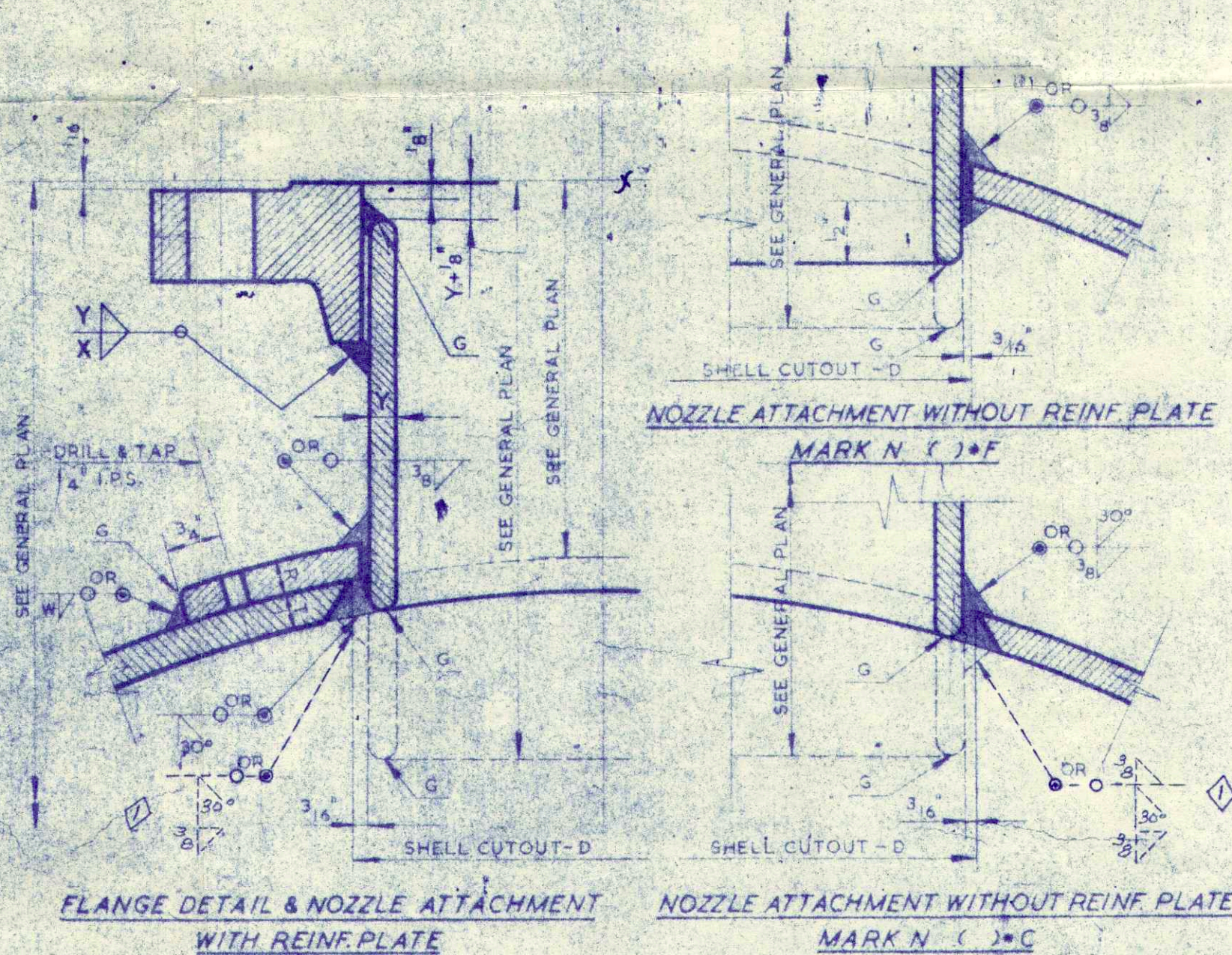


| NOZZLE SIZE | 1 1/2" | 2" | 3" | 4" | 6" | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" |
|---------------------------------|---------|---------|---------|---------|----------|--------|----------|---------|---------|---------|---------|----------|-----------|
| SHELL CUTOUT-D | 2 5/16" | 2 3/4" | 3 7/8" | 4 7/8" | 7" | 9" | 11 1/8" | 13 1/8" | 14 3/8" | 16 3/8" | 18 3/8" | 20 3/8" | 24 3/8" |
| X | 3 1/16" | 3 1/16" | 4 1/16" | 4 1/16" | 5 1/16" | 5 3/8" | 5 3/8" | 5 3/8" | 5 3/8" | 5 3/8" | 5 3/8" | 5 3/8" | 5 3/8" |
| Y | 1 1/4" | 1 5/16" | 1 7/16" | 1 1/2" | 1 11/16" | 1 7/8" | 1 11/16" | 1 5/8" | 1 9/8" | 1 11/8" | 1 3/4" | 1 15/16" | 1 2 1/16" |
| SIZE OF WELD - W - (SEE NOTE 8) | | | | | | | | | | | | | |
| T | 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 9/16" | 5/8" | 11/16" | 3/4" | 13/16" | 7/8" | 15/16" | 1" |
