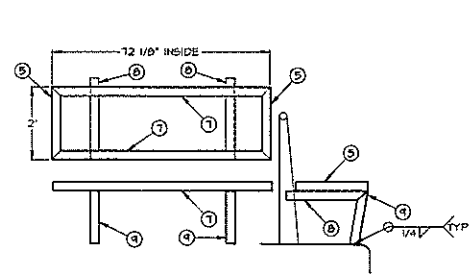
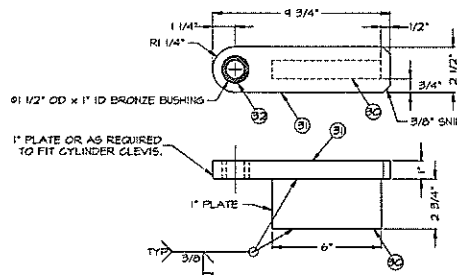


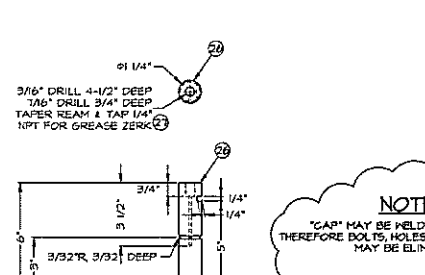
REVISIONS			
LV	DESCRIPTION	DATE	APPROVED
-	FIRST ISSUE	09/20/99	



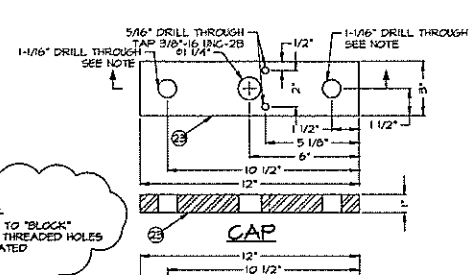
LIFE JACKET BOX FOUNDATION
FOUNDATION DIMENSIONS BASED ON BOXES AS MADE BY:
BETTER HAY PRODUCTS
7183 C.R. 23
NEW PERLE IN 46555
(2) 83-3540
FIVE REQUIRED



CYLINDER FNDN
SCALE: 3\"/>

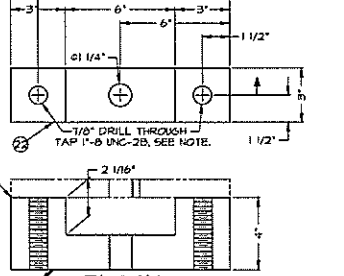


PIN

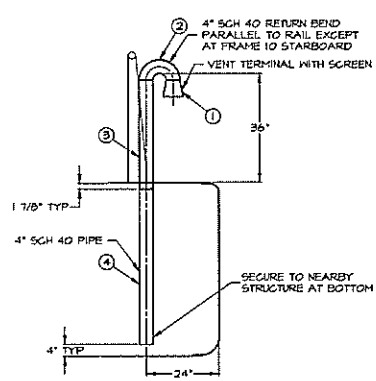


CAP

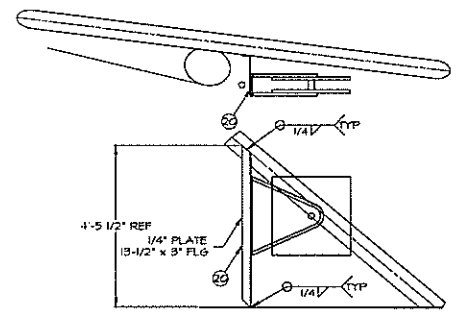
NOTE:
"CAP" MAY BE WELDED TO "BLOCK"
THEREFORE BOLTS, HOLES & THREADED HOLES
MAY BE ELIMINATED



