USF HARNEY PLAZA CENTER FOR SCIENCE + INNOVATION

Photo: Kay Cheng

CASE STUDY FACTS

Year: 2013
Type: Intensive
Size: 9,290 sq. ft.
Access: Public
Greenroof System: Constructed layers
Designed by: Interstice Architects/NBBJ

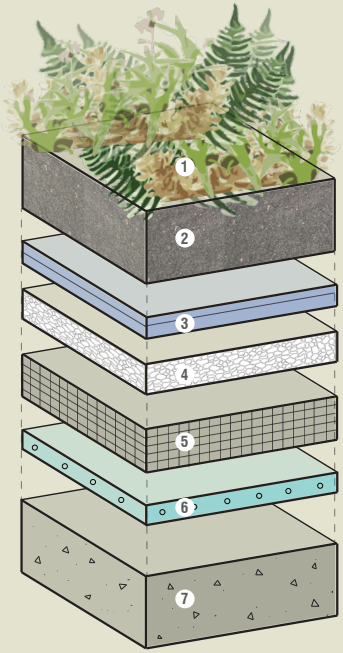
PROJECT BACKGROUND

Harney Plaza's central location on the University of San Francisco campus, and its adjacency to the John Lo Schiavo Center for Science and Innovation provided an opportunity for publicly-accessible, sustainable design. New classroom space located at the garden level, below the main level of pedestrian traffic, subsequently serves as the foundation for both the newly paved and vegetated portions of the plaza. Shadow studies informed the design so that sun can drench the benches and skylights, which illuminate the laboratory spaces below, while shading in the vegetated area varies enough to allow for a wider variety of plants with different light requirements.

The diversity and size of plants on this roof also benefit from the large availability of soil, and consequently rooting depth. Although this layer slopes toward the paved area, even at its shallowest the soil layer still measures 12 inches, and toward the building, 36 inches of growing media is provided. The building was designed from the outset to handle these additional structural loads.

Rainwater will slowly percolate through this soil and is ultimately collected, along with water running off the paved portion of the plaza and the third story roof of the new Center. An adjacent parking lot conceals a buried 50,000-gallon cistern, where water is treated, and then run through the cooling towers of the school's cogeneration plant. Although this water is not reused for irrigation, plant selection focused on drought-resistant native plants that could provide additional benefits through the creation of butterfly and bird habitat.

ROOF SECTION



ROOF SECTION LAYERS

1. NATIVE PLANT SPECIES
2. SOIL & ORGANIC MATTER
3. FILTER FABRIC
4. DRAINAGE ROCKS
5. FOAM INSULATION
6. DRAINAGE LAYER/WATER-PROOFING
7. BUILDING CONCRETE