# ARIZONA PROJECT PROFILE

## Ironwood Trails
## Apache Junction, AZ

**48%** of electricity by PV system

**50** HERS ave. home energy rating

**195** dollars annual ave. savings per family

## LEED Facts
**Ironwood**
**Apache Junction, AZ**

| | |
|---|---|
| LEED - FOR HOMES Certification Awarded | September 2009 |
| SILVER | 60.5* |
| Sustainable Sites | 10/22 |
| Water Efficiency | 4/15 |
| Energy & Atmosphere | 23/38 |
| Materials & Resources | 2.5/16 |
| Indoor Environmental Quality | 6/21 |
| Locations & Linkages | 8/10 |
| Awareness & Education | 1/3 |
| Innovations & Design | 6/11 |

*Out of a possible 136 points



Photo by Habitat for Humanity Central Arizona

# Habitat for Humanity - Ironwood Trails

## PROJECT BACKGROUND

Habitat for Humanity Central Arizona ( HFHCAZ) has successfully developed an affordable housing community for low-income families, while incorporating environmentally and economically sustainable measures into the landscape and home design.

Ironwood Trails was transformed from five acres of raw desert land to a cul-de-sac community of 18 single-family single-story affordable homes for qualified low-income families. The homes range from 1240 to 1392 square feet and were sold with a 0% interest mortgage. (HFHCAZ) has been an Energy Star builder for more than a decade, and we are now embracing LEED certification for our build sites because a green home consumes fewer resources, creates less waste, and is healthier and more affordable for a homeowner to operate and maintain. Ironwood Trails is the first LEED Silver certified community in Apache Junction.

## SUSTAINABLE STRATEGIES

- **SS** - All Habitat for Humanity Central Arizona homes have 0% turf, 100% drought tolerant plants, and light colored hardscapes.
- **WE** - Over 50 percent of a home's water is used outside, desert landscaping and drip irrigation systems minimize both water consumption and homeowner maintenance.
- **EA** - Salt River Project collaborated with HFHCAZ to supply and install a 3 kW photovoltaic system on every home in Ironwood Trails.
- **MR** - The use of advanced framing practices on these homes include ladder backing, two stud corners, and 24in. spaced roof trusses.
- **IEQ** - HFHCAZ builds 100% electric homes, this allows for renewable energy production and eliminates the risks of indoor combustion equipment.
- **LL** - Located in an existing neighborhood with outstanding community resources, the existing infrastructure gave us close to maximum points in Location and Linkages.
- **AE** - All Habitat Homeowners go through an extensive series of homeowner training classes as part of their partnership with HFHCAZ.
- **ID** - An exemplary credit was earned for the High Efficiency Irrigation System installed on the homes.

## MEASUREABLE RESULTS

- Energy Savings: Made possible through a partnership with SRP, each home has a rooftop mounted 3 kWh photovoltaic systems. Energy modeling and actual results show a 48% average contribution of electricity from the photovoltaic systems. This renewable energy contribution is saving each family close to $200.00 a year.
- Water Savings: The landscape design was designed and developed in partnership with the Desert Botanical Gardens. The resulting efficiencies contribute to a 40 percent water use reduction compared to the average home according to the Desert Water Agency.

## SUSTAINABLE DESIGN CHALLENGES

Storm water runoff in Apache Junction is just as significant as any city within the United States, if not more so because of how little rain we do get. Low amounts of precipitation results in higher concentrations of pollutants during each rain event as compared to cities in less arid regions. When monsoon rain events occur, pollutants are transported to our community retention basins, community green spaces, city parks, and washes. Because storm water flows are not treated, pollutant contamination buildup occurs and ultimately re-enters the water supply through ground water recharge. Habitat's landscape controls for this project incorporate appropriate techniques to aid in reducing runoff volume: 1) staging the grading schedule 2) preserving the tree canopy to protect soil from direct impact of rainfall, where most erosion begins 3) increasing the soil's ability to absorb moisture through vegetative means, surface roughening, and mulching. Root systems hold soil particles and nutrients in place.

The city of Apache Junction also falls in an EPA designated "non-attainment' area for air quality due to dust particulates in the air. Utilizing the existing climate hardy trees and incorporating desert landscape techniques, results in energy and water savings, in addition to increasing air quality and reducing storm water erosion of topsoil.

Photo by Habitat for Humanity Central Arizona

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## PROJECT TEAM

**Owner:** Habitat for Humanity Central Arizona
**Architect:** 12th Street Design Studio
**Civil Engineer:** Griffins-Jacobs Engineering
**Structural Engineer:** Anderson Consulting
**Landscape Architect:**
**Mechanical Engineer:**
**Electrical Engineer:**
**Contractor:** Habitat for Humanity Central Arizona
**Provider: Energy Inspectors**

**Project Size:** 1,314 S.F.
**Bedrooms**: 3

**Arizona Chapter**
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