

**Holland Marsh Drainage System
Joint Municipal Service Board**

2018 Business Plan

1. INTRODUCTION

The Holland Marsh Drainage System Joint Municipal Service Board (the Board) has been in existence since late 2007. It was established by the Town of Bradford West Gwillimbury (BWG) and the Township of King (TOK), created under the *Municipal Act* to perform specific functions and undertake prescribed works. Both municipalities passed bylaws to enter into a formal agreement for the creation of the Board.

The Board was created as a corporate entity separate from the two municipalities and has been delegated the duty of assuming the municipalities' responsibilities as they relate to the Holland Marsh and other municipal drains in BWG and TOK, under the *Drainage Act R.S.O. 1990*. This Board operates concurrently with the term of Council.

In accordance with the formal agreement entered into by the two municipalities, the Board is required to obtain the approval from BWG and TOK Councils for its annual business plan. This agreement entered into by the two municipalities provides that once its business plan is approved, the Board may proceed to implement the plan without further reference to the two municipal councils provided that it continues its work in accordance with the approved annual business plan.

This document is thus being prepared for submission to the two municipalities along with a request from the Board that approval be granted for the plan so that the business of the Board for 2018 may be executed.

The business plan is set out in five parts (in addition to this introduction) plus appendices. Part 2 is a summary of the objectives and total costs proposed in this business plan. Part 3 is a brief summary of the Board's accomplishments in 2017. Part 4 addresses the governance and administrative components of the plan while Part 5 describes the operating components of the plan. Part 6 describes the capital projects and investments. One appendix is provided. Appendix "1" contains details of the proposed expenditures and revenues for 2018.

2. SUMMARY OF 2018 PLANNED ACTIVITIES

The following is a summary of the activities planned by the Board in 2018.

In 2014, the Charlie Davis Pumphouse underwent a structural evaluation. The engineer recommended that due to the poor structural integrity of the building, it should be decommissioned. Due to a significant weather event that occurred in June, 2017 the Charlie Davis Pumphouse was utilized to supplement the pumping capacity west of Highway 400. The overall purpose and operation of the Charlie Davis Pumphouse has been reevaluated and it will not be decommissioned. Environmental concerns, structural issues and safety upgrades will be undertaken for 2018. This includes replacing the diesel fuel tank.

There are some safety upgrades which remain to be undertaken but scheduled for 2018, which are required for each Pumphouse that includes installation of necessary work platforms and required guards, safety lighting and hand rails at the Professor Day, and Art Janse Pumping Station.

The Board staff will prepare a Request for Tender (RFT) for the supply and installation of an emergency diesel back-up generator for Art Janse Pumping Station. This will include all equipment required to update the existing power feed and automatic transfer.

The Board staff will also prepare a Request for Tender (RFT) for the supply of a replacement pump for the Art Janse Pumping Station. The Pumping Station has aging infrastructure and the pumps are requiring more frequent repairs and maintenance. In order to maintain the total pumping capacity of the station at all times a stand-by pump should be available as a 'backup' unit.

With major repairs required to address and improve safety concerns regarding the operation of the dredger, a Consultant will be retained by the Board to evaluate the overall effectiveness and operation of the dredger, along with other potential options for maintaining the Main Drain.

The Board has the rare opportunity to support the Everglades Foundation as they spearhead the George Barley Water Prize phosphorous pollution initiative. The prize encourages innovative thinking to reduce/recapture phosphorous from waterbodies at an international level utilizing cost-effective, scalable technologies that thoroughly remove and recover phosphorus from freshwater bodies. The Board's level of participation will be providing a location for entrants to set up their technology to test the effectiveness of recapturing of phosphorous in the Holland Marsh watershed, at the Art Janse Pumping Station.

GOVERNANCE / ADMINISTRATION

The Board continues to fine tune its governance and administration by addressing and improving current health and safety policies and procedures. This includes safe

operating procedures for the heavy equipment (dredger, barge, and excavator, etc.) as well as administrative policies and procedures.

Board staff continue to work with local groups to help educate elementary schools on the Holland Marsh. These collaborative efforts may continue in 2018; working with local groups to educate students on the agricultural and historical significance of the Holland Marsh.

MAINTENANCE AND OPERATIONS

The pumping stations, main drain and perimeter canal system are maintained on an ongoing basis.

