Kilgour & Associates Ltd.
Environmental Consultants

TECHNICAL MEMORANDUM

July 23, 2024 **Our File: BHDB 1718.1**

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Subject: Wetland Delineation for 561 Somme Street, Ottawa

1.0 INTRODUCTION

Blackstone Homes Design and Build Ltd. retained Kilgour & Associates Ltd. ("KAL") to conduct a wetland delineation survey for the property located at 561 Somme Street in the City of Ottawa, Ontario (the "Site"). It is our understanding that both City of Ottawa and South Nation Conservation Authority wetland mappings are out of date for the Site and that a site investigation was required to update these files and inform any future development constraints.

This Technical Memorandum details the findings and results of the wetland delineation for 561 Somme Street to support updated wetland mapping (Figure 1).

2.0 METHODOLOGY

Provincial (MNRF, 2024), City of Ottawa (2024), and South Nation Conservation Authority (2020) wetland mapping were reviewed to identify purported/previously identified wetland on the Site. Digital aerial imagery and other data layers from Google Earth Pro and the City of Ottawa's geoOttawa system were used to develop a preliminary mapping of current Site features and landcover prior to field studies. The wetland delineation for the site was then confirmed by KAL Biologist Maren Nielsen on July 9, 2024. A high-level ELC survey for the Site was conducted at the same time.

Wetlands identified on the Site were delineated according to the Ontario Wetland Evaluation System (OWES; (MNRF, 2022)) methodology. Vegetation communities on the Site were identified and mapped at a high level in the field using standard Ecological Land Classification (ELC) methods for Ontario (Lee et al., 1998). This method provides a consistent approach to identify, describe, name, and map vegetation communities or physiographic features on the landscape based on soils and plant species composition.

Figure 1 Site Location

Legend

Site Boundary

N

0 >100 m

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Map File: BHDB 1718 Map MN.map
Universal Transverse Mercator - Zone 18 (N)
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3.0 SURVEY RESULTS

The existing condition of the Site including wetland boundaries, top of slope, and high-level ELC are shown in Figure 2.

3.1 General Site Character

The majority of the Site was cleared around ~2011, with ongoing filling and maintenance until reaching its current state around 2021 (City of Ottawa, 2024). The Site was previously forested, likely with some small swamp and marsh wetland pockets. These have since been removed. The Site was observed to be completely occupied by a gravel fill pad within the western and central portions, with the eastern portion previously cleared and filled, with common weed and meadow species growing. The gravel fill pad extends to the south of the Site to a steep slope comprised of riprap and fill material. The top of slope on the Site was traversed and mapped (Figure 3). Sites to the west and south of the Site are similar in nature, with development reaching near the southern property boundaries and a steep slope south. At the immediate bottom of the steep slope is an isolated natural system, comprised of deciduous forest, woodland, thicket, and marsh vegetation communities. Riprap and gravel fill extend into the natural areas in many locations. The general site character is shown in Figure 3 below.

