



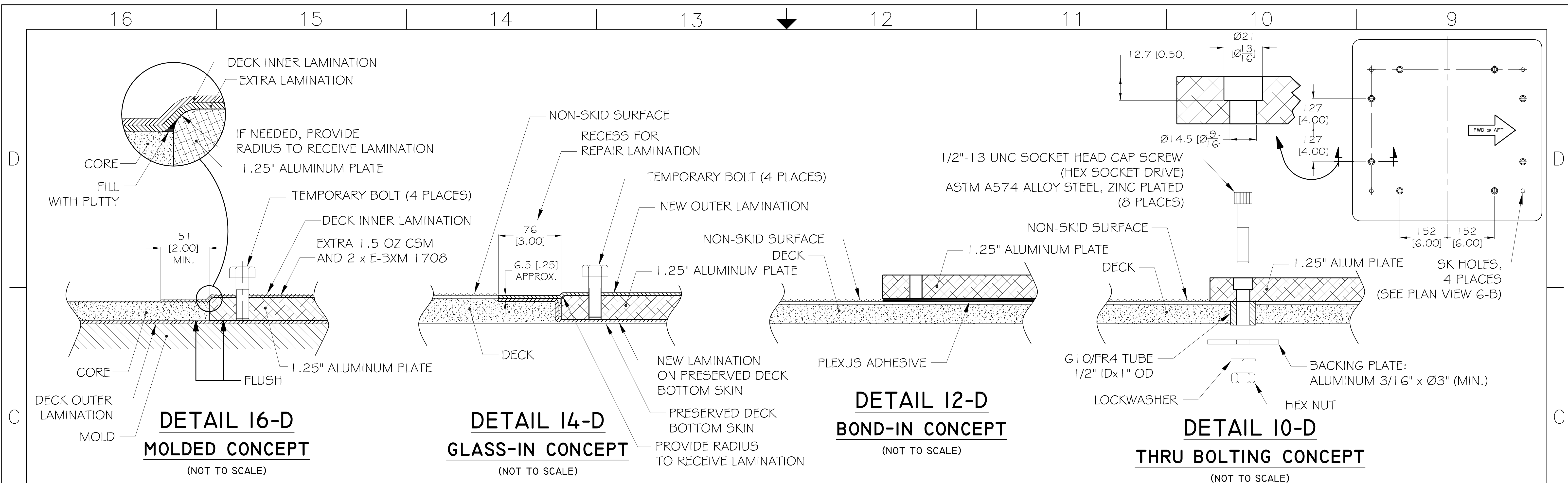
GENERIC INSTALLATION GUIDE
DWG NO. 90559 Rev. 3

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NOTES:

1. Refer to the Seakeeper 1 Installation Manual, Document No. 90519, for detailed instructions on how to the install the Seakeeper 1.
2. Refer to the Seakeeper 1 Bolt-In Installation Details, Drawing No. 90516, for detailed dimensions of the Seakeeper 1, service clearance requirements, and bolt-in details.
3. The Seakeeper 1 installation arrangements presented here-in have been designed to a Safety Factor of 2.0, as recommended in the Bolt-In Installation Detail, 90516.
4. All Dimensions given in MM [IN].



- MOLDED CONCEPT INSTALLATION INSTRUCTIONS:**
1. REFER TO SHEET 1 FOR DETAIL 3-B AND GENERAL NOTES TO ENSURE ALL INSTALLATION CONDITIONS.
 2. PROCEED WITH DECK OUTER LAMINATION.
 3. PROVIDE CORE CUTOUT TO RECEIVE ALUMINUM PLATE, SAND, CLEAN, AND BED IN 1.5 OZ CSM.
 4. INSTALL TEMPORARY BOLTS IN ALUMINUM PLATE AND APPLY EXTRA 1.5 OZ CSM AND 2 x E-BXM 1708 OVERLAPPING 2" MIN.
 5. PROCEED WITH DECK INNER LAMINATION.
 6. DO NOT INSTALL NON-SKID ON SEAKEEPER FOOT AREA.
 7. FOR UNIT INSTALLATION: REMOVE TEMPORARY BOLTS, OPEN THE BOLT HOLES IN DECK OUTER LAMINATION AND PROCEED WITH THE INSTALLATION IN ACCORDANCE WITH SEAKEEPER INSTALLATION MANUAL, DOCUMENT #90519.

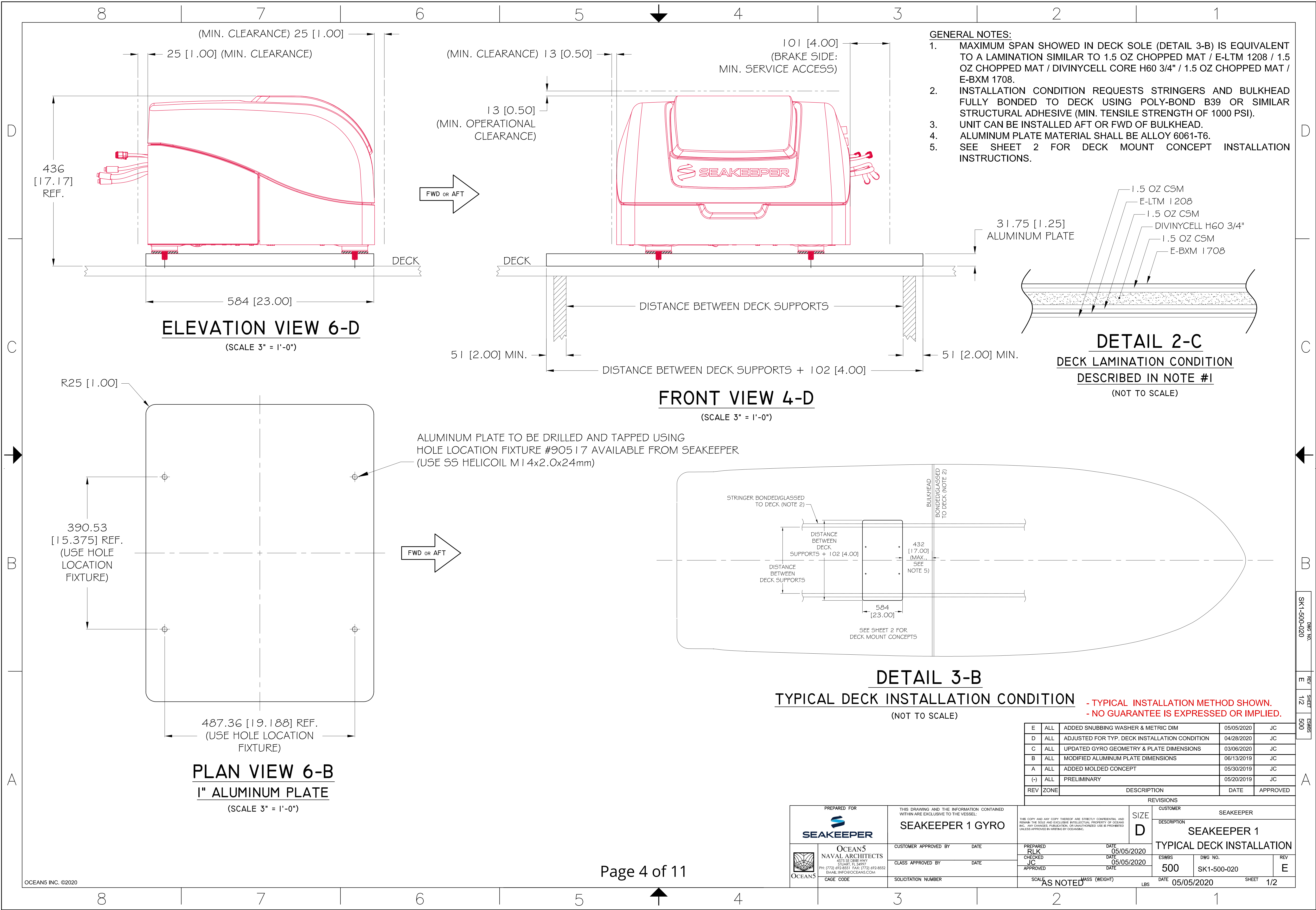
- GLASS-IN CONCEPT INSTALLATION INSTRUCTIONS:**
1. REFER TO SHEET 1 FOR DETAIL 3-B AND GENERAL NOTES TO ENSURE ALL INSTALLATION CONDITIONS.
 2. DRY FIT ALUMINUM PLATE TO DECK, MARK EXTERIOR DIMENSIONS AND REMOVE ALUMINUM PLATE.
 3. PROVIDE ADDITIONAL 1/4" ALL WAY AROUND AND DE-CORE DECK, PRESERVING THE DECK BOTTOM SKIN.
 4. MARK 3" ALL WAY AROUND, REMOVE NON-SKID AND PROVIDE RECESS FOR REPAIR LAMINATION (APPROX. 1/4" DEPTH).
 5. PROVIDE LAMINATION ON PRESERVED DECK BOTTOM SKIN WITH 2 x E-BXM 1708, INCLUDING REPAIR RECESS.
 6. SAND ALUMINUM PLATE FACES AND EDGES TO 80 GRIT, PROVIDE RADIUS WHERE NEEDED, CLEAN SURFACES, TAPE THE HOLES IN THE INNER FACE, AND INSTALL IT ON NEW BOTTOM LAMINATION, BEDDING IN 1.5 OZ CSM.
 7. FILL VOID SPACES ALL AROUND WITH EPOXY PUTTY.
 8. INSTALL TEMPORARY BOLTS AND PROVIDE OUTER LAMINATION WITH 1.5 OZ CSM AND 2xE-BXM 1708, INCLUDING REPAIR RECESS.
 9. REMOVE TEMPORARY BOLTS, FAIR AND FINISH EXTERIOR DECK APPROPRIATELY AND INSTALL UNIT IN ACCORDANCE WITH SEAKEEPER INSTALLATION MANUAL, DOCUMENT #90519.

