



AFV unloads from a pickup truck.



AFV navigates beach sand.



AFV floats gear out.



AFV offers two work surfaces.



AFV provides shade.



AFV floats gear in.



AFV transports gear.



AFV transports steel racks

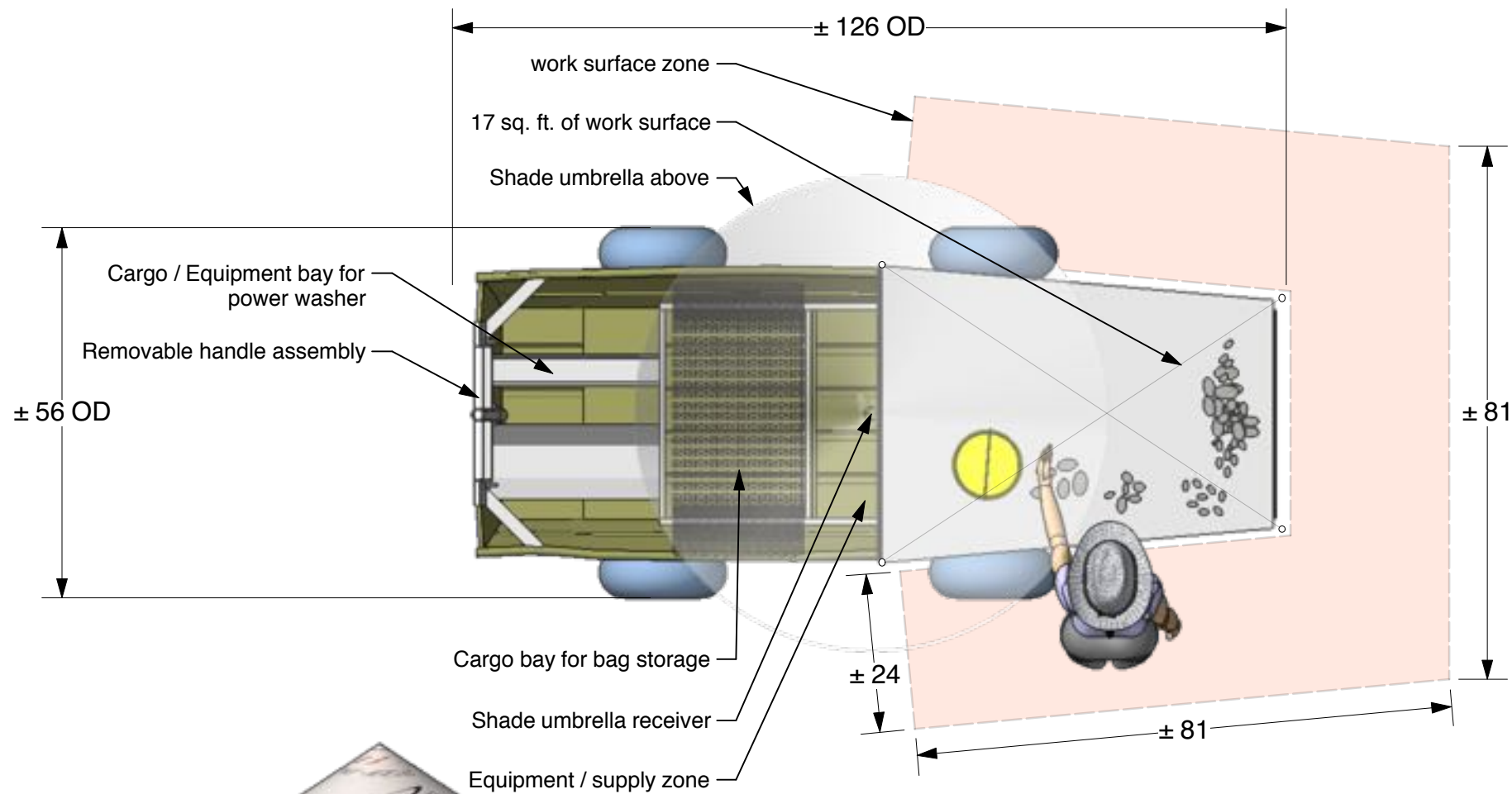


AFV resides in a drain position.

