The Municipality of Lambton Shores

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES
REGULAR COUNCIL MEETING
AGENDA

Meeting #: 17-2017
Date: Tuesday, October 17, 2017
Time: 7:00 p.m.
Location: Legacy Centre - Thomas Hall, Thedford

Pages

1. Call to Order

2. Closed Session

2.1 An item under the authority of Section 239 (2)(c) of the Municipal Act, 2001 - a proposed or pending acquisition or disposition of land by the municipality or local board.

RECOMMENDATION:
THAT the Council meeting goes into a Closed Session at p.m. to hear the following item:

An item under the authority of Section 239 (2)(c) of the Municipal Act, 2001 - a proposed or pending acquisition or disposition of land by the municipality or local board.

3. Open Session

3.1 Report of Closed Session

3.2 Declaration of Pecuniary Interest

3.3 Approval of the Agenda

RECOMMENDATION:
THAT the agenda for the October 17, 2017 Council meeting as presented be approved.

3.4 Adoption of Minutes of Previous Council Meeting

3.4.1 Council Meeting - September 26, 2017 8 - 17

RECOMMENDATION:
THAT the minutes of the September 26, 2017 Council meeting as presented be adopted.

3.5 Councillor Reports

3.6 Statutory Public Meetings

3.6.1 Public Meeting to Consider the Lake Smith No. 1 Drain (See Report CL 31-2017)

RECOMMENDATION:
THAT the Consideration for the Lake Smith No. 1 Drain under Section 78 of the Drainage Act convenes at p.m.

RECOMMENDATION:
THAT the Consideration of the Lake Smith No. 1 Drain closes at p.m. and the regular Council meeting reconvenes.

3.6.2 Public Meeting - Zoning By-law Amendment Application ZO-10/2017 for Richard and Karen Sewell - 8375 Goosemarsh Line (See Report PL 38-2017)

RECOMMENDATION:
THAT the Council meeting adjourns at p.m. for a Public Meeting held under the Planning act to hear an application for Zoning By-law Amendment Application ZO-10/2017 for Richard and Karen Sewell - 8376 Goosemarsh Line

RECOMMENDATION:
THAT the public meeting close and the regular Council meeting reconvene at p.m.

3.7 Presentations

3.7.1 Bill MacDonald - Issues Faced by Port Franks Beach Homeowners Association 18 - 32

RECOMMENDATION:
THAT the presentation from Bill MacDonald regarding issues faced by Port Franks Beach Homeowners Association be received.

3.7.2 **Deb Gill - The Development of Huron Shores United Church, Including a Community Concert Hall and Seniors' Program** 33 - 38

RECOMMENDATION:
THAT the presentation by Deb Gill regarding the development of Huron Shores United Church, including a Community Concert Hall and Seniors' Program be received.

3.8 **Delegations**

3.9 **Consideration of Correspondence, Petitions, Committee Minutes and Staff Reports**

3.9.1 **Correspondence from Robert and Judy Pattison - Zoning of Private Property** 39 - 40

Placed on the agenda at the request of Councillor Finlay.

RECOMMENDATION:
THAT correspondence from Robert and Judy Pattison regarding zoning of private property be received.

3.9.2 **Correspondence from R.M. Sharen - Thedford Fire Pumper** 41 - 42

Placed on the agenda at the request of Councillor Finlay.

RECOMMENDATION:
THAT correspondence from R.M. Sharen regarding questions about the Thedford Fire Department pumper be received.

3.9.3 **Correspondence from Travis Woollings and Lee Ann Cloud regarding a Request for Refund for Rezoning of Property** 43

Placed on the Agenda at the request of Councillor Finlay.

RECOMMENDATION:
THAT correspondence from Travis Woollings and Lee Ann Cloud regarding a request for a refund for a rezoning application be received.

3.9.4 **Committee of Adjustment Decision - September 27, 2017** 44 - 45

RECOMMENDATION:
THAT the decision of the Committee of Adjustment for the meeting held the 27th day of September, 2017 be received.

3.9.5 **Report PL 38-2017 - Zoning By-law Amendment Application ZO-10/2017 for Richard and Karen Sewell - 8375 Goosemarsh Line OWNER: Richard and Karen Sewell** 46 - 96

RECOMMENDATION:
THAT Report PL 38-2017 relating to Zoning By-law Amendment Application ZO-10/2017 submitted by Richard and Karen Sewell, be received;

THAT Zoning By-law Amendment Application ZO-10/2017, submitted by Richard and Karen Sewell, respecting lands known as 8375 Goosemarsh Line, to amend the existing Residential 6.10 (R6-10), Agricultural 2 (A2) and Agricultural 2.1 (A2-1) zoning on a portion of the lands proposed to be severed as a new 4,000 m² single detached dwelling lot to a site specific Residential 6.26 (R6-26) Zone and an Environmental Protection-Natural Conservation (EP-NC) Zone be APPROVED, subject to:

The Residential 6.26 (R6-26) zone contain the following regulations:

1. Minimum Lot Area4000 m²
2. Minimum Lot Frontage27 metres
3. Maximum Height 10 metres
4. Minimum Front Yard Setback7.5 metres
5. Minimum Interior Side Yard

Setback (if attached garage)1.2 metres

1. Minimum Interior Side Yard

Setback (if no attached garage)1.2 metres

g)Maximum Lot Coverage25%

h)Minimum Ground Floor Area

One-storey dwellings90 m²

More than One-storey dwellings70 m²

i)No buildings or structures (including pools/hot tubs) shall be located within 10 metres of the boundary of the adjacent Natural Conservation (EP-NC) Zone (edge of the woodlot).

j)Any Planning Act Application to allow buildings or structures (including pools/hot tubs) within 10 metres of the boundary of the adjacent Natural Conservation (EP-NC) Zone (edge of the woodlot) shall be subject to an additional Environmental

Evaluation Report being submitted.

k)A dwelling shall be flood proofed to a minimum flood elevation of 181 GSC.

Special Provisions

No building permit shall be issued for any buildings or structures in the Residential 6.23 (R6-23) Zone until:

Approval is received from the Ministry of Natural Resources and all of the recommendations required in the Overall Benefit Permit are complied with;

Sediment and erosion control fencing be installed along the north boundary of the Residential 6.23 (R6-23) zone to keep construction equipment within the development footprint, control silt within the site and provide a barrier to wildlife movement from the adjacent lands, such fence can be removed when construction is complete; The sediment and erosion control fencing shall 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 Specifications/Ontario Provincial Standard Drawings (OPSS/OPSD) documents. The sediment and erosion fence shall be inspected and approved by the Municipality prior to a building permit being issued.

The Municipality is satisfied that a municipal water service has been provided to the lot.

Community Services

3.9.6 Report DCS 64-2017 - 2017 Capital Budget – Asphalt Resurfacing

97 - 98

RECOMMENDATION:
THAT Report DCS 64-2017 regarding the tender award for the 2017 Asphalt Resurfacing Project be received; and

THAT the tender from Lavis Contracting Limited in the amount of $138,414.75 excluding HST, ($140,850.85 net HST), for the 2017 Asphalt Resurfacing Project be accepted; and

THAT the appropriate by-law, authorizing the Mayor and Clerk to sign the associated contract agreement be approved.

3.9.7 **Report DCS 65-2017 - Draft 2018 Grand Bend Joint Area Sewage Board Operating Budget** 99 - 106

RECOMMENDATION:
THAT Report DCS 65-2017 regarding the Draft 2018 Grand Bend Joint Area Sewage Board Operating Budget be received.

THAT Council provides comments to the Grand Bend Area Joint Sewage Board regarding the draft 2018 operating budget.

Finance

3.9.8 **Report TR 32-2017 - 2018 Pre-Budget Survey Results and Budget Planning** 107 - 120

RECOMMENDATION:
THAT Report TR 32-2017 regarding the 2018 Pre-Budget Survey be received; and

THAT Council set January 16 and 17, 2018 as Budget meeting dates.

Administration

3.9.9 **Report CL 31-2017 - Consideration for the Lake Smith No. 1 Drain** 121 - 245

RECOMMENDATION:
THAT Report CL 31-2017 providing Council with information on the Consideration for the Lake Smith No. 1 Drain be received; and

THAT Council considers the Lake Smith No. 1 Drain Report prepared by Spriet & Associates in accordance with *Section 78 of the Drainage Act, R.S.O. 1990, c.D.17*; and

THAT the Lake Smith No. 1 Drain Report is adopted; and

THAT the by-law providing for drainage works to the Lake Smith No. 1 Drain be received and read a first and second time; and

THAT the notice of the Court of Revision meeting be mailed to assessed property owners, all the required agencies and organizations.

3.9.10 Report CL 32-2017 - Parking By-law Consolidation 246 - 287

RECOMMENDATION:
THAT Report CL 32-2017 regarding the consolidation of amendments to Parking By-law 20 of 2002 be received; and

THAT the appropriate by-law implementing and consolidating those amendments to Parking By-law 20 of 2002 be approved.

3.10 Notice of Motion

3.10.1 Notice of Motion from Councillor Dodge 288

3.11 Emergent Issues

3.12 By-laws and Resolutions

3.12.1 By-law 94-2017 - Amending the Consolidated Parking By-law 20 of 2002 289 - 290

3.12.2 By-law 95-2017 - Provide for Drainage Works - Lake Smith No. 1 Drain - 1st and 2nd Reading 291 - 292

3.12.3 By-law 96-2017 - Authorize Agreement with Lavis Contracting Inc. - 2017 Asphalt 293

3.12.4 By-law 97-2017 - Confirming Resolutions to Date 294

RECOMMENDATION:
THAT By-laws 94-2017, 96-2017 and 97-2017 be read a first, second and third time, passed and signed by the Mayor and Clerk.

RECOMMENDATION:
THAT By-law 95-2017 be read a first and second time.

3.13 Adjournment

RECOMMENDATION:
THAT the October 17, 2017 Council meeting adjourns at p.m.

The Municipality of Lambton Shores

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES

REGULAR COUNCIL MEETING

MINUTES

Tuesday, September 26, 2017
7:00 p.m.

Members Present:	Mayor Bill Weber Deputy Mayor Doug Cook Councillor Dave Maguire Councillor Dan Sageman Councillor Gerry Rupke Councillor Ronn Dodge Councillor Rick Goodhand Councillor James Finlay Councillor Jeff Wilcox
Staff Present:	Janet Ferguson, Treasurer, Acting Clerk Stephen McAuley, Director of Community Services Ashley Farr, Facilitator of Recreation and Leisure

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1. Call to Order

Mayor Weber called the meeting to order at 7:00 pm.

2. Closed Session

There were no items for the Closed Session.

3. Open Session

3.1 Report of Closed Session

As there was no Closed Session there was nothing to report.

3.2 Declaration of Pecuniary Interest

Mayor Weber asked members of Council to declare ay pecuniary interest that they might have with the business itemized on the agenda. Councillor Maguire declared a conflict with item 3.9.4 as he is a director for the Grand Bend Art Centre who is applying for a grant. Mayor Weber declared a conflict with item 3.7.1 as he has a family member residing on Kitchener Street. The required forms were completed.

3.3 Approval of the Agenda

17-0926-01 **Moved By:** Councillor Sageman
Seconded By: Councillor Maguire

THAT the agenda for the September 26, 2017 Council meeting as presented be approved. **Carried**

3.4 Adoption of Minutes of Previous Council Meeting

3.4.1 Special Council Meeting - September 5, 2017

3.4.2 Council Meeting - September 5, 2017

17-0926-02 **Moved By:** Councillor Rupke
Seconded By: Councillor Maguire

THAT the minutes of the Special Council meeting held the 5th of September, 2017 and the minutes of the regular Council meeting held the 5th of September, 2017 be adopted as presented.
Carried

3.5 Councillor Reports

Members of Council reported on items of interest to the community.

3.6 Statutory Public Meetings

There were no statutory public meetings scheduled.

3.7 Presentations

Mayor Weber previously declared a conflict with this item and therefore he passed the gavel to Deputy Mayor Cook to chair the meeting during the presentation and discussion.

3.7.1 Robert Fuller - Kitchener Street, Grand Bend - Extension Project

17-0926-03 **Moved By:** Councillor Maguire
Seconded By: Councillor Wilcox

THAT the PowerPoint presentation from Robert Fuller regarding the Kitchener Street, Grand Bend Extension Project be received and that staff provide a report on the design and the draft agreement of the Kitchener Ave. extension and also include the back ground for the determination of the costs. **Carried**

Mayor Weber returned to Chair the meeting at 7:25 pm.

3.8 Delegations

There were no delegations scheduled.

3.9 Consideration of Correspondence, Petitions, Committee Minutes and Staff Reports

17-0926-04 **Moved By:** Councillor Rupke
Seconded By: Deputy Mayor Cook

THAT Items # 3.9.3, 3.9.5, 3.9.6, 3.9.7, and 3.9.8 be approved as presented**.** **Carried**

3.9.3 Report DCS 59-2017- Tourism Marketing and Branding Update

17-0926-05 **Moved By:** Councillor Rupke
Seconded By: Deputy Mayor Cook

THAT Report DCS 59-2017 regarding the "Tourism Marketing and Branding Update" be received for information. **Carried**

3.9.5 Report DCS 61-2017 - 2017 Capital Budget – MacHenry Street Forest Tender Award (CWWF Funded Project)

17-0926-06 **Moved By:** Councillor Rupke
Seconded By: Deputy Mayor Cook

THAT Report DCS 61-2017 regarding the tender award for the 2017 MacHenry Street Reconstruction Project be received; and

THAT the tender from Cope Construction and Contracting Inc. in the amount of $269,493.85 excluding HST, ($274,236.94 net HST), for the 2017 MacHenry Street Reconstruction Project be accepted; and

THAT the appropriate by-law, authorizing the Mayor and Clerk to sign the associated contract agreement be approved. **Carried**

Finance

3.9.6 Report TR 30-2017 - Authorize the Collection of Sums for Drain Maintenance

17-0926-07 **Moved By:** Councillor Rupke
Seconded By: Deputy Mayor Cook

THAT Report TR-30-2017 respecting the collection of funds for Drain Maintenance works be received; and

THAT the appropriate by-law authorizing the collection of funds for drain maintenance work be approved. **Carried**

3.9.7 Report TR 31-2017 - Rural Economic Development (RED) Program Contribution Agreement

17-0926-08 **Moved By:** Councillor Rupke
Seconded By: Deputy Mayor Cook

THAT Report TR 31-2017 regarding the Rural Economic Development Program Contribution Agreement be received; and

THAT the pertinent by-law to authorize the Mayor and CAO to sign the RED Contribution Agreement be approved. **Carried**

Administration

3.9.8 Report CL 30-2017 - Request for a Class 5 Septic System (Holding Tank) 5138 Cedarview Drive

17-0926-09 **Moved By:** Councillor Rupke
Seconded By: Deputy Mayor Cook

THAT Report CL 30-2017, relating to a request for a Class 5 Septic System (holding tank) for the property located at 5138 Cedarview Drive be received; and

THAT the use of a Class 5 Septic System (holding tank) is approved as a replacement for the failed septic system for 5138 Cedarview Drive; and

THAT the Mayor and Clerk are authorized to enter into an agreement with Dan and Andrea Luker to allow the installation of a Class 5 Septic System to service 5138 Cedarview Drive on the condition that the agreement includes the requirements of the St. Clair Region Conservation Authority and the County of Lambton Part 8 Direction/C.B.O. as well as addressing any Municipal issues and concerns.

Carried

3.9.1 Brian Horner, General Manager-Secretary Treasurer - Ausable Bayfield Conservation - Proposed Five Year Forecast 2018 - 2022

17-0926-10 **Moved By:** Deputy Mayor Cook
Seconded By: Councillor Maguire

THAT correspondence from Brian Horner, General Manager / Secretary Treasurer for the Ausable Bayfield Conservation regarding the proposed Five Year Forecast 2018 - 2022 be received. **Carried**

Community Services

3.9.2 Report DCS 56-2017 - YMCA Agreement Renewal

A recorded vote was requested on the following motion:

17-0926-11 **Moved By:** Councillor Wilcox
Seconded By: Councillor Sageman

THAT Report DCS 56-2017 regarding the "YMCA Agreement Renewal" be received; and

THAT Council approve the renewal of the agreement with the YMCAs of Southwestern Ontario for the operation of the Suncor Wellness Centre for an additional three years; and

THAT the appropriate by-law, authorizing the Mayor and CAO to sign the associated contract agreement be approved.

	Yea	Nay
Mayor Bill Weber	√	
Deputy Mayor Doug Cook	√	
Councillor Dave Maguire	√	
Councillor Dan Sageman	√	
Councillor Gerry Rupke	√	
Councillor Jeff Wilcox	√	
Councillor James Finlay		√
Councillor Rick Goodhand		√
Councillor Ronn Dodge		√

Carried

3.9.4 Report DCS 60-2017 - Vibrancy Grant Applications

Councillor Maguire had previously declared a conflict and refrained from participating in the discussion and voting

17-0926-12 **Moved By:** Councillor Dodge
Seconded By: Councillor Goodhand

THAT Report DCS 60-2017 regarding the "Vibrancy Grant Applications" be received; and

THAT Council provides Vibrancy Funds to the Forest International Silver Stick Committee and the Jingle Bells Group for the full amount requested.

A recorded vote was requested on the following motion:

17-0926-13 **Moved By:** Councillor Wilcox
Seconded By: Deputy Mayor Cook

THAT the motion regarding the vibrancy funding allocation be tabled until the October 17, 2017 meeting.

	Yea	Nay
Mayor Bill Weber		√
Deputy Mayor Doug Cook	√	
Councillor Dan Sageman	√	
Councillor Gerry Rupke		√
Councillor Jeff Wilcox	√	
Councillor James Finlay		√
Councillor Rick Goodhand		√
Councillor Ronn Dodge		√

Motion Defeated

A recorded vote was requested on the following resolution

17-0926-14 **Moved By:** Deputy Mayor Cook
Seconded By: Councillor Wilcox

THAT the original motion be amended to say:

THAT Report DCS 60-2017 regarding the "Vibrancy Grant Applications" be received; and

THAT Council provides Vibrancy Funds to the Forest International Silver Stick Committee and the Jingle Bells Group at 50% of the amount requested.

	Yea	Nay
Mayor Bill Weber		√
Deputy Mayor Doug Cook	√	
Councillor Dan Sageman		√
Councillor Gerry Rupke		√
Councillor Jeff Wilcox	√	
Councillor James Finlay		√
Councillor Rick Goodhand		√
Councillor Ronn Dodge		√

Motion Defeated

A recorded vote was requested on the original resolution

	Yea	Nay
Mayor Bill Weber	√	
Deputy Mayor Doug Cook		√
Councillor Dan Sageman		√
Councillor Gerry Rupke	√	
Councillor Jeff Wilcox		√
Councillor James Finlay	√	
Councillor Rick Goodhand	√	
Councillor Ronn Dodge	√	

Carried

A recorded vote was requested on the following resolution

17-0926-15 **Moved By:** Councillor Goodhand
Seconded By: Councillor Sageman

THAT the equivalent amount of the two approved grants be used to top up the vibrancy funds available for the balance of the applicants.

	Yea	Nay
Mayor Bill Weber	√	
Deputy Mayor Doug Cook	√	
Councillor Dan Sageman	√	
Councillor Gerry Rupke	√	
Councillor Jeff Wilcox	√	
Councillor James Finlay	√	
Councillor Rick Goodhand	√	
Councillor Ronn Dodge		√

Carried

A recorded vote was requested on the following resolution

17-0926-16 **Moved By:** Councillor Rupke
Seconded By: Councillor Wilcox

THAT the priorities outlined in DCS-60-2017 as amended are approved and that a forth (4th) priority be added for requests for Vibrancy Funds based on the maximum benefit to the community of Lambton Shores.

	Yea	Nay
Mayor Bill Weber	√	
Deputy Mayor Doug Cook		√
Councillor Dan Sageman	√	
Councillor Gerry Rupke	√	
Councillor Jeff Wilcox	√	
Councillor James Finlay		√
Councillor Rick Goodhand	√	
Councillor Ronn Dodge	√	

Carried

3.10 Notice of Motion

3.10.1 Notice of Motion from Councillor Wilcox - Request for Staff Report on Budget and Work Scope for Splash Pad and Skate Park for Thedford

17-0926-17 **Moved By:** Councillor Wilcox
Seconded By: Councillor Sageman

THAT in order to move forward with a splash pad for the former Village of Thedford, Council request a staff report on the work scope and budget to construct a splash pad within the boundaries of the Thedford Village Green property; and

THAT this report include a work scope and budget to construct a skate park within the former Village of Thedford. **Carried**

3.11 Emergent Issues

17-0926-18 **Moved By:** Councillor Goodhand
Seconded By: Deputy Mayor Cook

THAT the highway 21 construction signage issue be discussed. **Carried**

3.12 By-laws and Resolutions

3.12.1 By-law 72-2017 - 3rd Reading - Grant Relief Drainage Works

17-0926-19 **Moved By:** Councillor Sageman
Seconded By: Deputy Mayor Cook

THAT By-law 72-2017 be read a third time, passed and signed by the Mayor and Clerk. **Carried**

3.12.2 By-law 87-2017 - Collect the Sums from the Lands and Roads Assessed for the Maintenance of Drains

3.12.3 By-law 88-2017 - Authorize Funding Agreement with OMAFRA

3.12.4 By-law 89-2017 - Appointing a Municipal Clerk

3.12.5 By-law 90-2017 - Authorize Agreement with Cope Construction for the MacHenry Street Reconstruction

3.12.6 By-law 91-2017 Authorize Agreement with YMCA

3.12.7 By-law 92-2017 - Authorize Agreement with Dan and Andrea Luker

3.12.8 By-law 93-2017 - Confirming By-law

17-0926-20 **Moved By:** Councillor Wilcox
Seconded By: Councillor Rupke

THAT By-laws 87-2017 through 93-2017 be read a first, second and third time, passed and signed by the Mayor and Clerk. **Carried**

3.13 Adjournment

17-0926-21 **Moved By:** Councillor Goodhand
Seconded By: Councillor Maquire

THAT the September 26, 2017 Council meeting adjourn at 8:43 p.m. **Carried**

Issues faced by Port Franks Beach Homeowners Association

Presented by: Bill MacDonald

History of PFBHA:

The Port Franks beach is a **privately-owned** beach that the association acquired in 1977 to protect it from commercial development and to accommodate the residents of Port Franks. Our association's goals are "***to oversee the use of the Port Franks beach for the benefit of the population of Port Franks and to enable Port Franks residents to continue to enjoy the beach while the environmental, health and safety issues that result from its use, are minimized***".

In 1987 a report authored by Bill Hollo, then Lambton County's Director of Planning, stated "***Realistically, the beach at the mouth of Mud Creek cannot accommodate larger numbers of visitors***" and further suggest that "***Non Port Franks residents should be encouraged to use facilities at Ipperwash and Pinery Provincial Park***"….."***which are able to and designed to accommodate large numbers***….".

History of PFBHA:

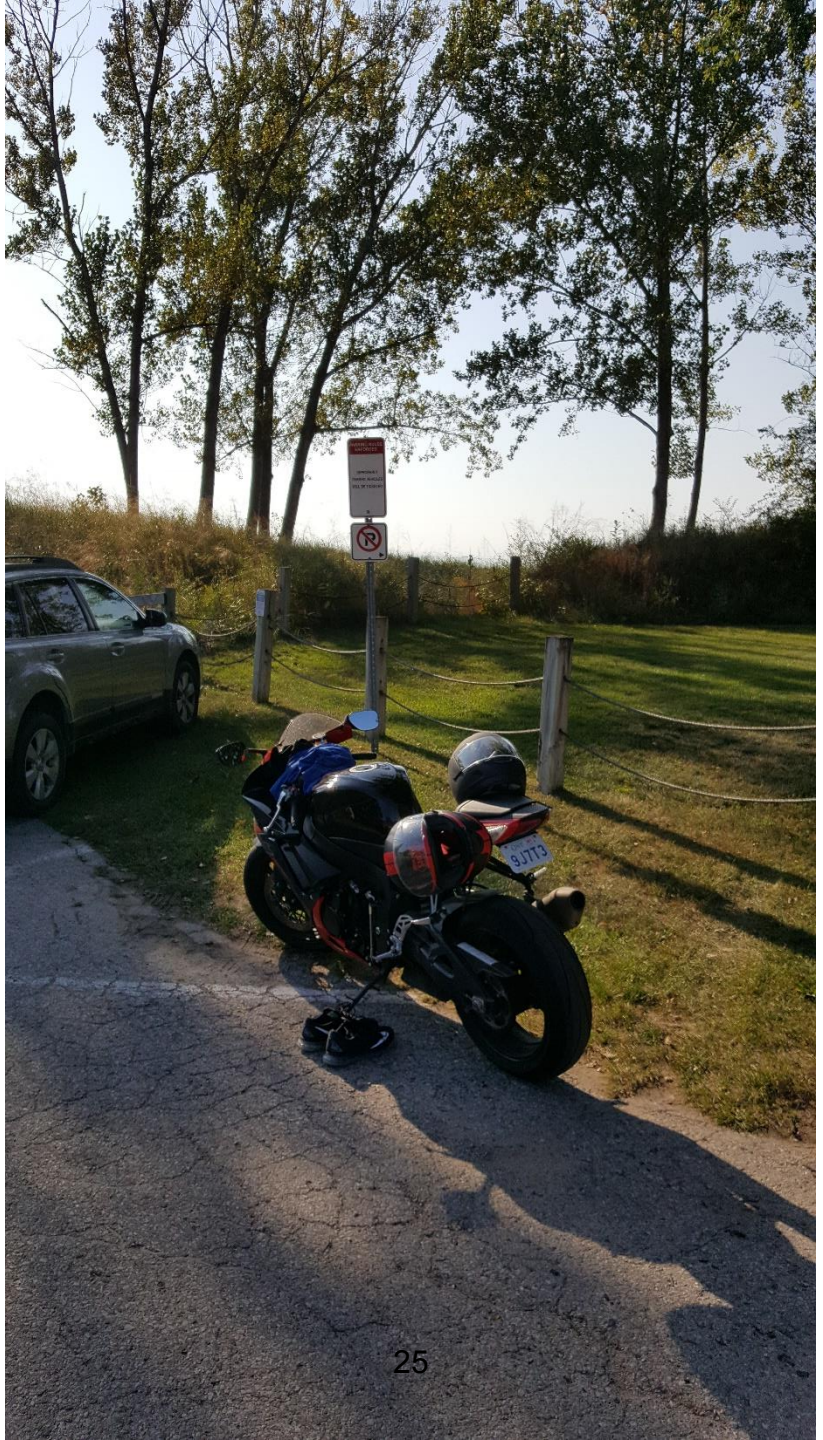
Parking has long been an issue. There are 84 municipally-provided, marked parking spaces, 24 along Bond Road and 60 along Mud Creek Trail. These free parking spots are currently taken up by beachgoers on a first-come basis, regardless of their residency. On most summer days these spots are quickly taken. Once that happens, illegal parking quickly escalates as the following slides illustrate.

