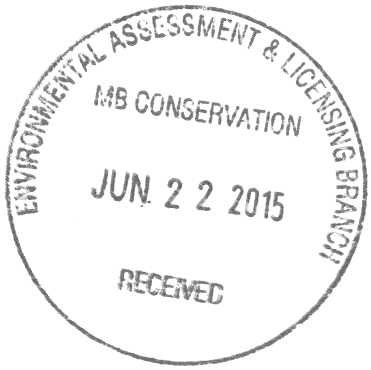
Winnipeg



June 18, 2015

Tracey Braun. M.Sc., Director
Environmental Stewardship Division
Environmental Approvals Branch
123 Main Street, Suite 160
Winnipeg, Manitoba R3C 1A5

Dear Ms. Braun,

Re: City of Winnipeg - Southwest Rapid Transit Corridor — Stage 2 Project
CLIENT FILE NO. : 5709.00

In response to your letter dated April 20th, 2015 and request for additional support information regarding the potential impacts of the Southwest Rapid Transitway (Stage 2) & Pembina Hwy. Underpass project on the Parker Lands, please find enclosed for your review and approval, a report addressing the issues identified in your April 20th, 2015 letter.

If you have any questions regarding this matter, please contact me at spayne@winnipeg.ca.

Yours truly,

Scott Payne
Manager of Major Projects – Winnipeg Transit
421 Osborne St., R3L 2A2
Winnipeg, MB

cc: Bjorn Radstrom, P.Eng. Manager of Service Development – Winnipeg Transit
Director, Transit Department

June 15, 2015

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City of Winnipeg Transit Department
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Attention: Mr. Scott Payne
Manager of Major Projects

Re: Southwest Transitway – Stage 2 – Additional Information on Drainage and Natural Areas in the Parker Lands

Dear Mr. Payne:

In response to your request, Dillon Consulting Limited (Dillon), in conjunction with M. Forster Enterprises, is pleased to provide the following documentation with respect to additional information on drainage and natural areas in the Parker Lands as requested by Manitoba Conservation and Water Stewardship (MCWS).

Introduction

The City of Winnipeg received an Environment Act Licence (EAL No. 3121) from MCWS on December 18, 2014 for the construction and operation of the Southwest Rapid Transit Corridor - Stage 2 Project in accordance with the Proposal filed under *The Environment Act* dated April 17, 2014 (MCWS 2014).

On April 20, 2015, MCWS requested that the City of Winnipeg provide a report regarding the Project's potential impact on the wetland located north of the Manitoba Hydro Right-of-Way (RoW) within the Parker Lands (MCWS 2015). MCWS indicated that the report shall include:

- a description of the potential effects of the Project related drainage on the structure and function of the wetland;
- a description of any other potential effects of the Project on the structure and function of the wetland; and
- a drainage management plan for the Parker Lands which ensures Project related drainage and construction of the proposed Parker Retention Pond will not impact the wetland.

This letter report was prepared as part of the City of Winnipeg's response to the April 20, 2015 letter from MCWS and provides additional information on:

- location and ownership of the area known as the Parker Lands;
- the location and types of natural areas in the Parker Lands;
- the classification of wetland areas in the Parker Lands, using the Stewart and Kantrud (1971) system of wetland classification;
- the potential effects of the Project on wetland areas in the Parker Lands;
- the mitigation measures that will be used to offset any potential effects to wetland areas in the Parker Lands in keeping with the Manitoba Water Strategy policies for the conservation and management of wetlands (Government of Manitoba 2003); and
- the drainage management plan for the Parker Lands which ensures Project related drainage and construction of the proposed Parker Retention Pond will not impact property north of the Project.

Location and Ownership of the Parker Lands

The area referred to as the Parker Lands is located north of Parker Avenue and Heatherdale Avenue in the City of Winnipeg and includes the area that is bounded on the north and east sides by the CN railway and yards; on the south side by Parker Avenue and Heatherdale Avenue; and on the west side by Hurst Way, the Winnipeg Humane Society and parking lots and businesses with frontage on Route 80 (Waverley Street). The area referred to as the Parker Lands are under the ownership and control of the City of Winnipeg, CN Rail, Manitoba Hydro, and private ownership including Gem Equities. **Figure EIA-001** (attached) provides a map of the area and shows the boundaries of the land ownership.