| W | 1/4" | 1/4" | 5/16" | 5/16" | 3/8" | 7/16" | 1/2" | 9/16" | 9/16" | 9/16" | 9/16" | 9/16" | 9/16" |



GENERAL NOTES

- SEE GENERAL PLAN FOR MATERIAL SPECIFICATIONS AND LOCATION OF NOZZLES.
- ALL BOLT HOLES TO STRADDLE VESSEL C'S UNLESS NOTED.
- NOZZLES FLUSH ON INSIDE OF VESSEL UNLESS NOTED.
- GRIND ALL CORNERS MARKED "G" TO 1/4" RADIUS BEFORE WELDING.
- SEE CONTRACT BILL OF MATERIAL FOR DIMENSIONS OF NOZZLE NECK.
- SEE CONTRACT BILL OF MATERIAL FOR THICKNESS "R" OF REINFORCING PLATE.
- INSTALL 1/4" C.I. PIPE PLUG IN 1/4" I.P.S. HOLE.

- FILLET WELD "W" TO BE LESSER OF TABULAR VALUE OR DIMENSION "R".
- SIZE OF REINFORCING PLATE MUST BE RECHECKED FOR ANY NOZZLE ON A LONGITUDINAL JOINT OR NOT PERPENDICULAR TO THE VESSEL PLATE.
- IDENTICAL PIECES ARE TO HAVE THE SAME MARK.

• USE LETTERS "A" TO "Z", CAPITALS FOR S.F., LOWER CASE FOR A.P.

ALL NOZZLES HAVE REINFORCING PLATES UNLESS SUFFIX "F" OR "C" IS ADDED TO NOZZLE MARK.

