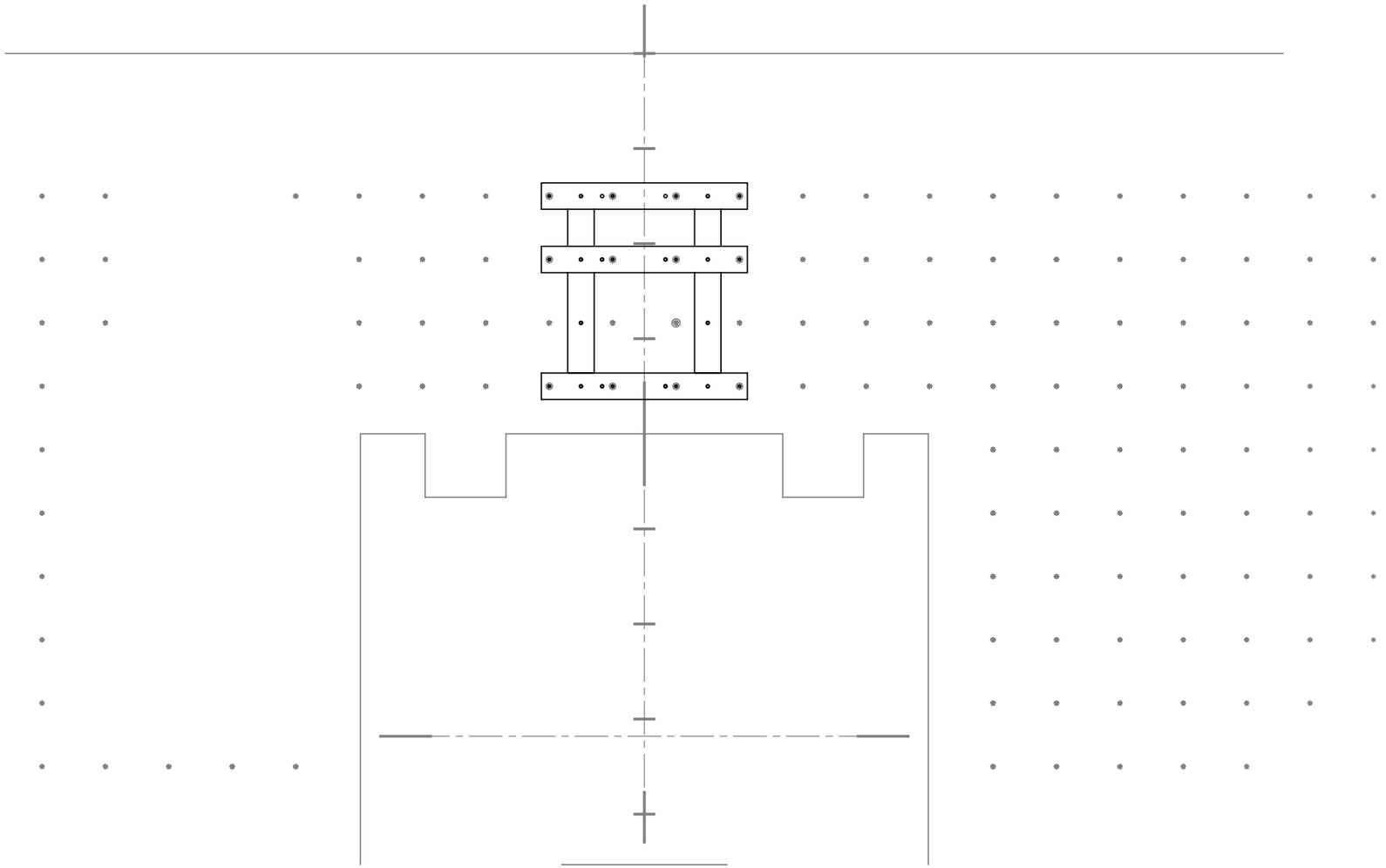
REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
		INITIAL RELEASE REVISIONS	X/XX/01	J.E.
	A	ADDED 2 EA. HOLES (1.25 Ø) SHEET 5 of 9	2/10/2014	J.E.



10. 3/4 - 10 UNC-2A Bolts 316 S.S. - Torque to 104 ft.-Lbf.
9. per Glosten Max. winch line load: 3600 lbf. (5:1 S.F.)
8. per Glosten W.F. Main Deck Sockets: 3500 lbf Max. Load.
7. PROJECT LIBRARY:\300058_DMO_Western-Flyer\BoreHoleWinchBase

NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	VENDOR	MATERIAL SPECIFICATION

BILL OF MATERIALS

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS	DATE
Inspector		1 PLACE DIM ±1/16 | 2 PLACE DIM ±.02 | 3 PLACE DIM ±.005 | ANGLES ±1°		DRAWN J. ERICKSON	
Shop Foreman		1. DIMENSIONS ARE IN INCHES		ENGINEER J. ERICKSON	
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.		CHECKED	
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.		PROJECT NO. 300058	
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .0150-.030.		PROJECT DMO - W.F.	
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5			
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.			
Application		DO NOT SCALE DRAWING		WEIGHT 965.110	

