



US Army Corps  
of Engineers®  
St. Paul District

# Crosscurrents

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## District puts in Herculean effort against the Flood of '97



Photo by Pete Corken, Rock Island District

**Tim Grundhoffer assessed sliding of the slope and water seepage on the landward side of a levee built by the City of Breckenridge. The levee protected a residential neighborhood. City officials asked the Corps to build a backup levee in case theirs failed. The photo was taken on April 17. Grundhoffer is in Engineering and Planning Division.**

by Peter Verstegen  
Public Affairs specialist

"I felt that we put in a Herculean effort. We worked through many unforeseen conditions in the weather. We had the 'mother of all floods,' with a blizzard in the middle."

This observation comes from Tim Bertschi, manager of the St. Paul

District's Flood Control Project Office in Fargo, N.D.

Indeed. It was the eighth blizzard to batter eastern North Dakota and western Minnesota during the winter of 1996-97. And it was a flood of record for a majority of locations on the Red River of the North.

The 1997 flood on the Red River

of the North, the main stem of the river basin that defines the northwest corner of the Corps' St. Paul District, became the mother of all floods for Bertschi and others who lived through it. But some did not. The states of Minnesota and North Dakota attributed eight deaths to the flood — six in Minnesota and two in North Dakota.

Flooding also occurred on the Minnesota and the Mississippi rivers. It began in the upper Minnesota River basin in mid-March; it ended in the Red River basin in late May. At its peak, flood-water on the Red had expanded to an average of seven to 10 miles wide. By the time the water dropped below flood stage in May, it had flooded more than 2,200 square miles of North Dakota and Minnesota.

"There are 34 forecast points in the Red River Valley," said Wendy Pearson, National Weather Service (NWS) hydrologist in Grand Forks, N.D. "An amazing 20 out of those 34 forecast locations exceeded previous floods of record, one location tied the previous flood of record and five other locations were within one foot of the previous flood of record."

Here's some of what Bertschi and other Corps employees experienced in their fights with the record-breaking 200-year flood on the Red River at Grand Forks, N.D., and the flood of record on the upper

*Flood, cont. on page 2*

## Vision for the next century

by COL J.M. Wonsik  
St. Paul District Commander

***"The time for half-hearted incremental change is past. Success will come from a carefully sculpted, aggressive plan."***

— LTG Joe N. Ballard, Chief of Engineers in "Strategic Vision" 1997

By now, every employee has received a copy of the "Strategic Vision" brochure prepared at the direction of Lieutenant General Joe N. Ballard, the Chief of Engineers. I hope you have taken a few minutes to look it over and think about how this vision relates to you. The vision outlined in the brochure will guide the U.S. Army Corps of Engineers into the next century. As such, it will impact every

Corps employee. General Ballard's vision for the Corps will not result in any major changes in direction for the St. Paul District. Our previous and current efforts in the strategic planning and quality arenas closely parallel the Chief's vision. We are fully supporting the new USACE vision and the implementing guidance developed by Mississippi Valley Division.

In late 1995, we started a journey to shape the future of the St. Paul District. This journey included development of a District Strategic Vision and Goals. In 1996, we restructured the district's Total Army Quality program to include QMBs — Quality Management Boards — to better coordinate the quality program in specific areas such as outreach and marketing. These efforts embrace the features of the Chief of Engineers' Strategic Vision.

General Ballard's vision includes three goals for the Corps and seven "sub-strategies." I think it is important to remember that the three goals are essentially even in importance. Please note also that the sub-strategies are

interconnected to more than one goal. In other words, there is a high level of connectivity between the three goals and the seven sub-strategies.

The major goals of the Chief's vision are to revolutionize effectiveness, to seek growth opportunities and to invest in people. It is not hard to see how our district goals — creating a workplace of choice, promoting innovation and creativity, improving our human resource base, and creating a customer driven organization — closely dovetail with and support the Chief's goals.

In summary, these are the points on which to focus:

- The Chief's strategic Vision will guide the Corps into the next century;
- The St. Paul District has been following a course for some time which is consistent with the overall philosophy of the Chief's Strategic Vision;
- The St. Paul District has a long history of outstanding accomplishments. Our job is to insure we are prepared to continue that record in a rapidly changing world.

*Flood, cont. from page 1*  
Minnesota River during spring 1997.

The Red forms the meandering border between North Dakota and western Minnesota.

Bertschi coordinated advance measures and emergency operations on the Red. Advance measures started March 8, and emergency operations began March 31.