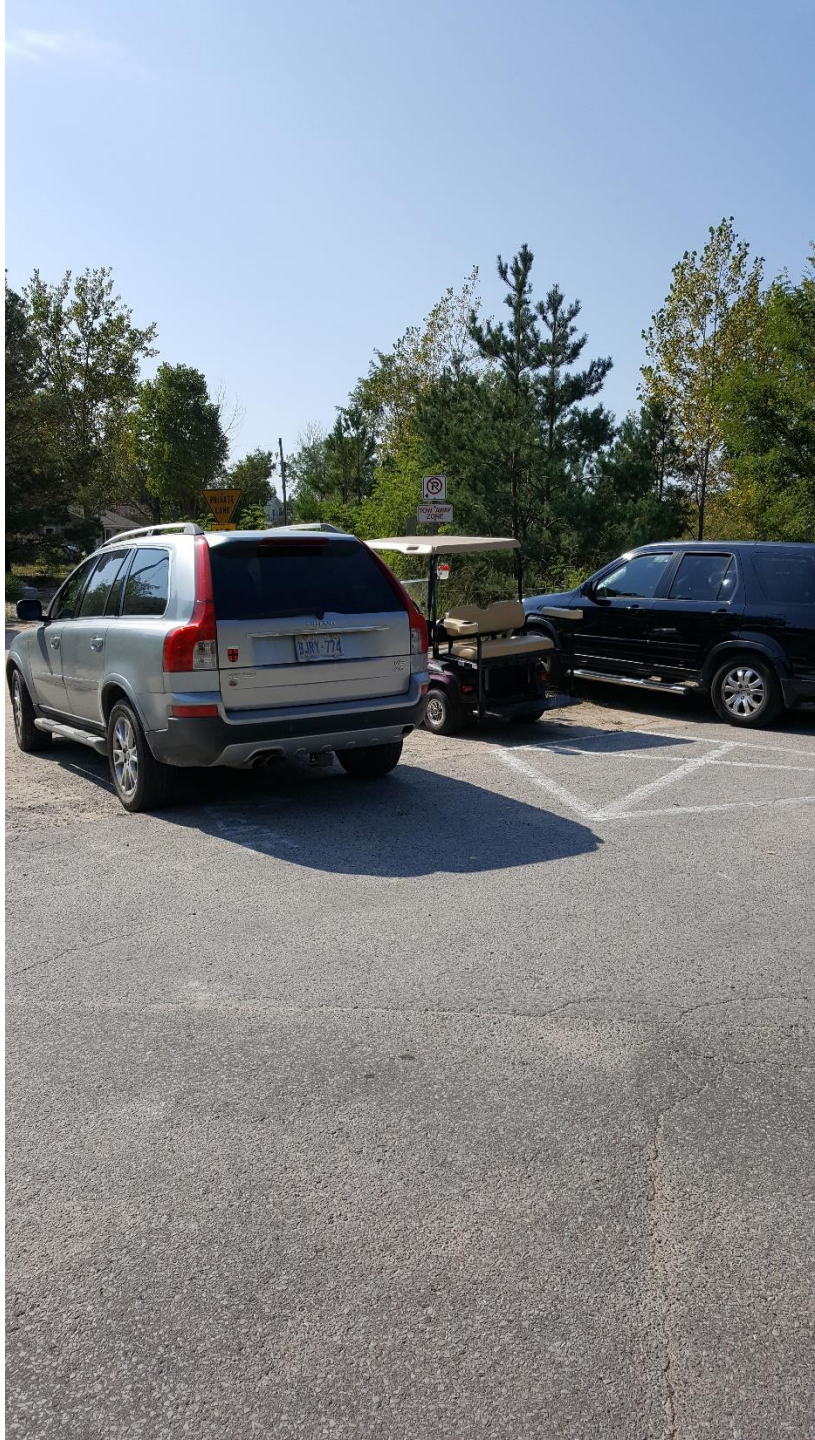

TOW AWAY
ZONE


ONTARIO
CBNT 363
YOURS TO DISCOVER
NISSAN
BZWS 409


JHA 371
CAMRY
XLE
ONTARIO
BSNZ 119
YOURS TO DISCOVER


TORRENT





History of PFBHA:

The association had 147 members at its peak but that has declined to 102 currently. This has meant a loss of revenue at a time when our costs to provide liability insurance, to pay property taxes and to maintain the beach, keep rising. In addition, local residents provide hours and hours of free labour during the beach season cleaning up dog waste, dirty diapers, picnic debris, fireworks debris, bottles and cans and dealing with untended campfires left by inconsiderate beachgoers. Some of that labour involves physically-taxing efforts such as installing and removing snow fence posts, something our aging membership finds more onerous each year.

At the same time as our membership has declined we have seen an increase in the numbers of people using our beach and a decline in the cleanliness of the beach once they leave at day's end.

History of PFBHA:

A large part of the reason for declining membership is that Port Franks residents don't see the benefit of joining our association as they can't find parking when they want to use their beach because out of town visitors from places like Kitchener-Waterloo, London, Sarnia, even Windsor are taking up most of the available parking. Today, Social Media plays a huge role as it becomes very easy for people to tell all their friends when they discover a great beach like ours. Spreading the word this way greatly increases the potential number of visitors. Port Franks should not be thought of as a tourist destination as there are no public beaches here. Tourists should be directed to Ipperwash, the Pinery and Grand Bend where there are public beaches with facilities and businesses that cater to tourism, just as Bill Hollo stated in his report 30 years ago.

Day visitors to Port Franks do not support the local economy the way Port Franks residents do. There are few Port Franks businesses left. Those that do exist don't see much business from day trippers since they come dressed for the beach as there are no change facilities here. Meanwhile, residents of Port Franks will pay $2.4 million this year in property taxes, of which $1.1 million is the municipal portion. Residents also spend tens of thousands of dollars each week doing their grocery and other shopping in Grand Bend and Forest. Spending by tourists is insignificant by comparison.

A proposed solution:

We looked at several other Ontario beach communities and discovered many who offer preferential parking for residents, places such as Wasaga, Tobermory, Innisfil, Oro-Medonte and Tiny Township. In fact, even Lambton Shores offers a form of preferential parking in Grand Bend.

Our suggestion is that Lambton Shores designates the 84 available parking spots for the Port Franks beach as permit parking only spots and that Port Franks residents receive preference in allocating these permits. We have detailed suggestions but the 10-minute presentation time limit tonight does not allow us sufficient time to table them. In our plan, non-resident cottage renters will be accommodated in a way that minimizes any inconvenience for them or their landlords.

A proposed solution:

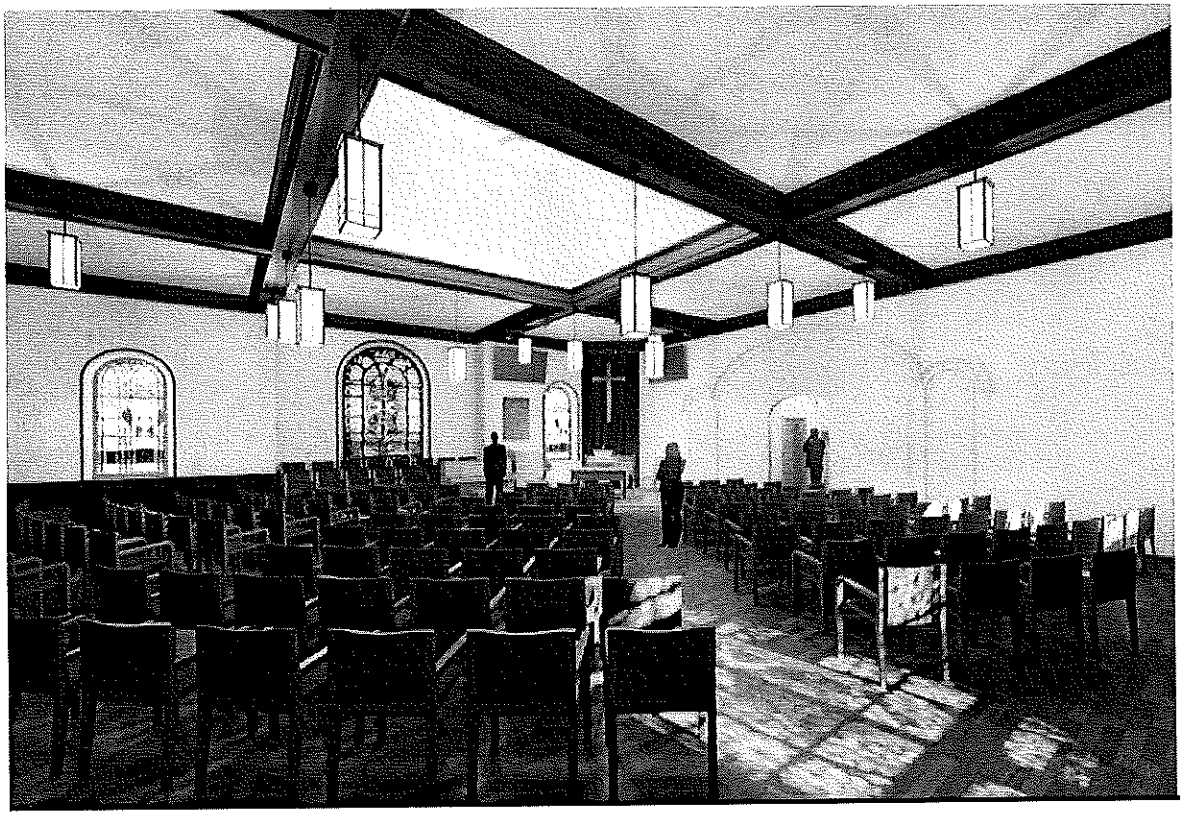
What we are asking Council tonight, is to refer this matter to staff to research and prepare a report that would make specific recommendations and that information from other similar beach communities and input from our association be included in the preparation of the report.

We believe moving to a permit parking model at Port Franks beach will lead to a reduction in illegal parking, an increase in municipal parking revenues, better caretaking of our beach and an increase in membership in our association. Maintaining the status quo is not financially sustainable for PFBHA.

Thank You

HURON SHORES
UNITED CHURCH

Supporting Renewal at Huron Shores United Church



Executive Summary

Huron Shores United Church is in the midst of a major renewal of its heritage building, located in the heart of Grand Bend. In addition to being a place of worship for our congregation, we envision making the building a community resource, six days a week.

After restoring the exterior of the unique building, we have constructed an addition that makes the building fully accessible to those with mobility limitations – one of only two accessible structures in Grand Bend. The next phase of renewal will see the creation of a multi-purpose community concert hall/sanctuary, a community centre/fellowship hall, and a catering kitchen.

We're not building for the sake of building, or simply to create a fancier place of worship. The capital expansion is driven by our desire to become an integral part of our community. The multi-purpose space will host musical concerts, plays, screenings, presentations, and special events. The community centre and catering kitchen will house a six-day-a-week program for seniors who might otherwise experience social isolation. Because the spaces are fully accessible, everyone will be able to benefit. By welcoming people into our building and our community, we will be ensuring that our church remains vigorous and vital.

There are many ways to contribute to this project. The vision and generosity of all donors will be celebrated.

Our Community

Grand Bend is a retirement community: the average age (64) is significantly higher than the Ontario average (40.4). Thirty-one percent of Grand Benders are over 70, and 18% are divorced, separated, or widowed.

Our 'junior seniors" are active and engaged, a source of energetic volunteers and participants. But as people age in our small community, they may experience

social isolation, both in the winter when many younger retirees go south, and in the summer, then the village becomes very busy.

Although 80% of residents report a strong sense of belonging, many must leave the community as they age. Research led by the Grand Bend Area Community Health Centre has identified social isolation as an issue for our community.

Grand Bend is also home to young families and has a vibrant elementary school. Our Sunday School is growing.

Through our renewal project we are reaching out to people of all ages in our community.

Who We Are

Huron Shores United Church embraces diversity in belief, gender, race, sexual orientation, ability, and economic and social status. We reach out to the broader Grand Bend community, saying, "Come, please share what we have!" Our doors and our arms are open wide.

It was in 1927 that the town's early Methodist and Presbyterian churches came together to form Grand Bend United Church. The new church also included a group of campers who gathered for worship on the beach. In 2014 Huron Shores United Church was created, bringing together Greenway United Church and Grand Bend United Church. We have recently become an official "Affirming Church," formalizing our commitment to include people of all sexual orientations and gender identities.

Our church building is not set apart; it is located on the main street of Grand Bend, surrounded by tattoo parlours and ice cream shops. We reach out to our community with activities such as the Free Store (where the price is always right!), a children's summer day camp, contributions to the Community Health Centre We Can Help fund, beach clean-ups, and assistance to families in need. Our space is regularly used by community groups.

Our Renewal Project

We have completed exterior renovations, including a new steel roof, to preserve the beauty of our heritage building. The second phase, a two-storey addition on the north side of the existing church, makes our building fully accessible. It includes a full-sized elevator, and washrooms and a cloakroom accessible for people with disabilities. It also includes office and meeting space, a small kitchen, and a beautiful chapel.

The final phase will see the creation of two large multi-purpose rooms, and a full catering kitchen.

This project will ensure that all people, including frail seniors and people with disabilities, have full access to our building and to meaningful activity. By welcoming the people of Grand Bend into our faith community, we will be ensuring the vigour and vitality of our congregation, now and in the future.

The Community Concert Hall

The renovations currently under way will create something Grand Bend doesn't yet have – a beautiful 150-seat multi-purpose space with advanced audio-visual technology, ideal for holding intimate musical concerts and other performances and special events.

The Concert Hall (our sanctuary on Sunday mornings) will retain the architectural charm of our nearly 100-year-old building. The space will be fully accessible, with a level floor and elevator access, and seating will be flexible. Eventually a downstairs reception room will also be available, adjacent to a full catering kitchen.

The renovations currently under way will improve the already good acoustics and include the installation of a state-of-the-art audio-visual system and theatrical lighting.

This space will be available for musical concerts, theatrical performances, special events and movie screenings. A committee composed of community and church

members with special interest and expertise in the performing arts will help plan programming for the space.

Seniors Program

"Doors Wide Open" is a proposed program to provide meaningful activities for seniors in our church building five days a week. Seniors will choose from a variety of activities, such as the Prayer Shawl Ministry (a knitting circle), gentle exercise, meditation, bible study, a book group, cooking classes, learning and discussion groups, and musical performances and sing songs. Each activity will include a shared meal. The goal is to engage "junior seniors" in providing programs for older seniors.

Huron Shores United Church has developed strong partnerships with community groups and organizations, including the Grand Bend Area Community Health Centre, the three other churches in town, the Grand Bend Community Foundation, and the Grand Bend Art Centre. The Doors Wide Open program will be developed in collaboration with these community partners, as one facet of a multi-pronged community-based approach to the problem of social isolation.

Next Steps

We have reached a critical point in our project. The total cost to date is $1.7 million, and to date we have raised $1.3 million in donations and grants. It will cost $420,000 to complete the renewal project. Construction is currently paused until an additional $250,000 can be raised from the congregation and the community.

We don't believe we should take on any more debt. Of course, we are keen to see the sanctuary completed as soon as possible.

So, here's the plan, approved by Council on July 31:

- Pause construction when Phase II and prep work for Phase III is complete (late September).
- Re-start construction only when we have raised an additional $250,000 in donations and grants. This will enable us to complete the sanctuary level with no further debt.
- Continue to fundraise for the remainder of the project.

Final Thoughts

This project is both a physical and a spiritual renaissance for Huron Shores United Church. It is an opportunity to reach out and open our church building to the community seven days a week. When we are finished, we will have an outstanding facility that will serve our congregation and our community for many years to come.

Robert & Judy Pattison,
Box 16,
255 Ontario Street South,
Grand Bend, ON N0M 1T0

September 20, 2017.

Registered Mail

Mayor, Clerk and Council of Lambton Shores,
7883 Amtelecom Parkway,
Forest, ON N0N 1J0

Dear Mayor and Clerk:

We are in receipt of your undated latter mailed on September 14, 2017; providing a Notice of Decision with respect to the Municipality of Lambton Shores Official Plan.

Attached to the letter is Schedule " A 1" indicating the Municipality of Lambton Shores in concert with the County of Lambton, have applied onerous restrictions on our private property.

Over the last four (4) years, we have delivered letters to the Municipality and the County showing the two (2) corporate bodies are acting *ultra vires* by zoning our private property. Neither the Municipality of Lambton Shores nor the County of Lambton have the legal authority to zone property which is not owned by the respective corporation. Despite our letters, the Councils of both Lambton Shores and Lambton County have completed their designations and have produced the Official Plan causing harm to our property. You are now acting in bad faith.

We are hereby placing the County of Lambton and the Municipality of Lambton Shores on Notice.

As rightful owners of the noted property, we revoke any consent express or implied that would lead the Municipality of Lambton Shores or the County of Lambton to believe our property can be zoned.

Furthermore; the County of Lambton and the Municipality of Lambton Shores must remove any reference our private property being zoned in the Official Plan within **30 days.** This includes but is not limited to revising your Schedules to reflect no zoning designations have been applied and a clear statement in the Official Plan commentary indicating no zoning exists on the noted property.

Failure to do so within the 30 day period may result in legal action directed to those persons responsible for the harm caused.

This letter is to be received by the Clerk and entered into the official record at the next Council meeting.

Govern yourself accordingly.

Robert Pattison

Judith Pattison.

c/c Hon. Bill Mauro, Minister of Municipal Affairs

Box 99
Grand Bend, ON
N0M 1T0

28 September 2017

Mayor and Council
Municipality of Lambton Shores
Grand Bend, ON
N0M 1T0

c/o Ms. Janet Ferguson Acting Clerk

Good Evening Gentlemen:

I am in receipt of the letter from the Acting CAO Mr. McAuley regarding the Thedford Fire Stations new pumper. The said letter raises some interesting questions that I feel strongly that you as members of council should be able to answer.

Now that I have real knowledge that the Thedford Fire Pumper has not yet been ordered, why was it not ordered immediately after the purchase was approved by you the council?

What is the amount that was approved in the 2016 budget for this purchase?

How much has the price of this apparatus changed from the time that it should have been ordered to the present?

Councillor Wilcox has tried to get answers about the pumper for the Thedford Fire Station on numerous occasions to no effect. Why?

As a member of this council Councillor Wilcox is entitled to a prompt, correct and complete answer to such an important question. Why has Councillor Wilcox not received such an answer?

I look forward to your debate on this issue bearing in mind that you will be held responsible for any liability that flows from this issues.

May your deliberations be very productive.

Thank you.

Respectfully submitted.

R.M. (Bob) Sharen

September 29, 1017

Mayor & Council

Lambton Shores

Amtelecon Way

Forest, ON

RE: Re-imbursement of Re Zoning Expenses

Honorable Mayor & Council,

I am writing this letter to request that we be reimbursed for the costs associated with the rezoning of our property located on 1 Beechwood Ave in Forest. While researching the requirements to build a new home on this property we learned that the property was zoned incorrectly.

The property was zoned "Residential Septic". Our home along with only 2 other properties on Beechwood Ave are connected to municipal sewers. The balance of homes on Beechwood Ave are on septic systems and are therefore zoned accordingly and correctly (Residential Septic).

Further investigating revealed that we needed to re-zone the property at our expense in order correctly and legally describe the property. Also, if we were to build on this property, the type, size and services for the proposed build needed to be considered using the proper zoning criteria.

Following the direction of the planning department we proceeded to re –zone the property to "Residential Sewer".

The cost to rezone was $ 1200.00. We would like to request a refund for the amount we incurred to rezone the property given that the incorrect zoning designation was not our doing. However, the expense to correct the error was.

Please consider this request at your nearest convenience.

We would look forward to your reply!

Travis Woollings & Lee Ann Cloud
519-317-6756
Property Owners

THE MUNICIPALITY OF
LAMBTON SHORES
Administration Office - 7883 Amtelecom Parkway, Forest, ON NoN 1Jo
T: 519-786-2335 / 1-877-786-2335 F: 519-786-2135

DECISION OF THE COMMITTEE OF ADJUSTMENT

FILE # A-18/2017

NOTE: LAST DAY OF APPEAL IS OCTOBER 17th, 2017

Application made by: **Leonard Lem**
Application Heard: **September 27th, 2017**

For the property known as 10213 Beach O'Pines Road, Grand Bend.

The Applicant requested approval to permit a proposed 122 m^2 detached accessory building to be constructed with a height of 7.26 metres. This proposed building will increase the total lot coverage to 132 m^2.

DECISION: The variances are granted.

REASON: In the opinion of the Committee:

1. The variances are minor in nature;
2. The intent of the official plan is maintained;
3. The intent of the zoning by-law is maintained; and
4. The variances are desirable for the appropriate development or use of the land, building or structure.

CONDITIONS:

1. That this minor variance decision apply only to the proposal as presented in Application A-18/2017. Any change to that proposal will require further permission from the Committee.
2. That no vehicular traffic be allowed in the septic area, now allow the septic area to utilized as a construction laydown space.

Members concurring in the above ruling:

J. Dorey I. Fleming D. Hales S. Robinson J. Wilcox

***** CERTIFICATION ******

I, Jackie Mason, Deputy Secretary of the Committee of Adjustment for the Municipality of Lambton Shores certify that the above is a true copy of the decision of the Committee with respect to the application recorded herein.

Dated this 29th day of September, 2017.

_____

Deputy Secretary,
Committee of Adjustment,
Municipality of Lambton Shores

NOTICE FOR APPEALING TO THE MUNICIPAL BOARD

To appeal the decision to the Ontario Municipal Board, a letter outlining the reasons for the appeal together with the appropriate OMB Appeal Form (www.omb.gov.on.ca), must be sent to the Secretary of the Municipality of Lambton Shores Committee of Adjustment, 7883 Amtelecom Parkway, Forest, ON N0N 1J0. You must enclose the appeal fee of $125.00 for each application appealed, paid by certified cheque or money order, made payable to the Ontario Minister of Finance.

Please note that Section 45 Subsection 17 of the Planning Act states that the Municipal Board may dismiss all or part of an appeal without holding a hearing, on its own motion or on the motion of any party if,

(a) it is the opinion that,
  (i) the reasons set out in the notice of appeal do not disclose any apparent land use planning ground upon which the Board could allow all or part of the appeal,
  (ii) the appeal is not made in good faith or is frivolous or vexatious, or
  (iii) the appeal is made only for the purpose of delay.

NOTE: THE LAST DAY FOR APPEAL OF THE ABOVE DECISION IS THE 17th DAY OF OCTOBER, 2017.

THE MUNICIPALITY OF LAMBTON SHORES

Report PL 38-2017 **Council Meeting Date: October 17, 2017**

TO: Mayor Weber and Members of Council

FROM: Patti Richardson, Senior Planner

RE: ZONING BY-LAW AMENDMENT APPLICATION ZO-10/2017
LOCATION: 8375 Goosemarsh Line
OWNER: Richard and Karen Sewell

RECOMMENDATION:

THAT Report PL 38-2017 relating to Zoning By-law Amendment Application ZO-10/2017 submitted by Richard and Karen Sewell, be received;

THAT Zoning By-law Amendment Application ZO-10/2017, submitted by Richard and Karen Sewell, respecting lands known as 8375 Goosemarsh Line, to amend the existing Residential 6.10 (R6-10), Agricultural 2 (A2) and Agricultural 2.1 (A2-1) zoning on a portion of the lands proposed to be severed as a new 4,000 m² single detached dwelling lot to a site specific Residential 6.26 (R6-26) Zone and an Environmental Protection-Natural Conservation (EP-NC) Zone be APPROVED, subject to:

The Residential 6.26 (R6-26) zone contain the following regulations:

a) Minimum Lot Area	4000 m²
b) Minimum Lot Frontage	27 metres
c) Maximum Height	10 metres
d) Minimum Front Yard Setback	7.5 metres
e) Minimum Interior Side Yard Setback (if attached garage)	1.2 metres
f) Minimum Interior Side Yard Setback (if no attached garage)	1.2 metres
g) Maximum Lot Coverage	25%
h) Minimum Ground Floor Area	
One-storey dwellings	90 m²

More than One-storey dwellings 70 m²

i) No buildings or structures (including pools/hot tubs) shall be located within 10 metres of the boundary of the adjacent Natural Conservation (EP-NC) Zone (edge of the woodlot).

j) Any Planning Act Application to allow buildings or structures (including pools/hot tubs) within 10 metres of the boundary of the adjacent Natural Conservation (EP-NC) Zone (edge of the woodlot) shall be subject to an additional Environmental Evaluation Report being submitted.

k) A dwelling shall be flood proofed to a minimum flood elevation of 181 GSC.

Special Provisions

No building permit shall be issued for any buildings or structures in the Residential 6.23 (R6-23) Zone until:

Approval is received from the Ministry of Natural Resources and all of the recommendations required in the Overall Benefit Permit are complied with;

Sediment and erosion control fencing be installed along the north boundary of the Residential 6.23 (R6-23) zone to keep construction equipment within the development footprint, control silt within the site and provide a barrier to wildlife movement from the adjacent lands, such fence can be removed when construction is complete; The sediment and erosion control fencing shall 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 Specifications/Ontario Provincial Standard Drawings (OPSS/OPSD) documents. The sediment and erosion fence shall be inspected and approved by the Municipality prior to a building permit being issued.

The Municipality is satisfied that a municipal water service has been provided to the lot.

SUMMARY

This report relates to a zoning by-law amendment application submitted by Richard and Karen Sewell affecting lands known municipally as 8375 Goosemarsh Line (See Map, Attachment 1).

BACKGROUND

The Owners, Richard and Karen Sewell, are requesting an amendment to Zoning By-law 1 of 2003 as it affects lands known as 8375 Goosemarsh Line, to change the existing Residential 6.10 (R6-10) and Agricultural 2 and 2.1 (A2 and A2.1) (revised) zoning on a portion of the lands proposed to be severed as a new single detached dwelling lot to a site specific Residential 6 (R6) Zone and an Environmental Protection- Natural Conservation (EP-NC) Zone.

The proposed residential zoning would:

- permit the proposed new single detached dwelling lot to:
    - have a minimum lot frontage of 27 metres, whereas the Residential 6.10 (R6-10) Zone requires that a lot provide a minimum lot frontage of 30 metres;
    - have a minimum lot area of 2,700 m², whereas the Residential 6.10 (R6-10) Zone requires that a lot have a minimum lot area of 4,000 m² (The lot area has been revised to 4,000 m² as a result of the County of Lambton's comments respecting septic systems and lot size. See comments below and Attachment 5);
- require the proposed new single detached dwelling to provide a 10 metre setback from the edge of the woodlot.

The woodlot portion of the proposed new lot is to be zoned Environmental Protection-Natural Conservation (EP-NC).

The lands subject of this application comprise part of a larger parcel which is located on the south side of Goosemarsh Line (see Attachment 2) between Graham Street and Knight Road. The Owners' entire land parcel has a lot area of approximately 3.6 hectares, a lot frontage of 65 metres and supports a single detached dwelling and accessory building. The lands subject of this application, as revised, comprise the northwest corner of the Owners entire lands and are 27 metre wide, 146 metres deep and has an area of 4,000 m². Lands to the west and north are occupied by single detached dwellings. Lands to the south and east are vacant, comprise part of a large woodlot. (See Attachments 2 and 3).

Lambton Shores Official Plan

The land subject of this application is designated “Residential” and “Agricultural Constraint” in the Lambton Shores Official Plan (see Attachment 4). Uses permitted in the “Residential” designation, where the proposed single detached dwelling is to be located, include single detached dwellings and accessory buildings and uses.

