IT COULD HAVE BEEN WORSE

Des Moines found itself in an unusual position during the flood of 2008. As the state capital and Iowa’s largest city (200,000 population in the city proper in 2008 and 625,000 in metropolitan area), the city is often the center of the state’s attention. It certainly was during the 1993 floods.

That time, Des Moines and suburban West Des Moines were dealt a staggering blow: widespread downtown and neighborhood flooding, levee and power failures, road and highway closures, and loss of Des Moines’ water supply. The city was without running water for 12 days and drinkable water for 20 days.

The capital city wasn’t hit as hard in 2008. The flood crest of the Des Moines River at the Second Avenue bridge north of downtown was 31.57 feet on June 13. That’s 7.57 feet above flood stage, but just shy of the record crest of 31.71 feet on July 11, 1993.

The Raccoon River, which flows into the city from the west, wasn’t nearly as high in 2008 as it was in 1993, and the city had made a substantial investment in much flood mitigation since 1993, including housing buyouts, levee repairs, and a new, 14-foot-tall levee and floodgate around the municipal water plant.

SAVLORVILLE DAM

Des Moines lies downstream of a major USACE flood mitigation project. The Saylorville Dam and Reservoir, about ten miles north of downtown, was completed in 1977. The USACE estimates that by reducing the peak flows of the Des Moines River below the lake, the reservoir and dam have prevented approximately $181,932,300 in flood damages during the project’s first 40 years of operation.

The dam can’t prevent all flood damage. But major flooding is only likely to occur in Des Moines if the dam’s spillway — and the inflatable dam that can be deployed on top of the spillway — is overtopped. That happened in 1993. It happened again in 2008, when Saylorville Lake topped out at 890.87 feet above sea level. That’s just about a foot less than the 1993 record level and nearly 55 feet above its normal pool height of 836 feet.

In 2008, a mile-long bridge across the lake was nearly touched by the water. Normally, the masts of large sailboats can pass underneath. But the dam held firm. It lessened the extent of the flooding in Des Moines and gave residents of low-lying neighborhoods time to act.

“In 1993 we had no warning,” said Des Moines resident Gloria Kelsey, quoted in a June 14, 2008 Associated Press article. “We had a week’s warning this time, and we got everything out.”

In 2008 severe damage was mostly confined to two small Des Moines neighborhoods. The damage was catastrophic to those who lived in those two areas. But the scale of the disaster in Des Moines paled in comparison to the vast swath of devastation in Cedar Rapids.
THE DAMAGE
According to an August 2008 State of Iowa report:

- Downtown did not flood.
- Storm sewer backup occurred in the Court Avenue area near the Des Moines River. As a result, water flowed in some streets in this area, and some buildings had basement water damage. Damage and business interruption losses were estimated to number in the millions of dollars.
- The Civic Center Historic District along the Des Moines River also had considerable damage from sewer backup, including damage to the Armory Building, City Hall, the police station, the Southwest Fifth Street Bridge, and the Union Railroad Pedestrian Bridge.
- Commercial and residential areas near Birdland Park and Marina were damaged when the Birdland levee broke.

Birdland and Four-Mile Creek
Birdland is a combined industrial, commercial, and residential area of about 60 acres along the Des Moines River. It is located on the city’s near-north side and is a part of the Union Park neighborhood. Because of the failure of a levee there, hundreds of structures, including homes, businesses, industrial sites, and the city’s North High School, were hit with up to several feet of floodwater.

A largely residential area along Four-Mile Creek on the city’s east side was also flooded. This area included two mobile home parks located just blocks from one another near the intersection of Hubbell Avenue and East 33rd Street. It also included several single-family homes on East 34th Street that backed up to Four-Mile Creek.

In both the Birdland and the Four-Mile Creek areas, hundreds of properties were eligible for buyouts. A total of 213 structures — including 127 mobile homes — were ultimately removed.

Of the 120 residential lots in Birdland, 67 were vacant following the buyouts. Another 53 single-family homes survived the flood and remained standing, according to a January 2015 City of Des Moines Birdland Area Redevelopment Plan.

The plan was created at the neighborhood’s request and with its input. The Birdland levee was rebuilt to USACE standards by November 2011. It was later certified by FEMA NFIP.

Following levee certification, two Des Moines nonprofits, Home, Inc. and Greater Des Moines Habitat for Humanity, began building new houses on the vacant lots in accordance with the city’s redevelopment plan. The plan ultimately calls for 28 unattached single-family homes and three attached single-family homes in infill lots, plus a pocket development of eight row houses and 21 unattached homes (see rendering.)

