



Environmental Impact Study Addendum

Project Location: Seventh Avenue, Belmont, Central Elgin, ON

Prepared for: Craigholme Estates Ltd.

Prepared by:

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1.0 Introduction

Craigholme Estates Ltd. (the proponent) is applying for approval to proceed with Phase 6 of the ongoing Craigholme subdivision development located along the south side of Seventh Avenue in the community of Belmont in the Municipality of Central Elgin, Ontario. An Environmental Impact Study (EIS) was first submitted for this development in 2008 (Stantec 2008), and an updated EIS was approved in 2019 (Dance Environmental, 2019). Revisions to the Draft Plan of Subdivision (Draft Plan) were presented to the Municipality of Central Elgin on May 24, 2019 and August 19, 2019. Since this time, discussions between Craigholme Estates and the Thames Valley Board of Education were undertaken with regard to identification of an elementary school site within the Phase 6 lands. To address this proposed change, the Draft Plan of Subdivision and stormwater management (SWM) and servicing plan were updated in June 2021. MTE Consultants' Biological Sciences team has been retained to complete an EIS Addendum to address these changes, and the proposed relocation of a portion of wetland present on site.

1.1 Report Objective

This report is an Environmental Impact Study (EIS) Addendum to address changes made to the Draft Plan and SWM and Servicing Plan since the 2019 EIS submission. This Addendum will follow the format of the 2019 EIS submitted by Dance Environmental, with updates indicated where applicable. The Municipality of Central Elgin, Elgin County and Kettle Creek Conservation Authority (KCCA) have provided comments on the updated Draft Plan. These have been reviewed and are addressed as part of this EIS report.

Updates will be provided for the assessment of impacts and proposed avoidance, mitigation, and enhancement measures to ensure the protection of significant natural heritage features or functions. No additional life science inventories have been completed by MTE Consultants Inc.

This report will be circulated to the County of Elgin, Municipality of Central Elgin, and KCCA for agency review and comment on the findings and recommendations.

1.2 Format

This EIS Addendum contains the following sections, in accordance with the previously approved EIS (Dance Environmental, 2019):

Section 2.0	Description of the Natural Environment
Section 3.0	Description of the Development Proposal
Section 4.0	Description of Proposed Mitigation and Assessment of Environmental Effects
Section 5.0	Recommendations and Conclusions

Full sections of the 2019 report that remain unchanged are not repeated in this addendum report, and will be noted as such. Changes to the 2019 EIS will be noted where made.

1.3 Background Documents

The following additional studies were reviewed as part of this EIS Addendum Study:

- Craigholme Estates Ltd. Geotechnical Investigation (EXP Service Inc., 2019)
- Craigholme Estates Ltd. Updated Geotechnical Investigation (EXP Service Inc., 2021)
- Craigholme Phase 6 Planning Justification Report (Rosser, 2019)
- Scoped E.I.S. - Craigholme Estates: Phase 6 (Dance Environmental, 2019)
- Craigholme Estates Phase 5 & 6 Environmental Impact Study Update (Stantec, 2008)
- Servicing and Stormwater Management Feasibility Study (Strik Baldinelli Moniz Ltd., 2021)
- Policies and Procedures for the Administration of Section 28 Regulations (KCCA, 2006)

1.4 Pre-Consultation

A pre-consultation meeting was held on March 23, 2021 with Central Elgin. It was determined at the meeting that a proposal should be put forward regarding updated mitigations and planning for the wetland and SWM pond in the southwest corner of the Phase 6 site.

Will Huys (MTE Consultants) attended a site meeting with representatives from Craigholme Estates (Don Leahy and Joe Snyders) and the project technical team on March 31, 2021.

Three preliminary wetland enhancement design concepts were provided to KCCA (Joe Gordon) on April 22, 2021. A meeting to discuss these concepts was held on April 26, 2021 and several comments were provided by KCCA to guide the wetland design planning. An updated wetland enhancement concept was provided to Joe Gordon on April 30, 2021 and was confirmed as received on May 7, 2021. This updated wetland enhancement concept was also sent to Central Elgin and County of Elgin planning staff on May 10, 2021. On May 17, 2021, both Kevin McClure (Planner, Central Elgin) and Nancy Pasato (Manager of Planning, Elgin County) indicated that they would defer to KCCA for review and approval of the proposed wetland enhancement concept.

1.5 Policy Context

This EIS Addendum has been prepared with reference to the following policies:

- The 2020 Provincial Policy Statement from MMAH, Section 2.1
 - These have been reviewed with the Natural Heritage Reference Manual (MNR, 2010)
- The Official Plan of the County of Elgin, Part D (Consolidated 2015)
 - The Study Area is designated a Tier 1 Settlement Area on Schedule A
- The Municipality of Central Elgin Official Plan, Section 3.0 (Consolidated 2013)
 - The Study Area is designated Residential on Schedule B
- KCCA Regulation 181/06
- The Conservation Authorities Act, R.S.O. 1990, c. C.27

The above policies are applied to the natural features and functions identified within and adjacent to the Study Area in order to determine which components of the natural heritage system will require additional consideration.

2.0 Description of the Natural Environment

Section 2.0 of the approved EIS (Dance Environmental, 2019) presented plant and wildlife inventory methods, results of site investigations, and discussions of identified natural heritage features. No changes to Section 2.0 of the approved EIS (Dance Environmental, 2019) are proposed. Table 1, below, provides a summary of the significant natural heritage features discussed. Vegetation communities mapped in the approved EIS are attached as Figure 2 (Dance Environmental, 2019).

Table 1: Summary of Natural Heritage Features in the Study Area

Policy-Protected Feature	Presence on Subject Lands or Adjacent Lands	Applicable Policy
Significant Woodlands	THDM2-6 vegetation unit in adjacent lands to the southwest (>10 ha)	<ul style="list-style-type: none"> Provincial Policy Statement (PPS), 2020 Elgin County Official Plan (OP), 2015 Central Elgin OP, 2013
Significant Valleylands	Valley of Kettle Creek located ~100m outside the Study Area to the south	<ul style="list-style-type: none"> PPS, 2020 Elgin County OP, 2015 Central Elgin OP, 2013
Significant Wildlife Habitat	Confirmed Special Concern and Rare Wildlife SWH: <ul style="list-style-type: none"> Eastern Wood-Pewee [SC] SWH in adjacent FODM7-4 and FODM5-2 communities to the south of the Study Area (associated with Kettle Creek Valley) The meadow-marsh community within the Study Area is confirmed Monarch [SC] SWH 	<ul style="list-style-type: none"> PPS, 2020 Elgin County OP, 2015 Central Elgin OP, 2013
Uncommon Species	Swamp Agrimony (<i>Agrimonia parviflora</i>) is a vulnerable Species in Elgin County that was found in the Meadow Marsh community in 2017	<ul style="list-style-type: none"> Elgin County OP, 2015
KCCA Regulated Lands	KCCA Regulation Limits extend into the north and south of the Study Area and include the Meadow Marsh community	<ul style="list-style-type: none"> KCCA Regulation 181/06

3.0 Description of the Development Proposal

Craigholme Estates Limited (the proponent) is proposing the development of a residential subdivision (~19.7 ha) located along the south side of Seventh Avenue in the community of Belmont in Elgin County, Ontario [Figure 1]. The updated Draft Plan includes a combination of single detached residential units and semi-detached residential units for a total of 175 residential lots. Four blocks of street townhomes are also proposed. Access to the subdivision is proposed via Seventh Avenue. An elementary school for the Thames Valley Board of Education is proposed in the north of the site (Block 183), and a SWM facility would be situated in the southeast corner. Additional LID measures to reduce stormwater runoff will be incorporated into the development. Associated roadways, reserves, and walkways would cover approximately 3.8 ha. Municipal water and sewage services will be relied upon. Further SWM plan details are available in the updated Servicing and Stormwater Management Plan (Strik Baldinelli Moniz Ltd., 2021; Figure 3).

A change to the 2019 Draft Plan is the relocation of a portion of the Meadow Marsh community and adjustment of the SWM pond in the south of the Study Area. The current proposal is to design and construct a wetland enhancement area in Block 184 which will receive clean water input from the adjacent SWM facility, and discharge to the existing wetland where it enters the protected thicket/hedgerow community to the west [Figure 2]. Enhanced wetland ecological function relative to existing conditions will be provided while permitting removal of approximately 2,640 m² of the existing meadow marsh community. Compensation for the wetland area removed will be achieved at a rate of 1:1, and the created wetland will be combined with the existing retained wetland. Detailed engineering analysis will be used to ensure the preferred design maintains flow to the remaining portion of the existing wetland while also creating suitable wetland hydrology and wildlife habitat in the enhancement area. A detailed description of the wetland enhancement design concept is provided in Section 4.2.

3.1 Recommended Ecological Buffers

Based on the approved EIS (Dance Environmental, 2019) and changes described in this EIS Addendum, the components of the natural heritage system that require a buffer are the woodland/hedgerow and the created/enhanced wetland (Meadow Marsh community). A woodland buffer was established in the approved EIS (Dance Environmental, 2019) as a five metre setback measured from the dripline of the narrow thicket hedgerow to the proposed limits of development. This buffer will help protect the trees and their roots from damage during and post construction.

