

The Red River Floodway Expansion Project

A publication by the Manitoba Floodway Authority

More Protection. More Opportunities. SEPTEMBER 2009



CEO Message - "Floodway Expansion Achieves One-in-700 Year Flood Protection"

Residents who live near the Red River, from the U.S. border, north to Lake Winnipeg, faced serious flooding this spring as the second highest Red River flood in 150 years reached the area. High soil moisture, significant ground frost and unusual ice jams contributed to the high water levels. Huge efforts were undertaken by local residents, municipal leaders and provincial officials to battle the flood waters, including the use of Amphibex ice breakers and large excavators. Our sympathy and thoughts go out to all those affected by the extreme spring flooding.

For Winnipeg residents, the spring flood reinforced the importance of the Red River Floodway. On April 8, the floodway was activated to protect Winnipeg. Over the course of the following weeks, the floodway diverted a peak water flow of approximately 1,218 cubic meters (43,000 cubic feet) per second of water into the channel. This lowered river levels in Winnipeg by 3.05 metres (10 feet) and prevented an estimated \$10 billion in flood damage.

The need to expand the Red River Floodway to protect against water levels higher than the 1997 flood, often called the "flood of the century," has been reinforced by the recent high water levels. Earlier this year, the Red River Floodway Expansion Project reached a major achievement by providing one-in-700 year flood protection for Winnipeg, East St. Paul and West St. Paul. This milestone was achieved through the completion of the excavation of the 48 kilometre (approx. 29 mile) channel, which more than doubled the channel's capacity.

While channel widening is done, other work is ongoing and should be completed over the next year and a half. This includes completion of the inlet and outlet control structures, the Keewatin and Emerson Canadian Pacific (CP) railway bridges and the West Dike. In addition, work on two new projects, the Provincial Truck Highway (PTH) #44 and #15 bridges, is scheduled to be completed in fall 2010. The Manitoba Floodway Authority (MFA) has also started work on a pilot project to build a section of recreational trail along the expanded floodway, between PTH #59 north and Birds Hill Provincial Park that is part of an overall plan that will include a landscape and recreational legacy on the expanded floodway for all Manitobans.

For more information on the historic Red River Floodway Expansion Project, please go to: www.floodwayauthority.mb.ca; or contact the MFA office at 204-945-4900 in Winnipeg; toll free 1-866-356-6355.

Thank you for your interest in project.

Sincerely,



Ernie Gilroy
Chief Executive Officer of the Manitoba Floodway Authority

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The inlet control structure.

Two New Bridges Added To Floodway Project

On December 22, 2008, the federal and provincial governments announced that two new bridges – PTH #15 and PTH #44 – would be added to the floodway expansion project. These were added because the floodway project was under budget, which provided the funds to invest in bridge replacements which will save the province from having to replace them in the future.

- **Construction of PTH #44 Bridge** – PCL Constructors Canada Ltd. was awarded the contract (estimated at \$14.7 million) to build a new bridge over the floodway on PTH #44. It will be above the one-in-700 year flood level. As part of the project, safety improvements are being made to Rockhaven Road, including:
 - new turning lanes for traffic travelling on PTH #44 at the Rockhaven Road intersection
 - complete asphalt paving on Rockhaven Road west of the Central Manitoba Railway (CEMR) tracks to Provincial Road (PR) #204
 - improved signs and pavement marks at the CEMR track crossing
 - new 1.5 metre (4.92 feet) gravel pedestrian path along the south property line of Rockhaven Road between the most westerly house east of the CEMR tracks to PTH #44.
- **Construction of PTH #15 Bridge** – MD Steele Construction Ltd. was awarded the contract (estimated at \$10.8 million) to build a new bridge over the floodway on PTH #15. Safety improvements include:
 - replacing the existing two lanes with three lanes
 - a designated turning lane
 - a raised bridge median
 - improvements at the junction of PTH #15 and PR #207

The current plan for the three lane bridge does not preclude any future bridge to accommodate the additional traffic that would come from the potential future twinning of PTH #15.