Description of the Parker Lands

As noted in the April 2014 *"City of Winnipeg Southwest Rapid Transit Corridor– Stage 2 Environmental Review and Assessment"* report (Dillon 2014), the area referred to as the Parker Lands was included as part of the desktop and field studies conducted in the Project Study Area (PSA) during the environmental review and assessment for the Project. "The PSA is defined as the area that will be physically altered and/or directly affected by the Project construction activities and/or Project O&M (O&M) activities. The Project activities will take place within the existing CN Rail, Manitoba Hydro RoW corridor, and City of Winnipeg-owned land; therefore, the PSA was designated as the area located within the existing CN Rail and Manitoba Hydro RoW where Project activities will occur." (Dillon 2014, page 27)

The desktop and field studies found that the area referred to as the Parker Lands is a mix of open grassland with small patches of oak *(Quercus macrocarpa)* - aspen *(Populus tremuloides)* woods and moist depressions of cattails *(Typha spp.),* dogwood *(Cornus spp.)* and willows *(Salix spp.).* The Manitoba Hydro north/south corridor is maintained as a mowed RoW with some drainage ditches and scrubby woodland patches along the edges. A number of non-native and/or invasive plant species are present in the PSA as multiple uses over time have disturbed the original natural habitat.

Classification of Wetland Areas in the Parker Lands

The Stewart and Kantrud (1971) system of wetland classification was used to characterize the wetland areas located in the areas of the Parker Lands that will be affected by the Project. This wetland classification system is currently used by the Province of Manitoba. The Stewart and Kantrud (1971) system classifies wetland areas into seven different types of zones. These zones are described as follows:

1. Class I - Ephemeral Wetlands typically have free surface water for only a short period of time after snowmelt or storm events in early spring. Because of the porous condition of the soils, the rate of water seepage from ephemeral wetlands is very rapid after thawing of the underlying frost seal. They may be periodically covered by standing or slow moving water. Water is retained long enough to establish some wetland or aquatic processes. They are typically dominated by Kentucky bluegrass, goldenrod and other wetland or low prairie species.

2. Class II - Temporary Wetlands are periodically covered by standing or slow moving water. They typically have open water for only a few weeks after snowmelt or several days after heavy storm events. Water seepage is fairly rapid, but surface water usually lingers for a few weeks after spring snowmelt and for several days after heavy rainstorms at other times of the year. Water is retained long enough to establish wetland or aquatic processes. They are dominated by wet meadow vegetation such as fine-stemmed grasses, sedges and associated forbs.

3. Class III - Seasonal Ponds and Lakes are characterized by shallow marsh vegetation, which generally occurs in the deepest zone (usually dry by midsummer). These wetlands are typically dominated by emergent wetland grasses, sedges and rushes.

4. Class IV - Semi-permanent Ponds and Lakes are characterized by marsh vegetation, which dominates the central zone of the wetland, as well as coarse emergent plants or submerged aquatics, including cattails, bulrushes and pondweeds. These wetlands frequently maintain surface water throughout the growing season, i.e., from May to September.

5. Class V - Permanent Ponds and Lakes have permanent open water in central zone that is generally devoid of vegetation. Submerged plants may be present in the deepest zone, while emergent plants are found along the edges. Plants commonly present in these wetlands include cattails, red swampfire and spiral ditchgrass.

6. Class VI - Alkali Ponds and Lakes are wetlands where deep water is typically not permanently present. Alkali wetlands are characterized by a pH above 7 and a high concentration of salts. The dominant plants are generally salt tolerant and include red swampfire and spiral ditchgrass. These wetlands are especially attractive for shore birds.

7. Class VII - Fen Ponds are wetlands in which fen vegetation dominates the deepest portion of the wetland area. This wetland type often has wet meadow and low prairie vegetation present on the periphery. The soils are normally saturated by alkaline groundwater seepage. Fen ponds often have quaking or floating mats of emergent vegetation, which includes sedges, grasses and other herbaceous plants.

Figure EIA -002 provides a Google Earth (Google Earth 2015) image of the Parker Lands area and indicates the approximate size and location of the different wetland types. The wetland types were identified as follows:

1. Areas outlined in yellow indicate areas with the presence of a mix of grasses and sedges (e.g., *Carex* spp.). The presence of areas of grasses, areas of sedges and seasonal periods of standing water would indicate that these areas would be considered as a mix of Class I - Ephemeral Wetlands and Class II - Temporary Wetlands under the Stewart and Kantrud (1971) system of wetland classification.

2. Areas outlined in red indicate areas of cattails and grasses. The presence of cattails would indicate that these areas would be considered as Class III – Seasonal wetlands or Class IV- Semi-permanent wetlands under the Stewart and Kantrud (1971) system of wetland classification.

3. The area outlined in blue is a linear berm that is grassed on top and lined by sedges. The presence of areas of grasses, areas of sedges and seasonal periods of standing water would indicate that these areas would be considered as a mix of Class I - Ephemeral Wetlands and Class II - Temporary Wetlands under the Stewart and Kantrud (1971) system of wetland classification.

