

# CAMPUS SUSTAINABILITY AT ARIZONA STATE UNIVERSITY

## Hassayampa Academic Village

### Striving for USGBC LEED Silver . . .

#### **Sustainable Sites**

- *Site Selection*
- *Alternative Transportation*
- *Reduced Site Disturbance*
- *Stormwater Management*
- *Heat Island Effect*
- *Light Pollution Reduction*

#### **Water Efficiency**

- *Landscaping*
- *Reduction*

#### **Energy & Atmosphere**

- *Optimize Energy Performance*
- *Additional Commissioning*
- *Ozone Depletion*

#### **Materials & Resources**

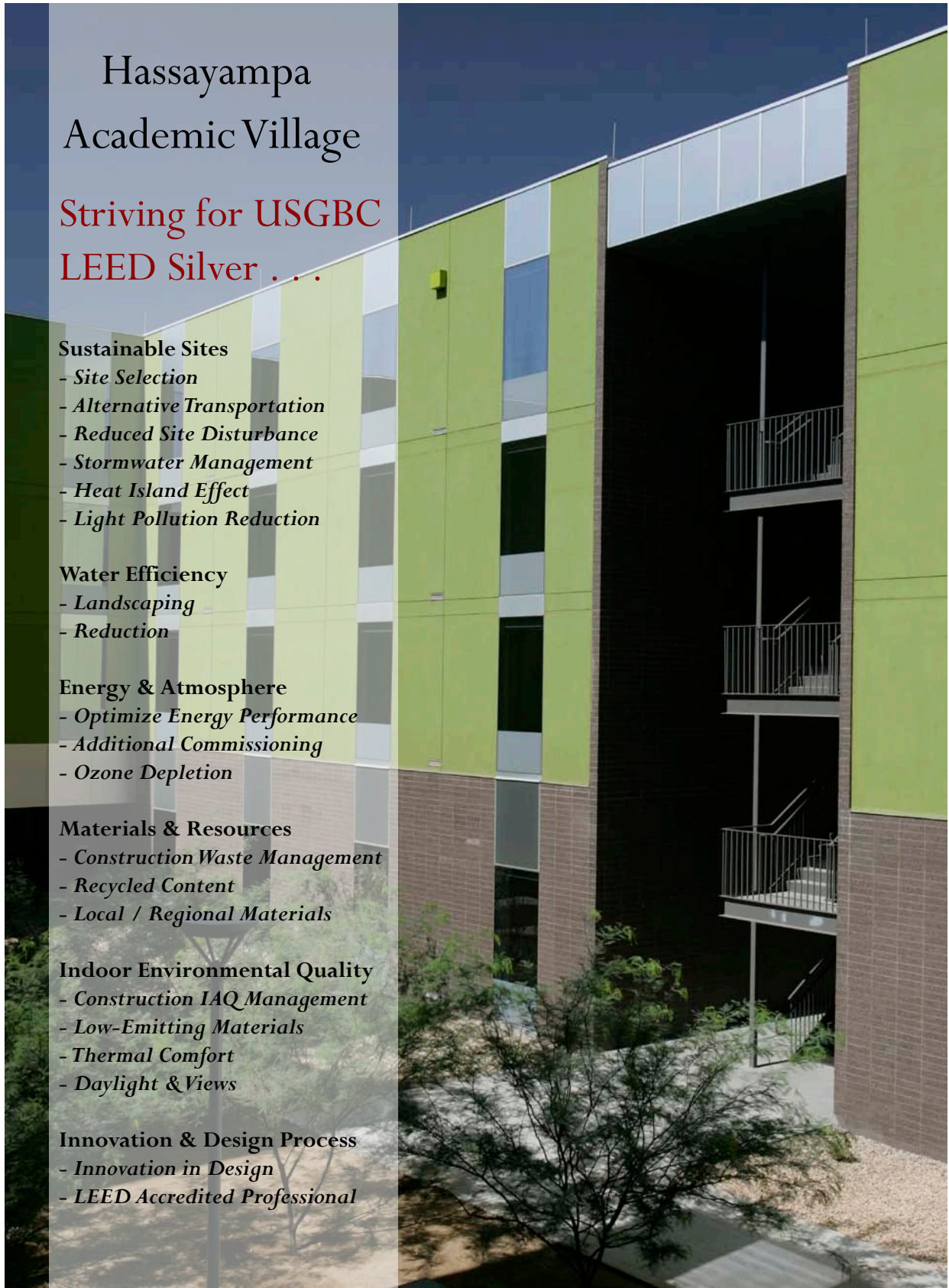
- *Construction Waste Management*
- *Recycled Content*
- *Local / Regional Materials*

