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9.0 HERITAGE RESOURCES

9.1 APPROACH AND METHODOLOGY

This chapter provides a heritage resource environmental impact assessment for the proposed Floodway Expansion Project. It addresses the heritage resource components as set out in Section 6.5 of the EIS Guidelines:[1]

> *"The environmental impact statement shall describe:*
> - *historic land use and occupancy in the study area;*
> - *archaeological sites and culturally important sites in the study area, including shoreline sites that could potentially be affected by erosion;*
> - *location of potential burial sites in the study area (if any);*
> - *archaeological sites and culturally important sites located on or near shoreline areas in the study area that could be potentially affected by erosion. Identification of these sites shall be provided using the work of the Historic Resources Branch as the basis for this description;*
> - *any structure, site or thing that is of historical, archaeological, paleontological or architectural significance in the study area that will be affected by any changes to the environment caused by the Project; and*
> - *a ranking of any archaeological sites identified in order of importance."*

The heritage resource assessment focuses on identifying archaeological sites, culturally important sites and burial sites that could potentially be affected by physical or biophysical effects of the Project. The related site specific heritage resource impact investigation and assessment prepared by Quaternary Consultants Ltd. is attached as Appendix 9A.

For each component of the heritage resource assessment, only those geographic areas that are likely to experience effects were scoped into the initial assessment (see Section 9.1.2). The study area for this purpose included the West Dyke, Floodway Channel and Outlet Structure areas.

- The locations along the Floodway Channel, West Dyke, and Outlet Structure that could potentially be impacted by construction activity related to the Project were examined by conducting visual surveys of the locations.
- Given current plans for widening and deepening the channel, it may be necessary to modify or reconfigure abutments on existing crossing bridges. The anticipated zone of construction in such a case would probably extend fifty metres on either side of the existing structure. Hence, it was determined that a radius of fifty metres around existing abutments would be assessed to determine potential archaeological impact.

[1] Section 8.6 of the EIS (socio-economic impact assessment of personal, family and community life) describes the Project's effects on community way of life, culture and other non-archaeological aspects of heritage (including aesthetics).

Any areas that had the appearance of being undisturbed were investigated by pedestrian traverses, where the archaeological team walked parallel traverses examining the soil surface. Any location, which through topography or geography, seemed to have a potential for archaeological resources had shovel test investigations. A shovel test consists of digging a small hole (50 cm x 50 cm) to the sterile substrate and examining the extracted soil for artifacts and the walls of the hole for buried soil horizons.

Photographs were taken of many of the investigated areas. Documentation consisted of standard field notes concerning the area examined, terrain, degree of prior impact, and potential for archaeological resources. In cases where a heritage resources site was recorded, a standard Archaeological Site Form was compiled for filing with the Manitoba Archaeological Site Database, maintained by Historic Resources Branch, Manitoba Culture, Heritage and Tourism.

All artifacts recovered during the site investigations were brought to Quaternary Consultants laboratory facilities. The specimens were washed and sorted by material class. Each artifact received a catalogue number consisting of the Borden designation for the site and a sequential number for permanent identification[2]. All pertinent data associated with the artifact was entered into the computer cataloguing system which is based on the Canadian Heritage Inventory Network (CHIN) system (Manitoba Museum of Man and Nature 1986; Kroker and Goundry 1993: Appendix B)[3].

9.1.1 Sources of Information

The heritage resource assessment involved site specific investigations. These are reported on in detail in Appendix 9A.

Sources of Information used during the heritage resource assessment included:

- the Archaeological Site Database, maintained by Historic Resources Branch, was examined;
- literature related to heritage resources, particularly in the area near Lockport[4];
- information collected during the field program (see Appendix 9A); and
- key person interviews with Peguis First Nation elders.

9.1.2 Sources of Effect

Project-related pathways and sources of effect on heritage resources differ for each stage of the Project and include:

- Construction excavation, particularly from borrow areas for the Project. Excavation of material for construction and other Project uses may affect currently buried heritage resources.

[2] The Borden designation, a four-letter prefix and a numerical suffix, is a Canada-wide system of identifying archaeological sites based upon latitude and longitude (Borden 1954). The four letter identifier, EaLf, designates a geographical block between 50° 00' and 50° 10' North latitude and 96° 50' and 97° 00' West longitude. Within each block, archaeological sites are assigned sequential numbers upon discovery.

