

1 **REFERENCE:** **IC Page 1**

2

3 **ITEM:**

4

5 The document requires editing to correct errors and inconsistencies, such as different lengths for the
6 West Dyke (1-8, 4-7, 4-130), depth of possible deepening of channel (1-7, 4-13, 4-15), number of
7 bridge crossings (4-3, 4-4), width of widening of channel (1-7,4-13), water level above submerged
8 gates (4-6, 4-39).

9

10 **RESPONSE:**

11

12 See response to TAC/MFA-S-1

1 REFERENCE: IC Page 1

2

3 **ITEM:**

4

5 In particular, conclusions reached should always be supported by an analysis of assessment findings
6 and the systematic application of criteria specified for evaluating the significance of effects.

7

8 **RESPONSE:**

9

10 Section 2.3 of the EIS Main Report sets out the assessment approach for determining the significance
11 of residual environmental effects. This approach was used consistently throughout the five
12 assessment chapters (Chapter 5: Physical Environment; Chapter 6: Aquatic Environment; Chapter 7:
13 Terrestrial Environment; Chapter 8: Socio-Economic Environment; and Chapter 9: Heritage
14 Resources). Where pathways to potential environmental effects were identified, these effects were
15 examined in accordance with the assessment approach discussed in Chapter 2. Key findings on the
16 key criteria (for example, the duration or geographic extent of the effect) to support the significance
17 determination for each effect are described in the effects and mitigation sections of each of chapters
18 5 through 9 and summarized in each of the effects summary tables.¹

¹ For example, please refer to the response to TAC/MFA-S-64 for an explanation of how each of the criteria listed in the guidelines were incorporated into the socio-economic effects assessment.

1 **REFERENCE: IC Page 1**

2

3 **ITEM:**

4

5 Technical information can be difficult to find and access. A brief summary or interpretation of the
6 supporting data in the Main Report would assist reviewers to evaluate whether the conclusions are
7 reasonable.

8

9 **RESPONSE:**

10

11 The EIS main report relies on a number of supporting appendices as well as supporting engineering
12 studies and other technical documents. Where necessary and feasible, results or key findings of these
13 supporting materials were reproduced or summarized in the EIS Main Report.¹ Further, there are
14 frequent references throughout the EIS Main Report to the supporting appendices where more
15 information on topics discussed in the EIS is available.

16

17 Where there are requests for technical information on a specific topic to support a finding in the EIS,
18 MFA will provide a reference to the required technical information.

¹ For example, Figure 5.3-3 describing the application of the floodway operation rules was reproduced from the KGS/Acres/UMA Preliminary Engineering Design report and Tables 8.3-3 and 8.3-5 summarize key results from the Acres Manitoba Limited environmental baseline study on water regime effects in support of the effects analysis.

1 **REFERENCE:** **IC Page 1**

2

3 **ITEM:**

4

5 More maps and visual aids would help readers to understand the effects of natural and projected
6 artificial flooding.

7

8

9 **RESPONSE:**

10

11 More maps and visual aids are presented in Supplementary Filing Section 8.0, Floodway Operation.

1 **REFERENCE:** **IC Page 1**

2

3 **ITEM:**

4

5 The EIS does not adequately consider environmental effects of operating the floodway gates. For
6 purposes of the CEAA screening, the assessment must be given to effects of operating the floodway
7 gates during construction and during the operational phase of the Project, during spring flood events
8 and at any other time during the year. Consideration should be given to environmental effects that
9 are caused by the operation of the floodway gates in the Red River upstream and downstream of the
10 floodway gates, as well as in other locations such as the floodway channel and adjacent
11 waterways/areas.

12

13 **RESPONSE:**

14

15 The February 2004 Guidelines in Section 2.3.2 require that *"the scope of the environmental*
16 *assessment shall include ... potential changes to the environment that may result from the project"*.

17 It is unclear whether the statement *"the EIS does not adequately consider environmental effects of*
18 *operating the floodway gates"* is with respect to the assessment of the "Project" or with respect to
19 the description of the existing environment.

20

21 The EIS specifically addresses construction and both inactive and active operations of the expanded
22 floodway (i.e., the Project) throughout Chapters 5, 6, 7, 8 and 9 of the EIS. The environmental
23 effects of the Project, as directed by the Guidelines, specifically assess the changes to the
24 environment anticipated as a result of the Project. The EIS notes that these changes may be in the
25 form of an alteration to an existing effect of the Floodway or may be effects unique to the Floodway
26 Expansion (i.e., the Project).

27

28 A description of the existing Floodway (i.e., the pre-Project environment) and documented
29 environmental effects are primarily provided in the associated appendices to each EIS Section and
30 are supported by supplemental documentation being submitted to the review process, particularly
31 with respect to the existing Floodway Channel vegetation and the issue of existing and historic fish
32 passage upstream through the Inlet Control Structure. The main sections of the EIS generally only
33 refer to those components of the existing environment that may be altered or effected by the Project.

