

January 23, 2024

**Re: Structural Assessment**  
**Nootka Saunas – Barrel Sauna (Skerks Engineering Project #23036)**

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To Whom it May Concern,

Skerks Engineering has been retained by Nootka Saunas in Squamish, BC to provide a structural assessment for a proposed sauna structure; the "Barrel Sauna".

Skerks Engineering hereby gives assurance that the design of the Barrel Sauna has been reviewed for resistance to wind and snow loadings and has been found to substantially comply with Part 9 of the British Columbia Building Code 2018.

The Barrel Sauna has been assessed and rated for the following climatic loads:

- Maximum specified ground snow load,  $S_s = 13 \text{ kPa}$  (272 psf);
- Maximum specified associated rain load,  $S_r = 1.0 \text{ kPa}$  (21 psf);
- Maximum specified wind load,  $q_{50} = 0.75 \text{ kPa}$  (15.7 psf).

The majority of common building locations in British Columbia have climatic loads less than the above values. However, Nootka Saunas is responsible for seeking advice from a qualified structural engineer to determine if the climatic loads in each project location are acceptable.

I trust this letter meets your requirements. If you would like to discuss any aspects of this letter, feel free to call me at 604-728-5657.

Sincerely yours,  
**Skerks Engineering**



Thomas van Wermeskerken, P.Eng.  
*Principal*



Permit to Practice: 1004210

Enclosed: Sealed shop drawings

**Skerks Engineering**

Consulting Structural Engineer & Associates  
501-3488 Sawmill Crescent, Vancouver, BC V5S 0C7  
p. 604-728-5657 e. thomas@skerks.com

April 10, 2024

**Re: Structural Assessment  
Nootka Saunas – Barrel Sauna (Skerks Engineering Project #23036)**

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To Whom it May Concern,

Skerks Engineering has been retained by Nootka Saunas in Squamish, BC to provide a structural assessment for a proposed sauna structure; the "Barrel Sauna".

Skerks Engineering hereby gives assurance that the design of the Barrel Sauna has been reviewed for resistance to climatic loads (ie. snow/wind/seismic) and has been found to substantially comply with Part 9 of the British Columbia Building Code 2018 and Vancouver Building Bylaw No. 12511, 2019.

For projects in the Resort Municipality of Whistler (RMOW), the Barrel Sauna has been reviewed for resistance to climatic loads in accordance with the *RMOW Building Department Bulletin Regarding Snow Loading (Version 2.0)* and is approved for all locations in the RMOW up to a maximum elevation of 900m.

For all other project locations, the Barrel Sauna is approved for the following climatic loads:

- Maximum specified ground snow load,  $S_s = 13 \text{ kPa}$  (272 psf)
- Maximum specified associated rain load,  $S_r = 1.0 \text{ kPa}$  (21 psf)
- Maximum specified wind load,  $q_{50} = 0.75 \text{ kPa}$  (15.7 psf)
- Seismic: Approved for all locations

Nootka Saunas is responsible for seeking advice from a qualified structural engineer to determine if the climatic loads in each project location are acceptable.

I trust this letter meets your requirements. If you would like to discuss any aspects of this letter, feel free to call me at 604-728-5657.