[3] Processed artifacts were prepared for storage by inserting the specimens and the catalogue card into standard plastic storage bags, then stapling the bags closed. At the end of the investigations, all recovered artifacts will be delivered to Historic Resources Branch, Winnipeg.

[4] As initial archaeological investigations in the Lockport area began in the late 1800s, numerous reports containing information concerning archaeological investigations at the Lockport Site and the other adjacent sites are available. See Appendix 9A for a bibliography and references.

- Increased vehicle and pedestrian traffic at construction sites. Increased traffic may disturb known heritage sites, such as those located near the Floodway Outlet Structure.
- Changes to water levels and flows and erosion as a result of Floodway Expansion Operation. These were not considered to be material sources of effects on heritage resources based on the understanding that changes to water levels and flows would be rare (i.e., occur only during flood events larger than the 1997 Red River Flood), small in magnitude (approximately 0.3 meters at most at the Outlet Structure during the 1 in 700 year flood) and short-term (i.e., persist only during these rare flood events). Further, it is understood that the Outlet Structure is being designed to reduce flow velocities and that erosion control measures will be in place for some areas downstream of the Outlet Structure.

9.2 EXISTING ENVIRONMENT

The existing environment without the Project is described below for each heritage resource component set out in the EIS Guidelines. In order to identify study areas, where relevant the areas expected to be impacted by Project construction are identified. In accordance with the EIS guidelines, any shoreline heritage sites within the study area that could potentially be affected by Project-related erosion are identified.

9.2.1 Historic Land Use and Occupation

This section provides a brief overview of historic land use and occupation in the Flood Study Region. Further specific information on historic land use and occupation for the Peguis First Nation is provided in Section 8.3 (Resource Use).

Aboriginal peoples have inhabited Manitoba, including the Flood Study Region, for several thousand years before the start of historic records related to their initial contact with European traders in the 1600s and 1700s[5]. Rival external trading interests began to influence activities in the Flood Study Region by the later 1700s. By the early 1800s, the Red River Métis had emerged as a distinct Aboriginal peoples, and settlement was being sponsored in the Red River area. Competition between the Hudson's Bay Company (HBC) and the North West Company (NWC) lead to dwindling returns from the fur trade, and to the merger of HBC and NWC in 1821[6]. Thereafter, notwithstanding the major Red River flood of 1826, the community in the Flood Study Region continued to develop.

In 1870, HBC administration and occupancy of the Flood Study Region ended and Manitoba entered Confederation (with its area restricted initially to the "postage stamp area" focused on the Red River valley). The settled population of the area defined then as Manitoba was approximately 12,000 in 1870, and was predominantly Métis[7]. Settlement accelerated in subsequent years, many Métis dispersed to take

[5] For example, see Section 4.1 to 4.6 of Volume 8, Heritage Resources: Wuskwatim Transmission Project EIS (2003), Section 4.1. In the Flood Study Region, initial contacts are likely to have been with French explorers and traders (e.g., expeditions by the La Verendryes in the first half of the 1700s).

[6] Ibid. See also Attachment D, Exhibit MH/NCN-1050 filed with Clean Environment Commission during hearing on Wuskwatim Projects, June 7, 2004. The North West Company (NWC), formed in 1779, had intense and volatile competition with the Hudson's Bay Company for approximately 40 years. During this period many new trade posts were established in many parts of Manitoba. The Hudson's Bay Company sponsored agricultural settlement at the Red River in the early 1800s.

[7] The Royal Commission on Aboriginal Peoples (RCAP 1996: Vol. 4; Appendix 5B: 325 notes that the settled population of Manitoba (the postage stamp province area) in 1870 of approximately 12,000 was predominantly Métis (approximately 10,000).

up areas north and west of Manitoba's then border, and Treaties were signed with First Nations during the 1870 to 1912 period. By the 1880s, rail connections to Winnipeg confirmed the basis for continuing development in this region, and this was supported thereafter by national policies to settle and develop western Canada.

9.2.2 West Dyke Area

Data concerning the location of potential borrow areas for augmenting the height of the West Dyke were provided by Acres Manitoba Ltd. For the majority of the area, sufficient material could be obtained from the ditches adjacent to the existing berm. Three locations near the LaSalle River at the eastern end of the West Dyke were identified as potential borrow areas. All three areas were examined and found to have had some degree of prior impact, predominately agricultural and/or landscaping. While they are located near the LaSalle River, none of the locations had specific features which would have made them optimum camping locations for nomadic hunting and gathering groups. No evidence of pre-European use of the three areas was observed.

