Pax Futura

Description:

Located in the heart of Columbia City’s vibrant retail corridor, the project is named to reflect the developer’s belief that a peaceful future can be achieved through innovative design for energy conservation. Residents in the 32 studio and one-bedroom apartments and three live/work units benefit from healthier living with continuous, filtered fresh air, superlative comfort in a draft-free temperate interior environment, and increased quiet and security from the high-performance windows and doors.

The four-story multi-family apartment building designed by NK Architects is one of the first projects of this size in the northwest to target Passive House certification. As a result, Pax Futura consumes up to 80% less energy to heat and cool the units than standard buildings and uses durable materials and construction techniques that will last for future generations.

Special Feature:

As developer Sloan Ritchie strived to reach Net Zero with Pax Futura, he knew tackling hot water, the largest single consumer of energy on the project, was critical. A grant from Edwards Mother Earth Foundation provided Pax Futura the funds to install a solar hot water system to serve the building, reducing the energy to heat water for showers, laundry, dish washing by 75%.

Project Information:

<table>
<thead>
<tr>
<th>Location</th>
<th>3700 Hudson Street, Seattle WA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of dwelling units</td>
<td>35</td>
</tr>
<tr>
<td>Total heated SF enclosed</td>
<td>15,526</td>
</tr>
<tr>
<td>Average SF size of each unit</td>
<td>405</td>
</tr>
<tr>
<td>Bicycle parking for</td>
<td>19</td>
</tr>
</tbody>
</table>

SIPS (Structural Insulated Panel) Wall Assembly
EUROtek triple-pane UPVC windows
Balance ventilation with Heat Recovery
Six Zehnder ComfoAir500 units

Modeled Energy Performance:

<table>
<thead>
<tr>
<th>EUI Energy Use Index</th>
<th>22 kBTU/sf/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction from Energy Code performance up to 50%</td>
<td></td>
</tr>
</tbody>
</table>
Project Team:

Nicholson Kovalchick Architects
   Principal-in-Charge
   Joe Giampietro, AIA, CPHC
   Project Architect
   Lauren McCunney, AIA, CPHC
   Design Architect
   Brittany Porter, AIA, CPHC

PHIUS+ Building Consultant
   Dan Whitmore, CPHC – RDH Building Science Inc.
PHIUS+ Energy Modeler
   Skylar Swinford, Energy Systems Consultants
PHIUS+ Verifer
   Tadashi Shiga - Evergreen Certified LLC

MEP Engineer
   Galen Staengl, PE, Staengl Engineering

General Contractor
   Sloan Ritchie, Cascade Built
Mechanical Contractor
   Cascade Comfort Systems

Structural Engineer
   Panos Tochalakis, PE, Yu & Trochalakis Engineers
Civil Engineer
   Leonardo Difrancesco, LD Engineering LLC
Landscape Architect
   Joseph Garel, True Scape Design
Surveyor
   Brent Eble, Emerald Land Surveying, Inc
Geotechnical Engineer
   William Chang, Geo Group Northwest, Inc

Building System Information:

SIPs walls provided           R-28  
   Premier Building Systems – Todd Bell  
   no added material cost

Windows provided        U-0.20  
   EUROtek Windows & Doors – Dori Caro  
   25% cost premium

Heat Recovery Ventilators efficiency 85%
   Zehnder – Small Planet Supply  
   Six (6) Distributed throughout the building

Heat Pump ventilation air tempering
   Chilltrix Heat Pumps COP 3.0

Solar Hot Water system
   Silk Road Environmental  
   with backup gas fired boiler

Cost Premium:

Because the developer was committed to achieving PHIUS+ certification, the project team employed an Integrated Design Process (IDP) at project inception.

As the general contractor, Cascade Built estimates the additional construction cost premium of the project’s Passive House elements at 5% higher than a 2015 WSEC energy code compliant building.

The result is 50% better energy performance plus better health and comfort. The project will comply with the projected 2031 energy code and, with the addition of Renewable Energy Credits (RECS), will be a Net Zero site.