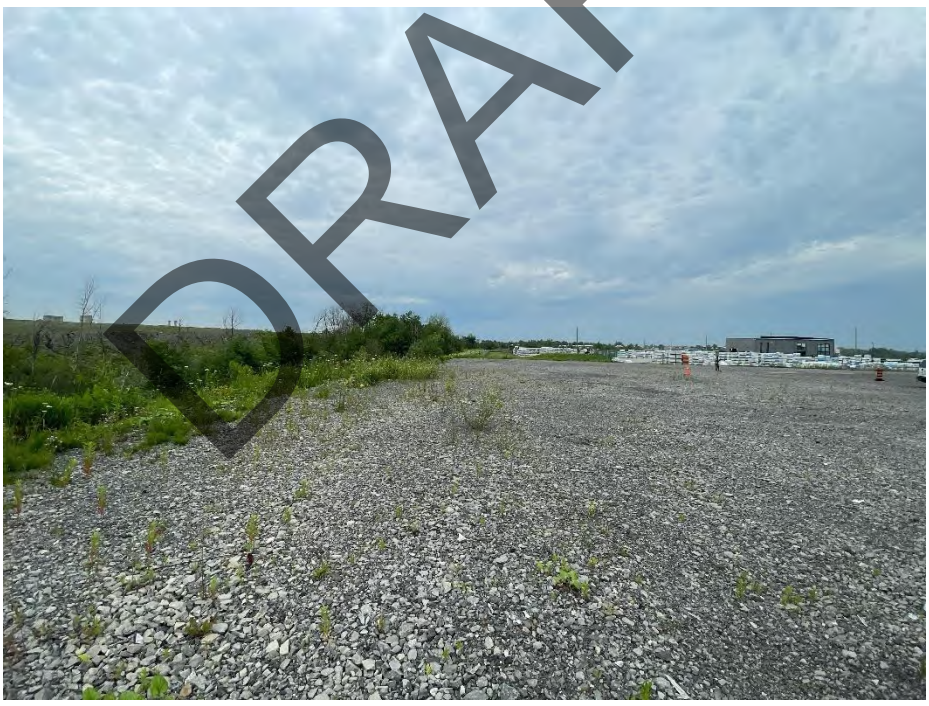

Figure 2 Gravel pad on Site, looking west

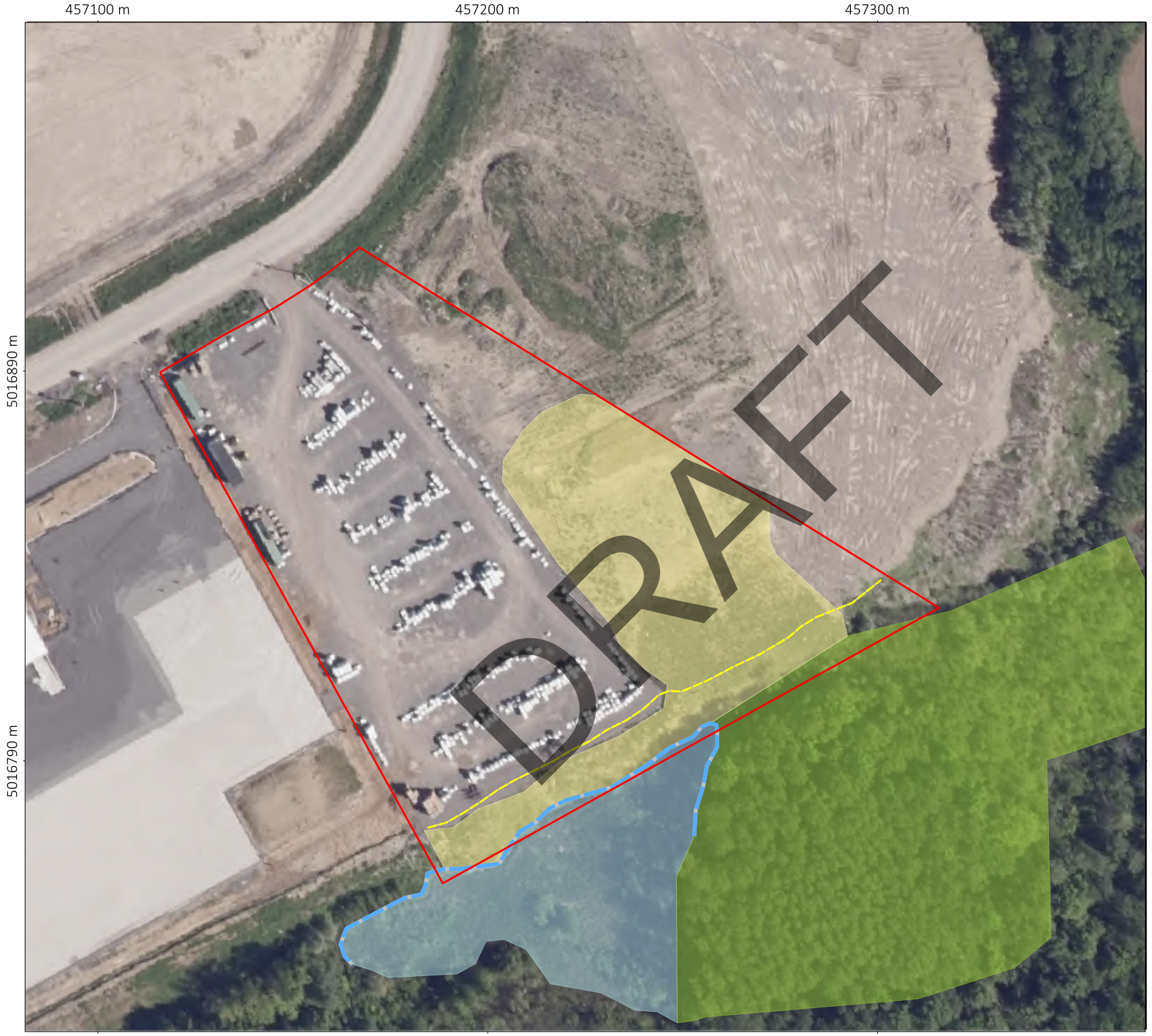

Figure 3 Existing Conditions

Legend

- Site Boundary
- Wetland boundary
- Top of slope

ELC Units

- CUM1-1
- FODM8-1
- MASM1-1

N

0 >100 m

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Figure 4 Top of slope, looking east

3.2 Vegetation and Wetland Delineation Survey

3.2.1 Cattail Mineral Shallow Marsh Type (MASM1-1)

A Cattail Mineral Shallow Marsh Type (MASM1-1) is located at the immediate bottom of the steep slope, and is dominated by Broadleaf Cattail (*Typha latifolia*), with Phragmites (*Phragmites australis*), and scattered White Willow (*Salix alba*), and Trembling Aspen (*Populus tremuloides*) trees. The MASM1-1 wetland is located in the lowest-lying area adjacent to the Site and surrounding lands. Based on our review of historical imagery, the MASM1-1 wetland feature was shaped in association with the topographic changes and development on and adjacent to the Site constraining it to its current form. It collects surface water and overland flows from the area and FODM8-1 deciduous forest during spring freshet and during large precipitation events. The wetland boundary is approximately 15 m from the top of slope.