Traffic disruptions will be minimal during construction, because the existing bridges will still be in operation. For safety during construction of the PTH #44 bridge, the speed limit along Rockhaven Road will be reduced to 50 kilometres (30 miles) per hour; temporary speed bumps will be established; and the road will be designated a no-truck route. Work on both bridges began in July and is scheduled to be completed in fall 2010. As part of the floodway project, a total of eight highway and railway bridges are being replaced.



Manitoba Premier Gary Doer and federal Treasury Board President Vic Toews at the December 2008 announcement of the replacement of PTH #15 and PTH #44 bridges.

Floodway Authority Mandate Being Expanded to Oversee Construction of an All-Season Road on the East Side of Lake Winnipeg

The province has announced that the Manitoba Floodway Authority (MFA) mandate will be expanded to manage construction of an all-season road on the east side of Lake Winnipeg.

“For many years, First Nations people living on the east side of Lake Winnipeg have been calling for an all-season road that would permanently link communities and improve access and economic development opportunities for the region,” says Manitoba Infrastructure and Transportation Minister Ron Lemieux. “The construction of this road provides an incredible opportunity to help lower transportation costs, increase economic development opportunities and enhance the quality of life for residents living in this region.”

The East Side Transportation Initiative (ESTI) has two initial priorities.

- 1) Construction of an all-season road from Provincial Road (PR) #304 near Manigotagan to Bloodvein First Nation and through to Berens River First Nation. This includes the engineering, environmental assessment and upgrading of the existing Rice River Road north

of Manigotagan. It also covers construction of an all-season gravel surface road to Berens River First Nation. The total length of the road will be approximately 170 kilometres (approx. 105 miles). Pending environmental approvals, construction is scheduled to start in 2010.

- 2) The East Side Transportation Network Study will review potential transportation network improvements for the communities in the remainder of the region. The study is scheduled to be completed in fall 2010.

On April 30, 2009, the province introduced Bill 31 – *The Manitoba Floodway Authority Amendment Act* to expand the mandate of the MFA to manage construction of an all-season road on the east side of Lake Winnipeg. In the interim the East Side Road Authority, Inc. (ESRA) has been established to move work forward. ESRA is committed to working with local communities to make sure construction generates jobs, training and economic development opportunities for local people.

For more information on the East Side Transportation Initiative, call **204-945-4900** in Winnipeg; toll free **1-866-356-6355**; or visit www.eastsideroadauthority.mb.ca.

2009 Aboriginal Set-Aside Initiative

Building on the success of the Aboriginal Set-Aside Initiative over the past three years, the Manitoba Floodway Authority (MFA) has awarded five new contracts for about \$10 million, for the 2009 construction season. To date, 30 construction contracts, of about \$53 million, have been awarded for the initiative.

The successful 2009 bidders are:

1. **Tender W21** – 1133407 Ontario Ltd. / O/ Pipestone Contracting Ltd.
2. **Tender W28** – H. Baudry Construction Ltd.
3. **Tender W29** – TGIC / Munro Construction
4. **Tender W19** – Meetong Construction Ltd.
5. **Tender ED1** – Nistow Construction Ltd.

The program addresses future potential skilled labour shortages and generates jobs and economic opportunities for Aboriginal people, while expanding Winnipeg’s flood protection. Due to the MFA’s success on the floodway’s Aboriginal Set-Aside Initiative, the MFA’s mandate was recently expanded to undertake construction of an all-season road on the east side of Lake Winnipeg.



Contractors interested in the 2009 Aboriginal Set-Aside Initiative take part in a West Dike Bidders’ Conference in May 2009.

Construction Update – As one of the largest public infrastructure projects in Manitoba’s history, the expansion of the Red River Floodway created more than 2,500 jobs and provided work for more than 120 companies.