#### **Indoor Environmental Quality**

- *Construction IAQ Management*
- *Low-Emitting Materials*
- *Thermal Comfort*
- *Daylight & Views*

#### **Innovation & Design Process**

- *Innovation in Design*
- *LEED Accredited Professional*



Environmentally friendly features incorporated into the design of the Hassayampa Academic Village range in scale from site and urban planning to interior finishes. The building meets LEED prerequisites including Erosion & Sedimentation Control, Fundamental Commissioning of the Building Energy Systems, Minimum Energy Performance, CFC Reduction in HVAC&R Equipment, Storage & Collection of Recyclables, Minimum IAQ Performance, and Environmental Tobacco Smoke Control. Here are some of the buildings highlights:

**SUSTAINABLE SITES:** A white, Energy Star labeled acrylic elastomeric coating was used over 99% of the roof area of the project. This increases the energy efficiency of the building and limits the project's contribution to the heat island effect. On the ground surface, the paved portion of the site is 15% asphalt and 85% concrete. This light colored concrete pavement is a very high-albedo material with a reflectance of at least 0.3, also limiting the heat island effect of the project.



**WATER EFFICIENCY:** A number of strategies were employed to minimize water use. Substantial areas of the site are xeriscaped with decomposed granite and other inert mulches that require no water. All new plants are species that are native or well adapted to the region's climate, which once established require little water. For these plants, a multi-valve, automatic drip irrigation system was designed to limit water use in accordance with ASU standards. Water efficiency is further enhanced by reducing the building water usage by 40% through the use of low-flow shower heads, toilets and faucets. This represents a significant savings as there are over 480 residential showers and toilets and 960 residential sinks in the suites.

**ENERGY AND ATMOSPHERE:** Energy simulation data demonstrates a 25% savings through the use of occupancy sensors in public spaces, window shades, and reduced wattage criteria for lighting as a result of the abundance of natural lighting throughout the village. In addition, all washing machines purchased for the residential laundry rooms are Energy Star labeled and use approximately 40% less energy than standard machines.

**MATERIALS & RESOURCES:** Construction processes allowed for over 50% of waste material to be diverted from landfills and directed to local recycling facilities. 10% of the building materials utilized recycled content including fly ash in the concrete and selected interior finish materials. 20% of the building materials were manufactured locally and 75% of those materials were harvested locally. Locally produced building materials ranged from precast concrete planks, manufactured 14 miles away; gypsum board, manufactured 272 miles away and casework and cabinetry manufactured 112 miles away.

**INDOOR ENVIRONMENTAL QUALITY:** Interior finishes, such as carpets, paints, and adhesives, used in the residence hall are no or low VOC emitting materials. This improves the quality of the air in buildings. In addition, indoor chemical and pollutant sources are controlled in two ways: by providing direct exhaust ventilation from the janitor closets to the exterior, and by building floor-to-ceiling wall partitions around all rooms with chemical use so the air from these rooms does not mix with air from the general areas.

Approximately 36 sf of glass, or 28% of the exterior walls and curtain walls in public spaces, provides each residential suite with 75% daylighting and 90% of the spaces with views.

