

GOLDEN 2-TRACK ELEVATOR LIFT

STRUCTURAL ENGINEERING REVIEW

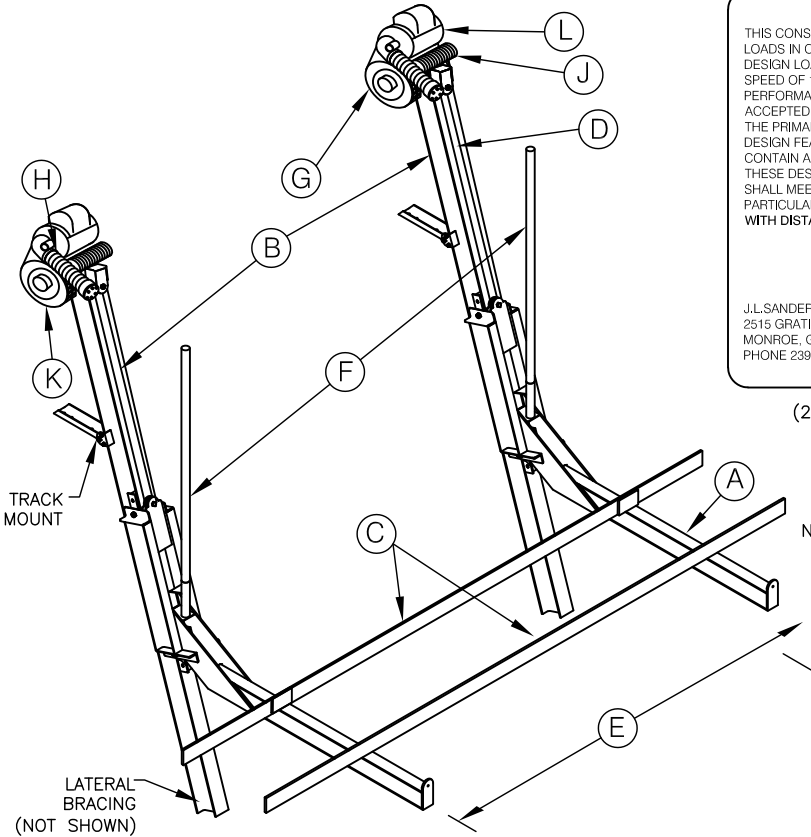
THIS CONSTRUCTION HAS BEEN DESIGNED AS A MAIN WIND FORCE RESISTING SYSTEM, WITH CALCULATED GRAVITY AND WIND LOADS IN COMPLIANCE WITH THE FLORIDA BUILDING CODE, 7th EDITION, 2020, CHAPTER 16, ADM 2015, AND ASCE/SEI 7-16 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" TO WITHSTAND THE WIND LOADS ASSOCIATED WITH AN ULTIMATE WIND SPEED OF 180 MPH, EXPOSURE "D", RISK CATEGORY I. J.L. SANDERS, PE HAS NO CONTROL OF THE MANUFACTURING, PERFORMANCE, OR INSTALLATION OF THIS PRODUCT. THESE GENERIC DESIGN FEATURES WERE ENGINEERED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES BASED ON DATA PROVIDED BY THE MANUFACTURER. THIS STRUCTURAL REVIEW IS LIMITED TO THE PRIMARY FRAMING AND CONNECTIONS AND IS NOT INTENDED TO COVER MECHANICAL AND ELECTRICAL COMPONENTS. THESE DESIGN FEATURES ARE BASED ON STRUCTURAL CALCULATIONS, TITLED "STRUCTURAL CALCULATIONS FOR ELEVATOR", WHICH CONTAIN ADDITIONAL DESIGN REQUIREMENTS AND CRITERIA AND ARE AVAILABLE UPON REQUEST. THE BOAT LIFTS DEPICTED BY THESE DESIGNS AND RELATED CALCULATIONS WERE ENGINEERED AS MANUFACTURED PRODUCT FOR NON-SITE SPECIFIC USE AND SHALL MEET THE DESIGN REQUIREMENTS AND INSTALLATION LIMITATIONS LISTED IN THE STRUCTURAL CALCULATIONS - IN PARTICULAR THE TRACK BEAMS SHALL BE ADEQUATELY BRACED Laterally NO MORE THAN 8 FT. O.C. FOR ELEVATOR LIFTS WITH DISTANCE FROM TRACK MOUNT TO SEA FLOOR LESS THAN 9 FEET, LATERAL BRACING IS NOT REQUIRED

FOR REVIEW

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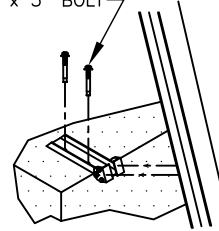
J. L. SANDERS, P.E. Date:
Reg. Florida No. 66361

SIGNATURE NOT VALID WITHOUT RAISED SEAL

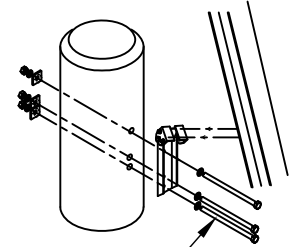


INCLINE MOUNT OR VERTICAL MOUNT

(2) 3/4" Ø x 3-1/4" LG.
STAINLESS STEEL
REDHEAD WEDGE
ANCHOR BOLTS
EDGE DISTANCE OF
BOLTS PER ACI
NOTE: 27K LIFT USE
(2) 7/8" x 5" BOLT



