

# Application (Page 1 of 4)

## PARTICIPANT INFORMATION

Company Name: Larsen Consulting Group, Inc.

Contact Name: Ryan Wrocklage

Address: 3710 Woodland Drive, Suite 2100

City: Anchorage

State: AK

Zip: 99517

Phone: (907) 245-8892

Email: ryan@larsen-anc.com

Website: www.larsen-anc.com

## CATEGORY ENTRY (check one category)

Single Family Homes (over 3,000 sq. ft.)

Commercial/Industrial/Institutional Buildings under 10,000 sq. ft.

Single Family Homes (under 3,000 sq ft.)

Commercial/Industrial/Institutional Buildings over 10,000 sq. ft.

Multifamily

Renovations

Agricultural

Affordable Housing

## PROJECT INFORMATION

Project Name: AVCPRHA Regional Headquarters

Address: 405 Ptarmagin Street

City: Bethel

State: AK

Zip: 99559

Date completed: February 2013

Total cost of project (exclusive of land): \$15,500,000

Dimensions of building (all floors of multi-story building):

Main Level: 19,650 square feet, 300' long x 105' wide (at largest dimension)

Upper Level & Mezzanine: 11,950 square feet, 300' long x 105' wide (at largest dimension)

Asking price/purchase price (Affordable Housing only):

N/A

Total sq. ft. of conditioned space:

31,600 square feet

## BUILT BY (if different than applicant)

Company Name: Association of Village Council Presidents Regional Housing Authority (owner and builder)

Contact Name: Lucas Parker

Phone: (907) 545-4651

Address: 405 Ptarmagin Street

City: Bethel

State: AK

Zip: 99559

## PANELS MANUFACTURED BY (members only)

Company Name: Premier Building Systems

Continued

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**DESIGNED BY** (if different than applicant – SIPA will only recognize members)

Company Name: { same as applicant }

Contact Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Please answer each question with as much detail as possible to help in the judging process.**

**Attach additional sheets if necessary.**

Describe the end use of the building:

This building is the headquarters office building for a housing authority in the western region of Alaska. Along with maintaining all office departments under a single roof, the building will also be used for construction training and community and regional meetings and cultural gatherings.

How did SIP construction help you get this job?

This building was constructed primarily by unskilled labor. During the entire construction process (floor framing to finishes) only one skilled builder (site foreman) would be on site at any given time. The remaining workforce consisted of unskilled laborers hired from the native villages that the regional housing authority has jurisdiction over. These laborers learned on the job constructing this two-story office building. To facilitate quality construction with this workforce, pre-fabricated building systems were extensively used and SIP played a major role in providing the unskilled laborers a way to construct the structural system.

SIP wall thickness and core material: 7.25" polystyrene core with 3/4" skins to remove gypsum wall board fire barrier requirement

SIP roof thickness and core material: N/A

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy?

SIP did provided a high insulating value for the wall system and increased the efficiency of the in-floor heating system. The primary benefit, however, was that the premanufactured system, accompanied with the installation drawings, provided a simple method for the unskilled, native Alaskan workforce to construct the vertical construction of the office building. This construction method ultimately saved the project on labor costs and energy costs, but more importantly worked as hand-on training for laborers with no construction experience and serves as an example what can be accomplished with SIP. The simplicity of the SIP erection also helped reduce overall project budget in the remote location where construction costs are very high.

Describe any innovative design elements or structural engineering involved:

In addition to using pre-manufactured SIP, the building employed extensive use of pre-manufactured and pre-finished materials:

In-floor heat with Warmboard sheathing with manufacturer's install drawings

70% of interior walls constructed of DIRTT movable partitions with manufacturer's install drawings

Pre-finished wall panels with comprehensive architect-generated install drawings

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Please list any certifications the project received, such as ENERGY STAR, LEED, National Green Building Standard, or local green building programs. Only list certifications that are completed:

N/A

HERS Index (residential projects): N/A

Blower door test results (ACH50) (residential projects): N/A

Energy use intensity in kBtu/ft<sup>2</sup> (commercial projects): Building occupied only for 2+ months. See attached letter.

Describe the HVAC system used on the project:

The primary source of heat is an in-floor radiant heating system along the exterior walls of the building. The spine of the building on both floors receive supplemental heat which accompanies the fresh-air delivery system. While the building is currently utilizing an efficient oil-fired boiler, this was designed as a short-term solution while the campus-wide (twelve buildings) central heating system is designed and constructed which will utilize an efficient biomass boiler to reduce the high cost of fuel in the rural setting.

Describe any other energy-saving materials used in the building envelope other than SIPs. List U-values of windows used and the R-value of any insulation materials.

Alaska-made, triple-pane, low-e, argon filled windows: R6.7

Floor soffit (building is raised on piles) filled with fiberglass blanket insulation: R40

Ceiling structure fiberglass blanket insulation: R50

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar:

Building-wide lighting was designed for low light levels so that small task lighting could be employed, only as needed, in localized areas.

The north, east and west elevations contain very few, and small, windows. The building is oriented with the long-side facing south where the majority of windows are located taking advantage of solar heat gain even during the low sun-angle winter months

Light from the windows is able to reach far into the building by maintaining a narrow, long structure. The mechanical system utilized highly efficient Warmboard in-floor heating system, a high-efficiency three-pass boiler and destratification fans.