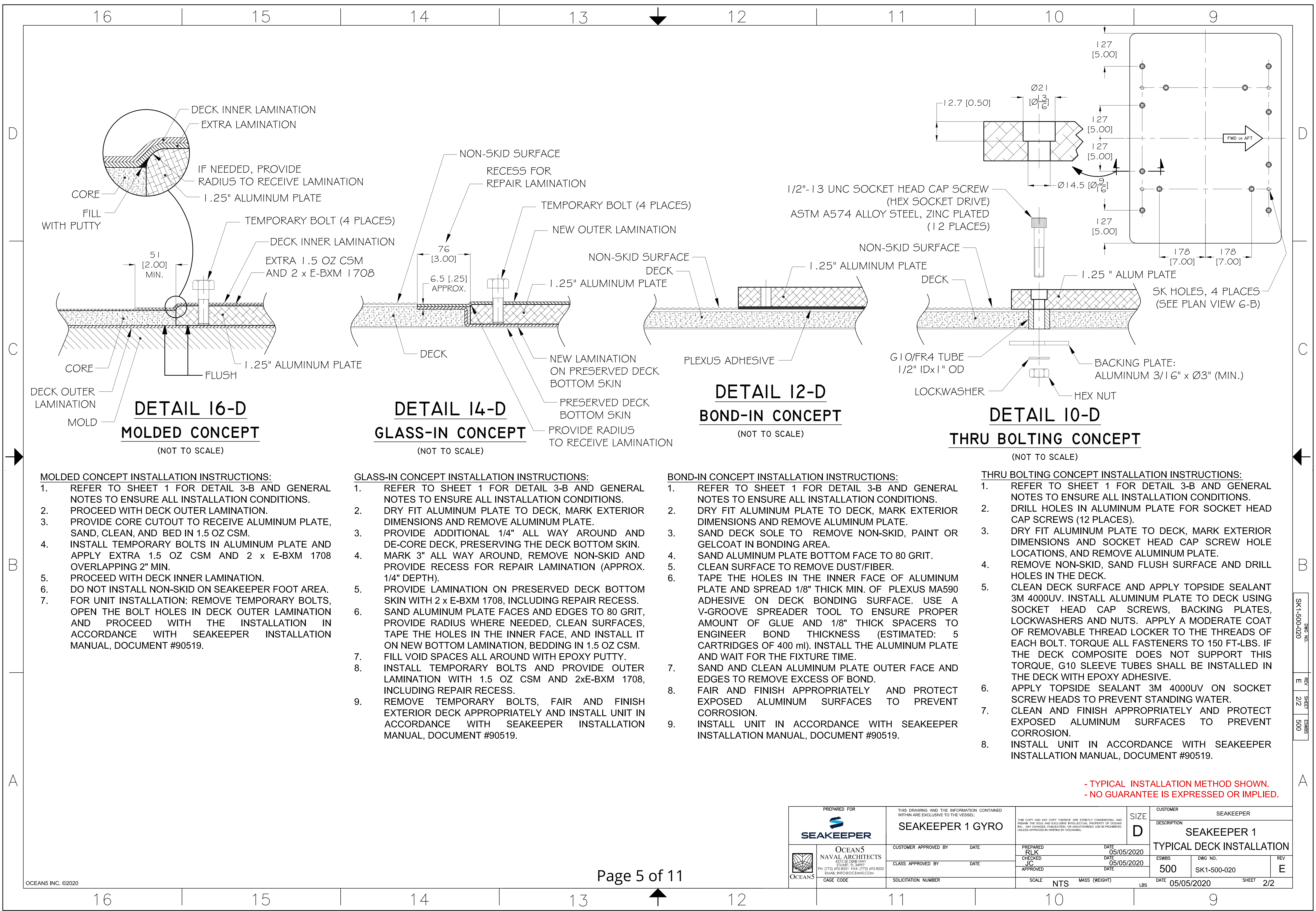
- BOND-IN CONCEPT INSTALLATION INSTRUCTIONS:**
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 3. SAND DECK SOLE TO REMOVE NON-SKID, PAINT OR GELCOAT IN BONDING AREA.
 4. SAND ALUMINUM PLATE BOTTOM FACE TO 80 GRIT.
 5. CLEAN SURFACE TO REMOVE DUST/FIBER.
 6. TAPE THE HOLES IN THE INNER FACE OF ALUMINUM PLATE AND SPREAD 1/8" THICK MIN. OF PLEXUS MA590 ADHESIVE ON DECK BONDING SURFACE. USE A V-GROOVE SPREADER TOOL TO ENSURE PROPER AMOUNT OF GLUE AND 1/8" THICK SPACERS TO ENGINEER BOND THICKNESS (ESTIMATED: 3 CARTRIDGES OF 400 ml). INSTALL THE ALUMINUM PLATE AND WAIT FOR THE FIXTURE TIME.
 7. CLEAN ALUMINUM PLATE OUTER FACE AND EDGES TO REMOVE EXCESS OF BOND.
 8. FAIR AND FINISH APPROPRIATELY.
 9. INSTALL UNIT IN ACCORDANCE WITH SEAKEEPER INSTALLATION MANUAL, DOCUMENT #90519.

- THRU BOLTING CONCEPT INSTALLATION INSTRUCTIONS:**
1. REFER TO SHEET 1 FOR DETAIL 3-B AND GENERAL NOTES TO ENSURE ALL INSTALLATION CONDITIONS.
 2. DRILL HOLES IN ALUMINUM PLATE FOR SOCKET HEAD CAP SCREWS (8 PLACES).
 3. DRY FIT ALUMINUM PLATE TO DECK, MARK EXTERIOR DIMENSIONS AND SOCKET HEAD CAP SCREW HOLE LOCATIONS, AND REMOVE ALUMINUM PLATE.
 4. REMOVE NON-SKID, SAND FLUSH SURFACE AND DRILL HOLES IN THE DECK.
 5. CLEAN DECK SURFACE AND APPLY TOPSIDE SEALANT 3M 4000UV. INSTALL ALUMINUM PLATE TO DECK USING SOCKET HEAD CAP SCREWS, BACKING PLATES, LOCKWASHERS AND NUTS. APPLY A MODERATE COAT OF REMOVABLE THREAD LOCKER TO THE THREADS OF EACH BOLT. TORQUE ALL FASTENERS TO 150 FT-LBS. IF THE DECK COMPOSITE DOES NOT SUPPORT THIS TORQUE, G10 SLEEVE TUBES SHALL BE INSTALLED IN THE DECK WITH EPOXY ADHESIVE.
 6. APPLY TOPSIDE SEALANT 3M 4000UV ON SOCKET SCREW HEADS TO PREVENT STANDING WATER.
 7. CLEAN AND FINISH APPROPRIATELY.
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- TYPICAL INSTALLATION METHOD SHOWN.
- NO GUARANTEE IS EXPRESSED OR IMPLIED.

PREPARED FOR SEAKEEPER		THIS DRAWING AND THE INFORMATION CONTAINED WITHIN ARE EXCLUSIVE TO THE VESSEL: SEAKEEPER 1 GYRO		SIZE D	CUSTOMER SEAKEEPER	
OCEAN5 NAVAL ARCHITECTS 4055 SE DUNE HWY STUART, FL 34997 PH: (772) 492-8551 FAX: (772) 492-8552 EMAIL: INFO@OCEAN5.COM		CUSTOMER APPROVED BY _____ DATE _____		PREPARED RLK DATE 05/05/2020	DESCRIPTION SEAKEEPER 1 REINFORCED DECK INSTALLATION	
OCEAN5 CAGE CODE _____		CLASS APPROVED BY _____ DATE _____		CHECKED JC DATE 05/05/2020	ESWS 500	DWG NO. SK1-500-010
SOLICITATION NUMBER _____		SCALE NTS		MASS (WEIGHT) LBS	DATE 05/05/2020	REV F
					SHEET 2/2	





