





BEACHwoods IS A SUSTAINABLE HOUSING PROJECT firmly grounded as a community hub. With a focus on massing, orientation, and connection, the project is able to achieve its goals as a Net Zero building while responding to the Rainier Beach neighborhood.

In opening the site along the east-west axis, BEACHwoods creates efficient ventilation paths and maximizes southern sun exposure. Geothermal heat pumps and solar water heaters are utilized to lower our energy consumption before incorporating the energy produced by an expansive solar array. Stepped south-facing roof lines maximize the efficiency of the solar array by minimizing shading and aligning our panels to the sun's path in Seattle. BEACHwoods also takes advantage of the sloping roof lines by harvesting the rainwater run-off and recycling it to irrigate the living walls and green roofs in the public space.

Most importantly, BEACHwoods responds to the site's greatest asset; Rainier Beach High School. RBHS is the heart of the community and an active node that demanded a response. The secondary program, an early childhood and family resource center, is housed in the southernmost building on the site. The space opens up from the busy intersection of Henderson and Rainier, it holds offices, classrooms, and flexible event space for use by family oriented non-profits and the extended community. The plaza level draws people on the street into the site where micro-retail spaces create activity and encourage community interaction. Views of the football field activate the site around the clock.

Utility spaces are centrally located on the street level to provide residents with easy access, while removing them from the public spaces. This allowed the main outdoor plaza to be located on the second level; fully preserving the open space and enhancing connections between the high school and community center to the west. Radial data spawning from the heart of the community helped to inform the massing of the building on the site; opening to the west and embracing activity on the street.

PRIMARY green strategies

SOLARimplementation

> PHOTOVOLTIC SOLAR PANELS > SOUTH FACING SHADING DEVICES > DAYLIGHTING THE INTERIOR

WATERefficiency

- > XERISCAPING
- > BIOSWALES > RAINWATER HARVESTING
- > SOLAR WATER HEATING PANELS
- > HIGH EFFICIENCY FIXTURES
- > GREEN ROOFS/LIVING WALLS > GRAYWATER SYSTEM



> THERMAL MASS > GEOTHERMAL HEATING AND COOLING > WIND TURBINES



> CROSS VENTILATION > VERTICAL VENTILATION STACKS > WIND TURBINES

- > OPEN SPACE
- > GREEN INFRASTRUCTURE > PROMOTE ACTIVITY AND INTERACTION
- > BIKE STORAGE AND WALKABILITY > VIEWS INTO THE COMMUNITY

GREENpower

- > PHOTOVOLTIC SOLAR PANELS
- > GEOTHERMAL HEATING AND COOLING

NEIGHBORHOODconnectivity

> SOLAR WATER HEATING PANELS





GROUNDlevel

PLAZAlevel





MULTI-AGEplay area - A.M.



1

SOLARimplementation

SOUTH FACING SHADING DEVICE SOLAR PHOTOVALTIC PANELS 2.

WATER efficiency

- HIGH EFFICIENCY APPLIANCES AND FIXTURES, WITH GRAYWATER REUSE SYSTEM WHERE APPLICABLE
- 2. XERSCAPING ON ALL OUTDOOR LANDSCAPING (NATIVE/ADAPTIVE PLANTS, EFFICIENT RAINWATER DIRECTING DRIP IRRIGATION SYSTEM)
- RAINWATER CATCHMENT CISTERN IMPERVIOUS SURFACE ALLOWS FOR RAINWATER 4 DIRECTION/CATCHMENT
- ROOFTOP RAINWATER CATCHMENT SOLAR WATER HEATING PANELS (APPROX. 5% OF TOTAL SOLAR PANEL SQFT)

PASSIVEheating

- CLT EXTERIOR WALL TYPE WITH THERMAL MASS FOR HEAT RETENTION
- 2. GEOTHERMAL HEATING ABOVE GROUND EQUIPMENT LOCATION

WINDutilization

- BARN STYLE DOORS INTERIOR DOORS ALLOWS FOR MAXIMUM CROSS VENTILATION OPPORTUNITIES 2.
- INTERIOR STACK VENTILATION TUBES WIND TURBINE 3.

NEIGHBORHOODconnection

- RESIDENCE GREEN SPACE
- PUBLIC SPACE THAT PROMOTES ACTIVITY
- PROMOTES ALTERNATE TRANSPORTATION METHODS

GREENpower

- SOLAR PHOTOVALTIC PANELS
- HIGH EFFICIENCY APPLIANCES AND FIXTURES SOLAR WATER HEATING PANELS
- GEOTHERMAL HEATING ABOVE-GROUND EQUIPMENT LOCATION
- 5. WIND TURBINE

THIRDlevel

MULTI-AGEplay area - P.M.



PUBLICplaza



2









ROOFlevel



PUBLICseating area

3



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HAMMER & HAND