34 Also refer to Section 8.0 of the Supplementary Filing.

1 REFERENCE: IC Page 1

2

3 **ITEM:**

4

5 Reference to the requirement for a federal review under the CEAA should be revised.

6

7 **RESPONSE:**

8

9 The Red River Floodway and its related infrastructure match the description of a physical work as set
10 out in the Canadian Environmental Assessment Act (the federal Act). There are federal decisions
11 required for the Red River Floodway Expansion Project to proceed and, therefore, the Floodway
12 Expansion project will be the subject of an environmental assessment (screening) under the federal
13 Act.

14

15 Canada's requirements are triggered by Infrastructure Canada's contribution of federal funds to the
16 Project as well as the need for authorizations under the Fisheries Act and permits under the
17 Navigable Waters Protection Act (NWPA).

18

19 Following the completion of CEC hearings, consideration of environmental assessment information,
20 input received from the public, Aboriginal persons, and the CEC report, federal authorities will
21 complete their required Screening Report. This report will be made available for public review and
22 comment over a 30-day review period. Following the review, federal authorities will take necessary
23 decisions in accordance with Section 20 of the CEAA.

24

25 Additional information on the cooperative environmental review process can be found in a document
26 produced by Manitoba and Canada entitled, *Cooperative Environmental Assessment Process*
27 *Concerning The Red River Floodway Expansion Project* and is available at
28 www.gov.mb.ca/conservation/envapprovals/registries/redriverfloodway.

1 REFERENCE: IC Page 1

2

3 **ITEM:**

4

5 In respect of the consideration of spring flood scenarios, see Major above. A description should also
6 be included of the response and anticipated effects of a flood event above the 1:700 year design.

7

8 **RESPONSE:**

9

10 To Expand upon the Discussion in Section 5.3 of the EIS:

11

12 **Upstream of the Inlet**

13

14 For floods larger than the 1 in 700 year flood, the water level upstream of the Floodway Inlet would
15 be maintained at 237.13 m (778 ft) ASL, therefore the effect on water levels will be the same with or
16 without the expansion project. For a very extreme flood, the water level would rise above 778 ft,
17 earlier with the existing Floodway than with the expanded Floodway.

18

19 **Within Winnipeg**

20

21 Water levels in Winnipeg would rise above 26.5 ft at James Avenue as additional flow is passed
22 through Winnipeg. If all the primary dykes in Winnipeg cannot be temporarily raised on an
23 emergency basis, flooding will occur in Winnipeg. However, for floods greater than the 1 in 700 year
24 flood, the flooding would be much less extensive in Winnipeg with the Project.

25

26 **Downstream of the Outlet**

27

28 The incremental flood levels with the Project downstream of the Floodway Outlet should be no
29 greater than the incremental difference for the 1 in 700 year flood (an increase of 0.27 m with the
30 Project at Lockport, tapering to an increase of 0.13 m at Selkirk and 0.05 m at Breezy Point).

1 **Response to Very Extreme Events**

2

3 For an extreme event of one in 2500 year Flood (9 500 m³/s at James Avenue, approximately 8 500
4 m³/s at the inlet), the combined capacity of the Expanded Floodway and the Inlet Control Structure in
5 the Red River may be exceeded and may require the removal of part of the West Dyke to allow
6 passage of the flood. At this level, flooding will have occurred on the north side of the West Dyke;
7 and the location will be selected as to cause no additional flooding in the region protected by the
8 West Dyke.

9

10 Supplementary Filing Section 8.1 regarding Spring Operation expands upon this description.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 In addition to the information provided on Red River flood protection infrastructure, a description
6 should be provided of the flood protection (management) system, as requested in the Guidelines.

7

8 **RESPONSE:**

9

10 Additional Information is described in Section 8 of the Supplementary Filing.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 Peguis First Nation representative noted concern about effects of rip-rapping on the collection of
6 medicinal plants along the Red River. This issue should be addressed in the EIS.

7

8 **RESPONSE:**

9

10 Please refer to the response to TAC/MFA-S-37.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 A more detailed explanation is required of the rationale for considering certain issues within and
6 outside the scope of the EA. In particular, would the types of concerns listed under Effects Related
7 to the Existing Floodway and Flood Management, which seem to be excluded, fall within the scope of
8 this EA insofar that they relate to the Expansion Project?

9

10 **RESPONSE:**

11

12 As noted in Section 3.3.5 (Page 3-13) of the EIS, many of the concerns listed under the Effects
13 Related to the Existing Floodway and Flood Management, insofar that they relate to the Project, were
14 included in both the existing environment and cumulative effects portions of the EIS.

15

16 For example, traffic disruption during construction and the need for improvements and added
17 capacity of bridges crossing the floodway if they were being replaced were both considered related to
18 effects potentially caused by construction or operation of the proposed Project. "Inconvenience of
19 added travel distances", listed in under Existing Floodway and Flood Management, relates to effects
20 that would exist in the absence of Floodway Expansion and, therefore, are not caused by Floodway
21 Expansion. However, to the extent the Project contributes to travel inconvenience from either
22 construction or operation, it is considered within the environmental assessment.

23

24 Please see response to TAC/MFA-S-44 for explanation of how rationale for considering issues within
25 and outside the scope of the environmental assessment was applied.