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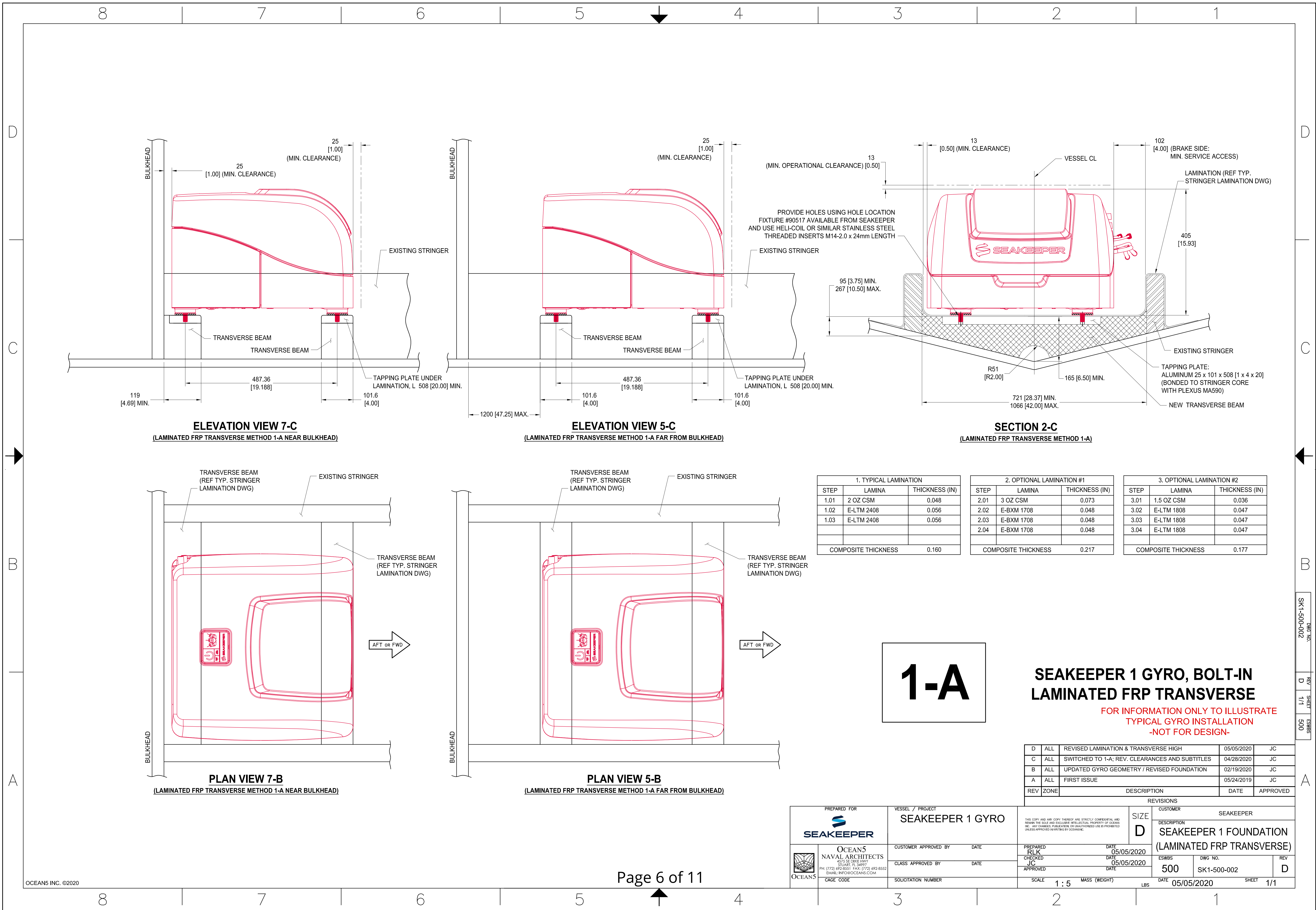
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 5. PROVIDE LAMINATION ON PRESERVED DECK BOTTOM SKIN WITH 2 x E-BXM 1708, INCLUDING REPAIR RECESS.
 6. SAND ALUMINUM PLATE FACES AND EDGES TO 80 GRIT, PROVIDE RADIUS WHERE NEEDED, CLEAN SURFACES, TAPE THE HOLES IN THE INNER FACE, AND INSTALL IT ON NEW BOTTOM LAMINATION, BEDDING IN 1.5 OZ CSM.
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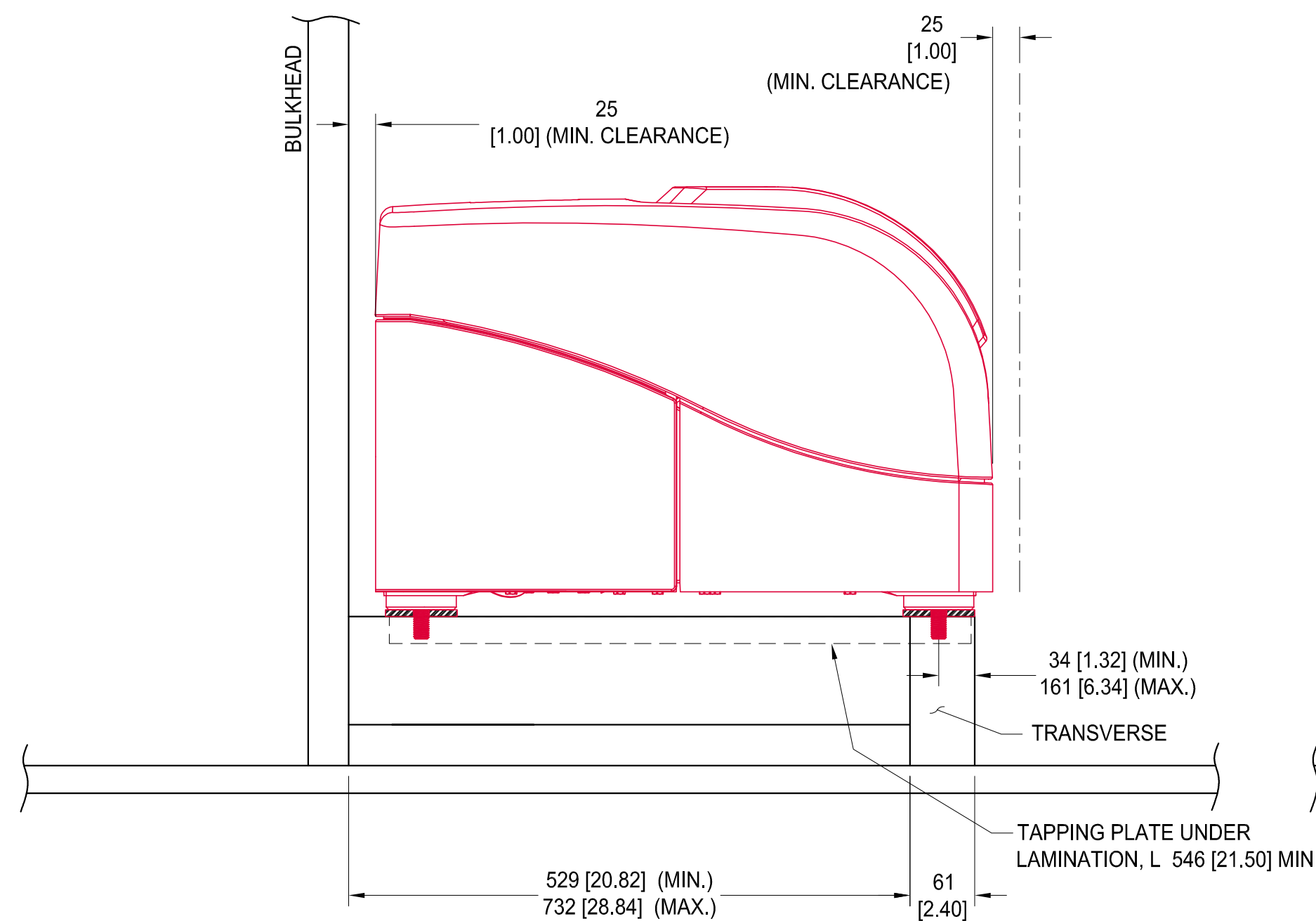
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 8. FAIR AND FINISH APPROPRIATELY AND PROTECT EXPOSED ALUMINUM SURFACES TO PREVENT CORROSION.
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- THRU BOLTING CONCEPT INSTALLATION INSTRUCTIONS:**
1. REFER TO SHEET 1 FOR DETAIL 3-B AND GENERAL NOTES TO ENSURE ALL INSTALLATION CONDITIONS.
 2. DRILL HOLES IN ALUMINUM PLATE FOR SOCKET HEAD CAP SCREWS (12 PLACES).
 3. DRY FIT ALUMINUM PLATE TO DECK, MARK EXTERIOR DIMENSIONS AND SOCKET HEAD CAP SCREW HOLE LOCATIONS, AND REMOVE ALUMINUM PLATE.
 4. REMOVE NON-SKID, SAND FLUSH SURFACE AND DRILL HOLES IN THE DECK.
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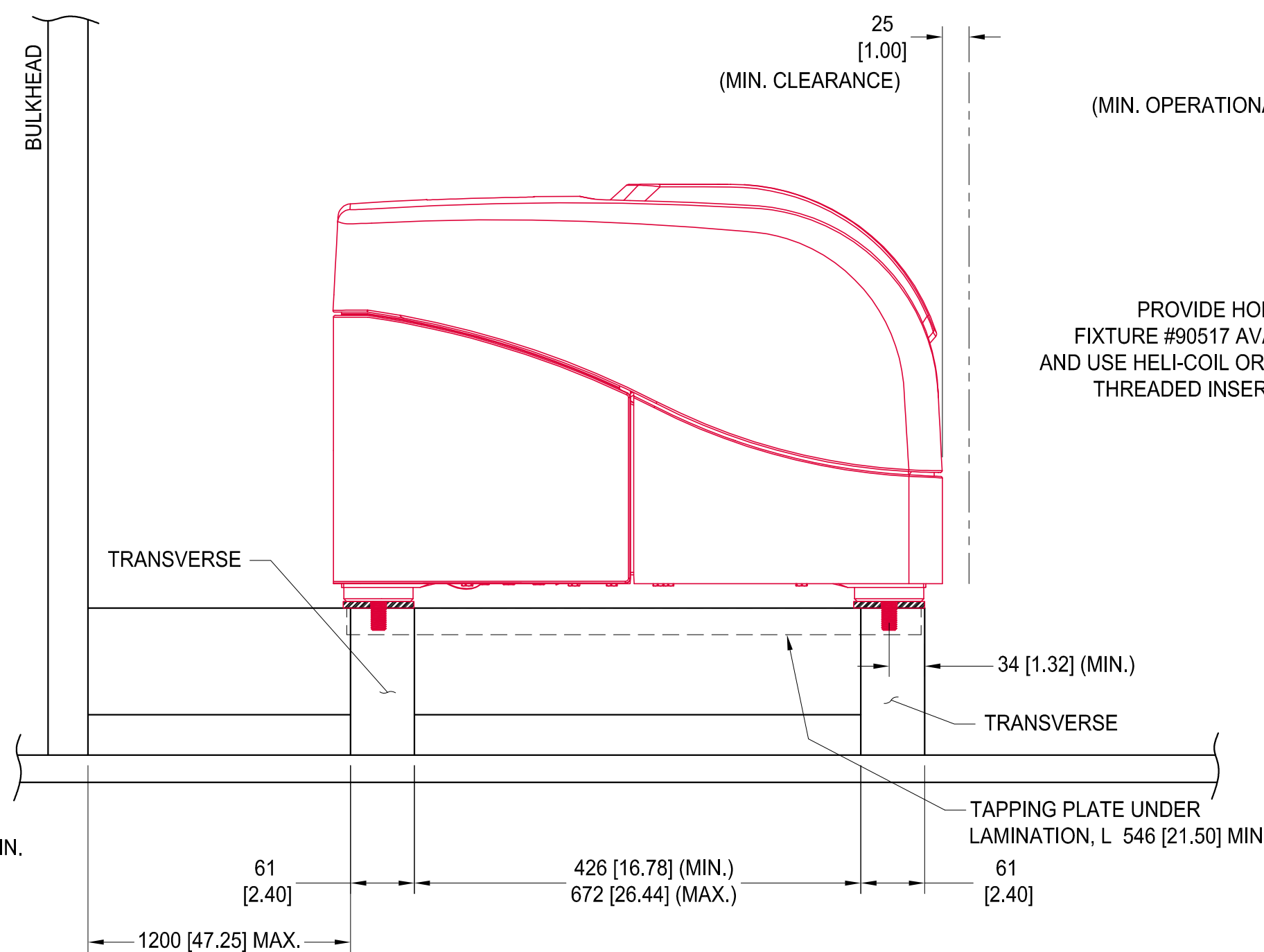
- TYPICAL INSTALLATION METHOD SHOWN.
- NO GUARANTEE IS EXPRESSED OR IMPLIED.