Completed Projects

Excavation of Floodway Channel

Floodway expansion has increased the capacity of the floodway from 1,700 cubic metres (60,000 cubic feet) of water per second to 4,000 cubic metres (140,000 cubic feet) of water per second, by widening the floodway channel. The original width ranged from 215 metres (approx. 235 yards) to 305 metres (approx. 333 yards) and the expansion widened it by varying amounts by as much as 60 metres (approx. 65 yards). Approximately 21 million cubic metres (more than 27 million cubic yards) of earth were excavated from the floodway channel. As a result of this work, the expansion project has provided one-in-700 year flood protection for Winnipeg.



Excavation work on the floodway channel was completed in 2009.

Replacement and Upgrade of the Trans-Canada Highway Bridge

As part of the project, MD Steele Construction replaced the existing bridge structure that crossed the floodway with two new bridge structures. The new bridge structures are 3.9 metres (12 feet, 10 inches) higher and 98.6 metres (323 feet, six inches longer) than the original bridge and are designed to the one-in-700 year flood level. The work made major safety improvements including the addition of an acceleration (east bound) and deceleration (west bound) lane. Both are designed to move traffic more safely on and off the bridge. The bridge was opened to traffic in November, 2006.

Replacement and Upgrade of the PTH #59 South Bridge

PCL Construction Canada Ltd. replaced the two existing north bound and south bound bridge structures. As a result, the new bridge structures are four metres (13 feet) higher and 50 metres (164 feet) longer than the previous structures and are designed to the one-in-700 year flood level.

In addition, Prairie Grove Road was relocated higher along the bank, ensuring it remains above the flood water level for longer periods during flood periods. The bridge was opened to traffic in fall 2007.

Construction of the Canadian National Railway (CNR) Sprague Bridge

The CNR Sprague Bridge over the Red River Floodway was replaced to meet the one-in-700 year flood level. PCL Constructors Canada Ltd. completed the bridge in June 2007.

Replacement of the CNR Redditt Bridge

PCL Constructors Canada Inc. began work on the bridge in January 2007. It is designed for a one-in-700 year flood level and was opened in June 2008.

The new CNR Redditt Bridge opened in June 2008.

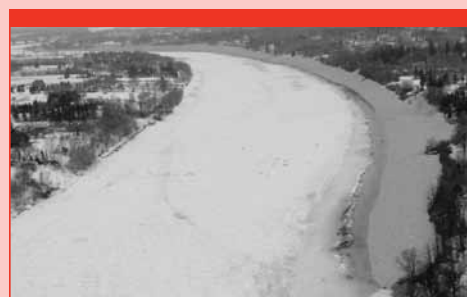


Relocation of the City of Winnipeg Aqueduct

In 2006, Mulder Construction began work on the relocation of the City of Winnipeg Branch I and II aqueducts. MFA co-ordinated the relocation with the City of Winnipeg. The project was completed in March 2007.

Erosion Protection on West Bank of the Red River

As a precaution, erosion protection was incorporated into the west bank of the Red River, across from the outlet control structure. The project included installation of approximately 81,000 metric tonnes (89,302 imperial tons) of processed limestone, rock rip-rap on a 1.8 kilometres (1.12 miles) section of the west bank. The work began in November, 2008 and was completed in February, 2009.



Erosion protection on the west bank of the Red River in Lockport.

Work Underway

Outlet Control Structure

PCL Constructors Canada has widened the existing outlet to about twice its original size to prepare for the possibility of a one-in-700 year flood. Important erosion protection measures, including chute and baffle blocks, were built downstream from the end of the outlet to further reduce the speed of water re-entering the Red River. These improvements will help maintain the speed of water passing through the outlet. Work on the outlet began in the summer 2007 and the majority of the work was completed earlier this spring. Erosion protection work and site clean up is currently underway.



The outlet control structure in Lockport.