In the Four-Mile Creek area, Grandview Village mobile home court was converted to a city-owned, 3.5-acre dog park following the buyouts and demolitions. The Country Estate mobile home court is also now a park. Both parks are part of a Four-Mile Creek recreational greenway that is planned to extend for several miles along the creek.

Other affected areas
Additional parts of the city touched by floodwaters include:

- Court Avenue and Civic Center districts downtown.
- Principal Park, the city’s minor-league baseball stadium just south of downtown at the confluence of the Des Moines and Raccoon rivers.
- Simon Estes Amphitheater on the east bank of the river downtown.
- Gray’s Lake Park and Fleur Drive, a popular recreation area and major transportation artery on the city’s near south side.

Damage in these areas was significant but not catastrophic. Building damage was largely due to flooded basements and sewer backups. While some buildings required repairs, there were no buyouts in these areas.

Gray’s Lake Park and Fleur Drive were closed for a time during the flood. The park required work to reopen, but no structures were destroyed.

Across Fleur Drive from Gray’s Lake, the Des Moines Water Works was untouched by the floodwaters, thanks to the levee and floodgates installed there after the 1993 flood.
THE MOBILE HOME CONUNDRUM
Most homes that participated in buyouts in Iowa after the 2008 floods were single-family, permanent structures. Owners of those homes were eligible to collect the pre-flood value of their home and land.

But in Des Moines, 112 of the 183 bought-out homes were mobile homes. As is the case in many mobile home parks, the homeowners typically owned the home but rented the lot. The decision to participate in the buyout was made for them by the owner of the mobile home park. Park owners received a buyout payment reflecting the value of the land the park occupied.

The owners of the mobile homes received the value of the home itself. In Iowa, mobile homes are considered personal property, not real property. Instead of often appreciating in value like a house and land, mobile homes typically depreciate like a car.

Many of the mobile homes in Des Moines’ flood-affected parks were decades old, with book values of just a few thousand dollars. If a mobile homeowner had accepted any flood-related repair and remodeling assistance prior to the buyout, that assistance often exceeded the value of the home. That meant that, when the buyout occurred, the homeowner was unable to receive any additional money due to the prohibition against duplication of benefits.

Those were some of the most difficult buyout cases because the mobile homeowner was forced to participate by the landlord, yet often could not recoup much, if any, value for the home.

“This is an extremely hard thing to discuss with people and say, ‘Here’s what it’s worth; here’s what you’ve already been given, yet we are asking you to leave,’” said IEDA’s Katie Geizler at a HUD-sponsored CDBG training event in Fort Worth, Texas, in February 2012.

Fortunately, because mobile homeowners rented the land on which their homes stood, they were eligible for rental relocation assistance.


About 56 percent of CDBG funding in Des Moines went to housing, the majority to the production of new, multifamily housing. Much smaller amounts went to repair and rehabilitation of owner-occupied homes and construction of new single-family homes. A small sliver was allocated to rental repair and rehabilitation. About 33 percent of the funding went to repair public infrastructure, all to purely CDBG-funded projects, including five emergency power backup generators at stormwater lift stations in Birdland and Central Place to ensure that the pumps will continue operating even during a power failure. Nearly 9 percent assisted in the buyout of 183 structures, mostly non-FEMA-matching. Just over 1 percent of the total CDBG funding was used for Grant administration and business programs.
EYEWITNESS: “WE HELD OUR BREATH AS THE RIVER ROSE.”

“A LOOMING CATASTROPHE”

In 2008, Bill Stowe, a civil and environmental engineer, was the City of Des Moines Assistant City Manager for Engineering and director of the Des Moines Public Works. He was responsible for the city’s levees, sanitary sewers, and storm sewers during the flood. Stowe recounted the flood and recovery in a 2018 interview.

“A week before all hell breaks loose, the city, the Army Corps of Engineers, the county, the weather service, the State of Iowa, the National Guard — we’re all talking. We’re all aware that there’s a looming catastrophe. The Corps models everything with a lot of accuracy — ground saturation, projected rainfall, river levels. Especially in Des Moines with the Saylorville Dam upstream, we have a pretty good idea of what’s coming. In 2008, the Corps told us two things: One, that we were going to have an uncontrolled release of water over the Saylorville spillway; two, that the Des Moines River would likely overtop our levees.”