A change proposed in this EIS Addendum is that a portion of the five metre woodland buffer would be graded to accommodate the wetland design. Grading at 2:1 is proposed within a five metre setback to the existing, narrow thicket hedgerow along the southern boundary of the Subject Lands. This community is classed as THDM3, which is a Dry-Fresh Deciduous Thicket Hedgerow containing invasive European Buckthorn. The five metre setback is from the dripline of existing trees, therefore any grading would occur outside the dripline and primary root zone of the trees. Based on preliminary grading, to bring the southeast corner (EL. 257.2) down to match the centerline of the low flow channel (EL. 255.8), grading at a 2:1 slope would extend back 2.8 metres within the five metre hedgerow setback to dripline.

An additional change to the 2019 EIS is the adjustment of the wetland buffer. A 15 metre buffer is proposed between the rear lot lines off Street B and the created/enhanced wetland feature to address KCCA wetland policies. These policies state:

“Except as provided for in Policies 4.4 (5.) A. (a) and 4.4 (5.) A (b), no new development or site alteration is permitted within 15 metres of Other wetlands less than 2 hectares in size” (KCCA, 2006).

The wetland present is less than two hectares in size, and therefore a 15 metre buffer from development will be sufficient provided that certain protection measures are implemented. The wetland feature and buffer are reviewed more fully in the following sections of this report.

4.0 Impacts and Mitigation

This section identifies potential impacts the proposed development could have on the identified natural heritage features within and adjacent to the Study Area, and proposes avoidance or mitigation measures to minimize impacts.

The primary change from the approved EIS described in this EIS Addendum is the relocation of a portion of the Meadow Marsh community and adjustment of the SWM pond block in the south of the Study Area. To accommodate proposed changes to the Draft Plan, a portion of the existing wetland (MAMM3-1: Mixed Mineral Meadow Marsh) will be reconfigured on site. This linear wetland feature is approximately 0.45ha and formed along a blocked tile drain within agricultural lands in the Kettle Creek watershed. Based on the approved EIS (Dance Environmental, 2019), there are no pools or ponded areas within the wetland, and it does not provide breeding habitat for marsh birds or amphibians (Dance Environmental, 2019). One regionally-rare plant species, Swamp Agrimony, was identified within the wetland.

The proposed design contemplates the removal of approximately 2,600 m² of existing wetland which will be replaced at a 1:1 area adjacent to the area of wetland to be retained. Enhancements to the retained and created wetlands will increase ecological diversity and function of this natural heritage feature. A 15m setback to the rear lot line is shown adjacent to the proposed wetland creation/enhancement area to address KCCA wetland policies. The design provides physical separation between the SWM facility and the wetland – outflow to the wetland from the SWM will be through a single outlet into a low flow channel designed at a 0.5% grade. A draft wetland concept is provided [Figure 4] which has been approved, in principle, by KCCA. A more comprehensive plan will be created later in detailed design. The proposed wetland enhancement concept is described in Section 4.2.

A summary of potential impacts and proposed mitigations is provided in Section 4.1.

4.1 Impact Assessment and Mitigation

Tables from Section 4.0 of the approved EIS (Dance Environmental, 2019) are presented here. Proposed changes, if any, appear in bold text and are indicated in column 4.

Table 3: Mitigation Measures to be Implemented to Address Impact Elements and Residual Impact Expected

Impact Element	Mitigation What, Where & When	Residual Impact Expected	Change Proposed from Approved EIS (Dance Environmental, 2019)
Vegetation Clearing	- across the site, undertake vegetation clearing outside of breeding bird and bat maternity seasons; - protect vegetation to be retained with plastic construction fence and silt control fence or other necessary measures.	- protection of vegetation along new edges from soil compaction over roots and trunk/limb damage; no significant negative impact on features/functions of the woodland – see assessment of wildlife elsewhere.	No change. Note that bird and bat maternity seasons include April 1 to August 31.

Hedgerows & Significant Woodland	<ul style="list-style-type: none"> - provide a 5m wide buffer from the dripline of the western and southern hedgerows and between any development and the off-site Significant Woodland. - both silt control fence and construction fence should be installed at the outer margin of the 5m buffer to protect the trees from sedimentation and machinery impact. Where grading is proposed within the buffer to accommodate the wetland design, fencing should be placed at the limit of grading (approximately 2.2m from the dripline). - the 5m wide buffer should be allowed to naturalize. 	- no impact on site margin hedgerow or off site Significant Woodland.	Text revised. Grading is proposed within a portion of the 5m buffer, but otherwise the mitigation measures and expected impact remain the same.
Lot Grading	<ul style="list-style-type: none"> - mudmat, silt control fencing, protection of catch basins from silt and other temporary erosion and sediment control measures will prevent sedimentation impacts during grading. - new grades route water to the SWM system which controls water quantity within pre-development ranges; - the construction and silt control fencing protects vegetation to be retained from grading intrusion. 	- no negative impacts on vegetation to be retained, on hydrology or water quality.	No change.
Install Services	- silt control fencing, mudmat, construction fencing and all sediment control measures, across the site.	- no impacts on water quality or vegetation to be retained.	No change.
House Construction	- silt control measures and construction fencing, across the site.	- no impacts on water quality or vegetation to be retained.	No change.
Landscape Planting	<ul style="list-style-type: none"> - use native species which provide cover and food for wildlife, including birds and pollinators – in house yards, on boulevards and around the SWM pond margins; - put up Tree Swallow nest boxes around the SWM pond. 	- results in positive impacts from additional habitat for certain wildlife species.	No change.
Occupied Houses	- provide Homeowner’s Manual to those lots adjacent to Meadow Marsh habitat: content includes recommendations on management of yard clippings; pet management – keep inside yard unless on leash, downspouts to grassed surfaces/rain gardens, use of rain barrels, plant native landscaping species attractive to birds and pollinators.	- minimal negative impacts on preserved habitats.	No change.
Management of Edge Between Development	- fencing should be used to limit and control access into the created/enhanced wetland and the associated buffer;	- minimize negative impacts on the newly created and enhanced wetland.	Text revised. Mitigation measures are the same, but are applied to

& Meadow Marsh	- a 15m wide undisturbed buffer should be established from the edge of the created/enhanced wetland to the southern limit of the development – there should be no grading, filling, or stock piling within this buffer; a suitable native seed-mix of grasses & herbs (including aster & goldenrods) should be seeded onto a prepared seedbed within the 15m wide buffer; silt control and construction fencing should be installed at the outer edges of the buffer to prevent machinery access into the buffer		the boundary of the created/enhance wetland.
Supplemental Food for Wildlife (eg. bird feeders)	- potentially in many house yards, particularly in Fall and Winter: provision of supplemental food for seed and fruit eating birds.	- expected to increase the survival and numbers of certain resident and wintering bird species.	No change.

Table 4: Mitigation Measures to be Implemented to Address Natural Environment Features and Functions and Residual Impact

Impact Element	Mitigation What, Where & When	Residual Impact Expected	Change Proposed from 2019 EIS
Significant Habitat of Endangered or Threatened Species	Barn Swallow - no nesting sites will be lost; some Category 3 foraging habitat will be changed from cropland to residential landscape and SWM pond where foraging will continue.	- no negative impact is expected.	No change. The SWM pond location is shifted in the new plan, but foraging habitat will remain as stated and no nesting sites are lost.
Significant Wildlife Habitat	<u>Eastern Wood-Pewee (EWPE)</u> - there is not Significant Wildlife Habitat for this species on site, nonetheless mitigation measures are described and an impact assessment is completed for this Species of Special Concern; - setbacks between development and the off-site woodland habitat will prevent any impact on forest cover and EWPE habitat; - the timing of vegetation clearing (outside of the nesting period) will avoid indirect impact of noise and motion on EWPEs in the off-site woodland located in the Kettle Creek valley. <u>Wood Thrush (WOTH)</u> - there is not a breeding population of WOTH, but the existing woodland habitat is protected from disturbance by a wide setback between development and woodland habitat; - vegetation clearing outside of the nesting season will avoid indirect impact of noise and motion on WOTH.	- no impact on EWPE is expected. - no significant habitat for Wood Thrush is impacted. - Monarch habitat (including Milkweed) will be moved to the new wetland area, so no overall negative impacts are expected. The overall habitat area for this species may increase.	No change to EWPE and WOTH mitigations. Note that the breeding bird timing window covers from April 1 to August 31. Changes were made to Monarch mitigations and impacts due to the proposed wetland relocation.