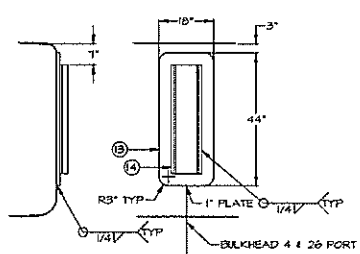
BLOCK



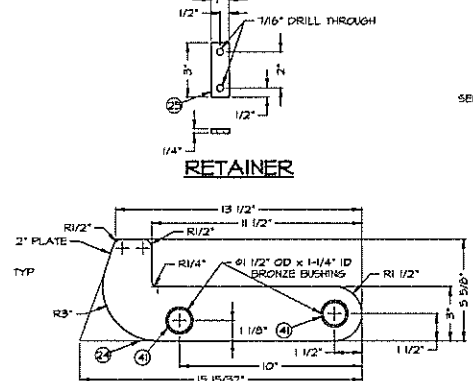
COMPARTMENT VENT
TWO VENTS PER COMPARTMENT
ONE PER COMPARTMENT EXTENDS TO BILGE



FIRE HOSE RACK FNDN

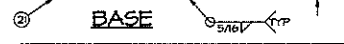


BARGE FENDER ATTACHMENT

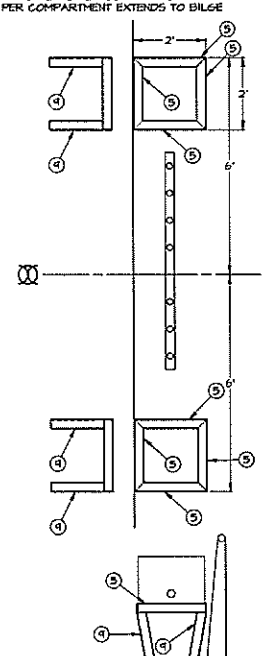


LATCH

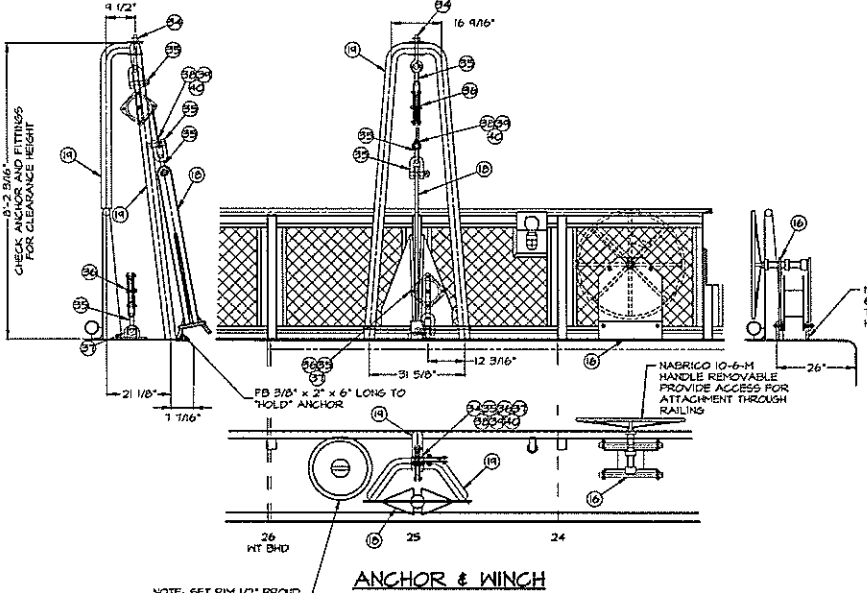
LATCH FNDN PIECES
SCALE: 3\"/>



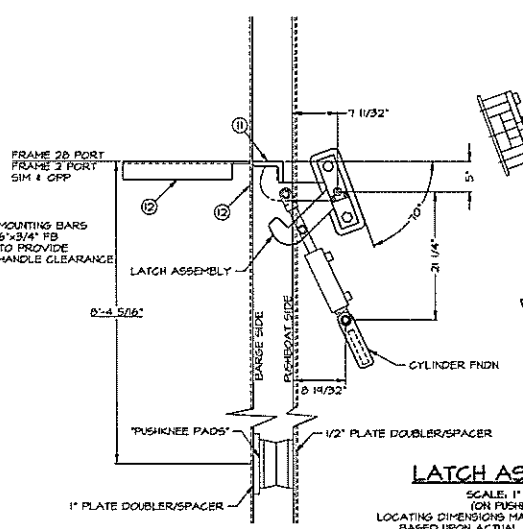
BASE



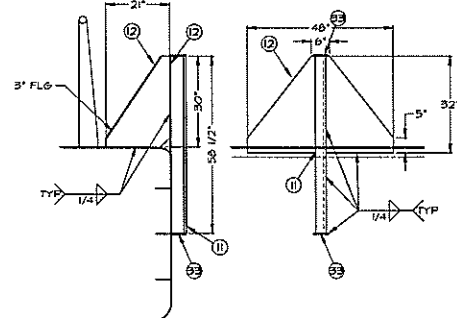
FIRE/BILGE PUMP FNDN
FOUNDATION DIMENSIONS BASED ON HALF PUMP
GRAINER # 3P636
THO REQUIRED