Sincerely yours,  
**Skerks Engineering**

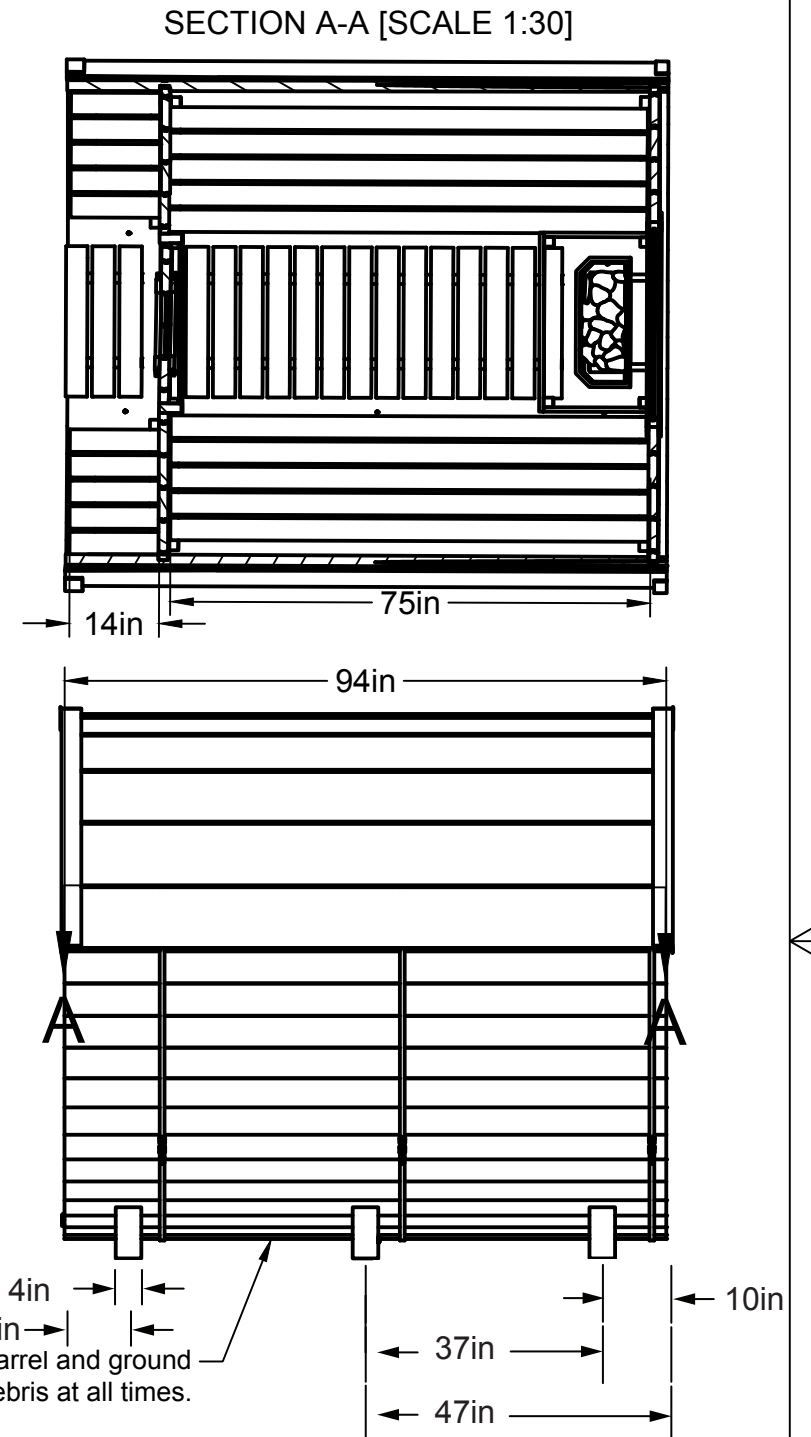