The lands also lie within an area designated as a “Significant Woodlot” in the Official Plan (see Attachment 4). Significant Woodlots form part of the natural heritage system in Lambton Shores. Section 17- Natural Heritage of the Lambton Shores Official Plan states:

> *“The Municipality also contains natural areas that include significant natural features (e.g. wetlands and woodlots) which must be protected with special provisions. Development in these areas will be* ***discouraged****.”*

Further, Section 17.4 - Significant Natural Areas of the Official Plan states:

> *“The Municipality will designate Significant Natural Areas as ‘Environmental Protection’ or other suitable designations and will* ***encourage the maintenance of these lands in their natural state where possible.*** *These areas include Provincially Significant Wetlands,* ***Significant portions of the Habitat of Threatened and Endangered Species****, Areas of Natural and Scientific Interest (ANSIs), Environmentally Significant Areas (ESAs), Great Lakes System shorelines****, Significant Woodlots****, Significant Valley Lands, Significant Wildlife Habitat, prairie grasslands, Locally Significant Wetlands, Nature Reserves, and fish habitat”.*

And further Section 17.4.1 - Provincially Significant Features and Environmental Evaluations states:

> “*Development or site alteration is not permitted in Provincially Significant Wetlands or in* ***Significant Portions of the Habitat of Threatened and Endangered Species****.* ***Development proposed adjacent to these areas, or within or adjacent to other Significant Natural Areas must be accompanied by an Environmental Evaluation****, as defined in this Plan. The Evaluation will assess the scale of development, the sensitivity of the feature, and the functions for which the Significant Natural Area was identified.”*

In addition, Section 17.4.7 - Trees of the Official Plan indicates that:

> “*In order to maintain a healthy stock of mature trees, the Municipality* ***will require*** *development proponents, as a condition of approval****, to preserve mature trees where possible*** *and when trees must be removed, these shall be replaced with new plantings in a reasonable time by trees of similar species and of sufficient maturity to enhance the appearance of the development. In addition, the Municipality will encourage the introduction of new tree plantings as one component of the development approval process.”*

Section 17.4.8 - Woodlot Management, directs

> "*In accordance with the Lambton County Tree By-law, no clearing of woodlots will be permitted except for minor clearing for convenience purposes as approved by Lambton County Council. County Council may require, as a condition of approval, reforestation of, at least, an equivalent area of land, or planting of a fence line or windbreak.*
>
> *Where forest cover has been removed and is to be replaced as a condition of a development approval, the use of indigenous species of vegetation is encouraged. Restoration work should be required at rate of twice the area of forest cover that was removed. Preference will be given to replacing the trees at the same site and/or within the Environmental Protection or Hazard designations. The replacement tree stock should consist of indigenous species where quality stock is available and be maintained by the proponent to the free to grow stage. Long term management of these replacement trees will comply with the County of Lambton Tree Cutting By-law."*

And finally, Section 17.4.10 -Tree Saving Plans, directs that

> *"Development proponents within or adjacent to wooded areas will be required to submit a Tree Savings Plan, satisfactory to the Municipality as a condition of approval. The Tree Saving Plan shall:*
>
> *a) Contain an inventory of existing tree species and condition;*
>
> *b) Indicate the impact of development on existing trees and the wild life habitat that they provide;*
>
> *c) Indicate measures necessary to reduce the negative effect of development;*
>
> *d) Indicate the trees to be removed and ensure the preservation of the remaining trees;*
>
> *e) Indicate a plan for the replacement of trees with suitable quality stock, preferably of indigenous species, and maintenance of replacement trees to a free to grow stage;*
>
> *f) Be included in the development agreement;*
>
> *g) Incorporate the requirements of an* ***Environmental Evaluation if the wooded area is part of a Significant Woodland****. Significant Woodlands are those forested areas which are designated Environmental Protection in a Primary corridor or Significant Natural Area, or any contiguous forested area that is 4 hectares, or greater in size; and*

h) identify building envelopes for proposed construction."

The Lambton Shore Official Plan discourages development within natural areas, which includes significant woodlots (Woodlands). Further, it encourages the maintenance of these lands in their natural state where possible. The Official Plan does not permit development or site alteration in Significant Portions of the Habitat of Threatened and Endangered Species. The lands comprise part of a broader area identified by the Ministry of Natural Resources as habitat for Endangered Species. Development proposed within or adjacent to these areas and other Significant Natural Areas must be accompanied by an Environmental Evaluation. As well, approval from the Ministry of Natural Resources is required.

The Official Plan states that the Municipality **will require** development proponents, within or adjacent to wooded areas to submit a Tree Saving Plan, satisfactory to the Municipality as a condition of approval. The Tree Saving Plan shall indicate impact of development on the trees and the wildlife habitat and provide measures to reduce these impacts. Further, the plan shall ensure preservation of the remaining trees and identify envelopes for proposed construction.

The Owners have retained a consultant to prepare the Environmental Evaluation Report required by the Official Plan, but also to prepare the report necessary to obtain approval from the Ministry of Natural Resources under the Species at Risk Act. The findings of that report will be discussed later in this report.

Provincial Policy Statement

Section 2.1 of the Provincial Policy Statement says:

2.1.1 Natural features and areas shall be protected for the long term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features* and *areas*, *surface water features* and *ground water features*.

2.1.5 *Development and site alteration* shall not be permitted in:

a. *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E1;

b. ***significant woodlands*** **south and east of the Canadian Shield** ;

c. *significant valleylands* south and east of the Canadian Shield;

d. *significant wildlife habitat*; and

e. *significant areas of natural and scientific interest*

unless it has been demonstrated that there will be no *negative impacts* on the natural features or their *ecological functions*.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements

Clearly the Provincial Policy Statement does not permit development within significant habitat of endangered and threatened species without compliance with provincial and federal requirements. Further, it does not permit development or site alteration in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Zoning

The subject lands are zoned "Residential 6.10 (R6.10)", "Agricultural 2 (A2)" and "Agricultural 2.1 (A2-1)" in the Lambton Shores Zoning By-law. The area of the lot proposed to be the site of the new single detached dwelling is zoned "Residential 6.10 (R6.10)" and does permit single detached dwellings on a lot with a minim lot frontage of 30 metre and minimum lot area of 4,000 m².

Environmental Evaluation

The Owners retained Biologic Incorporated to prepare an Environmental Evaluation Report (see Attachment 6) as required by the Lambton Shores Official Plan. As well, because the lands comprise part of a broader area identified by the Ministry of Natural Resources as habitat for Endangered and Threatened Species the report also contains information required to obtain approval from the Ministry of Natural Resources to develop the lands.

The Environmental Evaluation Report identified that the front portion of the proposed lot (subject lands) consists of a maintained residential lawn. The remainder of the lands comprises cultural woodland consisting of a canopy and sub-canopy of Poplar, Cherry and Manitoba Maple and understory and ground layers of Dogwood, Buckthorn, Raspberry and Virginia Creeper and a Cultural Meadow at the rear dominated by Golden Rod.

The report indicates that as a result of a review of the Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre Data Base (NHIC) and consultation with the Ministry of Natural Resources and Forestry (MNRF), it was determined that suitable habitat existed within the Cultural Woodland for a number of protected species at risk. In addition given the existence of habitat for some protected reptile and wildlife species, the cultural woodland was considered to be a significant wildlife habitat. In summary based on the consultant's field investigation, policy review and evaluation of significance it was their opinion that the principle natural heritage components to be considered were:

- Significant Woodlands/Significant Natural Areas;

- Assumed Significant Wildlife Habitat; and

- Habitat of Endangered and Threatened Species.

In order to protect, maintain and enhance these natural heritage feature from the proposed development mitigation measures are required. The Consultant has recommended the following:

- That all development is to occur on the maintained grass;

- That a 10 metre setback from the woodland;

- That the cultural woodland be placed in an Environmental Protection Zone;

- That any encroachment into the 10 metre woodland setback be subject to additional life-science inventories;

- That sediment and erosion control fencing be installed at the limit of the development area to protect the woodland from indirect impacts prior to any future development/site alteration of the maintained grass area;

- That all sediment and erosion control fencing be installed according to the Guidelines for Sediment and Erosion Control for Urban Construction (OMNR, 1987) and the applicable standards established in the Ontario Provincial Standard Specifications/Ontario Provincial Standard Drawings (OPSS/OPSD) Documents; and

- That all sediment and erosion control fencing be inspected to ensure proper installation prior to any development/site alteration occurring.

Given the natural heritage information collected by the Consultant, a Stage 1 Information Request was submitted to the MMRF seeking SAR (Species at Risk) approval. The MNRF has provided a letter to the proponent indicating no concerns regarding flora and fauna SARS for the proposed severance. However, further correspondence and SAR approval will be required from MNRF for any future development (physical site alterations) within the subject lands to ensure compliance with the ESA (Endangered Species Act) 2007 (see Appendix ‘B” to Attachment 6).

All of these recommendations have been incorporated into the conditions contained in the Staff Recommendations.

The new dwelling is proposed to be serviced with a new private septic system and Municipal water.

Section 22.1.1.5 of the Official Plan provides for this form of servicing provided the proposed site can accommodate an individual sanitary sewage treatment and disposal system. Corrine Nauta, Manager of Building Services at the County of Lambton (see Attachment 5) indicates that the new proposed lot size of 0.67 acres is not supported as it will not achieve the "Reasonable Use" guidelines of the requirements of 1 acre in sandy soils according to the Ministry of the Environment. The Owner has two options to consider:

- complete a hydrogeological study to support a smaller lot; or
- increase the lot size to one acre.

The County further advises that there is a septic record for the existing dwelling on the retained lands which shows that the system was installed in 2009 and that it appears to be wholly contained within the boundaries of the retained lot. The County has inspected the system and advise that there is no evidence of septic failure. The County advises that they can support the application provided the following conditions are imposed:

1. That the current septic system location be demonstrated on a legal survey for 8375 Goosemarsh Road.

2. That the lot size be increased to one acre in size or a hydrogeological report be completed to support the smaller lot size of 0.67 acres.

With respect to lot size, Staff had suggested to the Owners prior to the Zoning By-law Amendment Application being submitted, that size of the lot be reduced to 0.67 acre as the depth of the lot would be in keeping with the depth of lots to the west and result in the new lot being located entirely within the residential designation in the Official Plan. In light of the County's request for a hydrogeological report to support the 0.67 acre lot area, Staff contacted the Owners to ascertain if they would like to retain the 0.67 acres lot size or increase it to 1 acre (4,000m²). The Owners decided to return to the 1 acre (4,000m²) lot size. Staff has no objection to this as it meets the general intent of the Official Plan and as such the application has been revised to reflect the 1 acre (4,000m²) lot size.

With respect to the provision of Municipal water, this will be a requirement of the severance; however, the zoning will contain a provision requiring that the lot be serviced with municipal water, to the satisfaction of the Municipality, prior to a building permit being issued.

Staff have reviewed the Owners' proposed development including the Environmental Evaluation Report prepared by Biologic Incorporated in support of the development and can recommend approval of the application, subject to the conditions in the Recommendation Section of the report, as in Staff's opinion the proposed development:

- Is consistent with the Provincial Policy Statement as:

- it protects natural features and areas;

- it permits development as it relates to endangered species and threatened species in compliance with the Provincial and Federal requirements; and

- it ensures that there are no significant impacts to a significant woodland.

- Complies with the provisions of the Lambton Shores Official Plan as:

  - it permits a new single-detached dwelling to be constructed on lands designated "Residential";

  - it encourages the maintenance of Significant Natural Areas in their natural state;

  - it preserves mature trees;

  - it does not permit development in the significant habitat of endangered species and threatened species, except in compliance with Provincial and Federal regulations; and

  - it ensures that there are no significant impacts to a significant woodland.

ALTERNATIVES TO CONSIDER

None at this time.

RECOMMENDED ACTIONS

That Council receive Report PL 38-2017 and approve in principle Zoning By-law Amendment Application ZO-10/2017, submitted by Richard and Karen Sewell affecting lands known as 8375 Goose marsh Line, subject to the conditions in the recommendation section of this report.

FINANCIAL IMPACT

An application fee of $1,200.00 was paid.

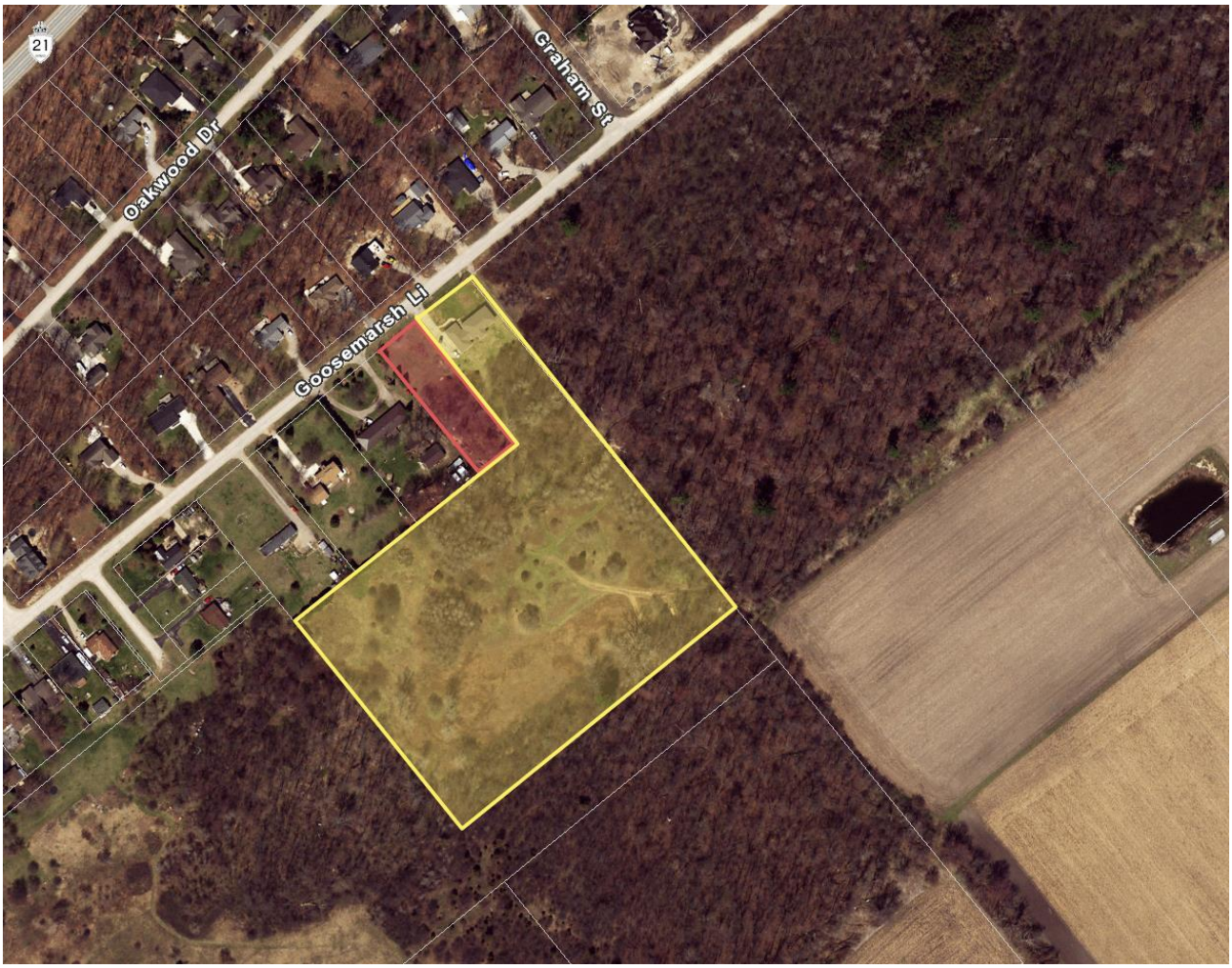
CONSULTATION

Corrine Nauta, County of Lambton Building Services Manager

ATTACHMENTS

Attachment 1 - Location Map Original Lot Layout
Attachment 2 - Revised Lot Layout
Attachment 3 - Revised Lot Layout
Attachment 4 - Official Plan Map “A-5”
Attachment 5 - Letter from Corrine Nauta, County of Lambton Building Services
Attachment 6 - Consultants Environmental Evaluation Report

Original Lot Layout **ATTACHMENT 1**



SUBJECT LANDS AND PROPOSED NEW LOT

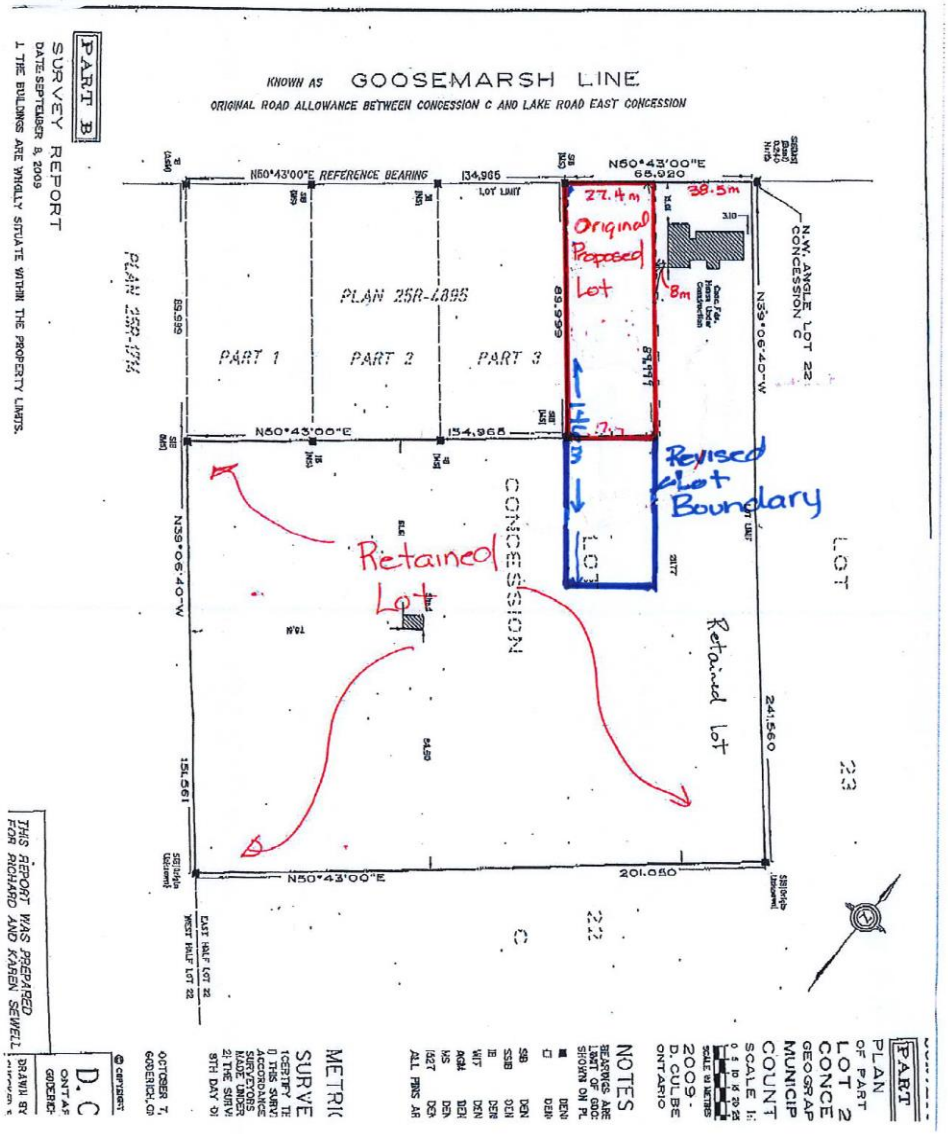
BALANCE OF OWNERS' LANDS

Revised Lot Layout ATTACHMENT 2

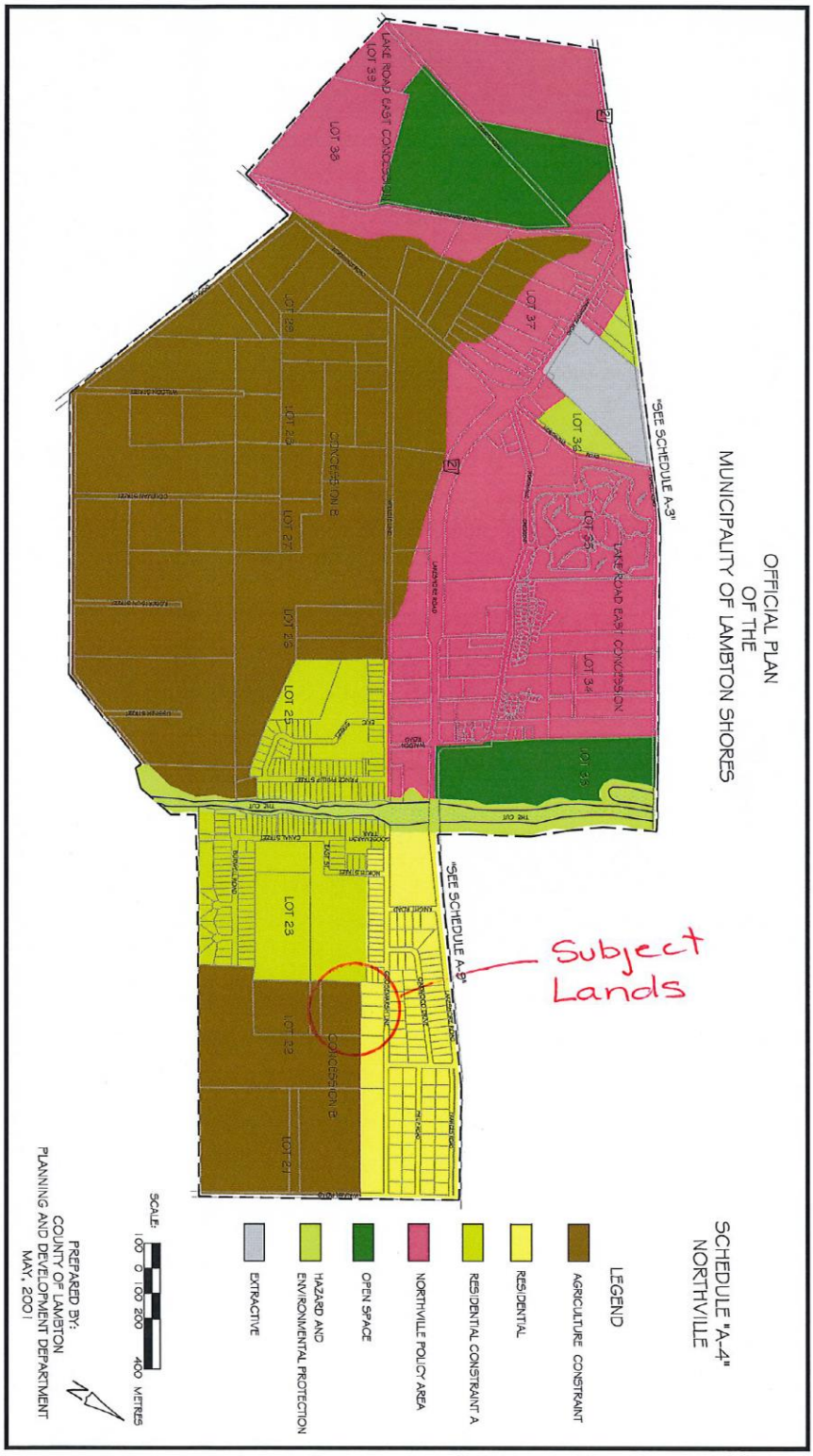
REVISED SUBJECT LANDS AND REVISED PROPOSED NEW LOT

REVISED BALANCE OF OWNERS' LANDS

Revised Lot Layout ATTACHMENT 3



ATTACHMENT 4



ATTACHMENT 5

Building Services Department
789 Broadway Street, Box 3000
Wyoming, ON N0N 1T0

Telephone: 519-845-5420
Toll-free: 1-866-324-6912
Fax: 519-845-3817

REPORT

Date: October 11, 2017

To: The Municipality of Lambton Shores

From: Corrine Nauta - Manager, Building Services

cc: Patti Richardson - Senior Planner

Re: **8375 Goosemarsh Line - ZO-10/2017 - Sewell**

The above noted application has been reviewed and the following comments are provided for your consideration.

The new proposed lot size of approximately 0.67 acres is not supported by this Department as it will not achieve the `Reasonable Use` guidelines for the requirements of 1 acre in sandy soils according to the Ministry of Environment. There are two options to consider, complete a hydrogeological study to support the smaller lot size or increase the lot size to one acre. The retained portion meets the stated criteria.

The property known as 8375 Goosemarsh Line does have septic records available for consideration. However, a lot diagram was not submitted regarding the existing septic system. The septic system was installed in 2009 (S-1666). The existing septic system appears to be wholly contained within the new property boundaries for the retained portion, as proposed, based on the documents in our file. The existing septic system must be plotted on the legal survey for the property. A site inspection has taken place and there is no evidence of septic system failure.

At this time, this Department can support the above noted application, provided the following conditions are imposed:

1. That the current septic system location be demonstrated on the legal survey for 8375 Goosemarsh Road.

2. That the lot size is increased to one acre in size or a hydrogeological report be completed to support the smaller lot size of 0.67 acres.

If you require any further information, please do not hesitate to contact this office.

Karen Bowes-Sewell
8375 Goosemarsh Line
N0M 1TO
Grand Bend, ON

April 24, 2017

Dear Karen:

Re: Letter Environmental Evaluation - 837 5 Goosemarsh Line (Part Lot 22, Concession C Bosanquet, Grand Bend, Lambton County, Ontario

Introduction

BioLogic was retained to conduct an Environmental Evaluation (EE) for the proposed severance and future construction of a single-family residence on a legal parcel located at 8375 Goosemarsh Line in the town of Grand Bend, Ontario. For the purposes of this report, the parcel to be severed will be referred to as the subject lands [Figure 1].

This Environment Evaluation (EE) provides a summary of natural heritage concerns and studies that have been conducted to evaluate potential direct and indirect (adjacent) impacts of site development. The report reviews the proposed development in the context of natural heritage to assess impacts and provide mitigation to protect the relevant natural heritage system features and functions.

When applicable, this EE is also designed to provide a support document for subsequent site alteration permit applications which may be submitted to the Ausable Bayfield Conservation Authority (ABCA) under their regulatory framework (Ontario Regulation 97/04).

Legal Parcel & Subject Lands

General Background

The legal parcel consists of a single family residence with maintained lawn fronting Goosemarsh Line with the remainder of the property occupied by unmaintained areas in various stages of natural succession. The subject lands consist of vacant maintained lawn fronting Goosemarsh Line and a portion of the aforementioned natural successional areas. The property is bound by Goosemarsh Line to the north and a combination of residential properties, wooded areas and agricultural land to the south, east and west [Figure 1].

Soils within the extreme frontage of the subject lands consist of Grimsby sandy loam which is comprised of stonefree, well sorted sandy outwash with poor drainage characteristics. Soils throughout the remainder of the subject lands consist of Blackwell clay which is comprised of stone free sandy or clay and raw organic material with poor to very poor drainage characteristics. General topography is described and smooth level which is consistent with site investigation (Matthews et al., 1957).

Land Use

County of Lambton Official Plan (1998) and Municipality of Lambton Shores Official Plan (2001)

The entire subject lands are designated Thedford Marsh by the County (County of Lambton Official Plan, 1998, Map 1). In addition, the front half of the subject lands is designated Residential while the remainder is designated Agricultural Constraint by the Municipality [Figure 2] (Municipality of Lambton Shores Official Plan, Schedule "A-4", 2001).

The entire subject lands fall within a Significant Natural Area identified by the County (County of Lambton Official Plan, 1998, Map 2). The natural area is associated with the Thedford Marsh floodplain designation mentioned below under Conservation Authority Regulations. In addition, there is a section of a municipally-identified Significant Woodland which occupies the central portion of the subject lands [Figure 3] (Municipality of Lambton Shores Official Plan, Schedule "B", 2001).

Municipality of Lambton Shores Zoning By-Law (2003)

The front half of the subject lands is zoned Residential (R6-10) [Figure 4] with the following special provisions:

- a dwelling shall be flood proofed to a minimum flood elevation of 181 GSC
- prior to a building permit being issued for any building a tree and vegetation preservation report shall be prepared to the satisfaction of the Municipality and all the development shall comply with the plan

The remaining lands are zoned Agricultural (A2 & A2-1) with an exception on the rear portion of the property [Figure 4] that does not permit any dwelling to have an opening below 181 metres C.G.D. with the exception of completed buildings or structures in existence on December 23, 1980. Storage of toxic or explosive materials will be required to be located above 181 metres C.G.D..

Any zoning by-law amendments needed for Agricultural (A2 & A2-1) zoned lands on site will be discussed under Impacts and Mitigation.

Conservation Authority Regulations

The majority of the subject lands, save for a thin strip fronting Goosemarsh Line, are within the Ausable Bayfield Conservation Authority (ABCA) Regulation Limit for flood hazards (ABCA Regulatory Flood Limit plus 15m) associated with the Thedford Marsh Floodplain [Figure 5]. It is this hazard line that is represented in the Lambton Official Plan as a Significant Natural Area.

Natural Heritage Features and Functions

Provincially Significant Areas

The Pinery Provincial Park Life Science Area of Natural and Scientific Interest (ANSI) is the only Provincially Significant Area identified within 1km of the subject lands (LIO, 2015). This feature is located approximately 275m from the subject lands and separated by a main and minor roadway (Lakeshore Road and Oakwood Drive) and existing residential development. No further consideration is required with respect to possible impacts to this ANSI.