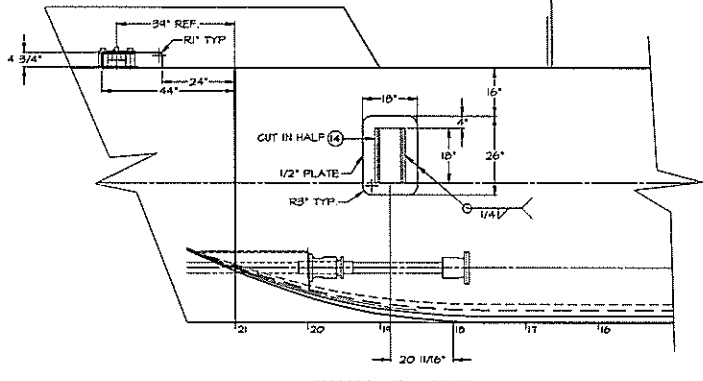
ANCHOR & WINCH



LATCH ASSEMBLY
SCALE: 1\"/>



TOWING LATCH HOOK ANGLE



PUSHBOAT FENDER

ITEM	QTY.	DESCRIPTION	MATERIAL/SPECIFICATION/REMARKS
43	-	-	-
42	-	-	-
41	4	BUSHING	1/2" OD x 1-1/4" ID x 2" LONG, BRONZE PRESS FIT
40	800	1/2" 1/4" 6x31 GALVANIZED WIRE ROPE	-
34	3	SHACKLE FOR 1/2" WIRE ROPE	5-306 "GOLD-TUFF" OR EQUAL, OR WIRE ROPE CLIPS
36	1	THIMBLE FOR 1/2" WIRE ROPE	FED SPEC FF-T-316D TYPE III, EXTRA HEAVY
37	1	15 (8-1/4") PADDEYE	1095 CARBON STEEL FORGED
36	2	8" WIRE ROPE BLOCK, BRONZE BEARINGS	STEEL SHEAVE, DIAMOND, WESTERN SHVEL EYE OR EQUAL
35	4	1-1/4" SCREW PIN CHAIN / ANCHOR SHACKLE	CROSBY OR EQUAL
34	1	SHOULDER NUT EYEBOLT, 1-1/4" SHANK x 8"	FORGED STEEL, HOT DIP GALVANIZED
33	4	FB 3/8" x 5" x 5" LONG	A-36
32	2	BUSHINGS	1-1/2" OD x 1-1/4" ID x 1" LONG, BRONZE PRESS FIT
31	2	CYLINDER BAR	1" PLATE, A-36, 2-1/2" x 4-3/4"
30	2	CYLINDER LUG	1" PLATE, A-36, 6" x 2-3/4"
29	4	FASTENER	3/8" x 1-1/2", 304 OR 316 SST HMM
28	4	FASTENER	1"-8 x 2-1/2", 304 OR 316 SST HMM
27	2	GREASE ZERK	COMMERCIAL, 5/16", 1/4" NPT
26	2	PIN	RB 1-1/4", 1045 STEEL, 6" LONG
25	2	RETAINER	FB 1/4" x 1", A-36, 3" LONG
24	2	LATCH	2" PLATE, A-36, 5-1/2" x 15-1/2"
23	2	CAP	1" PLATE, A-36, 3" x 12"
22	2	BLOCK	4" BAR, A-36, 3" x 12"
21	2	BASE	1/2" PLATE, A-36, 5" x 14"
20	2	FIRE HOSE SUPPORT PLATE	1/4" PLATE, A-36, 13-1/2" x 53-1/2" WITH 3" FLG
19	5-10	ANCHOR SUPPORT & BRACE	PIPE, 3" SCH 80, ASTM A-53
18	1	ANCHOR	DANFORTH 150H
17	-	-	-
16	1	ANCHOR WINCH	NABRICO 10-6-M
15	14	DECK HATCHES	NABRICO DF-430-18D
14	3	BUMPER	MORSE E42000 - FULL LENGTHS ON BARGE - CUT IN HALF TO MAKE 18" LONG ON PUSHBOAT
13	2	BUMPER DOUBLER	1" PLATE, A-36, 18" x 44"
12	2x2	LATCH ANGLE BRACKET WITH 3" FLG	3/8" PLATE, A-36, 48" x 52" x 2" x 30"
11	2	LATCH ANGLE	L5" x 3-1/2" x 3/4" x 67-1/2" LONG, A-36
10	-	-	-
9	-	-	-
8	10	L/J SUPPORT, BRACE	L3" x 3" x 1/4" x 18" LONG, A-36
7	10	L/J SUPPORT, FACE	L3" x 3" x 1/4" x 72-5/8" LONG, A-36
6	-	-	-
5	10	L/J SUPPORT, SIDE - ALSO FOR FIRE/BILGE PUMP	L3" x 3" x 1/4" x 24" LONG, A-36
4	7	PIPE, 4" SCH 40 x 64-1/2" LONG	ASTM A-53
3	7	PIPE, 4" SCH 40 x 36" LONG	ASTM A-53
2	14	4" 180° LR BEND, B/L SCH 40	BLACK STEEL
1	14	4" VENT TERMINAL	WITH SCREEN - HAYWARD OR EQUAL

BILL OF MATERIALS			
DWN.	H.G. HITT	TGMD, Inc. / Timothy Graul marine design	
APPD.		naval architects	marine engineers
DATE	20 SEPT 1999	Sturgeon Bay, WI 54235	
PROJECT	120'-0" x 35'-0" x 4'-4" BRUSSELS FERRY BARGE	Project No.	99005
	IDOT JOB D-18-078-49	Scale:	1/2" = 1'-0"
	ILLINOIS DEPARTMENT OF TRANSPORTATION	REV.	Date: 09/20/99
TITLE	MISC. HULL DETAILS FNDNS AND FITTINGS	Drawing No.	161-201

Proj. 99005 Dwg. 161-201 Rev. 1 Title MISC. HULL DETAILS, FNDNS & FITTINGS