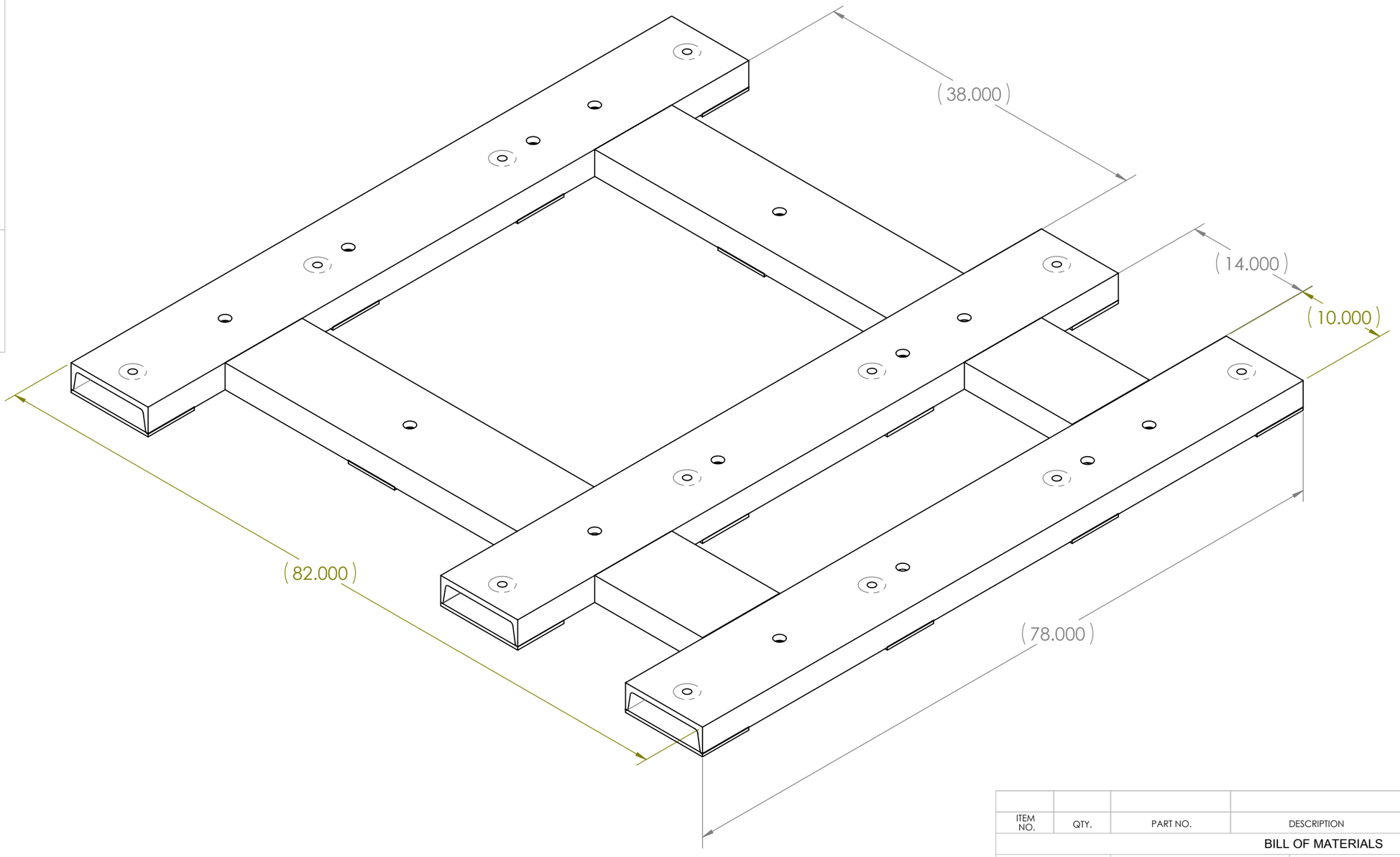
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

W.F. BORE HOLE WINCH BASE
Bore Hole Winch Assembly

SIZE	DWG. NO.	REV.
B	.DWG	A

SCALE 1:96 | CAD FILE: MECH ENG ON TORNADO | SHEET 1 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.



NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	VENDOR	MATERIAL SPECIFICATION

BILL OF MATERIALS

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	
Inspector		1 PLACE DIM ±1/16 | 2 PLACE DIM ±.02 | 3 PLACE DIM ±.005 | ANGLES ±1°	
Shop Foreman		1. DIMENSIONS ARE IN INCHES	
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.	
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.	
		4. MACHINED FILLET RADII .0150-.030.	
NEXT ASSY Description	NEXT ASSY Number	5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005	
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.	
Application		DO NOT SCALE DRAWING	

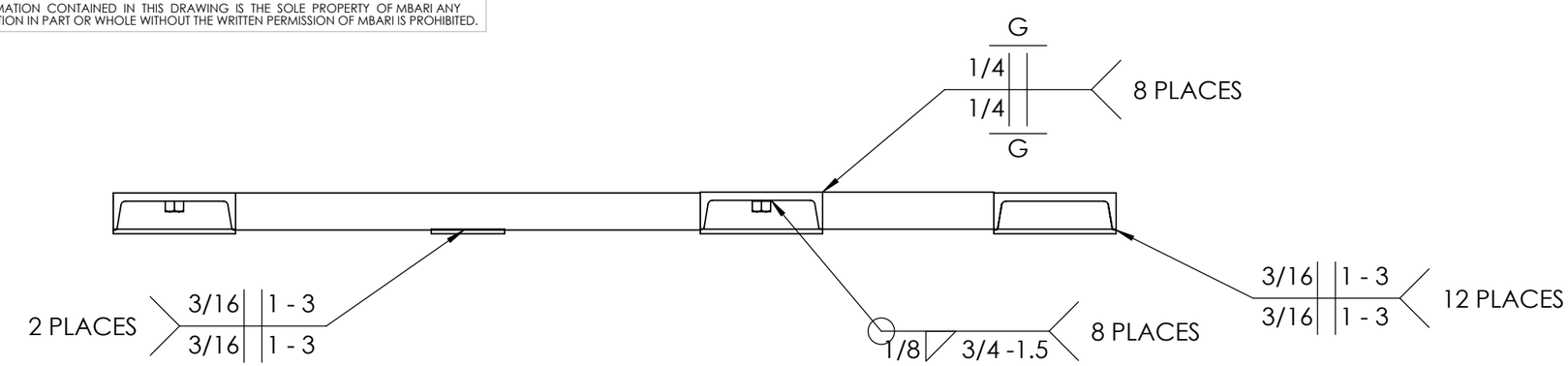
APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 965.110 lb.	