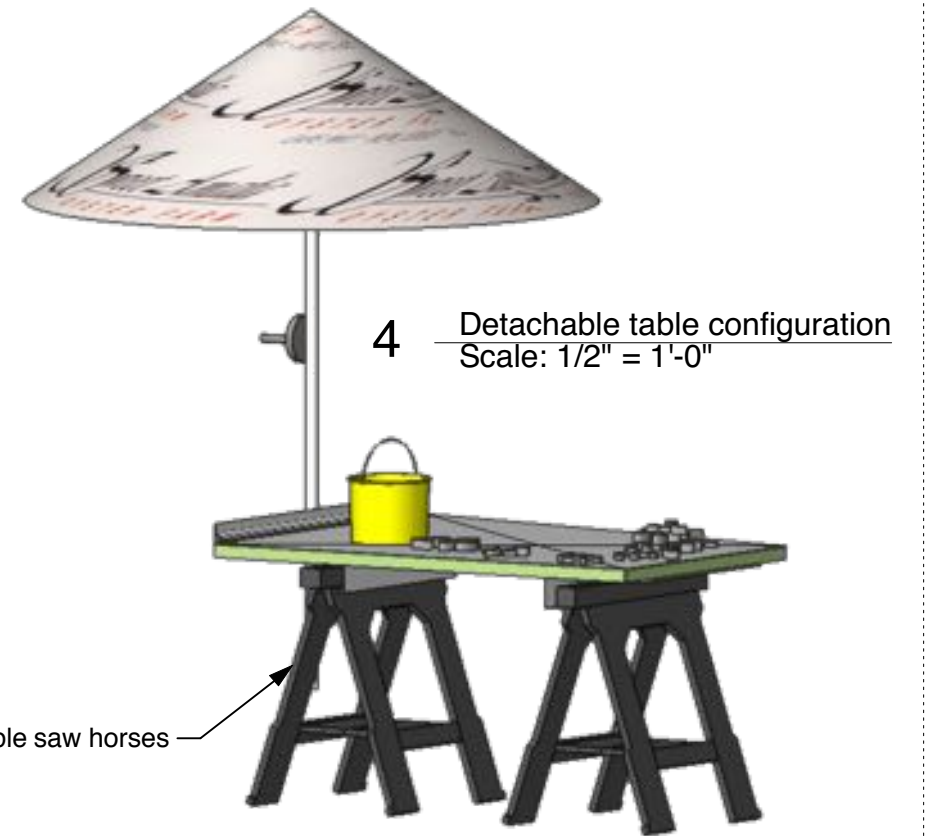


Prior framing practices exhibited opportunities for overall organization and transportation efficiency with special consideration to improving ergonomics.

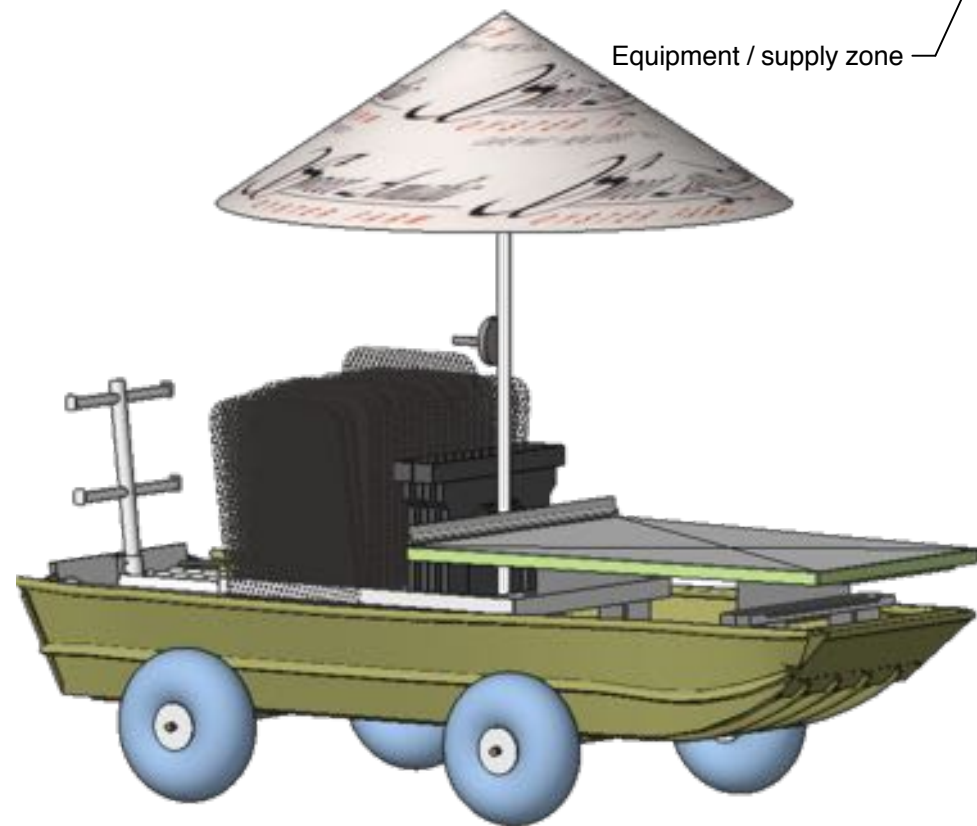




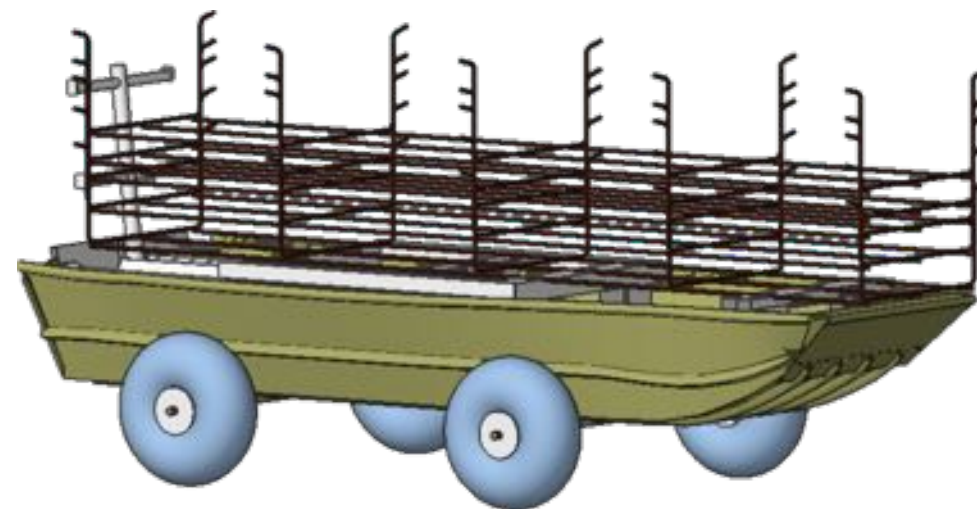
1 Mobile Work Surface Layout
Scale: 1/2" = 1'-0"



