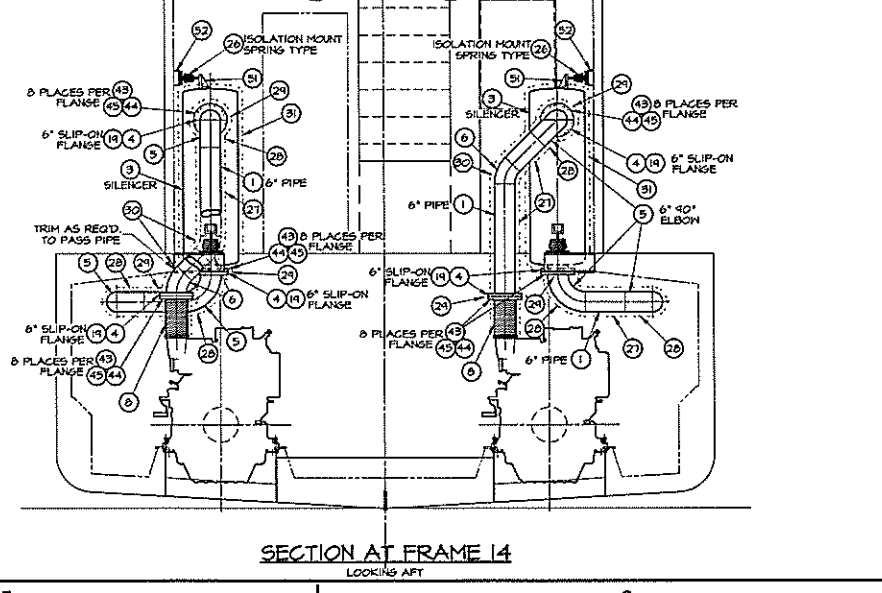
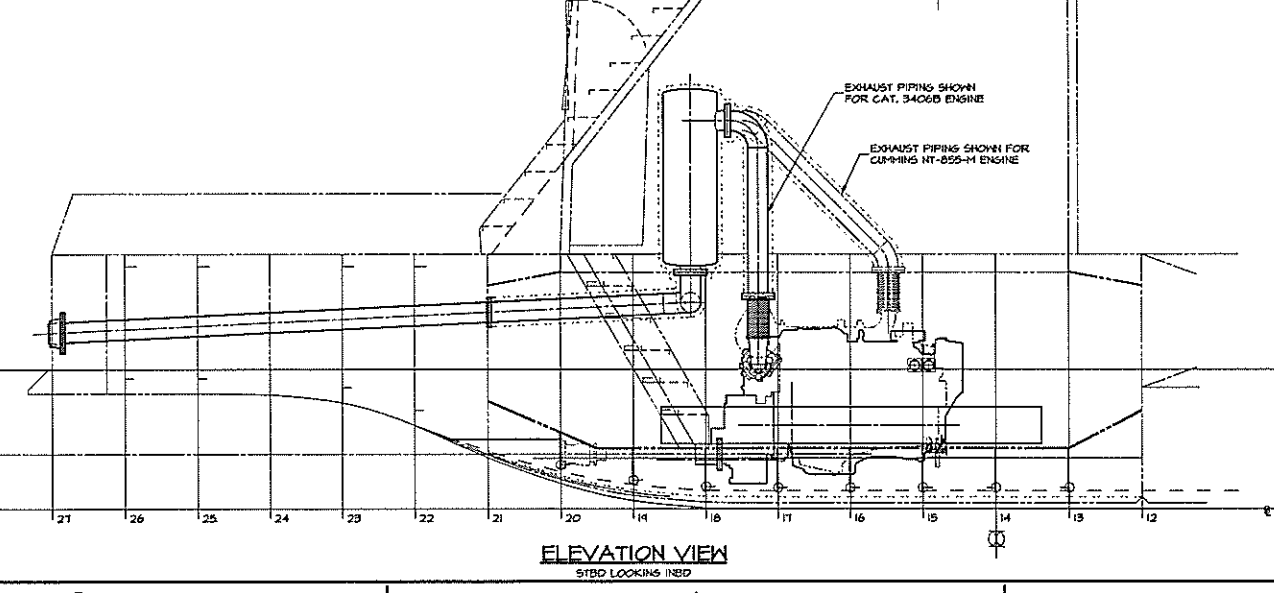
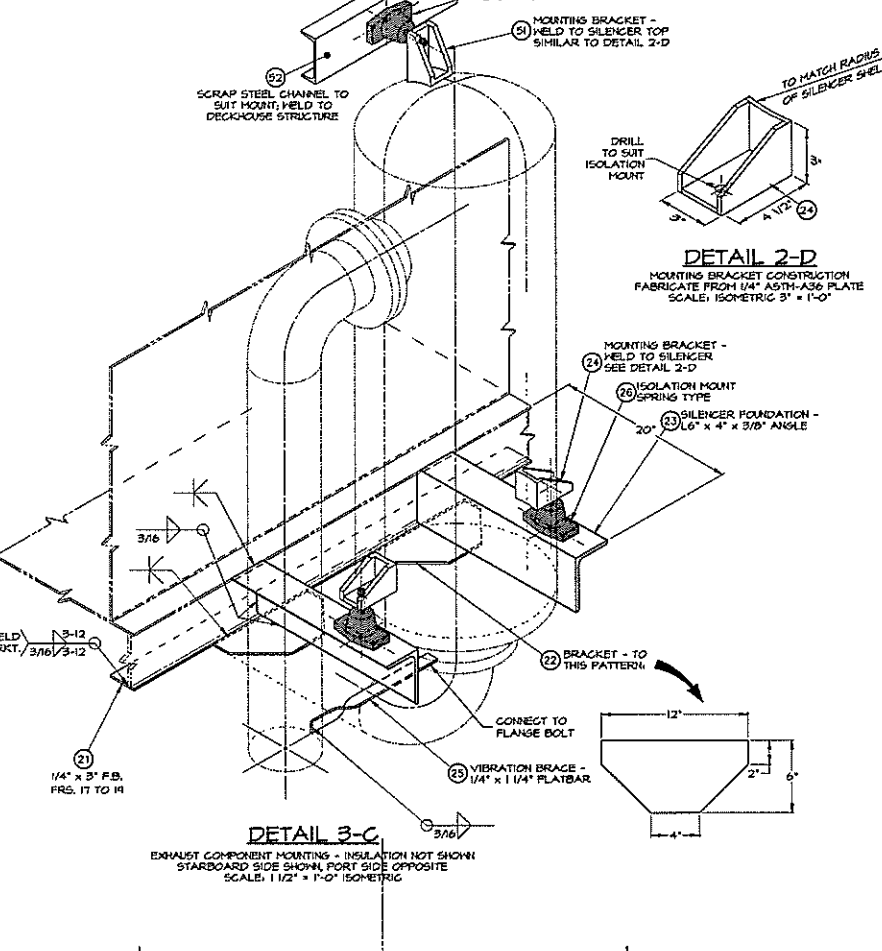
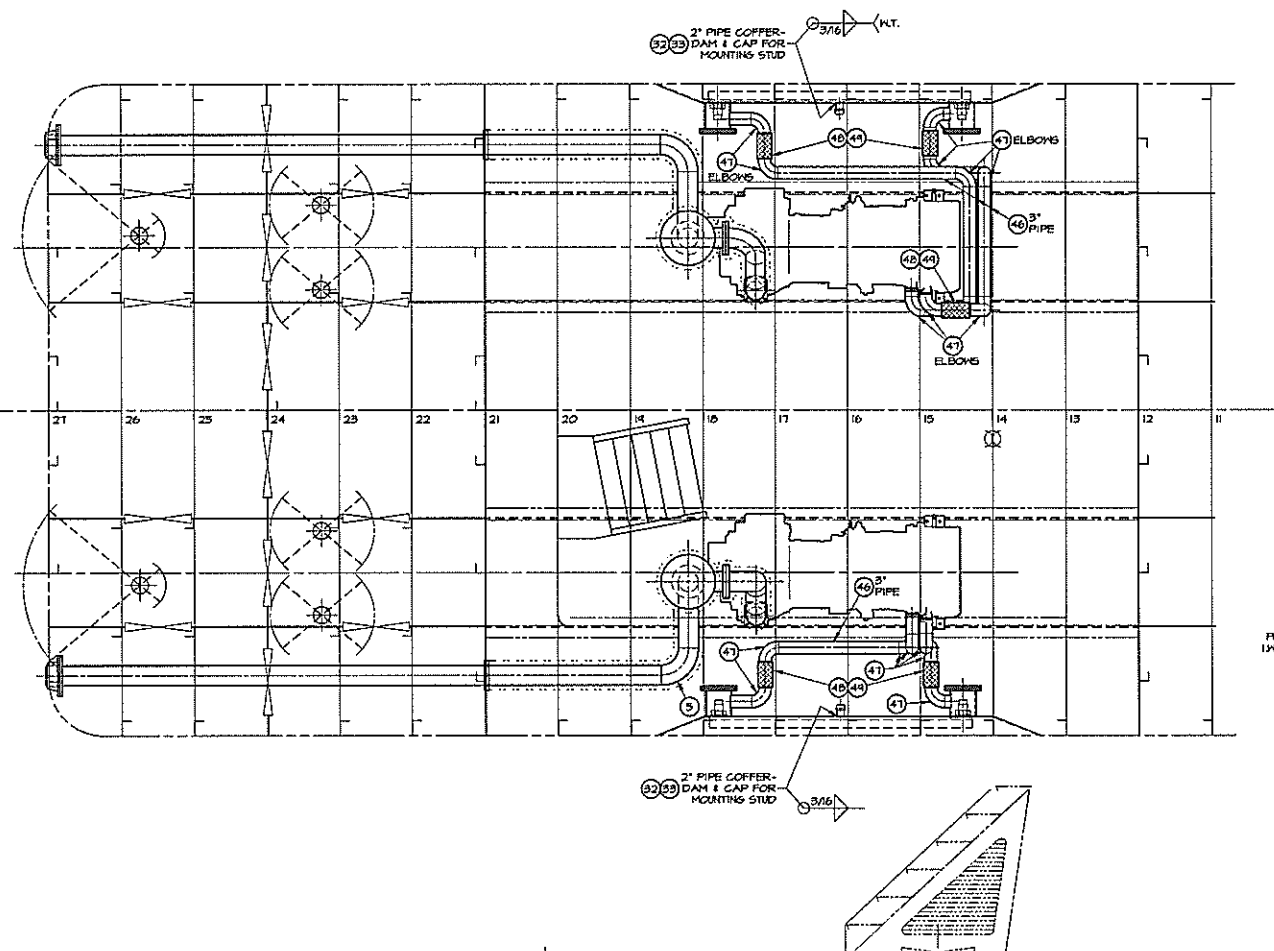
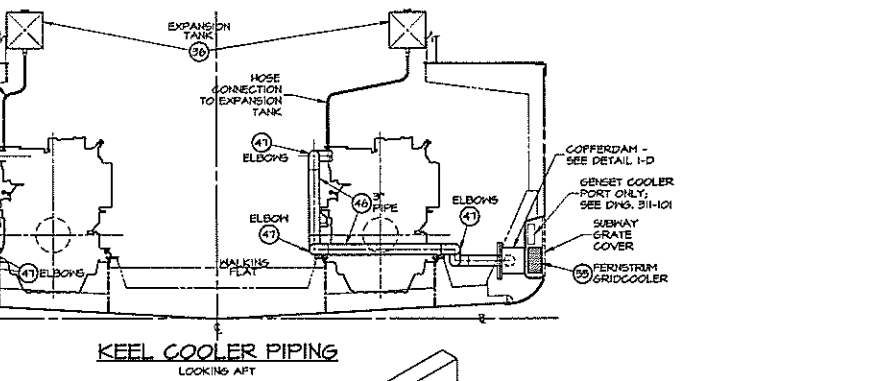
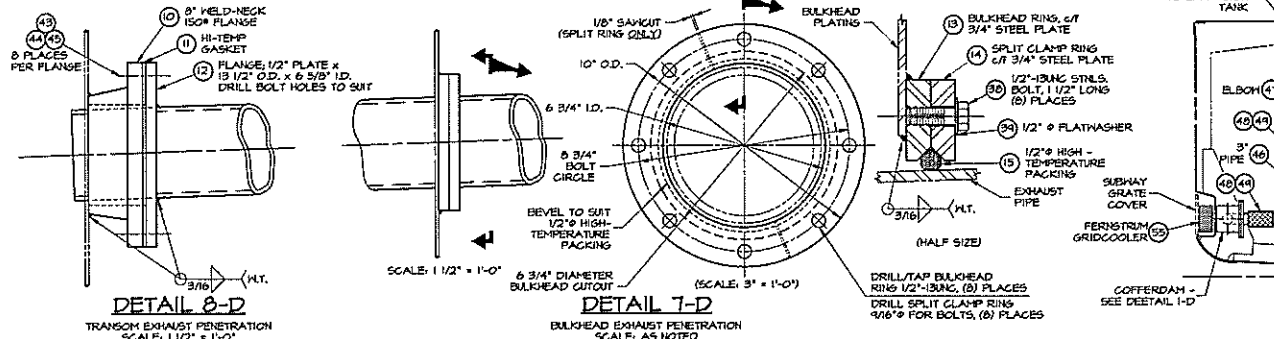


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REVISES BULGE FROM CHINE TO ROUND	7/13/00	
B	LOWER BULGE, RM MAKING FLAT 3" BELLOW FLANGES	8/17/00	



NO	QTY	DESCRIPTION	MATERIAL/SPECIFICATION/REMARKS
20	2	GRIDCOOLER, FERROSTRIM DOM	VARIOUS