Perimeter Canal Maintenance Program / Debris Removal

Main Drain Maintenance (main internal drainage channel)

Maintenance and operations of six (6) Pumping Stations

There are approximately fifty five (55) drains inside the Holland Marsh drainage scheme. The Board has established for some time now, a rotational cycle of maintenance for these internal drains. In relation to these interior drain repairs, ongoing culvert assessments are occurring on existing crossings to replace deficient culverts. This work is being contracted out to enable as many repairs as possible in the year ahead. However, as a result of more frequent and flashy weather patterns, including

wind storms and rain events, Board staff are required to maintain and clean out drains that fall outside of the schedule, on an as needed basis.

Accordingly, the following drain maintenance works and operating activities are scheduled for 2018:

By-law 2009-042 - Perimeter Canal Maintenance Program/ Debris Removal / Dredging

By-law 595A - Main Drain Maintenance (main internal drainage channel)

By-law 510 - Bradford Small Scheme

By-law 2014-92 - Horlings Drain

As well as maintenance and operations of the following Pumping Stations;

1. Professor Day;
2. Morris Road;
3. Bardawill;
4. Charlie Davis;
5. Horlings; and
6. Art Janse.

Interior Drains include the following:

Cullingham Drain

Duga Drain

Horlings Drain

King Interior Drain 1

King Interior Drain 1A
King Interior Drain 1C
King Interior Drain 1D
King Interior Drain 1E
King Interior Drain 1F
King Interior Drain 2
King Interior Drain 2B
King Interior Drain 2C
King Interior Drain 3
King Interior Drain 3A
King Interior Drain 4
King Interior Drain 4A
King Interior Drain 4B
King Interior Drain 4C
King Interior Drain 5
King Interior Drain 5A
King Interior Drain 5B
King Interior Drain 5D
King Interior Drain 5E
King Interior Drain 5F
King Interior Drain 6
King Interior Drain 6A
and others as may arise.

CAPITAL WORKS

MORRIS ROAD DRAIN

The Morris Road Drain Project which began in September, 2016 was substantially completed in December, 2017. Capital work is anticipated to be completed in early 2018. Remedial and deficiency work will be addressed as well as engineering and grant preparation work. Mandatory post-construction monitoring will be ongoing as required to comply with the Department of Fisheries and Oceans Canada authorization permit.

GORZO DRAIN

The final engineering report for the Gorzo Drain was submitted October 31, 2016 and the Town of Bradford West Gwillimbury (the Town) gave the Final Report third and final bylaw on February 21, 2017. At the request of the several landowners construction was delayed until after the 2017 harvest to minimize disruption. Construction will be award in 2017 year and is expected to be completed in early 2018.

FERRAGINA DRAIN

The final engineering report for the Ferragina Drain was submitted October 31, 2016 and filed with the Town of Bradford West Gwillimbury (the Town) and the Board. The Town gave the Final Report provisional bylaw on December 6, 2016. Due to a technical appeal before the Ontario Drainage Tribunal the adoption of the report was delayed and is expected to have third reading in 2017. Final documentation and assessments are to be completed in 2018.

3. SUMMARY OF EVENTS

2017 – A RECAP

- Art Janse Pumphouse experienced several significant pump failures as well as a power failure. Three of the four pumps required repairs. The failure was considered catastrophic and required the mobilization of an emergency backup generator and three diesel powered pumps in order to maintain water levels in the Marsh. An electrical contractor was on site and inspected existing conduit between the transformer which services the building, and the building confirming damage to the wire. Repairs were made to the service which are compatible with current requirements in order to accommodate a generator.
- An Electrical Consultant was retained to recommend an appropriately sized emergency power supply for the Art Janse Pumping Station, since the Report's adoption in 1993, the specifications called for a diesel generator to be provided for as emergency back-up power. The generator was to be sized in order for the duty pump as well as two of the large pumps to operate through power interruptions.
- A variable frequency drive was installed at the Bardawill Pumphouse to compliment the existing infrastructure. The benefit of this implementation is twofold; as the variable frequency drive reduces the initial power draw, slowing increasing as

needed. This will reduce energy consumption and related hydro expenses as well as extend the service life of the pump.