4 Detachable table configuration
Scale: 1/2" = 1'-0"



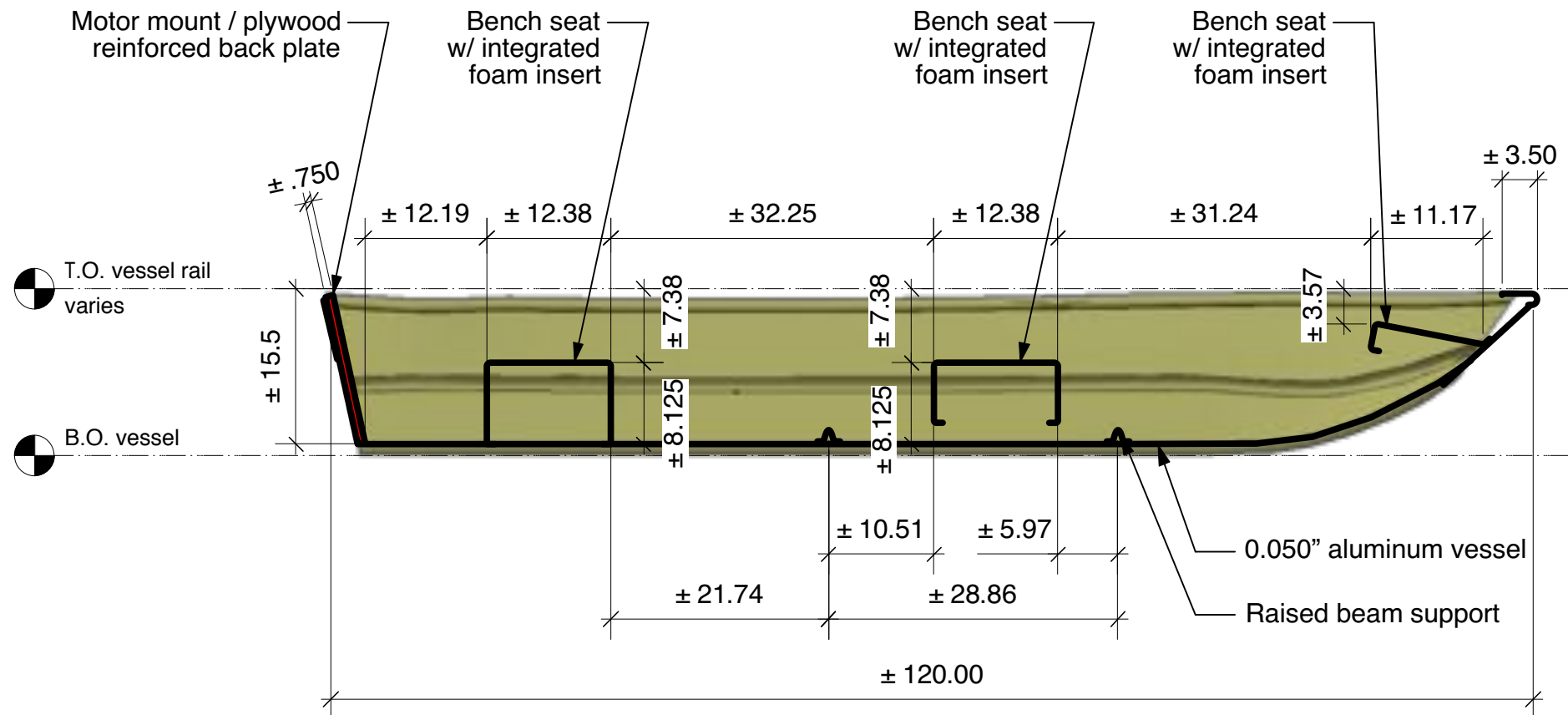
2 AFV: gear + table configuration
Scale: 1/2" = 1'-0"



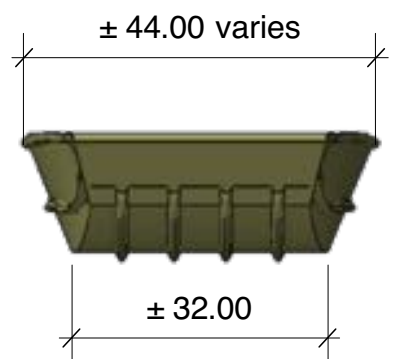
3 AFV: rack transport configuration
Scale: 1/2" = 1'-0"

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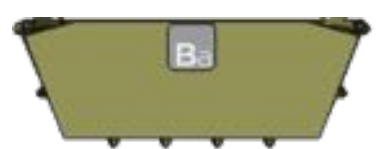
Recipient: Sweet Amalia Oyster Farm Cape May, New Jersey	Arch Project # 1513 1513_Ba_AFV_CDs.vwx
SARE Project # FNE15-821-29001	Date 04/02/2016
Grant Title: Design and construction of a low-impact amphibious vehicle for efficient and sustainable oyster farming.	Scale 1/2" = 1'-0"
	Drawing Title Design Renderings



1 Section @ Vessel Scale: 3/4" = 1'-0"



2 Front @ Vessel Scale: 1/2" = 1'-0"



3 Back @ Vessel Scale: 1/2" = 1'-0"

Specs

GENERAL	1000 1032 CR JON	
Overall Length	10'	3.04 m
Beam	48"	122 cm
Bottom Width	32"	81 cm
Chine width	32"	81 cm
Transom Height	15"	38 cm
Weight (Boat only, dry)	80#	36 kg
Max. Weight Capacity	275#	125 kg
Max. Person Weight Capacity	2	
Max. HP Capacity	3	
HULL		
Aluminum gauge bottom	0.050"	