24	8	FLANGE 3/4\" x 1/2\" DIA.	ASTM A-26 STEEL
25	4	PIPE 8\" SCH 40 x 1-1/2\" LONG	ASTM-A36 BLACK STEEL, BH
28	2	SCRAP CHANNEL TO SHT VIBRATION MOUNT	ASTM-A36 STEEL
31	2	MOUNTING BRACKET, HELD TO TOP OF SILENCER	1/4\" STEEL PLATE, ASTM-A36, SIMILAR TO DETAIL 5-D
30	5 L/F	PIPE 3\" SCH 40	ASTM-A36 GALV. STEEL, BH
44	32	HOSE CLAMPS	ALL 300 SERIES STAINLESS
48	8	HOSE 3/2\" ID, SUK/1\" PRESS. COOLANT SERVICE	REINFORCED NEOPRENE, ABOUT 12\" LONG
47	M	ELBOW 3\" 90\" LR, STD. HT. BH	FORMED STEEL, ASTM-A36
46	60 L/F	PIPE 3\" SCH 40	ASTM-A36 GALV. STEEL, BH
45	30	HT. 3/4\" W/GR	TYPE 304 STAINLESS STEEL
44	80	HASHER 3/4\" #	TYPE 304 STAINLESS STEEL
43	80	BOLT 3/4\" DIA. x 1\" LONG	TYPE 304 STAINLESS STEEL
42	2	SLIP-ON FLANGE, 8\" ANGI-50#	ASTM-A36 BLACK STEEL, (MAY BE YARD-FAB. FROM PLATE)
41	2	GASKET, 8\" ANGI-50#	NEOPRENE, 1/2\" THK
40	2	BLIND FLANGE, 3/4\" PLATE, IS 1/2\" DIAMETER	ASTM-A36 BLACK STEEL, (MAY BE YARD-FAB. FROM PLATE)
34	6	HASHER, 1/2\" #	TYPE 304 STAINLESS STEEL
36	16	BOLT, 1/2\" DIA. x 1 1/2\" LONG	TYPE 304 STAINLESS STEEL
37	2	HOSE, EXPANSION TANK TO COOLING PIPE	MTH HELDLOCK TO SHT
36	2	EXPANSION TANK, 8 GAL. CAPACITY	VARIOUS
35	-	2\" PIPE CAP, 5/8\" THREADED	GALVANIZED MALLEABLE IRON
34	2	2\" PIPE CAP, 5/8\" THREADED	GALVANIZED MALLEABLE IRON
33	1 L/F	PIPE 2\" SCH 40	ASTM-A36 GALV. STEEL, BH
32	-	-	-
31	2	INSULATION FOR 6\" HANDB. SILENCER	ADVANCED THERMAL PRODUCTS, INC.
