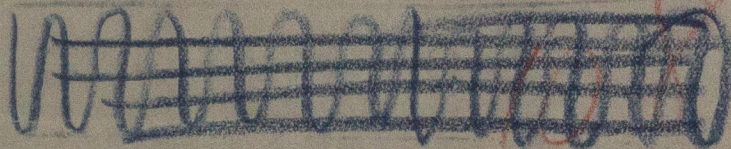
J. READHEAD

& SONS L<sup>R</sup>

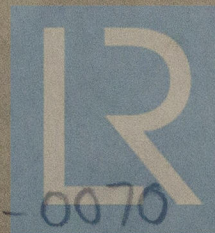
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" Thornliebank "

NW. 97322



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W130-0070

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Lloyd's Register  
Foundation



# - SURFACES ETC. -

HEATING SURFACE TUBES.	1600 SQ. FT.
" COMBUSTION CHAMBERS.	180 "
" FURNACES.	150 "
" TUBE PLATES.	58 "
TOTAL HEATING SURFACE.	1988 "
GRATE AREA (5'-0" BARS).	47 "
STEAM SPACE	356 CUB. FT.
WEIGHT OF WATER.	21 1/2 TONS.

LLOYDS HEATING SURFACE = 1958 SQ. FT.

# - TENSILE STRENGTH OF MATERIALS. - ELONGATION

SHELL - BUTT STRAPS.	29-33 TONS/IN <sup>2</sup>	NOT LESS THAN 20% IN 8"
GIRDERS - MANHOLE DOUBLINGS.	29-33 " / IN.	" " " 20% IN 8"
OTHER PLATES.	26-30 " / IN.	" " " 23% IN 8"
FURNACES.	26-30 " / IN.	" " " 23% IN 8"
MAIN STAYS.	28-32 " / IN.	" " " 20% IN 8"
SCREW STAYS.	26-30 " / IN.	" " " 23% IN 8"
RIVET BARS.	26-30 " / IN.	" " " 25% IN 8"

SIEMENS - MARTIN STEEL.

ALL RIVET HOLES DRILLED IN PLACE.

WORKING PRESSURE = 220 LBS/IN<sup>2</sup>

TEST " = 380 " / IN.

TO LLOYDS SURVEY.

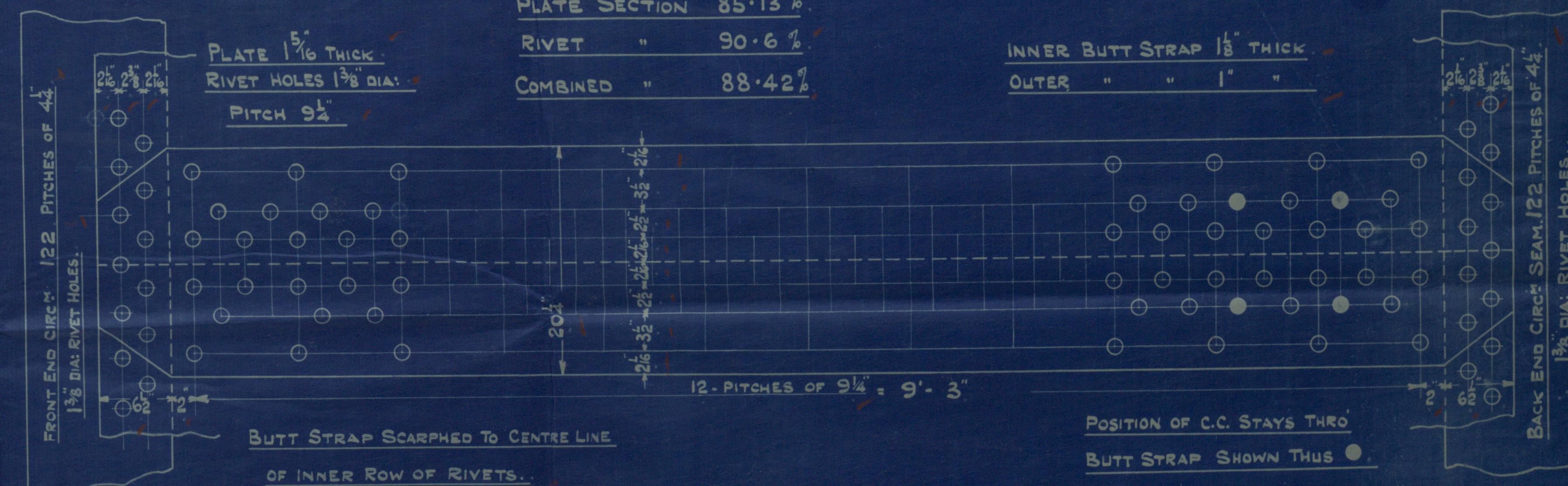
APPROVED BY LLOYDS 16-1-33.

MANHOLE COMPENSATING PLATE.

1/8" THICK, 28-1/8" DIA. RIVET HOLES.