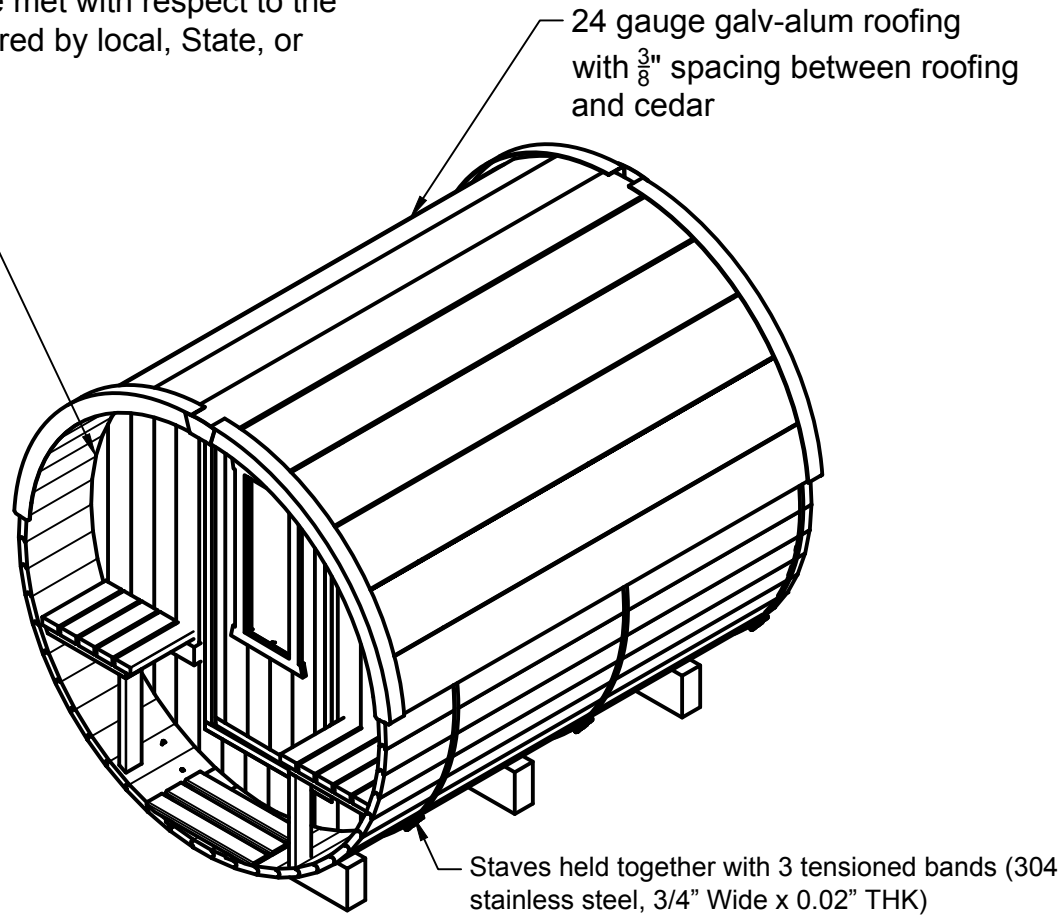
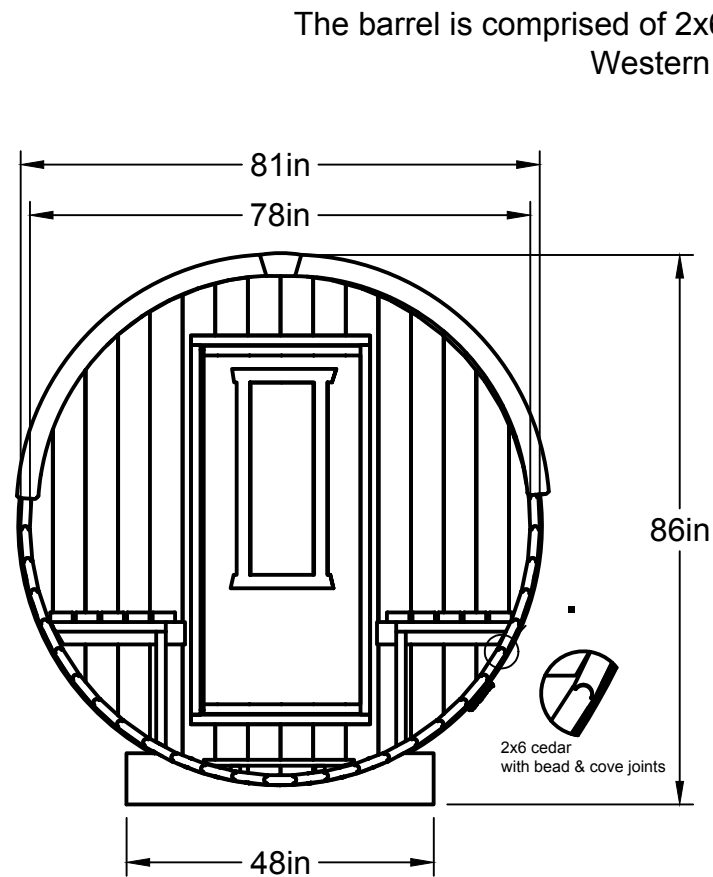