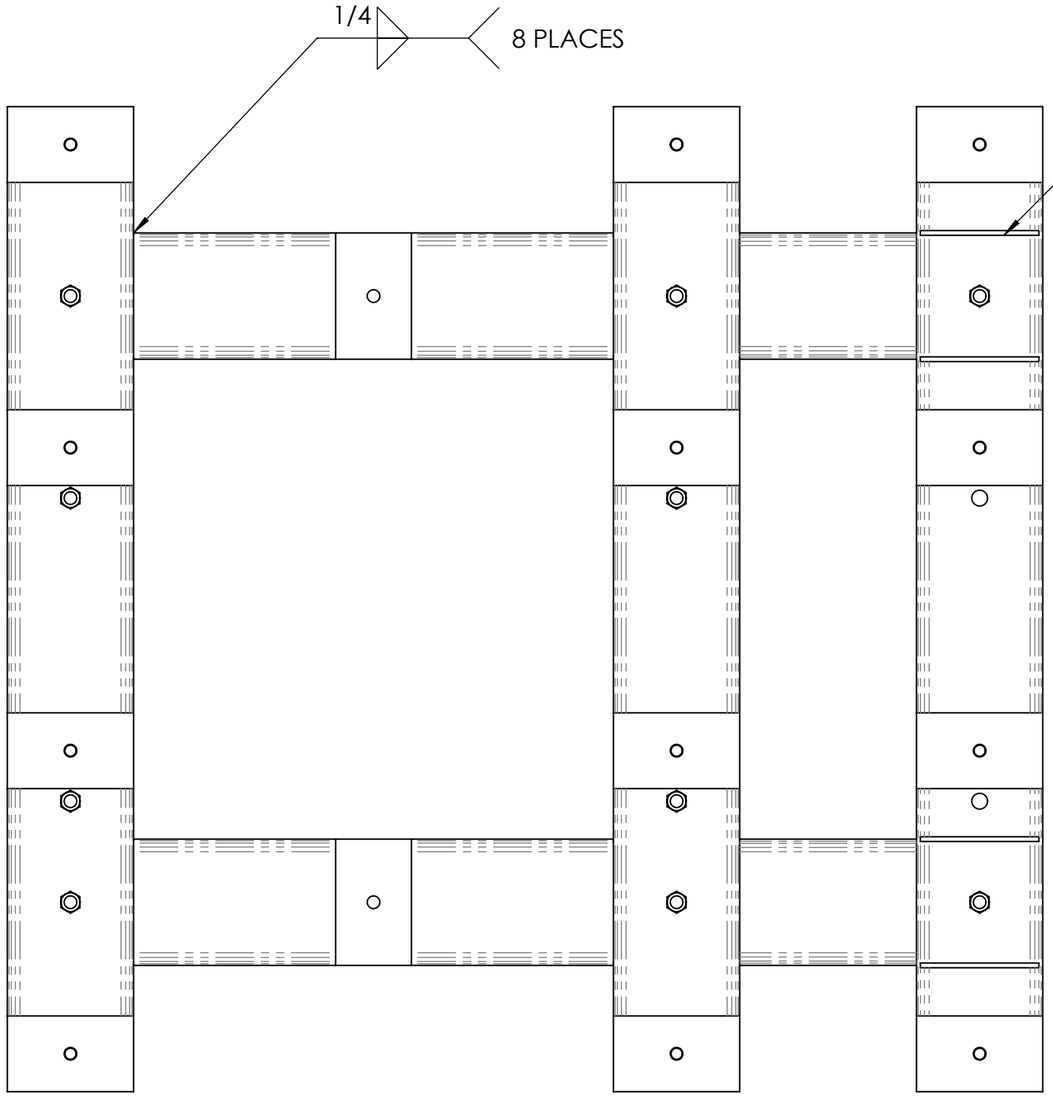
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

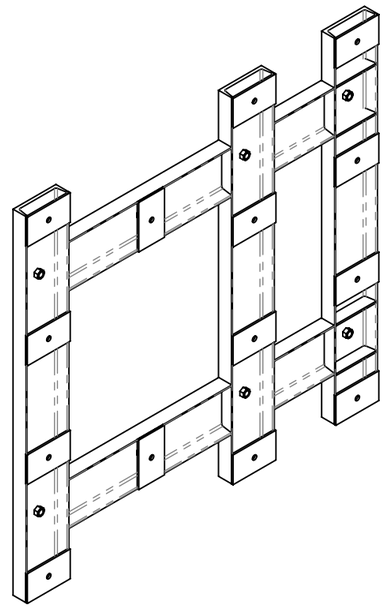
W.F. BORE HOLE WINCH BASE
Bore Hole Winch Assembly

SIZE	DWG. NO.	REV.
B	.DWG	
SCALE 1:96	CAD FILE: MECH ENG ON TORNADO	SHEET 2 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.







NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	VENDOR	MATERIAL SPECIFICATION

BILL OF MATERIALS

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

1. DIMENSIONS ARE IN INCHES
2. DIMENSION LIMITS HELD AFTER PLATING.
3. REMOVE BURRS AND SHARP EDGES .015 MAX.
4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 965.110 lb.	

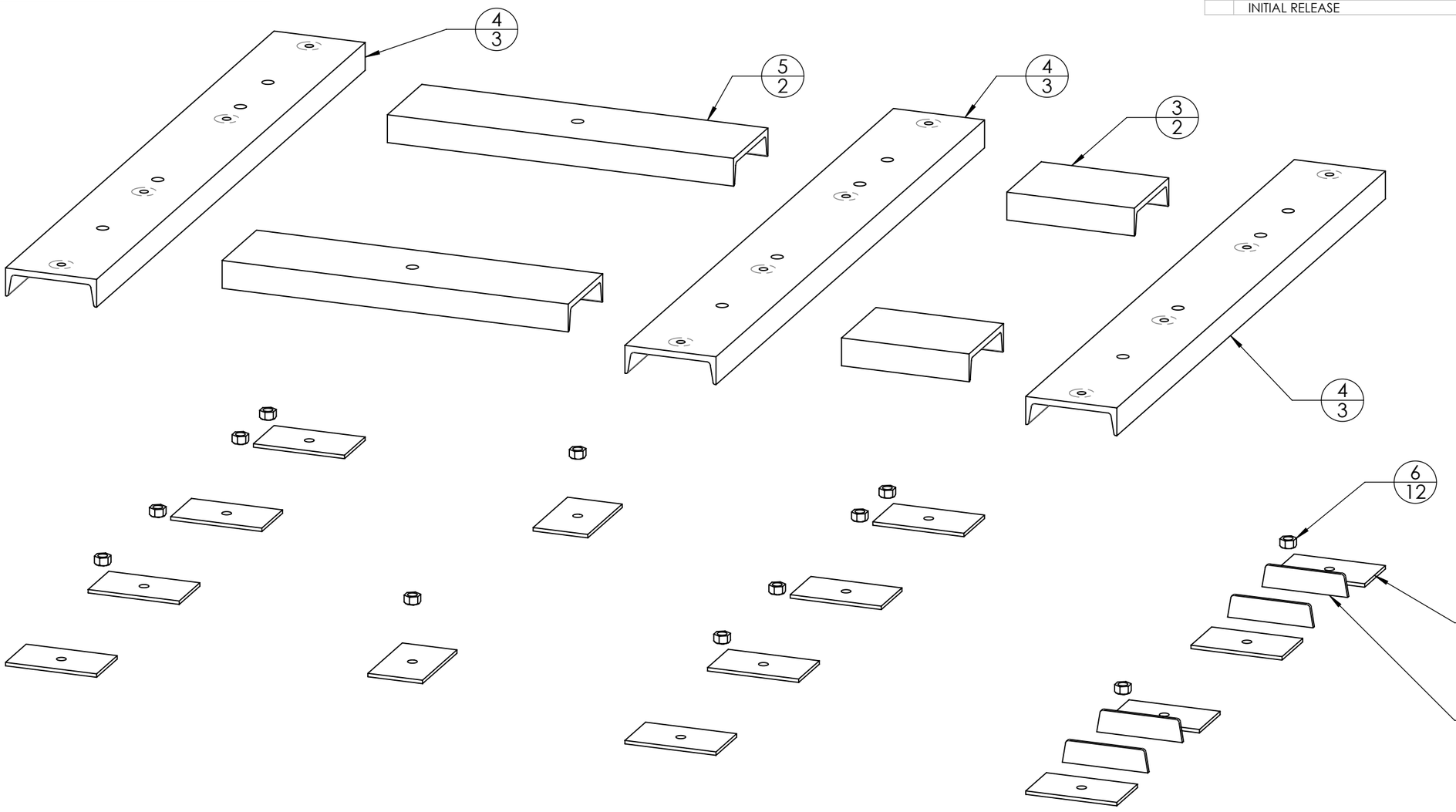
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

W.F. BORE HOLE WINCH BASE
Bore Hole Winch Assembly

SIZE	DWG. NO.	REV.
B	.DWG	

SCALE 1:96	CAD FILE: MECH ENG ON TORNADO	SHEET 3 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.



ITEM NO.	QTY.	Part_Number	DESCRIPTION	Revision	Vendor	MATERIAL
6	12		18-8 Stainless Steel		McMASTER-CARR	304 S.S.
5	2		10 x 30 CHANNEL - PART 3			A36 STEEL
4	3		10 x 36 ChHANNEL - PART 4			A36 STEEL
3	2		10 x 30 ChHANNEL - PART 5			A36 STEEL
2	4		Channel Gusset			A36 STEEL PLATE
1	14		Winch Frame Foot Plate			A36 STEEL

NOTES: (CONT. FROM TITLE BLOCK)

BILL OF MATERIALS

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

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4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 965.110 lb.	