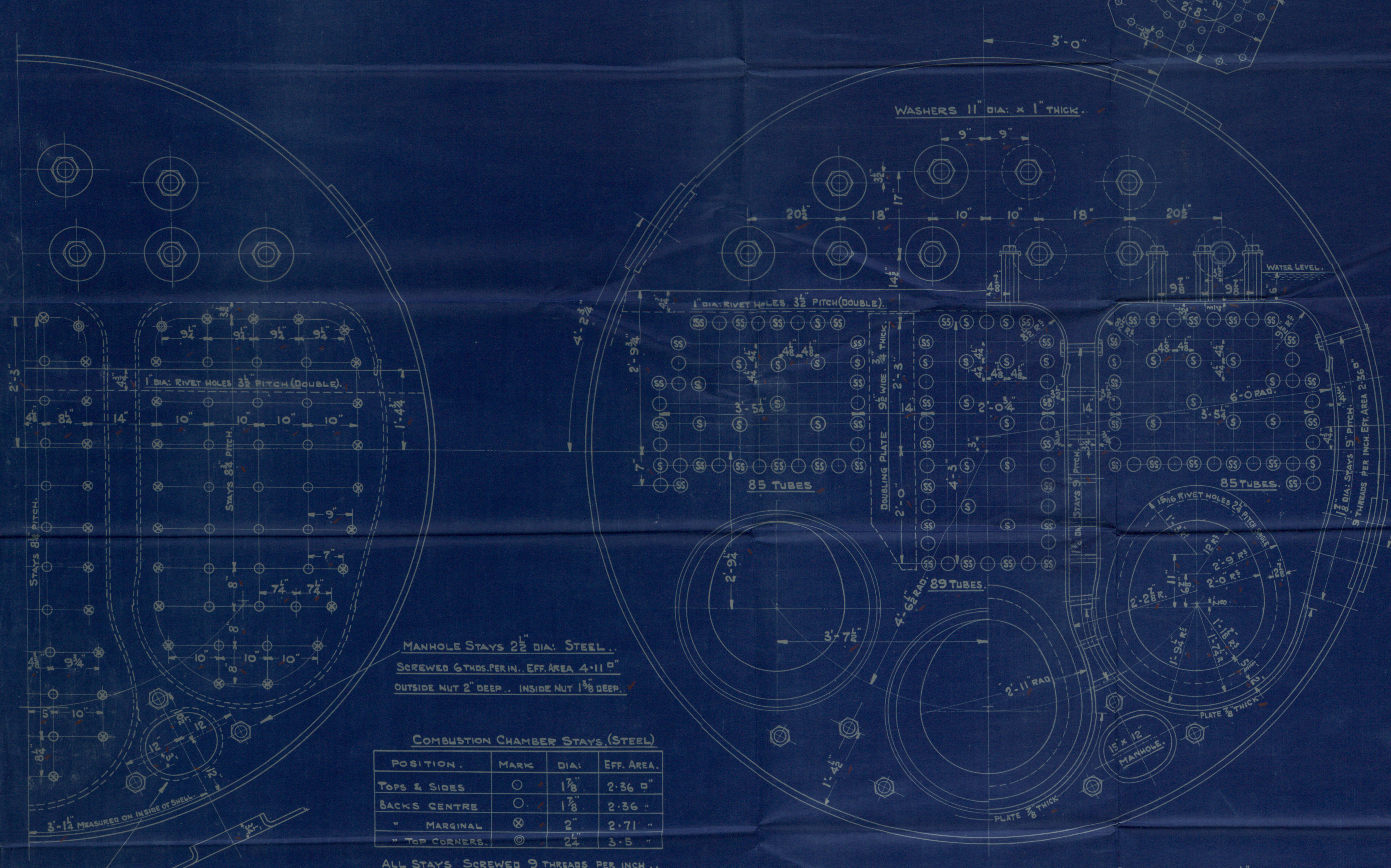
PLATE % AT LONGITUDINAL

JOINT = 85.13 %



DETAIL OF LONGITUDINAL JOINT.

SCALE :- 1 1/2" = 1 FOOT.



MANHOLE STAYS 2 1/2" DIA. STEEL.

SCREWED 6 THDS. PER IN. EFF. AREA 4.11 IN<sup>2</sup>

OUTSIDE NUT 2" DEEP.. INSIDE NUT 1 3/8" DEEP.

COMBUSTION CHAMBER STAYS (STEEL)

POSITION.	MARK	DIA.	EFF. AREA.
TOPS & SIDES.	○	1 7/8"	2.36 IN <sup>2</sup>
BACKS CENTRE.	○	1 7/8"	2.36 IN <sup>2</sup>
" MARGINAL.	⊗	2"	2.71 IN <sup>2</sup>
" TOP CORNERS.	⊙	2 1/2"	3.5 IN <sup>2</sup>

ALL STAYS SCREWED 9 THDS. PER INCH.