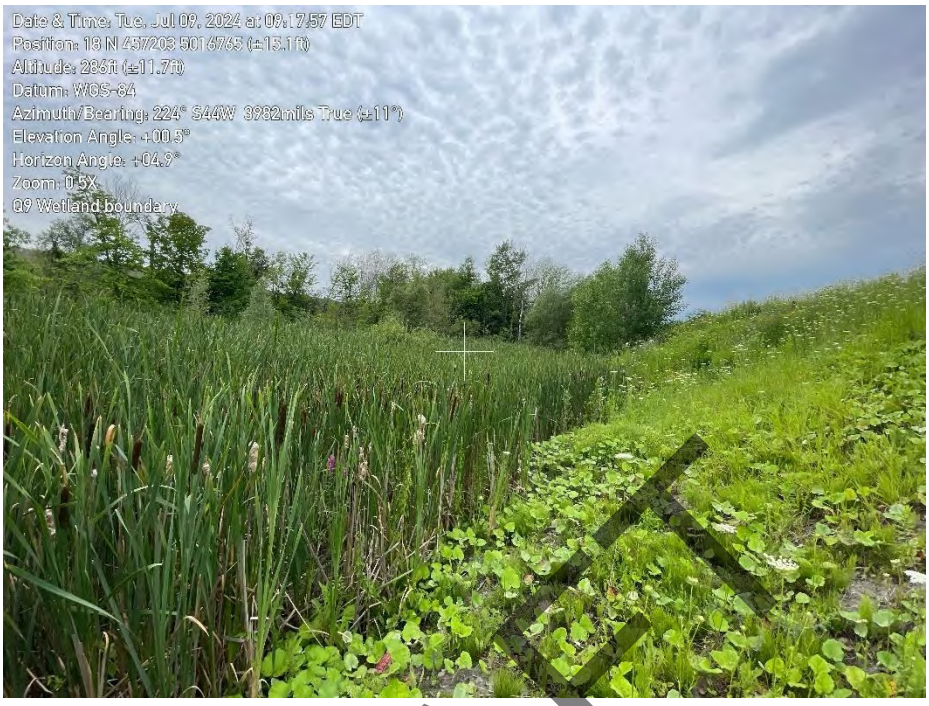

Figure 5 MASM1-1 wetland, looking west

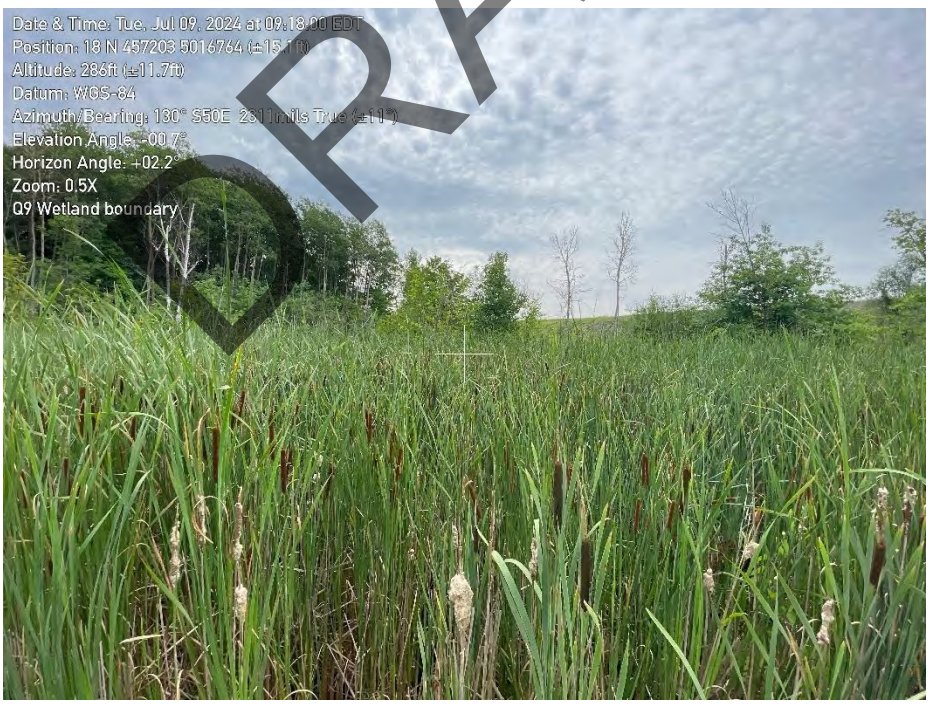

Figure 6 MASM1-1 wetland, looking southeast

3.2.2 Fresh – Moist Poplar Deciduous Forest Type (FODM8-1)

Adjacent to the MASM1-1 wetland community and the bottom of slope is a Fresh-Moist Poplar Deciduous Forest Type (FODM8-1) vegetation community (Figure 3). The FODM8-1 community is dominated by Trembling Aspen (*Populus tremuloides*), with Manitoba Maple (*Acer negundo*), White Birch (*Betula papyrifera*), and Green Ash (*Fraxinus pennsylvanica*).

3.2.3 Mineral Cultural Meadow (CUM1-1)

The eastern portion of the Site, north of the top of slope (Figure 3), as well as the steep slope is characterized by a Mineral Cultural Meadow (CUM1-1) vegetation community. This area was previously cleared and filled, and is in early stages of meadow regeneration, with common species including Coltsfoot (*Tussilago farfara*), Canada Goldenrod (*Soldiago canadensis*), Wild Carrot (*Daucus carota*), Common Burdock (*Arctium minus*), Staghorn Sumac (*Rhus typhina*), and Purple Loosestrife (*Lythrum salicaria*).