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OCEAN5 NAVAL ARCHITECTS 4575 SE BOWIE HWY STUART, FL 34997 PH: (772) 892-8551 FAX: (772) 892-8552 EMAIL: INFO@OCEAN5.COM		CUSTOMER APPROVED BY DATE	DATE 05/05/2020	PREPARED RLK	DESCRIPTION SEAKEEPER 1	
CAGE CODE		CLASS APPROVED BY DATE	DATE 05/05/2020	CHECKED JC	TYPICAL DECK INSTALLATION	
SOLICITATION NUMBER		SCALE NTS		DATE 05/05/2020	DWG NO. SK1-500-020	REV E
		MASS (WEIGHT) LBS		SHEET 2/2		

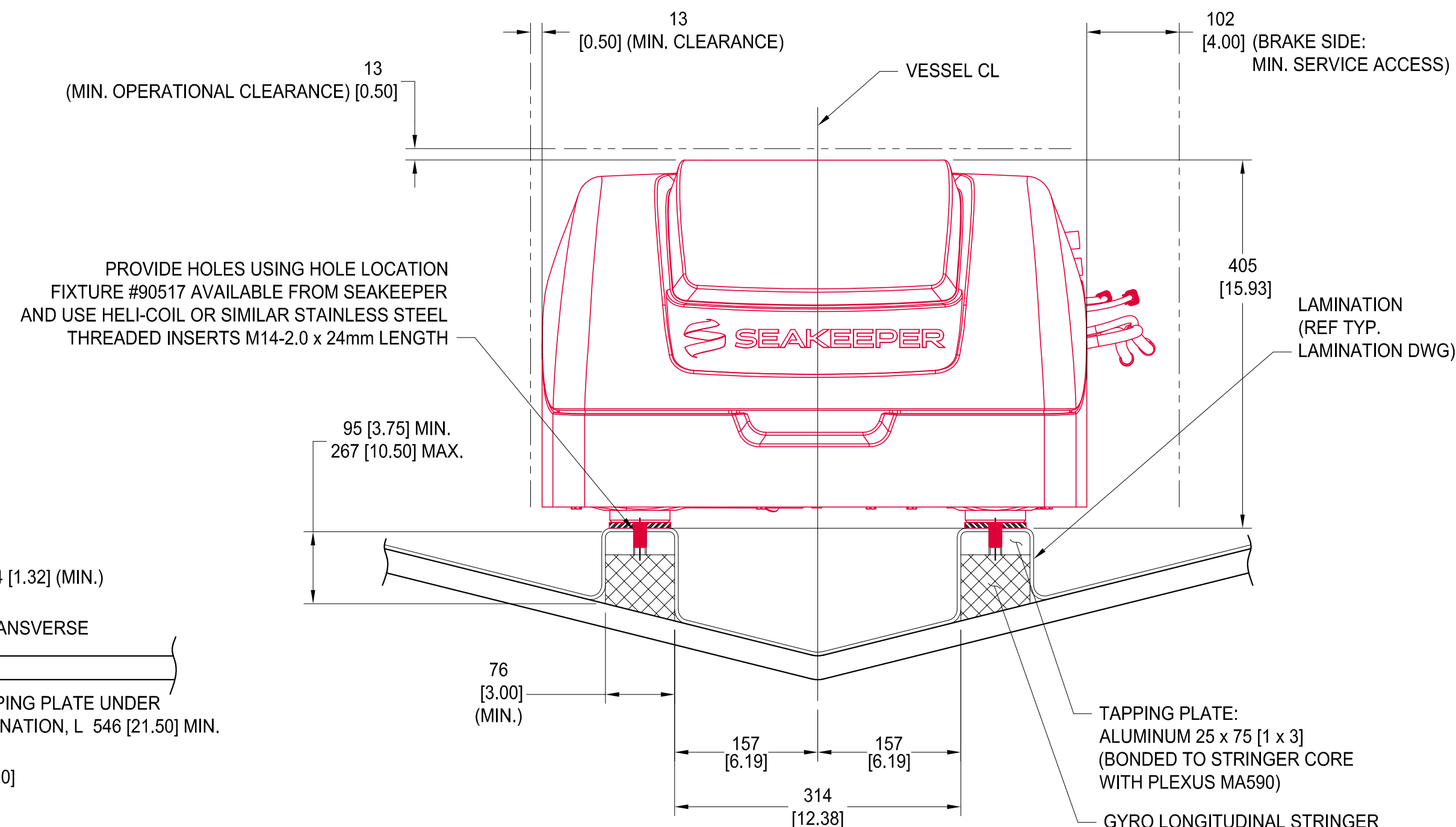




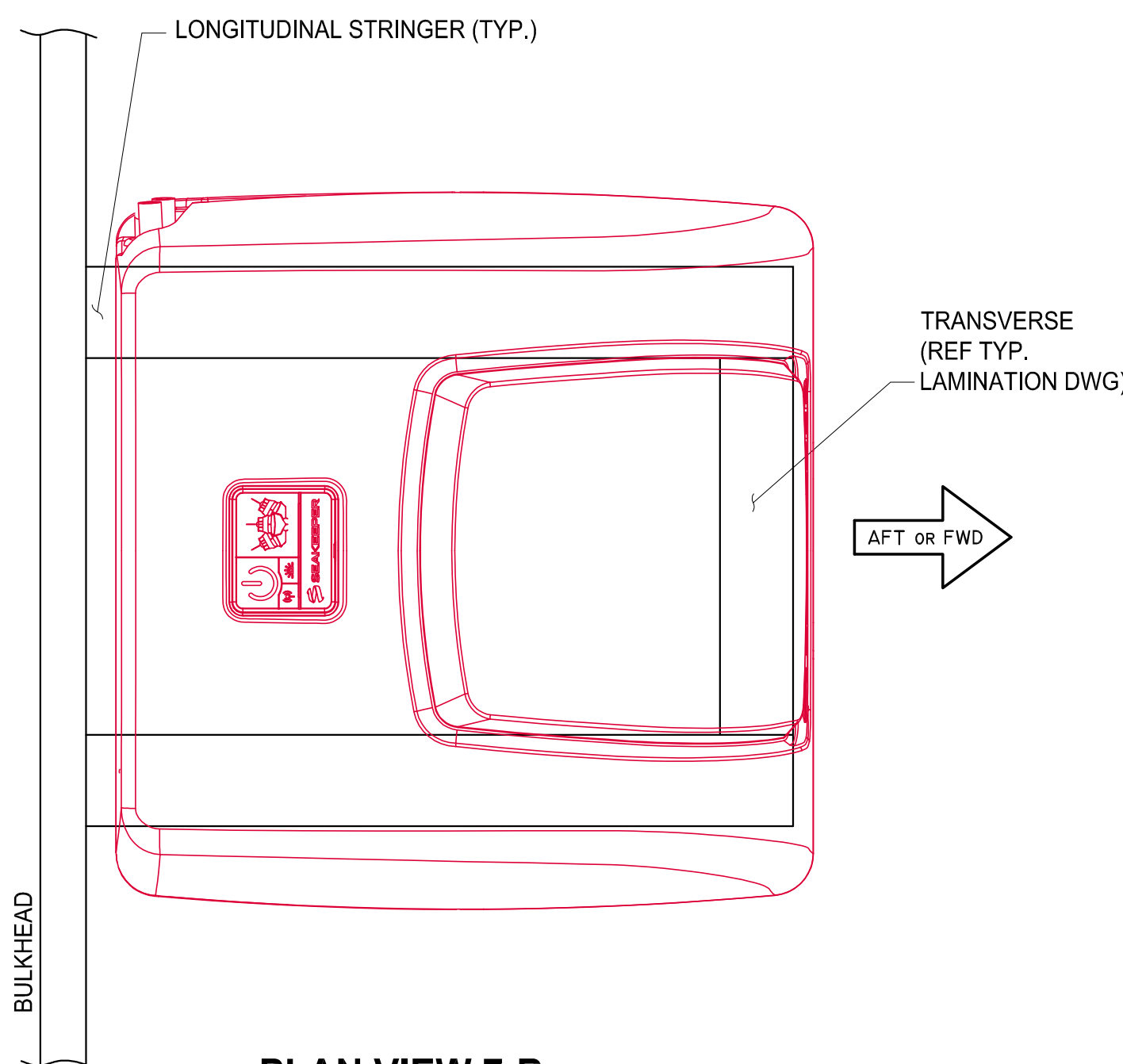
ELEVATION VIEW 7-C
(LAMINATED FRP LONGITUDINAL METHOD 1-B NEAR BULKHEAD)