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Design + Fabrication Documentation:
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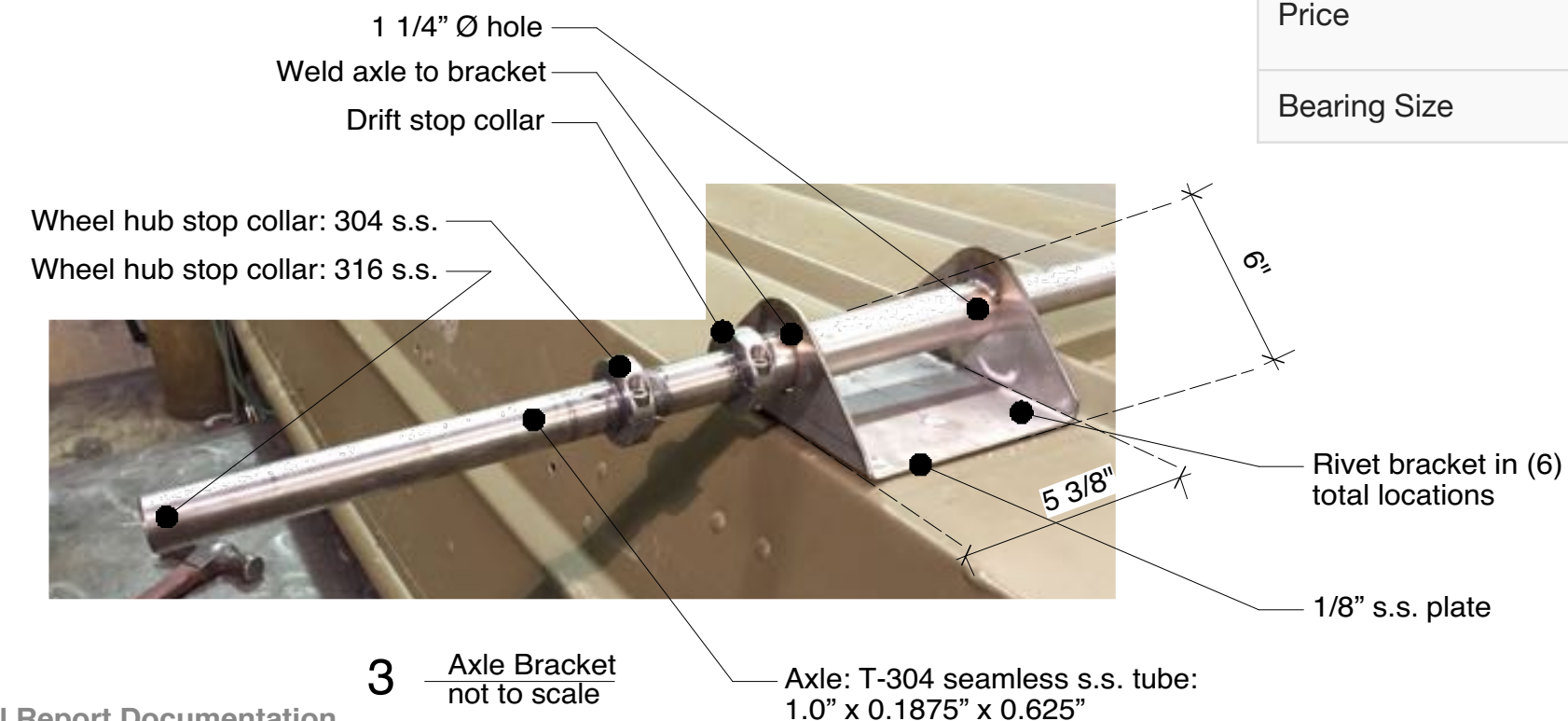
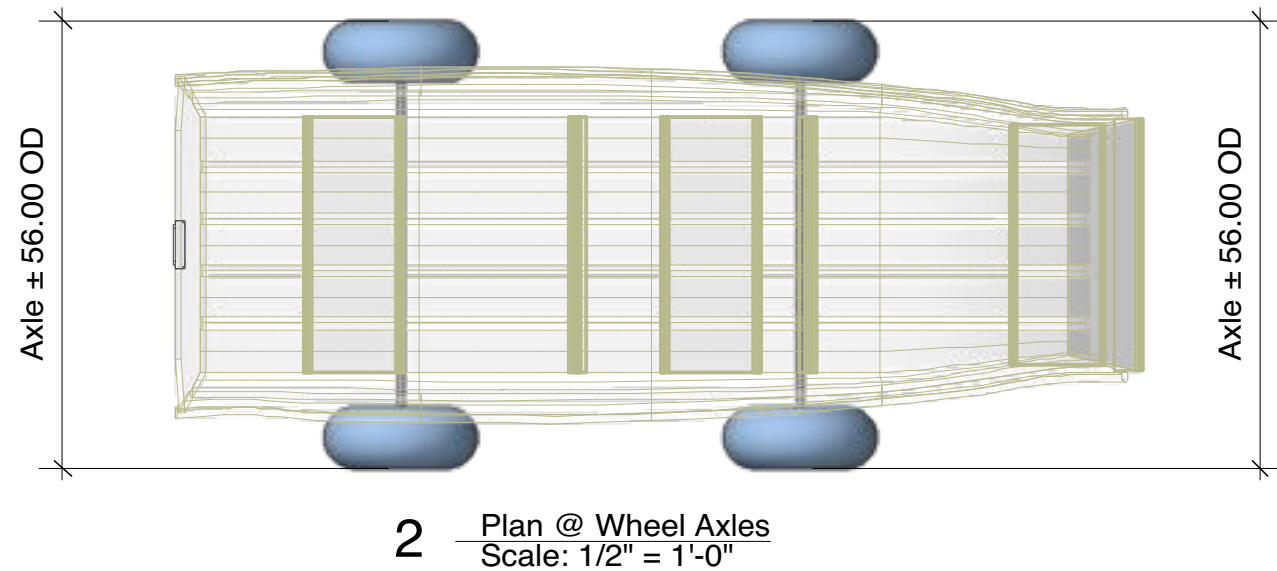
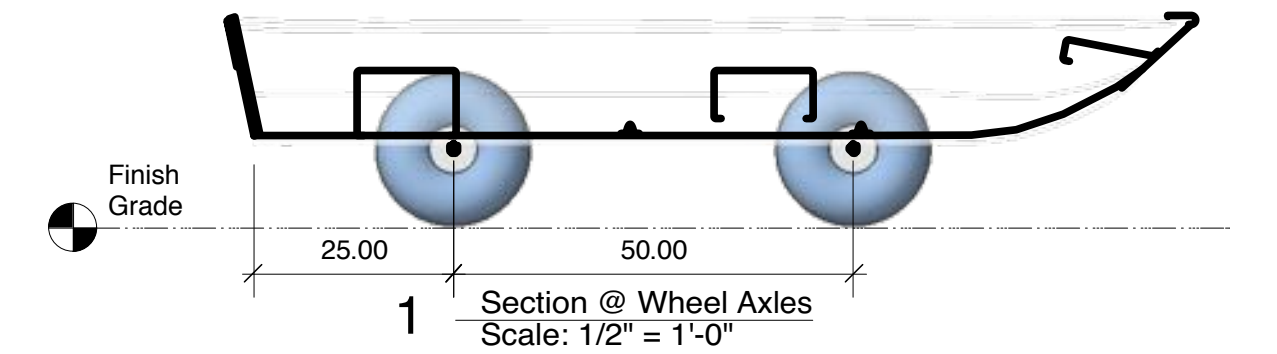
Arch Project # 1513
1513_Ba_AFV_CDs.vwx

