daVinci Arts Middle School
Portland, OR

ARCHITECT
SRG Partnership

Energy Design Consulting
U of OR Energy Studies in Buildings Lab

General Contractor
Todd Hess Building Co.

Manufacturer
CPI Daylighting, Inc.

CPI Representative
Bain Associates Inc.

CPI DAYLIGHTING *solutions*

THE SWEET MELODIES OF DYNAMIC DAYLIGHTING

Portland, Oregon's daVinci Arts Middle School used the same portable classroom for its music lessons since 1918. Ninety-one years later, in the fall of 2009, da Vinci Arts Middle School was the first of 87 Portland Public School buildings to receive a sustainable makeover.

The new, free-standing, 1,500-sq.-ft. Evans-Harvard High-Performance Classroom set on da Vinci's campus has earned LEED Platinum certification for a variety of sustainable strategies including its single slope ControLite® intelligent skylight by CPI Daylighting. Specified by SRG Partners, Portland, Ore., for its large size, reasonable price and modulating control feature, the skylight provides dynamic daylighting for the building's school and community-wide music programming while saving energy and minimizing internal heat gain simultaneously.

"Having an oversized skylight was critical to providing enough daylight during the morning and evening hours," said Timothy R. Grinstead, AIA, LEED AP, Associate, SRG Partnership. "Having modulating control over the amount of light was also important to keeping illumination levels and heat gain within acceptable levels during the hotter and brighter times of year,"

The 11.5-ft.-wide by 19-ft.-long intelligent skylight with clear translucent panels is an integral part of the building's larger sustainable design strategy that strives to achieve net-zero energy consumption in the future. Other sustainable features include passive cooling that utilizes added thermal mass for heat storage during the day, a roof-integrated 153-tile photovoltaic array that currently powers half of the building's electric load and a rainwater retention and infiltration system.

"The light is beautiful," said Nancy Bond, Resource Conservation Specialist for Portland Public Schools. "It helps us reduce our electric use and one of the goals of the building is to get to net-zero. We're on track to do it and its because we have that beautiful light from the skylight."

Key to ControLite®'s success is its intelligent sun-tracking system with built-in SolaBlades®. The system captures maximum sunlight in the morning and late afternoon hours, but reduces sunlight during peak hours by rotating the skylight's internal blades to create the classroom's desired shading and sunlight transmission. A reflector suspended beneath the skylight helps disperse the daylight, maximizing high contrast ratios and increasing visual comfort as well.

"We consider the entire building as a whole, integrated system that needs to work together to maintain comfort," said Grinstead. "Providing daylight in a controlled manner is a big part of this concept."

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DA VINCI ARTS MIDDLE SCHOOL

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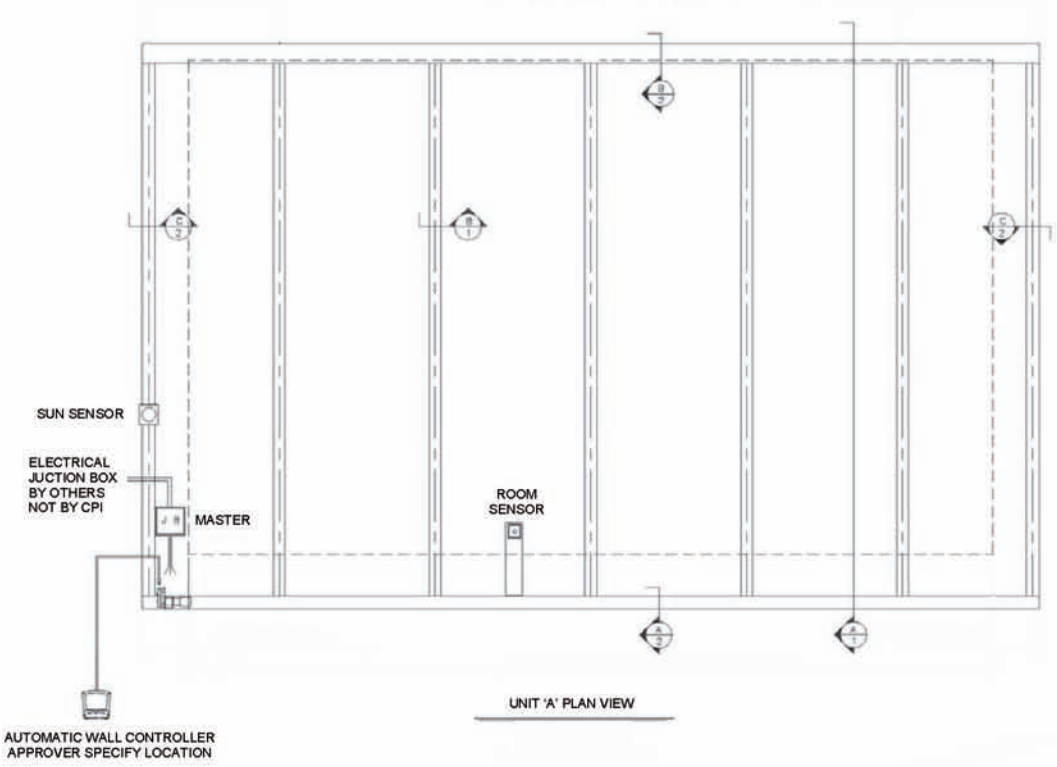
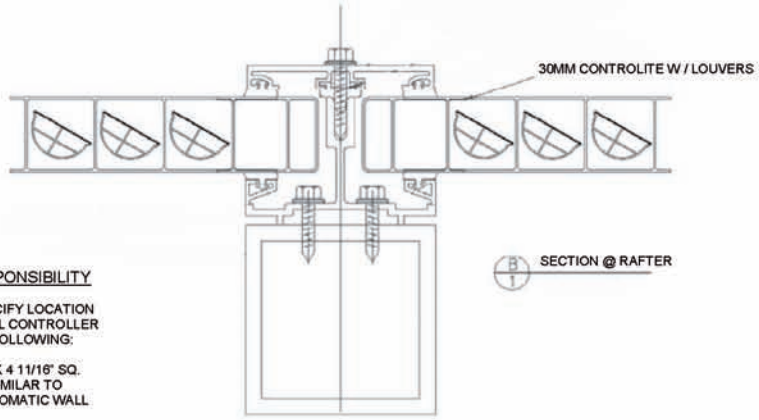