	<p>Monarch (MONA)</p> <ul style="list-style-type: none"> - breeding habitat (Common Milkweed plants), foraging habitat (wildflowers), and tree shelter from the wind are all concentrated in and around the Meadow Marsh and adjacent portions of the western and southern hedgerows; some of this habitat will be retained and some will be moved to the new wetland area. - Common Milkweed, Swamp Milkweed, and suitable wildflowers will be included in the wetland creation plan. - the retained and newly created habitats will be protected by setbacks (15m for created/enhanced wetland and 5m for woodlands/hedgerows; planting nectar plants along the buffer of the Meadow Marsh will improve habitat conditions and increase the overall habitat area - silt control fence and construction fence will protect the retained Meadow Marsh habitat and the buffer lands from sedimentation and machinery impact on vegetation. 		
Significant Valleyland & Fish Habitat	<ul style="list-style-type: none"> - wooded slopes of the Kettle Creek valley and the fish habitat in Kettle Creek will be protected by 65m wide undeveloped setbacks; - silt fence around the southern margins of the development site will prevent soil from being washed into the valley and Kettle Creek. - the Stormwater Management facilities will protect the water quantity and quality of Kettle Creek. 	- no negative impact on the valley or Kettle Creek fish habitat.	No change. The SWM plan has been updated, but no changes to impacts anticipated.
Significant Woodland	<ul style="list-style-type: none"> - the off-site Significant Woodland would be protected from construction impacts by silt and construction fence placement along the woodland/hedgerow dripline prior to any earthmoving. - the 5m setbacks from hedgerow driplines and 15m setback/buffer from the created/enhanced Meadow Marsh will protect the off-site woodland from disturbance during and after construction - the SWM plan will ensure no hydrologic impacts on the downstream woodland. 	- no negative impacts on the off-site Significant Woodland.	Text changed to reflect that only a portion of the Meadow Marsh community will be retained and the 15 m buffer will be from the created wetland edge. There are still no anticipated impacts to Significant Woodlands.
Environmental Features of Local Significance	- Swamp Agrimony (<i>Agrimonia parviflora</i>) is an uncommon/vulnerable wetland plant in Elgin County which was observed growing in the Meadow Marsh;	- no net negative impact on the Meadow Marsh and the Swamp	Text changed to discuss relocation rather than retention of the

	<ul style="list-style-type: none"> - approximately 2,640 m² of the Meadow Marsh will be removed and re-created adjacent to the area of wetland being retained. -the Swamp Agrimony within the removed wetland (if present) may be moved to the new wetland, or Swamp Agrimony may be transplanted into the created wetland from a donor site in order to maintain the presence of this uncommon plant. - silt and construction fencing and a 15m wide setback seeded with native herbs and grasses will preserve the created and retained Meadow Marsh and will provide a new vegetated buffer to protect this plant. - the SWM Plan will maintain a baseflow of uncontaminated surface water to preserve the hydrologic cycle of the Meadow Marsh habitat that is required by the Swamp Agrimony. 	<p>Agrimony living within the marsh.</p>	<p>Meadow Marsh community and Swamp Agrimony.</p>
Meadow Marsh Wetland	<ul style="list-style-type: none"> - approximately 2,640m² of the Meadow Marsh will be removed and recreated adjacent to the area of wetland being retained (compensation is therefore 1:1 by surface area). - a 15m naturalized buffer between the new wetland and the development to the north will help protect this feature based on KCCA policies; no grading, filling or stockpiling will occur within the buffer. -sediment and erosion fencing will be installed prior to construction around the retained wetland and around the created wetland after it has been constructed. - the created wetland will be separated from the SWM facility by a berm. - the SWM Plan will maintain a baseflow of uncontaminated surface water to preserve the hydrologic cycle of the Meadow Marsh habitat. - A Homeowners' Manual will be provided to owners of lots which abut the Meadow Marsh to educate them on appropriate yard management so that adjacent property owners do not impact the wetland. - ecological linkages: <ul style="list-style-type: none"> (a) hydrologic – flow volume from the site to un-named tributary of Kettle Creek will be maintained and water quality will be treated by the Stormwater Management 	<ul style="list-style-type: none"> - net positive impact by increasing the size of the green space around the Meadow Marsh, compensating for the wetland area removed at a rate of 1:1 and preserving the key features and functions. - hydrologic flow volumes similar to pre-development conditions. - no negative impacts to linkages expected. 	<p>Changes were made to incorporate the new development plan and wetland concept plan.</p>

	<p>facilities and the Erosion and Sediment Control Plan.</p> <p>Mitigation components to avoid hydrologic inputs include: a low flow swale at 0.5% slope to distribute SWM flows to the wetland, completion of a water balance for the wetland, soakaway pits to infiltrate roof runoff (where suitable soil and ground water conditions exist) and an OGS downstream of the pond outlet.</p> <p>(b) vegetation propagule and wildlife movement corridors: the off-site woodland habitat and all hedgerows will be retained, and the Meadow Marsh will be partially retained with the remainder recreated and protected by fencing and setbacks and a planted 15m wide buffer between the Meadow Marsh and development – these measures will protect existing ecological linkages across the site and to off-site features.</p>		
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Table 5: Assessment of Potential Impacts

Impact Element	Geographic Extent	Duration of Potential Impact	Magnitude of Potential Impact	Change Proposed from 2019 EIS
Vegetation Clearing	Lands within the development are mainly turf grass and crop field.	<ul style="list-style-type: none"> - clear vegetation outside breeding bird & bat maternity seasons - temporary loss of small grassy area; - landscaping replaces vegetation in yards within a short period. 	- small area affected, local impact only, not significant.	No change. Note that bird and bat maternity seasons cover April 1 to August 31.
Lot Grading	Across the site.	- permanent changes in grade; results in vegetation changes described above in vegetation clearing; directs runoff to the sub-drainage areas for Stormwater Management.	- not significant impacts on vegetation and hydrology.	Grading plan has changed with updated plan, however extent, duration, and impacts remain the same.
Install Services	Across the site, within the road corridors and onto lots.	- during early phases of construction; duration of a few months.	- no significant impacts on the natural environment.	No change.
House Construction	Across the site.	- during build out: 2 or more years.	- noise, motion: minor short-term effects of only minor significance for wildlife along	House arrangement and number of residential lots has changed, however

			the subdivision margins where hedgerows or meadow marsh exists.	duration and potential impacts remain the same.
Landscape Planting	House yards and boulevards throughout the subdivision	- during build out: 2 or more years.	- positive impact to provide cover and food for wildlife.	No change.
Occupied Houses	- across the subdivision - of most importance on lots backing onto the hedgerows or Marsh Meadow.	- on-going.	- noise, motion, traffic, pets: small increase in activity level over existing agricultural cropping.	No change other than location of houses in the development plan.
Supplemental Food for Wildlife eg. bird feeders	- potentially across the subdivision.	- on-going, especially in winter.	- expected to sustain and increase numbers of resident & wintering birds & mammals.	No change.

4.2 Description of Wetland Enhancement Design Concept

The wetland enhancement area will be designed with a low flow channel from the SWM facility (0.5-1% channel slopes with 1-2% side slopes) which will overflow into an adjacent low-lying Meadow Marsh zone. Deeper pools (max. 0.5m deep) will be graded within the Meadow Marsh to provide seasonal breeding habitat (vernal pools) for amphibians. This variable topography of channel, meadow marsh and vernal pool will support a more diverse plant community than the existing wetland. Habitat features, such as brush piles or bird nest boxes, will be placed throughout the wetland enhancement area to increase wildlife habitat.

A seed mix will be selected using species native to Elgin County and appropriate for the proposed site conditions, incorporating existing wetland species, such as Spotted Joe-pye-weed, Bebb's Sedge and Dark-green Bulrush. Wetland emergent plants may be installed as plugs within deeper pools (e.g. cattail). If a suitable donor site can be identified, seed or plugs of Swamp Agrimony could be planted in the Meadow Marsh. This species can be locally common and is known to tolerate disturbed habitats (NHIC, 2021). Common Milkweed and Swamp Milkweed will be added to the Meadow Marsh seed mix to provide egg-laying and caterpillar foraging habitat for Monarch. A diversity of flowering plants in the seed mix will provide nectaring habitat for adult Monarch butterflies. Groupings of wetland shrubs will be introduced within the Meadow Marsh as live stakes or small potted stock. Upland tree and shrub planting within the woodland setback could also be incorporated to provide additional habitat diversity and an ecological buffer. Recommendations for maintenance, including invasive species management, and monitoring during the plant establishment period will be incorporated into the landscape plan.

To the extent possible, the SWM facility will also be designed to incorporate elements of a natural wetland community, including native plantings and wildlife habitat features.

5.0 Recommendations and Conclusions

The prior sections identified natural heritage features within and adjacent to the Study Area, evaluated their significance, and identified potential impacts from the proposed development. This section restates recommendations provided in the approved EIS (Dance Environmental, 2019) that are still relevant, and will provide additional recommendations based on the updated Draft Plan and SWM and Servicing plan. A recommended monitoring plan (new) is also provided.

The majority of the recommendations provided in the 2019 Scoped EIS remain relevant to the updated plans and should be addressed in Draft Plan or become conditions of Draft Plan approval, as specified:

- a. Undertake vegetation clearing outside of the breeding bird and bat maternity seasons (i.e. no clearing from April 1 to August 31);
- b. Protect vegetation to be retained with orange plastic construction fence and silt control fence or other necessary measures;
- c. Implement recommendations in the Servicing and Stormwater Management Feasibility Study (updated to SBM, 2021) and subsequent detailed design reports, designed to minimize erosion and sedimentation;
- d. During construction, monitor effectiveness of erosion and sedimentation control measures and take remedial action, as required, during construction;
- f. Prepare and provide Homeowners' Manuals to those with lots adjacent to the Meadow Marsh – the manuals would address appropriate lot management, eg. use of native species for lot landscaping and appropriate actions to take relative to adjacent off site habitat – this should be a draft plan condition;
- g. Prepare the seed bed in the 15m wide buffer adjacent to the Meadow Marsh and seed with native herb and grass species at the appropriate time of year. This should be undertaken when appropriate after completion of construction of any SWM facilities, which discharge to the wetland;
- h. Consideration should be given to applying Environmental Protection (EP) or similar zoning to the Meadow Marsh and its buffer; and

Several updates to recommendations made in the approved EIS (Dance Environmental, 2019) are required due to changes to the Draft Plan and SWM and Servicing plans. Additional recommendations are also provided:

- i. All aspects of mitigation measures described in the updated Tables 3, 4 and 5 provided in this 2021 EIS should be implemented.
- j. As mentioned in the SWM and Servicing report (SBM, 2021), a water balance for the wetland feature and measures to ensure that clean water is discharged to the wetland from the SWM pond should be addressed to ensure long-term viability of the wetland feature;
- k. Development within the areas regulated by KCCA will require a permit.
- l. Best management practices for limiting the spread of floral invasive species should be followed during development.