The remainder of the West Dyke was driven, with the archaeological team visually examining the land adjacent to the road right-of-way for salient features which could indicate that the area could contain archaeological resources. The western portion of the dyke traverses the area that was known as the Great Hay Marsh (Hanuta 1998: Figure 8a) which encompassed large portions of Townships 7 and 8 in Range 1 West and Range 2 West. The data used in the determination of pre-agricultural landscape derives from the initial Dominion Land Surveys in the 1870s (Hanuta 1998: Appendices 1-7). Prior to agricultural settlement and the subsequent draining of the marsh through drainage channels, utilization of these areas would have been intermittent and short-term. During the drier portions of the year, hunting parties could have sought bison which would have grazed in the rich grasslands. However, main campsites would have been located near water sources, either the Red River or the LaSalle River.

In summary, archeological or other heritage resource sites are not present along the West Dyke or at any of the potential borrow locations.

9.2.3 Floodway Area

Data concerning the expected degree of impact and maps of the relevant Floodway area were obtained from senior engineers at KGS Group. The construction is constrained to within the Existing Floodway Right-of-way and will consist primarily of widening the existing channel, with some localized deepening possible[8]. Thus, it was unnecessary to have an archaeological team investigate the upper bank of the existing Floodway. Due to the widening, reconfiguration of some of the abutments of the various bridges crossing the Floodway may be necessary. Accordingly, the archaeological team examined all crossings to determine if undisturbed areas existed within the potential impact zone if reconstruction of the abutments proves necessary. A total of fourteen crossings were investigated with the team examining both sides of the Floodway.

In addition, archaeological investigations were conducted at the Floodway Outlet area. This area is immediately adjacent to a known burial mound and archaeological sites. Due to the possibility of impact

[8] The extent of deepening required, if any, will be determined during the Engineering Final Design.

from possible erosion control measures on the west side of the Red River, opposite the Outlet structure, a distance of the lower bank was examined.

9.2.3.1 Abutment Assessments

The archaeological team visited each of the fourteen existing crossings of the Floodway and examined the relevant area on both sides of the channel. In all cases, considerable land modification had occurred during the construction of the original Floodway and the building of the bridges for highway or railroad crossings. The area around the Inlet Control Structure has had considerable modification.

One area that had not had any modification beyond agricultural impact is the potential future location of the south abutment of the St. Mary's Road Bridge. The north side of the Floodway has had an elevated berm constructed at the top of the channel but minimal impact has occurred to the south. Considerable residential development has occurred in the probable right-of-way on the north side of the Floodway. No evidence of archaeological resources was observed in the adjacent proximity to the Floodway.

The degree of land modification around the abutments of existing structures is readily evident at the crossings of the TransCanada Highway and the Canadian National Railroad Sprague Line Bridge. Other established crossings such as the Canadian Pacific Railroad Emerson Line Bridge, Highway 59 South, Highway 15, the Canadian National Railroad Redditt Line Bridge, Canadian Pacific Railroad Keewatin Line Bridge, Highway 59 North, and the Canadian National Railroad Pine Falls Line Bridge had equivalent disruption for at least fifty metres around the abutments.

In summary, examination of areas surrounding abutments of crossings which may require reconfiguration as a result of widening of the current channel found no areas of undisturbed ground that would contain archaeological or other heritage sites.

9.2.3.2 Floodway Outlet Area and West Bank Area

The area at the Floodway Outlet shows that considerable impact occurred during the original construction. Portions of the Floodway Village Site (EaLf-9) and the Fidler Mounds Site (EaLf-3) were eradicated (Archaeological Site Database). However, portions of both are still present on the south side of the embankment. One burial mound is located at the base of the south embankment and in a slightly treed area which provides a degree of site protection from impact by vehicular traffic. An intermittently used trail passes nearby. A portion of the Floodway Village Site is located at the west end of the south embankment of the Outlet Structure and is in an area crisscrossed with recreational vehicle trails. Archaeological reconnaissance found no surface evidence of the site extending north of the major access trail. Examination of the south slope of the original floodway channel excavation yielded no indication that buried portions of the site remain. The site, or what remains of it, is being impacted by vehicular traffic during periods when the soil is wet. The archaeological team collected artifacts that were visible in the ruts (see below).