Vegetation Communities

An evaluation of vegetation within the subject lands was completed on August 29, 2016 by Paul Mikoda, certified by MNRF to conduct ELC, and the results are summarized below.

The frontage of the subject lands consists of residential maintained lawn and planted landscape trees along Goosemarsh Line [Figure 6]. The remainder of the property is a Cultural Woodland which consists

predominately of Poplar, Cherry and Manitoba Maple in the canopy and subcanopy and Dogwood, Buckthorn, Rapsberry and Virginia Creeper in the understorey and ground layers. There is a Cultural Meadow at the rear [Figure 6], dominated by Golden Rod. There is a maintained pathway from the vacant lawn through the woodland and leading to the meadow.

Aquatic

There are no watercourses within or adjacent to the subject lands.

Flora

A review of the NHIC database identified twenty-four (24) floral species with the potential to occur within the 1km squares for the subject lands [Appendix A]. Of these, one species is protected under the ESA (2007) and one other is considered Special Concern by the province. The rest are ranked S1-S3.

Suitable habitat exists in the Cultural Woodland and Cultural Thicket for several or all of the floral species identified as potential within the 1km square for the subject lands. In lieu of detailed floral inventories, areas beyond the maintained lawn are assumed to support the listed species.

A Stage 1 Information Request was submitted to MNRF seeking SAR approval [Appendix B]. A Letter to Proponent has been received indicating MNRF has no concerns regarding floral SAR for the proposed severance. However, further correspondence and SAR approval will be required from MNRF for any future development (physical site alterations) within the subject lands to ensure compliance with the ESA (2007) [Appendix B].

Fauna

A review of the NHIC database identified twelve (12) faunal species of provincial interest with the potential to occur within the 1km squares for the subject lands [Appendix A]. Of these, six species are protected under the ESA (2007) [Appendix A].

No suitable habitat exists (no marshes or water features, no oak-pine scrub/chaparral/barrens, no ponds or lakes) for Eastern Ribbonsnake, Sleepy Duskywing or Slender Bluet within or adjacent to the subject lands.

However, suitable habitat exists for Dusted Skipper (S1) in the Cultural Meadow, Milksnake (S3) in the Cultural Woodland and Cultural Meadow and for Tawny Emperor (S2S3) in the Cultural Woodland within the subject lands.

In lieu of detailed faunal inventories, areas beyond the maintained lawn are assumed to support the listed species.

A Stage 1 Information Request was submitted to MNRF seeking SAR approval [Appendix B]. A Letter to Proponent has been received indicating MNRF has no concerns regarding faunal SAR for the proposed severance. However, further correspondence and SAR approval will be required from MNRF for any future development (physical site alterations) within the subject lands to ensure compliance with the ESA (2007) [Appendix B].

Wildlife Habitat

Candidate significant wildlife habitat is identified by evaluating vegetation communities using the habitat criteria outlined in the Significant Wildlife Habitat Technical Guide (MNRF, 2000) and the supporting Criteria Schedules (MNRF, 2015). Based on the presence of a Cultural Woodland and Cultural Meadow within the subject lands there is candidate SWH for the following [Appendix C]:

- Reptile Hibernaculum - Community 1 & 2
- Special Concern and Rare Wildlife Species - Community 1 & 2
  - potential for several or all floral species listed by NHIC
  - potential for Dusted Skipper (S1), Milksnake (S3) and Tawny Emperor (S2S3)

Candidate significant wildlife habitat must meet wildlife use thresholds (i.e., target species, population numbers, etc.) to be considered confirmed significant wildlife habitat. In lieu of detailed floral and faunal surveys, candidate SWH for Reptile Hibernaculum and Special Concern and Rare Wildlife species in the Cultural Woodland and Cultural Meadow is assumed to be SWH . Mitigation measures to protect assumed SWH are addressed below under Impacts and Mitigation.

Policy Review

Provincial

Based on our review of the 2014 Provincial Policy Statement the following provincially significant features require further consideration:

- Significant Woodlands
- Assumed Significant Wildlife Habitat
- Significant Habitat of Endangered and Threatened Species

Significant Woodlands

Based on its size (4+ha), the Cultural Woodland within and adjacent to the subject lands would be considered a Provincially Significant Woodland and is also identified as a Significant Woodland by the Municipality. Avoidance and mitigation measures to protect the woodland within the subject lands are addressed below under Impacts and Mitigation.

Assumed Significant Wildlife Habitat

In lieu of detailed floral and faunal surveys, candidate SWH for Reptile Hibernaculum and Special Concern and Rare Wildlife species (several or all floral species in Appendix A, Dusted Skipper, Milksnake, Tawny Emperor) in the Cultural Woodland and Cultural Meadow is assumed to be SWH. Avoidance and mitigation measures to protect assumed SWH are addressed below under Impacts and Mitigation.

Significant Habitat of Endangered and Threatened Species

A Stage 1 Information Request was submitted to MNRF seeking approval for the severance application with regard to the ESA (2007) [Appendix B]. A Letter to Proponent has been received from MNRF indicating that the proposed severance is not likely to contravene the ESA (2007). However, further correspondence will be required from MNRF for any future development (physical site alterations) within the subject lands to ensure compliance with the ESA (2007) [Appendix B]. This requirement is addressed under Impacts and Mitigation.

County

The County Policy Natural Heritage considerations are based on the County of Lambton Official Plan, 1998, Section 8.1.

8.1.1 Significant Natural Areas

The entire subject lands are located within a Significant Natural Area associated with the Thedford Marsh floodplain. Development approvals adjacent to or within Significant Natural Areas will not be permitted unless it can be demonstrated through an Environmental Evaluation that there will be no negative impacts on the natural heritage features or functions for which the

area was identified. This designation is discussed further under Impacts and Mitigation.

8.1.2 Wetlands
There are no provincially or locally significant wetlands identified by the County within or adjacent to the subject lands.

8.1.3 Woodlands
The Cultural Woodland within the subject lands is greater than 4ha and therefore considered a Significant Woodlot. This designation is discussed further under Impacts and Mitigation.

8.1.4 Great Lakes System
The subject lands are not within the Lakeshore Policy Area and are well beyond the Lake Huron and St. Clair River shorelines.

Municipal
The Municipal Policy Natural Heritage Considerations are based on the Municipality of Lambton Shores Official Plan, 2001, Section 17.

There are no Hazard and Environmental Protection Areas identified by the Municipality within or adjacent to the subject lands [Figure 2]. However, consistent with County policy, there is a Significant Woodlot identified in the central portion of the subject lands [Figure 3]. Development within or adjacent to Significant Natural Areas must be accompanied by an Environmental Evaluation which will assess the scale of development, the sensitivity of the feature and the functions for which the Significant Natural Area was identified. This feature is discussed further below under Impacts and Mitigation.

Conservation Authority
The majority of the subject lands, save for a strip fronting Goosemarsh Line, are within the Ausable Bayfield Conservation Authority (ABCA) Regulation Limit [Figure 5]. The frontage where a development footprint will be established is outside of the Regulation Limit [Figure 7]. However, any development proposed within the Regulation Limit will require a permit from ABCA. In addition, the Lambton Shores Zoning By-law (R6-10) for the frontage of the subject lands requires that a dwelling shall be flood proofed to a minimum flood elevation of 181 GSC.

Development Proposal

The proponent is proposing a severance of the subject lands to allow for the future construction of one single-family residence and septic bed. To support this goal, this EE is proposing a development footprint, a woodland setback and Environmental Protection zoning [Figure 7] to protect the natural areas within the subject lands located at 8375 Goosemarsh Line in the town of Grand Bend, Ontario.

Details regarding the development setback\footprint and zoning by-law amendment are provided below under Impacts and Mitigation.

Impacts and Mitigation

This section addresses the natural heritage requirements relating to the proposed severance and future development of a single family residence and septic bed within the subject lands. The primary natural heritage management goal, during construction and in the post-development setting is to protect, maintain

and enhance the critical and core features of the surrounding natural successional lands. Mitigation measures are used to prevent, modify or alleviate impacts to the significant natural heritage features and functions. The PPS (2014) does not preclude the use of mitigation measures to demonstrate no negative impacts.

Mitigation measures recommended in the following section consider information contained in the NHRM (2010) under the section Addressing Impacts of Development and Site Alteration.

Based on site specific field investigation, policy review and evaluation of significance, it is our opinion, the principle natural heritage components to be considered are:

- Significant Woodland/Significant Natural Areas
- Assumed SWH - Reptile Hibernaculum & Special Concern and Rare Wildlife Species - Communities 1 & 2
- Habitat of Endangered and Threatened Species

Significant Woodland/Significant Natural Areas

A 10m woodland setback and development footprint are proposed on the maintained vacant lawn within the subject lands [Figure 7]. A zoning amendment to an Environmental Protection zone is recommended beyond the maintained land fronting Goosemarsh Line to protect the woodland for the long term [Figure 8]. Subsequently, there would be no negative impacts to the Significant Natural Area identified by the County associated with the Thedford Marsh floodplain.

Recommendation 1: An Environmental Protection zone should be established beyond the maintained frontage to protect the Cultural Woodland and Cultural Meadow within the subject lands [Figure 8]. Details will be discussed with the Municipality.

Recommendation 2: As part of the zoning by-law amendment, a 10m development setback is recommended from the Cultural Woodland [Figure 8]. This setback is based on the proximity of existing single family residences to woodlands in the surrounding area. The setback was used to create a development footprint and lands to be protected within the subject lands.

Recommendation 3: If any future encroachment is proposed within the 10m woodland setback, additional life science inventories would be needed.

Recommendation 4: For any future development/site alterations, sediment and erosion control fencing should be installed at the limit of development to protect the woodland from indirect impacts.

Recommendation 5: All 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.

Recommendation 6: Inspection of all sediment and erosion control fencing to ensure it is installed correctly.

Assumed Significant Wildlife Habitat - Communities 1 & 2

In lieu of targeted floral and faunal surveys, the Cultural Woodland and Cultural Meadow within the subject lands are assumed SWH for Reptile Hibernaculum and Special Concern and Rare Wildlife species (several or all floral species in Appendix A, Dusted Skipper, Milksnake, Tawny Emperor). This habitat will be protected through the 10m woodland setback and zoning amendment discussed above.

Recommendation 1: A development footprint, 10m woodland setback and Environmental Protection zone are proposed to protect all natural areas and subsequently assumed SWH within the subject lands [Figure 8].

Habitat of Endangered and Threatened Species

A Letter to Proponent has been received from MNRF indicating that the proposed severance is unlikely to contravene the ESA [Appendix B]. However, further correspondence will be required from MNRF for any future development (physical site alterations) within the subject lands to ensure compliance with the ESA (2007) [Appendix B].

Recommendation 1: To ensure future physical site alterations proposed within the subject lands do not contravene the ESA (2007), future building permits on the subject lands should include a condition requiring MNRF comment and approval under the ESA prior to issuance.

Recommendation 2: If any future encroachment is proposed within the 10m woodland setback, a variety of additional life science inventories would be needed.

Conclusion

The proponent is planning a severance and future development of a single-family residence and septic bed within the subject lands located at 8375 Goosemarsh Line in the town of Grand Bend, Ontario [Figure 7]. To support this goal, this EE has proposed an allowable development footprint, a 10m woodland setback and an Environmental Protection Zone within the subject lands [Figure 8].

By establishing an Environmental Protection zone beyond the maintained frontage, all assumed SWH and SAR habitat within the subject lands will be protected for the long term. For additional protection, as part of the zoning amendment, a 10m development setback is proposed from the Cultural Woodland within the subject lands. However, if any future alterations or encroachment is proposed within the 10m woodland setback, a variety of additional life science inventories would be needed. Additional life science inventories may allow for adjustment of the 10m woodland setback depending on survey results and the proposed land use.

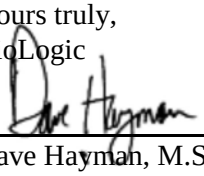
Therefore, the proposed Environmental Protection zone would protect all natural areas including assumed SWH and SAR habitat from any direct impacts. Sediment and erosion control fencing combined with the 10m woodland setback for any buildings and structures will protect the natural areas from any indirect construction related impacts.

In addition, to ensure future physical site alterations proposed do not contravene the ESA (2007), future building permits on the subject lands should include a condition requiring MNRF comment and approval under the ESA prior to issuance.

This Environmental Evaluation has reviewed the proposed severance , development footprint for a single family residence and septic bed, 10m woodland setback and Environmental Protection zone on site. These planning changes and recommendations should serve to avoid or mitigate any potential negative impacts to the Natural Heritage system components which were identified as requiring consideration. BioLogic seeks comments from the County of Lambton, Municipality of Lambton Shores and the ABCA with respect to the contents of this report. Formal comments can be submitted in writing to BioLogic on behalf of the client. Should you wish to clarify any questions or require additional information as part of the review of this report, do not hesitate to contact us.

Should you wish to clarify any questions or require additional information as part of this letter EE, do not hesitate to contact us.

Yours truly,
BioLogic



Dave Hayman, M.Sc.
Bowes-Sewell - Letter EEvlFinal.wpd

Attachments
Figure 1: Site Location
Figure 2: Land Use
Figure 3: Natural Heritage
Figure 4: Zoning
Figure 5: ABCA Regulation Limit
Figure 6: Vegetation Communities
Figure 7: Development Footprint
Figure 8: Development Footprint and Protected Land

Appendix A - NHIC Data
Appendix B - MNRF Stage 1 Information Request & Letter to Proponent
Appendix C - Preliminary SWH Evaluation

Figure 1: Site Location

(2015 Google Earth Air Photo)

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Scale 1:50,000

Key Plan

Print on 11X17, Landscape Orientation

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Scale 1:3000

March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

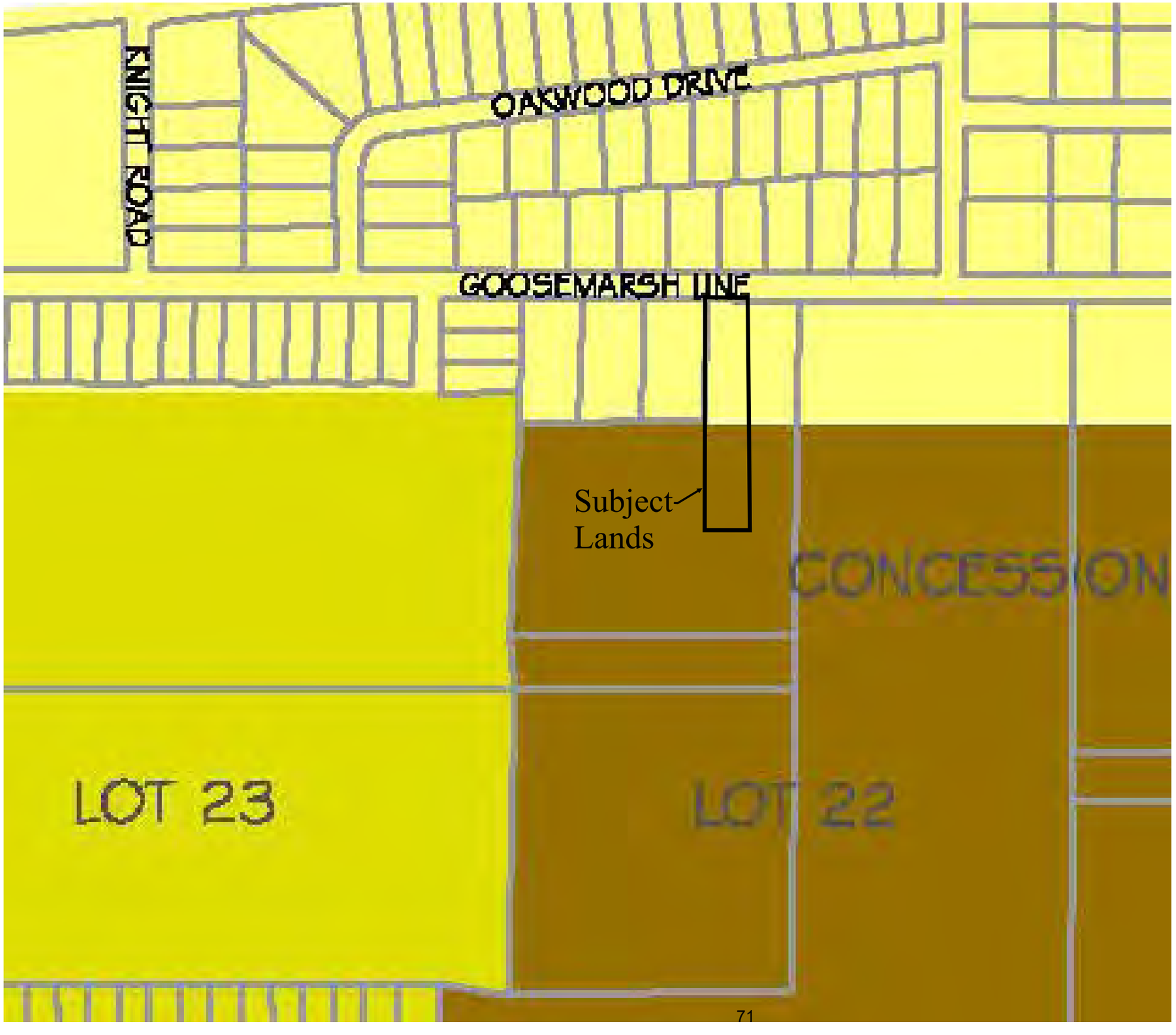

Figure 2: Land Use

(Municipality of Lambton Shores Official Plan, 2001, Schedule "A-4")

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Scale 1:50,000

Key Plan

LEGEND

- AGRICULTURE CONSTRAINT
- RESIDENTIAL
- RESIDENTIAL CONSTRAINT A
- NORTHVILLE POLICY AREA
- OPEN SPACE
- HAZARD AND ENVIRONMENTAL PROTECTION
- EXTRACTIVE

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Scale 1:3000

March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Figure 3: Natural Heritage

(Municipality of Lambton Shores Official Plan, 2001, Schedule "B")

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Scale 1:50,000

Key Plan

LEGEND

SIGNIFICANT WOODLOTS

LANDS NOT UNDER
MUNICIPAL JURISDICTION

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Scale 1:3000

March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

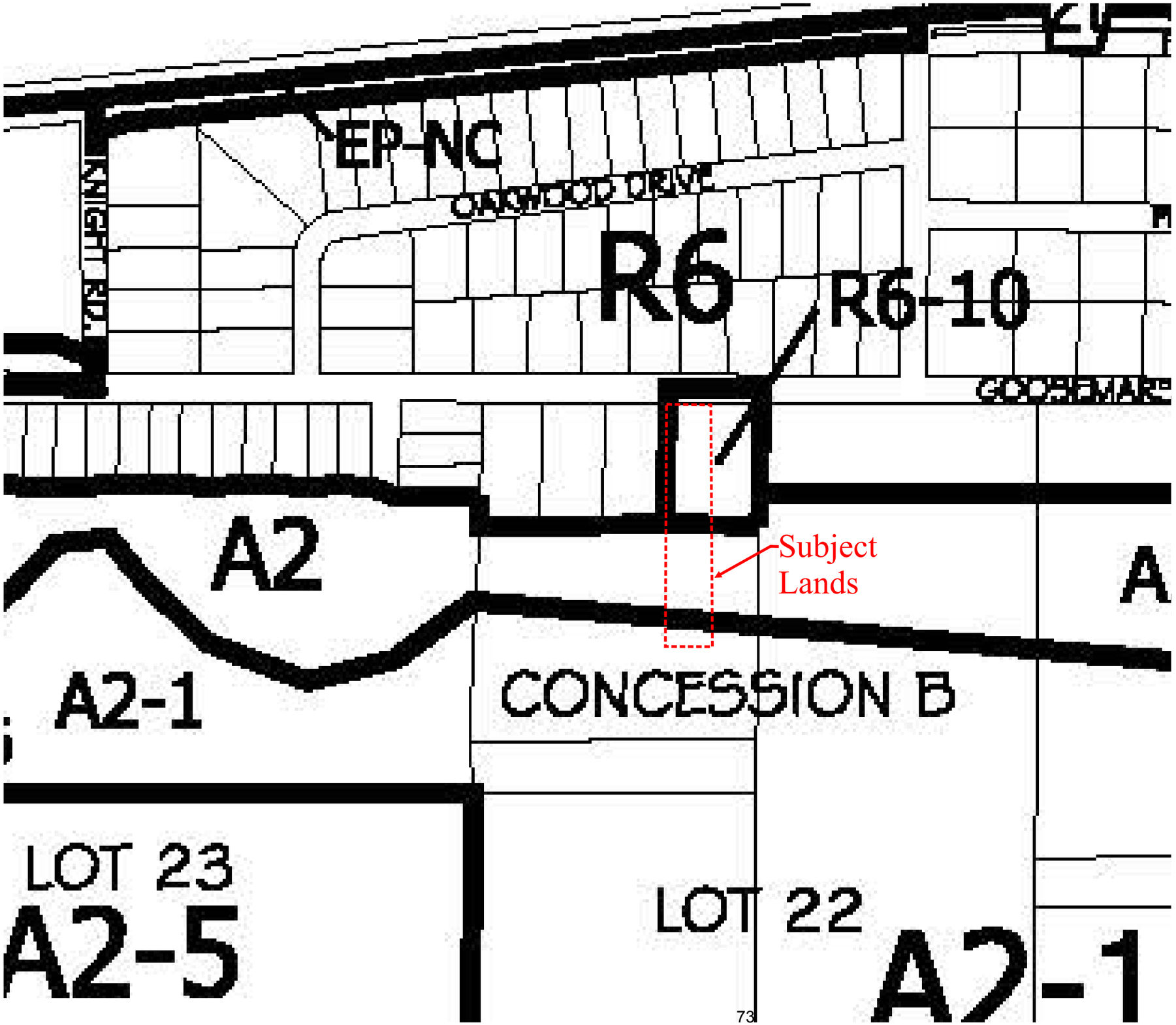

Figure 4: Zoning
(Municipality of Lambton Shores Zoning By-Law, 2003)

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Scale 1:50,000
Key Plan

LEGEND

SYMBOL	ZONE
A2	AGRICULTURAL - 2
C4	COMMERCIAL - 4
C5	COMMERCIAL - 5
C6	COMMERCIAL - 6
C13	COMMERCIAL - 13
C14	COMMERCIAL - 14
C15	COMMERCIAL - 15
EP-H	ENVIRONMENTAL PROTECTION - HAZARD
FD	FUTURE DEVELOPMENT
I1	INSTITUTIONAL - 1
M2	INDUSTRIAL - 2
OS1	OPEN SPACE - 1
R3	RESIDENTIAL - 3
R5	RESIDENTIAL - 5
R6	RESIDENTIAL - 6
R7	RESIDENTIAL - 7
-H1,-H2..	HOLDING PROVISIONS
- 1,-2,..	EXCEPTIONS

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March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

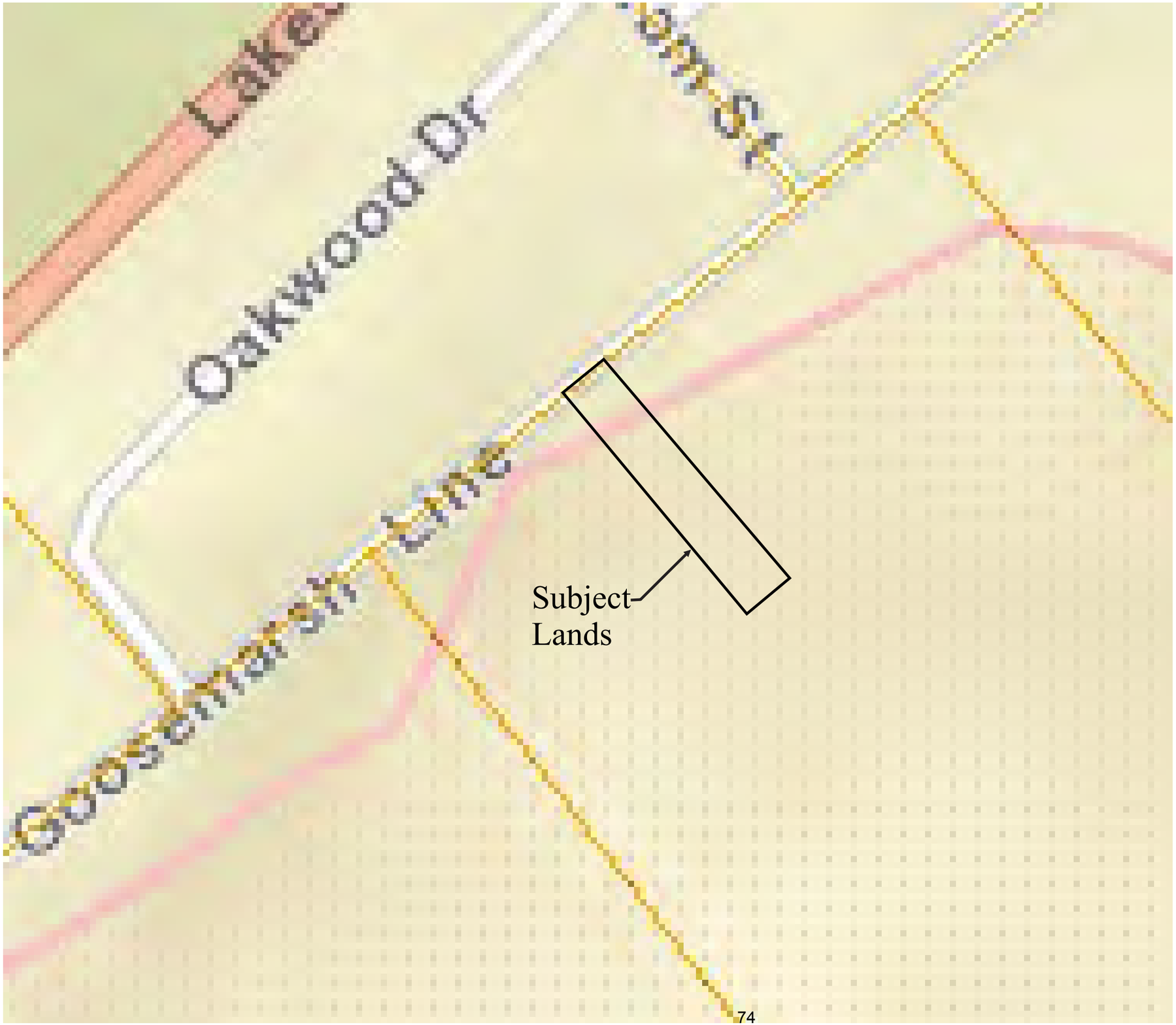

Figure 5: ABCA Regulation Limit

(Ausable Bayfield Conservation Authority GIS Mapping)

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Scale 1:50,000

Key Plan

Legend

ABCA Regulated Lands (O. Reg. 97/04)

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Scale 1:3000

March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Figure 6: Vegetation Communities

(2015 Google Earth Air Photo)

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Scale 1:50,000

Key Plan

Legend

M Maintained Residential (maintained lawn, landscape trees)
1 CUM Cultural Meadow
2 CUW Cultural Woodland