- A request was made by a property owner within Drain 11 to have an engineer appointed to complete a Section 76(1) report. The Board agreed to appoint an engineer to complete Section 76(1) report varying the original assessment for maintenance, due to changes that were made to the watershed related to Drain 11 and 12 in the Township of King.
- The Board undertook to launch a new website. The new website has a clean uncluttered design with improved navigation and functionality throughout. The website also offers updated information on news and press releases.
- In late 2017, the Board was invited to participate in BWG's Open Government Week, where school groups were brought to BWG's Leisure Centre to meet staff and learn about their municipal services. Board staff were in attendance to educate groups on the agricultural community known as the Holland Marsh nearby, demonstrating the benefit of tiled land in comparison to untilled land, in an effort to convey the concept of tile drainage to elementary school children. This same demo was provided in the past and continues to be well received.
- The Ontario Ministry of Environment and Climate Change (MOECC) presented its collaboration with the George Barley Water Prize phosphorous pollution initiative to the Board. The prize encourages innovative thinking to reduce/recapture

phosphorous from waterbodies at an international level utilizing cost-effective, scalable technologies that thoroughly remove and recover phosphorus from freshwater bodies. The Board was very receptive and agreed to host the pilot stage at the Art Janse Pumping Station in 2018. The Board staff met with MOECC and Everglades Foundation for a site visit.

- Canada and Ontario government announced a joint federal provincial program, Clean Water and Wastewater Funds (CWWF), designed to accelerate short-term community investments, while supporting the rehabilitation and modernization of drinking water, wastewater and stormwater infrastructure. In 2016 the Town of Bradford Gwillimbury (the Town) made a CWWF application with respect to the Morris Road Drain project. In the spring of 2017, it was announced that the Town was successful in its application and would be receiving funding towards the Morris Road Drain project.
- Furthermore, the Drainage Superintendent remains employed part-time, and the remainder of his timetable is occupied with BWG's Stormwater Management within the newly restructured department of Community Services.
- The Town of Bradford Gwillimbury has hired a permanent part time employee in the position for Committee Coordinator and Board Secretary. The Board's prior full time Secretary resigned her position in April, 2017.

- The Board continues to participate in the Electrical Safety Authority's Continuous Safety Services ("CSS") program. The CSS agreement was amended to include these sites as of November 2010, and the agreement will be renewed again in April of 2018.
- Tours of the Holland Marsh continue to be provided to various ministries and organizations, upon request.
- Board staff completed a Request for Proposal (RFP) exercise for establishing a Vendor of Record for maintenance work required on the interior drains. RFP submissions resulted in a listed Vendor of Record (contractor) for all of the interior work that arises for a 3 year period. This contract is entering its 3rd year.
- Board staff completed a Request for Proposal (RFP) exercise for establishing a Vendor of Record for maintenance work required on the perimeter canals and main drainage channel. This RFP process resulted in a listed Vendor of Record (contractor) for all of the work required on these larger drainage systems and is valid for a 3 year period. This contract is entering its 3rd year.

MORRIS ROAD DRAIN

- An engineer was appointed to undertake Section 76 and 78 work on the Bradford Small Scheme, in particular the drain which runs along the west side of the lands, which outlets into the north perimeter canal of the large scheme.

- This project is in its final stages of completion. Work for 2017 involved construction of a new diversion channel across the Small Scheme farmlands commencing in the area of the Morris Road Channel/Edward Street Branch junction and downstream to the Peterman Pumping Station. The original Morris Road channel was cleaned throughout, an area of deep pool and littoral shelves were constructed in the downstream portion, and the length of the channel bounded by existing residential lots was stabilized on both sides and narrowed.

GORZO DRAIN

- Upon receipt of a Petition under the Drainage Act, among other requirements of the Ministry of Agriculture and Food, the Town appointed an engineer to undertake a full report under Section 4 of the Drainage Act to prepare a new maintenance schedule and to update the specifications.
- The engineer appointed, made a presentation to the Board and BWG Council, and allowed the public the opportunity to comment or to add or withdraw their name to the petition in accordance with Section 42 of the Drainage Act.
- The Final report by the engineer was completed in October 31, 2016. The Town of Bradford West Gwillimbury (the Town) gave the Final Report third and final bylaw on February 21, 2017. The Board awarded the tender to a qualified contractor and construction is in its final stages of completion.

FERRAGINA DRAIN

- Upon receipt of a Petition under the Drainage Act, among other requirements of the Ministry of Agriculture and Food, the Town appointed an engineer to undertake a full report under Section 4 of the Drainage Act.
- The Final report by the engineer was completed on October 31, 2016 and filed with the Town of Bradford West Gwillimbury (the Town) and the Board. Board staff carried out its statutory requirements for notification to assessed landowners pursuant to the Drainage Act.
- The Town of Bradford Gwillimbury (the Town) gave the Final Report provisional bylaw in December, 2016. Due to a technical appeal before the Ontario Drainage Tribunal the adoption of the report was delayed and is expected to have third reading in 2017. Final documentation and assessments are to be completed in 2017.

