



e² design “Greening the Federal Government”

Background Essay

Government buildings have not historically been associated with sustainability or beautiful design. Spearheaded under Ed Feiner in the mid-1990s, the U.S. General Services Administration’s (GSA) Design Excellence program is changing this perception. The program was created to elevate government architecture across the country through the hiring of the best architects “of the day”. Since its inception, it has resulted in dramatic improvements in the design of federal buildings in the United States. This episode looks at Pritzker Prize-winning architect Thom Mayne’s San Francisco Federal Building, which aims to redefine the culture of the workplace, create an urban landmark that unites the community, and establish a benchmark for sustainable office building design.

Using 50 years worth of weather data, the designers first examined the environmental conditions of the specific site on 7th and Mission Street in San Francisco. Keeping in mind the wind conditions and the location of the sun, they designed with the specific intention of using those elements for ventilation, heating, cooling, and lighting. Not only does this use of the natural environment make the building more energy efficient, it makes it a healthier, more enjoyable environment for the employees who work there.

The building is designed to maximize the amount of natural light that filters in, but also shade some of that light with scrims to prevent the interior from getting too hot. There are hi-tech sensors that control the natural ventilation by automatically opening and closing the windows based on need. For example, during warmer weather the building takes advantage of the drop in temperature overnight by opening the windows, trapping the cool energy in concrete structures inside and then closing the windows to use that cooling energy for the entire day. The sensors also turn on or dim the lights according to need which has an energy-saving function. The office dynamic has also been shifted quite dramatically by seating top management in the center of the floor (rather than around the perimeter which has been the norm) and their employees around the edges where they can have access to natural light and open and close the windows.

Mayne and his team of designers believe that sustainability can go beyond just energy-efficiency. For a building to be truly sustainable, the people who work within the building and the community outside the building both have to embrace it and feel connected to it. They intend for the building to become an integral part of the community by creating shared spaces, like a café and a day-care facility that can be used by both employees and people from the surrounding area. The hope is that this building will become a model of social engineering, not just structural engineering, not only for other federal buildings but for the private sector as well.



To find out more about Thom Mayne's firm Morphosis, visit www.morphosis.net

To find out more about the GSA's Design Excellence Program, visit www.gsa.gov/designexcellence



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PRE-VIEWING QUESTIONS

1. What elements of a building or room influence your comfort the most (e.g., natural light, electric light, temperature, space, organization)? Be specific. What do you enjoy and not enjoy? Do the rooms and buildings where you spend most of your time have these comforts or discomforts?
 2. How does a building interact with the community around it? What makes a building more comfortable for the people inside, whether they're working, going to school or visiting the building?
 3. What is your favorite building (public or private) that you enjoy being in (e.g., federal building, library, museum, home, theatre)? Why? How do you feel when you're in this building? Why do you think you feel that way?
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POST-VIEWING QUESTIONS

1. What specific issues did the designers of the San Francisco Federal Building address when intending for the building to become an integral part of the community?
2. What type of design decisions were made to conserve energy and use elements of the natural environment?
3. How important do you think it is for a building to be aesthetically pleasing from the outside? Why? Does the sustainability level of a building influence your opinion?
4. Does your school feel like it's part of the community around it? Why do you think that is the case?
5. How important do you feel it is for a building to be aesthetically pleasing from the outside? Why? Does the sustainability level of a building influence your opinion?