Advance measures are the Corps' "ounce of prevention." The district initiates these projects when an imminent threat of life and property is identified prior to a flood. The district constructed 22 of these projects prior to the floods — providing improvements to levees, technical assistance to local governments and other flood control works.

The Minnesota Division of Emergency Management issued its first sitrep, or situation report of flood-related activities, on March 28. The state sitrep reported that the Corps "was involved in advance measures projects in 23 Minnesota counties, which includes providing technical assistance, sandbags, pumps and/or levee construction."

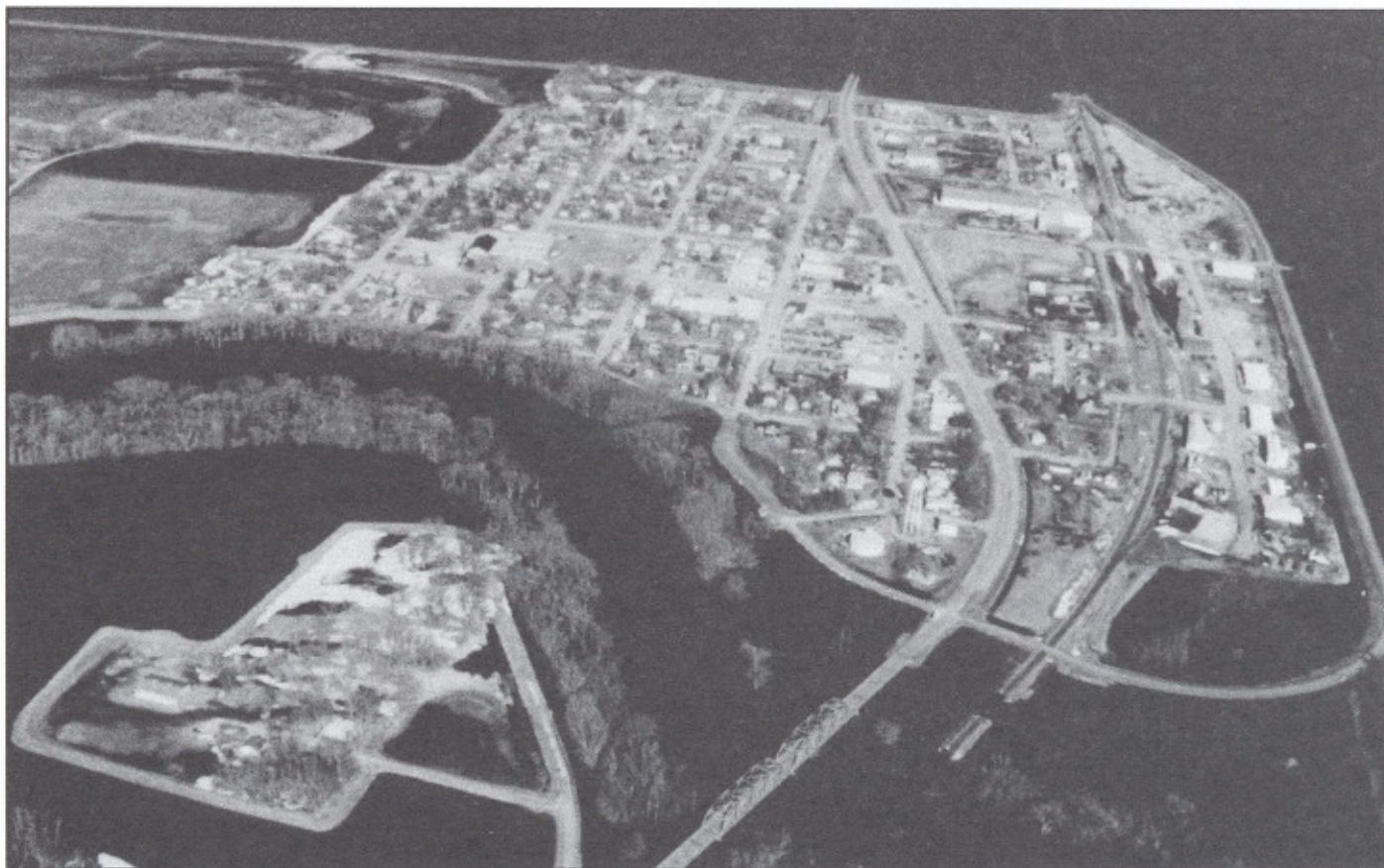
By end of March, the district had advance measures projects completed in the western Minnesota communities of Breckenridge, Marshall, and Granite Falls. Breckenridge sits across from Wahpeton, N.D., on the banks of the Red River. Marshall and Granite Falls lie in the upper Minnesota River basin. The North Dakota communities of Harwood and Wahpeton were also

complete. Harwood is near the Red River just north of Fargo.