1 REFERENCE: IC Page 2

2

3 **ITEM:**

4

5 Detail is required about how the proposed Groundwater Mitigation Fund will be set up and operated.

6

7 **RESPONSE:**

8

9 The Manitoba Floodway Authority has made provision in its operating budget of \$11,000,000 for
10 environmental mitigation. Procedures for processing claims are being developed.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 The EIS does not provide a good description of floodproofing works and other improvements that
6 have occurred since 1997. This will be useful in considering the effects of operations for the existing
7 and expanded floodway.

8

9 **RESPONSE:**

10

11 In May 1997 Canada and Manitoba committed to an agreement entitled
12 1997 Red River Valley Flood Proofing and Dike Enhancement which was officially signed on March
13 25, 1998. This program initially provided \$24.0 million to improve permanent dyking systems and
14 flood proofing infrastructure. The aim of the program was to prevent or reduce damage from future
15 floods of a magnitude of the 1997 flood. In the summer of 1998, an additional \$6.0 million was
16 approved by the two senior levels of government for a total of \$30.0 million to be cost-shared
17 equally under this Agreement (hereinafter referred to as Phase I) ending March 31, 1999.

18

19 The Canada-Manitoba Partnership Agreement on Red River Valley Flood Protection (hereinafter
20 referred to as Phase II) provides for up to \$100.0 million of funding (\$50.0 million federal and \$50.0
21 million provincial) over the course of the program which commenced on April 1, 1999 and was to
22 conclude on March 31, 2003. The Agreement was extended for two years to allow for additional
23 construction time of projects with a new termination date of March 31, 2005. The funding allocation
24 for the program remained at \$100.0 million. The Phase II Agreement allocated funding to six
25 Program elements as outlined in Table 1.

1
2
3

**Table 1
Program Elements**

PROGRAM ELEMENT	PROGRAM ALLOCATION (MILLION \$)		
	FEDERAL	PROVINCIAL	TOTAL
1. Individual Home & Business	24.9	21.2	46.1
2. Communities	16.6	16.6	33.2
3. City of Winnipeg	5.2	5.2	10.4
4. Environmental Impact Mitigation & Scientific Data	2.5	2.5	5.0
5. Provincial Flood Control Infrastructure	0.0	4.5	4.5
6. Technical Support in Program Management	0.8	0.0	0.8
TOTAL	\$50.0	\$50.0	\$100.0

4

To a large extent, third party contracts under Program Elements 1, 2, and 5 (i.e., consultants, contractors, etc.) were entered into and administered through Manitoba Conservation. The City of Winnipeg administers third party contracts under Program Element 3, while administration of activities under Program Element 4 is split between Canada and Manitoba. Program Element 6 provides for Technical and Management support by Canada for administration of the Agreement.

10

Activities in Phase II are a continuation of program elements initiated in Phase I with additional program elements being added to address flood protection within the City of Winnipeg, to conduct environmental impact mitigation and scientific data gathering, and to provide technical support in program management. Phase II Agreement expenditures to March 31, 2002 and for this fiscal year are presented in Table 2.

15

1
2
3

Table 2
Phase II Program Expenditures

PROGRAM ELEMENT	Program Allocation (million \$)	Expenditures to March 31, 2002 (million \$)	Expenditures Fiscal Year 2002/2003 (million \$)	Expenditures To Date (million \$) ¹
1. Individual Home & Business *	46.1	51.6	7.1	58.7
2. Community Ring Dike *	33.2	23.5	8.0	31.5
3. City of Winnipeg *	10.4	3.2	2.9	6.1
4. Environmental Impact Mitigation & Scientific Data	5.0	4.4	0.6	5.0
5. Provincial Infrastructure	4.5	4.5	0.0	4.5
6. Technical Support in Program Management	0.8	0.7	0.1	0.8
TOTAL	\$100.0	\$87.9	18.7	\$106.6

¹These are Federal and Provincial costs only and exclude individual and municipal share of total project costs. These are revised allocations as they have been modified from the original notional allocations.

4
5
6
7

INDIVIDUAL HOME AND BUSINESS

8

9 This program element, which concluded on March 31, 2003, offered financial assistance to protect
10 properties which were subjected to flooding in the spring of 1997. The program was initiated in the
11 summer of 1997 under Phase I, with an amendment introduced in the fall of 1998 which increased
12 the level of government financial assistance from \$30,000 to \$60,000 per claim. The individual
13 property owner contributed up to \$10,000 or 25 percent of expenditures under \$70,000 and 100
14 percent of costs above \$70,000 per claim. Inclusive of Phase 1, a total of 2,850 applications were
15 submitted prior to September 1, 1999. Applicants were advised that all projects must be completed
16 and all invoices submitted by March 31, 2003.

17

18 As part of this program element, a number of anomaly situations arose which were assessed and
19 considered for assistance on the basis of a proposed "buy-out". Economic Anomalies were defined
20 as properties whose cost of flood protection would exceed the value of the property. A total of 19
21 homes were identified as meeting the criteria in this category and qualifying for a "buy-out".