Thomas van Wermeskerken, P.Eng.  
*Principal*

Enclosed: Sealed shop drawings

The saunas produced by Nootka Saunas are comprised of Western Red Cedar and are pre-fabricated at our facility in British Columbia, Canada.

The combination of the sauna's small footprint (between 52 – 65 sq ft depending on model), a CSA certified heating assembly and no permanent foundation, qualifies the sauna to be enjoyed without a permit being required in most jurisdictions. Nootka Saunas does, however, make it clear that the responsibility of permitting lies with the end- customer. Nootka Saunas' Terms and Conditions states "The Customer is responsible for ensuring that all applicable laws and regulations are met with respect to the use of the sauna. This includes, but is not limited to, obtaining any permits required by local, State, or Federal authorities."



#### Electric Model

Weight with Roof: 1450 lbs

The heater is either a 7.5kW (requires a 40A) or 9kW (requires 50A) CSA approved heater. The controller is mounted on the front exterior of the sauna and is a 24VAC low voltage controller

Nootka Saunas' structures conform to CSA C22.2 No. 164-2018 under the classification of factory-built unit, where the necessary wiring and heater installation is done in the field by a licensed electrician.



		PROJECT			
		8ft Electric Barrel Sauna			
		TITLE			
APPROVED		SIZE	CODE	DWG NO	REV
CHECKED		B			
DRAWN	Kris Harris	2023-04-03	SCALE 1:20	WEIGHT 1450lbs	SHEET 1/2

The saunas produced by Nootka Saunas are comprised of Western Red Cedar and are pre-fabricated at our facility in British Columbia, Canada.

**IMPORTANT:** A 10ft horizontal radius is required around the chimney to other combustible surfaces (ie: trees, houses, sheds) That is unless the surface is at least 2ft lower than the chimney height (ie: a 6ft fence is fine)

24 gauge galv-alum roofing with  $\frac{3}{8}$ " spacing between roofing and cedar

Staves held together with 3 tensioned bands (304 stainless steel, 3/4" Wide x 0.02" THK)

The barrel is comprised of 2x6" kiln-dried Western Red Cedar

Min 2.5" gap between bottom of barrel and ground surface to be kept free and clear of debris at all times.

SECTION A-A [SCALE 1:30]

**Wood-burning Model**  
Weight with Roof: 1570 lbs

Our wood-burning sauna comes complete with a Harvia M3 wood-stove.



		PROJECT			
		8ft Wood-burning Barrel Sauna			
		TITLE			
APPROVED		SIZE	CODE	DWG NO	REV
CHECKED		B			
DRAWN	Kris Harris	2023-04-03	SCALE 1:20	WEIGHT 1570lbs	SHEET 2/2