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Scale 1:1500

March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

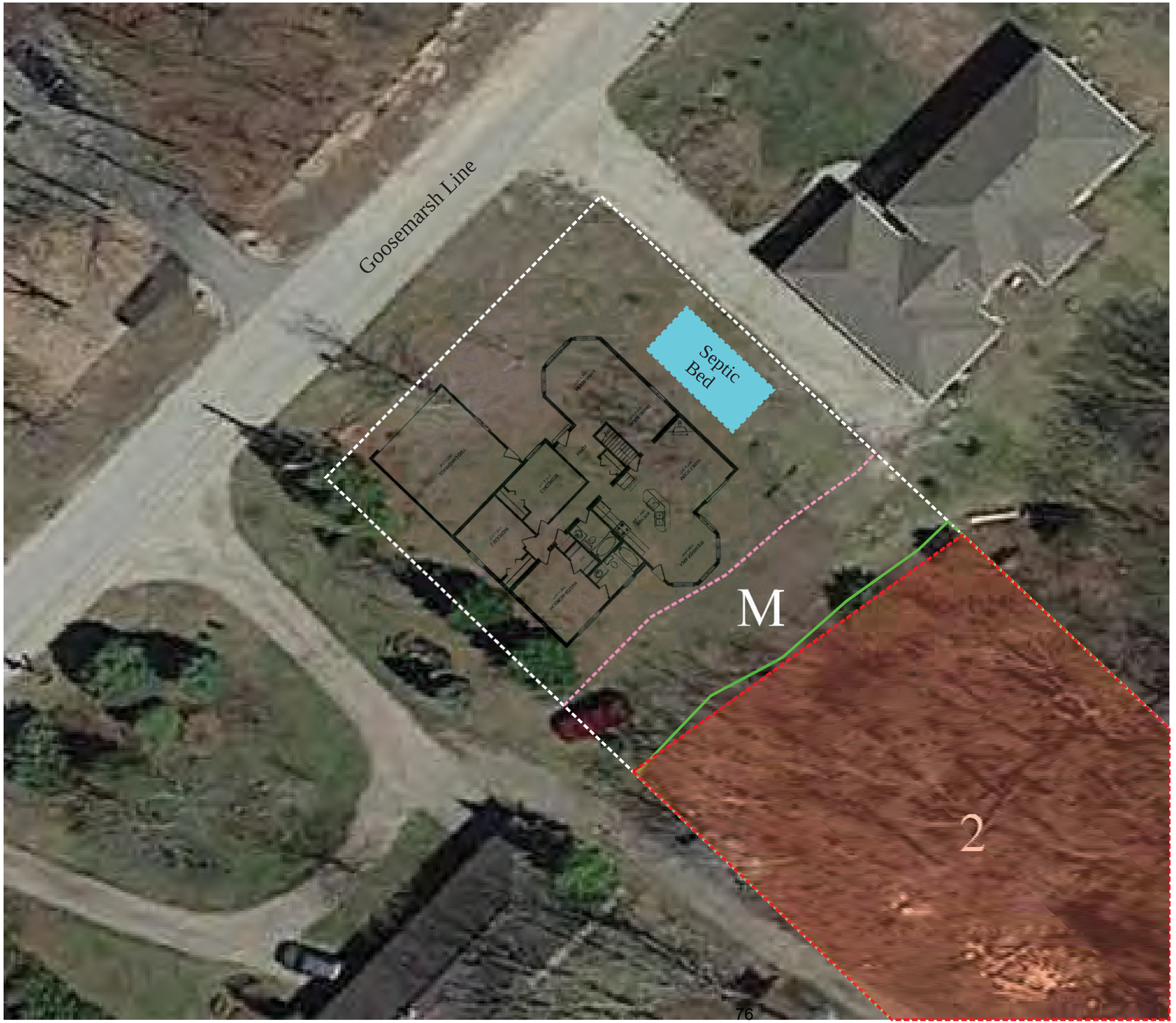
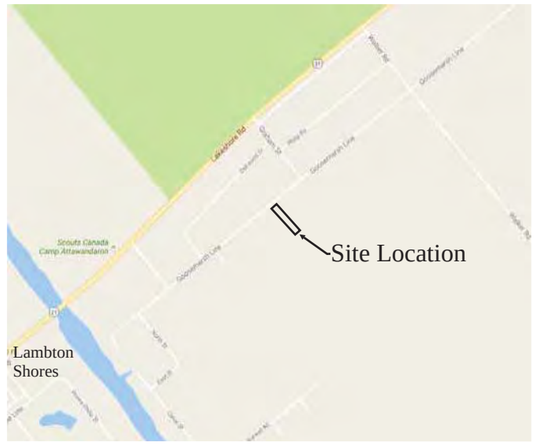


Figure 7: Development Footprint

(2015 Google Earth Air Photo)



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Key Plan

Legend

M Maintained Residential (maintained lawn, landscape trees)

2 CUW Cultural Woodland

10m Woodland Setback

ABCA Regulated Land (O. Reg. 97/04)
(Subject Lands only)

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Scale 1:400

March 2017

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AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

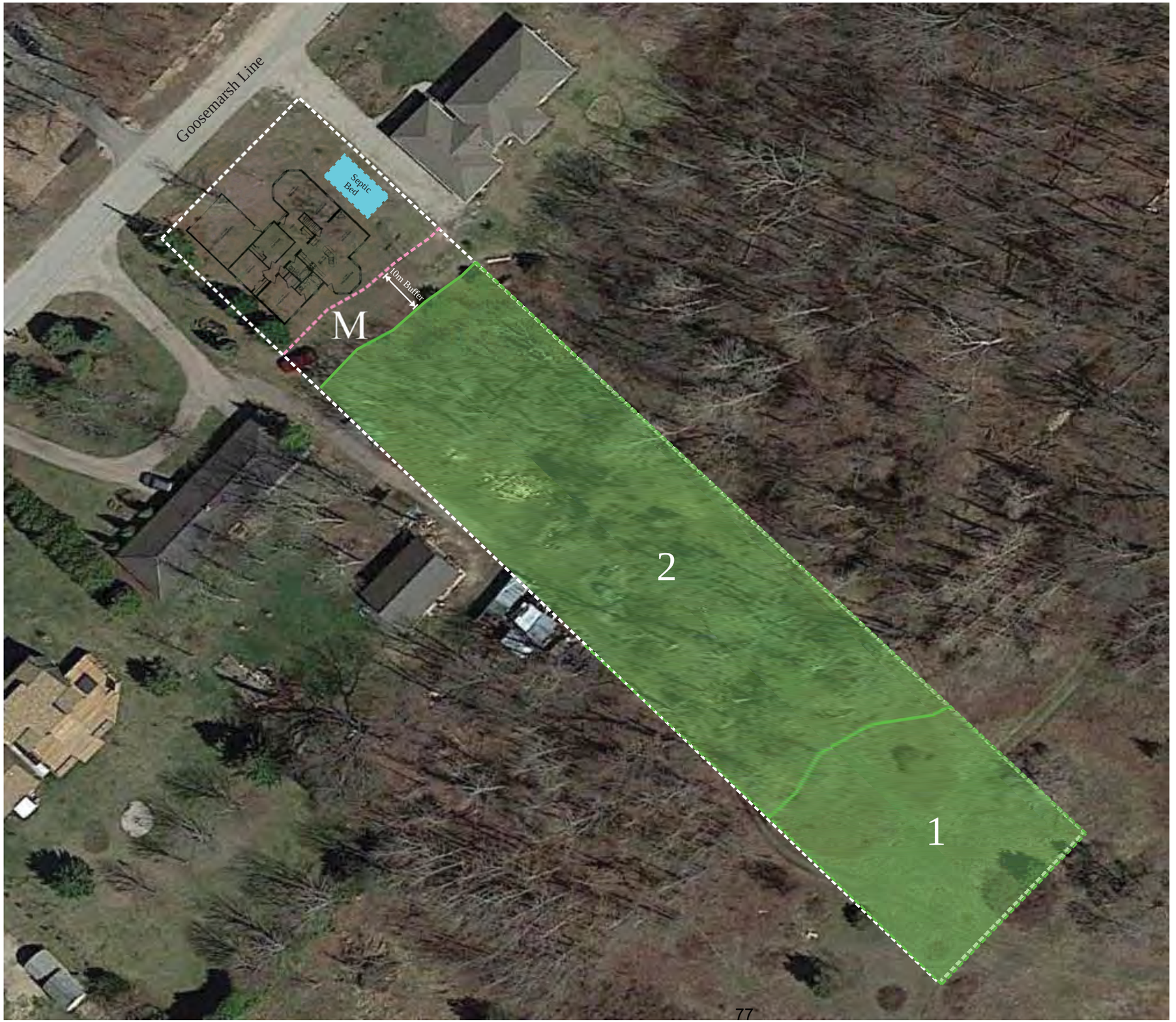
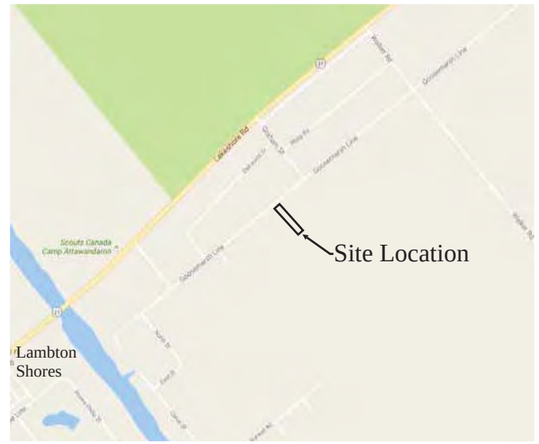


Figure 8: Development Footprint and Protected Land (2015 Google Earth Air Photo)



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Key Plan

Legend

M Maintained Residential (maintained lawn, landscape trees)
1 CUM Cultural Meadow
2 CUW Cultural Woodland
10m Woodland Setback
Lands to be Re-zoned Environmental Protection (EP)

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Scale 1:800
March 2017

BioLogic
AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Appendix A
NHIC Data

SCI_NAME	COMMNAME	S_RANK	COSEWIC	MNR_STATUS
Papaipema aweme	Aweme Borer Moth	S1	END	END
Piptochaetium avenaceum	Black Oat Grass	SX		
Coluber constrictor foxii	Blue Racer	S1	END	END
Euonymus atropurpureus	Burning Bush	S3		
Dendroica cerulea	Cerulean Warbler	S3B	END	THR
Conioselinum chinense	Chinese Hemlock Parsley	S2		
Bidens trichosperma	Crowned Beggarticks	S2		
Veronicastrum virginicum	Culver's Root	S2		
Liatris spicata	Dense Blazing Star	S2	THR	THR
Atrytonopsis hianna	Dusted Skipper	S1		
Thamnophis sauritus	Eastern Ribbonsnake	S3	SC	SC
Vernonia gigantea	Giant Ironweed	S1?		
Calamovilfa longifolia var. magna	Great Lakes Sand Reed	S3		
Asclepias viridiflora	Green Cornet Milkweed	S2		
Arisaema dracontium	Green Dragon	S3	SC	SC
Galium pilosum	Hairy Bedstraw	S3		
Lycaeides melissa samuelis	Karner Blue	SX	EXP	EXP
Seiurus motacilla	Louisiana Waterthrush	S3B	SC	SC
Lampropeltis triangulum	Milksnake	S3	SC	SC
Phlox subulata	Moss Phlox	S1?		
Weissia muhlenbergiana	Mühlenberg's Weissia	S2		
Lithospermum incisum	Narrow-leaved Puccoon	S1		
Colinus virginianus	Northern Bobwhite	S1	END	END
Asimina triloba	Pawpaw	S3		
Oenothera pilosella	Pillose Evening Primrose	S2		
Fraxinus profunda	Pumpkin Ash	S2?		
Cypripedium arietinum	Ram's-head Lady's-slipper	S3		
Hieracium venosum	Rattlesnake Hawkweed	S2		
RESTRICTED	RESTRICTED			
RESTRICTED	RESTRICTED			
Bombus affinis	Rusty-patched Bumble Bee	S1	END	END
Erynnis brizo	Sleepy Duskywing	S1		
Enallagma traviatum	Slender Bluet	S1		
Polygonum tenue	Slender Knotweed	S2		
Vulpia octoflora	Slender Vulpia	S2		
Gentianella quinquefolia	Stiff Gentian	S2		
Lupinus perennis	Sundial Lupine	S3		
Liatris aspera	Tall Blazing Star	S2		
Asterocampa clyton	Tawny Emperor	S2S3		
Caprimulgus vociferus	Whip-poor-will	S4B	THR	THR
Pterospora andromedea	Woodland Pinedrops	S2		
Hypoxis hirsuta	Yellow Stargrass	S3		

Appendix B

MNRF Stage 1 Information Request and Letter to Proponent

Stage 1: Information Request
MNRF District Office Location: Aylmer
Project Name: Bowes-Sewell - 8375 Goosemarsh Line Date: August 19, 2016

Proponent Information:	
Name: Karen Bowes-Sewell	Company: n/a
Mailing Address:	8375 Goosemarsh Line, Grand Bend, Ontario
Email Address:	kbsewell123@gmail.com
Property Information: Site Location Figure Attached ✓ yes ❒ no	
Lot, Concession, Township, County, City:	Part Lot 22, Concession C, Bosanquet, Grand Bend, Lambton County, Ontario
GPS centroid	17T 430569 4786121
Vegetation and Site Photos	Vegetation Map Attached ✓ yes ❒ no NHIC Data Attached ✓ yes ❒ no (1 km square) DFO SAR Maps Attached ❒ yes ✓ no (no nearby habitat) Site Photos Attached ✓ yes ❒ no Field Work Sheets Attached ✓ yes ❒ no
Similar to LIO Maps? If no explain:	Similar
Current Status of Vegetation and History of Maintenance	The frontage of the legal parcel consists of a single family residence fronting Goosemarsh Line with associated maintained lawn and planted landscape trees. The remainder of the property is vegetated primarily by a Cultural Woodland and Cultural Meadow. There is a maintained pathway from the residential backyard through the woodland leading to a maintained clearing. Beyond the clearing is a Cultural Meadow and continuation of the Cultural Woodland. The proposed lot to be severed will be referred to as the subject lands and consists of vacant maintained lawn and landscape trees fronting Goosemarsh Line and a portion of the Cultural Woodland and Cultural Meadow. **Comments:** - no suitable habitat exists (Blue Racer is only found on Pelee Island, no oak savannah for Rusty-patched Bumble Bee although recent observations since 2002 have been reported in nearby Pinery Park, no deciduous woodland) for Blue Racer, Rusty-patched Bumble Bee or Cerulean Warbler within the subject lands - little is known about habitat needs of Aweme Borer Moth however it has been historically captured at Grand Bend and therefore is potential within the cultural communities within the subject lands - potential habitat exists for Northern Bobwhite and Dense Blazing Star in the Cultural Meadow and for Whip-poor-will in the Cultural Woodland and Meadow within the subject lands - there are two restricted records identified by NHIC, which are assumed to be Eastern Hog-nose Snake and Five-lined Skink - potential habitat exists for both Five-lined Skink and Eastern Hognose Snake in the Cultural Woodland and Meadow within the subject lands - in addition, the site investigation looked for floral SAR within 25m of the vacant maintained lot to be severed; none are present
Proposed Activities: Proposed Footprint Attached ✓ yes ❒ no	
Description of Proposal	The proponent plans to severe a Lot from the legal parcel located at 8375 Goosemarsh Line. The vacant maintained lawn fronting Goosemarsh Line will be the limit of development, however the formal lot boundary extends into the Cultural Woodland and Meadow to meet minimum area requirements (1 acre) by the Municipality.
Timing /Duration of Proposed Activity	2016
History and Planning	

Planning Amendments	Official Plan Amendment: Not needed Zoning Amendment: Needed from Agricultural to Residential
Existing Status	New Application
Past MNRF Correspondence, if any:	none
Next Steps - BioLogic Suggestion Based on Above and attached	
✓ Letter to Proponent Requested SAR Summary - Based on site investigations, there are no floral SAR within 25m of the vacant, maintained residential lawn to be severed. Potential habitat exists for Aweme Borer Moth, Northern Bobwhite, Eastern Whop-poor-will, Dense Blazing Star, Eastern Hognose Snake and Five-lined Skink beyond the maintained lawn in the Cultural Woodland and Meadow within the legal parcel. Although potential habitat exists for the aforementioned SAR, the development limit will be constrained to the maintained lawn fronting Goosemarsh Line. For long term protection of the aforementioned SAR habitat, a 5m development setback (impervious surfaces) from the Cultural Woodland is recommended, constraining future development to the vacant maintained lawn.	

Site Location
(2015 Google Earth Air Photo)

0 1,000
Scale 1:50,000
Key Plan

Print on 11X17, Landscape Orientation
0 40
Scale 1:2000
August 2016

BioLogic
AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Vegetation Communities

(2015 Google Earth Air Photo)

0 1,000

Scale 1:50,000

Key Plan

Legend

M Maintained Residential (single family residence, maintained lawn, landscape trees)

1 CUM Cultural Meadow

2 CUT Cultural Woodland

Print on 11X17, Landscape Orientation

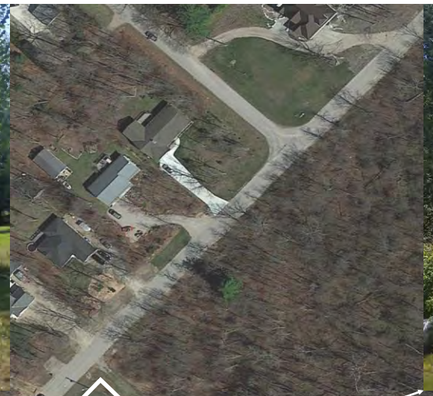
0 40

Scale 1:2000

August 2016

BioLogic

AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS



Approximate proposed severance (Subject Lands)

Legal Parcel

85

Site Photos

(2015 Google Earth Air Photo)

0 1,000

Scale 1:50,000

Key Plan

Print on 11X17, Landscape Orientation

0 40

Scale 1:2000

August 2016

BioLogic

AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Proposal

(2015 Google Earth Air Photo)

0 1,000

Scale 1:50,000

Key Plan

Print on 11X17, Landscape Orientation

0 40

Scale 1:2000

August 2016

BioLogic

AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

SCI_NAME	COMMNAME	S_RANK	COSEWIC	MNR_STATUS
Papaipema aweme	Aweme Borer Moth	S1	END	END
Piptochaetium avenaceum	Black Oat Grass	SX		
Coluber constrictor foxii	Blue Racer	S1	END	END
Euonymus atropurpureus	Burning Bush	S3		
Dendroica cerulea	Cerulean Warbler	S3B	END	THR
Conioselinum chinense	Chinese Hemlock Parsley	S2		
Bidens trichosperma	Crowned Beggarticks	S2		
Veronicastrum virginicum	Culver's Root	S2		
Liatris spicata	Dense Blazing Star	S2	THR	THR
Atrytonopsis hianna	Dusted Skipper	S1		
Thamnophis sauritus	Eastern Ribbonsnake	S3	SC	SC
Vernonia gigantea	Giant Ironweed	S1?		
Calamovilfa longifolia var. magna	Great Lakes Sand Reed	S3		
Asclepias viridiflora	Green Cornet Milkweed	S2		
Arisaema dracontium	Green Dragon	S3	SC	SC
Galium pilosum	Hairy Bedstraw	S3		
Lycaeides melissa samuelis	Karner Blue	SX	EXP	EXP
Seiurus motacilla	Louisiana Waterthrush	S3B	SC	SC
Lampropeltis triangulum	Milksnake	S3	SC	SC
Phlox subulata	Moss Phlox	S1?		
Weissia muhlenbergiana	Mühlenberg's Weissia	S2		
Lithospermum incisum	Narrow-leaved Puccoon	S1		
Colinus virginianus	Northern Bobwhite	S1	END	END
Asimina triloba	Pawpaw	S3		
Oenothera pilosella	Pillose Evening Primrose	S2		
Fraxinus profunda	Pumpkin Ash	S2?		
Cypripedium arietinum	Ram's-head Lady's-slipper	S3		
Hieracium venosum	Rattlesnake Hawkweed	S2		
RESTRICTED	RESTRICTED			
RESTRICTED	RESTRICTED			
Bombus affinis	Rusty-patched Bumble Bee	S1	END	END
Erynnis brizo	Sleepy Duskywing	S1		
Enallagma traviatum	Slender Bluet	S1		
Polygonum tenue	Slender Knotweed	S2		
Vulpia octoflora	Slender Vulpia	S2		
Gentianella quinquefolia	Stiff Gentian	S2		
Lupinus perennis	Sundial Lupine	S3		
Liatris aspera	Tall Blazing Star	S2		
Asterocampa clyton	Tawny Emperor	S2S3		
Caprimulgus vociferus	Whip-poor-will	S4B	THR	THR
Pterospora andromedea	Woodland Pinedrops	S2		
Hypoxis hirsuta	Yellow Stargrass	S3		

GENERAL SITE INFORMATION FIELD SHEET

Project: 1305 - SEWELL
Date: AUG -27/16 Project Manager:
Collector(s): R. MACKOR Visit #:
Time started: 9:15 Time finished: 10:00 Combined collectors' hours: 0.75
☐ NHIC List ☐ MNR EO's ☐ none ☐ not provided to collector

WEATHER CONDITIONS				
Temp.	Wind:	0	Cloud Cover (%)	Precipitation
19	Direction:	/	5	Today: 0 Yesterday: 0

DATA FOCUS							
☐	Birds 1__ 2__ Mig__	☑	ELC's	☐	Dripline/Tree Survey
☐	Mammals	☐	Floral V__ S__ A_	☐	Aquatic - Physical
☐	Amphibians 1_ 2_ 3_	☐	Wetland	☐	Aquatic - Biological
☐	Reptiles	☑	Butternut	☐	Faunal Habitat
☐	Inverterbrates	☑	other SAR	☐	Other - see notes

WIND SCALE	
0	Calm
1	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper
5	Small trees sway
6	Large branches sway
7	Lots of resistance when walking into
8	Limbs breaking off trees

FEATURES (with GPS co-ordinates where applicable)	Mapped	Follow-up Req'd		
	UTM	Yes	No	Who
Man-made Structures: ☐ None observed				
☐ Barns/Footings/Wells/other(list)				
☐ Rock Piles				
☐ Garbage				
Natural Vegetation: ☐ None observed				
☐ Fallen Logs outside woods (#'s)				
☐ Brush Piles				
☐ Snags (raptor perch)				
☐ Tree Cavities (nesting)				
☐ Sentinel Trees				
☐ Mast Trees (6E) ☐ Berry Shrubs (6E)				
Wildlife Features: ☐ None observed				
☐ Waterfowl nesting (large #'s, # of species)				
☐ Exposed Banks (nesting swallows)				
☐ Stick Nests				
☐ Animal Burrows (>10cm)				
☐ Heronry				
☐ Crayfish mounds				
☐ Sand/gravel on site				
☐ Marsh/open country/shrub				
☐ Winter Deer yards				
☐ Corridor from pond to woods (ampibian movement)				
☐ Bat corridor (shorelines, escarpments)				
☐ Bat hibernacula (caves, mines, crevices, etc.)				
Aquatic Features:				
☐ Perm. pond in woodland ☐ emergents/submergents/logs ☐ temp.				
☐ Perm. pond in open ☐ emergents/submergents/logs ☐ temp.				
☐ Water in woodland ☐ pools ☐ flowing ☐ dry				
☐ Waterways flowing dry pools				
☐ natural stream ☐ ☐ ☐				
☐ swale ☐ ☐ ☐ ☐ None observed				
☐ open drain ☐ ☐ ☐				
☐ Seeps/Springs ☐ ☐ ☐				

Incidental Observations/Notes:

NO SAR OBSERVED WITHIN 25M OF EXISTING MAINTAINED SECTION OF SUBJECT LANDS

Graphic ☐ Attached or Name Checked by Project Manager ☐ Date:

N:\Projects\Templates\Other Templates\Field Sheets\BioLogic_General Field Sheet

From:	ESA Screening Request Aylmer District (MNRF)
To:	kbsewell123@gmail.com
Cc:	Dylan Morse; Patti Richardson; Dave Hayman; ESA Screening Request Aylmer District (MNRF); Hernould, Cara (MNRF)
Subject:	RE: Bowes-Sewell Stage 1 - Goosemarsh Line Grand Bend
Date:	Tuesday, February 07, 2017 10:19:45 AM

Hello Karen,
Given that he propose activity is exclusively an administrative activity (i.e. severance) there will not likely be a contravention of the Endangered Species Act, 2007 (ESA).

If in the future there are any proposed activities planned that will result in physical site alterations (e.g. cutting/removing vegetation, constructing a building, installing a driveway, etc.) please contact our office to ensure compliance with the ESA. Below is an initial Species at Risk screening.

Species at Risk (SAR)
The Species at Risk in Ontario (SARO) List (http://www.ontario.ca/environment-and-energy/species-risk-ontario-list) is Ontario Regulation 230/08 issued under the *Endangered Species Act*, *2007* (ESA). The ESA came into force on June 30, 2008, and provides both species protection (section 9) and habitat protection (section 10) to species listed as endangered or threatened on the SARO List. The current SARO List can be found on e-laws (http://www.e-laws.gov.on.ca/navigation?file=home&lang=en).

An initial SAR (Endangered and Threatened species) screening has been completed for the above-noted property.

The following Species at Risk, all of which receive legal protection under the Endangered Species Act, 2007 (ESA) along with the habitat they rely on, are known to occur in the general area of the proposed project location:

- Common Five-lined Skink
  - project area is within regulated Common five-lined skink habitat
- Eastern Hog-nosed Snake
- Dwarf Hackberry

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within the project footprint.

Based on the information provided for this project, MNRF considers there to be high likelihood for the above-noted species and/or habitat to occur within the proposed project footprint.

It is important to note the following:

- Changes may occur in both species and habitat protection which could affect whether proposed projects may have adverse effects on SAR.
- The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List. As a result, species designations may change, which could in turn change the level of protection they receive under the ESA 2007.
- Habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or their habitat, additional action would need to be taken in order to remain in compliance with the ESA.

Additional action could be applying for an authorization under section 17(2)(c) of the ESA, or completing an online registry for an ESA regulation, if the project is eligible (http://www.ontario.ca/environment-and-energy/natural-resources-approvals).

Please be advised that applying for an authorization does not guarantee approval and the process can take several months.

Best regards,

Kyle Stanley
Management Biologist
Aylmer District
Ministry of Natural Resources and Forestry
615 John Street N.
Aylmer, ON N5H 2S8
Phone: 519-773-4785
Fax: 519-773-9014
kyle.stanley@ontario.ca

From: Dave Hayman [mailto:dhayman@biologic.ca]
Sent: January-13-17 7:36 AM
To: ESA Screening Request Aylmer District (MNRF); kbsewell123@gmail.com
Cc: Dylan Morse; Patti Richardson
Subject: RE: Bowes-Sewell Stage 1 - Goosemarsh Line Grand Bend

Kyle:

The application submitted was not a title clearance request as suggested in your response. The application is to severe a lot under the Planning Act. For the municipality to make a decision on this request, the ESA should be addressed. The landowner should also be able to know the species of interest associated with this severance and what needs to be addressed as a building permit is submitted to the municipality.

Because the frontage is mowed lawn, where the house and services would go, it was our hope that you could provide an agreement the severance would not likely contravene the ESA if the dual zoning was put in place. We recognize that if the severed lot is left for many years, the ESA status might change, but that would be true for any parcel.

Please advise. I have copied Patti Richardson at Lambton Shores. We have discussed this issue and I believe she will also be in touch with you about this site and other severance applications under the Planning Act.

Dave Hayman, MSc.
BioLogic Incorporated
110 Riverside Drive
London, ON N6H 4S5

Direct: 519 657 0299
Office: 519 434 1516 x 106
Fax: 519 434 0575

Windsor: 519 966 1645

From: ESA Screening Request Aylmer District (MNRF)
[mailto:ESAScreeningRequest.AylmerDistrict@ontario.ca]
Sent: December-22-16 2:04 PM
To: kbsewell123@gmail.com
Cc: Dylan Morse <dmorse@biologic.ca>; ESA Screening Request Aylmer District (MNRF) <ESAScreeningRequest.AylmerDistrict@ontario.ca>; Dave Hayman <dhayman@biologic.ca>
Subject: RE: Bowes-Sewell Stage 1 - Goosemarsh Line Grand Bend

Title Clearance:

The Ministry of Natural Resources and Forestry (MNRF) Aylmer District has received your title/severance clearance request. We regularly receive these types of requests inquiring about current or potential future restrictions on a property proposed to be sold. However, please note that responding to title clearance requests is not a service that MNRF Aylmer District provides.

The Endangered Species Act, 2007 (ESA 2007) provides for the protection of endangered and threatened species listed on the Species at Risk in Ontario (SARO) List. The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate species for listing and/or re-evaluate species already listed. As a result, species designations may change that could in turn change the level of protection they receive under the ESA 2007. Also, habitat protection provisions for a species may change over time. Knowing this, MNRF cannot provide responses giving clearance for future, but currently conceptual, site alterations.