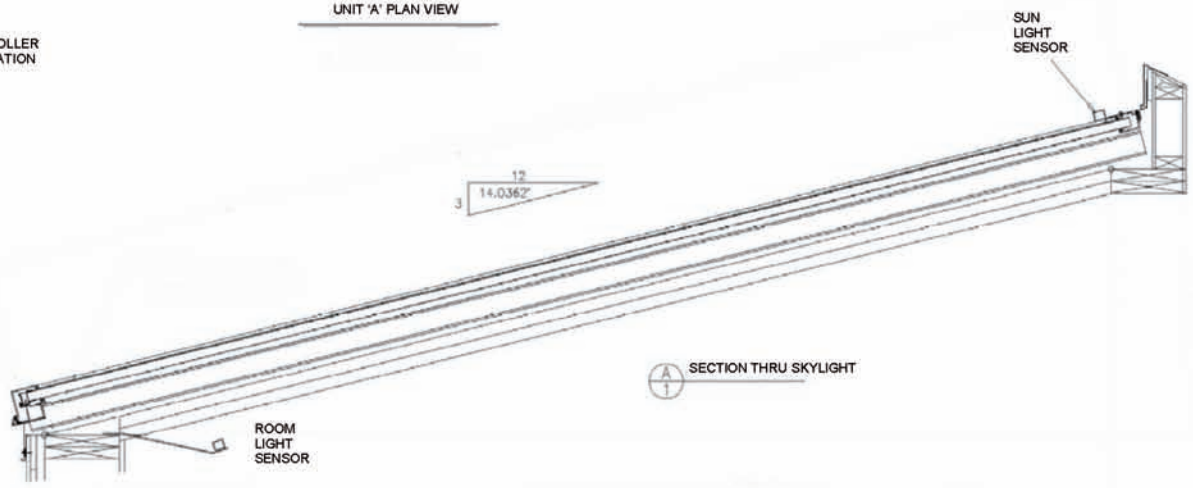
UNIT 'A' PLAN VIEW

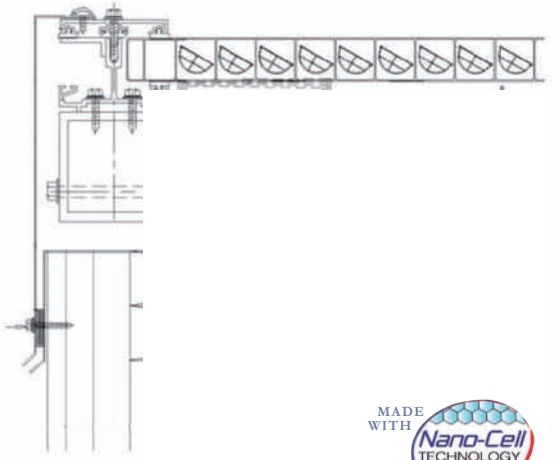


CUSTOMER RESPONSIBILITY

CUSTOMER TO SPECIFY LOCATION OF AUTOMATIC WALL CONTROLLER AND PROVIDE THE FOLLOWING:

1. ELECTRICAL BOX 4 11/16" SQ. RACO #259 OR SIMILAR TO MOUNT THE AUTOMATIC WALL CONTROLLER
2. CAT 5E568 B.2 SHIELDED COMM. CABLE FROM THE WALL CONTROLLER TO THE SIDE OF THE END RAFTER, SEE PLAN
3. ELECTRICAL JUNCTION BOX WITH 120V, 5 AMP SERVICE (MIN) ON ITS OWN CIRTCUIT BREAKER PROVIDE OUTLET AT THE SIDE OF THE END RAFTER. SEE PLAN





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