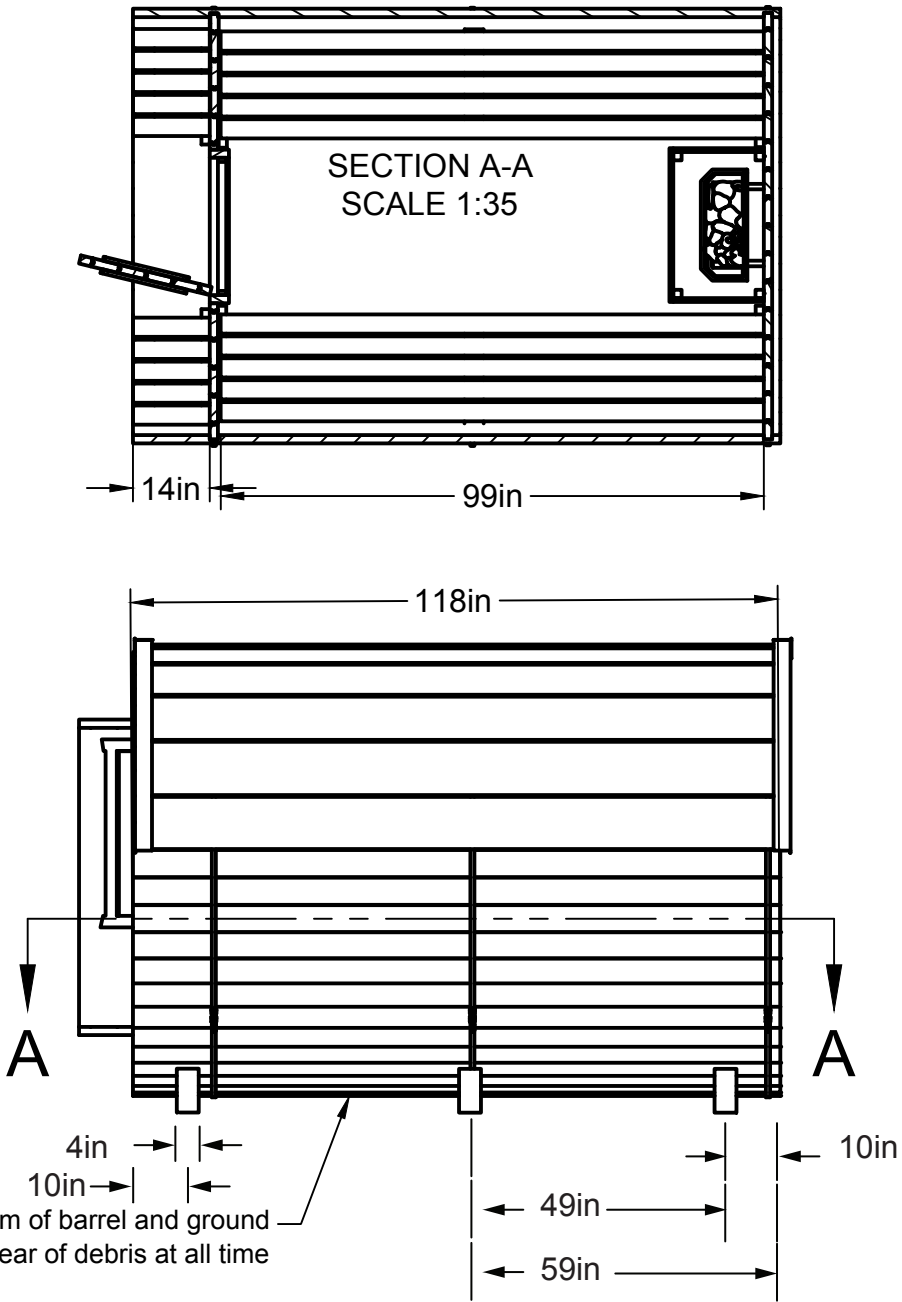
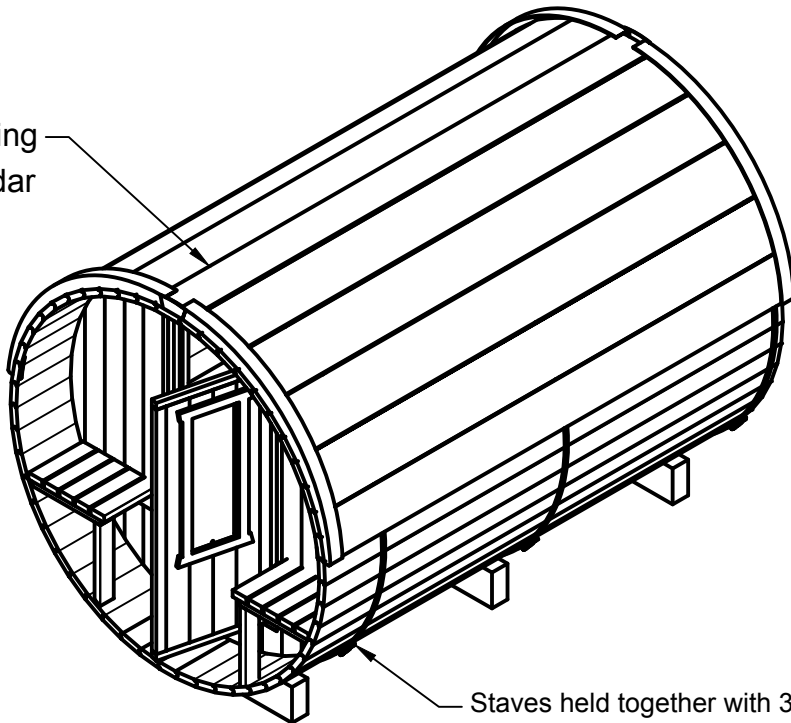
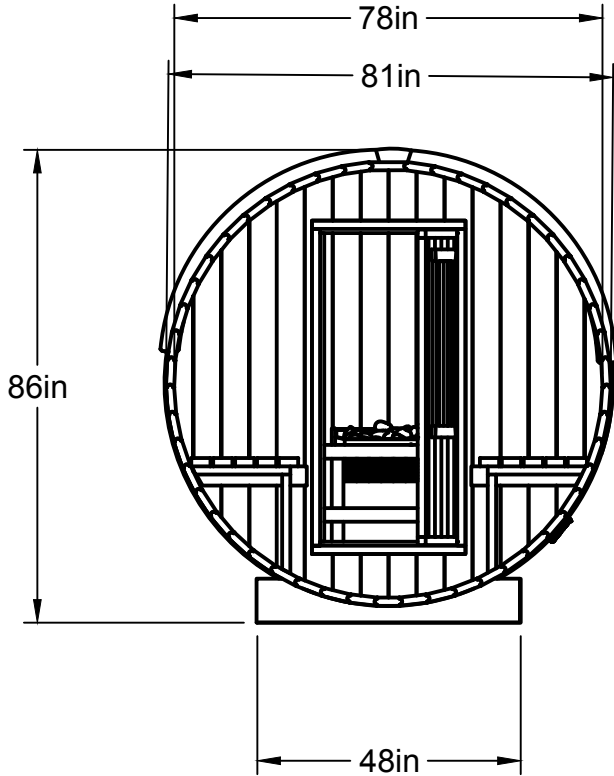
The saunas produced by Nootka Saunas are comprised of Western Red Cedar and are pre-fabricated at our facility in British Columbia, Canada.