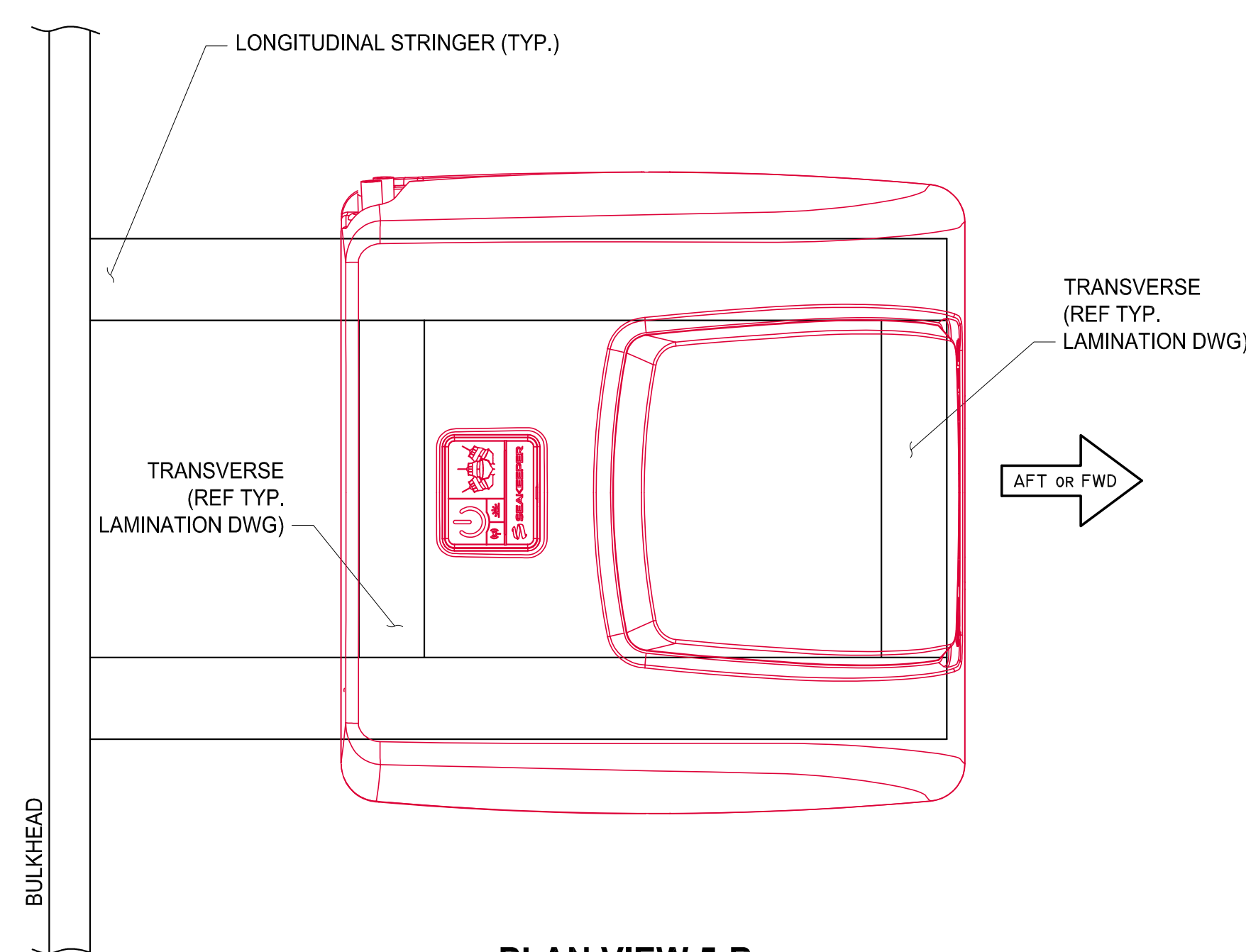
ELEVATION VIEW 5-C
(LAMINATED FRP LONGITUDINAL METHOD 1-B FAR FROM BULKHEAD)



SECTION 2-C
(LAMINATED FRP LONGITUDINAL METHOD 1-B)



PLAN VIEW 7-B
(LAMINATED FRP LONGITUDINAL METHOD 1-B NEAR BULKHEAD)



PLAN VIEW 5-B
(LAMINATED FRP LONGITUDINAL METHOD 1-B FAR FROM BULKHEAD)

1. TYPICAL LAMINATION		
STEP	LAMINA	THICKNESS (IN)
1.01	2 OZ CSM	0.048
1.02	E-LTM 2408	0.056
1.03	E-LTM 2408	0.056
COMPOSITE THICKNESS		0.160

2. OPTIONAL LAMINATION #1		
STEP	LAMINA	THICKNESS (IN)
2.01	3 OZ CSM	0.073
2.02	E-BXM 1708	0.048
2.03	E-BXM 1708	0.048
2.04	E-BXM 1708	0.048
COMPOSITE THICKNESS		0.217

3. OPTIONAL LAMINATION #2		
STEP	LAMINA	THICKNESS (IN)
3.01	1.5 OZ CSM	0.036
3.02	E-LTM 1808	0.047
3.03	E-LTM 1808	0.047
3.04	E-LTM 1808	0.047
COMPOSITE THICKNESS		0.177