### Flat topography

The flat topography of the region complicated the district's flood fighting efforts. "The valley is an old glacial lake bed — wide and flat," said Bertschi. The topography presented severe engineering challenges in finding high ground onto which to tie emergency levees.

From Wahpeton and Breckenridge, near the headwaters of the Red River, up to where the Red exits into Canada, "autumn precipitation levels were two to four inches above normal," said Greg Spoden, Minnesota Department of Natural Resources State Climatology Office. "It saturated the soil surface,



**“The media dwelled on the damages in Grand Forks and East Grand Forks,”** said Lisa Hedin, **“but there were a lot of successes throughout the valley. Oslo**

**(above photo) and Pembina are just two examples.”** Hedin, a project manager, participated in emergency flood operations from March 24 to April 30.

St. Paul District photo

which enhanced the spring flooding.”

Three times the average snow covered the Fargo area. A record 117 inches of snow was on the ground there, compared to a long-term average of almost 39 inches. The 117 inches broke the old record of 89 inches. A record accumulation of 97.7 inches buried Grand Forks.

Six to eight feet of snow — three times the average — had fallen on the Red River Valley through the winter. “In the Minnesota portion of the basin alone, the snowfall exceeded the 1896-97 snowfall (the previous flood of record at Grand Forks and East Grand Forks) by 25 to 50 percent,” said Spoden.

As the winter dragged on, the Twin Cities media ran frequent news reports

of snowdrifts burying houses in western Minnesota and eastern North Dakota.

The district released its first sitrep on Feb. 20. At the district’s urging, the NWS issued its numerical flood forecast two weeks sooner than normal. “The first forecast was released Feb. 14,” said Kenton Spading of the district’s water control section. Other forecasts followed on Feb. 28, March 14 and March 28.” The forecasts bluntly predicted a potential for severe flooding in portions of Minnesota, North Dakota and to some extent, Wisconsin.

March ended and April opened with temperatures 10 degrees above normal in the region. Rivulets of melting snow pooled on the prairie landscape and

rolled into the Minnesota and Red rivers.

**First flood crest**

The season’s first flood crest peaked on a tributary of the Minnesota River in late March. “The Redwood River (a tributary of the Minnesota River) crested at Marshall on March 30,” said Shelly Hoff, Engineering and Planning Division. Hoff was in Marshall to supervise construction of a temporary levee. She had been in the southwestern Minnesota community since March 22 under the Advance Measures Program.

To the north, “the Red River Valley started to experience flooding on Easter Sunday, March 30,” said the weather service’s Pearson.

*Flood, cont. on page 4*



Photo by Bob LeMonds

**The Minnesota River topped above this pedestrian bridge in Granite Falls, Minn. The bridge became a familiar backdrop for the first news broadcasts describing the flooding on the river.**

The Corps manages two flood control projects in western Minnesota near where South Dakota and North Dakota meet. This headwaters region is near the divide where the Red River basin flows north and Minnesota river basin flows south.

The Lake Traverse flood control project discharges water north into the Bois de Sioux River, which becomes the Red River of the North at Wahpeton. White Rock Dam, which forms Lake Traverse, is a concrete and earth structure that stands between the lake and downstream Wahpeton. The dam is located at the headwaters of the Bois de Sioux River near White Rock, South Dakota.

On April 2, water had rushed over the emergency spillway of the Hwy. 75 Dam. The dam, on the Minnesota River between Ortonville and Appleton, provides 45,300 acre feet of storage capacity to reduce flood damages to the south. It was the first time since the project was completed in

the 1970s that water had gone over the spillway.

On the heels of the Hwy. 75 spillover, water cascaded over the emergency spillway of the nearby Lac qui Parle dam near Watson, Minn. The reservoir had reached its maximum storage capacity of 117,000 acre-feet of flood-water. The project is designed to protect downstream communities such as Montevideo along the Minnesota River. Montevideo is just

upstream of Granite Falls in western Minnesota.

Joel Rogers from Construction-Operations Division coordinated the district's flood fight on the Minnesota River.

On the upper Minnesota River, "the drama started Thursday, April 3," said Rogers. "The EOC (Emergency Operations Center in St. Paul) called and told me that the NWS stage prediction for Montevideo had increased from 21 feet to 23.5 feet. Our advance measures protection was only built to 23 feet."