MNRF's website may be of interest to you, as it has more information on the ESA 2007 and provides general lists of species at risk known to occur in geographic areas. You can find this information online at: http://www.ontario.ca/environment-and-energy/species-risk.

Additionally, Natural Heritage Information Centre (NHIC) compiles, maintains and distributes information on species at risk, natural species, plant communities and spaces of conservation concern in Ontario. NHIC data can be accessed through the Make a Map tool: https://www.ontario.ca/page/make-natural-heritage-area-map
This is a web-based GIS map function, that you can use to zoom in on the subject lands and view recorded information. NHIC is not complete, as data always exists outside of databases, but it gives an idea of where to start.

Please feel free to contact our office in the future if any proposed activities/site alterations are planned.
Best regards,

Kyle Stanley
Management Biologist
Aylmer District
Ministry of Natural Resources and Forestry
615 John Street N.

Aylmer, ON N5H 2S8
Phone: 519-773-4785
Fax: 519-773-9014
kyle.stanley@ontario.ca

From: Dave Hayman [mailto:dhayman@biologic.ca]
Sent: September-01-16 2:23 PM
To: ESA-Aylmer (MNRF)
Cc: Karen Bowes-Sewell; Dylan Morse
Subject: Bowes-Sewell Stage 1 - Goosemarsh Line Grand Bend

The proponent is seeking to severe a parcel. The natural component at the back will be protected with only the frontage developed.

A confirmation of receipt of this submission would be appreciated.

Thanks

Dave Hayman M. Sc.
BioLogic Incorporated
110 Riverside Drive, Suite 201
London ON N6H 4S5
Direct: 519 657 0299
Office: 519 434 1516 x 106
Fax: 519 434 0575

Windsor: 519 966 1645

Appendix C
Preliminary SWH Evaluation

Table 1.1 – Seasonal Concentration Areas

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Waterfowl Stopover and Staging Areas (Terrestrial)	C1 - CUM	- vegetation in the Cultural Meadow is too dense to support a waterfowl stopover and staging area	No
Waterfowl Stopover and Staging Areas (Aquatic)	not present	- no ponds, marshes, lakes or bays present	No
Shorebird Migratory Stopover Area	not present	- no shorelines of lakes, rivers, wetlands, beaches, sand bars, seasonally flooded or muddy un-vegetated shorelines	No
Raptor Wintering Area	not present	- no forest (FOD, FOM, FOC) component present	No
Bat Hibernacula	not present	- none present	No
Bat Maternity Colonies	not present	- no forested ecosites present	No
Turtle Wintering Areas	not present	- no permanent waterbodies present	No
Reptile Hibernaculum	C1 - CUM C2 - CUW	- potential for hibernacula features in both communities	**Yes** C1 & C2
Colonially-Nesting Bird Breeding Habitat (Bank/Cliff)	C1 - CUM	- no steep slopes of exposed banks or cliff faces present	No
Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs)	not present	- no wetlands, lakes, island or peninsulas with live or dead standing trees present	No
Colonially-Nesting Bird Breeding Habitat (Ground)	C1 - CUM	- no rocky islands or peninsulas present or watercourses in open fields with scatted trees present	No
Migratory Butterfly Stopover Areas	not present	- no forest (FOD, FOC, FOM, CUP) component present, - not within 5km of Lake Ontario or Lake Erie	No
Land Bird Migratory Stopover Areas	not present	- no woodlands >5ha present	No
Deer Winter Congregation Areas	not present	- no woodlands >50ha present	No

Table 1.2.1 – Rare Vegetation Communities

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Cliffs and Talus Slopes	not present		No
Sand Barren	not present		No
Alvar	not present		No
Old Growth Forest	not present		No
Savannah	not present		No
Tallgrass Prairie	not present		No
Other Rare Vegetation	not present		No

Table 1.2.2 – Specialized Habitat for Wildlife

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Waterfowl Nesting Area	not present	- no wetland communities present	No
Bald Eagle and Osprey Nesting, Foraging, Perching	not present	- no lakes, ponds, rivers or wetlands along forested shoreline present	No
Woodland Raptor Nesting Habitat	not present	- no woodlands >30ha present	No
Turtle Nesting Areas	not present	- no exposed mineral soil adjacent to wetlands or watercourses present	No
Springs and Seeps	not present	- no forested headwaters present	No
Amphibian Breeding Habitat (Woodland)	not present	- no wetlands or ponds within or adjacent to woodlands	No
Amphibian Breeding Habitat (Wetlands)	not present	- no wetlands present	No
Woodland Area-Sensitive Bird Breeding Habitat	not present	- no large mature woodlands present	No

Table 1.3 – Habitats of Species of Conservation Concern (not END or THR species)

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Marsh Bird Breeding Habitat	C1 - CUM (Green Heron)	- no wetland present	No
Open Country Bird Breeding Habitat	C1 - CUM	- no abandoned fields, mature hayfields or pasture land >30ha present	No
Shrub/Early Successional Bird Breeding Habitat	C2 - CUW	- no large fields succeeding to shrub and thicket habitats > 10ha in size	No
Terrestrial Crayfish	not present	- wetland habitat not present	No
Special Concern and Rare Wildlife Species (NHIC and MNRF pre-consultation)		- potential for several or all floral species, Dusted Skipper (S1), Milksnake (S3) and Tawny Emperor (S2S3) identified as potential by NHIC [Appendix A] within the subject lands.	**Yes** C1& C2

Table 1.4.1 – Animal Movement Corridors

Wildlife Habitat	ELC Codes that Trigger Consideration*	Additional Habitat Criteria	Candidate SWH
Amphibian Movement Corridors	n/a	- Significant Amphibian Breeding Habitat (wetlands) not present	No

Table 1.5.1 - SWH Exceptions for Ecodistricts within Ecoregion 7E

Wildlife Habitat	ELC Code Triggers	Additional Habitat Criteria	Candidate SWH
Bat Migratory Stopover Area	no triggers	- not near Long Point	No

THE MUNICIPALITY OF LAMBTON SHORES

Report DCS 64-2017 **Council Meeting Date: October 17, 2017**

TO: Mayor Weber and Members of Council

FROM: Steve McAuley, Director of Community Services

RE: 2017 Capital Budget – Asphalt Resurfacing

RECOMMENDATION:

THAT Report DCS 64-2017 regarding the tender award for the 2017 Asphalt Resurfacing Project be received; and

THAT the tender from Lavis Contracting Limited in the amount of $138,414.75 excluding HST, ($140,850.85 net HST), for the 2017 Asphalt Resurfacing Project be accepted; and

THAT the appropriate by-law, authorizing the Mayor and Clerk to sign the associated contract agreement be approved.

SUMMARY

This report presents a summary of the tender award for the 2017 Asphalt Resurfacing Project. Staff is recommending award to Lavis Contracting Limited.

BACKGROUND

In 2017 Lambton Shores included $210,000 in the capital budget for asphalt resurfacing in the Thedford Area on a portion of Ravenswood Line and Elizabeth Street between Ravenswood and Allen Street.

Tenders for this project were released on September 26, 2017 and closed on October 10, 2017 with 3 submissions. The results are presented below:

Contractor	Bid Submission (No HST)	Bid Submission (Net of HST)
Lavis Contracting Co. Ltd	$ 138,414.75	$ 140,850.85
Dufferin Construction Company A division of CRH Canada Group Inc.	$ 159,811.50	$ 162,624.19
COCO Paving Inc.	$ 288,700.00	$ 293,781.12

In accordance with the Municipalities' purchasing policy this contract must be awarded by Council because the contract value is over $100,000. Staff have had the opportunity to review and confirm the low tender. The bid document was found to be complete, is acceptable contractually, the tenderer is an experienced contractor, and the bid is within the budget allocation. As such, staff recommend award of the tender from Lavis Contracting Limited for the net of HST price of $140,850.85.

ALTERNATIVES TO CONSIDER

No other alternatives are presented at this time. The tender for this project was released in keeping with the Municipality's Purchasing Policy to ensure the Municipality is receiving market competitive price for the contracted work.

RECOMMENDED ACTIONS

THAT Report DCS 64-2017 regarding the tender award for the 2017 Asphalt Resurfacing Project be received; and

THAT the tender from Lavis Contracting Limited in the amount of $138,414.75 excluding HST, ($140,850.85 net HST), for the 2017 Asphalt Resurfacing Project be accepted; and

THAT the appropriate bylaw, authorizing the Mayor and Clerk to sign the associated contract agreement be approved.

FINANCIAL IMPACT

The net of HST price of the tender from Lavis Contracting Limited is $140,850.85. The tender cost plus the geotechnical asphalt testing services estimated cost of $10,000.00 is below the 2017 approved budget for this project of $210,000. The difference between tender price and budget price will remain in the reserve fund.

CONSULTATION

Tender reviews were completed internally by Community Services Staff. Budget details confirmed by Treasurer.

THE MUNICIPALITY OF LAMBTON SHORES

Report DCS 65-2107 **Council Meeting Date: October 17, 2017**

TO: Mayor Weber and Members of Council

FROM: Steve McAuley, Director of Community Services

RE: Draft 2018 Grand Bend Joint Area Sewage Board Operating Budget

RECOMMENDATION:

THAT Report DCS 65-2017 regarding the Draft 2018 Grand Bend Joint Area Sewage Board Operating Budget be received.

THAT Council provides comments to the Grand Bend Area Joint Sewage Board regarding the draft 2018 operating budget.

SUMMARY

This report presents the draft 2018 Grand Bend Area Joint Sewage Board (GBJASB) operating budget for Council's comments.

BACKGROUND

Based on the Tri-Party Agreement entered into by Municipalities Lambton Shores, South Huron and Bluewater, the Grand Bend Joint Area Joint Sewage Board is required to prepare an annual operating budget. Once the budget is prepared, the participating municipalities are requested to provide comments to the Board prior to the Board recommending a final budget to the participating municipalities for approval.

The attached staff report along with the draft 2018 operating budget was presented to the Board at a meeting held on October 7, 2017. The Board received the staff report and passed the following resolutions:

***THAT** the attached 2018 draft budget be circulated to the Councils' of Lambton Shores and South Huron for comment, and*

***THAT** the Board considers the 2018 final budget and Council comments at the November 17, 2017 scheduled board meeting.*

In addition to the resolutions passed above, the Board also passed the following resolutions:

***THAT** the Board consider including $20,000.00 in the 2018 budget for a consultant energy audit to address the costs of energy at the STF.*

***THAT** staff prepare a report by February 2018 regarding the amount of invasive species on grounds and the plan to control and eradicate.*

In addition to the discussing the operating budget, the Board has scheduled a Board meeting for October 27,2017 to consider a report from our engineering consultant regarding options for the inclusion of a capital replacement fund allocation in the 2018 budget. The draft 2018 operating budget does not currently include any budget for this fund.

ALTERNATIVES TO CONSIDER

No options to this report are being presented. This report is meant to give Council the opportunity to review the 2018 GBAJSB operating budget and provide comment back to the Board.

RECOMMENDED ACTIONS

THAT Report DCS 65-2017 regarding the Draft 2018 Grand Bend Joint Area Sewage Board Operating Budget be received.

THAT Council provides comments to the Grand Bend Area Joint Sewage Board regarding the draft 2018 operating budget.

FINANCIAL IMPACT

The draft 2018 GBJASB budget is attached for Councils review. The 2018 budget is significantly higher than the 2017 budget, which is primarily the result of higher than expected operating costs as explained in the attached Board report.

The total 2018 operating budget is estimated at $564,232.39 which includes the additional $20,000 added by the Board for an energy audit. Based on the fixed cost apportionment and the variable operating costs that are apportioned based on projected flows, Lambton Shores share of the operating budget is estimated at $314,272.64. The 2017 budget for Lambton Shores was $236,983.14 however the projected 2017 costs, taking into account higher than expected utility costs, is $302,961.76.

CONSULTATION

Grand Bend Joint Areas Sewage Board

GRAND BEND AREA JOINT SEWAGE OPERATIONS
Proposed 2018 Budget

	2017 BUDGET	2017 DRAFT YTD To Aug. 31	2017 Projection	**2018 BUDGET**	Budget Increase\Decrease
OWNER CONTRIBUTION					
LAMBTON SHORES CONTRIBUTION	236,983.14	116,577.56	302,961.76	314,272.64	77,289.50
SOUTH HURON CONTRIBUTION	186,827.55	95,327.80	238,842.33	249,969.75	63,142.20
TOTAL REVENUE	423,810.69	211,905.36	541,804.10	564,242.39	140,431.70
ADMINISTRATIVE AND GOVERNANCE					
GENERAL ADMINISTRATION CHARGE STF	3,784.20		3,784.20	3,859.88	75.68
GENERAL ADMINISTRATION CHARGE PS2					
INSURANCE STF	16,423.47	19,737.10	19,737.10	20,329.21	3,905.74
INSURANCE PS2 & FORCEMAIN	1,592.96			0.00	-1,592.96
AUDIT	7,200.00		7,200.00	7,200.00	0.00
ACCOUNTING SERVICES	2,040.00		2,040.00	2,040.00	0.00
IT	500.00	120.59	300.00	500.00	0.00
SCADA SUPPORT STF	2,000.00		1,500.00	2,000.00	0.00
SCADA SUPPORT PS2					
ENGINEERING STF	2,000.00	1,951.25	5,000.00	22,000.00	20,000.00
ENGINEERING PS2					
LEGAL	1,000.00	279.16	279.16	1,000.00	0.00
CAPITAL REPLACEMENT RESERVE					
TAXES STF	77,966.76		77,966.76	79,526.10	1,559.34
TAXES PS2	1,749.30	1,206.02	1,749.30	1,784.29	34.99
TOTAL PART A	116,256.69	23,294.12	119,556.52	140,239.48	23,982.79
FIXED MTC & OPERATIONAL COSTS					
TELEPHONE STF	2,000.00	1,262.04	1,893.06	2,000.00	0.00
TELEPHONE PS2		1,171.05	1,756.58		
COMPUTER EXPENSE	500.00			500.00	0.00
BUILDING REPAIRS & MAINTENANCE STF	20,000.00	5,167.25	20,000.00	20,000.00	0.00
BUILDING REPAIRS & MAINTENANCE PS2					
GROUNDS MAINTENANCE	3,000.00		3,000.00	3,000.00	0.00
ANNUAL PREVENTIVE MAINTENACE *	10,176.00	6,783.92	10,176.00	10,176.00	0.00
WETLAND PEST CONTROL	1,000.00		1,000.00	1,000.00	0.00
TOTAL PART B	36,676.00	14,384.26	37,825.64	36,676.00	0.00
VARIABLE OPERATIONAL COSTS (RELATED TO FLOWS)					0.00
OMI ADMINISTRATIVE COSTS STF *	32,646.00	21,764.28	32,464.00	33,475.00	829.00
OMI ADMINISTRATIVE COSTS PS2					
OPERATOR WAGES STF *	95,469.00	63,646.02	95,469.00	97,892.00	2,423.00
OPERATOR WAGES PS2					0.00
ELECTRICAL COSTS STF	60,000.00	78,877.50	136,000.00	138,507.92	78,507.92
ELECTRICAL COSTS PS2	13,000.00	8,614.60	12,921.90	13,000.00	0.00
UNION GAS STF	7,000.00	26,420.41	30,000.00	26,100.00	19,100.00
WATER PS2	1,000.00	163.80	245.70	500.00	-500.00
WATER PLANT	5,000.00	13705.56	20,558.34	20,000.00	15,000.00
CHEMICALS *	42,892.00	28,594.47	42,892.00	43,981.00	1,089.00
LABORATORY SAMPLING *	13,871.00	10,448.74	13,871.00	13,871.00	0.00
TOTAL PART C	270,878.00	252,235.38	384,421.94	387,326.92	116,448.92
TOTAL EXPENSES	423,810.69	289,913.76	541,804.10	564,242.39	140,431.70
NET TOTAL	**0.00**	**(78,008.40)**	**0.00**	**0.00**	

GRAND BEND AREA JOINT SEWAGE OPERATIONS

2018 Flow Calculations

2017 FLOW CALCULATION PROJECTION (m3)						
Month	PS2	POG	HC Playhouse	Pinery	Oakwood	Grand Cove
Jan	21363	1091	120	117	1524	12430
Feb	19725	954	144	109	1430	5888
Mar	19944	796	188	40	1337	7210
Apr	27294	1300	194	152	1838	9315
May	27520	1257	178	749	1973	10140
June	20580	461	503	2474	2034	6175
July (2016)	19363	648	286	4380	1685	8531
Aug (2016)	32818	360	349	7251	3562	8531
Sept (2016)	19212	240	268	2138	2005	8531
Oct (2016)	6508	168	21	784	1639	8531
Nov (2016)	4075	528	14	244	1872	8531
Dec (2016)	14997	336	20	146	1181	8531
Total	233399	8139	2285	18584	22080	102343
Avg Month	19450	678	190	1549	1840	8529
Avg Annual	233399	8139	2285	18584	22080	102343
8531 - Indicates estimates based on YTD average						

2018 FLOW CALCULATION ESTIMATE (m3)				
	2018 (3 YR AVG)	**2017 (projection)**	**2016**	**2015**
Main Pump (PS2)	236,885	233,399	249452	227,804
GRAND COVE	95,128	102,343	91,520	91,520
OAKWOOD	21,018	22,080	22570	18,403
Lambton Shores (PS2 - GC & Oakwood)	120,740	108,976	135,362	117,881
POG	6,809	8,139	6720	5,568
HCP	1,745	2,285	1684	1,266
Pinery	18,991	18,584	20584	17,806
Grand Total Flows To GB plant (PS2 Flow Plus Remaining Sources)	**264,430**	**262,407**	**278,440**	**252,444**
MUNICIPAL TOTALS				
SOUTH HURON	124,699	134,847	122,494	116,757
LAMBTON SHORES	139,731	127,560	155,946	135,687
TOTAL	264,430	262,407	278,440	252,444

MUNCIPAL FLOW PROPORTIONMENT

	Lambton Shores	South Huron
PS2 Flow Proportions	50.97%	49.03%
GB Plant Proportions	52.84%	47.16%

Revenue Calculation			
	Total	Lambton Shores	South Huron
Part A - per agreement			
PS 2- 50% LS, 50% SH	1,784.29	892.14	892.14
Treatment Facility - 64.7% LS, 35.3% SH	138,455.19	89,580.51	48,874.68
Total Part A	140,239.48	90,472.65	49,766.83
Part B - Flow Based			
PS2	-	-	-
Plant	36,676.00	19,380.43	17,295.57
Total Part A	36,676.00	19,380.43	17,295.57
Part C - Flow Based			
PS2	13,500.00	6,880.91	6,619.09
Plant	373,826.92	197,538.64	176,288.27
Total Part C	387,326.92	204,419.56	182,907.36
Total	**564,242.39**	**314,272.64**	**249,969.75**

GRAND BEND AREA JOINT SEWAGE BOARD

Report STB 07 – 2017 **Board Meeting Date: October 6, 2017**

TO: Chair Tomes and Board Members

FROM: Steve McAuley, Director of Community Services, Lambton Shores

RE: STB 07-2017 - GBJSB - 2018 Budget.docx

RECOMMENDATION:

THAT Report STB 07 - 2017 regarding a "Grand Bend Area Sewage System proposed 2018 Budget" be received, and

THAT the attached 2018 budget be circulated to the Councils' of Lambton Shores and South Huron for comment, and

THAT the Board considers the 2018 final budget and Council comments at the November 17, 2017 scheduled board meeting.

SUMMARY

This report presents the proposed 2018 operating budget for the Grand Bend Sewage Treatment Facility and the Main Pumping Station (PS2).

BACKGROUND

2018 Operating Budget

The attached 2018 budget is presented to the Board for their approval. The document presented includes the 2017 budget, 2017 year-to-date totals, 2017 year end projections and the proposed 2018 budget. Also included are flow projections and revenue calculations that are used to calculate the 2018 budget.

The budget is broken into three parts. Part A is administrative costs that are split based on the following proportions set out in the agreement:

PS2

- Lambton Shores: 50%
- South Huron: 50%

Plant:

- Lambton Shores: 64.7%
- South Huron: 35.3%

Both Parts B and Parts C are split based on the amount of flow contributed by each municipality to the plant and PS2. There are two components to the flow apportionment:

total flows to the treatment facility, and total flows through the main pump station. Not all flows to the treatment facility pass through the main pump station, and separate cost apportionments are calculated for each facility. The flows are estimated based on a three (3) year average. To calculate 2018 estimated flows, the actual flows from 2015 and 2016 are used and 2017 are calculated based on the flows experienced to date. The estimated 2018 flow proportions as follows:

PS2

- Lambton Shores: 50.97%
- South Huron: 49.03%

Plant:

- Lambton Shores: 52.84%
- South Huron: 47.16%

Much of the operations budgets are fixed costs associated with the operations agreement in place with CH2M. In 2018 these costs will total $199,395.00.

Other highlights of the proposed budget include:

- Insurance increased 3%
- Taxes increased 2%
- Building Repairs maintained at $20,000 to finishing the installation of permanent Alum lines.
- Grounds maintenance maintained to allow for maintenance to wetlands pond.
- Hydro costs adjusted to reflect actual past usage.
- Natural costs adjusted to reflect actual past usage.
- A water adjusted to reflect actual past usage.

The budget presented includes significant increase in the utilities required to operate the plant. Hydro costs associated with the plant are substantially higher than what was expected. The 2017 year to date costs are as follows:

January	$10,029.38
February	$12,316.96
March	$10,918.09
April	$ 9,011.63
May	$12,054.08
June	$12,438.07
July	$12.109.29
August	$13,461.11

Based on the consistency of the monthly hydro charges received in 2017, the 2018 budget was based on the 2017 average and resulted in a total budget of $138,507.92 for 2018 for plant hydro.

Natural gas charges were budgeted in a similar manner, with actual monthly charges being used to estimate a total for 2018. It should be noted that the 2017 year to date is skewed due to a bill that was received in 2017 that was actually form 2016. We

attributed this to the service being new. Staff have reviewed the actual monthly charges and have budgeted accordingly.

The last utility that experienced a significant increase is the water usage at the plant. The plant operators have not been able to backwash the existing filters with effluent water, and as a result have had to use potable water. The issue with the effluent water stems from the fact that effluent water pump is directly connected to the wetlands pond. As such algae, minnows, etc. are able to be sucked into the system, which in turns clogs the strainers on the filter backwash system. Staff will work with the operators to try and create some type of screen or barrier between the effluent pump station and the pond, however at this point we are not confident we will be able to achieve a water quality that will work with the backwash system. Based on this, we have budgeted water usage accordingly.

2018 Capital Works

In addition to the attached operating budget, 2018 will include the capital budget to complete the sectional replacement of the forcemain on Mollard line. This work has been awarded and is expected to start in mid-October and be substantially complete by the end of November, with the final restoration being completed in the spring of 2018. The costs anticipated for this work (excluding HST) are as follows:

Preliminary Engineering	$ 22,200.00
Engineering	$116,716.00
Construction	$648,658.73
Sub-Total	$787,574.73
Net HST	$ 13,861.32
Total	$801,436.05

The forcemain is an equally owned asset between Lambton Shores and South Huron, as such; all costs incurred for the project will be split on a 50-50 basis.

It should be noted the above costs are considered “a worst case scenario” that includes all the provisional items included in the tender. As indicated to the Board in previous reports, the tender included approximately $260,000.00 in contingency and provisional items, the majority included in the event additional pipe was required to be installed.

ALTERNATIVES TO CONSIDER

No alternatives are presented at this time. The Board may direct that the budget be changed prior to recommendation to the member Councils.

RECOMMENDED ACTIONS

THAT Report STB 07 - 2017 regarding a “Grand Bend Area Sewage System proposed 2018 Budget” be received, and

THAT the attached 2018 budget be circulated to the Councils’ of Lambton Shores and South Huron for comment, and

THAT the Board considers the 2018 final budget and Council comments at the November 17, 2017 scheduled board meeting.

FINANCIAL IMPACT

Once comments from the respective Councils are received, the Board can approve the 2018 budget which will allow the South Huron and Lambton Shores to set their respective budget.

CONSULTATION

Lambton Shores and South Huron staff and CH2M Operators

THE MUNICIPALITY OF LAMBTON SHORES

Report TR 32-2017 **Council Meeting Date: October 17, 2017**

TO: Mayor Weber and Members of Council

FROM: Janet Ferguson, Treasurer

RE: 2018 Pre-Budget Survey Results and Budget Planning

RECOMMENDATION:

THAT Report TR 32-2017 regarding the 2018 Pre-Budget Survey be received; and

THAT Council set January 16 and 17, 2018 as Budget meeting dates.

SUMMARY

This report presents the data received from the 2018 Pre-Budget survey and provides dates for the 2018 budget review.

BACKGROUND

At the June 27, 2017 Council meeting, Council approved questions to be used in a 2018 Pre-Budget Survey for the public to provide input for Council to consider when completing the 2018 budget. The following resolution was passed:

> ***17-0627-22***
> ***THAT*** *the 2018 pre-budget survey be made available to the public from July to September 30, 2017 and results provided to Council at the October 17, 2017 meeting.* **Carried**

The survey was available for the three months as approved. There were 390 hits; however, only 80 completed the full survey and an additional 2 partially completed it. This is up over the 2017 study which generated 142 hits and 43 completions. Although there were more people complete the survey, the numbers are still low considering the number of households (7,455) and population (10,600) in Lambton Shores.

The detailed results have been provided in the attached document. The following is a summary of the information deduced from the survey:

- 81% of the people completing the survey were full time residents
- 50% of the respondents receive their information electronically
- The majority of the respondents were from Grand Bend (27) with the second highest coming from Port Franks (18)

- 50% of the respondents were in the age group 50-64 while 33% were over 65
- Of the services identified, the majority of responses were to maintain service levels; however, there were 2 areas that stand out that had close results for maintaining and enhancing which were: Attracting and Retaining Businesses & Jobs and Attracting Visitors & Tourists
- 48% of respondents supported the introduction of a dedicated tax levy to maintain infrastructure, while 36% supported disposal of assets to reduce maintenance costs and 16% supported an increase to the tax levy to help resolve the infrastructure deficit
- 72% of respondents supported an increase to the annual maintenance budget to extend the useful life of existing assets, while 28% did not

There were several varied comments received in relation to questions 6, 9, 10, 11, and 12.

ALTERNATIVES TO CONSIDER

Council could provide direction to staff for further consideration or implementation of any suggestions included in the survey results.

Council may also consider other dates for the budget meetings.

RECOMMENDED ACTIONS

That the 2018 pre-budget survey results be received for information and that January 16, 17 be set for the Council Budget review meetings.

FINANCIAL IMPACT

There is no financial impact by receiving this report. If Council chooses to implement any of the suggestions, a financial impact would have to be determined.