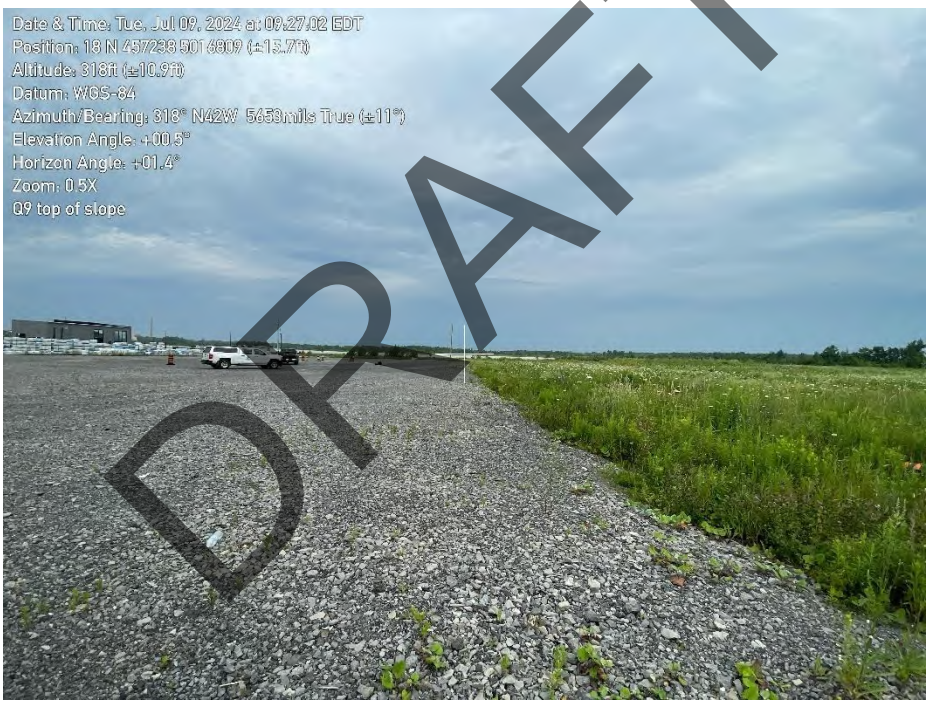

Figure 7 Eastern extent of gravel pad, looking north from the top of slope

Figure 8 Meadow vegetation on slope, looking south

4.0 RECOMMENDATIONS & CONCLUSION

The existing buffer between the wetland and top of slope at the edge of the previously disturbed area (Figure 2) has a minimum width of 15 m. Restoration work to generate a wider natural buffer would likely cause significant impact to the MASM1-1 wetland that is unwarranted given the current condition of the Site for the last ~3 years and as such is not considered to be justified. Constraining future Site development to within existing will gravel pad, i.e., providing 15 m wetland setback, is considered sufficient to protect the wetland feature generally. The following mitigation measures, however, should be required and be implemented during Site preparation and construction:

- Design and implement erosion and sediment (ESC) controls to contain/isolate the construction zone, manage site drainage/runoff and prevent erosion of exposed soils and fill and migration of sediment;
- Regularly inspecting and maintaining ESC measures during all phases of the project;
- Developing a response plan to be implemented immediately in the event of the spill of a deleterious substance;
- Keeping an emergency spill kit on the Site;
- Stopping work and containing deleterious substances to prevent dispersal; and
- Reporting any spills of sewage, oil, fuel, or other deleterious material whether near or directly into a surface water feature.

Fuel storage and refueling of machinery should occur > 30 m from surface water features both during and after site construction.

5.0 CLOSURE

This Technical Memorandum was prepared for exclusive use by Blackstone Homes Design and Build Ltd. and may be distributed only by Blackstone Homes Design and Build Ltd. Questions relating to the data and interpretation can be addressed to the undersigned.

Respectfully submitted,

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6.0 LITERATURE CITED

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