¹ Canada's share of the funds under the Canada-Manitoba Partnership Agreement on Red River Valley Flood Protection is to a maximum of \$50 million.

1 Eighteen homes, including seven of the properties originally purchased for the Ste. Agathe
2 community ring dike, were purchased for a total cost of \$2.7 million.

3
4 Including the Economic Anomalies, the total expended under the Home & Business Flood Proofing
5 Program in Phase 2 was \$58.7 million. The status of the Individual Home and Business Program
6 Flood Proofing Program applications is shown in Table 3 below.

7
8 **Table 3**
9 **Status of Individual Home and Business Program Flood Proofing Program**
10

Status as at March 31, 2003	Number of Applications
Ineligible	274
Transferred to City of Winnipeg Flood Proofing Program	163
Protected by Community Ring Dikes	348
Purchased by Community Ring Dike and Physical Anomalies Programs	38
Owners Did Not Proceed	261
Projects Started but Not Complete	6
Flood Proofed	1742
Purchased by Economic Anomalies Initiative	18
Total	2850

11
12 **COMMUNITY DYKING**
13

14 Projects approved under this program element were: St. Mary's Road; Grande Pointe; Rosenort;
15 Niverville; Gretna; Aubigny; St. Pierre-Jolys; Lowe Farm; Riverside; Emerson; Rosenfeld; Dominion
16 City; Ste. Agathe; Roseau River and St. Lazare. Project designs, acquisition of regulatory approval,
17 acquisition of land, and construction were the primary activities facilitated through the execution of
18 project implementation agreements by local, provincial, and federal authorities. For the most part,
19 Canada and Manitoba equally shared program expenditures associated with the community ring
20 dikes. In addition, municipal governments were required to contribute 10 percent of the total
21 project cost.

22 **CITY OF WINNIPEG**
23

24 A number of homes within the City of Winnipeg, located on the riverside of the Primary Dyking
25 System, require emergency dyking during flood events. The objective of this program element is to
26 enhance the level of protection and/or integrity of the secondary dyking systems (i.e., properties not

1 protected by the Primary Dyking System) and to minimize annual costs associated with emergency
2 dyking during flood events.

3

4 Secondary dyking systems were considered for projects that protected multiple properties with a
5 single dike (community ring dikes), multi-family (condominium) developments, individual homes and
6 special cases. Winnipeg City Council approved a priority list of flood protection projects which ranked
7 the community ring dike and multi-family developments based upon their cost-benefit analysis.
8 Individual homes were included on the priority list if they met program criteria, specifically a
9 minimum of four feet to attain flood protection level and a riverbank stability safety factor of 1.3.
10 The special case projects were ranked on a case-by-case basis that considered the value for money
11 that the project provides.

12

13 In addition to the Canada-Manitoba Partnership Agreement on Red River Valley Flood Protection
14 being extended, the Canada-Manitoba-Winnipeg Agreement on Secondary Dyking Enhancements was
15 also extended with a new termination date to March 31, 2005.

16

17 Numerous individual flood protection projects, including multi-family (condominium) projects were
18 initiated and had attained various stages of completion. These projects consisted of various flood
19 protection measures; for example, permanent concrete walls, permanent earth reinforced walls,
20 assembly walls and house/property raising.

21

22 ENVIRONMENTAL IMPACT MITIGATION 23 AND SCIENTIFIC DATA 24

25 The environmental impact mitigation and scientific data gathering program element is aimed at
26 addressing the following flood related issues:

27

- 28 • to protect potable water supplies (mainly on the east side of the river) from the
29 negative effects of surficial flooding as occurred in the spring of 1997;
- 30 • to enhance existing databases, topographic information, and monitoring networks
31 required in the planning of future developments and land uses in the Red River
32 Valley and to improve flood preparedness capability;
- 33 • to advance the level of knowledge and better understand the various factors
34 contributing to patterns of flooding in the Red River Valley; and

35

- 1 • to undertake a variety of other studies and communications to address flood-related
2 issues under the program.

3
4 In addition to the above, additional initiatives were approved for funding over the course of the
5 program.

6
7 *Groundwater Protection*

8 Refurbishment of the domestic water supply wells within the northeast corner of the flood zone
9 (mainly in the RM of Ritchot) proved to be problematic following the 1997 flood. The Canada-
10 Manitoba Partnership Agreement on Red River Valley Flood Protection supports necessary well
11 enhancements to protect the aquifer in the event of future floods. In 2002/2003, the groundwater
12 protection work focused on a number of activities which were directed towards future flood
13 preparedness, aquifer protection and public awareness of water supply protection. A summary of the
14 work activities completed is provided below.