4. GOVERNANCE / ADMINISTRATION

The Board has now refined its business practices, and continues to set standard operating policies and procedures, as the need arises as well as establishing adequate health and safety protocols in relation to the maintenance of the Holland Marsh Drainage System.

The annual operating costs for the governance of the Board will be reduced to \$150,000.00.

The Board's forecasted expenditures remain highly predictable and the governance portion of the budget is documented in the attached Budget, as "Appendix A". These costs which are included in the business plan for 2018 for the governance of the Board are contributed to, evenly from the general revenues of BWG and TOK.

5. MAINTENANCE AND OPERATIONS

Numerous drain maintenance activities are carried out each year, on a scheduled rotational basis within the Holland Marsh; with the objective being to keep the drainage system functioning in the manner prescribed by the original engineer's report for the Holland Marsh Scheme which was originally adopted in 1924 and also the subsequent reports on interior drains. This work generally consists of sediment excavation, shaping of stream banks, removal of trees and debris, etc. throughout the internal drain system as well as the main drain, pumping station activities and perimeter channels.

Water levels within the Holland Marsh are managed with six pumping stations, three inlets and two sluice gates. These six pumping stations work to control the water levels inside the Holland Marsh by pumping water out in times of spring runoff and heavy rainfall. Two of the stations are also utilized as inlets to increase water levels from the perimeter canals which are supplemented by the west canal inlet and sluice gate when water levels inside the Holland Marsh are too low to provide adequate irrigation for crops.

The completed perimeter canals that have been relocated now require periodic maintenance in accordance with the adopted drainage report. This new report requires continued maintenance including obstruction removal, repairs and preservation of the berms, soundings and excavation of deep pools as well as monitoring of profiles and

cross sections. This includes occasional cleanouts at crossing structures which contribute to accumulated sediment and result of reduced hydrologic flows.

There is also technical maintenance work carried out which is performed under the supervision of the Drainage Superintendent. A portion of the annual salary and operating expenses for the Drainage Superintendent are funded as part of the Holland Marsh's annually planned maintenance and operations activities which is administered through the Ontario Ministry of Agriculture, Food and Rural Affairs' Agricultural Drainage Improvement Program.

The Ministry provides municipalities with a significant annual grant toward the costs of employing a drainage superintendent, pursuant to Section 4 of the Agricultural Drainage Infrastructure Program.

The Ministry's maintenance program, in the past, has provided a 33% grant on eligible lands that are actively farming, to offset drain maintenance assessments.

The following is a list of the drain maintenance and operating activities which are scheduled for 2018:

By-law 2009-042

Perimeter Canal Maintenance Program / Debris Removal / Dredging

By-law 595A

Main Drain Maintenance (main internal drainage channel)

By-law 510

Bradford Small Scheme

By-law 2014-92

Horlings Drain

As well as maintenance and operations of the following Pumping Stations;

- 1. Professor Day;**
- 2. Morris Road;**
- 3. Bardawill;**
- 4. Charlie Davis;**
- 5. Horlings; and**
- 6. Art Janse.**

Interior Drains include the following:

Cullingham Drain

Duga Drain

Horlings Drain

King Interior Drain 1

King Interior Drain 1A

King Interior Drain 1C

King Interior Drain 1D

King Interior Drain 1E

King Interior Drain 1F

King Interior Drain 2
King Interior Drain 2B
King Interior Drain 2C
King Interior Drain 3
King Interior Drain 3A
King Interior Drain 4
King Interior Drain 4A
King Interior Drain 4B
King Interior Drain 4C
King Interior Drain 5
King Interior Drain 5A
King Interior Drain 5B
King Interior Drain 5D
King Interior Drain 5E
King Interior Drain 5F
King Interior Drain 6
King Interior Drain 6A

The annual maintenance and operation costs for 2018 are estimated \$725,220.00. Revenue tallying this amount is derived from OMAFRA grants, landowner and municipal contributions.

6. CAPITAL WORKS

The following capital works are proposed for 2018.

MORRIS ROAD DRAINAGE PROJECT

Although the Project is substantially complete, Board staff will continue to work with municipal staff to facilitate completion of the remaining municipal structures and related maintenance in general.