- m. A detailed interim stormwater management plan is needed to guide the construction phase. Untreated stormwater must be discharged away from the wetland feature.
- n. During construction, the lands between the sediment and erosion control fencing should be maintained. The fence southern boundary by the wetland and woodlands should remain in place until construction is complete and the remainder of the natural areas to remain are sodded or seeded and naturalized.
- o. Soil stockpiles should be established in locations where natural drainage is away from the wetland. If this is not possible and there is a possibility of any stock pile slumping and moving toward the wetland edge, these stockpiles should be protected with robust sediment and erosion control. Access to the stockpile should be confined to the up-gradient side. The stockpile locations should be reviewed at detailed design.
- p. Sediment and erosion control fencing will be installed according to the Guidelines for Erosion and Sediment Control for Urban Construction Sites (OMNR, 1987) and the applicable standards established in the Ontario Provincial Standard Specification/Ontario Provincial Standard Drawings (OPSS/OPSD) documents.
- q. Sediment and erosion control fencing should not be removed until adequate re-vegetation and site stabilization has occurred. Additional re-vegetation plantings and/or more time for vegetation to establish may be required; however, two growing seasons are typically sufficient to stabilize most sites.
- r. All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature.
- s. Roof runoff to bare ground can generate considerable sediment movement beyond the construction limits. Until the grounds have been vegetated and stable for housing and development adjacent to vegetation, roof leaders should be directed to the streets or nearby stabilized vegetated areas.
- t. Installation of permanent fencing feature is recommended for the southern boundary of the proposed development adjacent to the created wetland. This fencing will deter encroachment into the adjacent wetland and will trap garbage.
- u. Regular cleanup of the Subject Lands must be completed during construction and post-construction to ensure the adjacent natural heritage features are not degraded.
- v. Avoid vegetation clearing and site disturbance during migratory bird breeding season (April to August 31) to ensure that no active nests will be removed or disturbed, in accordance with the Migratory Birds Convention Act (1994) and/or Regulations under that Act. If works are proposed within the breeding season, prior to any vegetation removal or ground disturbance, the area should be checked for nesting birds. If there are any nesting birds (ex: Killdeer), works within the nesting area should not proceed until after August 31.
- w. The installation of educational signage on permanent fencing post-development is recommended to inform land owner(s) of the significance of the adjacent wetland feature and organisms within it (e.g. Monarch and Swamp Agrimony).

5.1 Monitoring Plan

A monitoring plan is recommended to document the implementation of the mitigation and compensation measures during construction and post-construction. The monitoring plan will be 2-phase and will consist of a construction monitoring plan and a long-term post-construction plan. The

construction monitoring plan will monitor for construction-related impacts, document successes or deficiencies of the implemented mitigation measures and provide guidance on remedial actions for circumstances when mitigation is not successful [e.g. Erosion and Sedimentation Control (ESC) measures]. This plan should continue from clearing and grubbing through to home building construction until rear yards and grounds adjacent to natural features are vegetated and stabilized. This plan will be developed during the detailed design stage. Reports should be made available to the KCCA and Municipality or County design services staff.

Long-term post-construction monitoring shall evaluate the success of the proposed active naturalization efforts in the created/enhanced wetland and within woodland setback areas. This plan should include remedial actions that are triggered if effects exceed pre-determined thresholds (e.g. supplemental plantings if survival rates are low). Monitoring requirements should be determined at the detailed design stage in consultation with agency staff. Recommendations for monitoring include, but are not limited to:

- Survival success of plantings within the wetland and other naturalization areas
- In coordination with the hydrological consultant, monitoring of the:
 - created wetland to ensure sufficient soil saturation is achieved to maintain suitable growing conditions for wetland plants
 - existing wetland to ensure wetland hydrology is maintained
- Encroachment activities and correction – once the development is at 80% build-out, annual reporting to the County of Elgin and/or the Municipality of Central Elgin should be completed for two years

5.2 Conclusion

Mitigation and compensation measures recommended in this EIS Addendum aim to minimize the indirect impacts to significant natural heritage features and functions. Through the development of a new and enhanced Meadow Marsh community, the function and ecological value of the wetland feature will be improved. In addition, the SWM pond has been designed to create wildlife habitat and support both species and ecosystem diversity. Naturalized buffers will ensure these features are protected during and after development.

This EIS Addendum has carried forward relevant recommendations from approved EIS and set out additional recommendations to protect adjacent significant natural heritage features from both direct and indirect impacts. Provided these are met, it is our opinion that the Draft Plan is in compliance with applicable natural heritage policies.

MTE seeks comments from the Municipality of Central Elgin, Elgin County, and the KCCA with respect to the contents of the EIS. Formal comments can be submitted in writing to MTE of behalf of the client. Should you wish to clarify any questions or require additional information as part of the review of this EIS, do not hesitate to contact us.

All of which is respectfully submitted,

MTE CONSULTANTS INC.

Allie Leadbetter, B.Sc.
Biologist
519-204-6510 ext. 2243
ALeadbetter@mte85.com

Melissa Cameron, M.Sc.
Senior Biologist
519-204-6510 ext. 2263
MCameron@mte85.com

ACL:mc
Encl: References
cc:

6.0 References

Dance Environmental. 2019. Scoped E.I.S. Craigholme Estates: Phase 6. 52 pp.

Kettle Creek Conservation Authority. 2006. Policies and Procedures for the Administration of Section 28 Regulations. September 2006. 74 pp.

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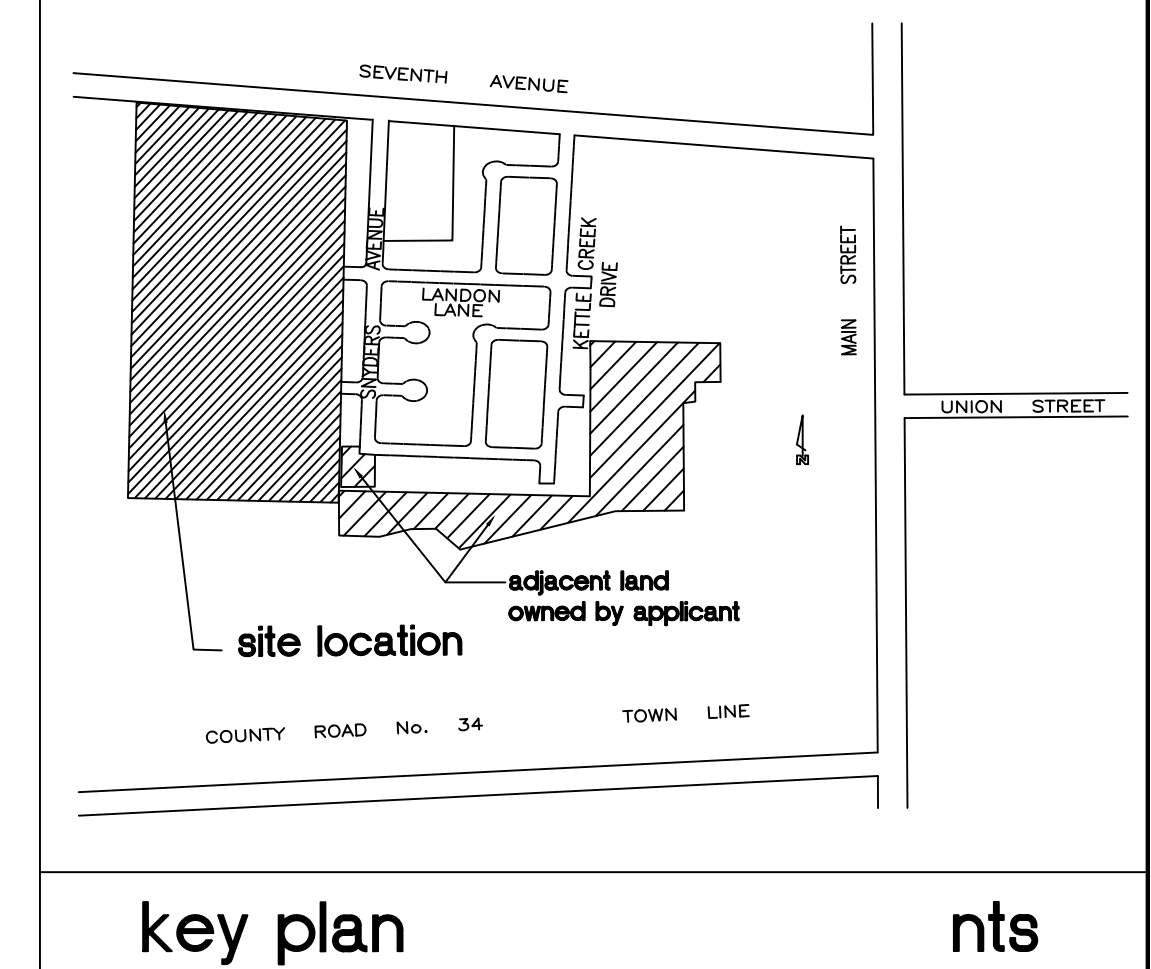
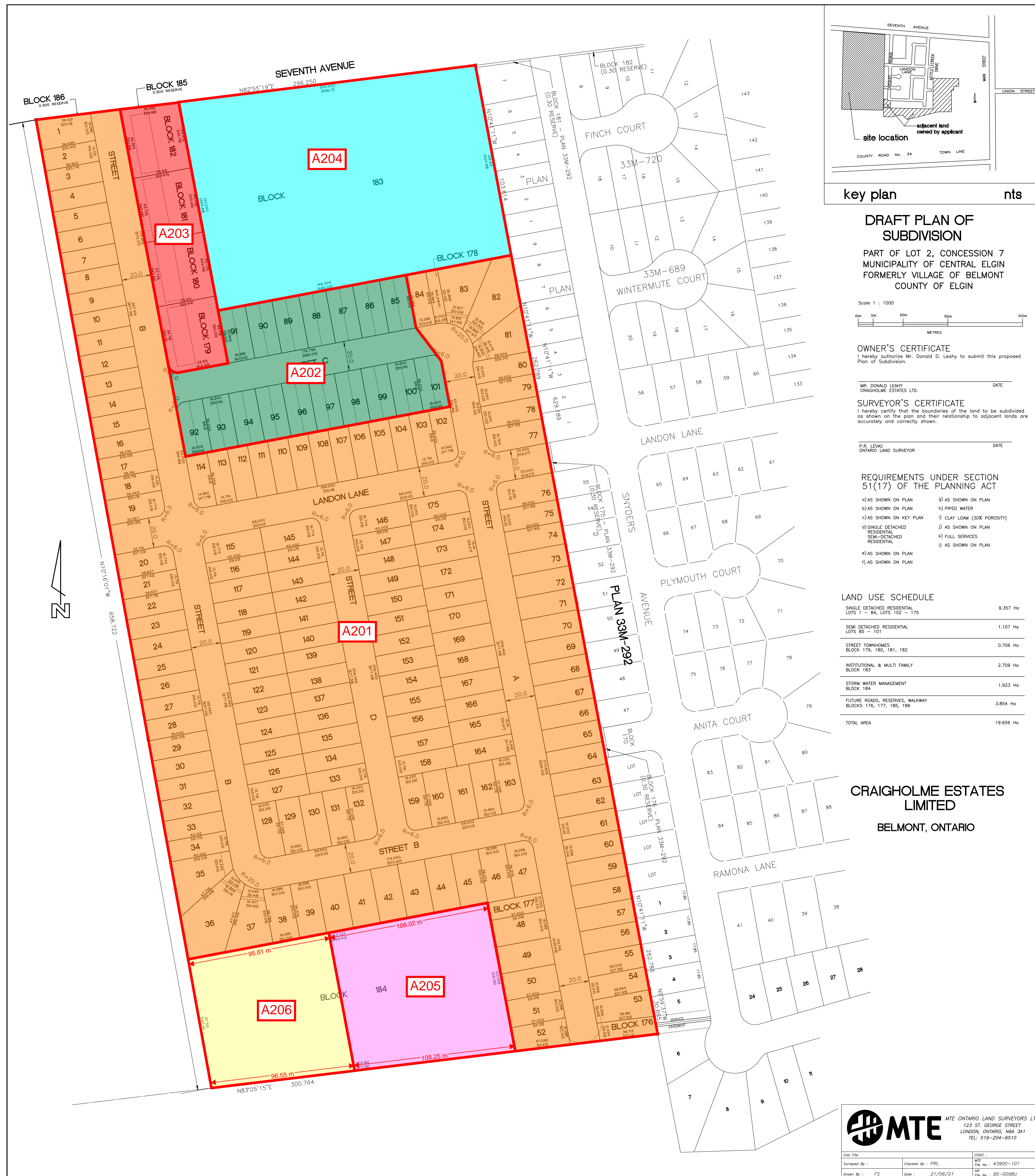
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Strik Baldinelli Moniz Ltd. 2019. Servicing and Stormwater Management Feasibility Study, Proposed Subdivision Development – Craigholme Phase 6. March 8, 2019.

