

Facility and Programming Features and Tour Script

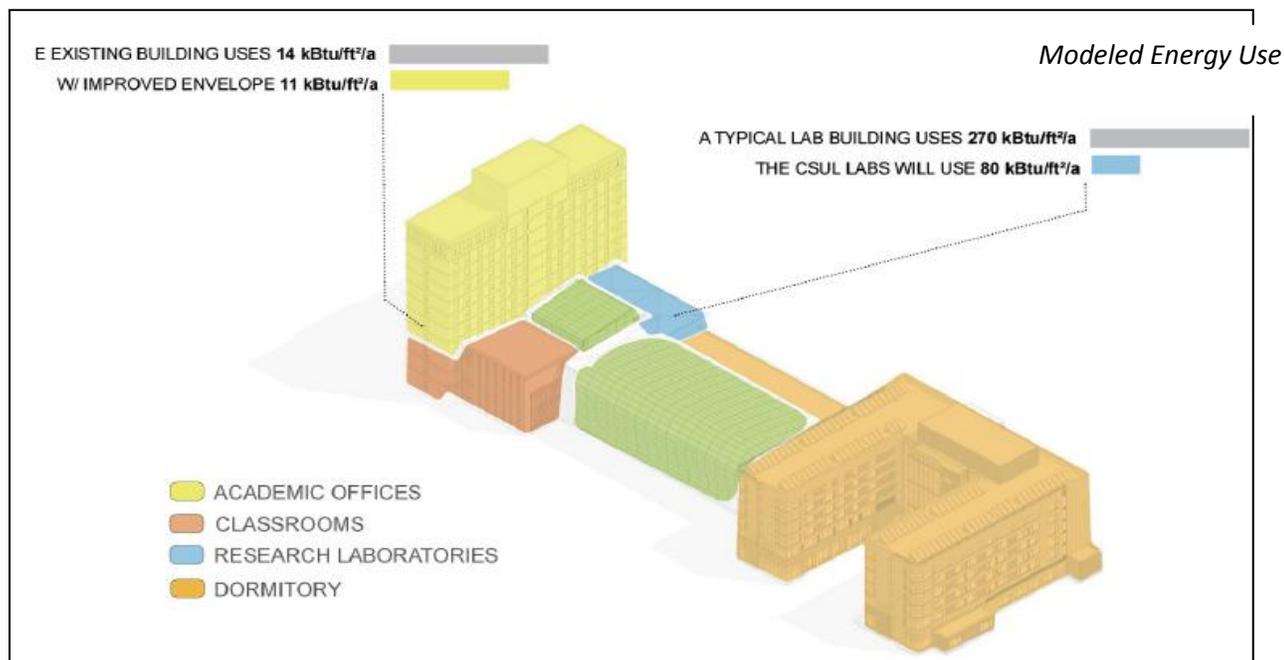
BACKGROUND

Preparing people to lead extraordinary lives

The Institute of Environmental Sustainability (IES) is the latest in Loyola's fleet of high-performing buildings. Starting with the Klarchek Information Commons and continued with Cuneo Hall, the Niehoff Nursing School, the Damen Student Union, and di Nobili Hall, Loyola is exploring how green buildings can support a premiere educational experience. Loyola is committed to integrating sustainability throughout the curriculum, culture and campus in the built and intellectual infrastructure of the university.

The IES is an innovative, interactive, and adaptable sustainable living and learning environment; and provide both a prototype and a demonstration of the opportunities for innovation and integration that an urban academic/residential setting provides. As part of the extension of the campus south of W. Sheridan Rd., IES acts as a link between the academic campus and the new sophomore and freshman residential area, and creates a unique identity for the South Campus. The center houses many working laboratories, where a diverse population of Loyola University students, researchers, and community members will participate in ongoing experiment in innovation and environmental stewardship.

IES is not only a building but it is a new academic unit merging the Environmental Science Department, the Office of Sustainability, the Center for Urban Environmental Research and Policy and the academic programs of the Retreat and Ecology Campus.