BILL OF MATERIAL

| MARK | AP | DESCRIPTION | WT. | MARK | AP | DESCRIPTION | WT. |
|----------|----|---|------------|-----------------|----|---|------------|
| N2O-12* | | 12" NOZZLE | | N2O-1 1/2*(C/F) | | 1 1/2" NOZZLE | |
| | | 12"-150 # STD. SLIP-ON FLANGE | 64 # | | | 1 1/2"-150 # STD. SLIP-ON FLANGE | 3 # |
| | | FACED & DRILLED | | | | FACED & DRILLED | |
| N2O-t12* | | 12"-SCH.160 PIPE P.B.E. | 1608 #/FT. | N2O-t1 1/2* | | 1 1/2"-SCH.160 PIPE P.B.E. | 486 #/FT. |
| N2O-p12* | | REINFORCING PL. 19 1/4" O.D. X "R" X 12 7/8" I.D. | 45.8 #/IN. | | | | |
| N2O-14* | | 14" NOZZLE | | N2O-2*(C/F) | | 2" NOZZLE | |
| | | 14"-150 # STD. SLIP-ON FLANGE | 85 # | | | 2"-150 # STD. SLIP-ON FLANGE | 5 # |
| | | FACED & DRILLED | | | | FACED & DRILLED | |
| N2O-t14* | | 14"-SCH.160 PIPE P.B.E. | 1391 #/FT. | N2O-t2* | | 2"-SCH.160 PIPE P.B.E. | 744 #/FT. |
| N2O-p14* | | REINFORCING PL. 21 1/4" O.D. X "R" X 14 1/8" I.D. | 56.5 #/IN. | | | | |
| N2O-16* | | 16" NOZZLE | | N2O-3* | | 3" NOZZLE | |
| | | 16"-150 # STD. SLIP-ON FLANGE | 93 # | | | 3"-150 # STD. SLIP-ON FLANGE | 8 # |
| | | FACED & DRILLED | | | | FACED & DRILLED | |
| N2O-t16* | | 16"-SCH.160 PIPE P.B.E. | 2451 #/FT. | N2O-t3* | | 3"-SCH.160 PIPE P.B.E. | 143 #/FT. |
| N2O-p16* | | REINFORCING PL. 24 1/2" O.D. X "R" X 16 1/8" I.D. | 73 #/IN. | N2O-p3* | | REINFORCING PL. 6 1/2" O.D. X "R" X 3 5/8" I.D. | 6 #/IN. |
| N2O-18* | | 18" NOZZLE | | N2O-4* | | 4" NOZZLE | |
| | | 18"-150 # STD. SLIP-ON FLANGE | 120 # | | | 4"-150 # STD. SLIP-ON FLANGE | 13 # |
| | | FACED & DRILLED | | | | FACED & DRILLED | |
| N2O-t18* | | 18"-SCH.160 PIPE P.B.E. | 3085 #/FT. | N2O-t4* | | 4"-SCH.160 PIPE P.B.E. | 225 #/FT. |
| N2O-p18* | | REINFORCING PL. 27 3/4" O.D. X "R" X 18 1/8" I.D. | 98 #/IN. | N2O-p4* | | REINFORCING PL. 7 1/2" O.D. X "R" X 4 5/8" I.D. | 7 #/IN. |
| N2O-20* | | 20" NOZZLE | | N2O-6* | | 6" NOZZLE | |
| | | 20"-150 # STD. SLIP-ON FLANGE | 155 # | | | 6"-150 # STD. SLIP-ON FLANGE | 19 # |
| | | FACED & DRILLED | | | | FACED & DRILLED | |
| N2O-t20* | | 20"-SCH.160 PIPE P.B.E. | 3791 #/FT. | N2O-t6* | | 6"-SCH.160 PIPE P.B.E. | 453 #/FT. |
| N2O-p20* | | REINFORCING PL. 31" O.D. X "R" X 20 1/8" I.D. | 124 #/IN. | N2O-p6* | | REINFORCING PL. 9 3/4" O.D. X "R" X 6 3/4" I.D. | 10.8 #/IN. |
| N2O-24* | | 24" NOZZLE | | N2O-8* | | 8" NOZZLE | |
| | | 24"-150 # STD. SLIP-ON FLANGE | 210 # | | | 8"-150 # STD. SLIP-ON FLANGE | 30 # |
| | | FACED & DRILLED | | | | FACED & DRILLED | |
| N2O-t24* | | 24"-SCH.160 PIPE P.B.E. | 542 #/FT. | N2O-t8* | | 8"-SCH.160 PIPE P.B.E. | 747 #/FT. |
| N2O-p24* | | REINFORCING PL. 37 1/4" O.D. X "R" X 24 1/8" I.D. | 183 #/IN. | N2O-p8* | | REINFORCING PL. 13" O.D. X "R" X 8 3/4" I.D. | 20 #/IN. |
| | | | | N2O-10* | | 10" NOZZLE | |
| | | | | | | 10"-150 # STD. SLIP-ON FLANGE | 43 # |
| | | | | | | FACED & DRILLED | |
| | | | | N2O-t10* | | 10"-SCH.160 PIPE P.B.E. | 1157 #/FT. |
| | | | | N2O-p10* | | REINFORCING PL. 16 1/4" O.D. X "R" X 10 7/8" I.D. | 32.5 #/IN. |

REVISIONS

| NO. | DATE | BY | REMARKS |
|-----|----------|-----|----------------------|
| 1 | 10/13/55 | JWB | CHG. D. WELD SYMBOLS |

HORTON STEEL WORKS LTD.
FORT ERIE, ONT.

150 # STD. NOZZLE
FOR PRESSURE VESSELS
SLIP-ON FLANGE & SCH.160 PIPE

DRAWN - 12-30-1954
CHECKED - 1-10-55
APPROVED - CHD
SHEET OF INDEX
N20

FOLIO N 17966