Date 04/02/2016

Scale As noted

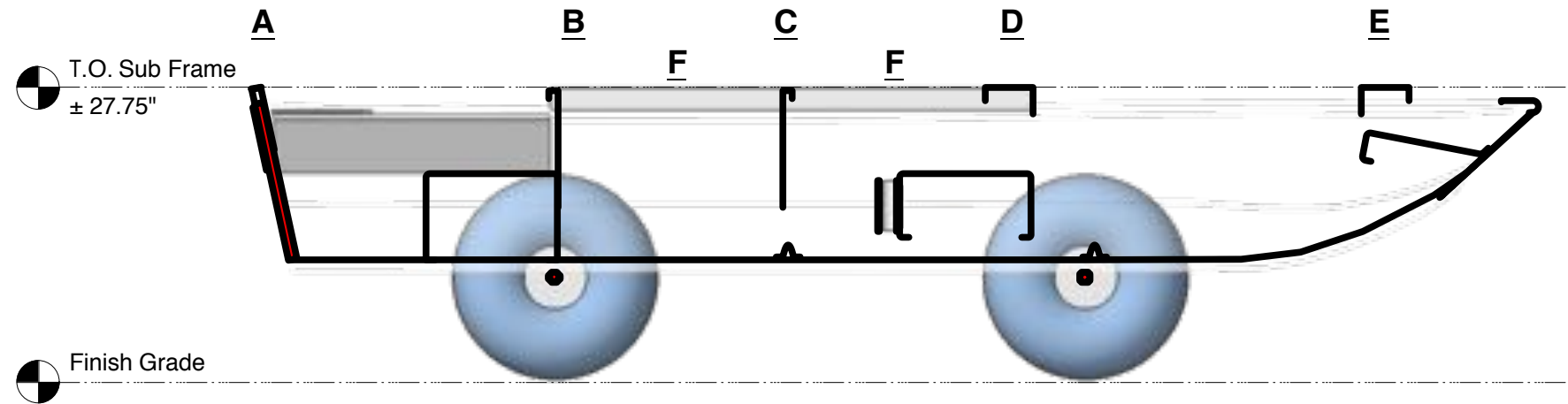
Drawing Title
Vessel Component

Drawing No.
A-3
out of 7 total sheets

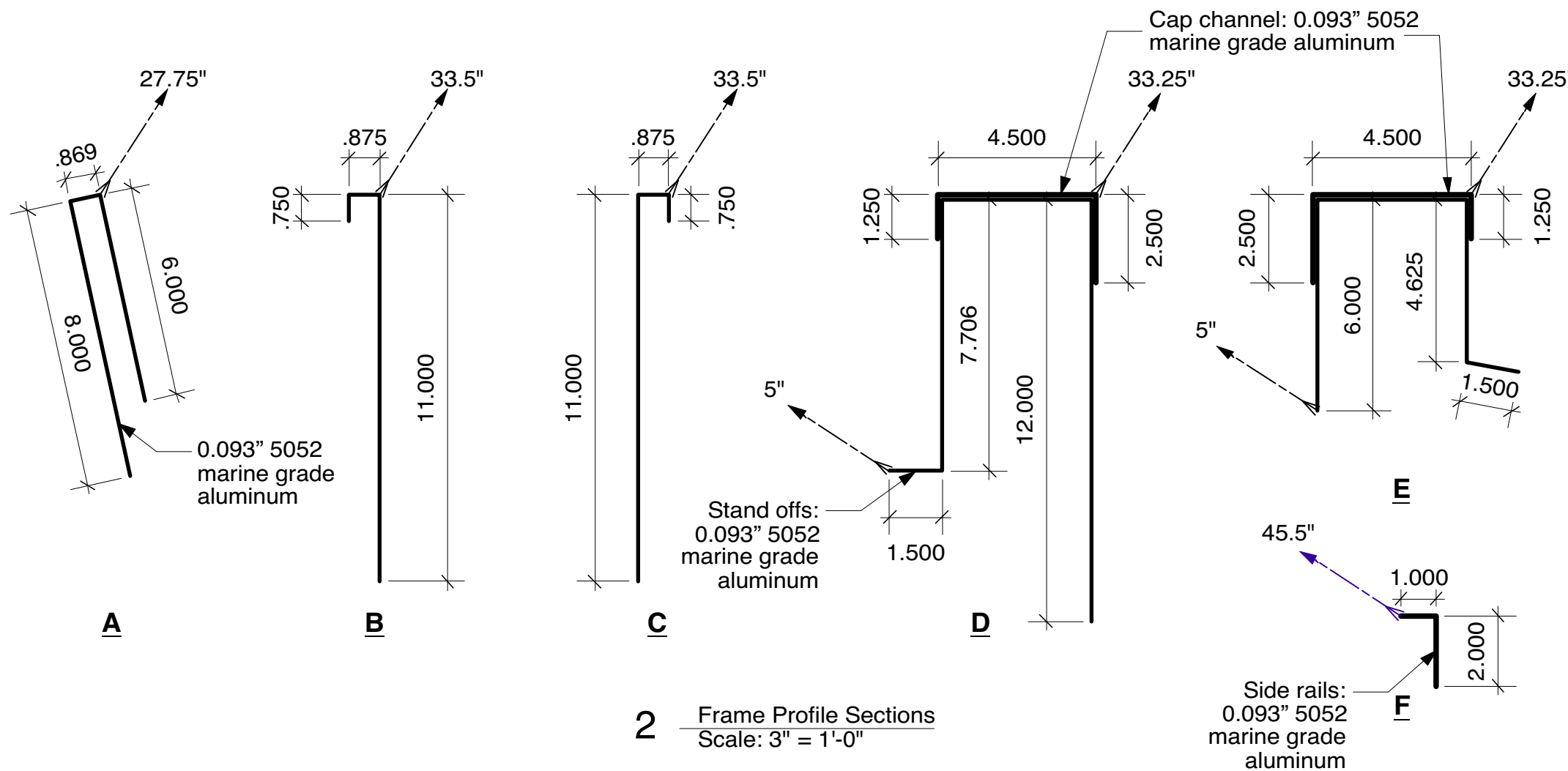


<http://www.wheeleez.com>

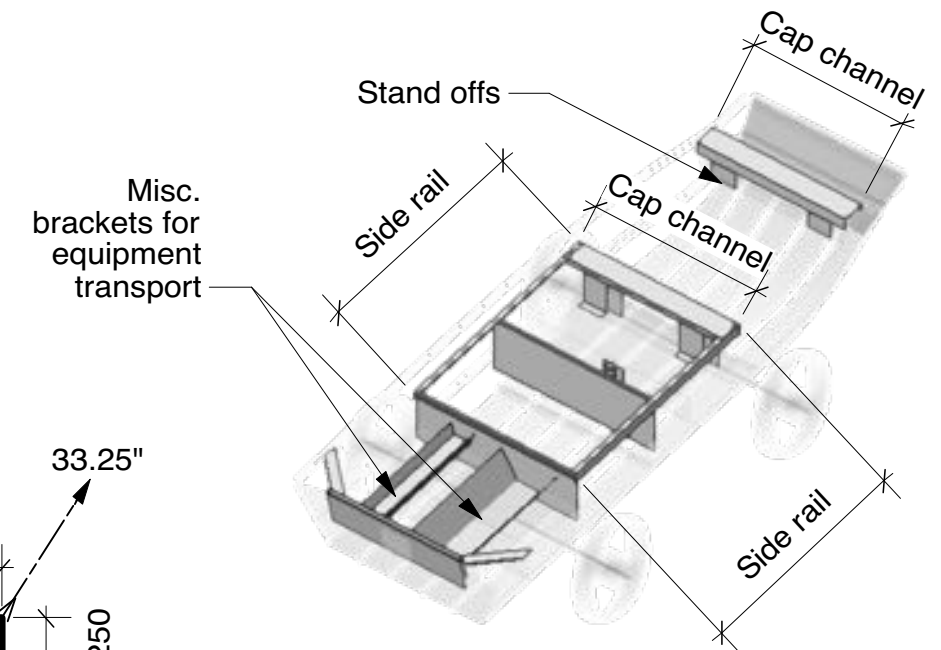
Product Name & Number	WZ1-49U
Dimensions*	49 x 23 cm (19.3 x 9")
Width at Bushing/ Bearing	19.8 cm (7.8")
Max. Payload per Wheel	120 kg (264 lbs)
Weight	2.78 kg (6.1 lbs)
Materials	Tire: Polyurethane Hub: Polypropylene
Ideal & Ship Pressure	2.5 psi (0.17 bar)