"Saturday morning (April 5) at 7 a.m., it started to rain at Montevideo," said Rogers. "We were working all night Friday to raise the levee there." Buckets of rain began to inundate the Minnesota and Red River basins on Saturday.

"It rained all day Saturday," said Rogers. "The earthen levees were not shaped and compacted at Montevideo. Most of our effort from the night before was lost to the rain on one reach of the

emergency levee there. But we continued to work on the Hwy. 212 levee as a safety backup." By then, up to two inches of rain soaked the region.

On Sunday the temperature plummeted to 20 degrees colder than normal. Wind gusts up to 50 m.p.h. whipped sleet into icy bullets. The wind chill reached 40 below zero. Standing water froze into beds of ice from Granite Falls to the Canadian border.

### The blizzard

"Sunday, the weather snapped into a blizzard with whiteout conditions, 40 m.p.h. winds and 20 below windchill," said Rogers.

The increased crest on the upper Minnesota River was forecast to surge through the area Sunday. "It hit Montevideo first, then Granite Falls," said Rogers. "We had barely two days to raise everything to get any freeboard at Granite Falls. Montevideo is our gage for Granite Falls. The EOC dispatched as many people as possible to the area. We immediately pulled night shift on levee construction at Montevideo and Granite Falls."

Corps flood fighters and contractors continued to clear drainage ditches and build levees night and day throughout whiteout conditions. Trucks laden with fill material left borrow pits in bumper-to-bumper caravans, only to become separated by whiteout conditions en route to emergency levees.

The district shipped an additional 500,000 sandbags to Montevideo. Local citizens and volunteers who traveled into the flood-stricken area performed feats worthy of Hercules in filling and placing the sandbags high enough to resist the flood-water. "The river crested on April 7 at approximately 24 feet in Montevideo," said Hoff. "The levee was raised to a stage height of 26 feet. Flood stage in

Montevideo is 17 feet.”

Up in North Dakota, major blizzards receive names. This became the infamous “Blizzard Hannah.”

The blizzard shorted out some the region’s links to the global village. A coating of ice shackled power lines and broadcast antennas, which drooped and then snapped. The severity of the storm made it too dangerous for repair crews to work. An estimated 30,000 customers on both sides of the river from Moorhead, Minn., to the Canadian border lost power or telephone service.

Whiteout conditions raged throughout the region the whole weekend. Pumps at a water treatment plant froze. Sewer lines froze. Emergency vehicles froze in the thick slush that caked city streets in Crookston, Minn.

But Corps flood fighters maintained their ability to communicate with one another and to coordinate with the EOC in St. Paul — thanks to an early initiative by a GS-4 office automation clerk in Fargo.

Kathy Halverson foresaw the need for critical field communications. Halverson initiated discussions for cellular communications with an established, reliable supplier in early February.

“We had some minor flooding at Grand Forks the year before, and cell phones worked really well,” said Halverson. “But after listening to Tim and driving through mounds of snow to get to work, I knew that we would have a problem on a much larger scale this year.”

To the north, Blizzard Hannah had stalled the flood fight at Grand Forks. “The snow was so bad we couldn’t even see to the front of the hood on our four-wheel drive vehicle,” said Lisa Hedin, project manager for Grand Forks and East Grand Forks flood

control projects. Hedin participated in emergency flood operations from March 24 to April 30. “We had to pull in during the blizzard. Stores and restaurants were closed. We finally found a convenience store that was open, bought some snack food and took it to emergency personnel who were snowed in.”

The good news was that the cold had slowed the melting. The bad news was that the storm had dumped an extra 3.5 inches of precipitation on the ground. When the blizzard left the region many residents shoveled out and began to evacuate their homes.

Within two days of each other, the governors of Minnesota and North Dakota sought disaster declarations from the President of the United States. The governor of North Dakota requested disaster assistance from the President on April 6. The governor of Minnesota wrote the President April 8.

### Water control

Careful management of releases of flood-water at White Rock Dam and excellent work by a contractor had helped to spare Wahpeton, across the river from Breckenridge.

On April 9, the district released pent-up water stored behind White Rock Dam at Lake Traverse. The reservoir has a maximum flood storage capacity of 273,000 acre-feet of water to reduce crests on the Red at Wahpeton, Fargo and other communities. The dam had held back a peak inflow of 16,000 cubic feet per second (cfs), releasing no water at the peak of flooding downstream at Wahpeton. The release reached nearly 7,000 cfs, breaking a record of 3,770 cfs set in 1969.

