

## Cooperation Addresses Flooding at Two Schools

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Albuquerque's Southwest valley has been plagued with chronic flooding issues since the area was settled. To address this menacing problem it took not one but many governmental agencies working together to find a practical and economical solution.

During any rain event, the valley's flat topography, clay and silty soils, and lack of flood control infrastructure results in standing water that is unable to drain away. As the originally rural area was developed, flooded fields were replaced by flooded homes. To address flooding, Bernalillo County has resorted to pumping water out of the most severe flooded areas, but this is only a temporary solution at best.

The Southwest Valley Flood Damage Reduction Project finally addresses the perpetual problem permanently, much to the relief of the area residents and businesses. The project is the result of a feasibility study started in 1999 and led by the U.S. Army Corps of Engineers and supported locally by Bernalillo County and the Albuquerque Metropolitan Arroyo Flood Control Authority. The study recommended improvements that were drastically different from the big underground pipes and concrete channels normally seen in neighborhoods in Albuquerque.

The project concept consists of ponding water in shallow ponds, maximizing ponding within existing drain ditches, and providing new outfalls to the Rio Grande. The goal of the project is to remove area residents, businesses, and schools from the 100-year FEMA floodplain. The flood control project will not only protect area residents, but it will also provide open space, multi-use areas, habitat for wildlife, and possible green belts for farming activities in the future.

Soon after Congress appropriated partial funds for construction in 2007, the corps started to refine the designs to allow phased construction of the project. APS was invited to participate to address flooding in and around Rio Grande High School and Navajo Elementary School.

The most economical and viable "fix" was to run regional drainage through the Rio Grande High and Navajo Elementary School campuses. APS was quick to accept, as it provided the opportunity to remedy flooding on the campuses as well as other area schools. APS' involvement in the project not only benefited APS by providing flood protection sooner, but it also minimized the cost to all taxpayers by reducing construction costs of regional flood control infrastructure by an estimated \$1 million.

This bold undertaking by APS and the collaboration with Bernalillo County, AMAFCA, and the corps resulted in a cost-effective and elegant solution to the chronic flooding problems found in the South Valley.

### **Rio Grande High School**

The work at Rio Grande High launched the first major drainage project identified by the corps. It included the installation of large a storm drain, a future connection to the Isleta Drain and Arenal Boulevard, and a ponding area that also will serve as a multi-use athletic complex.

This work was coordinated to enhance major improvements at the school that included the construction of a new permanent classroom building to replace 40-year-old structures, a new school-based Intensive Support Program building, and a state-operated health clinic used by the entire community. In addition, AMAFCA's purchase of land for a future pond will enable APS to

move the student parking lot closer to and contiguous with the school, to better serve the student population in the future.

Bernalillo County is currently rebuilding portions of Arenal Boulevard to ensure better traffic flow, drainage, and a safer environment for the students walking to the school. The major drainage effort on the Rio Grande campus, designed and managed for APS by Wilson & Co. Inc., Engineers & Architects, has received several prestigious recognitions, including the 2010 Engineering Excellence Award presented by the American Council of Engineering Companies, and the overall 2009 Project of the Year Award presented by the New Mexico Chapter of the American Public Works Association.

### **Navajo Elementary School**

Navajo Elementary School, located 2.5 miles north of Rio Grande High, also provides an opportunity to provide a regional drainage solution that will reduce costs. The design is complete, and construction is in progress.

Also designed and managed by Wilson and Co., the drainage work was designed to complement cafeteria and major classroom additions, a new main courtyard plaza, and a parking lot. And, as with RGHS, a drainage pond at Navajo Elementary also will serve as a multi-use sports field.

The final phases of work at Navajo Elementary will address drainage issues in the surrounding residential area, other area schools, and the Amole Dam west of Coors Boulevard.

In addition to the regional drainage work at Navajo, APS has introduced the concept of "low impact development," which will allow a portion of stormwater to infiltrate the ground, allowing for recharging of the aquifer.

### **Team Effort**

The work completed to date has been done without any management turf battles. While the Corps of Engineers is responsible for identifying the scope of work and overseeing the entire project, it has left all design and management of work on school sites up to APS. This ensures that students are in a safe environment at all times.

We're proud of this cooperative and highly successful team effort in addressing critical drainage concerns in one of our city's oldest and most historic regions. The collaboration between the three governmental entities has resulted in a very effective flood control project, better stormwater quality, green belts and multi-use facilities to be enjoyed by area home and business owners in perpetuity.

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