Old, nasty levees

“The City of Des Moines has 28 miles of levees, but in 2008 a lot of it was substandard. When you’re a river town and are 150 years old, a lot of things have been built outside of your gaze. There was an ice company north of downtown at one time. To protect the business from flooding, they’d tear out a sidewalk or a driveway and put all the debris in a heap up along the river. Eventually it would get capped with clay or soil and they’d call it a levee. Those kind of cobbled-together patchwork berms provide some protection but are not federally certified. You don’t know exactly what they’re made of or what they’ll withstand.

“So, we had a lot of old, nasty levees. After the floods of ’93 we’d gotten congressional authorization and then appropriation to replace much of it, but it takes years and years and a lot of permitting, so many of them hadn’t been built yet. In ’08 we knew we had a lot of water coming into a levee system that had serious deficiencies.
As it turned out, we did have an uncontrolled release, but we didn’t overtop the levees. The level of the Des Moines River as it entered the city from the north was almost as high as it had been during 1993. The difference was that the Raccoon River, which enters the city from the west, was lower. In 1993 it was high also. At the confluence of the two rivers just south of downtown, the Raccoon’s flow acted like a dam in 1993 and raised the Des Moines River levels even higher. In 2008, that didn’t happen.

“We held our breath as the river rose. We watched the levees. When you see seepage in a levee, you put a ring levee around the seeping spot to reinforce the levee and to hold back the water if the levee fails there. We had a number of those operations going on as the water rose.”

A blowout
“When the water started going down, we wanted to feel relief. But our friends at the Corps had warned us that receding water can create more levee scouring than the water pressure at the crest. Twelve hours after the crest, we lost an 80-foot-long section of the Birdland levee by North High School. Later, the forensics indicated that tree roots in the old levee acted as a conduit for water, and it eventually blew out. It was very discouraging to think we had made it through the worst of the flood — including an uncontrolled release — and then had a levee failure.”

Flash Flooding
“If that wasn’t enough, we had flash flooding. There are a number of equalization basins east of town along I-235 that are dry most of the time. They’re designed to fill up in a heavy rain to contain the runoff, then slowly discharge it to the river afterwards. In ‘08, we couldn’t get the water out of the basins and into the river quickly enough. The basins started to surcharge into neighborhoods. In one new residential area, residents watched water overtop a basin and run into the neighborhood. Your home is built behind flood protection, and you’re watching it flood.

“The Des Moines River is controlled by the Corps. Flash flooding happens locally on smaller creeks that can’t be controlled. You get 3 inches of rain locally and within 10 hours those local creeks will flood. Four-Mile Creek on the east side flows down from Ankeny, where there are a lot of strip malls with impervious surfaces. You also get flooding in Beaver Creek north of town and in Walnut Creek west of town. Along Four-Mile Creek, it was safer to buy out the repeatedly flooded properties.

“In a neighborhood with older homes and block basements, if you get ground water through the floor drains, you have localized flooding. We lost a number of our major street systems: East 14th Street, I-80 north of town, and Fleur Drive. A lot of property was destroyed. A few weeks after the fact, we were in pretty good shape. The water went down; sewers drained. The immediate process of recovery happens pretty efficiently.”

Rebuilding
“But the flood left us with a huge need to rebuild a significant swath of the levee system. That’s an immense amount of financial, permitting, and civil engineering work. It is still going on, 10 years later. It will never really end, because with climate change and more runoff from development, you’re chasing a moving target. You think you’ve solved a problem by building levees, but the problem gets worse as the solution is being constructed. We had to add height to the downtown levee as it was being built to keep up with the threat. Now downtown is substantially protected by what almost looks like a seawall.
“Remediation and protection are generational. It never stops. That’s pretty profound in a city like Des Moines that is trying really hard to promote its river livability but where there’s so much history and commerce associated with an area that has significant flood risks.

“During big floods you get political leaders involved. The really good ones have the gift of standing off to the side and letting the professionals — the Corps, FEMA, Polk County Emergency Management, the Iowa Flood Center, and others — do their work. The Corps did more to save property damage and personal injury in Des Moines in 2008 than the rest of us combined. The rest of us do our tasks, but we’re under the direction of and heavily supported by flood professionals who do this day in and day out. And they do an extraordinary job.”

“YOU COULDN’T HELP BUT FEEL PEOPLE’S PAIN.”