Potential bank disturbance could occur from the Project along the west bank of the Red River, opposite the Outlet structure and north of the present area of rip rap. Approximately 1.5 km of this area was investigated. One new archaeological site was recorded (EaLf-59, a collapsing log structure). Historical artifacts also were present.

In summary, the known sites at the Outlet area are south of the limits of construction and outside the areas of likely impact from the Project (although impacts might occur from sightseers and casual visitors). One new site was recorded on the west bank of the Red River; however, even the installation of rip rap as part of the Project should not impact this site.

9.2.3.2.1 Floodway Outlet Area

Historic Artifacts

Two container sherds, both amethyst glass, were recovered from vehicle ruts in the Floodway Village Site area. Amethyst containers are datable in that manganese was used as a clearing agent in early clear glass. This caused the glass to turn an amethyst colour after lengthy exposure to sunlight. Germany controlled the majority of the world's supply of manganese and the beginning of World War I sharply curtailed the available supplies for English and American glass manufacturers. Thus, both containers would have been manufactured prior to 1914 and would be related to homestead activity.

Pre-Contact Artifacts

Fourteen Pre-Contact artifacts were curated from vehicle ruts in the Floodway Village Site area. One is a thick earthenware body sherd from a cooking pot (Plate 11). It weighs 5.5 grams. The exterior surface shows textile impressions, either from manufacture in a woven fabric bag or by using a fabric covered flat paddle to strike the pliable clay while the potter was holding a solid object on the inside, thereby molding the pot. The decorative patterns on the upper rim and lip portion of these pots are the culturally diagnostic features. As this artifact derives from the undecorated portion, it is not possible to assign the pot to a specific cultural group. The temporal duration of the Late Woodland Period represented by this container is between A.D. 400 and A.D. 1750.

The remaining thirteen Pre-Contact artifacts are all lithic material, either tools or waste flakes from tool manufacture. The manufacture of stone tools is a complex process whereby a cobble of an appropriate material is struck to remove flakes which are later modified into the desired tool. The debitage from manufacture is always more frequent than tools, in part because tools were only discarded when nonfunctional or when inadvertently lost.

9.2.3.2.2 West Bank Area

Historical artifacts present at EaLf-59 in the West Bank area included bricks, broken porcelain, fragmented stoneware containers, and large mammal bones. A sample of the porcelain ware (three sherds) was collected. Two white ceramic sherds have evidence of the Wheat pattern. The Wheat pattern, and its derivatives, is a long-lived popular design which was manufactured by many companies in England, a few in Scotland, at least one in Canada, and possibly one in France (Sussman 1985:7-10). In addition, Sussman notes that the Wheat pattern seems to have been manufactured solely for the North American market and, although expensive in the beginning (the 1850s and 1860s), it eventually became, by 1897, one of the cheaper dinnerwares.

9.3 EFFECTS AND MITIGATION

The Project is expected to have no material effect on heritage resources in the Flood Study Region. One area for mitigative measures during construction is identified in a portion of the Floodway Village heritage

site located at the west end of the south embankment of the Outlet Control Structure in an area currently crisscrossed with recreation vehicle trails.

Effects of the Project combine with the effects of other activities and projects that have or will be carried out. The Existing Floodway may have impacted heritage resources, and other future activities such as summer operation of the Floodway may also possibly have some impacts on heritage resources; however, no new effects are expected from the Project in combination with such other activities or projects (other than the effects otherwise predicted below).

9.3.1 West Dyke Area

The investigation of topographic features and historical data indicate that there would be no archaeological sites, culturally important sites or burial sites adjacent to the West Dyke once it turns away from the LaSalle River. As the source areas for increasing the height of the structure will be derived from the ditches alongside the roads that make up the western portion of the dyke, no heritage resource impacts are expected to occur during construction or operation of the Project.

9.3.2 Floodway Area

Construction Phase

There are heritage resource management concerns about potential impact to known archaeological sites immediately south of the construction zone at the Outlet area. The burial mound is not in a vehicular travel route and should be safe from impact. However, the same cannot be said for the remaining portion of the Floodway Village site which is being impacted by casual visitors and fishermen who drive over the site. During the construction period, sightseers will probably access the area to view the construction and barricades or barriers will probably result in vehicles finding other routes, resulting in more impact to moderately undisturbed areas. Mitigation for this effect would include covering the existing ruts with gravel or fill, thereby providing a better surface for the vehicle traffic that will likely occur anyway.