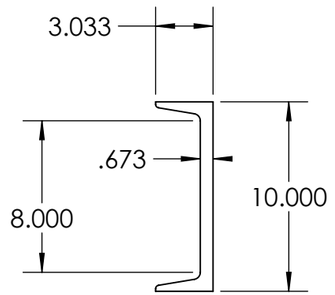
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

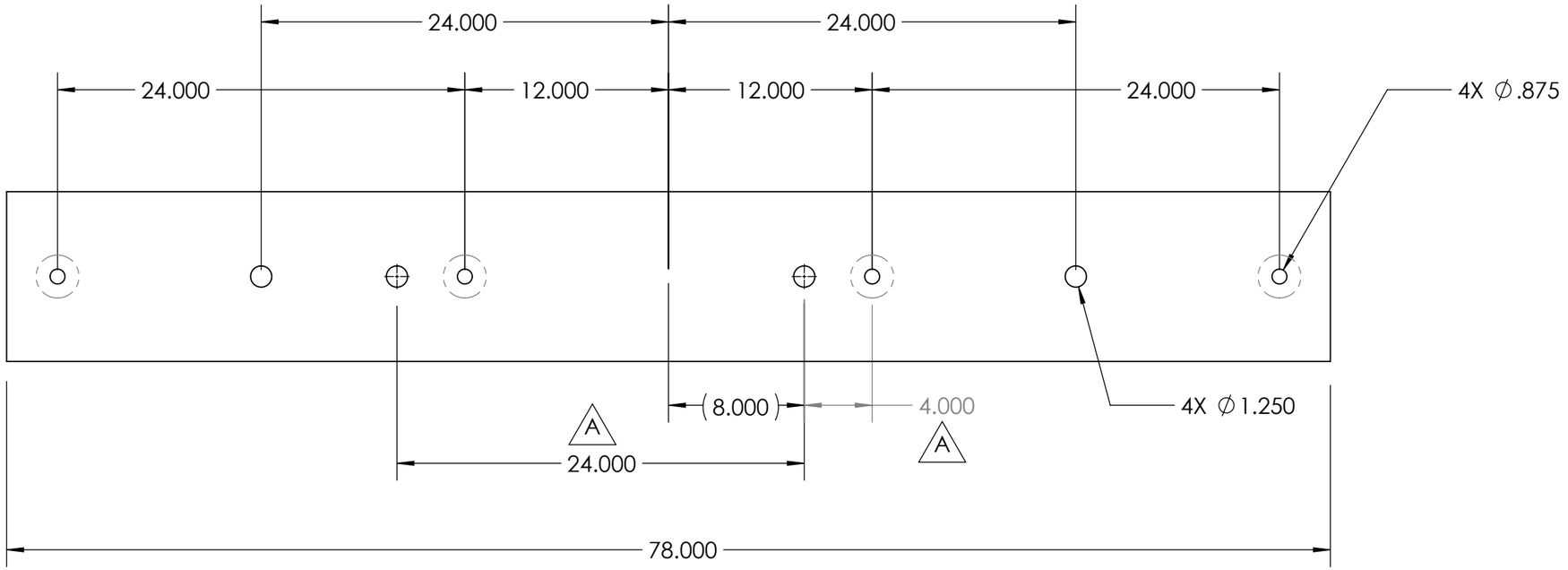
W.F. BORE HOLE WINCH BASE
Bore Hole Winch Assembly

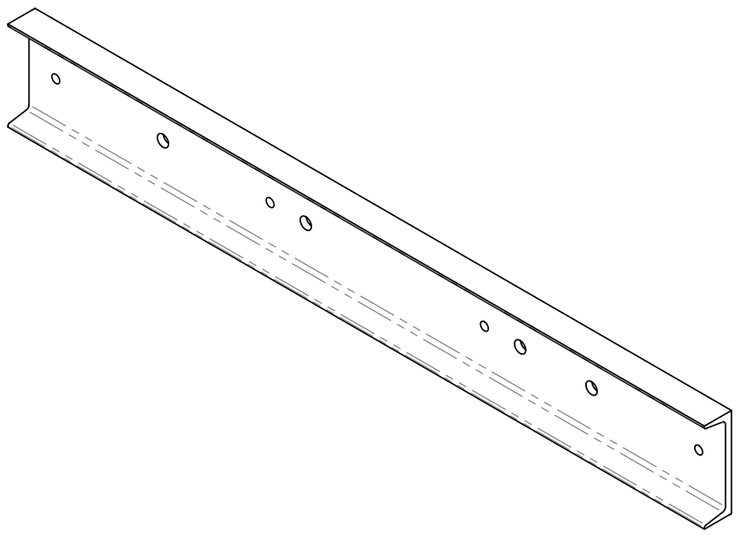
SIZE	DWG. NO.	REV.
B	.DWG	

SCALE	CAD FILE: MECH ENG ON TORNADO	SHEET 4 OF 9
1:96		

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.







3 EA.

NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	Part_Number	DESCRIPTION	Vendor	MATERIAL
1	1		10 x 36 ChHANNEL - PART 4		A36 STEEL

BILL OF MATERIALS

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM	2 PLACE DIM	3 PLACE DIM	ANGLES
±1/16	±.02	±.005	±1°

1. DIMENSIONS ARE IN INCHES
2. DIMENSION LIMITS HELD AFTER PLATING.
3. REMOVE BURRS AND SHARP EDGES .015 MAX.
4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 198.862 lb.	