TYPICAL HORIZONTAL
CONNECTION TO REINFORCED
CONCRETE DOCK OR SEAWALL



(3) 3/4" Ø STAINLESS
STEEL THRU-BOLTS

TYPICAL VERTICAL
CONNECTION TO WOOD
PILE OR HORIZONTAL
WOOD DECK FRAMING

PILE DIAMETER CHART

Boat center of gravity @ center of cradles

Lift Capacity	MAX. "E" Dim.	Recommended Pile Diameters
Lb.	Ft.	In.
3, 5, & 7000	10	10
10,000	11	12
12,000		
15,000		
17,000	14	12
20,000		
24,000	16	12
27,000		

NOTE: THIS STRUCTURE HAS BEEN DESIGNED FOR LOADS ASSOCIATED WITH AN ULTIMATE WIND SPEED OF 180 MPH, EXPOSURE "D", RISK CATEGORY I, CALCULATED PER FLORIDA BUILDING CODE 7th EDITION, 2020, ASCE/SEI 7-16 AND ADM-2015. BOATS SHALL NOT BE STORED ON LIFTS DURING HIGH WIND EVENTS (GREATER THAN 75 MPH). ALL PRIMARY STRUCTURAL MEMBERS ARE TO BE 6061-T6 ALUMINUM. TRACKS ARE TO BE DRIVEN TO FIRM BEARING MATERIAL AND SHALL BE SPACED HORIZONTALLY WITHIN THE LIMITS OF TRACK SPREAD "E". TRACKS SHALL BE ADEQUATELY BRACED Laterally FROM TRACK TO TRACK WHEN DISTANCE BETWEEN THE TRACK MOUNT AND SEA FLOOR IS 9 FT. OR GREATER. LATERAL BRACES SHALL BE SPACED AT NO MORE THAN 8 FEET APART. FOR LIFTS WITH DISTANCE FROM TRACK MOUNT TO SEA FLOOR LESS THAN 9 FEET, LATERAL BRACING IS NOT REQUIRED.

SUMMARY OF DESIGN FEATURES

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(J)	(K)	(L)		
LIFT CAPACITY	CRADLE I-BEAM	TRACK I-BEAM	BUNK BOARDS FEET	CABLE SIZE	TRACK SPREAD	GUIDE POST HEIGHT	BRGS	DRIVE SHAFT	WINDER DIA	GEAR RATIO	MOTOR HP/VOLTAGE	INCHES OF LIFT PER MIN.
3,000#	(2) 8 H x .23 5 W x .35 x 8' LG. @ 6.18#/FT	(2) 8 H x .23 5 W x .35 x 25' LG. @ 6.18#/FT	(2) 2 x 8 x 144 ROUGH SAWN CARPETED	(2) 5/16" Ø x 30' S.S. 2 PART	7' THRU 10'	80"	(2) 1,900" O.D. x .148" WALL GALVANIZED HSS	(2) 1,900" O.D. x 1.99" I.D. SEA DRIVE: 3.5" Ø O.D. x 1.99" I.D.	480:1	(2) 3/4 HP 120V/20A 240V/10A	13-1/2"	
5,000# & 7,000#	(2) 8 H x .25 5 W x .41 x 8' LG. @ 7.02#/FT	(2) 8 H x .25 5 W x .41 x 25' LG. @ 7.02#/FT		(2) 5/16" Ø x 30' S.S. 2 PART								
10,000#	(2) 9 H x .27 5.5 W x .44 x 8' LG. @ 8.36#/FT	(2) 9 H x .27 5.5 W x .44 x 25' LG. @ 8.36#/FT		(2) 3/8" Ø x 30' S.S. 2 PART	8' THRU 11'							
12,000#	(2) 10 H x .25 6 W x .41 x 8' LG. @ 8.65#/FT	(2) 10 H x .25 6 W x .41 x 25' LG. @ 8.65#/FT	(2) 3 x 10 x 192 ROUGH SAWN CARPETED	(2) 3/8" Ø x 45' S.S. 3 PART	8' THRU 14'	120"	(4) 2" EXTRUDED 6061-T6 ALUM			(2) 1 HP 120V/20A 240V/10A	9"	
15,000#	(2) 10 H x .29 6 W x .50 x 8' LG @ 10.3#/FT	(2) 10 H x .29 6 W x .50 x 25' LG @ 10.3#/FT		(2) 3/8" Ø x 56' S.S. 4 PART								
17,000#	(2) 12 H x .29 7 W x .47 x 10' LG. @ 11.7#/FT	(2) 12 H x .29 7 W x .47 x 25' LG. @ 11.7#/FT		(2) 7/16" Ø x 60' S.S. 4 PART	10' THRU 16'							
20,000#	(2) 12 H x .31 7 W x .62 x 11' LG. @ 14.3#/FT	(2) 12 H x .31 7 W x .62 x 25' LG. @ 14.3#/FT			(2) 14 H x .30 8 W x .60 x 10' LG. @ 16.0#/FT							(2) 1.5 HP 120V/20A 240V/10A
24,000#	(2) 14 H x .30 8 W x .60 x 10' LG. @ 16.0#/FT	(2) 14 H x .30 8 W x .60 x 10' LG. @ 16.0#/FT	(2) 14 H x .30 8 W x .60 x 10' LG. @ 16.0#/FT									
27,000#	(2) 14 H x .30 8 W x .60 x 10' LG. @ 16.0#/FT	(2) 14 H x .30 8 W x .60 x 10' LG. @ 16.0#/FT										