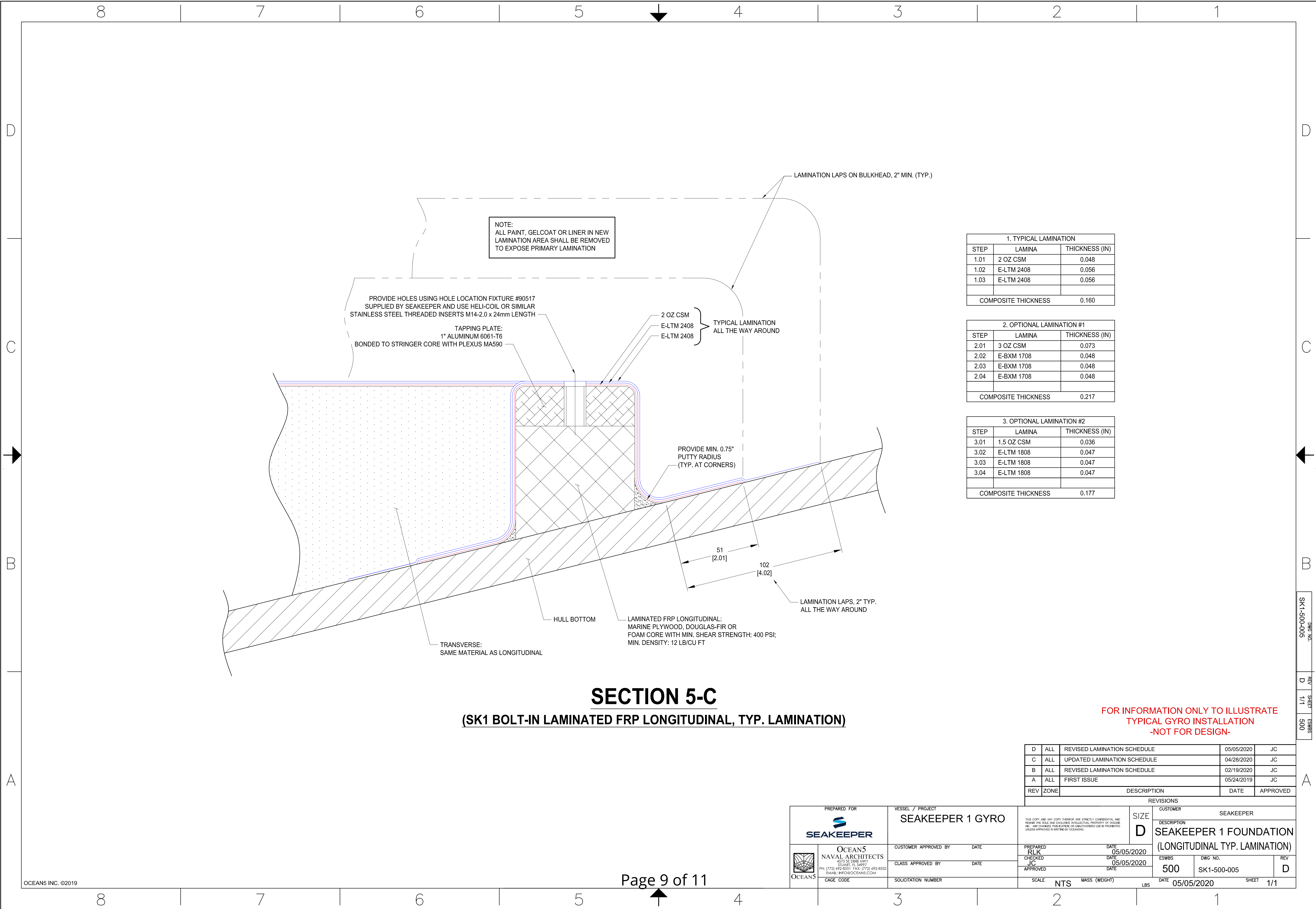
1-B

**SEAKEEPER 1 GYRO, BOLT-IN
LAMINATED FRP LONGITUDINAL**

FOR INFORMATION ONLY TO ILLUSTRATE
TYPICAL GYRO INSTALLATION
-NOT FOR DESIGN-


REV	ZONE	DESCRIPTION	DATE	APPROVED
D	ALL	REVISED LAMINATION & LONGITUDINAL HIGH	05/05/2020	JC
C	ALL	SWITCHED TO 1-B; REV. CLEARANCES AND SUBTITLES	04/28/2020	JC
B	ALL	UPDATED GYRO GEOMETRY / REVISED FOUNDATION	02/19/2020	JC
A	ALL	FIRST ISSUE	05/24/2019	JC

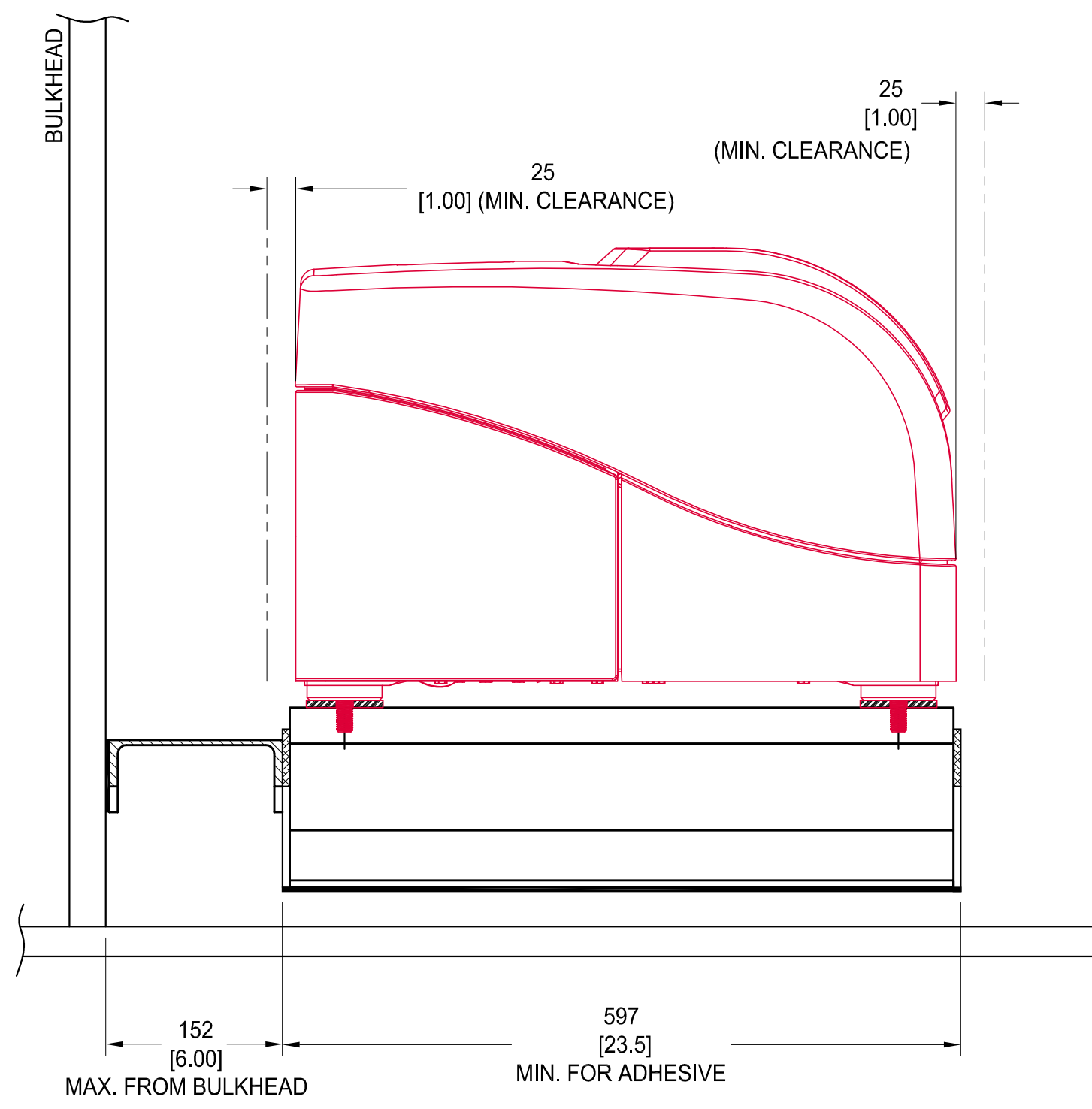
PREPARED FOR SEAKEEPER	VESSEL / PROJECT SEAKEEPER 1 GYRO	SIZE D	CUSTOMER SEAKEEPER
OCEAN5 NAVAL ARCHITECTS 4275 SE DUNE HWY STUART, FL 34997 PH: (772) 692-8551 FAX: (772) 692-8552 EMAIL: INFO@OCEAN5.COM	CUSTOMER APPROVED BY JC	DATE 05/05/2020	DESCRIPTION SEAKEEPER 1 FOUNDATION (LAMINATED FRP LONGITUDINAL)
CAGE CODE	CLASS APPROVED BY JC	DATE 05/05/2020	ESWS 500
SOLICITATION NUMBER	DATE 05/05/2020	SCALE 1 : 5	DWG NO. SK1-500-001
	MASS (WEIGHT) LBS	DATE 05/05/2020	REV D
		SHEET 1/1	



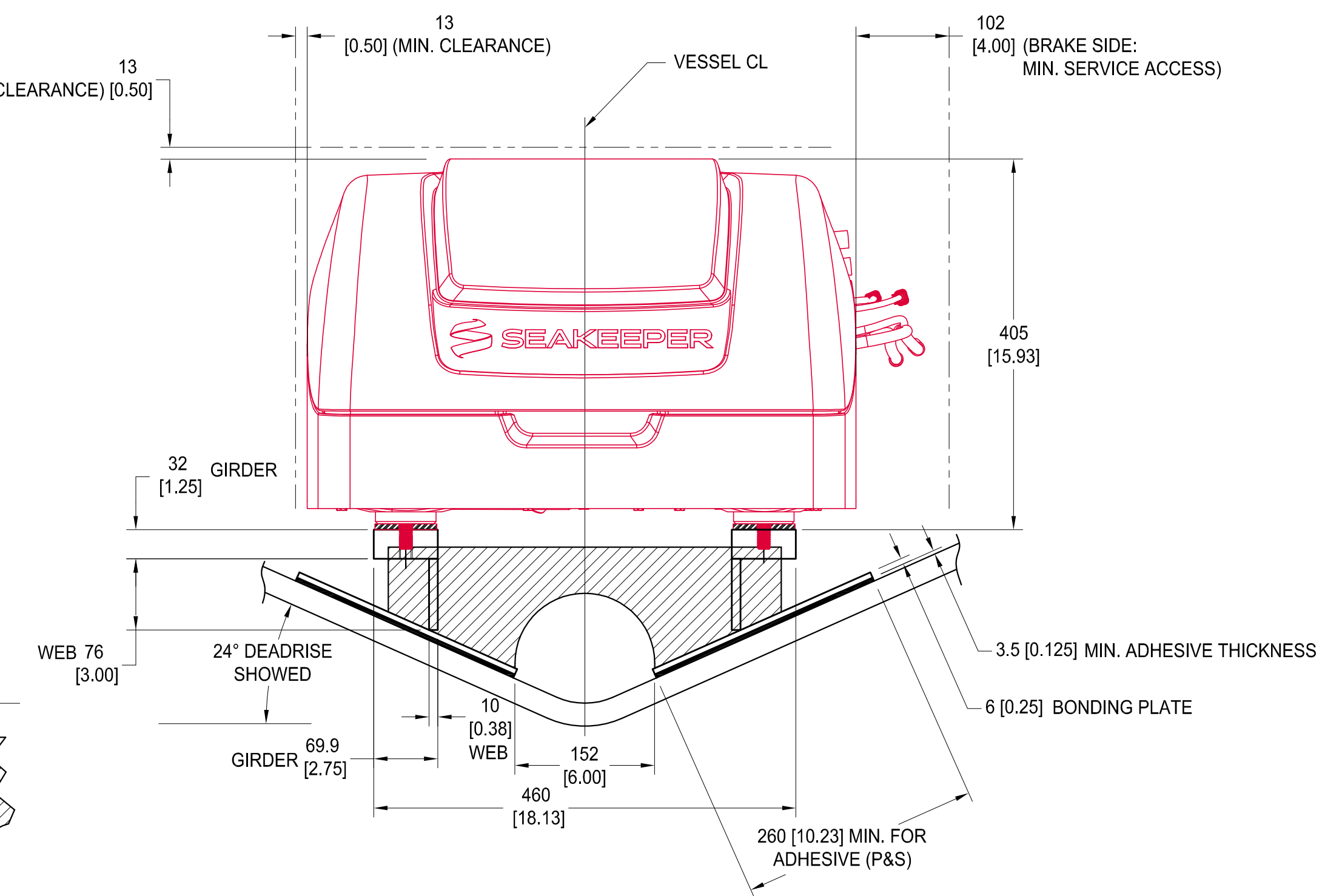
SECTION 5-C
(SK1 BOLT-IN LAMINATED FRP LONGITUDINAL, TYP. LAMINATION)