- 15
16 • Private water wells located within the Red River Valley Designated Flood Area were inventoried
17 and entered into the Provincial well record database to provide an up-to-date record of wells
18 for producing map based information to support an enhanced capability for future flood
19 preparedness. During the inventory process approximately 770 residential farm sites were
20 visited within the rural municipalities of Ritchot, De Salaberry, Franklin, Montcalm, Morris and
21 Macdonald. In total, about 350 water wells were inventoried during the process.
22
23 • Abandoned water wells were properly sealed to ensure protection of potable groundwater
24 supplies from future flooding events. In total, 39 abandoned wells were sealed under the
25 program.
26
27 • Operational water wells deficient of proper construction or protection were upgraded to flood
28 protection standards to provide a safe source of groundwater and to prevent future flood water
29 contamination of both the well and potable groundwater supply. In total, 35 water wells were
30 upgraded to flood protection standards under the program.
31
32 • A Fact Sheet was developed to provide public awareness and education material on water
33 supply protection. The publication provides a brief overview of water well basics and outlines
34 good practices for protection and maintaining a water well. Information on flood protection

1 standards and flood preparedness for water wells located within areas of overland flooding
2 such as the Red River Valley Designated Flood Area are also provided.

3
4 *GIS and Topography*

5 The main focus of this initiative was to develop and implement a web-based geographic information
6 system (GIS) that will be able to assist with future flood fighting and response activities in the Red
7 River Valley. This initiative involved the following six components: (a) consultations regarding
8 applications, (b) identification of datasets, (c) data collection, (d) data configuration and formatting,
9 (e) application development, and (f) data and system housing, operation, and maintenance.

10
11 A significant amount of the project focused on the transfer of the system from Canada to the
12 Province of Manitoba. Numerous improvements were made to the site. Also, additional tools and
13 data layers were added to the system over the course of the year. The project area was also
14 expanded to include the area along the Red River north of Winnipeg. The most significant tool added
15 to the system was the road analysis tool, which allows users of the system to assess information on
16 when roads in the Valley would be flooded during a major flood event. Additional Light Imaging
17 Detection and Ranging (LiDAR) surveys were completed for the region north of Winnipeg, and the
18 region from Emerson to Morris in order to complete the digital elevation model (DEM) for the
19 Canadian portion of the Red River Basin. The data was processed and added to the web-based
20 system. Additional work was carried out on the inventory using a mapping grade Geographic
21 Positioning System (GPS) of the individual homes and businesses that were flood protected under the
22 program. Numerous presentations on the GIS decision support system were made to flood fighters,
23 municipal leaders and local residents of the Valley. As well, papers of this project were presented at
24 a number of national and international conferences.

25
26 The decision support system was launched on the Internet in August 2002 and can be accessed at
27 geoapp.gov.mb.ca/website/rrvfp/. Experience was gained in managing the web-based system on the
28 provincial internet server. The website is now fully operational and is being maintained by Manitoba
29 Water Stewardship.

30
31 *Red River Morphology and Flooding Patterns*

32 Natural Resources Canada, in collaboration and partnership with Manitoba Industry, Trade and Mines,
33 carried out a 4-year research program into the long-term history of large flood events on the Red

1 River. The research focused on reconstructing a paleoflood record and examining the long-term
2 geological processes that may be altering the flood hazard.

3
4 The project included the integration of research on various fronts, including: (a) the establishment a
5 tree-ring record for identification of past large flood events and reconstruction of past climatic
6 change, (b) stratigraphic and/or biostratigraphic analyses of alluvial deposits along the river banks, at
7 small channel scar lakes, and at the south basin of Lake Winnipeg, (c) historical and instrumental
8 records of hydrological change, and (d) other literature reviews and miscellaneous observations to
9 assess the significance of geologic processes contributing to long-term changes in the flood hazard in
10 the Red River Valley.

11
12 A final report on the "Geoscientific Insights into Red River Flood Hazards in Manitoba" was submitted
13 to the Agreement Management Committee in March 2003. The report provides a detailed overview
14 of the project results as well as a copy of the scientific papers and reports that have been published
15 on this subject matter. Further information on this study can be found on the Geological Survey of
16 Canada website at sts.gsc.nrcan.gc.ca/ or at the Manitoba Industry, Mines and Trade website at
17 www.gov.mb.ca/itm/index.html.

18 19 **PROVINCIAL INFRASTRUCTURE**

20
21 The Provincial Infrastructure program element is aimed at refurbishing a number of provincial flood
22 control facilities. The specific projects included: the West Dike extension (Provincial Road 305); Red
23 River Floodway inlet structure repair; assessment of the Portage Diversion flood control structures
24 and hydraulic analysis of the Assiniboine River from Baie St. Paul to Headingley. These projects were
25 completed in 2001/2002 and no new projects were initiated under this program element in
26 2002/2003.

1 **REFERENCE: IC Page 2**

2

3 **ITEM:**

4

5 The list of project components should include reference to ancillary works such as storage and
6 staging areas, temporary roads and railroads, etc. The description of Operation and Maintenance is
7 insufficient.

8

9 The statement that the operation of the Expansion project will not change from the Existing floodway
10 is incorrect in respect of the plan to introduce new rules applying to summer operations.