Pressure Range	Low Pressure 2-4 psi (0.14-0.28 bar)
Temperature Range	-15 to 75 C (5 to 167 F)
Price	\$147.00/wheel (*2015 project cost)
Bearing Size	(1) one inch



1 Section @ Frame Assembly
Scale: 3/4" = 1'-0"



2 Frame Profile Sections
Scale: 3" = 1'-0"



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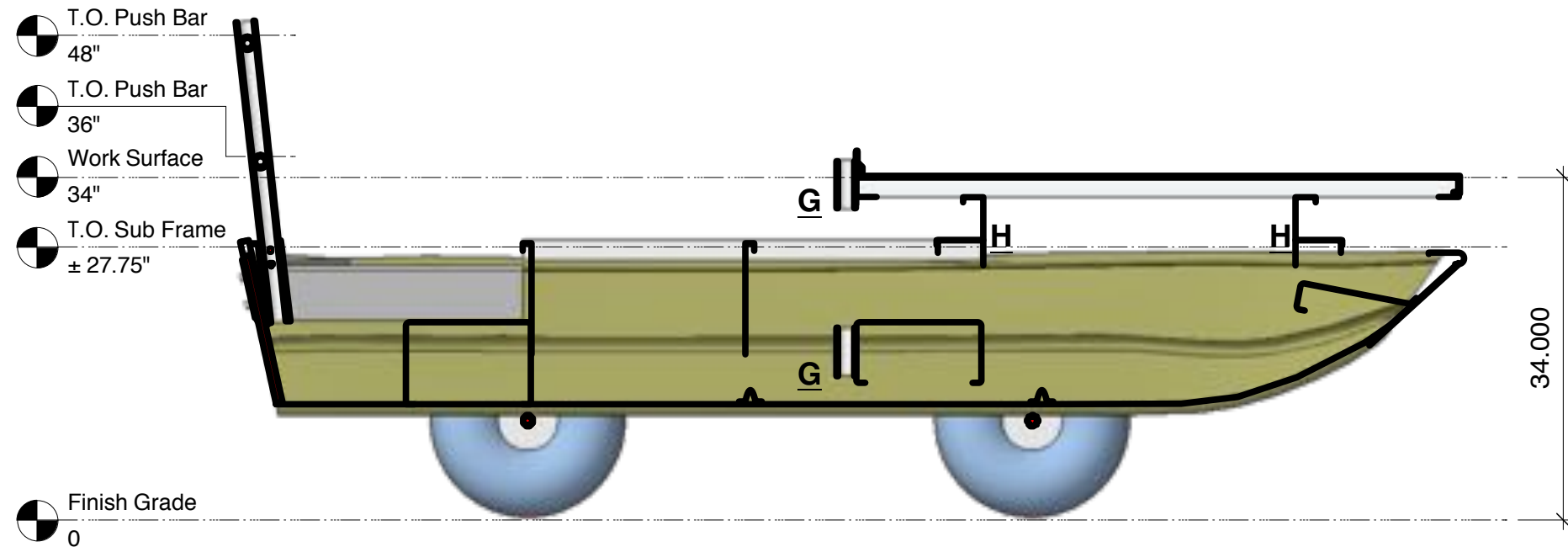
Arch Project # 1513
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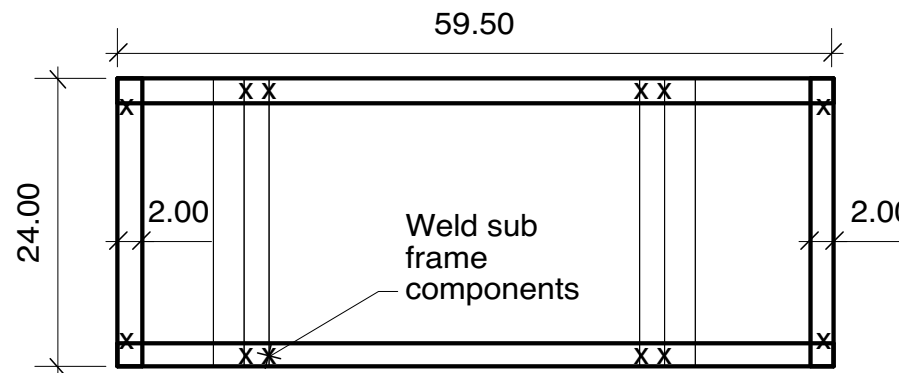
Scale As noted