Facility Statistics:

- 217,000 square feet
- 91 geothermal wells of 500 feet deep providing over 700 tons of cooling energy (from Elara)
- Targeting LEED Gold (to be determined in 2014)

DESIGN AESTHETIC

The visual character of the building complements the character of the surrounding campus buildings, but also create unique identity for the South Campus. Brick, similar to the brick palette of neighboring buildings, is the dominant material. Major programmatic elements, such as the greenhouse, the cafe, and the ground floor recreation and demonstration areas, is visible from the street and provides an active and welcoming presence that enlivens the community.

SITE CONSIDERATIONS

The site is located south of W. Sheridan Rd. and east of N. Kenmore Ave. The buildings are shaped to preserve natural light and views. The form of the buildings also creates an open space between BVM Hall, the San Francisco Residence, and the Ignatius

Residence on the west side of Kenmore Ave., creating a gateway to the South Campus and taking advantage of the possible future conversion of Kenmore Ave. into a pedestrian boulevard.

COMMON AMENITIES

BVM Hall and the San Francisco Residence share an open ground floor and a main entry. The ground floor includes a hydroponic demonstration area and a visual link to the Clean Energy Lab and the greenhouse. A mezzanine adjacent to the greenhouse on the second floor is accessible from the cafe and recreation area of the San Francisco Residence and the activities taking place within the greenhouse will also be visible from the northern wing of the residence. This seamless connection between the two buildings is part of what makes the IES an innovative project; an environment where students can participate actively within, as well as help to create, a living/ learning community.



Design Team:

- Solomon, Cordwell, Buenz Architects
- Elara Engineering
- Transsolar
- Halvorson and Partners
- Powers Construction

TOUR SCRIPT:

Entrance Atrium-

PASSIVE VENTILATION - One of the first things you'll notice as you enter the facility is the temperature. You are standing in a part of the facility that is unconditioned, meaning, it is not heated or cooled. This space utilizes passive ventilation and the natural effect of heated air lifting to ventilate the space. This space can be considered the lungs of the building as the air in this space can be utilized in other parts of the building. The windows on two neighborhoods of San Francisco Hall open into this space and louvered windows open into the IES atrium.

AQUAPONICS - This space houses one of two aquaponic systems in the building. This aquaponic system is more ornamental in design but still grows fish and produce for food. Students in the Solutions to Environmental Problems (STEP) Food course have worked to identify what to grow in these systems and how to process them for market. We hope that the fish and produce will be available through Loyola Dining in the Engrained Café sometime in 2014.

CLEAN ENERGY LAB - Through this atrium you enter the Clean Energy Lab. This lab houses Loyola's award winning Biodiesel program. Recognized many times by grants and other awards, the biodiesel lab has increased capacity and can process 100,000 gallons of waste oil into vehicle fuel although it will most likely be processing 20-30,000 gallons per year to start.

ECODOME - Up the stairs is the Ecodome, a 3,100 square foot greenhouse to be used in sustainable food systems research projects as well as urban agriculture production. Greenhouse and Atrium each house aquaponics systems that demonstrate sustainable food production in a controlled setting. Vertical farming elements are demonstrated in Atrium and Greenhouse spaces.

GREEN SIGNAGE - Signage around the facility will focus on the sustainability features of the building as well as actions that Loyola has taken across the campuses. All signage is printed on recycled content material with GreenSeal certified inks and finishes.

1st Floor Lounge

GEOHERMAL - 91 wells reaching 500 feet into the ground provide heating/cooling energy for the facility. This is the largest system within the City of Chicago and the first in the State to be installed underneath the facility's footprint. This system will save about 30% off our heating and cooling costs functioning like a large radiator into the ground, sending energy, in the form of heat, into the earth in the summer and drawing in heat during the winter. The thermostats you see display the real-time temperature of the coolant as it is sent into the well system and it returns to the building. Heat exchangers then transfer this energy into other coolant that travels around the building to condition spaces as needed. In the winter, additional heat energy is provided through a boiler that burns biodiesel from the clean energy lab. The only outside energy needed to heat and cool the building is for fans, pumps and valves to control the system.

RAIN HARVESTING- Water falling on the roof of San Francisco Hall is collected in a 3,000 gallon cistern located on the first floor of San Francisco Hall. The water is then reused in the greenhouse operations for irrigation and landscape and for flushing the toilets located directly off the Lounge. There is also a connection to city water during times of drought.