11

12 **RESPONSE:**

13

14 The storage and staging areas will be addressed in the Construction Phase Environmental Protection
15 (CPEP) Plan. The CPEP Plan for the Red River Floodway components will be developed by MFA, the
16 engineering consultants, and Contractors. The Plan will be submitted to Manitoba Conservation for
17 approval prior to start of construction. A framework for the CPEP Plan is discussed in Section 12 of
18 the Supplemental Filing. The post-construction phase monitoring and follow-up plan for the Red
19 River Floodway Project will be developed after the Environmental Act Licence is issued. The Plans
20 will be submitted to Manitoba Conservation for approval. A framework for the Monitoring and Follow-
21 up Plans is discussed in Section 12 of the Supplementary Filing.

22

23 There is no requirement for temporary roads as all construction access will use the existing floodway
24 channel right-of-way or Manitoba Transportation and Government Services right-of-way.

25

26 The Operation and Maintenance Plans and manuals for the Red River Floodway components will be
27 updated by MFA and the engineering Consultants near the end of construction.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 It is not clear that various references to the Winnipeg flood improvements are consistent. What
6 specifically do the improvements include? What are the implications for the Project if they do not
7 proceed in a timely way?

8

9 **RESPONSE:**

10

11 See Section 11 of the Supplementary Filing.

1 REFERENCE: IC Page 2

2

3 **ITEM:**

4

5 Section 4.4.5 is incomplete.

6

7 **RESPONSE:**

8

9 This is an erratum (TAC/MFA-S-1, Attachment A); the section should read:

10

11 *"The Floodway discharge facilities include the Floodway Channel and the Inlet Control*
12 *Structure. The overall arrangement is discussed in Section 2 of the document Preliminary*
13 *Engineering Report: Appendix C-Inlet Control Structure Pre-Design (SNC/Wardrop 2004a).*
14 *The discharge capacity of these facilities is discussed in section 3.1.8 of the same Appendix*
15 *in the Engineering Report."*

1 **REFERENCE: IC Page 2**

2

3 **ITEM:**

4

5 If recreational facilities are part of the project, they must be identified and an assessment done of
6 their environmental effects in accordance with CEAA.

7

8 **RESPONSE:**

9

10 The Manitoba Floodway Authority is still working with stakeholders and proponents of recreation and
11 economic development ideas to develop suitable development opportunities that may be created as
12 result of the Floodway Expansion. As such, no detailed information on these future potential
13 recreation or economic opportunities can be identified at present and therefore no assessments can
14 be done at this time of environmental effects related to any such recreational facilities that may in
15 future be developed as a result of the Floodway Expansion. The Manitoba Floodway Authority has
16 indicated that it will not consider recreation opportunities that are incompatible with the primary
17 purpose of the floodway (flood protection).

18

19 The Manitoba Floodway Authority has committed to a public participation process involving the
20 opportunity proponents, local stakeholders (including bordering municipalities and agricultural
21 producers) to ensure that any concerns about potential recreational enhancements of the project can
22 be addressed.

23

24 The implementation of any recreation or economic proposal is expected to be the responsibility of the
25 proponent or stakeholder. No recreation or economic proposal will be authorized that has a potential
26 to have a significant adverse effect on the environment. Project proponents will be required to
27 comply with relevant environmental regulatory standards and any other applicable legislation.

28

29 Refer to Section 10.0 of the Supplementary Filing regarding Economic and Recreation Opportunities
30 Status and to pages 8-106 and 8-107 of the Proposed Floodway Expansion Project Environmental
31 Impact Statement: Volume 1 – Main Report for more information.

1 **REFERENCE:** IC Page 2

2

3 **ITEM:**

4

5 Cost estimate is out of date.

6

7 **RESPONSE:**

8

9 The following cost estimate (in millions of 2004 dollars) now includes engineering costs,
10 administration costs, etc., in addition to direct costs of the project components.

11

12 Highway Bridges/Roads	\$161.0
13 Railway Bridges	138.6
14 Channel	139.0
15 Aqueduct	9.1
16 West Dyke	53.0
17 Outlet Structure/Channel	34.4
18 Inlet Structure	3.2
19 Drainage/Miscellaneous Structures	5.4
20 Seine River Syphon	1.3
21 Utility Crossings	11.9
22 Environmental Impact Mitigation	11.0
23 Special Programs	6.0
24 Transcona Storm Sewer Outlet	2.5
25 Pre-Design/Final Design/Environmental Licensing	38.4
26 Site Supervision/Contract Administration	16.8
27 MFA Administration/Site Office/Insurance Costs	<u>33.4</u>
28 Total	\$665.0

1 REFERENCE: IC Page 2

2

3 **ITEM:**

4

5 Statement regarding consideration of environmental effects of summer operations in the former is
6 inconsistent with the later.

7

8 **RESPONSE:**

9

10 For a description of summer operation see Section 8.2 and Section 8.3 in the Supplementary Filing.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 The conclusion about decreased probability of using the floodway for summer operations appears to
6 be inconsistent with EIS comments on climate change that imply a need for more rather than less
7 frequent summer use.