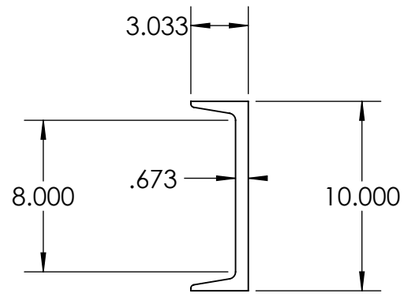
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

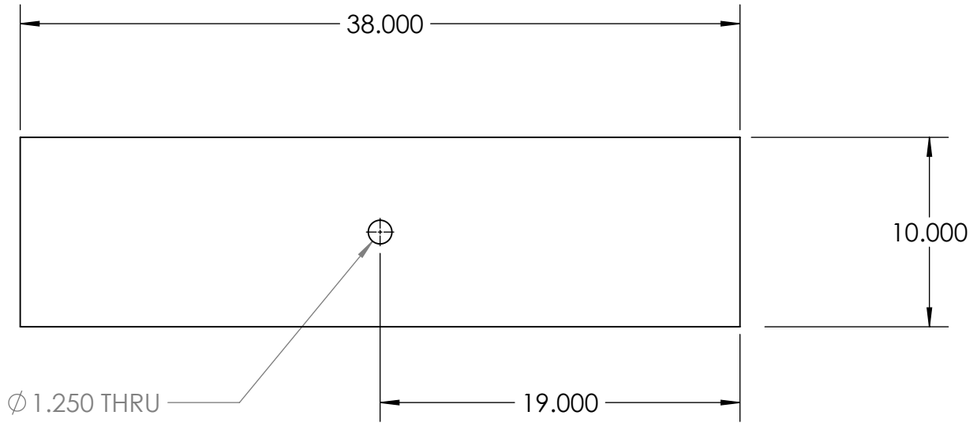
W.F. BORE HOLE WINCH BASE
10 x 36 ChHANNEL - PART 4

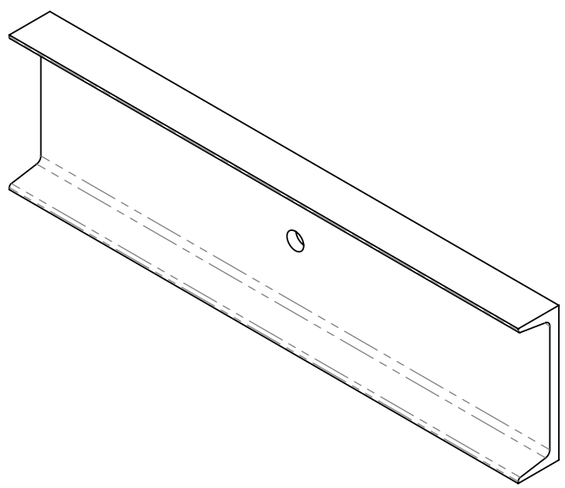
SIZE	DWG. NO.	REV.
B	.DWG	A

SCALE 1:96 | CAD FILE: MECH ENG ON TORNADO | SHEET 5 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.







2 EA.

NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	Part_Number	DESCRIPTION	Vendor	MATERIAL
1	1		10 x 30 CHANNEL - PART 3		A36 STEEL

BILL OF MATERIALS

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

1. DIMENSIONS ARE IN INCHES
2. DIMENSION LIMITS HELD AFTER PLATING.
3. REMOVE BURRS AND SHARP EDGES .015 MAX.
4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 97.327 lb.	

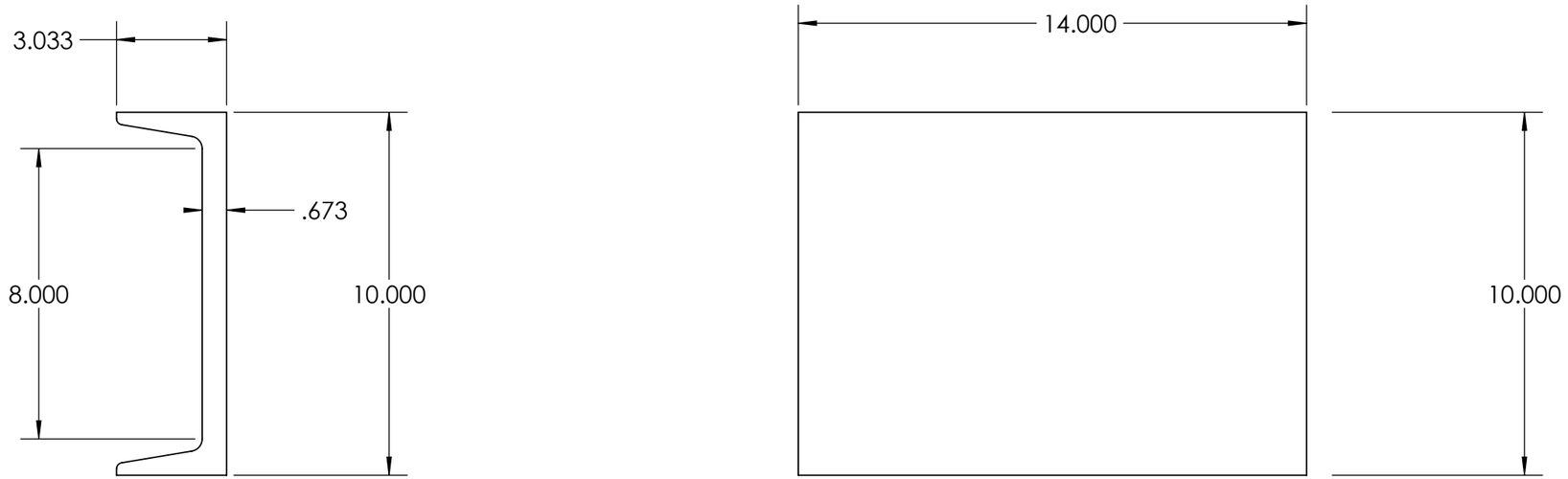
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

