

## **Architecture 683 - Option II Studio – Fall 2009**

Professor Don Genasci and Professor Hajo Neis

### **PORTLAND SUSTAINABILITY CENTER**

#### **Project Introduction**

For this very ambitious and real project in Portland/Oregon, we have selected three sites between 4th & 5th Market to Harrison. For the design we first require an urban analysis – how can this urban area be improved/what are the issues/opportunities? Second we require an understanding of the sustainable issues and ambitions involved – water, heating, cooling, materials, community, and Living Building Challenge. Third, we also would like you to understand formal issues – issues that deal with the architecture itself.

#### **Urban analysis – how can this area be improved/what are the issues/opportunities?**

Montgomery Street is a major spine that could be developed to give greater identity to the University District. This street runs from the river and river park area, and is the main East/West street for River Place and the University District. It is one of the few crossings of the 405 freeway in this area, and connects with Vista a major street up in the West Hills. The University District is an extension of the commercial core. Currently the area is deficient in services and parks for the substantial population that lives and works in this area. There is a new square in the area but it is difficult to use for other than passive activities because of over-design, lack of positive space, and the street car that runs through it. In addition to the Park Blocks, the commercial core has a series of parks that give identity to the downtown. The extension of these parks into the university district may provide an opportunity to provide green space and/or a useable square.

#### **Sustainable issues – water, heating, cooling, materials, Oregon Living Building Initiative.**

“Five guiding principles have been identified by the project team that is responsible for the design of the building. These principles are:

- Appropriately scale systems for optimal performance
- Make less do more
- Design for resource equity
- Integrate natural systems to benefit all species
- Recognize that people are the life in a Living Building”\*

“Designed to realize the sustainability goals identified for the project, the Center is positioned to achieve both LEED Platinum and the requirements of the Living Building Challenge. It is envisioned as a living laboratory of state-of-the art green building technologies and best practices which will accelerate the commercialization of Oregon-based product and services and provide a place for venture capitalists, businesses and visiting delegations to learn about the latest trends, technologies, policies and incentives that drive innovation and investment.”\*

“Sustainable features proposed for the building include:

- Photovoltaics to meet net zero energy
- Living Machine to treat waste water
- 200,000 gallon potable water storage tank

Gardens and green roofs to treat excess stormwater  
Geothermal water-to-water heat pump  
Injection wells with regenerative turbines  
Heat recovery ventilators  
Triple glazing.”\*

### **Formal issues – meaning – architecture**

In addition to the urban and technological issues architecture has another very important role, that of describing values and ideas in the form of the building. Conveying the aspirations outlined in the program as well as those of the architect should be influential in the design of the building. These transformations of ideas into form should be able to be read by all who are interested in ideas. A building is a cultural object dependent on reading and understanding the meaning of the juxtapositions and transformations of known elements into new forms. This is an important way in which communally held ideas are conveyed to individuals within a culture.

### **Program:**

“Predominantly an office building, the Center’s top floors will house a variety of non-profit, government, academic and business tenants who are working to promote sustainability. The public spaces on the first and second floor will serve as exhibit space, including interactive displays and signage that tell the story of the region’s innovations in sustainable technologies, policies and practices. Lecture halls, classrooms and conference rooms on the second floor will support higher education, as well as networking for public private and academic purposes. This area will also include a visualization lab, which will bring together researchers and community groups to solve regional issues in an experiential way. An active retail environment will anchor the first floor of the building.”\*

Office	140,700 sqft.
Retail	8,100 sqft.
Conference, Classrooms/Visualization	127,200 sqft.
Lab, Exhibit & Building Common Space	31,600 sqft.
Basement, water tank, bike hub & storage	25,200 sqft.
Total	222,800 sqft

Professor Genasci and Professor Neis will lead two different sections of the option II 683 studio, and Professor Gast will lead a third section. Professors Neis and Genasci will cooperate on the same project with several shared events but also independent approaches and activities.

Students are required to visit the first lecture of the architecture lecture series on the sustainable center topic by Ralf DiNola, Wednesday, September 30 at noon.

\* Source – Oregon Sustainability Center, Feasibility Study, Preliminary DRAFT  
June 25, 2009

