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INNOVATIVE PRACTICE

Nashville Floods: Automated Building Permits

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SUMMARY

In the aftermath of the 2010 Nashville floods, requests for rebuilding permits overwhelmed the city's Department of Codes and Building Safety. The Department repurposed an existing permitting system to expedite applicant requests, allowing the Department to focus on more severe cases.

DESCRIPTION

On May 1-2, 2010, the Cumberland River basin experienced a 1,000-year rainfall that resulted in a flood in excess of a 500-year event, inundating the Nashville Metropolitan area. The flooding damaged approximately 12,000 homes and claimed 11 lives. After the storm, an initial 9,000 requests for rebuilding permits overwhelmed the Nashville Department of Codes and Building Safety. To cope with the surge in requests, the Department repurposed its ePermitting system for use by residential flood victims. This allowed individuals with minimally damaged homes to skip the lengthy in-person application process and self-issue their permits online.



Residents and volunteers clean up the Bordeaux neighborhood in Nashville after floodwaters damaged or destroyed homes and possessions. (Source: FEMA Photo Library, www.fema.gov)

Implementing the Automated Building Permits System for Residential Use

Members of the whole community, including the Department of Codes and Building Safety, the Assessor's Office, Planning Department, and the Fire Department worked closely throughout the initial response to carry out damage assessments on every parcel of land in Metropolitan Nashville. Forty two-person teams completed this damage assessment in three and a half days. Those teams then analyzed the damage assessment information and GIS floodplain data to identify the most impacted areas. Using these results, and a damage assessment matrix that ranked flood damage levels, the Department determined which homeowners would be able to apply online for an automated, self-issued rebuilding permit. Those residences not located in the 100-year floodplain, or those located in the 100-year floodplain but with a low score on the matrix, qualified for the self-issue permit. This method of classification meant that 5,000 flood-damaged homeowners became eligible for online permitting.

Results and Significance

Eventually, roughly 25 percent of the total applicants applying for rebuilding or repair permits made use of the online self-permitting system. This assisted rebuilding efforts in several ways, including:

- Allowing homeowners to avoid applying in-person at the Department or at one of the mobile stations;
- Freeing up Department personnel to work on more severe cases;
- Establishing a tiered approach that quickly directed survivors toward self-permitting as appropriate;
- Allowing mobile home owners to use this type of permit for the first time; and
- Reducing the overall burden on the Department.

Scoring for Damage Assessment Matrix

The Department of Codes and Building Safety used the following categories to rank flood damage for homes in the metropolitan Nashville area:

1. Flooding in homeowner's yard but not home
2. Flooding in homeowner's basement/crawlspace
3. Flooding in home up to two feet
4. Flooding in home between two and six feet

REFERENCES

John L. Hayes. U.S. Department of Commerce – National Oceanic and Atmospheric Administration. Service Assessment: Record Floods of Greater Nashville: Including Flooding in Middle Tennessee and Western Kentucky, May 1-4, 2010. January 2011.

http://www.nws.noaa.gov/os/assessments/pdfs/Tenn_Flooding.pdf

Stephen D. Halford. Heidi J. Mariscal. Kevin Penney. Charles Shannon. Nashville Mayor's Office of Emergency Management. Severe Flooding May 2010: Disaster Declaration #FEMA-1909-DR, After Action Report/Improvement Plan. July 6, 2011.

<http://www.nashville.gov/Portals/0/SiteContent/OEM/docs/AARIP.pdf>

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