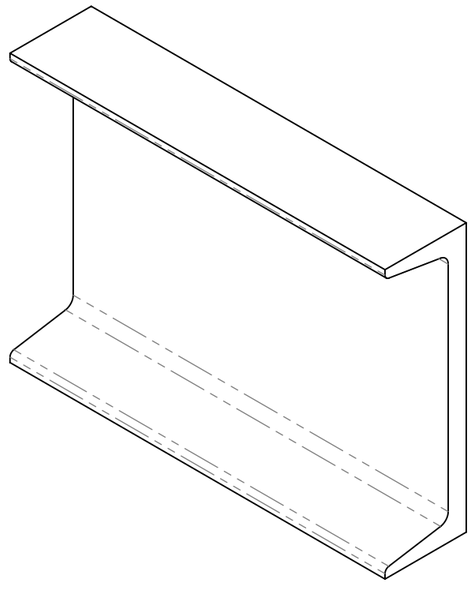
W.F. BORE HOLE WINCH BASE
10 x 30 CHANNEL - PART 3

SIZE	DWG. NO.	REV.
B	.DWG	

SCALE 1:96	CAD FILE: MECH ENG ON TORNADO	SHEET 6 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.





2 EA.

NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	Part_Number	DESCRIPTION	Vendor	MATERIAL
1	1		10 x 30 ChHANNEL - PART 5		A36 STEEL

BILL OF MATERIALS

Shop / Q.C.		NEXT ASSY Description	NEXT ASSY Number	Application
Inspector				
Shop Foreman				
Engineer				

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

1. DIMENSIONS ARE IN INCHES
2. DIMENSION LIMITS HELD AFTER PLATING.
3. REMOVE BURRS AND SHARP EDGES .015 MAX.
4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 36.478 lb.	

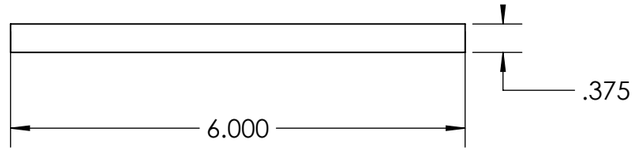
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

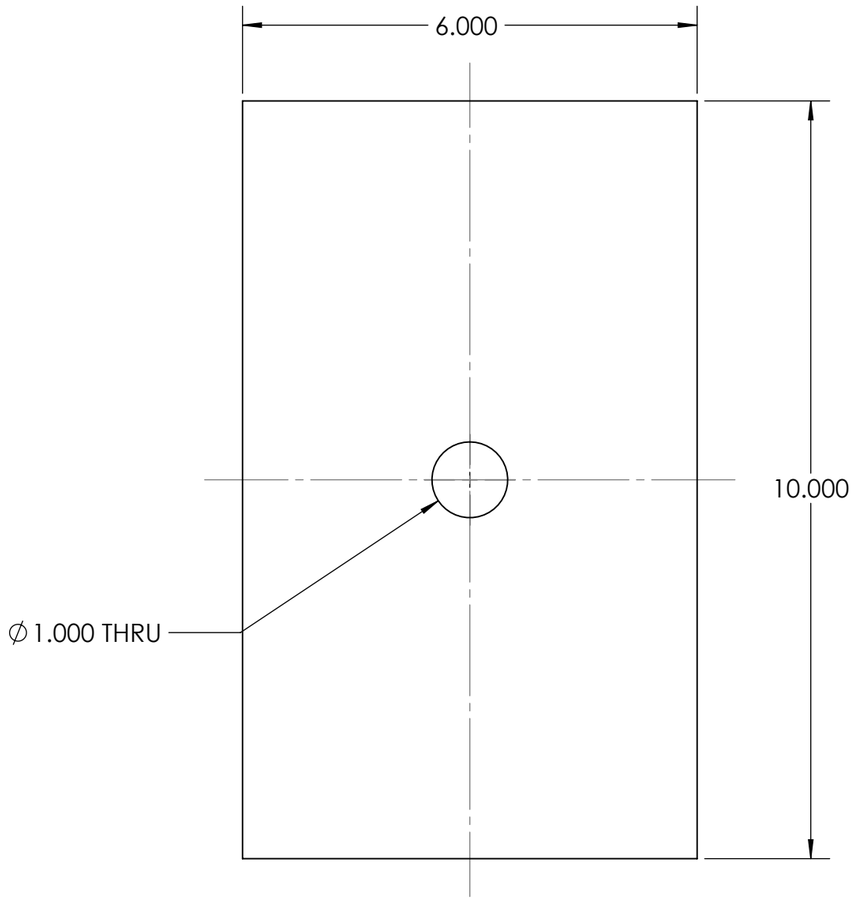
W.F. BORE HOLE WINCH BASE
10 x 30 ChHANNEL - PART 5

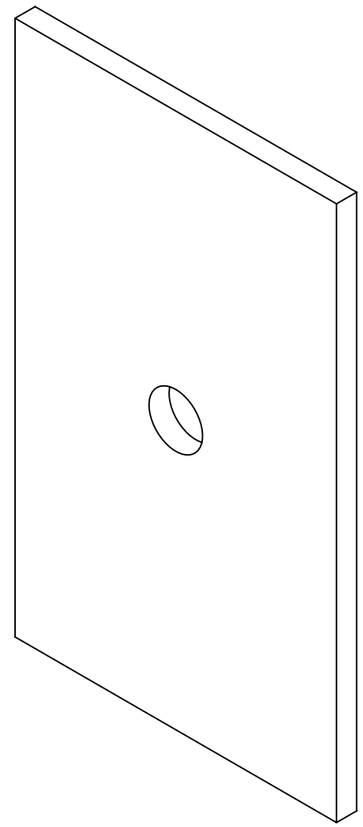
SIZE	DWG. NO.	REV.
B	.DWG	

SCALE 1:96 | CAD FILE: MECH ENG ON TORNADO | SHEET 7 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.