Drawing Title
Frame Assembly Component

Drawing No.
A-5
out of 7 total sheets



1 Section @ table assembly
Scale: 3/4" = 1'-0"



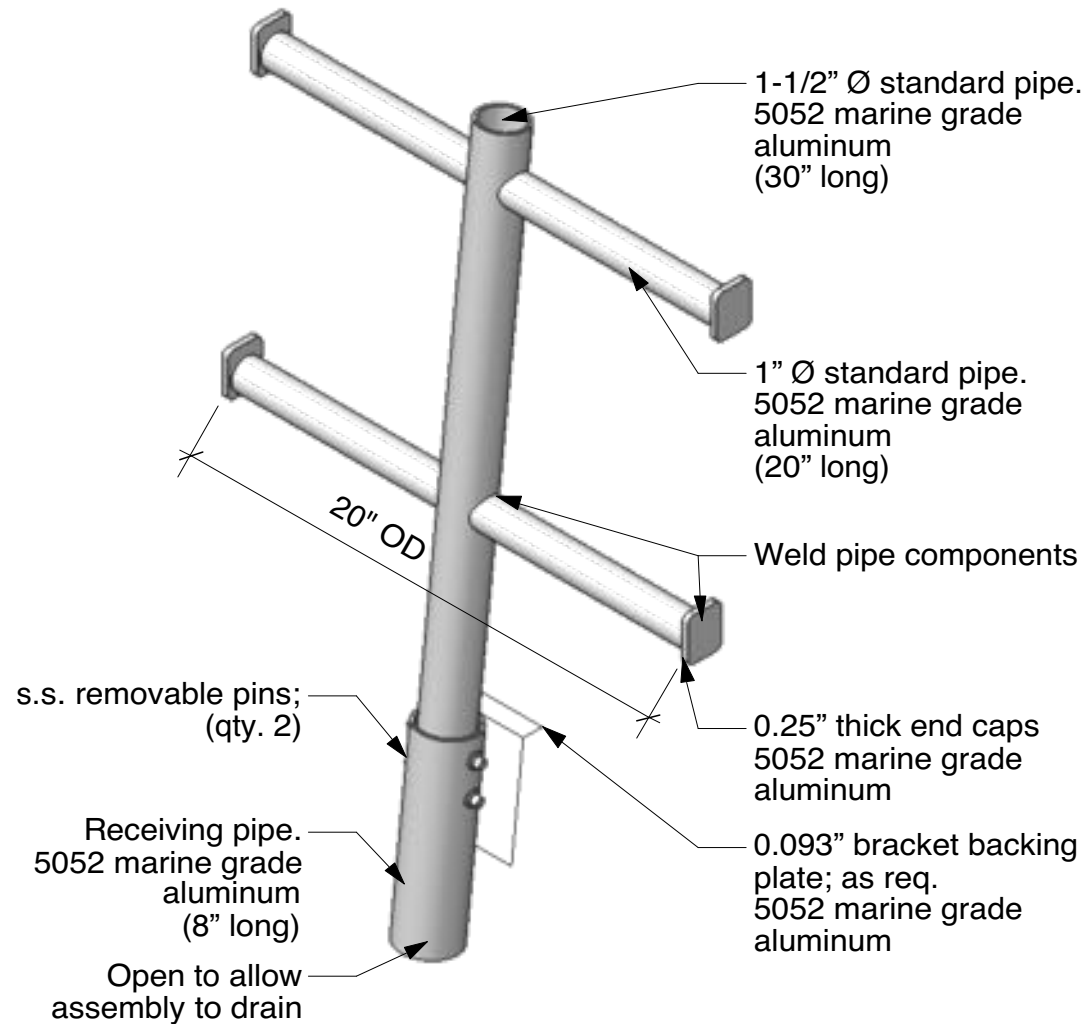
2 Plan @ table frame assembly
Scale: 3/4" = 1'-0"