“At Wahpeton, the level of effort provided by the contractor was consistently high and was instrumental in the city’s success in surviving the flood with minimal damage,” said Matt

Bray of Engineering and Planning Division.

The Vice President toured the Wahpeton-Breckenridge area on April 11. At the time of his visit, flooding in northwestern Minnesota had impacted almost 10,000 people.

Quick action with sandbags and heavy equipment saved Wahpeton on April 14. An abandoned railroad embankment which formed part of a levee, “experienced a major piping failure,” said Bray. “Piping was so severe that it appeared a 12-inch diameter culvert was discharging through the levee.” When flood fighters were unable to construct a back-up levee with on-site equipment, they dumped sandbags in the area that was piping and on the riverward face of the levee. “This slowed down the inflow considerably,” said Bray. “A backhoe owned by the railroad soon arrived to construct an emergency cutoff levee behind the failed section to eliminate the threat of flooding.”

The flood-water crested twice at Wahpeton — on April 6 and April 15 — at a stage of 19.2 feet. Flood stage there is 10 feet.

On the Minnesota side, midway between Moorhead, Minn., and East Grand Forks, overland flooding emerged in the Wild Rice River community of Ada, Minn. Overland flooding had also inundated parts of Breckenridge and Crookston and many borrow sites where the Corps and its contractors dug for clay and dirt to build emergency levees.

“We are up in uncharted waters here,” said Ed Eaton, chief of Water Control Section, during the daily EOC briefing on April 18. “The Red River Valley was like a large reservoir.” The disaster was so big that agencies lacked historic data for comparison.

“At the peak of the flood on April

*Flood, cont. on page 6*

18," said Bertschi, "the flow on the Red at Fargo was about 28,000 cubic feet per second (cfs). The April average is 4,851 cfs. The annual average is 615 cfs, which is about 23 percent of flood stage flow."

"The water let loose at Grand Forks on April 18," said Bertschi. "Everything was pretty soggy. The flooding started in Belmont Park and Lincoln Park area. The water worked its way north from there. Ground zero on the east side (East Grand Forks) was 'The Point,' a peninsula between Red Lake River and the Red River of the North."

### Evacuating the EOC

"We evacuated the Grand Forks EOC the night of April 18," said Hedin. "At that point, water was actually running in the streets. The EOC in East Grand Forks was evacuated early in the morning on April 19." Flood fighters established a new EOC at the University of North Dakota campus. Meanwhile, the Red Cross established a shelter for evacuees at the Grand Forks Air Force Base.

"The flood in Grand Forks was like a bad Sunday night movie," said Hedin. "They don't even make movies like this. Grand Forks has the hydraulics of a pancake. I watched water silently creep into the community block by block. It was all happening with no noise at all. There was no power, no heat, no drinking water. There was no traffic. It was surreal. I saw helicopters dumping water on burning buildings surrounded by flood-water in downtown Grand Forks."

Others also had poignant experiences. Neil Schwanz, Engineering and Planning Division (PE), spent his nights in an old jail cell at the law enforcement center at East Grand Forks. "Marsha Gilliland came to get me out when we evacuated the

EOC early on the 19th," said Schwanz.

"Neil was in a jail cell with the doors shut. We were ready to leave and I thought 'Oh my God, we forgot Neil!' I ran back in to get him," said Gilliland.

Bob LeMonds, Construction-Operations Division (CO), slept on a cot in a computer lab on the third floor of a school in Pembina, N.D. "I had the place all to myself," he said. "I was there for one week. The city was evacuated except for emergency personnel and stood as an island surrounded by water."

Tim Grundhoffer, Engineering and Planning Division, waded through ice and water in Breckenridge, a city threatened by the Otter Tail and Bois de Sioux rivers and overland flooding. Contractor trucks there were hauling clay on streets covered by two feet of water. "Water was boiling out of manholes. I stood in a drenching rain in water up to my knees during the first crest. When the forecast was increased to three inches of rain plus snow, we knew then that north Breckenridge was lost," he said.

"The flood fight in Breckenridge was bittersweet," said Grundhoffer. "Two major crests above 19 feet occurred — both floods of record. The north side of town was lost during the first crest and the south side was overcome by overland flooding during the second crest."

"The media dwelled on the damages in Grand Forks and East Grand Forks," said Hedin, "but there were a lot of successes throughout the valley. Oslo and Pembina are just two examples."