Potential Project Effects

As noted in the April 2014 "*City of Winnipeg Southwest Rapid Transit Corridor– Stage 2 Environmental Review and Assessment*" report (Dillon 2014), the Project construction activities will result in the permanent change of the majority of the wet meadow and cattail stand areas in the PSA (which includes the areas within the existing Manitoba Hydro lands, CN Rail lands and City-owned lands; refer to **Figure EIA - 003**) due to the:

- Construction of the transitway, Active Transportation (AT) pathways and stations;
- Development of the drainage system for the Project; and
- Development of the Parker Retention Pond by the City of Winnipeg Water and Waste Department.

The areas located north of the Manitoba Hydro RoW within the Parker Lands will not be altered by the Project.

The following sections contain information on the drainage management plan for the Parker Lands developed for the Project to ensure that the Project related drainage and construction of the proposed Parker Retention Pond will not impact the wetland located north of the Manitoba Hydro RoW within the Parker Lands.

Mitigation Measures

As noted in the April 2014 "*City of Winnipeg Southwest Rapid Transit Corridor– Stage 2 Environmental Review and Assessment*" report (Dillon 2014), mitigation for the permanent change of the wet meadow and cattail stand areas in the PSA includes the replacement of the lost or altered cattail stands/wet meadow areas in the Parker Lands with new areas of semi-aquatic vegetation, aquatic vegetation and a pond habitat through:

- Project landscaping activities;
- Development of the AT pathways; and
- Development of the City of Winnipeg's planned Parker Retention Pond.

> The conceptual design for the Parker Retention Pond includes incorporation of natural features and native plants, such as those used by Native Plant Solutions (a division of Ducks Unlimited Canada), a group currently developing methods and plans for the construction of stormwater ponds that incorporate upland, wet meadow, and wetland plants and features for constructed ponds (Ross 2013). The pond will provide water retention to address current inadequacies in the existing sewer systems, prevention of overland flooding in the area, and replace the function of the wet meadow and cattails stands as wet areas and habitat for the existing vegetation and wildlife in the PSA that require these seasonally wet conditions. (Dillon 2014, page 16)

Based on the drainage management plan developed for the Project discussed below, the Project related drainage and construction of the proposed Parker Retention Pond will not impact the wetland located north of the Manitoba Hydro RoW within the Parker Lands. As such, further mitigation for potential effects of the Project related drainage on the structure and function of the wetland located north of the Manitoba Hydro RoW within the Parker Lands is not required.

Finally, to ensure protection of lands outside the Parker Lands PSA, construction access points are limited to existing rights-of-ways as shown by the red arrows within Figure EIA-003.

Drainage Management Plan Overview

The drainage plan is designed to manage water within the project area and prevent any project related activities/drainage from impacting the lands north of the project area.

> As part of the Cockburn and Calrossie Combined Sewer Relief Works, the current design concept for separation involves the construction of the Parker Retention Pond. The design and construction of the Parker Retention Pond is being carried out by the City of Winnipeg Water and Waste Department and is not part of Stage 2 of the Southwest Transitway project. The recommended alignment and drainage design for the Project takes this pond into consideration, but the Parker Retention Pond is not part of the Project.
>
> The Parker Retention Pond has been included in the list of adjacent systems as drainage along Parker Avenue will be routed east toward the pond via ditches. It is also proposed that runoff at the Transitway Underpass of CN Wye tracks be pumped into the Parker Retention Pond. (Dillon 2014, pages 14 - 16)

Ditching is engineered to ensure that drainage does not drain onto the lands north of the project lands and is self-contained. The design ensures any wet areas north of the Southwest Rapid Transit (SWRT) will not be drained by the SWRT drainage system.

From the Parker Station west, the AT path acts as hydraulic berm. From the Parker Station east and north to the Parker Pond a berm will be constructed to ensure the hydraulic separation of the Parker Lands from the SWRT and the Parker Retention Pond. **Figure EIA-003, Drawing 1 of 2** illustrates the drainage in the Parker Lands within the SWRT project limits. The cross-section ditch profile illustrates separation created by the SWRT ditching and the adjoining land outside the project area (**Figure EIA -003, Drawing 2 of 2**).

Closure

If you have any questions about this supplemental information please contact the undersigned.

Yours sincerely,

DILLON CONSULTING LIMITED

Maureen Forster, M.Sc. EP
M. Forster Enterprises

Dave Krahn, P.Eng.
Project Manager

DMH/knp

Our File: 13-8439

Attachments:
References

Figures:
Figure EIA-001: Parker Lands – Land Ownership
Figure EIA-002: Classification of Wetland Areas in the Parker Lands
Figure EIA-003: Parker Lands – Drainage Plan, Drawing 1 of 2
Figure EIA-003: Parker Lands – Drainage Drawing 2 of 2