30	3	6\" 45\" ELBOW INSULATION	ADVANCED THERMAL PRODUCTS, INC.
24	6	6\" FLANGE INSULATION	ADVANCED THERMAL PRODUCTS, INC.
28	6	6\" 90\" ELBOW INSULATION	ADVANCED THERMAL PRODUCTS, INC.
27	20 L/F	6\" PIPE INSULATION	ADVANCED THERMAL PRODUCTS, INC.
26	6	ISOLATION MOUNT - SPRING TYPE	VARIOUS, MUST BE SUITABLE FOR HIGH-TEMP. APPLICATION
25	2	VIBRATION BRACE - 1/4\" x 1/4\" x 1/4\" F.B.	ASTM-A36 STEEL
24	4	MOUNTING BRACKET, HELD TO SILENCER	1/4\" STEEL PLATE, ASTM-A36, SEE DETAIL 5-D
23	4	SILENCER FOUNDATION, 16\" x 4\" x 3/8\" ANGLE	ASTM-A36 STEEL
22	4	BRACKET, 6\" x 12\"	1/4\" STEEL PLATE, ASTM-A36
21	2	CHOCK, 1/4\" x 3\" F.B., 5/8\" LONG	ASTM-A36 STEEL
20	-	-	-
19	6	HIGH-TEMPERATURE GASKET, 6\" ANGI-50# PATT.	NON-ASBESTOS
18	-	-	-
17	-	-	-
16	-	-	-
15	2	HIGH-TEMPERATURE PACKING, 1/2\" #	NON-ASBESTOS
14	3	SPLIT CLAMP RING, 1/2\" O.D. x 6 3/4\" I.D.	3/4\" STEEL PLATE, ASTM-A36
13	2	BULKHEAD RING, 1/2\" O.D. x 6 3/4\" I.D.	3/4\" STEEL PLATE, ASTM-A36
12	2	YARD-FAB. FLANGE, IS 1/2\" O.D. x 6 3/8\" I.D.	1/2\" STEEL PLATE, ASTM-A36
11	2	HIGH-TEMPERATURE GASKET, 6\" ANGI-50# PATT.	NON-ASBESTOS
10	2	WELD-NECK FLANGE, 6\" ANGI-50#	ASTM-A36 BLACK STEEL, BH (MAY BE YARD-FAB. FROM PLATE)
9	-	-	-
8	2	FLEX SECTION, 6\" ANGI-50# FLANGED ENDS	TYPE 304 STAINLESS STEEL
7	-	-	-
6	3	ELBOW, 6\" 45\" LR, BH, STD. HT.	ASTM-A36 BLACK STEEL, BH
5	6	ELBOW, 6\" 90\" LR, BH, STD. HT.	ASTM-A36 BLACK STEEL, BH
4	6	SLIP-ON FLANGE, 6\" ANGI-50# PATTERN	ASTM-A36 BLACK STEEL, BH
3	2	SILENCER, 6\" HANDB. H-31	STEEL
2	-	-	-
1	44 L/F	PIPE, 6\" SCH 40	ASTM-A36 BLACK STEEL, BH

BILL OF MATERIALS			
DWN. R.K. Thompson	TGMD, Inc. / Timothy Graul marine design		
APPD.	naval architects marine engineers		
DATE 24 JULY 1999	Sturgeon Bay, WI 54235		Project No. 49005
PROJECT	55'-0\" x 18'-0\" x 7'-0\" BRUSSELS FERRY PUSHBOAT	Scale: 1/2\" = 1'-0\"	
TITLE	ILLINOIS DEPARTMENT OF TRANSPORTATION	REV. B DATE: 8/17/00	Drawing No. 256-101
MACHINERY PIPING SYSTEMS		256-101	

Proj. 49005, Dwg. 256-101 Rev. B Title MACHINERY PIPING SYSTEMS