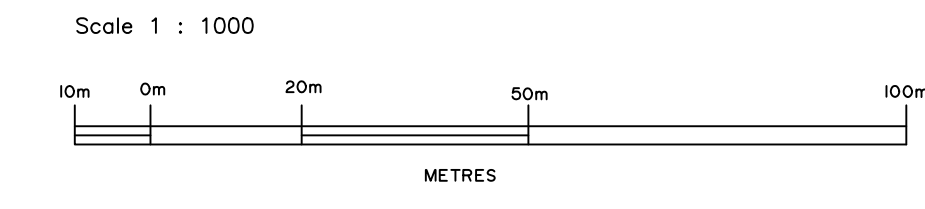
Figure 1: Updated (2021) Development Plan



Figure 3: Updated SWM Plan
(Strik Baldinelli Moniz Ltd., 2021) POST DEVELOPMENT SWM CATCHMENT AREAS



DRAFT PLAN OF SUBDIVISION
 PART OF LOT 2, CONCESSION 7
 MUNICIPALITY OF CENTRAL ELGIN
 FORMERLY VILLAGE OF BELMONT
 COUNTY OF ELGIN



OWNER'S CERTIFICATE
 I hereby authorize Mr. Donald G. Leahy to submit this proposed Plan of Subdivision.

MR. DONALD LEAHY
 CRAIGHOLME ESTATES LTD. DATE

SURVEYOR'S CERTIFICATE
 I hereby certify that the boundaries of the land to be subdivided as shown on the plan and their relationship to adjacent lands are accurately and correctly shown.

P.R. LEVAC
 ONTARIO LAND SURVEYOR DATE

- REQUIREMENTS UNDER SECTION 51(17) OF THE PLANNING ACT**
- 1) AS SHOWN ON PLAN
 - 2) AS SHOWN ON PLAN
 - 3) AS SHOWN ON PLAN
 - 4) AS SHOWN ON KEY PLAN
 - 5) SINGLE DETACHED RESIDENTIAL
 - 6) AS SHOWN ON PLAN
 - 7) AS SHOWN ON PLAN
 - 8) AS SHOWN ON PLAN
 - 9) AS SHOWN ON PLAN
 - 10) PIPED WATER
 - 11) CLAY LOAM (30% POROSITY)
 - 12) AS SHOWN ON PLAN
 - 13) FULL SERVICES
 - 14) AS SHOWN ON PLAN

LAND USE SCHEDULE

SINGLE DETACHED RESIDENTIAL LOTS 1 - 84, LOTS 102 - 175	9.357 Ha
SEMI DETACHED RESIDENTIAL LOTS 85 - 101	1.107 Ha
STREET TOWNHOMES BLOCK 178, 180, 181, 182	0.706 Ha
INSTITUTIONAL & MULTI FAMILY BLOCK 183	2.709 Ha
STORM WATER MANAGEMENT BLOCK 184	1.923 Ha
FUTURE ROADS, RESERVES, WALKWAY BLOCKS 176, 177, 185, 186	3.854 Ha
TOTAL AREA	19.656 Ha

CRAIGHOLME ESTATES LIMITED
 BELMONT, ONTARIO

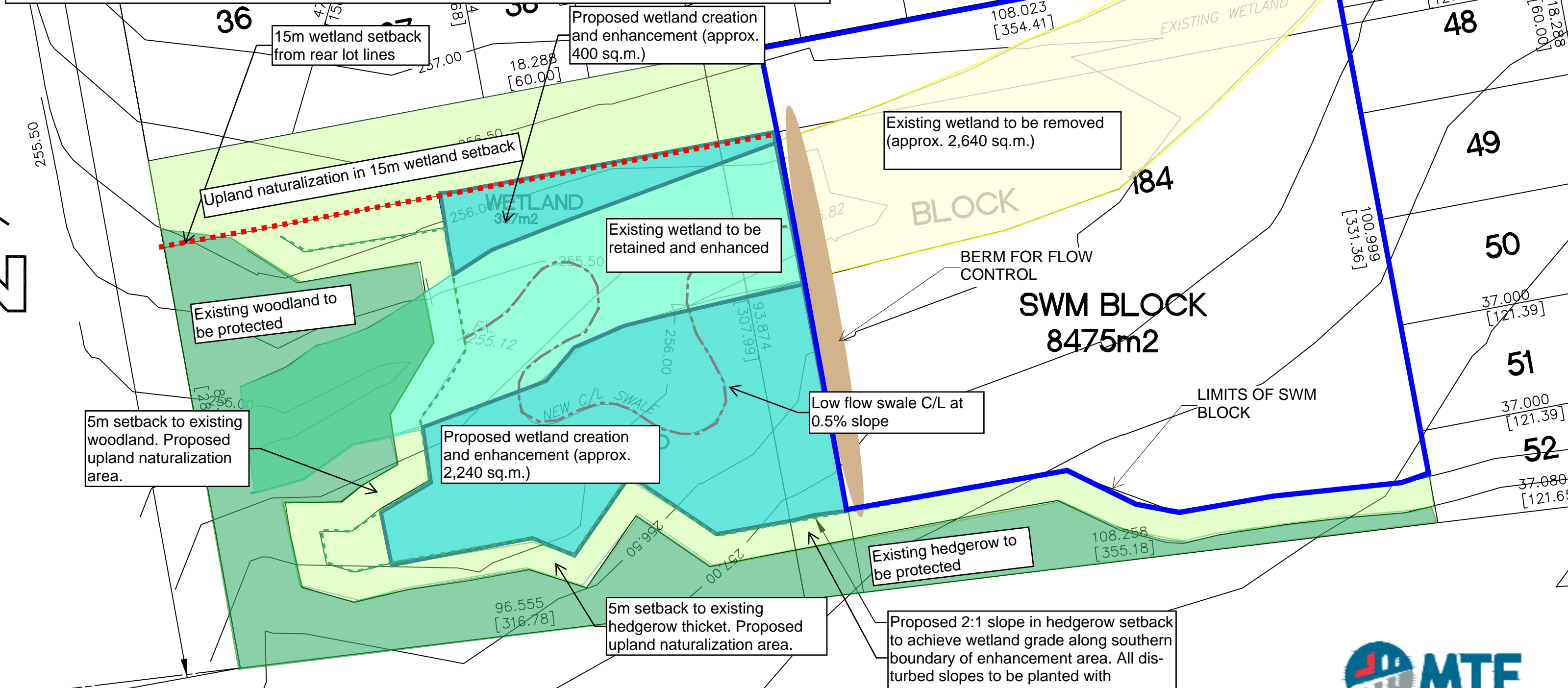
MTE MTE ONTARIO LAND SURVEYORS LTD.
 123 ST. GEORGE STREET
 LONDON, ONTARIO, N6A 3A1
 TEL: 519-204-6510

Drawn By: FS	Checked By: PRL	Date: 21/06/01
Scale: 1:1000	File No: 43900-101	Proj No: 95-0098U

Preferred Concept: Separated SWM Facility + Low Flow Channel with Overflow Wetlands

This concept would separate the SWM facility from the wetland enhancement area. Flow from the SWM would meander toward the existing wetland, but under higher rainfall conditions would overflow into wetland pools and surrounding meadow-marsh.

