

Executive Summary

Background

- **Building Name:** Library and Learning Resource Center, Rio Hondo Community College
- **Location and Site:** 3600 Workman Mill Road, Whittier, California 90601-1699
- **Building Occupant Name:** Rio Hondo
- **Occupancy or Function Types:**
 - Primary Occupancy: Library
 - Mixed Occupancy: Learning Resource Center
- **Size:** 108,000 s.f.
- **Number of Stories Above Grade:** 2
- **Primary Project Team:**
 - **Owner:** Rio Hondo Community College
Website: www.riohondo.edu
Owner Representatives:
 - Voiza Arnold, Ph.D, Executive Vice President, Academic Services
 - Dr. Andy Howard, Executive Director, Planning and Developing Office L-400C
 - **Architect:** AC Martin Partners, Inc
Website: www.acmartin.com
 - **MEP Engineers:** GLUMAC International
Website: www.glumac.com
 - **General Contractor:** AC Martin Partners, Inc
Website: www.acmartin.com
 - **Electrical Contractor:** GLUMAC International
Website: www.glumac.com
 - **Structural Engineers:** AC Martin Partners, Inc
Website: www.acmartin.com
 - **Landscape Architect:** WRT
Website: www.wrtdesign.com
- **Dates of Construction:**
 - **Planned:** 2008
- **Cost:** 27.3 million





Architecture

The Library and Learning Resource Center that Rio Hondo Community College is adding will be a beacon sitting atop a hill for the city of Whittier. With its glass façade at night it will be perceived as a glowing lantern for the community. It provides a place to study and learn for the students. It is located on the lower quad of the campus and is designed to emphasize the surrounding landscape.

The project consists of two floors above grade with the stacks being located on the second floor. The first floor contains study rooms, lecture halls, offices, and studios. The second floor consists of more open spaces with the stacks and a large reading/study area. The architect plays with overlapping, multi-level ceiling planes in the large reading area to make the space more interesting than just a box. Along with the large public tables in the middle of the area the architect also creates intimate spaces along the perimeter walls of the reading area.

Building Envelope:

The exterior walls are made of precast concrete. Throughout the building there are concrete columns and concrete slab. A glass curtain wall wraps the south façade structure. The glass is Solarban 60 clear vision glass and Solarban 60 clear vision glass with ceramic frit.

The second floor consists of concrete columns, steel beams, and composite decking. The main entrance has an 18" thick concrete shear wall and aluminum glass curtain walls on the other two sides. While walking through the main entrance you walk under an aluminum canopy that extends into the interior of the building. On the north façade lies a steel frame wire glass window.

The larger portion of the roof of the Library/Learning Resource Center is sloped downward from the center of the building towards the outside. The ceiling height ranges from 15'-20'. The roof is made of single ply membrane.

Mechanical:

The mechanical system of the variable air volume system of the Library/Learning Resource Center contains:

Five fan coil units located in the Dean's Office, Library Meeting Room, Extended Hours Study, and two Teleconference Lounges. The fan coil in the Dean's Office is rated at 275 cfm. The fan coil in the Library/Meeting Room is rated at 700 cfm. The fan coil in the Extended Hours Study is rated at 1600 cfm. And both fan coils in the Teleconference Rooms are rated at 1200 cfm.

Two air handling units located on the roof service each floor separately. The first floor air handling unit is rated at 45,000cfm and the second floor air handling unit is rated at 52,000 cfm.

One plate and frame heat exchanger

Four sound traps that are sized from 42000-52000 cfm.

Four exhaust fans that are located on the roof and service toilet exhaust, electrical room, and the elevator machine room.

One hot water pump that is located on the ground floor

Lighting:

Lighting in the Library/Learning Resource Center consists primarily of fluorescent lamps running from 277/120V. Metal halide lamps are used for a few areas such as the entry exterior glass wall, exterior signage, columns, and in special areas of the lobby.

Due to the large focal point in the lobby that extends to the top of the ceiling at 38' high, metal halide floor recessed luminaries are used to achieve the best uniformity on the three panels. The lobby also consists of an exhibit area that uses (2) 20w T4 CMH, in a combo light can allow for accenting the exhibits. Because the lobby is a two story atrium, metal halide lamps are used at the entry to achieve the correct light level. The fluorescent lamps did not have the output to put the correct light level in the space because of the high ceiling. The lobby also contains recessed adjustable wallwash troffers that provide light for the walls under the open walkway. In the lobby the bridge contains recessed downlights to provide adequate lighting under the bridge.

The stack area had to be lit from stack mounted fluorescents due to the architects desire to keep the ceiling clean from a ton of fixtures.

Electrical:

All power distribution in the Rio Hondo Library and Learning Resource Center is the standard 120/208V and 277/480V. Power is first brought into the system through a 1000KVA campus utility transformer that feeds into the main switchboard. The main switchboard is rated at 1200 A, 277/480V, 3P, 4W and GND, 42KAIC. This switchboard services Panel 1L and Panel 2L along with the mechanical equipment and both elevators. A central inverter is also powered from the main switchboard. Power is then fed through two transformers rated at 150KVA and 225KVA, respectively.

These two transformers then feed into two distribution boards that are sized at 600A, 120/208V, 3P, 4W and GND, 42KAIC and 800A, 120/208V, 3P, 4W and GND, 42KAIC, respectively. These distribution panels provide power for panels 1A, 1B, 2A, 2B, 1C, the roll up gate, 1D, 1E, 2C, 2D, 1F, 2E, and finally 1G. This can be seen from the single line diagram in the appendix. All panels are sized at 150A, except for 1G which is sized at 100A. These panels are located in different rooms which can be seen from the attached electrical drawing in the appendix.

Due to the LEED credit, daylight sensors are needed around the glass curtain wall on the south façade of the building. During the day surface mounted fixtures around the glass wall should be turned off to save energy when not necessary.

The classrooms, offices, and private offices all consist of pendant mounted indirect/direct linear acrylic patterned diffuser luminaires. Back of house rooms contain just simple strip lights with wire guards for functionality.