Upgrades to the Inlet Control Structure

Upgrades are being made to the inlet control structure, which regulates the division of flow between the floodway and the Red River. TPG Pritchard Machine, a division of Pritchard Engineering Co. Ltd., is doing mechanical, hydraulic and electrical upgrades on the structure. The majority of the work on the structure is being undertaken during the winter months when the floodway is not required to be operational.



Upgrades are being made to the inlet control structure.

Replacement of the PTH #44 Bridge

Work on the replacement of the PTH #44 Highway Bridge began in summer 2009 and will be completed in fall 2010. The new bridge will be about three metres (approx. nine feet) higher than the previous structure and is designed for a one-in-700 year flood level. In addition to meeting current design standards, the project has a number of safety improvements, including intersection improvements at the north end of the interchange and PR #204; larger curves on connecting loops; paved shoulders on the interchange; and intersection improvements at PTH #44 and Rockhaven Road.

Replacement of the PTH #15 Bridge

Work on the replacement of the PTH #15 Highway Bridge is scheduled to begin this summer and to be completed in fall 2010. The bridge replacement will ensure the new structure is designed for a one-in-700 year flood level, meets current design standards and will have a life span of at least 75 years. The new bridge will also include safety improvements such as: a new, three-lane structure (including a lane for traffic turning south onto the Perimeter Highway); a raised bridge meridian and improvements at the junction of PTH #15 and PR #207.

CP Emerson Bridge

MD Steele Construction Ltd. began replacing the CP Emerson Bridge in summer 2008. The new bridge will be designed for a one-in-700 year flood level. Work on the bridge is scheduled for completion in fall 2009.



Work on the CP Emerson Bridge is scheduled for completion in fall 2009.

Work Underway

(Continued from previous page)



A detour structure reroutes trains while work on CP Keewatin Bridge is underway.

CP Keewatin Bridge

MD Steele Construction Ltd. began work on the CP Keewatin Bridge in November 2007. It will be designed for a one-in-700 year flood level. The new bridge is approximately 37 metres (121 feet) longer and approximately 1.3 metres (4.3 feet) higher than the original bridge. The bridge is scheduled for completion in fall 2009.

Extension of the West Dike

The west dike, located southwest of Winnipeg, is being raised to provide better protection against wind and waves during major floods. This project includes dike construction, ditch grading, culvert installation and other work. To date, approximately 37 kilometres (22 miles) of the 51 kilometres (31 miles) along the floodway's west dike has been reconstructed.

Construction of the west dike is part of the MFA's Aboriginal Set-Aside Initiative.

Pilot Project Underway On Floodway Recreation And Landscaping Opportunities Concept Plan

The Manitoba Floodway Authority (MFA) is building a section of recreational trail along the expanded floodway, between PTH #59 North and Birds Hill Provincial Park. The project includes prairie naturalization and tree planting to enhance the overall landscape of the floodway.

The pilot project is part of the Opportunities Concept Plan (OCP), an overall landscaping and recreational development strategy for the expanded floodway. Plan highlights include:

- a multi-use four-season trail along the floodway
- a tree planting, re-vegetation and landscape plan for the floodway based on sustainability and naturalization
- staging areas for recreational activity
- low-level crossings across the channel
- hay lease opportunities for agricultural producers
- community gardens
- signs and a nature interpretation program

In June 2008, MFA brought several consultants together to develop a landscape and recreation plan along the expanded floodway. The consulting group is lead by Hilderman Thomas Frank Cram – a landscape architect and planning firm – and includes McKay Finnigan and Associates, MMM Group, Prairie Habitats Inc., Fort Whyte Alive and various tourism and economic development specialists. The consultants met with recreational users, non-governmental organizations, local municipalities and other organizations to develop the OCP.

In February, MFA held two open houses to outline proposed landscape and recreation opportunities for the expanded floodway.

“The open houses were an excellent opportunity for us to hear from the public regarding the Opportunities Concept Plan,” said Daryl Harvey, MFA's vice-president of operations. “The feedback we have received has helped to develop the plan. We look forward to moving forward with this exciting initiative and providing a long lasting recreational legacy for all Manitobans.”