GORZO DRAIN

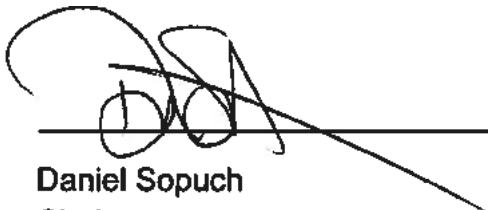
The final engineering report for the Gorzo Drain was submitted October 31, 2016 and the Town of Bradford West Gwillimbury (the Town) gave the Final Report third and final bylaw on February 21, 2017. At the request of the several landowners construction was delayed until after the 2017 harvest to minimize disruption. Construction will be award in 2017 year and is expected to be completed in early 2018.

FERRAGINA DRAIN

The final engineering report for the Ferragina Drain was submitted October 31, 2016 and filed with the Town of Bradford West Gwillimbury (the Town) and the Board. The Town gave the Final Report provisional bylaw on December 6, 2016. Due to a technical appeal before the Ontario Drainage Tribunal the adoption of the report was delayed and is expected to have third reading in 2017. Final documentation and assessments are to be completed in 2018.

The Board plans to manage the following issues as its top priority and accordingly 2018 will require:

- With major repairs required to address and improve safety concerns regarding the operation of the dredger, a Consultant will be retained by the Board to evaluate the overall effectiveness and operation of the dredger, along with other potential options for maintaining the Main Drain.
- A continued effort on fostering positive relationships formed with various ministries (MNR, MOE, LSRCA, DFO etc.) that have a direct correlation to the Holland Marsh.



Daniel Sopuch
Chairman
Holland Marsh Drainage System
Joint Municipal Service Board



William Eek
Vice Chairman
Holland Marsh Drainage System
Joint Municipal Service Board

**HOLLAND MARSH DRAINAGE SYSTEM JOINT MUNICIPAL SERVICE BOARD
2018 DRAFT Budget Overview - Revenues**

	OMAFRA	Township of King	Town of BWG	Other*	Total Revenues	Total Expenditures	Shortfall
HMDSJMSB	\$ -	\$ 75,000	\$ 75,000	\$ -	\$ 150,000	150,000	-
Drainage Superintendent	38,030	22,820	15,210	-	76,060	76,060	-
Holland Marsh Drainage System	162,320	241,030	154,260	72,060	629,670	678,120	(48,450)
Morris Rd Drain (Formerly Bradford Small Scheme)	1,360	-	2,740	-	4,100	4,100	-
BWG Drains	7,167	-	14,333	-	21,500	21,500	-
TOK Drains	7,167	14,333	-	-	21,500	21,500	-
Gozzo Drain	29,159	-	52,687	4,154	86,000	86,000	-
	\$ 245,203	\$ 353,183	\$ 314,230	\$ 76,214	\$ 988,830	\$ 1,037,280	\$ (48,450)

* Other includes the County of Simcoe, MTO and upstream landowners like Newmarket, New Tecumseth

**HOLLAND MARSH DRAINAGE SYSTEM JOINT MUNICIPAL SERVICE BOARD
2018 DRAFT Budget Overview - Expenditures**

	2016 Actual	2016 Budget	2017 Actual (unaudited)	2017 Budget	2018 Budget DRAFT	Variance 2018 Budget / 2017 Budget \$
HMDS/JMSB	258,889	140,860	143,892	165,000	150,000	(15,000) A
Drainage Superintendent	86,421	76,060	72,462	76,060	76,060	-
Holland Marsh Drainage System	446,861	334,640	441,507	354,640	678,120	323,480 B
Morris Rd Drain (Formerly Bradford Small Scheme)	48,018	18,310	22,601	18,310	4,100	(14,210) C
BWG Drains	7,317	8,100	7,317	-	21,500	21,500 D
TOK Drains	38,702	11,500	38,702	31,490	21,500	(9,990) D
Canal Reconstruction	1,658,710	-	771,677	-	-	-
Morris Road	1,255,760	-	1,025,743	-	-	-
Maintenance Equipment	-	30,000	-	-	-	-
Central River Project	(20,000)	-	-	-	-	-
Horlings Drain	443,922	-	-	-	-	-
Gorzo Drain	-	-	21,005	-	-	-
Total Expenditures	4,224,600	619,470	2,544,906	645,500	1,037,280	391,780

Notes:

A Reduction in wages and benefits for Administrative Assistant

B Stand by generator and spare pump

C Work on BWG drains includes:

Cullingham	\$	4,500
Duga		4,500
Horlings		12,500
	\$	<u>21,500</u>

D Work on TOK drains includes:

Drain 1	\$	3,500
Drain 2		3,000
Drain 3		3,000
Drain 4		3,000
Drain 5		4,200
Drain 6		4,800
	\$	<u>21,500</u>