A tight-knit neighborhood torn apart
“It was a little surreal to see what used to be a nice, cohesive, tight-knit neighborhood torn apart. You couldn’t help but feel people’s pain. One gentleman was sitting on his porch, kind of in shock. I walked up and asked him what he needed, and he said, ‘You must be an angel! God sent you to help me. Will you pray with me?’ So, I did, right there on his porch.

“People were behaving well. In fact, the flood brought people closer together and gave people the opportunity to do good things for one another — before, during, and after the flood. It took hundreds of people and hundreds of thousands of hours of work to get Birdland back to where it is today.

“Everybody knew what their role was and performed it well. Neighbors helped each other clean up. The city and county were in here immediately. The state and federal government contributed funding, and the Corps rebuilt the levee.”

From empty lots to new neighbors
“After the buyouts, there were empty lots for a long time, and that was frustrating. Empty lots don’t make good neighbors; neighbors do. It took a long time to get the levee built and then a long-time securing funding so the city could hire a consultant and create a master plan for redevelopment. Then nonprofits like Habitat for Humanity came in. We’re going to have more houses here than we had in 2008 before the flood.

“I guess looking back at it, I wouldn’t have expected a whole lot different: That’s just what we do in Iowa. But when you’re in the middle of it, it’s pretty heartening.

“The one frustration was that things went slowly. But things take time, and that’s not all bad: If you start making big decisions immediately after a disaster, the disaster is going to weigh more heavily on your plans than perhaps it should. After a while, you realize that it doesn’t need to consume you.”
A stellar outcome
“The outcome is really stellar. This is an interesting neighborhood. We have every kind of diversity: racial, religious, ethnic, sexual preference, income — we run the gamut, top to bottom. And it’s beautiful — we have Union Park, the Heritage Carousel, the Rocket Slide, and a wading pool for kids; we’re right on the bike trail; the river runs right through us. We even have a marina. What we have in our neighborhood doesn’t physically exist anywhere else in Des Moines. It’s just the best neighborhood there is.

“This is not a new sentiment, but one of the things that strikes me the most is how everybody pulled together and did what they were suited to do, whether it was the government or someone who drove in from Urbandale to fill sandbags at the Rocket Slide. It reminds you that no matter how bad things are, there are a lot of things people do that are right.”

“WE PICKED UP AND KEPT GOING”
Mary Neiderbach worked for the City of Des Moines Community Development during and after 2008, mostly helping to create affordable housing. In a 2018 interview, she remembered the flood well.

“All of city government moved to the second floor of the downtown library because our offices were right on the river. We picked up and kept going.”

Birdland
“I worked mostly over in the Birdland area where the levee failed, getting people out to safety. Then we worked with various programs to help them to either stay or to move as they wished. We tried to help people who wanted to stay because we wanted the levee rebuilt and the neighborhood vital.

“We didn’t allow any new housing to be built until the levee was certified. Now two nonprofits are building houses there. We did a community plan with neighborhood input for Birdland that laid out the kind of houses people wanted. The houses are great. People love them. And it helps the city with the tax base, so everyone wins.”

Four-Mile Creek
“We lost quite a bit of housing along Four-Mile Creek also. We bought out the land, and we tried to help people get relocated. Now we’re trying to connect all the land we have along the creek with bike paths. The open space is a great amenity. I felt bad for those who were displaced, but it is better land use not to risk having people live where it repeatedly floods.”

New housing
“After the flood, IEDA had CDBG money for new rental construction. That provided the impetus for some great affordable-housing projects to help replace some of the housing we lost.

“The Des Moines Building was a historic office building that was converted into affordable-housing apartments. That’s been nominated for several awards because it combines the renovation of a historic building, energy efficiency, affordable housing, and saving a vacant building. There are also affordable rental units in the Wilkins Building, the former Younkers location downtown.”

Then there are projects that are new from the ground up.

“Eagle View, new affordable housing right on the river, has just been finished. The river views are fantastic; energy use is minimal.

“The Edge is just south of downtown with skyline views, permeable paving, raised-bed community gardens, a workout room, and a great lounge with a fireplace — and this is affordable housing!

“In northwest Des Moines, Franklin Field Senior Apartments is in a great setting. It’s right next to the Franklin Avenue Library and a community center. It has walking paths, open space, and a big community garden. It is inspiring some private renovations in the neighborhood.

“The State and the IEDA was really committed to getting that money to us and making some great things happen in Des Moines.”