Operations Phase

During the Operation-Active phase of the Project, changes to water levels and flows could result in higher water levels in some areas. It is expected that these occurences will be rare (i.e., discernible only during flood events greater than the 1997 flood), small (i.e., a maximum increase in water levels of 0.3 meters at the Floodway Outlet in the 1 in 700 year flood event) and short-term (i.e., persist only during these rare flood events). It is understood that the modifications to the Floodway Outlet will minimize velocities at the Outlet Structure and that there will be rip-rapping in erosion sensitive areas near the Floodway Outlet.

9.4 RESIDUAL EFFECTS AND SIGNIFICANCE

This section presents the estimated residual effects of the Project on heritage resources in the Flood Study Region. The analysis of residual effects incorporates to the extent possible a consideration of mitigation and enhancement measures outlined in previous sections. Based on the criteria outlined in Chapter 2, the significance of these effects are assessed and summarised in Table 9.1-1.

Table 9.1-1
Summary of Residual Effects and Significance on Heritage Resources

Topic and Project Phase	Residual Effect Including Mitigation	Mitigation	Significance
Construction Excavation for West Dyke			
Construction	Excavation of borrow materials for West Dyke is expected to come from ditches alongside the existing roads once the Dyke turns away from the LaSalle River. As there are not expected to be any heritage resource sites in these areas there are not expected to be any effects on heritage resources.	None.	**No heritage resources expected in excavation site. Negligible (-) Not significant**
Increased Vehicle and Pedestrian traffic in Floodway Outlet Region			
Construction	Construction near the Outlet Structure will likely result in increased vehicle and pedestrian traffic in the area, both from those working on the construction phase of the Project and interested visitors. As there were some heritage resources uncovered in vehicle ruts at the site, disturbance of heritage resources in this area is a concern.	Gravel or fill placed over the existing vehicle ruts.	**Negligible (-) Not significant**
Changes to Water Levels and Flows			
Operation-Active	Operation of the Project could result in higher water levels in some areas. However it is expected that these effects will be rare (i.e., discernible only during flood events greater than the 1997 flood), small (i.e., a maximum increase in water levels of 0.3 meters at the Floodway Outlet in the 1 in 700 year flood event) and short-term (i.e., persist only during these rare flood events).	Floodway Outlet design will minimize water velocities and there will be rip-rapping in erosion sensitive areas near the Floodway Outlet.	**Negligible (-) Not significant**

During the construction phase of the Project, excavation of borrow materials for the West Dyke is expected to come from ditches alongside the existing roads once the Dyke turns away from the LaSalle River. As there are not expected to be any heritage resource sites in these areas there are not expected to be any effects on heritage resources. This effect is therefore expected to be negligible (not significant).

During the construction phase of the Project, it is likely that there will be increased traffic near the Outlet Structure both from those working on the construction phase of the Project and interested visitors. As there were some heritage resources uncovered in vehicle ruts at the site, disturbance of heritage resources in this area is a concern. However, gravel or fill placed over the existing vehicle ruts is expected to be sufficient to mitigate any possible effect. This effect is therefore expected to be negligible (not significant).

During the operation-active phase of the Project, changes to water levels may be experienced in some scenarios. However these effects are expected to be rare (i.e., discernible only during flood events greater than the 1997 flood), small (i.e., a maximum increase in water levels of 0.3 meters at the Floodway Outlet in the 1 in 700 year flood event) and short-term (i.e., persist only during these rare flood events). It is also understood that the proposed modifications to the Floodway Outlet will minimize velocities at the Outlet Structure and that there will be rip-rapping in erosion sensitive areas near the

Floodway Outlet. Therefore any operation-active phase effect on heritage resources in this area is expected to be negligible (not significant).

9.5 MONITORING AND FOLLOW-UP

Monitoring will occur as needed to ensure that the proposed mitigation measures are carried out to protect heritage resources during construction activity in the Outlet Structure area. A heritage resource specialist will be present during construction in areas that may have heritage resources, primarily near the Floodway Outlet structure. No other heritage resources monitoring or follow up is required.