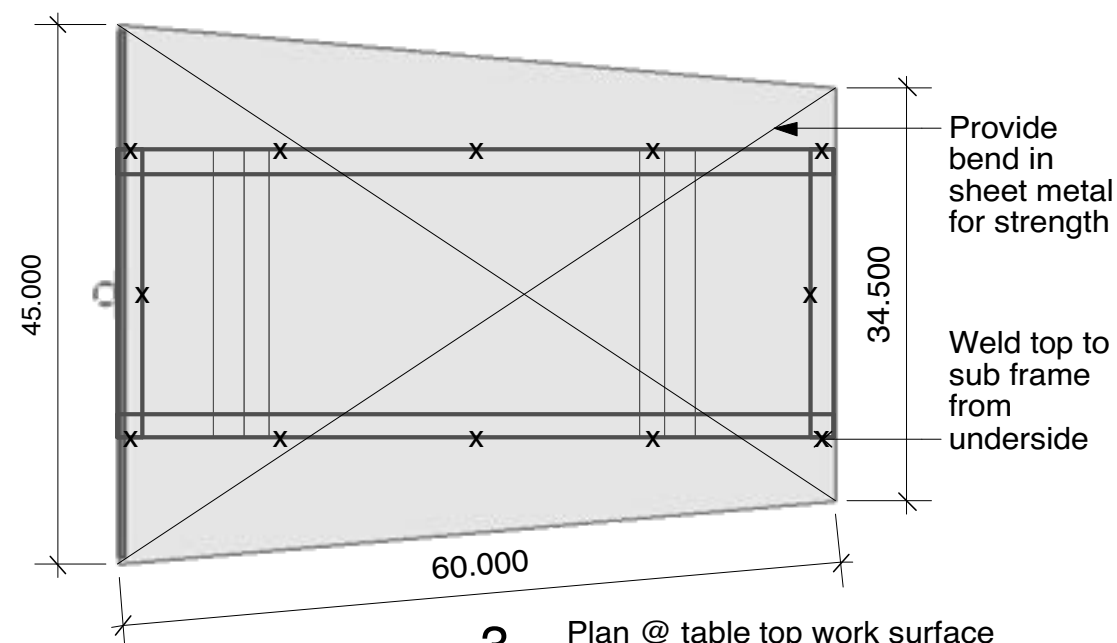
G: Umbrella attachment



H: Table to frame attachment



4 Axon @ removable handle assembly
Scale: 2" = 1'-0"



3 Plan @ table top work surface
Scale: 3/4" = 1'-0"

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Date 04/02/2016
Scale As noted

Drawing Title
Sorting Table And Handle Component

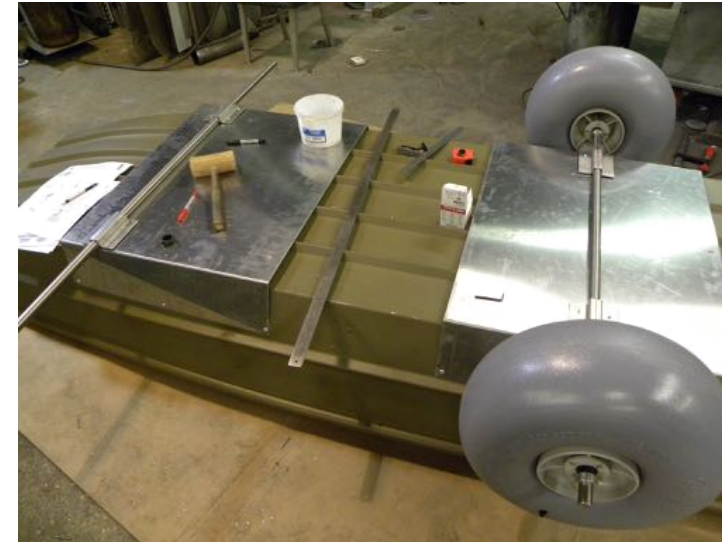
Drawing No.
A-6
out of 7 total sheets



Mock ups and work top height studies.



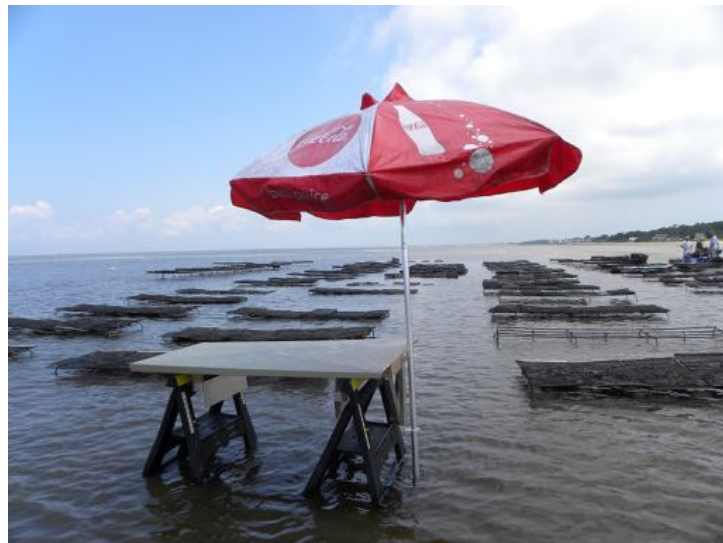
Possible fixed and removable work surface layouts.



Temporary bearing plate to study axle layouts.



Field test to study wheel and axle handling.



Detachable table set up with and shade study.



Field test with modified axle/wheel turning radius.



Frame standoffs to allow for table connections.



Equipment access + accommodations.



Floatation balance and equipment placement.

Many mockups, field tests, and collaborative meetings were undertaken to arrive at a design and layout that could maximize the farm's day to day operations while also responding to the diverse site specific conditions.

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Design + Fabrication Documentation: 2015 Northeast SARE Farmer Grant (AFV) Amphibious Farm Vehicle	Drawing Title Mock Ups And Studies
	Drawing No. A-7 out of 7 total sheets