14 EA.

NOTES: (CONT. FROM TITLE BLOCK)

ITEM NO.	QTY.	Part_Number	DESCRIPTION	Vendor	MATERIAL
1	1		Winch Frame Foot Plate		A36 STEEL

BILL OF MATERIALS

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

1. DIMENSIONS ARE IN INCHES
2. DIMENSION LIMITS HELD AFTER PLATING.
3. REMOVE BURRS AND SHARP EDGES .015 MAX.
4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 6.297 lb.	

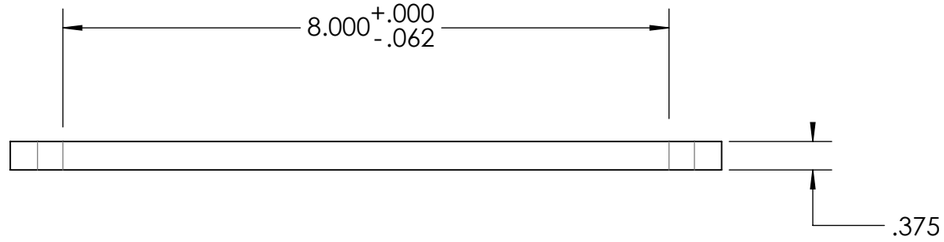
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

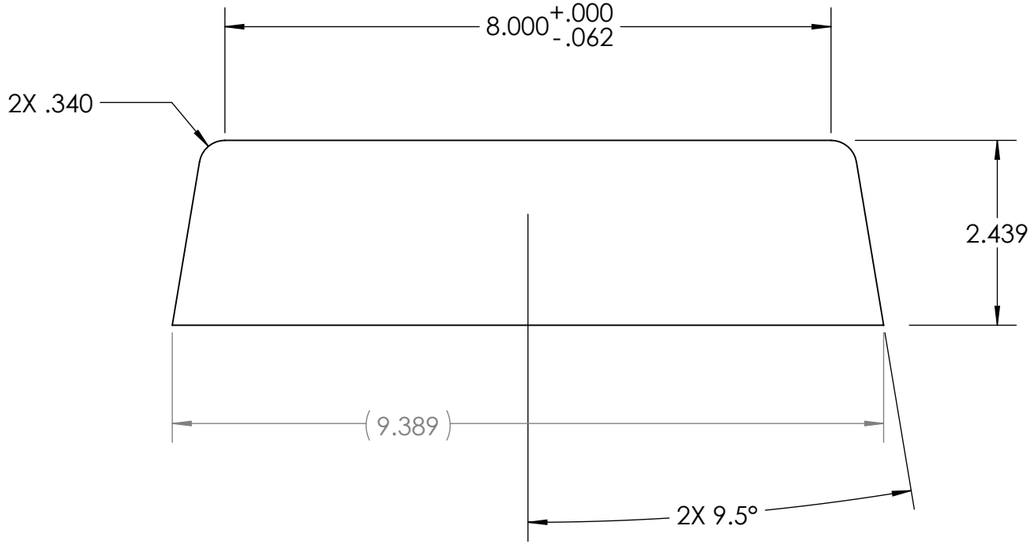
W.F. BORE HOLE WINCH BASE
Winch Frame Foot Plate

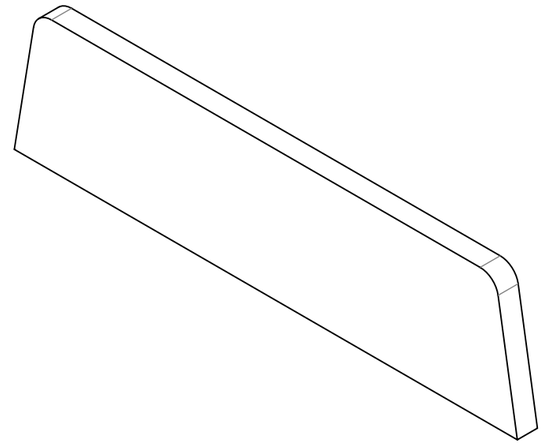
SIZE	DWG. NO.	REV.
B	.DWG	

SCALE	CAD FILE:	SHEET
1:96	MECH ENG ON TORNADO	8 OF 9

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.







4 EA.

ITEM NO.	QTY.	Part_Number	DESCRIPTION	Vendor	MATERIAL
1	1		Channel Gusset		A36 STEEL PLATE

BILL OF MATERIALS

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

1. DIMENSIONS ARE IN INCHES
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3. REMOVE BURRS AND SHARP EDGES .015 MAX.
4. MACHINED FILLET RADII .0150-.030.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	
ENGINEER J. ERICKSON	
CHECKED	
PROJECT NO. 300058	
PROJECT DMO - W.F.	
WEIGHT 2.327 lb.	

Monterey Bay Aquarium Research Institute
MBARI
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Moss Landing, CA 95039
PH: (831) 775-1700

W.F. BORE HOLE WINCH BASE
Channel Gusset

SIZE	DWG. NO.	REV.
B	.DWG	

SCALE 1:96 | CAD FILE: MECH ENG ON TORNADO | SHEET 9 OF 9

NOTES: (CONT. FROM TITLE BLOCK)