Were any solar panels installed on the project? If so, indicate the size of the system:

N/A

Continued

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Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc.:

Gypsum wall board was only used when needed for fire-separation. All remaining finishes are pre-finished materials where most off-gassing occurs off-site and painting was limited to sparying exposed ceiling structure. Wall finishes consist of faux wood veneer and real bamboo plywood and the pre-manufactured DIRT wall system. Ceiling finishes consist of real hemlock, cork, faux wood veneer, and acoustic tiles. The cork has been installed in public spaces for an aesthetic means to reduce sound reverberation.

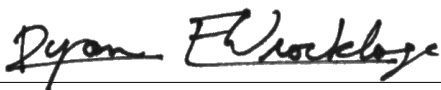
Any additional comments on the project:

Part of the housing authority's (the client, AVCPRHA) stated mission goals is to provide construction experience for unskilled villagers in the region. They provide initial training and then real-world construction projects for participants in order to assist them developing a marketable skill to increase self-worth, stabilize fiscal health, and reduce dependency on local, state and federal assistance. Bethel is a small town (pop. 6000) and the surrounding villages are tiny (pop. 40-300), and all of them are so remote to only be accessible by airplane. Under normal circumstances, high-quality and highly aesthetic construction does not occur in this rural region. However with this project, through utilizing SIP and the regional workforce to fill the client's construction crew, a real piece of architecture has been constructed and will show the region, as well as the state and others, what can be accomplished.

### CHECKLIST

- My company is a SIPA member. Panels for this project were manufactured by a SIPA member.
- I have answered ALL the questions completely
- I have enclosed the two required electronic images of the completed project meeting the requirements stated in the SIPA Building Excellence Awards guidelines
- I have indicated the HERS Index as determined by a RESNET certified home energy rater (residential projects)

**PLEASE CONFIRM:** I have read and understand the rules for this competition. This entry is structural insulated panel construction as defined in the SIPA Building Excellence Awards guidelines. I understand by making this submission that my pictures will be used by the Structural Insulated Panel Association (SIPA) to promote the use of structural insulated panels. I hereby give permission to SIPA to use the enclosed pictures for any use they see fit in that endeavor. I understand that where possible, SIPA will give credit for pictures used to my company as listed above.

Signature: 

Date: 03/18/2013

Entries that do not contain all required materials or are received after **March 12, 2013** will not be considered

Complete application and submit electronically to [info@schwindcommunications.com](mailto:info@schwindcommunications.com)

Or send hard copy applications to SIPA office:

P.O. Box 1699 Gig Harbor, WA 98335  
For FedEx or UPS Deliveries ONLY:  
6659 Kimball Drive NW, D-404  
Gig Harbor, WA 98335  
253.858.7472



Structural Insulated  
Panel Association

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[www.sips.org](http://www.sips.org)

**AVCPRHA HEADQUARTERS**

**BETHEL, ALASKA**

March 18, 2013

Mr. Chris Schwind  
Structural Insulated Panel Association  
(530) 281-3368

Re: Building Excellence Awards supplemental information

Mr. Schwind.

Please see the supplemental information below to be attached to our project submission for your Building Excellence Awards.

**Extent of SIP on Project**

SIP was used for all exterior walls and for the utilidor enclosure. The exterior walls and utilidor comprise 50% of the building envelope.

**Energy Efficiency of the Building**

Since the office building has only been occupied from the beginning of January, it is difficult to give an accurate Energy Use Intensity value. Instead below is a breakdown of the fuel costs for the new office building in relationship to other buildings in use on the housing authority's campus.

**2013 Heating Fuel Costs from January 1 – March 14, 2013**

|                              | <b>Total Cost</b> | <b>Fuel</b>    | <b>Gallons</b> | <b>Area (sf)</b> | <b>Gallons/sf</b> |
|------------------------------|-------------------|----------------|----------------|------------------|-------------------|
| <b>Headquarters Building</b> | <b>\$34,520</b>   | <b>\$7/gal</b> | <b>4,931</b>   | <b>31,600</b>    | <b>0.16</b>       |
| Development Office           | \$7,501           | \$7/gal        | 1,072          | 3,040            | 0.35              |
| Assisted Living              | \$21,851          | \$7/gal        | 3,122          | 17,000           | 0.18              |
| BLR Apartments               | \$45,188          | \$7/gal        | 6,455          | 18,000           | 0.36              |
| Ayalpik Apartments           | \$18,954          | \$7/gal        | 2,708          | 9,325            | 0.29              |

Prepared by,



Ryan Wrocklage, Architect | LEED AP  
Larsen Consulting Group, Inc.



The Association of Village Council Presidents Regional Housing Authority  
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(907) 543-3121 (800) 478-4687 (907) 543-4020 (FAX)  
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*"Working together to build quality housing in our region"*

March 18, 2013

## Regional Headquarters Building The Association of Village Council Presidents Regional Housing Authority Bethel, Alaska

Our new headquarters building located in Bethel, Alaska is subject to the harshest weather on earth. For the last 15 years I have used Structurally Insulated Panels (SIPS) in all the homes I build out on the west coast of Alaska bordering the Bering Sea, they perform excellently, easy to install and very useful with window, door and electrical chases already to go.

In our Headquarters Building all the exterior walls are made of SIPS, in some cases they go up 3 stories and in some cases the panels themselves are 2 stories with various geometric shapes. All the panels for our job are 8" wide.

We also use panels to insulate our utilidor containing sewer and water lines under the building.

Panels are the perfect product for construction in Alaska where our season is very limited and speedy construction materials and methods are essential.

Best Regards,

Joe Killeen  
Vice President, Development Department