FEMA

Hospital Gear Up to Combat Flood

Harris County, Texas

Harris County, TX – A nightmare, to put it mildly, is how Houstonians refer to the reign of Tropical Storm Allison. In June 2001 she ruled with a vengeance, creating massive flooding.

Among those worst hit by flooding was the Texas Medical Center. Located in the heart of the low-lying downtown area of Houston, Texas, the medical center consists of 42 medical institutions, 19 of which are hospitals, including St. Luke's Episcopal Hospital. Most of the buildings are connected by an underground tunnel system. The rainfall overwhelmed flood protection systems, allowing rushing water to enter through inter-connected basement-level tunnels.

Following the 2001 flood, an engineering firm was retained to perform a study prior to developing a comprehensive flood mitigation plan. Installation of water-tight sub-basement doors was a part of the plan. The submarine-type doors have a seal (bladder) surrounding their perimeter, which is inflated once doors are closed. They can withstand water up to 12 feet deep.

The Dry Flood Proofing Project began in December 2002 and was completed in December 2004, at a cost of $5,013,496. St. Luke's received a $3,866,698 grant from the Federal Emergency Management Agency (FEMA) through its Hazard Mitigation Program (HMGP). The hospital paid the other 25 percent. The project called for the installation of 20 submarine doors.

St. Luke's Episcopal Hospital, home of the Texas Heart Institute, has been providing primary and tertiary health care to patients in the Houston metropolitan area and around the world for nearly 50 years.

The area that flooded is in the second basement, which houses the majority of the power distribution center. It had been protected by "flood logs" intended to prevent flooding. They were installed in the Texas Medical Center after a 1976 flood.

Manufactured in light weight aluminum, the "logs" provide an economical barrier against water flow through doorways. But it took time and manpower to operate. According to Garcia, it took about one-half hour and two men to bolt and secure the logs in place.

"The water came so fast it was impossible to secure all of the logs," Garcia said. "As soon as we secured the first log, the water began to rise above it. We tried a second, then a third. By the time we got to the fourth log the water was above my thighs. I knew it was time to head for safety."

As Garcia ran for safety, he said he saw water rushing against the giant barriers and spewing through the cracks like a fountain. The logs were no match for what lay ahead. Now that the submarine doors are in place, there is a definite feeling of security.

Quick Facts

Year:
2001

Sector:
Public

Cost:
$5,013,496.00 (Actual)

Primary Activity/Project:
Flood Control

Primary Funding:
Hazard Mitigation Grant Program (HMGP)