Blending elements generates harmony

ARCHITECTURE BEST IF FIT TO ENVIRONMENT

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Any kid who has built a backyard fort knows the secret to great architecture. Whether up in a tree or carved into a snow bank, made of branches or blankets, good design begins with the environment.

"It all depends on the setting," said R. Steven Bassett, principal and senior designer for DFD CornoyerHendrik, a prominent Phoenix architecture firm whose projects include the Buttes resort, Hayden Ferry Lakeside, Camelback Esplanade and the downtown Phoenix Portland Place complex under construction.

"A desert site will have a whole different set of criteria than an urban site," he said.

When it comes to architecture, environment covers a lot of ground. It includes topography, hydrology, weather, plants, animals and even wind. Urban landscapes add cultural elements.

Architects must consider all of these plus government regulations and owners' interests before they sketch a single wall, said Bassett, who has been designing Valley projects since graduating from Arizona State University's College of Architecture in 1972.

"You're working with what the site gives you," he said. "It leads to much more interesting architectural design ... and it's a lot more fun."

Earth

One of the most obvious influences on a project is the earth beneath it. But there's more to earth than dirt.

"Where are the washes? Do we have riparian habitat? Do we have protected species?" said David Garcia, principal architect for Architecture Design Group in Tucson. "These all play important roles in how we develop a virgin site."

Habitats, vegetation, floodplain controls and soil components are part of the design, said Garcia, a former president of the Arizona Chapter of the American Institute of Architects whose background includes private and public projects.

"Once we determine those overlays, we can determine a strategy," he said. "The overall design is a better design because we are being sensitive to the environment, the place we live."

Larry Kanitor/T. Barnabas Kane & Associates

A design by T. Barnabas Kane & Associates uses captured runoff to create an amenity that also supports habitat. Creative designs direct runoff to retention ponds, bioswales, wetlands and rooftop gardens.

Water

Architectural designs are particularly sensitive to water, that elusive element that can turn harmless-looking washes into dangerous torrents.

How runoff will be directed, stored, removed and recycled goes into the design.

"From a site planning and design point of view, we can turn it into an amenity or landscape element that can be exciting," Bassett said.

Creative design directs runoff to retention ponds, bioswales, wetlands and rooftop gardens. If there's enough, it can irrigate agriculture.

"You've obviously subtracted life from where the buildings are, so the idea is to use functions such as water consumption to help mitigate the subtraction," said T. Barnabas Kane, principal designer and landscape architect with T. Barnabas Kane & Associates in Prescott. "You're still completely manipulating your environment, but you've set up a good seenario to intensify the habitat that's left."

Air

Airflow is an integral part of architectural design we don't often think about because we can't see it.

"Air exchange is really important inside a structure," said Kane, whose design approach treats human health and comfort as part of a project's overall habitat. "Outside, in places like Prescott Valley, there can be too much wind. You orient structures and outdoor living spaces to capture the breeze while keeping the weather out."

Inside, airflow removes unwanted gas given off by building materials, carpet, paint and cleaning products. Outside, a little breeze makes patios and plazas inviting. When it's a full-force dust storm, building orientation and landscaping redirect gusts and filter dust.

Fire

Sometime friend, sometime foe, the sun affects heat gain, lighting, ventilation and a building's overall performance.

"Arizona has some of the most sun hours in the country," said Kane, whose projects span from Vermont to Arizona to Southern California. "For some things, the sun's just too intense."

Bassett said solar orientation is an architecture design fundamental everywhere but takes prominence here. "You want to work with the advantages," he said, inviting northern sun in while blocking harsh east-west rays.

Overhangs, sun breaks and landscaping provide shade plus visual interest, while innovations such as rooftop gardens can be pleasing solar-gain reducers.

Culture

In addition to washes and sun, urban sites have a cultural environment that can include transportation, pedestrians, commercial and historic districts and existing architecture.

"You're dealing more with what's already there," Garcia said. "The question is, 'How do we respond, as far as this context goes?' "

Build up, not out is a response architects like Bassett are embracing wholeheartedly.

"When you compare 3½ acres to 160 acres for the same number of dwelling units, it's a pretty eye-opening example of what sprawl does," he said. "It makes all the sense it the world."

Multiuse high-rises are an alternative to land-gobbling subdivisions, plus they revitalize an urban lifestyle that Arizona has been missing.

"It's exciting to see it finally happening," he said. "I think everybody's getting smarter about development. And that's good."