



**PAPAGO GATEWAY CENTER  
TEMPE, AZ**

**175k** Annual Energy Cost Savings

**80%** Construction Waste Diverted

**80%** Reduction in Carbon Source Emissions

**LEED Facts**

**PAPAGO GATEWAY CENTER  
Tempe, AZ**

LEED - Core and Shell Pilot  
Certification Awarded June 1, 2009

**GOLD 41\***

Sustainable Sites 8/15

Water Efficiency 4/5

Energy & Atmosphere 8/14

Materials & Resources 7/11

Indoor Environmental  
Quality 9/11

Innovations & Design 5/5

\*Out of a possible 61 points

# Papago Gateway Center

## PROJECT BACKGROUND

The nearby Papago Buttes, geological and important Native American landmarks, inspired the name of a new world class, research-and-office building in Tempe, Arizona. The project serves as a gateway to the city of Tempe from the North. The project consists of a six story speculative core and shell building providing a total of 267,000 square feet of leasable space and a separate parking structure. The floor plates will serve either research laboratories or office functions, lending flexibility and longevity for future tenants. As sustainability was a key design driver, the developer considers this project as a prototype and testing ground for technologies and strategies that will help drive decisions for future projects.

## SUSTAINABLE STRATEGIES

- **SS** - Existing trees were salvaged and relocated as part of the overall landscape approach. Papago is one of the first transit-oriented developments along the new metro light rail line that serves Phoenix, Tempe and Mesa fostering community connectivity.
- **WE** - Chemical-free condensing water from cooling tower blow-down used for landscape irrigation to reduce burden on potable water supply, water-conserving plumbing fixtures.
- **EA** - Long east/west building orientation maximizing glazing along the north and south elevations while minimizing glazing along the east and west exposures. High-performance glazing coupled with an outer skin of operable perforated aluminum louvers along the south elevation providing glare-free cool natural light and prevent unnecessary heat gain, State-of-the-art energy management system that monitors and adjusts climatic conditions and senses occupancy allowing the building to balance energy needs to the appropriate function.
- **MR** - Majority of materials locally sourced further reducing shipping and carbon load while supporting local economies, Comprehensive waste management program diverting a majority of the construction waste materials from the landfill.
- **IEQ** - Narrow floor plates allow for deep daylight penetration and maximize view opportunities for a continuous connection to the outdoors, Use of low emitting materials for improved air quality.
- **ID** - Louver operation based on climatic data collected through a roof-top weather station instructing the louvers to open and close for optimal shading depending on sun position.

## MEASUREABLE RESULTS

- 1,400,000 gallons saved annually at full build-out, which equates to a 32% reduction in potable water use for indoor water conservation measures. 13,700 gallons saved annually which equates to a 68% reduction in potable water use thru high efficiency irrigation system and use of chemical-free condensing water. (predicted)
- 9,050 MBtu's annual energy use reduction, which results in annual energy, cost savings of \$175,000. (predicted)
- Diverted over 1,000 tons or 80% of the construction waste from conventional landfills
- 36% of materials manufactured regionally and of these, 20% were extracted regionally
- 80% reduction in carbon source emissions resulting in the removal of 4,704 metric tons of CO<sub>2</sub> from the atmosphere at full build-out. (predicted)

## SUSTAINABLE DESIGN CHALLENGES

Creating a sustainable speculative facility that regionally responds to the climate and surrounding context was the paramount goal of the project but it became imperative that in order to strive for true sustainability over the facilities life cycle meant the team must look beyond the core and shell aspects of the project. The challenge was to provide capacity for future tenants to maximize their opportunities in the achievement of sustainable goals such as providing flexibility in control systems design, and the capacity for tenant sub-metering. Tenant design and construction standards were developed as well as a requirement to achieve basic LEED-CI Certification thru an innovative incentive program that will cover the cost of administration, fundamental commissioning and energy modeling and provide an increase in tenant allowance if a higher level of certification is achieved.



Photo by Liam Frederick courtesy SmithGroup



Photo by Liam Frederick courtesy SmithGroup

## PROJECT TEAM

**Owner:** Chesnut Properties [www.chesnutproperties.com](http://www.chesnutproperties.com)  
**Architect:** SmithGroup [www.smithgroup.com](http://www.smithgroup.com)  
**Civil Engineer:** Dibble [www.dibblecorp.com](http://www.dibblecorp.com)  
**Structural Engineer:** Caruso Turley Scott [www.ctsaz.com](http://www.ctsaz.com)  
**Mechanical Engineer:** SmithGroup [www.smithgroup.com](http://www.smithgroup.com)  
**Electrical Engineer:** SmithGroup [www.smithgroup.com](http://www.smithgroup.com)  
**Contractor:** Okland [www.okland-const.com](http://www.okland-const.com)  
**Landscape Architect:** GBtwo [www.gbtwo.com](http://www.gbtwo.com)  
**Commissioning Authority:** TestMarc [www.testmarc.com](http://www.testmarc.com)  
**Energy Modeling:** Quest Energy Group [www.questenergy.com](http://www.questenergy.com)

**Project Size:** 267,000 Square feet  
**Construction Cost:** \$52,000,000



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