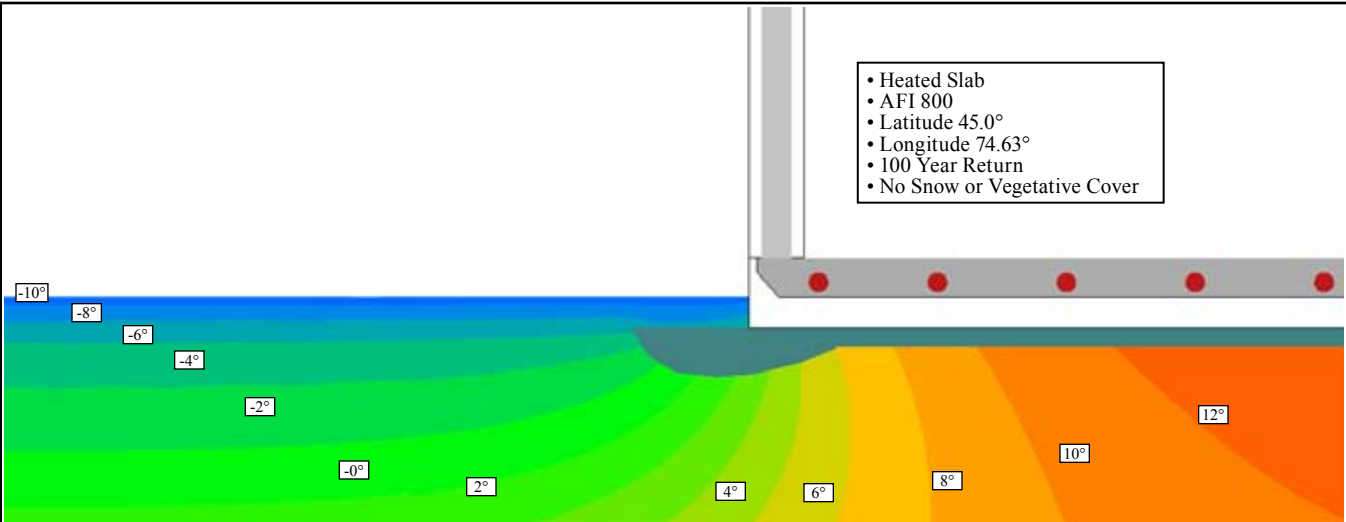


**LEGALETT.**



### DESIGN PARAMETERS

Latitude: .....	<b>45.0°</b>
Longitude: .....	<b>74.63°</b>
Building location: .....	<b>Snye, QC</b>
Building location elevation: .....	<b>64 m / 161 ft.</b>
Nearest weather station: .....	<b>Cornwall, ON</b>
Nearest weather station elevation: .....	<b>76 m / 209 ft.</b>
Nearest weather station average AFI in °C_Days: .....	<b>808</b>
Design AFI: .....	<b>1130</b>
Design outdoor temperature: .....	<b>-23° C / -9.4° F</b>
Mean soil design temperature: .....	<b>9° C / 48° F</b>
Existing simulation ground temperature based on AFI: .....	<b>8° C / 46° F</b>
Building Area: .....	<b>Avg. 124.5 m<sup>2</sup> / 1,340 sq. ft.</b>
Building perimeter: .....	<b>Avg. 49 m / 132 ft.</b>



### THE TEAM

Developer/Owner & Legalett installer: ..... **Rick Caldwell - Mohawk Council of Akwesasne.**  
(Housing Authority) / (613) 575-2250 ext. #2307 .

Legalett Service Representative: ..... **Keith Sanschagrin - KeiGee Sales / Barrie, ON /**  
(705) 737-3399 .

## BUILDING ISSUES

- This multiple slab subdivision consisted of four different footprints.
- The project begun in late fall and was subject to critical completion dates.
- The poor soil conditions would not permit the use of conventional foundations.
- The Mohawk Council encouraged local labour resources which had no previous Legalett installation experience, however the simplicity of the system enabled productivity after only a short training period.