Preliminary estimates compiled by the district staff indicate that the district's permanent projects, advance measures and emergency flood fighting efforts prevented nearly \$325 million in damages in the three river basins.

"Preliminary estimates of the total damages prevented from the combined

effects of permanent projects, advance measures and emergency flood fight operations were \$233 million for the Red River of the North basin, \$41 million for the Minnesota River basin, and \$50.7 for the Mississippi River basin," said Curt Meeder, a regional economist in Engineering and Planning Division. "Emergency works and advance measures (within the three river basins) accounted for approximately \$120 million of this total." This leaves permanent projects in three basins preventing about \$205 million in damages.

"The advance measures projects truly enabled us to be successful in Granite Falls, Montevideo and Marshall," said Rogers. "We started doing advance measures in mid- to late-March in the communities of Granite Falls and Marshall. We would have had a hard time placing materials given the weather that we encountered. Most of both communities were saved, although a section of Montevideo was half-flooded before we got there."

In addition, the headlines and media coverage all but ignored successes at two permanent Corps of Engineers flood projects on the Mississippi River. "Corps projects prevented an estimated \$11.3 million in damages at St. Paul and prevented \$39.4 million at Winona," said Meeder.

On April 22, the President personally viewed the damage and met with evacuees at the temporary shelter at the Grand Forks Air Force Base. By the time of the president's visit, about 70,000 residents of North Dakota had been uprooted from their homes.

By May 30, when all the NWS river forecast points dropped below flood stage the Red River had flooded an area nearly the size of the State of Delaware. "At one point, the river turned into a 12-mile wide monster," said Bertschi.



Photo by Connie Brantner

**Flooding even occurred on the Mississippi River, although not at record levels. On April 8, personnel at Lock and Dam No. 4 in Alma, Wis., had to place sandbags around the control station, completed in 1994. "The new design made our job much easier, compared to the Flood of '65," said Lon Meixner, lockmaster. From left are Gary Krause, lock and dam operator; Daniel Wick, a college student and seasonal employee; and James Auer, head lock and dam operator.**

Personnel on flood duty had traveled 125,000 miles during a two-month period in 43 leased four-wheel drive utility vehicles — two of which were lost to flooding.

"We initiated flood protection in 37 communities in the Red River basin and we won in 34 communities," said District Commander COL J.M. Wonsik. Flood-water overpowered efforts at Grand Forks and East Grand Forks. Overland flooding had also outflanked emergency levees in a handful of communities. In addition,

ice jams caused back-water flooding at elevations greater than predicted.

"Every flood executive officer hopes that during their career they won't have to deal with any flood, much less a flood of this magnitude and extent," said Bob Post, chief of Engineering and Planning Division.

Post served as the subarea engineer for the Wahpeton-Breckenridge area in 1969 flood.

"Thank God we were prepared and trained for this emergency," he said. "The professionalism and dedication

displayed by the more than 200 men and women of the Corps' Flood Emergency Response Team during this event was truly awesome. Their selfless and tireless efforts significantly reduced the damages and human suffering experienced in the region. They are heroes!"

### Recovery efforts

The district's Herculean efforts continued into recovery. The district supplied fresh water to the hospital and helped reestablish water and sewer service at Grand Forks, provided housing and debris removal in Grand Forks and East Grand Forks, inspected structures, supplied power for the University of North Dakota at Grand Forks and inspected flood structures in communities on both sides of the Red River.

The district had spent nearly \$15 million for emergency operations through May and another \$19.5 million from the Federal Emergency Management Agency for recovery activities through June 30. The district provided more than 4.5 million sandbags and 235 pumps to state and local officials for their flood fights.

The district's contracting activity also reached historic proportions during the flood. Contract awards more than doubled, and the amount of funds obligated exceeded the same period in 1996 by 900 percent. Comparing March 22, 1996 to May 15, 1996 with the same dates in 1997, the number of contract awards went from 197 to 413. For the same period in 1996, the amount obligated was \$2.6 million; in 1997 it reached \$24.4 million.

Contractors hired by the district to clean up Grand Forks and East Grand Forks area had hauled nearly a half-million cubic yards of household debris and more than 125,000 cubic yards of levee material through June 1997.