CONSULTATION

Kevin Williams, CAO

THE MUNICIPALITY OF
LAMBTON SHORES

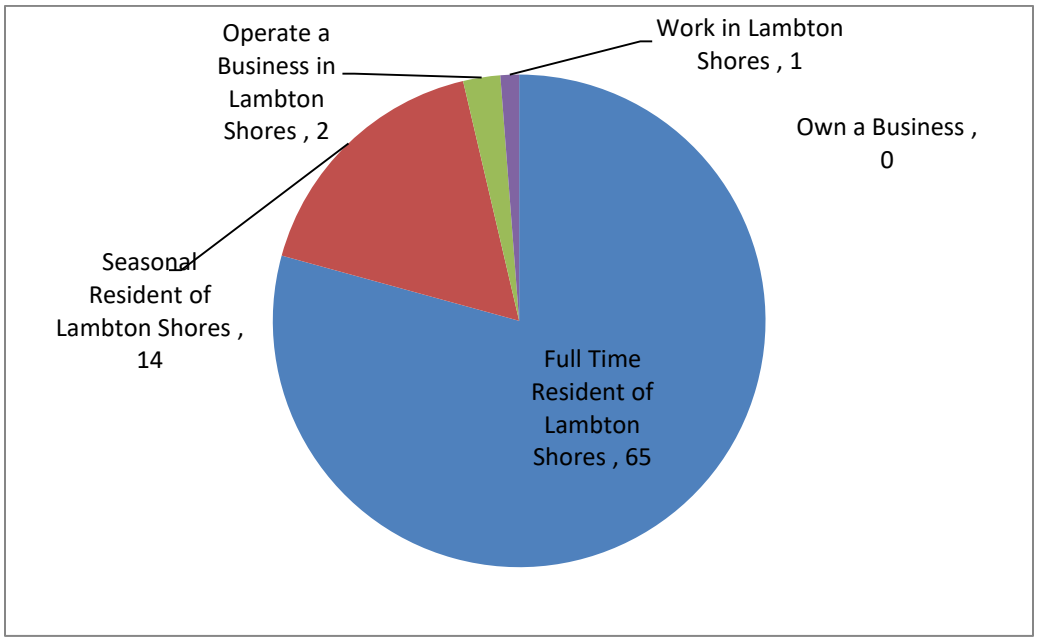
Lambton Shores 2018 Pre-Budget Survey Results

Total Respondents:	390 of which only 80 completed the full survey
Survey Status:	Closed
Launch Date:	29 June 2017
Closed Date:	30 September 2017

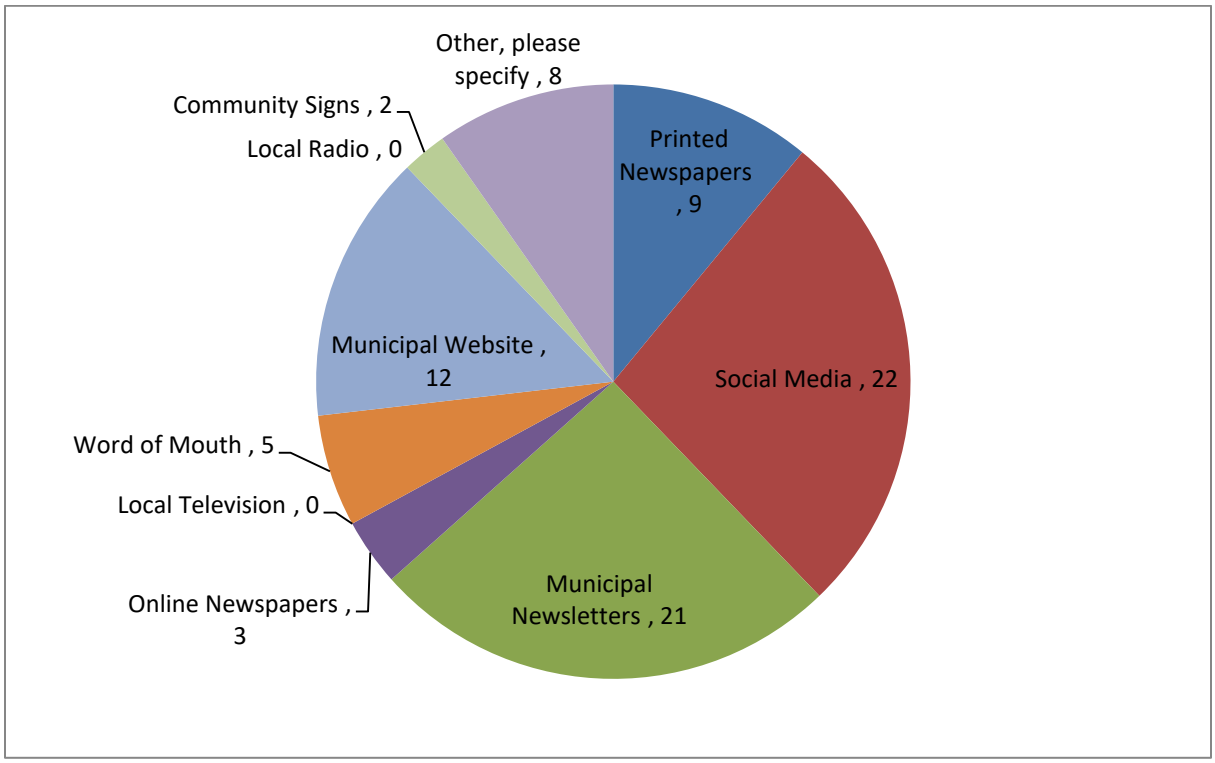
The public was invited to complete a pre-budget survey, ask questions and provide comments for the 2018 Budget. All questions/comments will be considered by Council and administration during the budget development process.

Please note – The public is encouraged to complete and submit this survey electronically by visiting www.lambtonshores.ca. If you wish to fill out a paper copy of the survey, it can be completed and dropped off by September 30, 2017 at a Lambton Shores Municipal Office.

1. What is your primary involvement in the Municipality of Lambton Shores?

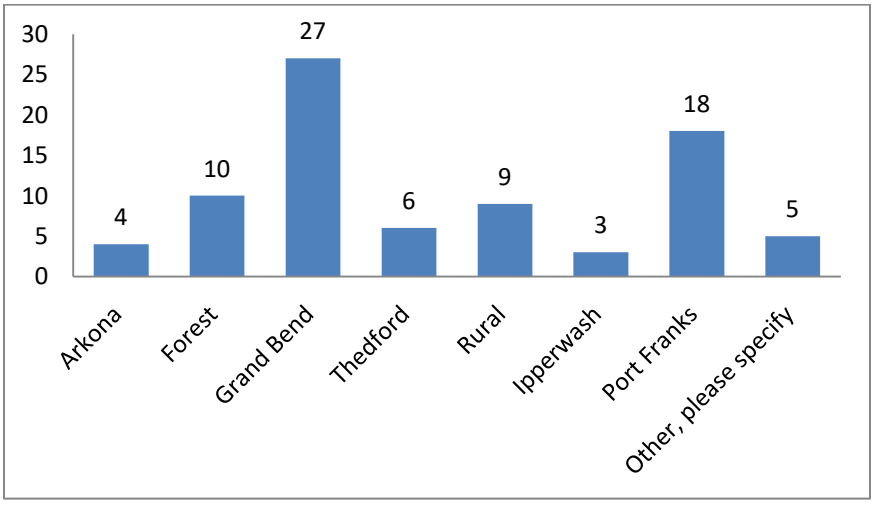


2. **Please indicate where you are most likely to get information on what is happening in the Municipality of Lambton Shores**



Other:
1. lambton shores news letter
2. A combination of these - newspaper, social media and word of mouth and municipal website
3. [No Answer Entered]
4. Weekly (and other) email updates
5. Attendance at Council Meetings
6. email
7. Council Meetings
8. mail

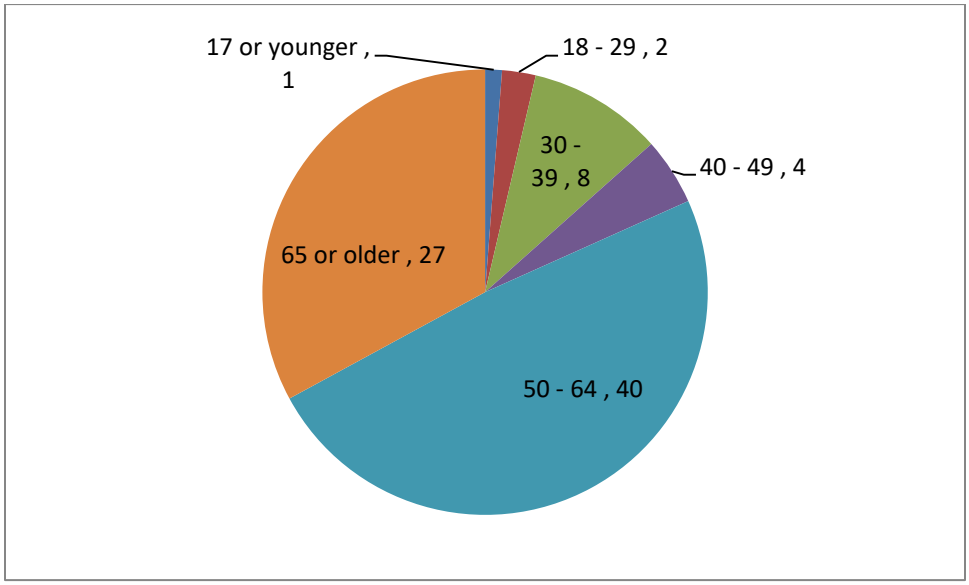
3. **Where is your property located (e.g. subdivision, town)?**



Other:

1. Lambton Shores Huron Woods
2. Bosanquet
3. Hillcrest Heights, Plympton Wyoming
4. Both Forest and Ipperwash
5. And Ipperwash Beach

4. Which Category below includes your age?



5. For each of the service areas identified below, please indicate whether you feel services levels should be reduced, maintained or enhanced. It is important for respondents to know that in order to maintain or enhance service levels, tax increases may be required.

	No Comment / Indifferent	Reduce	Maintain	Enhance	Response Total
Parks & Beach Operations (e.g. trails, grass cutting, flowerbeds)	3	3	52	22	80
Maintenance of Paved Roads & Bridges	0	2	54	24	80
Maintenance of Sidewalks	2	4	55	19	80
Maintenance of Gravel Roads (e.g. grading, dust control)	7	5	59	9	80
Winter Operations (snow cleaning & removal)	2	1	70	7	80

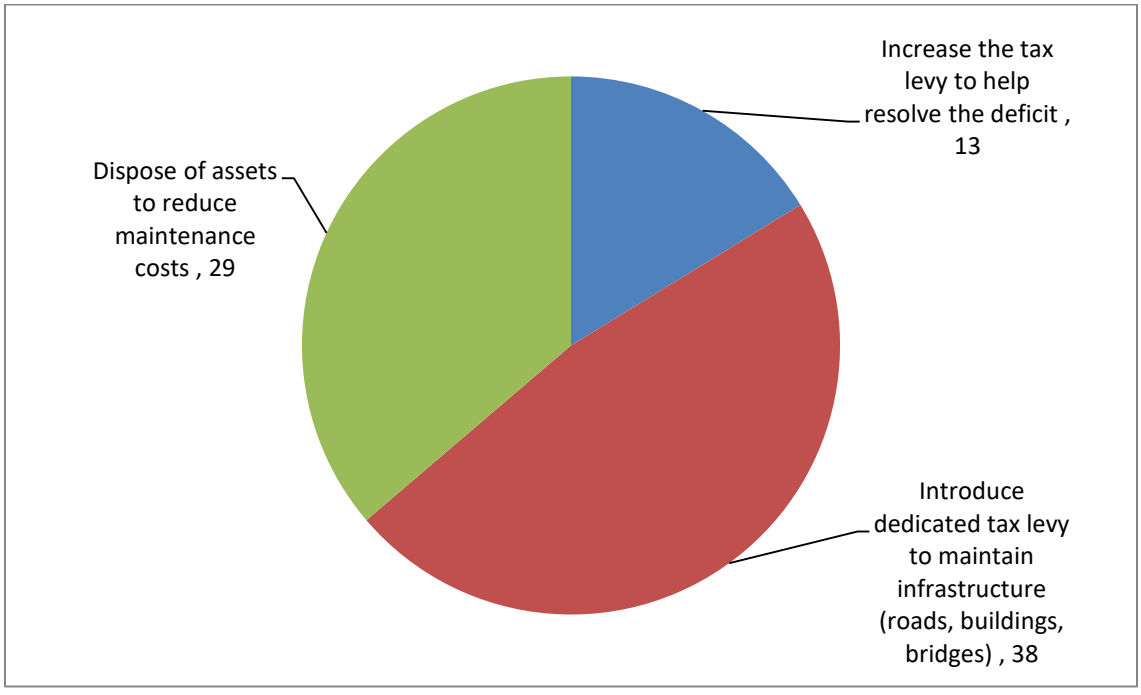
Municipal By-law Enforcement (e.g. property standards, parking, animal control)	3	13	48	16	80
Attracting and Retaining Businesses & Jobs	4	5	33	38	80
Attracting Visitors & Tourists	1	8	38	33	80
Communication & Engagement with Citizens (e.g. Social media, surveys, public meetings)	1	2	49	28	80
Financial Grants to Community Groups which provide services to the community	3	9	48	20	80
Hosting & Assisting with Special Events & Festivals (e.g. Canada Day)	3	13	46	18	80
Emergency Preparedness & Education (e.g. fire, police, flood)	1	4	60	15	80
Municipal Services Provided Online via the Municipal website & social media (e.g. tax payments, recreation bookings, event notification)	3	2	57	18	80
Municipal Administration (e.g. customer service)	3	9	58	10	80

6. Other Service areas not identified:

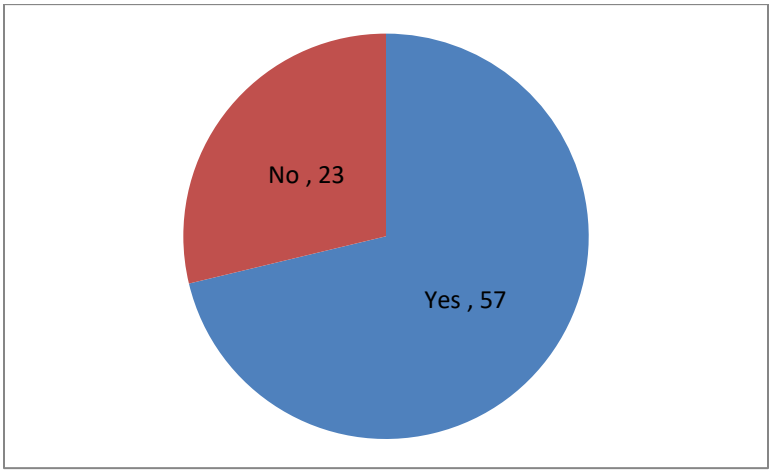
1	OPP services provided to Armstrong East and West on a level with the rest of the community i.e. Law enforcement. We pay for their salaries with our taxes, we should be accorded the opportunities to have a response to our needs.
2	A site closer to Grand Bend for people to get free compost and bark chips.
	More recreational programming for Grand Bend.
3	We need an annual junk pickup day for thing that don't fit in the bins.
4	Hwy 81 (incoming to Grand Bend) have sign to read '60 Km/hr ahead)
5	Beach cleaning to remove plastics ,buts sharp sticks etc. needs improvement.
6	transit
7	Catch basins need to be better maintained.
8	Accessibility enhancement - for people with EHS all Municipal buildings should be wi-fi free and attempt to reduce emf values.
	Respect, Accountability & Transparency enhancement to the taxpayers of LS - communications & questions of Council & Staff are not being answered or are answered only in part and not in a timely fashion
9	Continue bike trail from Grand bend to ipperwash along highway 21 that has been started
10	Expand Sewage Treatment Area - West Bosanquet

11	You need to have community questions at the municipal meetings so that the public who pay their wages have some input through out their term...to have community we need to be involved., even if it is asking questions.Attracting new business and tourists should be put in someone elses hands because who is responsible now needs some NEW ideas...what they have been doing is not reaching the intended target
12	More protection for the environment. Leave trails alone, by not cutting the grass and brush.
13	Police Service in Port Franks!!
	Too many Dirtbikes operated by Children,Golf Carts,and ATV 's,and Never a Police around to patrol.
	Do we pay in our Taxes for Police Patrols in Port Franks,or only Grand Bend????????
14	Maintance of ausable river could be much better dregging log removal this year's buget was not enough at least triple it
	For next year then reduce it in 2019
15	municipality needs to be more truthful in their presentations and not say, then do something different. There is to much hidden information and closed meetings that concern the community.
16	More funding should be provided to the GB Chamber of Commerce so they can continue to provide excellent tourism services. It is disgusting that this non profit organization actually subsidizes the municipality. Its shameful
17	accessibility - enhance

7. **What would you recommend the Municipality do to address the capital infrastructure deficit? (The future cost of replacing bridges, roads, pipes, buildings etc.)**



8. **Would you support increasing the annual maintenance budget to extend the useful life of existing assets?**



9. **If you had to take money out of the budget, what spending area would you reduce?**

1	Council is elected to make these decisions based on good information provided by a great staff !
2	office administration
3	Non-essential services, snow removal
4	administration
5	.?
6	assisting special events
7	Councillor/mayor pay
8	Advertising and promotion of beach. Beach building and "improvement" projects.
9	stop mowing land that do not belong to the Municipality
10	Community in Blooms takes a lot of municipal dollars. As nice as it is, I think the Hort Societies already do a wonderful job and less of our tax dollars should go to this.
11	I have no idea
12	Special Events
13	corporate overhead
14	Sewer Studies
15	none
16	Street cleaning and grass cutting could be reduced. Quit putting mosquito killer in catch basins than can't possibly take in any water.
17	Council needs to discontinue the creation of new expenditures and capital costs until the debt has been reduced by at least 50%! Divest ownership of arenas and non-essential municipal properties to community based corporations. Redirect Staff resources from all community driven activities (ie: Community Vibrancy Fund) to increase time available for Municipal activities.
18	Bylaw and road cleaning. Buy a leaf suckered like GodErich. No more bagging. Get rid of new sweeper. Pointless. We live in the sand. Too much money spent on consulting
19	Garbage pickup

20	cost of maintaining municipal arenas, Increase user pay.
21	Stop paying for studies like roads water etc.
22	I think Council is best informed to decide this.
23	Can not meaningfully answer as no budget data available to me to consider.
24	leave it alone
25	Municipal administration
26	attracting new business and tourists
27	No comment.
28	stream line the customer service area, by law needs to be focused on growth and beautification to encourage growth of towns not hamper growth. Growth is $
29	YMCA
30	Transportation services, bylaw, drainage
31	Ymca
32	Have farm equipment stay on gravel roads. So that our main roads stay in better shape
33	Maintenance of surplus roads, roads that should be dedicated to agriculture should have restrictions on traffic use. IE, reduce major paved route by reverting to gravel to control flow to preidentified routes.
34	Managment salaries
35	sports complexes should be more user funded.
36	??
37	Parks area donations to events and clubs reduce Cao and senior employee wages do not spending money for studies and consulting we have engineers let's use them
38	Recreation & Leisure Services
39	hiring freeze until it is absolutely proven to be needed. Service clubs and groups need to prove being an asset and not just looking for money.
40	Extra public meetings and equalling total amounts spent within communities within Lambton Shores. Reduce duplication of expenses and redunt staff
41	Salary increases,
42	Community in Bloom
	Arena ice time
43	Administration costs.
44	wages and benefits for municipal employees. it appears to me that there are too many, and very little accountability.
45	I wouldn't hire someone to tell us how and where to improve signage, seems like a an unnecessary wage expenditure.

10. If you could add money to the budget, what spending area would you increase?

1	See above
2	dredging the mouth of the river
3	Trail maintenance, beach maintenance, infrastructure maintenance
4	attracting visitors and tourists
5	?

6	highway 21 bridge congestion. municipality was shortsighted not purchasing the two properties on south side of bridge (1 on east, 1 on west) that have recently sold. This extra land could have been used to re configure traffic movement.
7	Roads and Sidewalks
8	Road/drainage/beach clean up in Ipperwash. Go forward with the long lost development plan!
9	Law enforcement equality for all citizens
10	Infrastructure and road maintenance.
11	Emergency planning-fire services
	Beautifying the town
	Hire competent contractors(cheap doesn't equal quality)
12	Recreational programs for Grand Bend
	Outdoor skating rink for Grand Bend.
	Directional signs in Grand Bend saying where the beach is, where the shops and galleries are, where the parks and library are. Look at Saugeen Shores signage for a model on how this could work.
	Seasonal holiday lighting on the main beach. Right now it's a private citizen group doing all the fund raising for this as well as putting up and taking down the lights.
13	Widen the G B bridge.
14	I have no idea
15	Road maintenance
16	pay for a strategic plan to be developed
17	Reducing greenhouse gas emissions, protecting natural areas, planting trees -- anything that mitigates the impact of climate change.
18	road maintenance & parking enforcement
19	parks and maintance
20	Extra money should be put into maintaining the catch basins. There are two catch basins on Elmwood that are completely full of sand and dirt. The one just north of Centre street is backed up and floods the road every time it rains. The road is impassable for pedestrians for hours after the rain stops. The one in front of 36 Elmwood has eventually filled up since the town came in and cut a trench through the existing grass to the catch basin. I still haven't figured out why that was done. Just asking for erosion when you remove the ground cover. Elmwood floods in front of 40 Elmwood during every rain
21	Roads maintenance & Customer Service
22	Leaf suckling machine. A new plow that actually salts the road. The one one we have just levels the snow.fix the bridge off riverside that backs into the forest. It's been bridge out for too long.
23	Support to all residence. not high cost of maintaining services i.e Grand Bend Beach. as it provides benefit to a few seasonal merchants who reap the benefits & run.. Need support for all full time residence.
24	Roads maintenance. I don't think we are receiving proportionate maintenance of our streets in Southcott Pines for the taxes we pay
25	Can not meaningfully answer as no budget data available to me to consider.
26	winter operations and arenas

27	Local events to increase a sense of community of Lambton Shores as a whole, and not just individual communities within it.
28	Roads and Infrastructure
29	Economic development and emergency preparedness
30	Maintain infrastructure. Sidewalks would be a good place to start in Forest.
31	Infrastructure.
32	Expand Sewage Treatment Area - West Bosanquet
33	Promotion of Forest and Lambton shores not all the money being spent in Grand Bend that has limited everything...seasonal interest. We need to encourage growth in all of our community
34	public transit We need it bad
35	Hard surface to rural roads
36	public transit - economic development projects - initiatives that bring money into the community
37	Walking and biking trails especially around rock Glen road as many people walk and bike this route. It's a busy road for the type it is and the hills and curves make it very dangerous.
38	Have a professional arborist and gardeners to beautify our towns. Encourage local art in town.(Statues etc...)
	Add to the existing skate board park.
39	Emergency services, parks trails, social profit projects.
40	Use salt in the winter and not just Sand... sand doesn't melt snow. ..
41	Environmental enhancement
42	signage and road maintenance
43	More Beach Parking???
44	Summer bridge toll in grandbend. Bring in a small casino in Grand bend area
45	Make Arena and Recreation & Leisure Services revenue neutral.
46	Trail development, economic development
47	Pay debt only. NO extra spending.
48	Public washrooms in all downtowns of the area. Transportation within our municipality
49	Tourism services
	Business attraction EcDev
50	Maintain and upgrade municipal structures currently owned, don't buy cheap and expect it to last, finish projects, trim, walling in air conditioning vents that are uncover, the half finished things like one side of a tennis court upgrades
51	Recreational programs for Grand Bend
52	By-law enforcement ... add more resources ie qualified officers during summer Months.
53	Better signage, support for main street businesses in all the communities
54	Incentive to assist local business with making all places fully wheelchair accessible.

11. What other suggestions would you make in order to improve Municipal services or programs?

1	Be careful who you elect to council
2	be more open and transparent to the public

3	Initiate talks on creation of a trail along Hwy 21 from Northville connecting to existing trail from Pinery to Grand Bend. Can be municipal, provincial, federal and private monies. Many grants available.
4	.?
5	Crack down on signage CLUTTER that is wide spread in G.B.
6	What happen to the development plan for Ipperwash?
7	Don't worry so much about recreation and Extra curricular and focus on city maintenue balancing budget etc and not on giving to lobby fundraising
8	improve walkability scores throughout Lambton Shores
	more consideration for teenagers(little ones are always thought of)
9	Make the paperwork for renting municipal property more user friendly.
10	You would know better than I
11	The municipal managers could try to figure out a way to improve delivery of services without asking the ratepayers to simply pay more for it. Strategic efforts may yield savings, but if they are not explored, they don't happen.
	This survey asks if we should attract visitors, and also asks if we should attract businesses and jobs. Is this the same question?
12	In questions number 7 and 8 there should be an option to reduce spending in other areas, or at least an open-ended answer! Giving a limited number of options skews the survey.
13	increase no parking fines
14	add more garbage cans on beach and various other place around town have cans collected more than once a day
15	Trim some of the dead branches from village trees before the next big wind.
16	Financial accountability & Transparency: the community Needs to be able to see where every penny of tax-payers money is being spent! The current practice of not reporting financial activities at regular Council meetings is unacceptable and smacks of a hidden agenda.
17	No sewers
18	Community centre
19	Grand Bend lacks the amenities of Forest & Thedford, No community centre or like facility yet contributing the majority tax base, spend the tax dollars were it is generated.
20	Tourism efforts and themes seem to be skewed away from Grand Bend. The "discoveries that matter" campaign is very bland in promoting our region.
21	I would like to see an annual reconciliation of taxes PAID vs INFRASTRUCTURE IMPROVEMENTS MADE by individual community within Lambton Shores.
	I understand that on an annual basis there will be discrepancies between communities, but I also think it is fair to expect that the discrepancies will be minimized over time (5 years?).
22	make sure that winter operations if there's a bad snow storm be on the road, immediately.
23	More online services.
24	No comment.
25	need someone from Toronto or a big city that has grandeur ideas....
26	Work with local mp's and mpp's to get natural gas out to the rural areas
27	Municipality must get serious about economic development - that should be of primary focus. Municipal staff and council needs to work WITH local community groups instead of against them.

28	Open and honest discussion. Transparent meetings with fewer closed door sessions.
29	Better customer service. More training for your staff.
30	Focus on youth.
31	This municipality needs to be drawn closer together. It was a positive thing to see Grand Bend events advertised in Forest, Arkona and Thedford. THesame should be true for events in the other settlements. Lambton Shores should be one community not four or five.
32	.??
33	Senior staff to stay in touch with federal and ontario goverments for special grants
34	services and programs are sufficient. Lower taxes.
35	Several grant programs are tied wholly to tourism events and programs. Attendance is not always beneficial to our citizens. Would it not be better to utilize funds from Wind Tower development to offset some infrastructure. Ie washrooms in Forest, improved roads in rural Lambton Shores and assist in maintaining our communities. Also, with the idea of busing and transportation, could this money be used to assist in offsetting costs. Our population is aging and transportation is not readily available in this community
36	Listen to the people, get money spent in towns that need services municipal ownership of recreation, more staff prep work for volunteer work
37	Increase frequency of garbage pick up on and around the Beach in Grand Bend - once per day is not adequate as garbage get strewn around containers when they are over-flowing. The Grand Bend Beach through parking, etc is one of the biggest revenue generators in the Municipality. Maintaining it during the summer months must be a priority.
38	instill a better proactive culture with staff. There is a preventative attitude instead of a cooperative one. Lets make it happen instead of saying no. Development fees and too much red tape are stifling progress!
39	It would be nice if somehow we could work with all of Ipperwash beach community to hire lifeguards.

