



Project Reduces Flood Risks

Full Mitigation Best Practice Story

Santa Cruz County, Arizona



Nogales, AZ – The residents of the Monte Carlo Subdivision have long dreaded the rain. Bordered on three sides by dry washes, the community frequently floods. Even a mild storm sends floodwaters into the streets, threatening homes and the produce warehouses at the bottom of a hill. Residents spent weeks fixing damaged homes and cleaning up mud and debris. Roads, scoured by floodwaters and buried in a layer of sediment, have to be cleared and repaired constantly.

All of that is changing thanks to a \$1.25 million mitigation project designed to divert floodwaters away from the working-class neighborhood and at the same time, creates a regional park a stone's throw from their homes.

“About 1,100 people are far more protected than before,” said Barbara Johnson, program manager for the border city of Nogales. “No longer do they have to fear routine rains.” The mitigation project began taking shape more than five years ago, when leaders in the border town of Nogales and in Monte Carlo; a Nogales community of 225 single homes and 10 businesses on 160 acres, decided to take action.

Nogales officials developed a plan to build storm-water sediment detention basins on the steep upper reaches of the Challenger and Chihuahua washes. Under the system, the basins temporarily store floodwaters and keep sediments from flowing into the subdivision. Channels carry runoff from the Challenger and Chihuahua basins away from the Monte Carlo neighborhood and downhill into a third sediment detention basin in the Monte Carlo Wash.

Construction began in Oct. 2004. Concerned about the impending rainy season, the city set a Dec. 31 deadline for building the critical portions of the project. The contractor met the goal, with only the work on the Monte Carlo Wash remaining at the start of this year.

As it turned out, the winter of 2005 proved to be one of the wettest in recent memory. One storm dumped 3 inches on Nogales, another 2.5 inches. Nevertheless, the partially completed flood control system passed its first test with flying colors. Not a single Monte Carlo home or business was flooded, Johnson said.

For the community, the final phase of the project, due for completion by the end of May, brings more than flood control. The 45 acres that the city purchased for the Monte Carlo Wash basin is being transformed into the Albert Kramer Park. The basin itself, which releases floodwaters slowly and harmlessly after a storm, will double as a soccer field when dry. Using soils from the basin work and the natural landscape, the city plans to install an amphitheater, a BMX bike track, and an interpretive center in the new regional park.

The dual-flood control-park concept has drawn praise from local, state, and federal officials. It made sense to create public uses for the flood control lands, which are dry most of the time. “It’s a great idea,” said Terri Miller, a member of the team that worked on the project. “That’s the only real amenity that the people there will have.”

Johnson noted that the entire project materialized because of a local, state and federal partnership. The Arizona Division of Emergency Management pulled the project together and guided it through its various stages. The Federal Emergency Management Agency (FEMA) provided about \$936,500 of federal funding for the project. The local share topped \$312,000. The city of Nogales smoothed the path for planning and construction, and the citizens of Monte Carlo pushed for a park to go along with the flood control. The park is being constructed as a cooperative effort between Santa Cruz County and the city of Nogales.

“This success story is due in large part to those people who chose to work together,” Johnson concluded.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IX**

State: **Arizona**

County: **Santa Cruz County**

City/Community: **Amado**

Key Activity/Project Information

Sector: **Public**

Hazard Type: **Flooding**

Activity/Project Type: **Flood Control; Floodplain Management**

Activity/Project Start Date: **10/2004**

Activity/Project End Date: **Ongoing**

Funding Source: **Flood Mitigation Assistance (FMA); Hazard Mitigation Grant Program (HMGP)**

Funding Recipient: **Local Government**

Activity/Project Economic Analysis

Cost: **\$1,248,712.00 (Estimated)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Unknown**

Value Tested By Disaster? **No**

Repetitive Loss Property? **Yes**

Reference URLs

Reference URL 1: **<http://www.floodsmart.gov/>**

Reference URL 2: **<http://www.dem.state.az.us/>**

Main Points

- Bordered on three sides by dry washes, the Monte Carlo subdivision frequently floods.
- All of that is changing thanks to a \$1.25 million mitigation project designed to divert floodwaters away from the working class neighborhood.
- Nogales officials developed a plan to build storm water sediment detention basins on the steep upper reaches of the Challenger and Chihuahua washes.
- Construction began in October 2004. Concerned about the impending rainy season, the city set a Dec. 31 deadline for building the critical portions of the project. The contractor met the goal, with only the work on the Monte Carlo Wash remaining at the start of this year.
- For the community, the final phase of the project, due for completion by the end of May, brings more than flood control. The 45 acres that the city purchased for the Monte Carlo Wash basin is being transformed into the Albert Kramer Park.



The storm water detention basin.