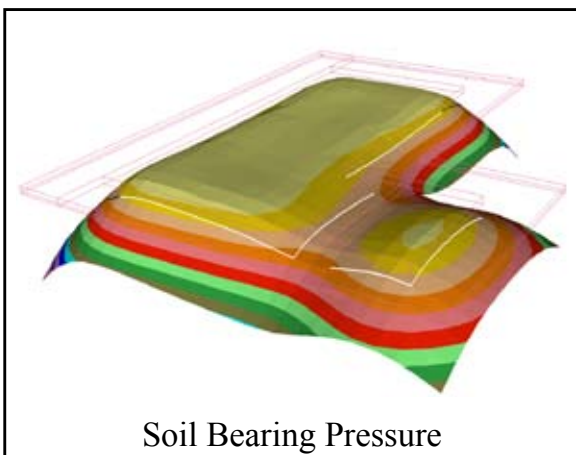
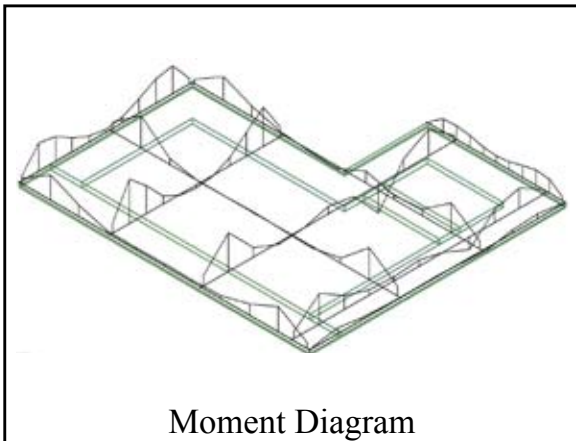
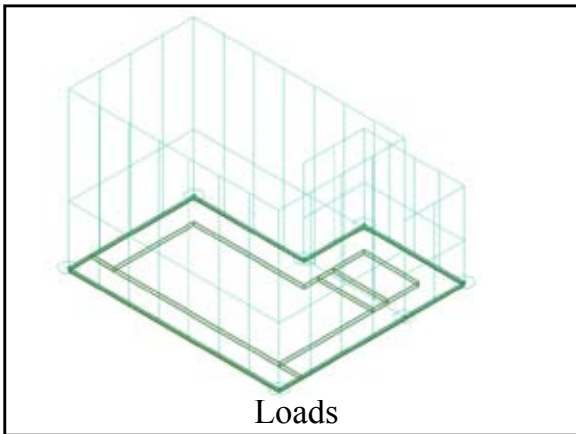
Keith Sanschagrin - (KeiGee Sales)

## WHY LEGALETT ?

• “We discovered too late that the soil, at the site for this 17 home subdivision in Akwesasne, would only support 300 lbs./sq.ft., and had it not been for this type of engineering, these homes would not have been built.” The design of the slab allows for the total load of the building to be spread evenly over the full footprint. 6” of EPS sits under the 5” reinforced concrete slab and 8” of clear stone provides a drainage layer and protects the foundation from the effects of frost. We would have different workers on site every day including students from the local trade school.” Rick said. “It worked out great. There was a very short learning curve and the design was fool proof. Every one of our slabs came out perfect.”

Rick Caldwell - (Mohawk Council of Akwesasne)

## STRUCTURAL



## ENERGY

LEGALETT CANADA INC.  
Legalett Installer Heat Loss Calculation

Project #	6037	Service Rep.	Kei Gee Sales
Order Date		Installer	N/A
Dwg. Deliver Date		Location	Snye, QC
Matl. Delivery Date		Project Title	SEA025

All values for calculations in this document are in imperial units, with the exception of the kW conversion at the end.

Choose Temperatures from the following chart	Enter R-values for building materials
Nearest Location	Wall
Outdoor Design Temp. (1)	Flat Ceiling
House Design Temp. (1)	Cathedral Ceiling
Soil Temp. (2)	Window
Slab Delta	Solid Door

Enter Building Parameters (Heated Areas Only)	Slab Perimeter (total outside measurement of edge element)	158. ft. (8)
Slab Area (total area of heated slab, including edge element)	Slab Area (total area of heated slab, including edge element)	1,302 sq. ft. (9)
Flat Ceiling Area	Flat Ceiling Area	1,302 sq. ft. (10)
Cathedral Ceiling Area	Cathedral Ceiling Area	sq. ft. (11)

Heat Loss

LEGALETT 4000 series Design Parameters PAGE 1 of 2

Project #	6037	Name	SEA 025 - as installed
Location			Snye, QC
Building size	1290	square feet	
Building size	120	square meters	
Building perimeter	158	feet	
Building perimeter	48	meters	
Indoor design temperature	22	Degrees Celsius (normally 22 C)	
Outdoor design temperature	-23	Degrees Celsius	
Mean Soil Temperature	9	Degrees Celsius	
Average Air Freeze Index	808	Degree Days-Celsius	
Mean Annual Temperature	7.2	Degree Celsius	
Heat Load	10.47	Btu per hour per square foot	
Heat Load	33.01	Watts per square meter	
Design Heat Density	13.24	Btu per hour per square foot	
Design Heat Density	41.73	Watts per square meter	
Slab on Grade	<input checked="" type="radio"/> Choose	tile, vinyl, linoleum, laminate	<input checked="" type="radio"/> Choose
Upper Floor	<input type="radio"/> Choose	hardwood, 1/2" carpet&pad	<input type="radio"/> Choose
Basement	<input type="radio"/> Choose	1" carpet&pad, wool carpet&pad	<input type="radio"/> Choose
pipe system	<input checked="" type="radio"/> 50 mm	<input type="radio"/> 100 mm	
Heater coverage	119.84	m <sup>2</sup> (standard coverage 127 m <sup>2</sup> )	
Volume flow rate per heater	712	m <sup>3</sup> /hour	<input checked="" type="radio"/> electric coil
Design Loop Length	19.1	m	<input type="radio"/> water coil
Design Equivalent Length	32.7	m	
Pressure Drop Loop	430	Fan 430 N/A Pa	adjust C23 to match
Air Volume flow per coil	178	m <sup>3</sup> /hour	N/A m <sup>3</sup> /hour
Required air Temp in pipe	33.12	C	N/A C

Piping Density

