sustainability goals

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re: Faculty Office Addition – Edwards Humanities Building

Sustainability Vision Statement
- To provide a high quality indoor environment with respect to thermal comfort, lighting and ventilation for students, faculty and staff;
- To reduce energy consumption and maintenance costs to the College on an on-going basis;
- To improve energy conservation awareness and education of students, faculty and staff;
- To protect, restore and enhance the environmental quality of the site and respect the integrity of the Scripps campus;
- To meet all requirements of the California Green Building Standards (Cal Green);
- To build with quality in mind now to ensure an investment in the future.

Energy Efficiency:
- Orientation:
  - East/west orientation provides for solar access and natural lighting through windows and clerestory over the lounge space throughout the day;
  - Southern exposure is minimized in the building design and in the reduced number of offices facing the southern orientation;
  - Trees will surround the structure at the west and south to provide shading of the structure and windows.
- Thermal efficiency of building envelope and fenestration:
  - Insulation and window seals will be used to reduce unwanted cold and warm air infiltration into the building. For fresh air, windows will be operable allowing user control of environment.
- Properly sized and efficient HVAC system:
  - A Variable Refrigerant Flow HVAC system is being utilized which is a state of the art, quiet, generation and distribution system that allows flexibility and control by users, but with reduced use of energy. Only those areas which require HVAC will be supplied at any time – and the use may vary depending on building exposure – such that heat and cooling are most efficiently delivered.
- Minimization of electric loads from lighting, appliances and equipment:
  - Daylight will be present in all occupied rooms thus reducing the need for lighting during the daytime;
  - The common kitchen and business area used by both the existing offices and the new addition will be upgraded to provide more efficient lighting and appliances;
  - Use of common facilities for kitchen and business functions reduces the need for separate uses dispersed through the buildings and thus reduces duplication of machines and equipment that use energy.
Environmental Impact

- Maintain integrity of site and vegetation during construction:
  - A Storm Water Pollution Prevention Plan (SWPPP) is developed for the project to prevent soil loss by storm water runoff and to reduce dust/particulate matter air pollution to the campus.

- Use of native plants for landscaping:
  - Non-native plants present threats to biodiversity of our natural areas by displacing important native plants and wildlife.

- Understanding the effect of building design choices on resource depletion:
  - In building design and construction, awareness and reduction in use of processes that involve fossil fuel combustion including electricity usage and uses of materials generated by the chemical paper mill industries is key to reducing impacts on the environment. Fossil fuel combustion activities are the largest direct cause of environmental impacts including climate change, abiotic resource depletion, eutrophication, acidification, and toxicity.
  - Reuse and extension of the existing facility is a design-choice that reduces the impact of the expanded new program requirements by:
    - Reducing the construction activities and providing upgrades to built spaces that are currently less efficient.
    - Utilizing spaces and connections within the campus to expand an already functioning facility rather than duplicating similar functions at other locations.
    - Remodeling and upgrading of the common kitchen and business areas improves functionality and re-uses existing facilities and improves efficiencies rather than constructing new facilities for the same uses.

Resource conservation and recycling

- Understanding the effect of construction material choices on resource depletion:
  - Impacts to the environment of building material production also include CO2 emissions, energy use, water consumption, land use, and green house gas emissions. Understanding the source of materials and the path that they go through to become building products used in construction will be considered in the selection of materials.

- Efficiency of materials:
  - Designing using the most efficient material for the construction includes understanding and assessing the best material properties required for the application.
  - Use of concrete masonry for the exterior walls uses the material’s high thermal mass property of the material to reduce the heat gain from the exterior during the hot summer months.
    - Provides high thermal mass and specific heat, and therefore thermal storage, compared to frame wall construction;
    - Remains warm or cool long after the heat or air-conditioning has shut off, reducing heating and cooling loads
    - Improves occupant comfort by moderating indoor temperature swings
    - Shifts peak heating and cooling loads to offpeak hours.