24 gauge galv-alum roofing  
with  $\frac{3}{8}$ " spacing between roofing and cedar

Staves held together with 3 tensioned bands (304 stainless steel, 3/4" Wide x 0.02" THK)

SECTION A-A  
SCALE 1:35

Min 2.5" gap between bottom of barrel and ground  
surface to be kept free and clear of debris at all time



**Electric Model**

Weight with Roof: 1800 lbs

The heater is either a 9kW (requires 50A) CSA approved heater. The controller is mounted on the front exterior of the sauna and is a 24VAC low voltage controller

Nootka Saunas' structures conform to CSA C22.2 No. 164-2018 under the classification of factory-built unit, where the necessary wiring and heater installation is done in the field by a licensed electrician.



		PROJECT			
		10ft Electric Barrel Sauna			
		TITLE			
APPROVED		SIZE	CODE	DWG NO	REV
CHECKED		B			
DRAWN	Kris Harris	2023-04-03	SCALE 1:30	WEIGHT 1800lbs	SHEET 1/2



The saunas produced by Nootka Saunas are comprised of Western Red Cedar and are pre-fabricated at our facility in British Columbia, Canada.

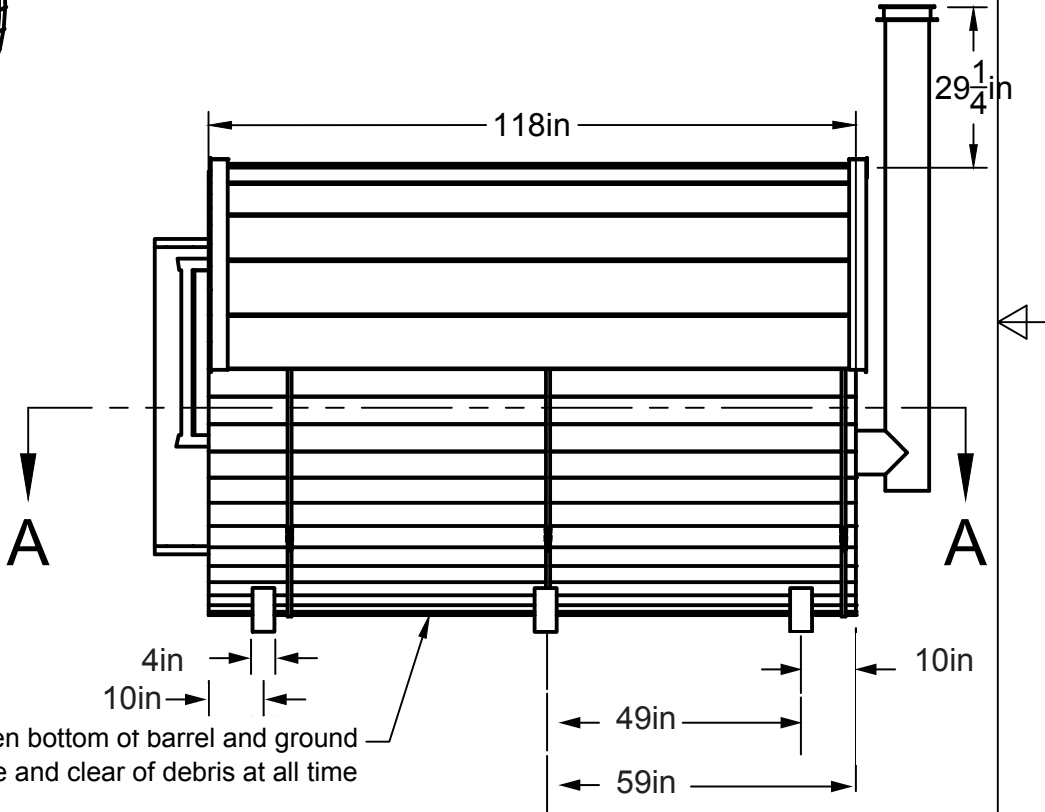
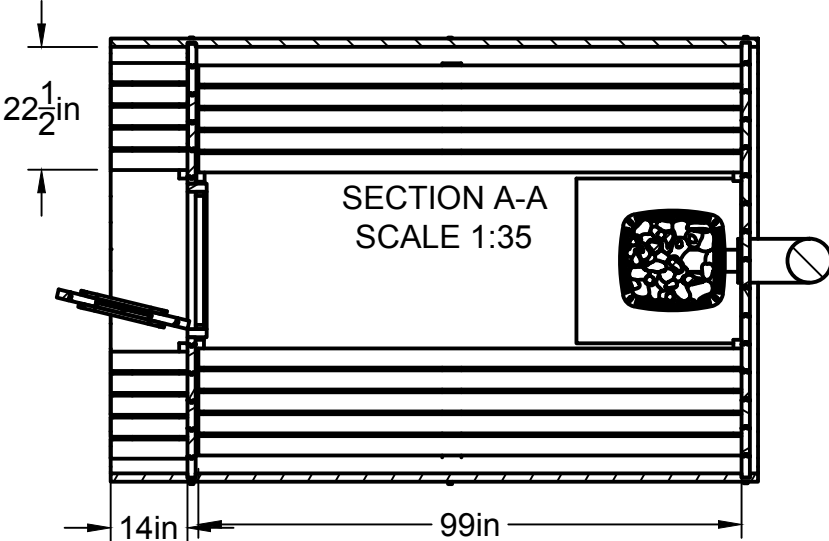
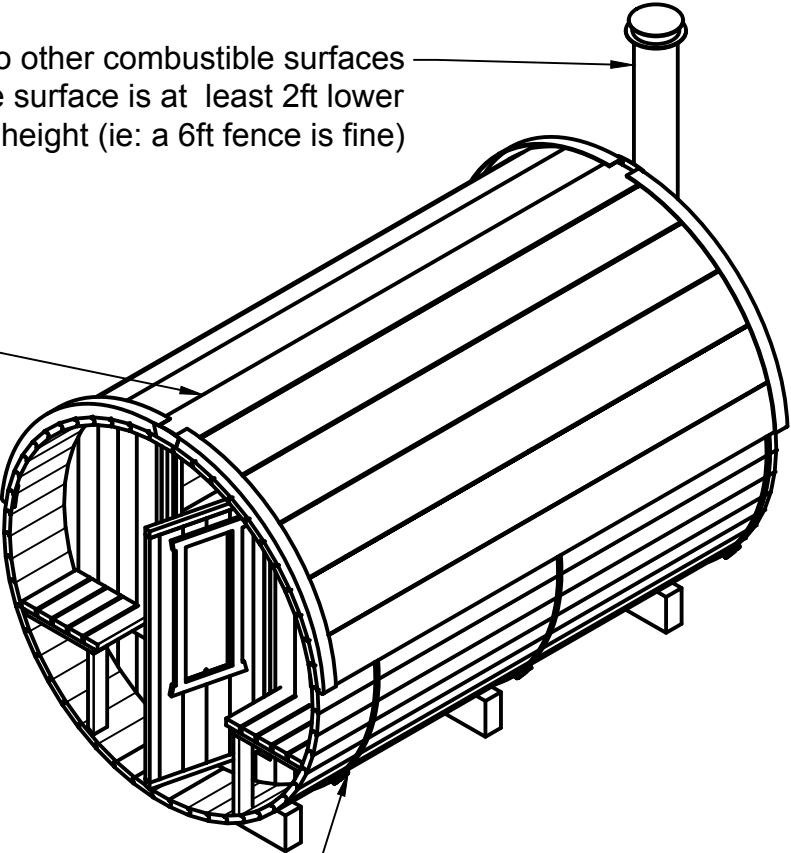
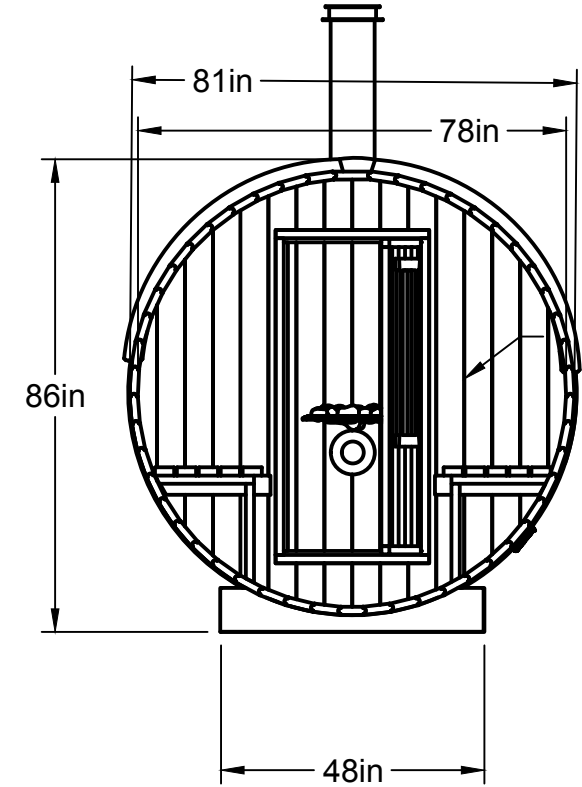
**IMPORTANT:** A 10ft horizontal radius is required around the chimney to other combustible surfaces (ie: trees, houses, sheds). That is unless the surface is at least 2ft lower than the chimney height (ie: a 6ft fence is fine)

24 gauge galv-alum roofing with  $\frac{3}{8}$ " spacing between roofing and cedar

Staves held together with 3 tensioned bands (304 stainless steel, 3/4" Wide x 0.02" THK)

SECTION A-A  
SCALE 1:35

Min 2.5" gap between bottom of barrel and ground surface to be kept free and clear of debris at all time



**Wood-burning Model**  
Weight with Roof: 1950 lbs

Our wood-burning sauna comes complete with a Harvia M3 wood-stove.



APPROVED

CHECKED

DRAWN Kris Harris 2023-04-03

PROJECT

10ft Wood-burning Barrel Sauna

TITLE

SIZE	CODE	DWG NO	REV
B			
SCALE 1:35		WEIGHT 1950lbs	SHEET 2/2