Figure 4: Wetland Concept



REVISED FOR AGENCY APPROVAL
April 30, 2021

Appendix A

Record of Pre-Application Consultation for Wetland Enhancement Proposal

From: [Melissa Cameron](#)
To: [43900-200](#)
Subject: FW: Craigholme Estates Limited, Belmont Estates Phase 6 subdivision lands -- Revised Draft Plan proposal
Date: Monday, May 31, 2021 3:13:30 PM

Client First | Right Solution | Work Together Melissa Cameron, M.Sc., M.LA, OALA
Senior Biologist
London x2263

From: Barbara Rosser

Sent: Monday, March 22, 2021 9:56 AM

To: pshipway@centralelgin.org; 'Lloyd Perrin' ; 'McCoomb, Jim' ;
joe@kettlecreekconservation.on.ca; 'County Planning' ; 'Ben PUZANOV' ; 'Carlos HENRIQUEZ'

Cc: 'DON LEAHY' ; 'Joe Snyders' ; 'Kevin Moniz' ; 'Botel Chiu' ; Dave Hayman

Subject: Craigholme Estates Limited, Belmont Estates Phase 6 subdivision lands -- Revised Draft Plan proposal

The email below is a duplication of the one just sent but re-sent due to a spelling error in one of the email addresses:

Hello everyone

Preparatory to our consultation meeting scheduled for tomorrow at 1 pm, I am forwarding the links below by way of background on the status of this proposed draft plan.

You will note the original submission in July 2019 (**May 24/2019** plan attached) at which time the plan totaled 260 lots and was comprised of:

- 236 single detached lots
- 24 semi-detached lots
- Blocks for pedestrian walkways, stormwater management and street reserves
- Supporting studies and reports included geotechnical engineering, environmental impact, traffic impact, servicing and stormwater management feasibility and planning justification.

The draft plan was subsequently revised (**August 19/2019** plan attached) reducing the single detached lots to 213 and totaled 237 lots but maintaining the street pattern and stormwater management strategy.

The links below from July 2019 and August 2019 provide the supporting information submitted at those times.

The public meeting was held on 28 October 2019.

On behalf of Craigholme Estates, I requested deferral of Central Elgin Council's decisions on the draft plan and zoning by-law amendment applications in December 2019 to allow for discussions between Craigholme Estates and the Thames Valley Board of Education with regard to the identification of an elementary school site within the Phase 6 lands.

The County engaged Stantec in December 2019 to undertake a peer review of the Traffic Impact Assessment prepared by RJ Burnside with response comments submitted to the County on 16 December 2019.

The currently proposed draft plan revision (**March 9/2021** plan attached) would total 175 lots comprised as follows:

- 4 street townhouse blocks, 4 units each and 16 units total
- 18 semi-detached lots
- 157 single detached lots

- Block 183 (2.709 ha as required by the TVDSB) to be for dual school/future residential use

There have also been revisions to the stormwater management strategy as reflected in the proposed Blocks 184 and 185.

As you know, Phase 6 will be the final phase of Belmont Estates with Phases 1 to 5 being located to the immediate east of the subject lands.

Please do not hesitate to contact me if you have questions. Otherwise, we will look forward to the consultation meeting tomorrow.

Regards,

Barbara G. Rosser, MCIP, RPP,
Professional Land Use Planning,
P.O. Box 96,
Ailsa Craig, Ontario N0M 1A0
Telephone 519-293-3210
Cell 519-282-2560

This message is solely for the use of the individual(s) to whom it is addressed and may contain privileged information. Anyone receiving this message in error should immediately notify the sender and delete this message.

From: Barbara Rosser [<mailto:brosser@execulink.com>]

Sent: Thursday, August 29, 2019 11:17 AM

To: 'Steve Evans'

Cc: 'McCoomb, Jim'; 'McClure, Kevin'; 'Donald Leitch'; 'DON LEAHY'; 'Joe Snyders'

Subject: RE: Craigholme Estates Limited, Belmont Phase 6 subdivision lands -- Draft Plan Application -- REVISION

Hello Steve

In accordance with our recent discussions, you will very shortly be in receipt of hard copies of the following information by courier and Canada Post:

- A letter of submission regarding the draft plan revision along with six full size folded copies and six 11 x 17 copies. .

Digital copies of all material including the revised Draft Plan (.pdf and CAD) are available via the following link:

<https://drive.google.com/drive/folders/1nbdPAbvYx3ojUeOCaHtMbvnpuicshT3k>

If there are any questions, or if there is additional information required, please do not hesitate to contact this office.

Regards,

Barbara G. Rosser, MCIP, RPP,
Professional Land Use Planning,
P.O. Box 96,
Ailsa Craig, Ontario N0M 1A0
Telephone 519-293-3210
Cell 519-282-2560

This message is solely for the use of the individual(s) to whom it is addressed and may contain privileged information. Anyone receiving this message in error should immediately notify the sender and delete this message.

From: Barbara Rosser [<mailto:brosser@execulink.com>]

Sent: Sunday, July 14, 2019 8:17 PM

To: 'Steve Evans'

Cc: 'McCoomb, Jim'; 'McClure, Kevin'; 'Donald Leitch'

Subject: Craigholme Estates Limited, Belmont Phase 6 subdivision lands -- Draft Plan Application
Hi Steve,

On behalf of Craigholme Estates Limited, I filed the Draft Plan application for the Belmont Estates Phase 6 lands with your office on Friday afternoon, 12 July 2019.

The following were provided:

- 2 copies of the executed Draft Plan Application Form;
- 2 copies of Background Reports;
 - i. Planning Justification Report (Barbara G. Rosser);
 - ii. Geotechnical Engineering Report (EXP);
 - iii. Environmental Impact Study (Dance Environmental Inc.);
 - iv. Traffic Impact Assessment (R.J. Burnside Ltd.)
 - v. Servicing Report and Stormwater Management Feasibility Study (SBM Ltd.)
- 6 x full size and 2 x 11x17" Draft Plan;
- \$4,000 Application fee and \$2,000 Deposit.

Digital copies of the supporting material, including the Draft Plan (.pdf and CAD), plus the legal survey of the lands are available via the following link:

<https://drive.google.com/drive/folders/1-rIG-yGDPx7VWUUQHNW4LJoYDXiOtvQT>

The Zoning By-Law Amendment Application for the subject lands was filed concurrently through Jim McCoomb at the Municipality of Central Elgin.

If there are any questions, or if there is additional information required, please do not hesitate to contact this office.

Regards,

Barbara G. Rosser, MCIP, RPP,
Professional Land Use Planning,

P.O. Box 96,

Ailsa Craig, Ontario N0M 1A0

Telephone 519-293-3210

Cell 519-282-2560

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Melissa Cameron

From: Joe Gordon <joe@kettlecreekconservation.on.ca>
Sent: Friday, April 23, 2021 9:43 AM
To: Melissa Cameron
Cc: Will Huys; 'donleahy@rogers.com'; '144jjs@gmail.com'; 'kevin@sbmltd.ca'; 'brosser@execulink.com'; 'Botel.Chiu@exp.com'
Subject: RE: Phase 6 Craigholme Estates Ltd. - wetland enhancement design concepts - Belmont (43900)

Hi Melissa,

I acknowledge receipt of your email and the 3 concept attachments regarding SWM and wetland enhancement.

Perhaps it would be best if we could schedule a phone call on Monday morning to discuss and clarify KCCA regulatory jurisdiction on wetlands and the proposed concepts in consideration of KCCA Wetland Management Policies (attached). I also have some additional questions or clarification.

I am currently available anytime between 10:00am to 12:00noon on Monday morning.

Thank you,

Joe Gordon
Assistant Manager
Supervisor of Planning & Conservation Areas
Kettle Creek Conservation Authority

From: Melissa Cameron
Sent: April 22, 2021 4:02 PM
To: Joe Gordon
Cc: Will Huys ; 'donleahy@rogers.com' ; '144jjs@gmail.com' ; 'kevin@sbmltd.ca' ; 'brosser@execulink.com' ; 'Botel.Chiu@exp.com'
Subject: Phase 6 Craigholme Estates Ltd. - wetland enhancement design concepts - Belmont (43900)

Dear Mr. Gordon,

On behalf of Craigholme Estates, and as discussed during the March 23rd pre-consultation meeting, please find attached three preliminary wetland enhancement design concepts for the Phase 6 lands. Once you've had a chance to review, we'd like to arrange a meeting to discuss the opportunities and constraints of the proposal with the intent of selecting a preferred alternative to progress toward detailed design. In addition to the attached concepts, we've provided some text below to describe the proposal. Some of the details are specific to Concept 1, but in general this approach can be applied to any concept.