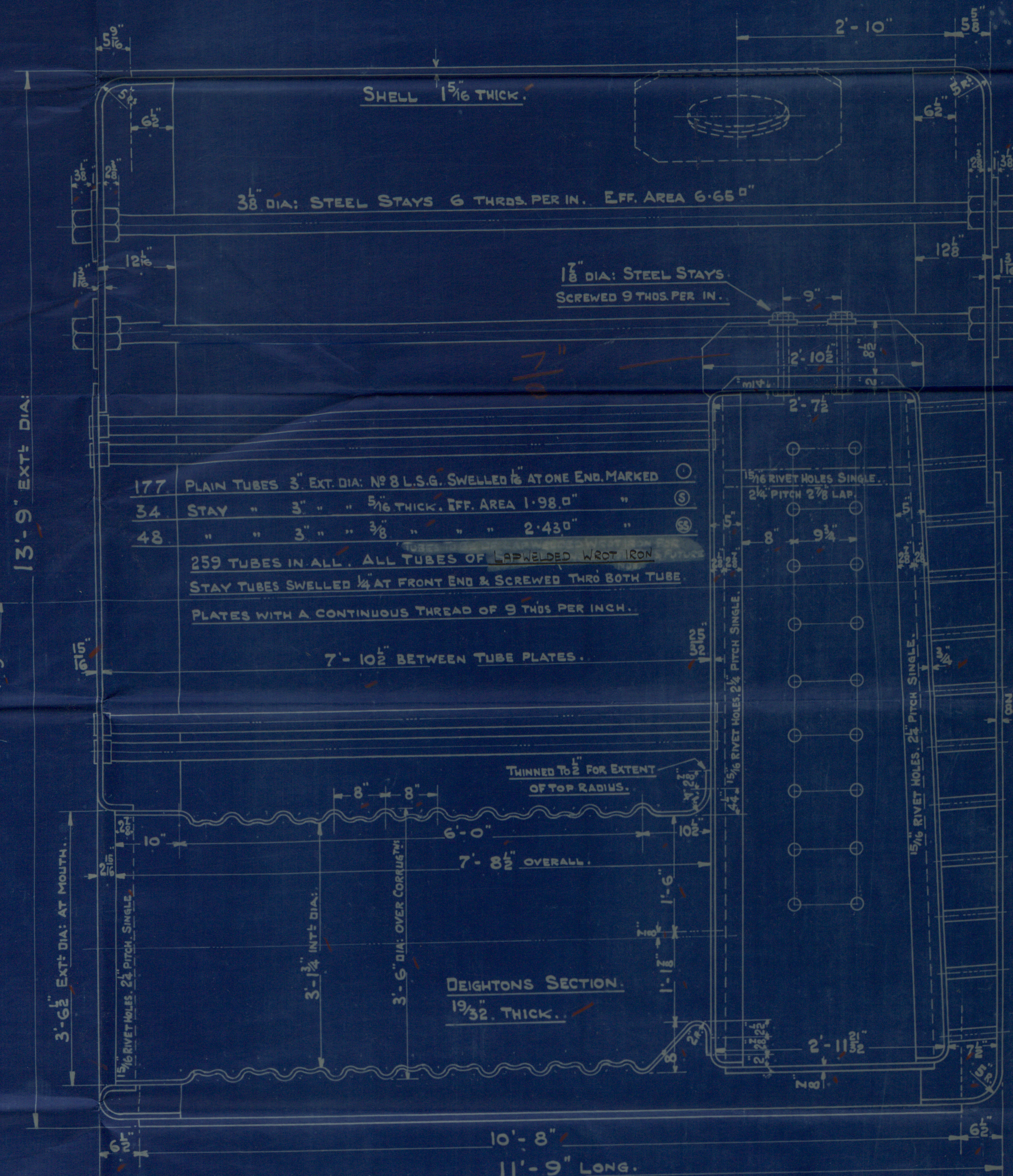
2-15" x 12" MANHOLES AT BACK.  
PLATE FLANGED IN & EDGE  
FACED TO TAKE DOOR..

ALL COMBUSTION CHAMBER STAYS SCREWED THRO BOTH  
PLATES & NUTS FITTED AT EACH END, EXCEPT STAYS  
FROM WING BOX TO SHELL, WHICH PROJECT 1/2" & CAULKED.  
NUTS FOR 1 7/8" & 2" STAYS 1" DEEP.. FOR 2 1/2" STAYS 1 3/8" DEEP.

AUXILIARY BOILER.

ONE OFF FOR EACH N<sup>o</sup>.

ENGINE N<sup>os</sup> 515-509-510-511-512



177 PLAIN TUBES 3" EXT. DIA. NO 8 L.S.G. SWELLED 1/8" AT ONE END. MARKED  
34 STAY " 3" " 5/16" THICK. EFF. AREA 1.98 IN<sup>2</sup>  
48 " " 3" " 3/8" " " 2.43 IN<sup>2</sup>  
259 TUBES IN ALL. ALL TUBES OF L.P. BLUES WOOD IRON  
STAY TUBES SWELLED 1/8" AT FRONT END & SCREWED THRO BOTH TUBE  
PLATES WITH A CONTINUOUS THREAD OF 9 THDS PER INCH.

7'-10" BETWEEN TUBE PLATES.

TUNED TO 1/2" FOR EXTENT  
OF TOP RADII.

DEIGHTONS SECTION.

19 1/2" THICK.

10'-8"  
11'-9" LONG.

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D'W'C N<sup>o</sup> 4422

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