The OCP is currently being finalized and will be submitted to governments for consideration. The public are asked not to use the floodway until construction is complete.



Open house meeting in Transcona on recreational development along the floodway.

24/7 Groundwater Response Line

While construction on the floodway continues, a 24/7, toll free, phone line is available to respond to any well water problems that may be related to floodway construction. If you have problems with your water supply related to floodway construction, the toll free number to call is 1-877-456-1201.

MFA will respond to calls in a timely manner. This phone line is part of the MFA's comprehensive groundwater management program. For more information, call MFA directly at 204-945-4900 in Winnipeg; or visit www.floodwayauthority.mb.ca.

2009 Access To Earth Initiative

The Manitoba Floodway Authority continues to offer the public access to clay fill from the floodway through the Access to Earth Initiative. This will be the last year for the program because floodway excavation work is completed and the channel will be re-vegetated after this year's program.

As in previous years, MFA is providing the earth at no charge but the public is responsible for all transportation costs. **The public is reminded that the earth available is clay fill and not topsoil.**

This season, two earth depot locations were set up. Weather permitting, both sites are open Tuesday to Sunday from 8:00 a.m. to 6:00 p.m. on these dates:

- **St. Mary's Road Bridge Depot,**
Friday, July 3 to Friday, July 31
Site access just south of the St. Mary's Road bridge that crosses the floodway
- **Dunning Road Depot,**
Wednesday, August 5 to Sunday, October 4
Site access off Dunning Road at PTH #202

A loader is now available for the public five days a week – Wednesday to Sunday. The depots are closed on Mondays and may be closed due to wet weather on other days.

Over the past three summers, the public and local municipalities have accessed approximately 250,000 cubic metres (326,988 cubic yards) of earth from the initiative.

Anyone wanting clay fill must phone or go online and register with the MFA. To register or find out if sites are open, call 204-945-4900 in Winnipeg; toll free 1-866-356-6355 Monday to Friday between 8:30 a.m. and 4:30 p.m. or call 204-612-7692 on Saturdays and Sundays, between 8:00 a.m. and 6:00 p.m.; or visit www.floodwayauthority.mb.ca.



The MFA's Access to Earth Initiative.

Public Should Avoid Floodway Construction Zones

For safety reasons, the public is reminded to avoid travel on the floodway at all times to ensure their safety and the safety of floodway workers. This is particularly important for off-road, snowmobile and all-terrain vehicle users.

While excavation is almost done, there are several construction projects in progress or about to begin. Some of these include re-vegetation and landscaping

of various sections of the channel, the inlet and outlet control structures and a number of bridge construction projects. All of this work makes the 48 kilometre (approx. 29 miles) floodway channel an active and potentially dangerous construction zone.

MFA appreciates the public's co-operation in keeping the construction site safe.

*Manitoba Floodway Authority
Area Under Construction
Authorized Personnel Only*

*Commission du canal de dérivation du Manitoba
Zone en construction
Réservé au personnel autorisé*

Canada

Manitoba Floodway Authority
Commission du canal de dérivation du Manitoba

Manitoba 

Safe Roads Campaign Urges Manitobans To Drive Slowly

Again this year, MFA participated in SAFE ROADS. This is a public awareness campaign encouraging Manitobans to slow down when driving past construction projects or sharing the road with emergency workers such as firefighters, paramedics and police officers.

The campaign is a safety partnership between:

- City of Winnipeg
- Manitoba Infrastructure and Transportation
- Manitoba Heavy Construction Association
- Manitoba Floodway Authority
- Manitoba Hydro
- Workers Compensation Board of Manitoba
- City of Winnipeg Police
- City of Brandon Police
- Manitoba Government Employees Union
- Winnipeg Fire and Paramedic Service
- Construction Safety Association of Manitoba

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