- Use of products from a renewable resource:
  - Wood building materials will be used including wood framing and engineered wood products. Wood has a low embodied energy and low carbon impact and, with
sustainable forest management and harvesting, is a renewable product which will be available indefinitely.
  - Engineered wood products utilize less wood to meet the same load requirements; and, many use wood by-products which otherwise would be considered waste.

- Use of recyclable products and those with recycled material content:
  - Recyclable and recycled material content is a factor in selection of all interior finishes.

**Water conservation in building operations:**
- Use of low water consumption fixtures:
  - Plumbing fixtures and fittings that are low flow and dual flush will be used;
  - At shared kitchenette and business area - common area is remodeled and upgraded to include replacement of older kitchen fixtures and fittings with more efficient fixtures.

- Efficient irrigation system
  - Project will use automatic controllers that adjust irrigation response to changes in plant's needs as weather conditions change.

**Indoor environmental quality**
- Pollutant control:
  - Ducts and related air distribution component openings will be covered and protected at the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment to reduce the amount of dust or debris which may collect in the system;
  - Materials will be selected for their reduced volatile organic compound (VOC) content including all adhesives, sealants, caulks, paints and coatings used on the project;
  - Filters will be provided for outside and return air at all regularly occupied areas;

- Good building envelope design that reduces moisture and dust accumulation:
  - Landscape is designed and will be maintained to prevent spray on structures to reduce moisture build-up;
  - Entries have overhangs and recesses to lessen ability for water to enter the building at doors;
  - Design of exterior entry vestibules (both inside and covered exterior) reduce water intrusion and dust/dirt accumulation in the building using walk-off areas that will remove particles from foot-traffic prior to entry (aggregate concrete) and use of non-absorbent interior flooring materials to allow for easy clean-up (tile and brick).

- Adequate fresh air supply:
  - HVAC system allows for efficient introduction of fresh make up air at all common spaces;
  - Offices will have operable windows for occupant control of fresh air;
  - CO2 sensors will be provided to assure there is adequate fresh air.

- Minimization of business-machine and occupant pollution sources:
  - The shared kitchenette and business area - common area is remodeled and upgraded to include replacement of older machines with newer and more efficient facilities.

- Adequate acoustic control:
  - Exterior building assemblies and components will be used to reduce exterior noise transmission including windows, walls and ceilings.
  - Interior partition walls and doors between offices and common spaces will be designed and installed to assure sufficient acoustic sound control between spaces.
- Access to daylight and public amenities:
  - The design includes shared common spaces including a kitchenette, business area, and lounge; all common spaces have access to natural daylight.

**Community issues**

- Access to site by pedestrian and bicycle paths:
  - Selection of the site for the addition extends the already functioning Humanities Building which is central to the campus and within walking distance by all Scripps students, faculty and staff.

- Attention to culture and history of community
  - Design and construction promotes the integrity of the historic campus with a modest design that nestles in an underutilized area of the campus.

- Promotion of green design:
  - Educational materials and promotions for users and occupants to be aware of the building's design and sustainability elements

- Light pollution:
  - The design will utilize cutoff luminaires and/or shields for all exterior lighting and containment of interior lighting to the site perimeter by controlling light escaping from windows and doors;
  - Both interior and exterior lighting will take advantage of digital control systems to reduce lighting use during inactive periods.

**Build with Quality**

Building with quality in mind is the real sustainable choice for Scripps College. Quality is more than “you get what you pay for,” it’s about our acknowledgement that there is no away in throw away. What we build is a reflection of the quality of the life we want to live. The Faculty Office Addition project celebrates the quality design of the original Humanities Building designed by John Warnecke and uses the traditional materials of the Scripps campus as a way of staying connected with the Scripps community, as well as the larger environment and ecosystem. The investment in quality building now will ensure that the Faculty Office Addition is an integral part of the Scripps campus for the future.