We welcome your feedback on the proposal and look forward to discussing these concepts with you. Best regards,

Melissa

Background

The existing wetland community (MAMM3-1: Mixed Mineral Meadow Marsh) is approximately 0.45ha and formed along a blocked tile drain within agricultural lands in the Kettle Creek watershed. Based on the approved EIS (Dance Environmental, 2019), there are no pools or ponded areas within the wetland, and it does not provide breeding habitat for marsh birds or amphibians (Dance Environmental, 2019). One regionally-rare plant species, Swamp Agrimony, was identified within the wetland.

Proposal

The current proposal is to design and construct a wetland enhancement area in Block 184/185 which will receive clean water input from the adjacent SWM facility, and discharge to the existing wetland where it enters the protected thicket/hedgerow community to the west. The goal is to achieve a net gain in wetland area and to provide enhanced wetland ecological function relative to existing conditions, while permitting removal of a portion of the existing meadow marsh community. Detailed engineering analysis will be used to ensure the preferred design maintains flow to the remaining portion of the existing wetland while also creating suitable wetland hydrology in the enhancement area.

Description of Preliminary Wetland Enhancement Design - Concept 1

The wetland enhancement area will be designed with a low flow channel from the SWM facility (0.5-1% channel slopes with 1-2% side slopes) which will overflow into an adjacent low-lying meadow marsh zone. Deeper pools (max. 0.5m deep) will be graded within the meadow marsh to provide seasonal breeding habitat (vernal pools) for amphibians. This variable topography of channel, meadow marsh and vernal pool will support a more diverse plant community than the existing wetland. Habitat features, such as brush piles or bird nest boxes, will be placed throughout the wetland enhancement area to increase wildlife habitat.

The SWM facility will also be designed to incorporate elements of a natural wetland community. Although designed as an infiltration basin (dry pond), gentle side slopes (10-25%) and an undulating floor will provide shallow-water foraging for migrating birds. A low-growing native seed mix will be planted as a ground cover throughout the basin, increasing pollinator habitat. Where the installation of habitat features (e.g. rock piles) does not interfere with the SWM facility function these will be incorporated into the design.

A seed mix will be selected using species native to Elgin County and appropriate for the proposed site conditions, incorporating existing wetland species, such as Spotted Joe-pye-weed, Bebb's Sedge and Dark-green Bulrush. Wetland emergent plants may be installed as plugs within deeper pools (e.g. cattail). If a suitable donor site can be identified, seed or plugs of Swamp Agrimony could be planted in the meadow marsh. This species can be locally-common and is known to tolerate disturbed habitats (NHIC, 2021). Common Milkweed and Swamp Milkweed will be added to the meadow marsh seed mix to provide egg-laying and caterpillar foraging habitat for Monarch. A diversity of flowering plants in the seed mix will provide nectaring habitat for adult Monarch butterflies. Groupings of wetland shrubs will be introduced within the meadow marsh as live stakes or small potted stock. Upland tree and shrub planting within the woodland setback could also be incorporated to provide additional habitat diversity and an ecological buffer. Recommendations for maintenance, including invasive species management, and monitoring during the plant establishment period will be incorporated into the landscape plan.

**Melissa Cameron, M.Sc., M.LA, OALA | Senior Biologist
MTE Consultants Inc.**

T: 519-204-6510 x2263 | MCameron@mte85.com

123 St George St., London, Ontario N6A 3A1

www.mte85.com | [Twitter](#) | [LinkedIn](#) | [Instagram](#) | [Facebook](#)

COVID-19 Update: We remain operational and are currently available by email and phone, however, our

offices are closed. Staff that are required to visit job sites or perform field work are required to follow MTE health and safety policies and procedures, as well as additional COVID-19 protocols, which can be viewed [here](#).

Notice: The electronic information provided is confidential and privileged, and may not be used for purposes other than work related to the subject project. Redistribution or copies to others made without written permission from MTE Consultants Inc. is strictly prohibited. MTE assumes no liability or responsibility, and makes no guarantee or warranty with respect to the data contained, either expressed or implied.

Melissa Cameron

From: Joe Gordon <joe@kettlecreekconservation.on.ca>
Sent: Friday, May 7, 2021 8:03 AM
To: Melissa Cameron
Subject: RE: Phase 6 Craigholme Estates Ltd. - wetland enhancement design concepts - Belmont (43900)

Good morning Melissa,

I acknowledge receipt of the updated wetland enhancement concept where you confirm that the comments of KCCA have been satisfied within the updated design concept.

I would recommend that you also forward the concept to the Central Elgin and County of Elgin planning staff to ensure that they are satisfied with the final revision with respect to their associated natural heritage policies.

Thank you,

Joe Gordon
Assistant Manager
Supervisor of Planning & Conservation Areas
Kettle Creek Conservation Authority

From: Melissa Cameron
Sent: April 30, 2021 4:13 PM
To: Joe Gordon
Cc: Will Huys ; 'DON LEAHY' ; 144jjs@gmail.com; 'Barbara Rosser' ; 'Kevin Moniz' ; 'Botel.Chiu@exp.com' ; 'Nelson Guiot'
Subject: RE: Phase 6 Craigholme Estates Ltd. - wetland enhancement design concepts - Belmont (43900)

Good afternoon Joe,

We are pleased to provide you with an updated wetland enhancement concept to address your comments, as noted in your email below. Please let me know if you'd like to discuss the details further, or if you are satisfied with the concept as provided. The proposed design contemplates the removal of approximately 2,600 sq.m. of existing wetland which will be replaced at a 1:1 area adjacent to the area of wetland to be retained. A 15m setback to the rear lot line is shown adjacent to the proposed wetland creation/enhancement area. The design provides physical separation between the SWM facility and the wetland – outflow to the wetland from the SWM will be through a single outlet into a low flow channel designed at a 0.5% grade.

One item we'd like to highlight is that in order to bring the wetland enhancement area down to a suitable grade along the southern edge, we have proposed grading at 2:1 within the 5m setback to the existing, narrow thicket hedgerow. This community is classed as THDM3 in the approved EIS, which is a Dry-Fresh Deciduous Thicket Hedgerow containing invasive European Buckthorn. The 5m setback is from the dripline of existing trees, therefore any grading would occur outside the dripline and primary root zone of the trees. Based on preliminary grading, to bring the southeast corner (EL. 257.2) down to match the centerline of the low flow channel (EL. 255.8), at a 2:1 slope grading would extend back 2.8m within the 5m hedgerow setback to dripline.

Thank you very much for your consideration of this revised concept. We welcome your comments!

Best regards,

Melissa

**Melissa Cameron, M.Sc., M.L.A, OALA | Senior Biologist
MTE Consultants Inc.**

T: 519-204-6510 x2263 | MCameron@mte85.com

From: Joe Gordon <joe@kettlecreekconservation.on.ca>

Sent: Monday, April 26, 2021 8:53 AM

To: Melissa Cameron <MCameron@mte85.com>

Subject: RE: Phase 6 Craigholme Estates Ltd. - wetland enhancement design concepts - Belmont (43900)

Hi Melissa,

In preparation of our telephone call at 10:00am, below is a summary of KCCA comments for consideration when finalizing the preferred concept for SWM and wetland enhancement:

1. Stormwater management pond should be separated from wetland features;
2. Limit of enhanced wetlands must maintain a minimum of a 15m setback from the abutting development (ie. wetland feature edge to rear property line of abutting building lots); and
3. Demonstration of not net loss of wetland feature area (ie. existing vs proposed).

Thank you,

Joe Gordon

Assistant Manager

Supervisor of Planning & Conservation Areas

Kettle Creek Conservation Authority

From: Melissa Cameron <MCameron@mte85.com>

Sent: April 22, 2021 4:02 PM

To: Joe Gordon <joe@kettlecreekconservation.on.ca>

Cc: Will Huys <WHuys@mte85.com>; 'donleahy@rogers.com' <donleahy@rogers.com>; '144jjs@gmail.com' <144jjs@gmail.com>; 'kevin@sbmltd.ca' <kevin@sbmltd.ca>; 'brosser@execulink.com' <brosser@execulink.com>; 'Botel.Chiu@exp.com' <Botel.Chiu@exp.com>

Subject: Phase 6 Craigholme Estates Ltd. - wetland enhancement design concepts - Belmont (43900)

Dear Mr. Gordon,

On behalf of Craigholme Estates, and as discussed during the March 23rd pre-consultation meeting, please find attached three preliminary wetland enhancement design concepts for the Phase 6 lands. Once you've had a chance to review, we'd like to arrange a meeting to discuss the opportunities and constraints of the proposal with the intent of selecting a preferred alternative to progress toward detailed design. In addition to the attached concepts, we've provided some text below to describe the proposal. Some of the details are specific to Concept 1, but in general this approach can be applied to any concept.