8

9 **RESPONSE:**

10

11 These statements may need further clarification, however they are not inconsistent.

12

13 *"The probability of using the floodway for summer operation will decrease"* during the **construction**
14 **phase** of the Project (Table 5.3-5). The EIS stated that, during the construction phase of the Project,
15 the Project would decrease the probability of summer operation, since emergency summer operation
16 would disrupt the construction of the Project and therefore potentially the delay the completion date.
17 A delay in completion would expect to create a relatively larger flood risk than that avoided by
18 emergency summer operation.

19

20 The Province is clarifying the rules for operation of the floodway for emergency operation to reduce
21 the risk of sewer backup as discussed section Supplementary Filing Section 8.3.

22

23 The second point being made in the EIS was that an assessment of the potential effects of climate
24 change on the Project (See Section 5.8.3.3.2). *"These effects may include decreased frequency in the*
25 *amount of major prairie spring floods. Increased probability rain-generated floods increasing the*
26 *likelihood of summer operation for emergency conditions, and more summer flooding due to localized*
27 *thunderstorms."*

28

29 **This is not a project effect.**

30

31 After completion of the Project the expanded floodway with have no effect of the frequency on
32 summer operation.

1 REFERENCE: IC Page 2

2

3 **ITEM:**

4

5 Statement that "to the extent that flood mitigation was not fully effective during a flood event, MFEA
6 is committed to ensuring that flood compensation will be provided to those adversely affected by
7 incremental flooding caused by the Project", needs further explanation. Does this refer to the
8 legislated compensation program? What role does MFEA have in delivery of that program? What will
9 MFEA do to ensure this commitment is met? How will MFEA determine whether flood damage in a
10 particular instance is caused by the Project? Etc. More detail is required on the compensation
11 program as CEAA requires that RA determine whether mitigation including compensation is adequate
12 to reduce adverse effects of the project to insignificance. Specifically, a description of the program
13 and how it would be applied should be included. Comparative reference to other similar programs
14 would be helpful, as would consideration of limitations or concerns/criticisms that have been made in
15 respect of the program.

16

17 **RESPONSE:**

18

19 As reported in the Preliminary Engineering Report, Appendix L: Environmental Baseline Studies,
20 Water Regime Effects, the reach of the Red River from the Outlet Structure to Netley Creek will
21 experience incremental flooding of 0.3 to 0.03 metres (0.9 feet to 0.1 feet) during a 1 in 700 year
22 return frequency flood as a result of the Expanded Floodway over the existing floodway. The
23 properties affected by these incremental levels are not expected to be eligible for compensation
24 under the Red River Floodway Act. This is because the 1 in 700 year water level with the expanded
25 floodway is estimated to be below the natural 1 in 700 year water level, i.e. the water level if the
26 major flood control works did not exist. The reason for this is that the operation of the Shellmouth
27 Dam and Reservoir and the Portage Diversion, both on the Assiniboine River, lower the water levels
28 in Winnipeg and north of Winnipeg to Lake Winnipeg, irrespective of the Red River flows.

29

30 For more information on the legislation respecting compensation for artificial flooding, see Section 7.0
31 of the Supplementary Filing regarding Red River Floodway Act Update. This section includes a
32 description of the program, information on eligible damage and loss, administration and status.

1 The Manitoba Emergency Measures Organization is uniquely positioned to administer this
2 compensation program for artificial flooding as it is also responsible for administering the Disaster
3 Financial Assistance Program. After each flood event, Manitoba Water Stewardship will report on
4 whether or not the Department believes that the natural level of the Red River was exceeded as a
5 result of Floodway Operation. Similarly, Manitoba Water Stewardship can use their numerical model
6 to determine if there are incremental flood levels for each event downstream of the Outlet Structure
7 caused by the Expanded Floodway.

8

9 In the event that mitigation measures, such as temporary sandbag dykes, fail to protect properties
10 against incremental flooding caused by the Project, the Floodway Authority is committed to ensuring
11 that flood compensation will be provided to those adversely affected. To ensure that the
12 commitment that flood compensation will be provided, the Floodway Authority is investigating several
13 options. These options include: 1) amendments to the Red River Floodway Act; 2) compensation for
14 each event similar to the current approach after emergency summer operations; 3) a sinking fund;
15 and, 4) flood damage insurance. Further, consideration will be given to amending existing or drafting
16 new floodplain development zoning and/or associated legislation regarding designated flood area
17 regulations for the 1 in 700 year floodplain.

1 REFERENCE: IC Page 3

2
3 **ITEM:**

4
5 Statements such as the following must be supported by an analysis or removed from the document:
6 *"In order to understand how the project can have no significant residual effect on the physical*
7 *environment should be compared to other water resource projects such as a permanent high level*
8 *dam or a continuous water diversion."* It is not clear what the relevance of this comparison would
9 be.