## A war zone — filled with love

by Denise Tyler  
Public Affairs specialist  
Rock Island District

*Beginning April 2, Denise Tyler served a month-long tour of duty in Fargo for the Flood of '97. Her account appeared in the Rock Island District Tower Times, June 1997. Reprinted by permission.*

Truck after truck rumble through streets, many driven by young soldiers in camouflage. The air is hazy with dust and vehicle exhaust and it's difficult to see. Vehicles travel with headlights on during the late afternoon. Nostrils are assaulted by a pungent combination of diesel fuel and dirt. The air is electric with human desperation. This is a war zone, truly. Yet it's a war zone with an odd ingredient: love. The town of Fargo, N.D., is in a frenzied battle to save itself from Mother Nature's raging waters. And its community of people filled with love for each other, for their homes, and for the town itself.

I arrived in Fargo on April 2, for a month-long flood duty assignment. The St. Paul District had been busy in the area for many weeks already, preparing for a predicted flood record on the Red River of the North. The advance measures of securing contracts with local businesses for levee construction had been finished and construction was beginning on many temporary levees. The St. Paul District had done an excellent job of advising local communities and home owners of procedures that were available, and many were preparing.

The community seemed in minor conflict during those first few days.

While most home owners and businesses were taking measures to protect real estate and possessions, some people were skeptical of all the money and effort being tossed in the path of the melting snow. Melting had already occurred during the several warm days surrounding Easter. Water was high, yes, but were the elaborate measures overreaction? A few newspaper articles reflected skepticism. Even I couldn't imagine the still frozen Red River causing much damage—it is such a meandering river, just a big stream really. Fed by eleven tributaries, it still seemed too small to cause much concern. How naive many of us were.

### Planning to prevent damage

City officials and Corps employees were hopeful. Long hours of planning and analyzing data had produced some excellent designs to prevent flood damage.

Although the tri-state area of South and North Dakota and Minnesota had been lambasted all winter by many blizzards, Mother Nature had just begun to show off her stuff to the northern plains.

Many of the towns in the southern area of the district believed they were almost finished building sandbag and earthen levee fortresses. Just as they were finishing, torrential rains began on Saturday morning, April 5. By afternoon, the rain turned to ice, followed by the worst blizzard of 50 years as Saturday turned to Sunday.

The snow storm was named Hannah—the area hadn't yet lost its sense of humor. They had taken to the naming of blizzards much like

tropical hurricanes. There had been seven terrible storms already. This one, however, topped them all. Wind snapped ice-laden power lines, and power to many towns disappeared for days. People began to feel more vulnerable, and even the skeptics started to appreciate the flood protection.

Area congressmen began lobbying the White House for attention. Although people were tired, spirits were buoyed by the announcement that Vice President Al Gore would visit Fargo, N.D., and Breckenridge, Minn., on April 11.

The emotional roller-coaster began in earnest then. The National Weather Service announced a higher crest prediction for Fargo—instead of 38.5 feet, a level up to 39.5 feet would probably occur on April 12 or 13. Spirits sank.

The Corps and contractors rose to meet the newest challenge, however. Clay was added to levees that had been considered complete. In the daily press conferences conducted by the town of Fargo, the mood was tense. People had been fighting blizzards all winter and now the flood for several weeks. Was there stamina to survive the latest threat?

The third week of my stay was the most daunting. April came, and so did the predicted flood of record. The Red River topped the previous record set in 1897, eventually reaching a level of 39.5 feet on April 18. The levees held. There seemed to be an air of cautious optimism. Corps officials began talking about moving the Emergency Operations Center crew to the Grand Forks area, where their crest was predicted for the following weekend. Corps construction had been happening there for weeks, but the contracting



personnel and I were to be moved to East Grand Forks when we could make a smooth transition from Fargo. The move would probably be soon, because Fargo had won their battle—or so it seemed.

### Crest stays high

Flood waters usually recede soon after reaching crest levels, but that wasn't happening in Fargo. Temporary levees designed to hold back flood waters for a maximum 10 to 14 days were getting saturated—some were nearing three weeks being in place. The deep rushing waters of the Red River were nothing like ever experienced. Levee seepage began appearing, causing sickened alarm in the minds of the experts. It was decided to add a second levee behind the infamous "2nd Street Levee." That levee was protecting downtown Fargo. Engineers hoped a second levee behind the first would stall catastrophe should a break occur. Stressed levees; tired officials; exhausted citizens—and Mother Nature just seemed to gather strength as a second, silent monster began to appear.

North Dakota is an extremely flat terrain, caused by glaciers eons ago. Since the water has nowhere to run off, this topography causes melting snow in from fields to pool. Saturated soil will cause sitting water to eventually flow to lower levels, so in North Dakota where land falls about four feet every mile, the phenomenon of overland flood water was silently approaching from the southwest. Fargo was being surrounded by water.

