



NEW

High Performance Consideration



Renaissance Secondary School



Renaissance Secondary School

Participant information

Premier SIPs
Becky Susan
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Puyallup, WA 98375
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Category: Commercial/Industrial/Institutional Buildings over 10,000 sq. ft.

High Performance: Yes

Project information

Renaissance Secondary School
3954 Trail Boss Lane
Castle Rock, CO 80104

Date Completed: 08/2017

Total sq. ft. of conditioned space: 38,225 sqft

Built By (if different than applicant)

JHL Contractors, Inc.
Aimee Clode
7076 South Alton Way, H
Centennial, CO 80112

Panels Manufactured By: Premier SIPs

Designed By (if different than applicant - SIPA will only recognize members)

Ewers Architecture
Perer J. Ewers
1420 Washington Avenue
Golden, CO 80401

Total sq. ft. of conditioned space: 38,225 sqft



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Describe the end use of the building:

New secondary school with vision for adventure throughout all curriculum.

How did SIP construction help you get this job?

Energy efficiency for operational costs and for future academic curriculum. Social responsibility to choose products that are sustainable for the future of the students attending this school.

SIP wall thickness and core material: 6"

SIP roof thickness and core material: 10"

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

More than 35,380 2sf of roof and wall panels were used. These large panels on a huge project offered speed of construction to close in the school and open for students in the fall of 2017. A tight construction schedule!

Describe any innovative design elements or structural engineering involved:

- > The courtyard design with exterior circulation is unique for Colorado, but this design element is important to the school's mission as an expeditionary school.
- > The exterior hallways ensure the students are connected to the outdoors and experience the current climate even when cold or snowing.
- > The courtyard also provides an intimate outdoor space that is the heart of the school.
- > A slide from the second floor down to the first floor is popular with the students and reminds us all that we can have fun, even just traveling from room to room
- > Roofs are all designed for future installation of photovoltaics (PV)
- > Kitchen designed as a classroom for students to help prepare healthy lunches

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

Not yet completed, only a few months open. Pursuing! Energy rater conducted energy use modeling (not yet provided for application), and is monitoring energy use from actual operations for the first year. energy intensity calcs: Code baseline EUI - 54.9 kBtu/SF/year
Design EUI - 42.9 kBtu/SF/year
22% EUI reduction

HERS Index (required only for High Performance Category and recommended for residential projects): .

Blower door test results (ACH50) (required only for High Performance Category and recommended for residential projects): .

Energy use intensity in kBtu/ft2 (required only for High Performance Category and recommended for commercial projects): 42.9

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Describe the HVAC system used on the project: > Variable Refrigerant Flow (VRF) from Daikin for all classrooms and administration

- > High efficiency rooftop units for Commons and Gym
- > The HVAC system is all electric so that most of the energy usage of the building can be offset using photovoltaic panels
- > Big Ass Fan and Air Pear used to de-stratify the air in tall spaces
- > Plasma air cleaners for return air in classrooms, to reduce the amount of outside air that must be conditioned

Describe any other energy-saving materials used in the building envelope other than SIPs. List U-values of windows used and the U or R-value of any insulation materials. (judged only for High Performance Category)

- > All classrooms have operable windows (solid fiberglass windows with U-values = 0.28)
- > Insulated perimeter foundation with thermal break at edge of concrete slabs
- > R-30 roof insulation

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category):

- > Low flow urinals and dual-flush toilets
- > Low-VOC finishes throughout the school
- > Light colored roofing to reduce cooling demand
- > Beetle Kill Pine interior wood finish
- > LED lighting throughout interior and exterior
- > Daylighting with automatic dimming controls

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc. (judged only for High Performance Category):

- > Native and xeric landscaping

Commons

Renaissance Secondary School



Front view

Renaissance Secondary School



Entrance to Commons

Renaissance Secondary School



Exterior rear view

Renaissance Secondary School



Graphics and office

Renaissance Secondary School



North side

Renaissance Secondary School



Photo view description

Renaissance Secondary School