GREEN ROOFS - Another part of the facility's stormwater management is our green roofs. Loyola is a leader in green roofs, having more than any other University in the Midwest. The IES will have 3 green roofs providing stormwater capture, improving air quality, providing habitat and reducing the urban heat island.

UNDERGROUND STORMWATER - Additionally, large underground concrete cisterns capture rainwater and slowly release it into the ground or the city's sewer system. This is part of Loyola's larger stormwater strategy to reduce reduce the amount of rain water being directed to the city's combined sewer system. This in return reduces water contamination in local water ways and prevents basement flooding for Loyola and our neighbors.

Engrained Café and San Francisco Hall

ENGRAINED CAFÉ – This cafe is a coffee and sandwich counter that features seasonal, local and organic produce. Equipment conserves energy and water, promotes sustainable food systems and zero-waste strategies including reusable flatware and composting/recycling. Check display boards for current offerings from local farmers and bakeries. Programming features environmental, sustainable and relaxed themes including singer/song writers, spoken word poetry, fine art presentations and a game night. Environmental faculty and guest speakers present in the café or the nearby multi-purpose room.

SAN FRANCISCO HALL is a 410 bed residence hall that serves Freshmen and Sophmores. It is home to the GreenHouse Learning Community (70 students in 13/14). Some features include seminar rooms, shared laundry and bathroom space and large recycling rooms for waste management.

Houses GreenHouse, a green learning community consisting of freshmen and sophomores that take a shared class and co-curricular activities to explore sustainability.

Has been wired with submetering at the floor level so the 13 residence 'neighborhoods' can measure electricity use and conduct conservation competitions. Smart thermostats allow students to control their room's climate through smart devices. An online dashboard will show real-time energy use and facilitate competitions and conservation.

Houses a model green dorm room showcasing green technology and behavioral options to living sustainably at Loyola. Is available for in person tours as part of the potential student campus tours and in a virtual tour on the web.

San Francisco will have EcoReps for the Residence Hall Council that share sustainability concepts with other students and their halls.

IES Atrium

From the atrium you can see a number of classrooms and laboratory spaces. This is also the entrance to BVM Hall, an 11 story building that was built in 19XX for the Blessed Virgins of Mary order to serve as a dormitory for nuns teaching at Mundelein College.

Houses state of the art laboratory spaces for Anthropology, Environmental Science, Clean Energy and Ecotoxicology research. You can also see one of two vertical farming installations here where food crops are grown for harvest on a wall-mounted lattice structure. Students maintain these gardens and sell the produce at Loyola's farmers market and through the Engrained Café.

On the first floor are two general purpose classrooms, a view into the Clean Energy Lab, a student study area and one of three Anthropology labs in the building.

ECOLOGY LAB - Located on the east side of the 2nd floor, this space houses research related to nutrient cycling in wetlands, aquatic ecology of microalgae and risk assessment related to invasive species.

STEP LAB - The Solutions to Environmental Problems (STEP) lab is located on the west side of the 2nd floor and hosts entrepreneurial courses exploring and creating solutions to some of today's most pressing environmental issues. STEP

Water had looked at water contamination and the issues related to water privatization in developing economies. STEP Habitat audited the energy use of Dumbach Hall and provided a roadmap to make the building more energy efficient. STEP Food has explored the food procurement policies of Loyola Dining, created the Loyola Farmers Market and multiple edible garden projects across campus and at the Retreat and Ecology Campus.

ECOTOXICOLOGY LAB - On the third floor (and in some spaces in the basement) is the Ecotoxicology and Risk Assessment labs. These are research spaces exploring the role contaminants play in ecosystems and identifying thresholds for pollution levels in soils, water and organisms.

BVM Hall (87,000 square feet)

Houses the academic elements of the Institute of Environmental Sustainability plus the following academic departments: Mathematics, Anthropology, and Niehoff Nursing School offices based at Lakeshore Campus. By reusing the building

Lighting- High efficiency lighting and control systems including LEDs and motion sensors conserve energy. Day-lighting provides ideal live/study settings for residents and staff.

Air Quality- Air quality in the facility will be continuously monitored to incorporate fresh air as needed without losing heat energy to the outdoors. Only green cleaning supplies are used across Loyola limiting the harmful chemicals students and staff are exposed to.