D	ALL	REVISED LAMINATION SCHEDULE	05/05/2020	JC
C	ALL	UPDATED LAMINATION SCHEDULE	04/28/2020	JC
B	ALL	REVISED LAMINATION SCHEDULE	02/19/2020	JC
A	ALL	FIRST ISSUE	05/24/2019	JC
REV	ZONE	DESCRIPTION	DATE	APPROVED

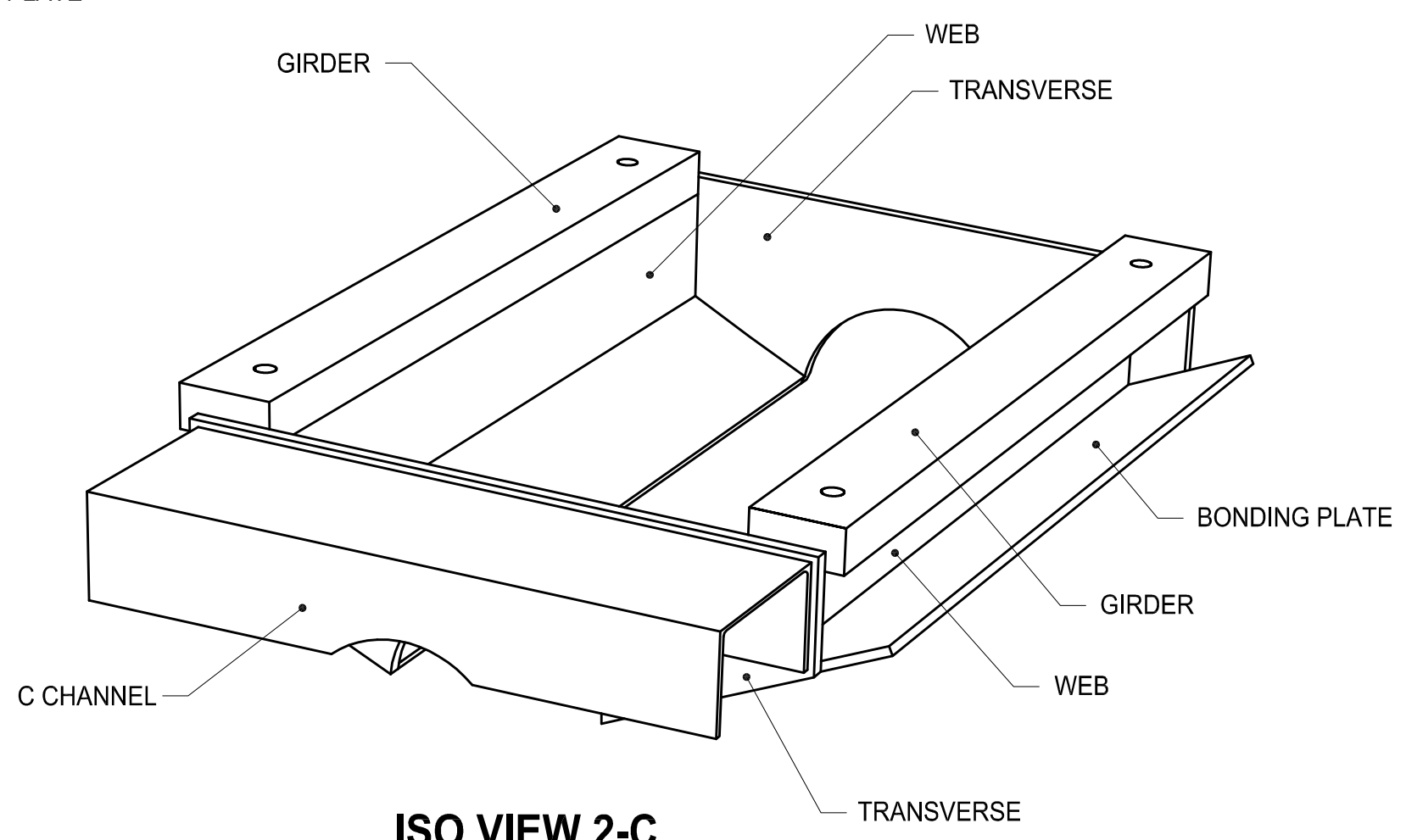
PREPARED FOR SEAKEEPER		VESSEL / PROJECT SEAKEEPER 1 GYRO		THIS COPY AND ANY COPY THEREOF ARE STRICTLY CONFIDENTIAL AND REMAIN THE SOLE AND EXCLUSIVE INTELLECTUAL PROPERTY OF OCEAN5 INC. ANY CHANGES, REPRODUCTION OR UNAUTHORIZED USE IS PROHIBITED. UNLESS APPROVED IN WRITING BY OCEAN5 INC.		SIZE D	CUSTOMER SEAKEEPER	
 OCEAN5 NAVAL ARCHITECTS 4575 SE DUNE HWY SUITE 101, DUNN PH: (772) 492-8551 FAX: (772) 492-8552 EMAIL: INFO@OCEAN5.COM	CAGE CODE		CUSTOMER APPROVED BY DATE		PREPARED DATE RLK 05/05/2020		DESCRIPTION SEAKEEPER 1 FOUNDATION (LONGITUDINAL TYP. LAMINATION)	
	CLASS APPROVED BY DATE		CHECKED DATE JC 05/05/2020		APPROVED DATE		ESWS 500	DWG NO. SK1-500-005
	SOLICITATION NUMBER		SCALE NTS		MASS (WEIGHT) LBS		DATE 05/05/2020	SHEET 1/1



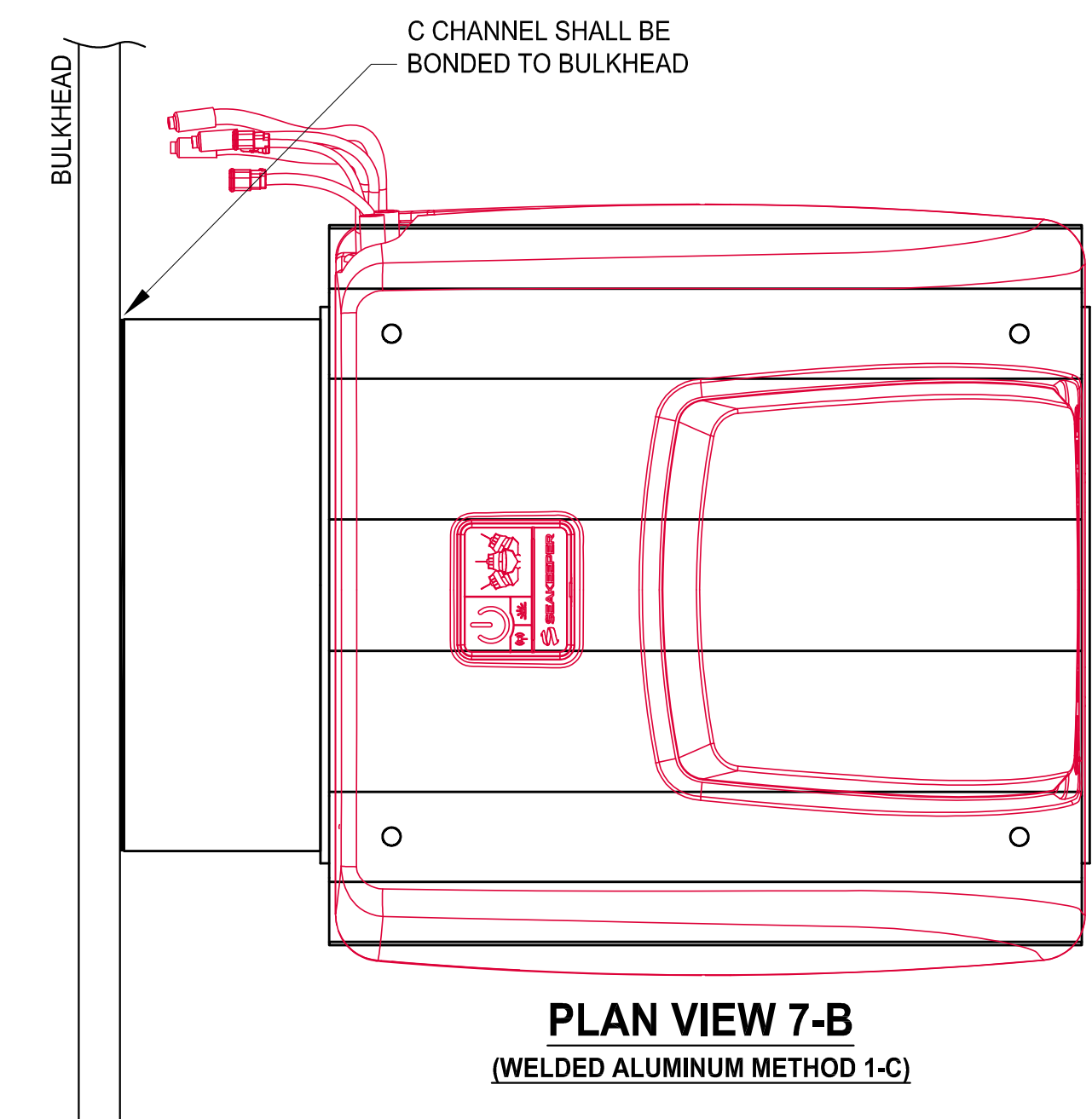
ELEVATION 7-C
(WELDED ALUMINUM METHOD 1-C)