We welcome your feedback on the proposal and look forward to discussing these concepts with you. Best regards,

Melissa

From: [Nancy Pasato](#)
To: [Melissa Cameron](#); "[McClure, Kevin](#)"; [McCoomb, Jim](#); "[LPerrin@centralelgin.org](#)"; "[Joe Gordon](#)"
Cc: "[DON LEAHY](#)"; "[144jjs@gmail.com](#)"; "[brosser](#)"; [Will Huys](#); "[Kevin Moniz](#)"; "[Botel.Chiu@exp.com](#)"
Subject: RE: Circulated for comment: Preferred wetland enhancement concept for Craigholme Ph 6 (Belmont)
Date: Monday, May 17, 2021 9:41:32 AM
Attachments: [image002.jpg](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.jpg](#)

Hello Melissa – County of Elgin has a similar position to that of Central Elgin, therefore we have no concerns and rely on KCCA to provide comment.

Thanks.

Nancy Pasato

Manager of Planning



450 Sunset Drive
St. Thomas, ON. N5R 5V1
(519) 631-1460 ext.126
www.elgincounty.ca



From: Melissa Cameron
Sent: May 17, 2021 9:39 AM
To: 'McClure, Kevin' ; McCoomb, Jim ; 'LPerrin@centralelgin.org' ; Nancy Pasato ; 'Joe Gordon'
Cc: 'DON LEAHY' ; '144jjs@gmail.com' <144jjs@gmail.com> ; 'brosser' ; Will Huys ; 'Kevin Moniz' ; 'Botel.Chiu@exp.com'
Subject: RE: Circulated for comment: Preferred wetland enhancement concept for Craigholme Ph 6 (Belmont)
Thank you very much, Kevin!
We will include a record of consultation with KCCA on the concept in the upcoming planning submission (EIS Addendum).
Best regards,
Melissa

Melissa Cameron, M.Sc., M.L.A, OALA | Senior Biologist
MTE Consultants Inc.

T: 519-204-6510 x2263 | MCameron@mte85.com

From: McClure, Kevin <kmccclure@stthomas.ca>
Sent: Monday, May 17, 2021 9:34 AM
To: Melissa Cameron <MCameron@mte85.com>; McCoomb, Jim <jmccoomb@stthomas.ca>; 'LPerrin@centralelgin.org' <LPerrin@centralelgin.org>; 'npasato@ELGIN.ca' <npasato@ELGIN.ca>; 'Joe Gordon' <joe@kettlecreekconservation.on.ca>
Cc: 'DON LEAHY' <donleahy@rogers.com>; '144jjs@gmail.com' <144jjs@gmail.com>; 'brosser' <brosser@execulink.com>; Will Huys <WHuys@mte85.com>; 'Kevin Moniz' <kevin@sbmltd.ca>; 'Botel.Chiu@exp.com' <botel.chiu@exp.com>

Subject: RE: Circulated for comment: Preferred wetland enhancement concept for Craigholme Ph 6 (Belmont)

Good morning Melissa,

The feature that you have identified is not a designated natural heritage feature in the Municipality's Official Plan. It is my understanding that, through the environmental studies that were submitted in support of the proposal, the wetland was identified and its protection was triggered through the Conservation Authorities Act. As such, I'll defer to KCCA as to whether they are amenable to the changes as proposed.

Regards,

KEVIN McCLURE, MCIP RPP Planner

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From: Melissa Cameron <MCameron@mte85.com>

Sent: May 17, 2021 9:27 AM

To: McClure, Kevin <kmccclure@stthomas.ca>; McCoomb, Jim <jmccoomb@stthomas.ca>; 'LPerrin@centralelgin.org' <LPerrin@centralelgin.org>; 'npsato@ELGIN.ca' <npsato@ELGIN.ca>

Cc: 'DON LEAHY' <donleahy@rogers.com>; '144jjs@gmail.com' <144jjs@gmail.com>; 'brosser' <brosser@execulink.com>; Will Huys <WHuys@mte85.com>; 'Kevin Moniz' <kevin@sbmltd.ca>; 'Botel.Chiu@exp.com' <botel.chiu@exp.com>

Subject: RE: Circulated for comment: Preferred wetland enhancement concept for Craigholme Ph 6 (Belmont)

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Good morning Ms. Pasato, Mr. Perrin, Mr. McCoomb and Mr. McClure,

I am writing to follow up on my email of last Monday regarding the wetland enhancement concept for Craigholme Estates Phase 6. Could you please let the Craigholme team know if you are able, or would like, to provide comments on the concept? We appreciate your consideration.

Thank you,

Melissa

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From: Melissa Cameron

Sent: Monday, May 10, 2021 9:36 AM

To: 'kmclure@stthomas.ca' <kmclure@stthomas.ca>; 'jmccomb@stthomas.ca' <jmccomb@stthomas.ca>; 'LPerrin@centralelgin.org' <LPerrin@centralelgin.org>; 'npasato@ELGIN.ca' <npasato@ELGIN.ca>

Cc: 'DON LEAHY' <donleahy@rogers.com>; 144jjs@gmail.com; 'brosser' <brosser@execulink.com>; Will Huys <WHuys@mte85.com>; 'Kevin Moniz' <kevin@sbmltd.ca>; 'Botel.Chiu@exp.com' <botel.chiu@exp.com>

Subject: Circulated for comment: Preferred wetland enhancement concept for Craigholme Ph 6 (Belmont)

Dear Ms. Pasato, Mr. Perrin, Mr. McCoomb and Mr. McClure,

Please find attached the preferred wetland enhancement design concept for Craigholme Estates Ph. 6 which has been developed in consultation with Kettle Creek Conservation Authority (Joe Gordon). The concept proposes moving a portion of the existing linear meadow-marsh feature, and to enlarge and enhance the remaining wetland to achieve a 1:1 area compensation as well as increased ecological diversity and function. We would like to request your review of this concept to ensure you are satisfied with the concept in consideration of your municipality's natural heritage policies. Comments from Joe Gordon are provided in the attached email, and additional background text and a description of the wetland enhancement design concept is provided below.

As you may be aware, the project is under a time constraint due to the Thames Valley Board of Education's schedule for identifying an elementary school site on the Phase 6 lands. Our target submission date for the EIS addendum in support of the revised draft plan (dated March 9, 2021 and circulated on March 22, 2021) is late May. In consideration of this timing, if you could please provide your comments by **May 14** this would be much appreciated by Craigholme Estates.

Thank you and best regards,

Melissa

Background

The existing wetland community (MAMM3-1: Mixed Mineral Meadow Marsh) is approximately 0.45ha and formed along a blocked tile drain within agricultural lands in the Kettle Creek watershed. Based on the approved EIS (Dance Environmental, 2019), there are no pools or ponded areas within the wetland, and it does not provide breeding habitat for marsh birds or amphibians (Dance Environmental, 2019). One regionally-rare plant species, Swamp Agrimony, was identified within the wetland.

Proposal

The current proposal is to design and construct a wetland enhancement area in Block 184/185 which will receive clean water input from the adjacent SWM facility, and discharge to the existing wetland where it enters the protected thicket/hedgerow community to the west. The goal is to achieve a net gain in wetland area and to provide enhanced wetland ecological function relative to existing conditions, while permitting removal of a portion of the existing meadow marsh community.

Detailed engineering analysis will be used to ensure the preferred design maintains flow to the remaining portion of the existing wetland while also creating suitable wetland hydrology in the enhancement area.

Description of Wetland Enhancement Design Concept

The wetland enhancement area will be designed with a low flow channel from the SWM facility (0.5-1% channel slopes with 1-2% side slopes) which will overflow into an adjacent low-lying meadow marsh zone. Deeper pools (max. 0.5m deep) will be graded within the meadow marsh to provide seasonal breeding habitat (vernal pools) for amphibians. This variable topography of channel, meadow marsh and vernal pool will support a more diverse plant community than the existing wetland. Habitat features, such as brush piles or bird nest boxes, will be placed throughout the wetland enhancement area to increase wildlife habitat.

Grading at 2:1 is proposed within the 5m setback to the existing, narrow thicket hedgerow. This community is classed as THDM3 in the approved EIS, which is a Dry-Fresh Deciduous Thicket Hedgerow containing invasive European Buckthorn. The 5m setback is from the dripline of existing trees, therefore any grading would occur outside the dripline and primary root zone of the trees. Based on preliminary grading, to bring the southeast corner (EL. 257.2) down to match the centerline of the low flow channel (EL. 255.8), grading at a 2:1 slope would extend back 2.8m within the 5m hedgerow *setback* to dripline.

A seed mix will be selected using species native to Elgin County and appropriate for the proposed site conditions, incorporating existing wetland species, such as Spotted Joe-pye-weed, Bebb's Sedge and Dark-green Bulrush. Wetland emergent plants may be installed as plugs within deeper pools (e.g. cattail). If a suitable donor site can be identified, seed or plugs of Swamp Agrimony could be planted in the meadow marsh. This species can be locally-common and is known to tolerate disturbed habitats (NHIC, 2021). Common Milkweed and Swamp Milkweed will be added to the meadow marsh seed mix to provide egg-laying and caterpillar foraging habitat for Monarch. A diversity of flowering plants in the seed mix will provide nectaring habitat for adult Monarch butterflies. Groupings of wetland shrubs will be introduced within the meadow marsh as live stakes or small potted stock. Upland tree and shrub planting within the woodland setback could also be incorporated to provide additional habitat diversity and an ecological buffer. Recommendations for maintenance, including invasive species management, and monitoring during the plant establishment period will be incorporated into the landscape plan.

The SWM facility will also be designed to incorporate elements of a natural wetland community. Although designed as an infiltration basin (dry pond), gentle side slopes (10-25%) and an undulating floor will provide shallow-water foraging for migrating birds. A low-growing native seed mix will be planted as a ground cover throughout the basin, increasing pollinator habitat. Where the installation of habitat features (e.g. rock piles) does not interfere with the SWM facility function these will be incorporated into the design.