10
11 **RESPONSE:**

12
13 This statement may require further elaboration. This is a major water resource project and does
14 affect water levels. The residual effects of the Project on water levels are shown in Table 5.3-5. The
15 EIS had stated:

- 16
17 • *"The Project is designed to reduce water levels within Winnipeg for very large and infrequent*
18 *flood events (greater than 1 in 100 years). It will also have an effect on water levels*
19 *upstream of the City (lowering) and downstream of the City (both lowering and raising)*
20 *during these same infrequent floods. The determination of significance in this section is*
21 *based solely upon the impact to the [natural] physical environment. The assessment of how*
22 *these infrequent floods impact the people, communities and infrastructure, adversely and*
23 *beneficially is discussed in Chapter 8 – Socio-Economic Environment."*
24
25 • *"In order to understand how the Project can have no significant residual effect on the*
26 *physical environment it should be compared to other water resource projects such as a*
27 *permanent high level dam or a continuous water diversion."*

28
29 A typical dam would raise water levels permanently, creating a lake where a river existed before. This
30 would be a permanent change in the natural environment. The floodway by contrast, although a
31 large capital project only affects water levels during a short duration (one month) and not
32 permanently; therefore, does not have the permanent physical effect. Further, for most floods the
33 water levels are at or below the natural level.

1 **REFERENCE:** **IC Page 2**

2

3 **ITEM:**

4

5 The conclusion reached from application of the criteria for evaluating the significance of socio-
6 economic effects of the Expansion Project seems at odds with the experience of the 1997 Flood, at
7 the same time the EIS says floodway operations will not change following the expansion. A more
8 detailed explanation of the assessment approach is required.

9

10 **RESPONSE:**

11

12 The stated concern does not identify which socio-economic effects of the Expansion Project are being
13 referenced here as "being at odds with the experience of the 1997 Flood." By implication, though,
14 the concern appears to be that future floods after the Floodway Expansion will continue to have the
15 same effects as occurred in 1997, i.e., because of the statement that "floodway operation will not
16 change following the expansion."

17

18 The EIS assessment approach focuses solely on identifying environmental effects caused by the
19 Floodway Expansion Project itself. Accordingly, if in fact a future flood was to have the same effects
20 exactly as the 1997 flood (under similar conditions etc.), then the Floodway Expansion Project would
21 have no environmental effect (at least as regards its operation under such flood conditions).

22

23 The EIS, however, does not in general support the conclusion that the Project will have no net effects
24 under such flood conditions - where relevant, positive and negative effects are identified under the
25 Operative-Active phase assessments. More information is provided below on this item, focusing on
26 the socio-economic assessments.

27

28 Large flood events, such as those experienced in the Red River Valley in 1996 and 1997 have major
29 effects on all elements of the socio-economic environment. As these events help to define the
30 existing environment in which the proposed project would take place, a description of the effects of
31 large flood events, particularly the 1997 flood and the 1996 flood, on people and communities in the
32 Flood Study Region was included in each of the sections describing the four components of the socio-
33 economic environment (resource use, economy, infrastructure and services and personal, family and
34 community life).

1 It is important to note that while there will undoubtedly be considerable socio-economic effects in the
2 event of future large flood events (with or without the Floodway Expansion Project), nearly all of
3 those interviewed during the study (from all areas in the Flood Study Region) stated that they
4 believed that a repeat of the 1997 flood would have less severe effects on the socio-economic
5 environment. As noted in the EIS, a number of reasons for this were cited, including:

- 6
- 7 • Improved protection of personal and public property through the 1997 Red River Valley Flood
 - 8 Proofing and Dyke Enhancement Program.
 - 9 • Improved flood forecasting capabilities.
 - 10 • Improved emergency response planning and coordination between municipalities and
 - 11 emergency service providers.
- 12

13 With respect to the socio-economic impact assessment of the proposed project, project related
14 effects (i.e., those caused by a change in the biophysical environment related to the project) were
15 assessed using the existing environment, including the existing floodway, as the baseline.¹ The
16 floodway operating rules will not change as a result of the floodway expansion, but, as set out in
17 detail in the EIS, the application of those rules will result throughout many areas in changes to water
18 levels and flows in large flood events.² Only Floodway Expansion Project related effects were
19 considered in the socio-economic assessment. The assessment did not attempt to assess the
20 significance of effects caused by natural flooding to the extent that such effects were not influenced
21 by the Project.

22

23 The Project will reduce the frequency and extent of project induced flooding upstream as described
24 in Section 5.3.3 of the EIS. As well, Manitoba has passed legislation to provide compensation for the
25 residual project induced flooding as presented in Section 7 of this Supplementary Filing regarding the
26 Red River Floodway Act Update. The Project is anticipated to cause minor additional flooding
27 downstream of the Floodway. In the event that mitigation measures, such as temporary sandbag
28 dykes, fail to protect properties against incremental flooding caused by the Project, the Floodway
29 Authority is committed to ensuring that flood compensation will be provided to those adversely
30 affected. Please see response to IC/MFA-S-20 for additional information on this.

¹ Refer to pages 2-3 through 2-5 of the Proposed Floodway Expansion Project Environmental Impact Statement Volume 1: Main Report for more information.

² The changes to water levels and flows are described in detail in the EIS in Chapter 5: Physical Environment, the effect of these changes in water levels in flow on the socio-economic environment are described in detail in Chapter 8 of the EIS. Changes in water levels due to operation of the floodway expansion are largely beneficial, with the exception of some areas downstream of the Floodway Outlet during very large (larger than the 1997 flood) events.