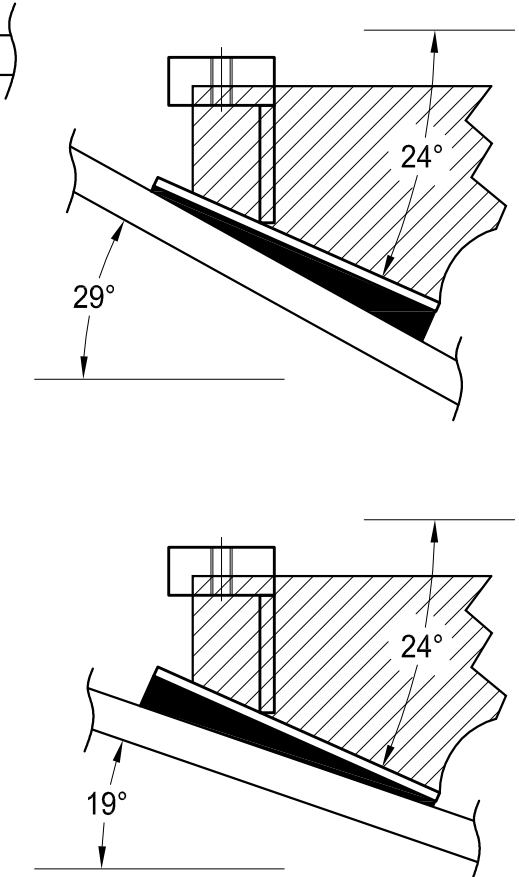
SECTION 5-C
(WELDED ALUMINUM METHOD 1-C)



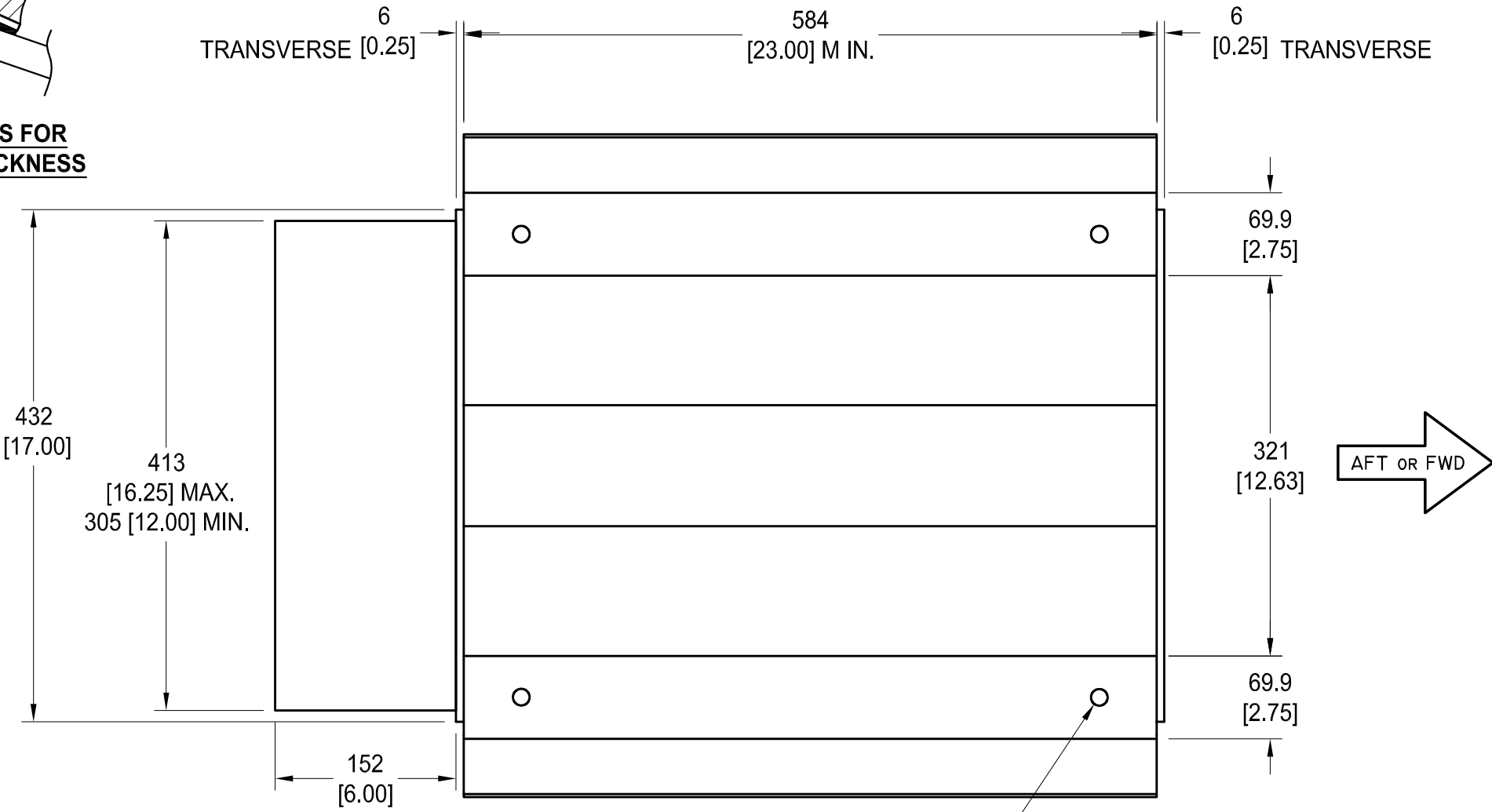
ISO VIEW 2-C



PLAN VIEW 7-B
(WELDED ALUMINUM METHOD 1-C)



DEADRISE EXAMPLES FOR
3/4" MAX. PLEXUS THICKNESS



PLAN VIEW 5-B
(WELDED ALUMINUM METHOD 1-C)

AFTER WELDING, PROVIDE HOLES USING HOLE LOCATION
FIXTURE #90517 AVAILABLE FROM SEAKEEPER AND USE HELI-COIL
OR SIMILAR STAINLESS STEEL THREADED INSERTS M14-2.0 x 31mm LENGTH

1-C

**SEAKEEPER 1 GYRO, BOLT-IN
WELDED ALUMINUM FOUNDATION**

FOR INFORMATION ONLY TO ILLUSTRATE
TYPICAL GYRO INSTALLATION
-NOT FOR DESIGN-

G	ALL	ADDED SNUBBING WASHER AND CHANGED GIRDER TO 2.75" W	05/05/2020	JHC
F	ALL	INCREASED BONDING AREA	04/28/2020	JHC
E	ALL	ADDED C CHANNEL	03/12/2020	JHC
D	ALL	UPDATED GYRO GEOMETRY / GIRDER INCREASED FROM 1" TO 1.25"	02/19/2020	JHC
C	ALL	MODIFIED CLEARANCE AT KEEL	08/19/2019	JHC
B	ALL	ADDED MIN & MAX HULL DEADRISE DETAIL / REVISED PLEXUS AMOUNT	07/22/2019	JHC
A	ALL	PRELIMINARY ISSUE	05/24/2019	JHC
REV	ZONE	DESCRIPTION	DATE	APPROVED

PREPARED FOR SEAKEEPER		VESSEL / PROJECT SEAKEEPER 1 GYRO		SIZE D		CUSTOMER SEAKEEPER	
OCEANS5 NAVAL ARCHITECTS 4515 SE OCEAN HWY SUITE 101 FORT LAUDERDALE, FL 33317 PH: (772) 692-8551 FAX: (772) 692-8552 EMAIL: INFO@OCEANS5.COM		CUSTOMER APPROVED BY JC		DATE 05/05/2020		DESCRIPTION SEAKEEPER 1 FOUNDATION (WELDED ALUMINUM)	
CAGE CODE		CLASS APPROVED BY		DATE 05/05/2020		ESWS 500	
SOLICITATION NUMBER		SCALE 1:5		MASS (WEIGHT) LBS		DATE 05/05/2020	
						SHEET 1/1	