Anxious officials met to discuss ways to combat the impending water invasion. From all alternatives, they

were forced to make a dreadful decision. In the manner of military triage, where something must be sacrificed for the larger good, a line was drawn through the city. Contractors would begin placing clay to tie two existing levees together to protect a large part of Fargo. However, south of this line lie many beautiful neighborhoods. The city was forced to announce this latest terrible situation on April 16. Levee work began immediately.

### Odd combination of war and love

That Friday I saw the odd combination of war and love. Walking several miles taking photos, I witnessed remarkable Midwestern resolve. This community was not going to surrender. College and high school students were standing shoulder-to-shoulder with retirees, surrounding \$400,000 homes with sandbags. It seemed to me the entire 70,000 Fargo population was present to wage war against the water.

Because of the latest emergency in Fargo, the EOC didn't move to Grand Forks as soon as planned. Crest levels along a 120-mile stretch of the Red River were happening at the same time and emergency efforts were needed everywhere.

I didn't know it then, but as I walked in southwestern Fargo, Grand Forks was tragically losing its battle to the river.

The Corps helped Grand Forks to fight just as valiantly as the other communities along the swollen river. They had been preparing for a record level of 49 feet, but the river attacked them with an astonishing 54-foot depth. The fight became futile as waters surged.

Like many of you, I watched in horror as television crews described

the destruction. Non-essential employees were requested to stay away, but after a period of several days, I traveled to Grand Forks, N.D., and East Grand Forks, Minn., for photographs. I'd seen many astounding things, but I was unprepared for the overwhelming violation these communities suffered.

I remember visiting the burned downtown area, and feeling sickened by the rubble. I think TV prepared me for that. A short time later, I wasn't prepared for my breath to be taken away. I was driving along a deserted city street. Under normal circumstances this area would have been extremely busy, comparable to John Deere Expressway in Moline, Ill. There were car dealerships, fast-food restaurants, a Wal-Mart, a shopping mall. But something was amiss. There was absolutely no activity—no cars, no people, no dogs barking. It seemed so terribly wrong. I felt as if I were in a Rod Serling "Twilight Zone" episode, and the citizens of this town had been whisked away mysteriously by aliens. No aliens involved here—merely a friendly little river called the Red turned into a monster.

Another memorable moment happened as I traveled across a bridge that connects Grand Forks to East Grand Forks. This bridge is similar to the Interstate 74 bridge connecting Illinois to Iowa. As I crossed this bridge, I saw entire neighborhoods with many two-story houses completely submerged. A community no longer brimmed with activity, but with muddy, sewer-fouled water instead. This reporter, who had been toughened by some extraordinary sights, began to cry. It was a life-altering moment.

Two days later I was on my way

*War Zone, cont. on page 10*

## Bits and Pieces

### First checks cut from CEFMS



St. Paul District photo

The district achieved a significant milestone when the CEFMS software (Corps of Engineers Financial Management System) successfully cut its first checks in late May. From left are Randy Brunet, finance and accounting officer in the St. Paul District; Ben White; and Brenda Keiser, teller. White is president of the System Engineering Division of Jones Automation in Huntsville, Ala., the company that wrote the CEFMS payment software.

### Retirees' reunion set for Sept. 4

Retirees from the St. Paul District and others are gathering for the 22nd retirees' reunion on Thursday, Sept. 4, between 11:30 a.m. and 3:30 p.m. at the Kelly Inn in St. Paul. The food will be served at 1 p.m.

The cost is \$12.75 for hot turkey or baked walleye or \$11.25 for a chef salad.

For more information, contact Jim Kursu at 224-0053 or Peggy Peterson at 486-0390.

The Kelly Inn is located at 161 St. Anthony St.

*War Zone, cont. from page 9*

home to my family and friends. I'm a hugger by nature, so of course I embraced my family tightly when I returned. I remember feeling silly as we pulled into our driveway at home, though. I wanted to hug my house.

I've always been happy to tell people I work for the Corps. Maybe I'll tell somebody about a good Corps endeavor, or seize an opportunity to explain a Corps' mission that may not be apparent. However, because of my experience in North Dakota, never have I been more proud to work for any organization. St. Paul District had a seemingly insurmountable challenge, but they met it with technology, talent, expertise, and something I'll never forget—Corps compassion.



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St. Paul District

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## Crosscurrents

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