12. Please provide additional comments that you would like considered in preparation of the 2018 Budget.

1	Compleat budget before year end to take advantage of early tender pricing
2	Taxes must NOT increase. We are getting taxed more and more from every level of government... please don't join the parade!
	Is there not any federal or provincial money available for the capital expenditures you would like to make.
3	Accountability for where money is being spent
4	NO increase in taxes.
5	.?
6	Quit giving all our tax dollars to Grand Bend! Stop speding money on trails and give us some basic improvemen
7	None
8	improve sidewalks, as promised throw-out the election.
	Leave out benches and extra garbage cans all year. We live all year

9	I'd love to see a beach accessible wheelchair available at the main beach for visitors to borrow. I would also like to see more shade at the beach in the form of trees or umbrellas.
10	You are making the same mistake may on line surveyors make. You have an age section 65 or over. I am 68. I am nothing like my 89 year old father or 92 year old mother. We have totally different opinions, wants, and needs. Fix your survey !
11	You are doing a good job - just keep it up - thank you
12	The beach in Grand Bend is what attracts visitors in the summer.... it deserves the same cleaning and care as other beaches north of us who have a specialized beach cleaner the removes far more debris than our current adaptation.
13	The answer to question 8 is not yes or no, nor an opinion. The maintenance of an asset is directly related to its value, and its value can change over the lifespan initially attributed to it. A road with 10000 vehicles a day traffic which was initially planned for 3000 vehicles will have a shorter lifespan or a higher maintenance cost. Why, incidentally, should a ratepayer point this out, or is the question self serving?
14	Generally the village is doing a good job of maintaining things.
15	Greater time to review the budget by public is necessary in order that research and comparison budgets may be reviewed. The budget must be published in several different venues as well as being easily accessed on the municipal website via a direct link (from an email or the home page.)
16	Police budget
17	Make sure everything is consistent and, not increase ice rates in Lambton Shores arenas since it's gone up, 40% since the beginning of the 2008-2009 season.
18	No comment.
19	We need new blood in council that will sell Lambton Shores as a place to be!
20	Would like to see a public transit system to move people around this commit y
21	Municipality needs to act like a business and be prepared to invest money in order to see growth in the area. Too long its talked about economic development but has done nothing. We are the only municipality that doesn't have an economic development manager.
22	Planting the promised trees on the Forest trail, would be a good start.
23	Balance infrastructure projects to reflect the post baby boom demographic contraction for the future and focus toward encouraging new families to relocate to LambtonShores population hubs.
24	More Police Patrols?!!!?
25	Implement a water sewer department to bring down cost to sub contract it out
26	Pay down debt, freeze on additional spending. transparent disclosure.
27	Supporting a public group to do jobs for the whole of the municipality without feedback doesn't mean it's correct, if funds are allocated a full followupmand accounting should be done with results be requested from the whole municipality. Tourism dollars are given to Grand Bend Chamber but are these actually just supporting Lambob Shores or also other municipalities.
28	A "Beach Cleaner" for the Grand Bend Beach has been in the Budget for sometime and action needs to be taken to replace the "Beach Spreader" that currently exits.
	Also "signs" directing folks to the Main Beach are badly needed - don't understand why this had taken so long?

THE MUNICIPALITY OF LAMBTON SHORES

Report CL 31-2017 **Council Meeting Date: October 17, 2017**

TO: Mayor Weber and Members of Council

FROM: Stephanie Troyer-Boyd, Clerk

RE: Consideration for the Lake Smith No. 1 Drain

RECOMMENDATION:

THAT Report CL 31-2017 providing Council with information on the Consideration for the Lake Smith No. 1 Drain be received; and

THAT Council considers the Lake Smith No. 1 Drain Report prepared by Spriet & Associates in accordance with *Section 78 of the Drainage Act, R.S.O. 1990, c.D.17*; and

THAT the Lake Smith No. 1 Drain Report is adopted; and

THAT the by-law providing for drainage works to the Lake Smith No. 1 Drain be received and read a first and second time; and

THAT the notice of the Court of Revision meeting be mailed to assessed property owners, all the required agencies and organizations.

SUMMARY

Council appointed Spriet & Associates to prepare the report for reconstruction of the Lake Smith No. 1 Drain. This report was prepared pursuant to *Section 78 of the Drainage Act, R.S.O. 1990, c.D.17.*

BACKGROUND

The Lake Smith No. 1 Drain services parts of Lots 6 to 21, Concessions A to C, and parts of Lots 21 to 25, L.R.E. Concession in the Municipality of Lambton Shores. The total watershed area contains approximately 910 hectares.

The Lake Smith No. 1 Drain was originally constructed in 1958 and consisted of approximately 3,303 meters of ditch and includes a pumping station. Over the years there have been several improvements and now with the existing drainage conditions, as per the Drainage Report dated July 31, 2017, is in need of reconstruction.

The Engineer's Report is attached for Council information and review including a summary of the proposed work, drawings and the schedules outlining allowances, cost estimates and assessment for the consideration.

ALTERNATIVES TO CONSIDER

The process to consider drainage reports is dedicated by the *Drainage Act, R.S.O. 1990* and there are no alternatives to process.

RECOMMENDED ACTIONS

THAT Report CL 31-2017 providing Council with information on the Consideration of the Lake Smith No. 1 Drain be received; and

THAT Council considers the Grant Relief Drain Report, prepared by Spriet & Associates in accordance with Section 78 of the Drainage Act, R.S.O. 1990, C.D.17; and

THAT the Lake Smith No. 1 Drain Report is adopted; and

THAT the by-law providing for drainage works to the Lake Smith No. 1 Drain be received and read a first and second time; and

THAT the notice of the Court of Revision meeting be mailed to assessed property owners, all the required agencies and organizations.

FINANCIAL IMPACT

There is no financial impact associated with the receipt of the Engineer's Report for consideration.

CONSULTATION

Al Little, Drainage Superintendent
Stephen McAuley, Director of Community Services

ATTACHMENTS

Attachment 1 – Drainage Report
Attachment 2 - Drawing

LAKE SMITH NO. 1 DRAIN

Municipality of Lambton Shores

SPRIET
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Our Job No. 210087

July 31, 2017

London, Ontario
July 31, 2017

LAKE SMITH NO.1 DRAIN

Municipality of Lambton Shores

To the Mayor and Council of
The Municipality of Lambton Shores

Mayor and Council:

We are pleased to present our report on the reconstruction of the Lake Smith No. 1 Drain serving parts of Lots 6 to 21, Concessions A to C, and parts of Lots 21 to 25, L.R.E. Concession (geographic Bosanquet) in the Municipality of Lambton Shores. The total watershed area contains approximately 910 hectares.

AUTHORIZATION

This report was prepared pursuant to Section 78 of the Drainage Act. Instructions were received from your Municipality with respect to a motion of Council. The work was initiated by a request signed by some of the affected landowners.

HISTORY

The Lake Smith No. 1 Drain was originally constructed pursuant to a report submitted by J.A. Monteith, P. Eng. dated January 15, 1958 and consisted of approximately 3,303 meters of ditch. It extends from an outlet in the Wilson Drain on the south side of the Haig Line unopened road allowance near the line between Lots 11 and 12, upstream north-westerly in the west part of Lot 11, Concession B, then turns north-easterly across Lots 11 to 7, Concession B, and Lot 6 in the south part of Concession C, to its head at the west side of Cold Storage Road. This also included a pumping station in Lot 11 a short distance up from the outlet and several farm bridges. Further improvements were provided to the pump house structure in accordance with drawings dated 1963, but no report was found. A new Schedule of Assessment for Maintenance was provided, pursuant to a report by J.A. Monteith, P.Eng., dated August 10, 1981.

Lake Smith Drain B was originally constructed pursuant to a report by J.A. Monteith, P.Eng., dated July 2, 1958, consisting of approximately 1,370 meters of open ditch extending from an outlet in Drain No. 1, near the line between Lots 11 and 12, southwesterly across the north half of Lots 12 to 14 to its head partway into Lot 15.

The Wilson Drain was originally constructed through the same 1958 report above for the Lake Smith No. 1 Drain and extended from an outlet in the Defore Drain at the line between Lots 12 and 13 on the south side of the Haig Line unopened road allowance.

HISTORY (cont'd)

The Defore Drain was last reconstructed (excluding pump station) pursuant to a report by J.A. Monteith, P.Eng., dated July 13, 1988 consisting of approximately 5,410 meters of open ditch. It extends from an outlet in the old Ausable River Drain at the line between Lots 12 and 13, northwesterly along said lot line across Concession A to the south side of the Haig Line unopened road allowance. It then turns southwesterly along the south side of said road allowance across Lots 13 to 20, to its head just into Lot 21.

The Lake Smith No. 1 Drain and Defore Drain watersheds were further improved by the reconstruction of the Hagmeier and Drain B. This was completed through a report submitted by J.A. Monteith, P.Eng., dated October 23, 1989, which provided for the deepening and extension of these drains to create an interconnection between the Lake Smith No. 1 Drain, Defore Drain, and Lake Smith No. 2 Drain, so that the pump for one drainage system may assist the other to function during times of higher workloads or if one pump fails.

It should be noted that another interconnect channel was constructed under a 1966 report for Lake Smith No. 2 Drain but was subsequently filled in at a later date. This channel was officially abandoned through the last Lake Smith No. 2 report in 2006.

The last improvement to the Lake Smith No. 1 Drain, Defore Drain, and Lake Smith No. 2 Drain from a pumping perspective was through a report submitted by L.K. Graham Jr., P.Eng., dated May 21, 2002. This report was named "Lake Smith Drainage Improvements" and provided for the construction of a supplementary pumping station adjacent to the existing one on the Lake Smith No. 2 Drain (5,000 gpm). The report also provides for the construction of a new pumping station (8,000 gpm) on the Defore Drain at the line between Lots 12 and 13, just upstream of its junction with the Wilson Drain (and Lake Smith No. 1 Drain). In this report all lands and roads within the Lake Smith No. 1 watershed were included and assessed due to the previously constructed interconnection via Drain 'B' and Hagmeier Drain.

The Hagmeier Drain was last reconstructed pursuant to a report submitted by J.A. Monteith, P.Eng., dated October 25, 1989 which provided for the interconnection with Drain 'B'.

EXISTING DRAINAGE CONDITIONS

At a site meeting was held with respect to the project and through later discussions, the owners reported the following:

- that the existing Lake Smith No. 1 pump and pump house were old (circa 1958) with the motor being replaced at some point between
- that the current pump and pump house is an old design and should be replaced through a new engineers report
- that with the current system the capacitor blows too often
- that with the current configuration of the pump, the intake runs dry or close enough to allow cavitation of the pump which results in the pump shutting itself down
- the current pump is too high to function properly for the needs of the watershed

EXISTING DRAINAGE CONDITIONS (cont'd)

- that the current pump does not allow enough water through and should be replaced with a pump with more capacity
- that the pump installed on the Defore Drain in 2002 was not installed deep enough
- that the current drawings and design for the open ditch drain upstream of the pump are dated 1958 and should be updated to reflect current conditions
- that the Wilson and Defore Drains, downstream of the Lake Smith No. 1 Drain, function as the outlet, are flat, and should be checked to see if any work is required
- that the Lake Smith Drain 'B' was not constructed to the design drawing and a new profile and possibly Schedule of Assessment should be provided

A field investigation and survey were completed. Upon reviewing our findings, we note the following:

MAIN DRAIN (Upstream Ditch):

- that the existing ditch upstream of the pump station has been generally maintained down to or below the inverts of the existing road and farm culverts
- that the inverts of the existing culverts are consistent with each other
- that there are some localized areas of bank erosion that should be repaired
- that there are also other areas of localized bank erosion which are questionable to be practical to repair
- that one culvert was found to be rotted and partially collapsed

PUMP AND OUTLET DITCH:

- that the observed water level prior to the pump engaging is approximately elevation 177.00±
- that the current water level where the pump disengages is currently lower than the original design and higher than the landowners wishes
- although the original drawings from 1958 were available, observations at the pump indicated the current levels set on the upstream side of the pump are below what was originally designed
- that the current pump is a three phase system connected to a single phase power supply without a phase converter which limits the capacity of the existing 8,000gpm pump to less than the pumps specification

EXISTING DRAINAGE CONDITIONS (cont'd)

- that the outlet ditch (which is currently part of the Defore and Wilson Drain) is generally close to the original design grades but has some sediment accumulation between River Road and to Haig Line road allowance

- the grating system accumulates trash/vegetation requiring manual removal

- that presently there is no alarm system that notifies the Municipality of interruptions in operation

- that, at times, the outlet ditch accepts water from the Lake Smith No. 2 watershed, resulting in the current Schedule of Assessment being out of date

Preliminary design, cost estimates and assessments were prepared and an informal public meeting was held to review the findings and preliminary proposals. Further input and requests were provided by the affected owners at that time and at later dates. This included downsizing the proposed pump's capacity to the same as the specifications for the original pump.

DESIGN CRITERIA AND CONSIDERATIONS

Due to the interconnection between Lake Smith No. 1 Drain, Lake Smith No. 2 Drain, and the Defore Drain, resulting shared pumping capacity, the design capacity of the pump was landowner driven and is the same capacity of the existing pump. However, it should be noted that the available capacity will be at a larger head and be provided through the use of a variable frequency drive (VFD) to provide the true performance of the pump motor utilizing three phase power as well the improved economy of the VFD.

We would like to point out that no geotechnical report was prepared prior to the submission of the report, although a geotechnical inspection of the pump chamber back at the time of construction is included in the proposed work plan and cost estimate.

All of the proposed work has been generally designed and shall be constructed in accordance with the DESIGN AND CONSTRUCTION GUIDELINES FOR WORK UNDER THE DRAINAGE ACT.

RECOMMENDATIONS

We are therefore recommending the following:

<u>MAIN DRAIN – UPSTREAM DITCH</u>:

- that the attached profile and Schedule of Assessment be used for future maintenance work

- that future excavated material be levelled adjacent to the drain

RECOMMENDATIONS (cont'd)

- that the ditch bottom and ditch slopes be cleared only (stumps are to be left) of trees, brush and scrub
- that the stumps, logs and brush be piled
- that a new farm culvert consisting of 1500mm pipe culvert be constructed on the P. Backx property (Roll No.090-023) including the removal and disposal of the existing culvert
- that erosion in specified areas be repaired using NAG C350 Turf Mat or approved equal
- that the five remaining existing farm culverts be included /incorporated as part of the drain for future maintenance purposes

PUMP AND OUTLET DITCH:

- that a portion of the outlet ditch (approximately 550 meters) bottom be cleaned out
- that excavated material be levelled adjacent to the drain
- that the ditch bottom and side slopes be cleared only (stumps to be left) of trees, brush, and scrub
- that stump, logs, and brush be piled beyond the location of levelled spoil
- that the existing pump house building, grating, discharge pipe, and overflow culvert be removed and disposed of
- that the existing cast in place foundation walls, wing walls, and outlet structure be removed and broken up for use as rip-rap
- that the existing gabion basket wing wall be removed and the stone be salvaged
- that the existing pump, pump motor, and electrical panel be removed, salvaged, and delivered to the municipal works Northville Yard
- remove and salvage existing 900mm flap gate and rip-rap protection re-use
- supply and installation of new 900mm overflow pipe and reinstallation of existing flap gate
- supply and installation of new concrete pump chamber including railing and grating
- supply and installation of new 8,000 gpm pump, discharge pipe, flap gate, intake, grating
- supply and installation of new concrete block sump and headwall
- supply and installation of new weather proof control panel, primary and secondary level control, complete with VFD (phone converter)

RECOMMENDATIONS (cont'd)

- supply and installation of a new hydro pole, transformer, feeder and meter
- supply and installation of a pump alarm including phone (land or cell) connecting to the Municipality
- supply and installation of additional granular fill and Turf Mat on laneway slopes
- supply and installation of new shot rock rip-rap mixed with broken concrete as discharge pit
- that the existing farm culvert at Station 2+513 be included/incorporated for future maintenance purposes

DRAIN 'B' and HAGMEIER DRAIN:

- that the attached profile and Schedule of Assessment be used for future maintenance purposes which includes the lower portion of the Hagmeier Drain as part of Drain 'B'
- that the existing Hagmeier Drain upstream of Drain 'B' will continue to be maintained in accordance with the existing 1989 drawings and report
- that future excavated material be levelled adjacent to the drain
- that future stumps, logs and brush be piled
- that the existing culverts at Station 0+048 'B' and Station 0+047 Hagmeier be included/incorporated for future maintenance purposes

ENVIRONMENTAL CONSIDERATIONS AND MITIGATION MEASURES

Based on the information available, there are no significant wetlands, sensitive areas or endangered species in the area of the proposed work.

We are also recommending that the following erosion and sediment control measures be included as part of our reconstruction proposal to help mitigate any potential adverse impacts of the proposed drainage works on water quality and fishery habitat:

- timing of construction is to be only at times of low or no flow
- a temporary flow check of silt fencing is to be installed for the duration of the construction at the bottom end of the work
- a cleanout of the ditch bottom only has been specified so that the existing bank vegetation is not disturbed. However, where the existing banks are unstable, or may become unstable, they are to be resloped and seeded as noted on the plans

ENVIRONMENTAL CONSIDERATIONS AND MITIGATION MEASURES (cont'd)

- a 0.9 meter wide grassed strip between the top of the bank and any adjacent cultivated lands on both sides of the ditch is to be incorporated and/or be constructed in accordance with the attached plans

- some existing washouts along the course of the drain are to be repaired and protected with Turf Mat

- all work is to be completed from the north and west sides of the ditch where possible. Any natural vegetation, brush, trees, etc. that exist on the unaffected sides of the ditch, especially the south side, should be retained to provide shade and cover

SUMMARY OF PROPOSED WORK

The proposed work consists of approximately 550 lineal meters of open ditch cleanout including bank protection, farm culvert, and construction of a pumping station.

SCHEDULES

Three schedules are attached hereto and form part of this report, being Schedule 'A' - Allowances, Schedule 'B' - Cost Estimate, and Schedule 'C' - Assessment for Construction.

Schedule 'A' - Allowances. In accordance with Sections 29 and 30 of the Drainage Act, allowances are provided for right-of-way and damages to lands and crops along the route of the drain as defined below.

Schedule 'B' - Cost Estimate. This schedule provides for a detailed cost estimate of the proposed work which is in the amount of $ 385,300.00. This estimate includes engineering and administrative costs associated with this project.

Schedule 'C' - Assessment for Construction. This schedule outlines the distribution of the total estimated cost of construction over the roads and lands which are involved.

Our Drawing No.'s 1 to 5 Job No. 210087 and specifications, along with Drawings DP101, E101, E102 and specifications Divisions 11, 26, provided by Stantec Consulting Ltd., Project No. 165630109 form part of this report. They show and describe in detail the location and extent of the work to be done and the lands which are affected.

ALLOWANCES

RIGHT-OF-WAY: Section 29 of the Drainage Act provides for an allowance to the owners whose land must be used for the construction, repair, or future maintenance of a drainage works.

ALLOWANCES (cont'd)

For open ditches, the allowance provides for the loss of land due to the construction provided for in the report. The amounts granted are based on the value of the land, and the rate used was $30,000.00/ha. For existing open ditches, the right-of-way to provide for the right to enter and restrictions imposed on those lands, is deemed to have already been granted.

DAMAGES: Section 30 of the Drainage Act provides for the compensation to landowners along the drain for damages to lands and crops caused by the construction of the drain. The amount granted is based on $4,647.00/ha. for open ditch work. This base rate is multiplied by the hectares derived from the working widths shown on the plans and the applicable lengths.

ASSESSMENT DEFINITIONS

In accordance with the Drainage Act, lands that make use of a drainage works are liable for assessment for part of the cost of constructing and maintaining the system. These assessments are known as benefit, outlet liability and special benefit as set out under Sections 22 and 23 of the Act.

SECTION 22

Benefit as defined in the Drainage Act means the advantages to any lands, roads, buildings or other structures from the construction, improvement, repair or maintenance of a drainage works such as will result in a higher market value or increased crop production or improved appearance or better control of surface water, or any other advantages relating to the betterment of lands, roads, buildings or other structures.

Special Benefit is assessed to lands for which some additional work or feature has been included in the construction repair or improvement of a drainage works. The costs of such work are separated and assessed independently from the regular work. Typically these assessments are not considered special benefits under Section 24.

SECTION 23

Outlet liability is assessed to lands or roads that may make use of a drainage works as an outlet either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek or watercourse.

In addition, a Public Utility or Road Authority shall be assessed for and pay all the increased cost to a drainage works due to the construction and operation of the Public Utility or Road Authority. This may be shown as either benefit or special assessment.

ASSESSMENT

A modified "Todgham Method" was used to calculate the assessments shown on Schedule 'C'-Assessment for Construction. This entailed breaking down the costs of the drain into sections. Special Benefits were then extracted from each section.

ASSESSMENT (cont'd)

The remainder is then separated into Benefit and Outlet costs. The Benefit cost is distributed to those properties receiving benefit as defined under "Assessment Definitions", with such properties usually being located along or close to the route of the drain. The Outlet Costs are distributed to all properties within the watershed area of that section on an adjusted basis. The areas are adjusted for location along that section, and relative run-off rates. Due to their different relative run-off rates, forested lands have been assessed for outlet at lower rates than cleared

lands. Also, roads and residential properties have been assessed for outlet at higher rates than cleared farm lands.

The actual cost of the work involving this report is to be assessed on a pro-rata basis against the lands and roads liable for assessment for special benefit, benefit, and outlet as shown in detail below and on Schedule 'C' - Assessment for Construction.

SPECIAL BENEFIT ASSESSMENTS

Special Benefit Assessments have been made against individual properties for their portion of the cost of various special works provided to them. These works consist of farm culvert with rip-rap protection and shall be as shown on Schedule 'C' - Assessment for Construction. For open drains the Contractor shall contact the owner and request that all known outlet pipes be marked by the owner prior to commencement of excavation on each property. All outlets so marked or visible or as noted on the profile, and subsequently damaged by the Contractor's operations, will be repaired by the Contractor at his cost. All other outlet pipes repaired by the Contractor under direction of the Drainage Superintendent or Engineer shall be considered an extra to the contract price. This cost shall be assessed to the property as a non-pro-rateable special benefit.

GRANTS

In accordance with the provisions of Section 85 of the Drainage Act, a grant **may** be available for assessments against privately owned parcels of land which are used for agricultural purposes and eligible for the Farm Property Class Tax rate. Section 88 of the Drainage Act directs the Municipality to make application for this grant upon certification of completion of this drain. The Municipality will then deduct the grant from the assessments prior to collecting the final assessments.

MAINTENANCE

Upon completion of construction, all owners are hereby made aware of Sections 80 and 82 of the Drainage Act which forbid the obstruction of or damage or injury to a municipal drain.

After completion, the entire Lake Smith No. 1 Drain, Drain 'B', and Hagmeier shall be maintained by the Municipality of Lambton Shores at the expense of all upstream lands and roads assessed in Schedule 'C' - Assessment for Construction and in the same relative proportions, with the exception that the special benefit assessments shall be removed until such time as the assessment is changed under the Drainage Act.

MAINTENANCE (cont'd)

Special Benefit Assessments shall only be pro-rated for future maintenance purposes, if the work assessed for special benefit is part of the maintenance.

The culverts under Greenway Road, River Road, Haig Line road allowance and one new and seven existing farm culverts, shown on the profile shall be included/incorporated as part of this drain for future maintenance purposes. Future maintenance costs of the farm culverts shall be levied two-thirds to the affected owner and the remainder shall be pro-rated over the upstream outlet assessments.

Repairs or improvements to any road culvert or bridge shall be the responsibility of the applicable Road Authority, entirely at their cost.

Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED

M.P.DeVos, P. Eng.

MPD:bv

SCHEDULE 'A' - ALLOWANCES

LAKE SMITH No. 1 DRAIN

Municipality of Lambton Shores

In accordance with Sections 29 and 30 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CONCESSION	LOT	ROLL NUMBER (Owner)	Right-of-Way	Damages	TOTALS
PUMP AND OUTLET DITCH					
Former Bosanquet					
A	Pt.N½ 12	460-090-013(G. Peters)	$ 720.00	$	$ 720.00
A	SPt. 12	460-090-012(New Venice Corp. Ltd.)	3,070.00		3,070.00
A	SPt.13& 14	460-090-014(New Venice Corp. Ltd.)	3,070.00		3,070.00
A	Pt. N½ 13	460-090-015(K. Peters)	720.00	1,850.00	2,570.00
B	11	460-090-032(Ontario Peninsula Farms Ltd.)	1,320.00		1,320.00
B	12	460-090-033(Ontario Peninsula Farms Ltd.)	1,890.00	1,780.00	3,670.00
		Total Allowances	$ 10,790.00	$ 3,630.00	$ 14,420.00
		TOTAL ALLOWANCES ON THE PUMP AND OUTLET DITCH			**$ 14,420.00**
MAIN DITCH					
Former Bosanquet					
C&B	EPt. 6	460-090-016(A. Janssen)	$ 380.00	$ 790.00	$ 1,170.00
C&B	WPt. 6	460-090-017(A. Case)	410.00	840.00	1,250.00
B	EPt. 7	460-090-019(Bridgeview Produce Ltd.)	410.00	420.00	830.00
B	WPt. 7	460-090-020(W. Vandenberk)	760.00	780.00	1,540.00
B	EPt. 8	460-090-023(P. Backx)	710.00	740.00	1,450.00
B	WPt. 8	460-090-022(P. Backx)	860.00	880.00	1,740.00
B	E¼ 9	460-090-024(W. Vandenberk)	400.00	420.00	820.00
B	W½E½ 9	460-090-025(W. Vandenberk)	410.00	420.00	830.00
B	Pt.W½ 9	460-090-026(1047588 Ontario Ltd.)	770.00	790.00	1,560.00
B	Pt. 10	460-090-028-01(1047588 Ontario Ltd.)	500.00	520.00	1,020.00
B	Pt. 10	460-090-029(T. Rood)	500.00	510.00	1,010.00
B	Pt. 10	460-090-030(1047588 Ontario Ltd.)	490.00	510.00	1,000.00
B	11	460-090-032(Ontario Peninsula Farms Ltd.)	1,260.00	1,300.00	2,560.00
C	Pt. 6	460-090-053(S. Vandenberk)	790.00		790.00
C	SEPt. 7	460-090-054(Bridgeview Produce Ltd.)	380.00		380.00
		Total Allowances	$ 9,030.00	$ 8,920.00	$ 17,950.00
		TOTAL ALLOWANCES ON THE MAIN DITCH			**$ 17,950.00**

SCHEDULE ' A ' - ALLOWANCES (Cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

CONCESSION	LOT	ROLL NUMBER (Owner)	Section 29 Right-of-Way	Section 30 Damages	TOTALS
DRAIN "B" AND HAGMEIER DRAIN					
Former Bosanquet					
B	11	460-090-032(Ontario Peninsula Farms Ltd.)	$ 140.00	$	$ 140.00
B	12	460-090-033(Ontario Peninsula Farms Ltd.)	1,440.00		1,440.00
B	13	460-090-034(Ontario Peninsula Farms Ltd.)	1,450.00		1,450.00
B	14	460-080-019(Ontario Peninsula Farms Ltd.)	1,530.00		1,530.00
B	15	460-080-020(Ontario Peninsula Farms Ltd.)	1,830.00		1,830.00
C	15	460-080-056(Ontario Peninsula Farms Ltd.)	1,580.00		1,580.00
		Total Allowances	$ 7,970.00	$	$ 7,970.00
		TOTAL ALLOWANCES ON DRAIN "B" AND HAGMEIER DRAIN			**$ 7,970.00**
		TOTAL ALLOWANCES ON THE LAKE SMITH No. 1 DRAIN			**$ 40,340.00**

SCHEDULE 'B' - COST ESTIMATE

LAKE SMITH No. 1 DRAIN

Municipality of Lambton Shores

We have made an estimate of the cost of the proposed work which is outlined in detail as follows:

PUMP AND OUTLET DITCH

550 meters of open ditch cleanout (Approx. 150 m³)		$	2,750.00
Levelling of excavated material		$	1,100.00
Clearing & grubbing		$	1,200.00
Supply & installation of the following helical corrugated aluminized steel pipe as high flow culvert including supply and compaction of bedding and backfill materials, surface restoration, and reinstallation of existing flap gate			
13.0m - 900mm dia, 2.0mm thick, 125mm x 25mm cor.	Supply	$	4,100.00
	Installation	$	5,500.00
Remove and dispose of existing highflow culvert, pump discharge pipe and discharge pipe flap gate		$	2,500.00
Remove and dispose of existing pump house building including debris grate and electrical wiring/pole		$	5,000.00
Remove and break up existing cast in pace concrete foundation walls, wing walls, and outlet structure for use as rip-rap		$	6,600.00
Remove and dispose of existing gabion basket wingwall and salvage gabion stone for use as rip-rap)		$	1,000.00
Remove and salvage existing pump motor, pump, and electrical panel which is to be delivered to the municipal works Northville yard		$	2,000.00
Remove and salvage existing rip-rap protection and 900mm flap gate for re-use (approx. 3m³)		$	900.00
Dewatering for structure installation		$	2,500.00
New concrete pump housing structure including railing	- supply	$	26,200.00
	-installation		16,000.00
Debris grate, concrete block sump, headwall, side walls, and front wall	- supply	$	12,100.00
	-installation		10,500.00
Supply and installation of new pump complete including discharge pipe and flap gate		$	50,000.00
Supply and installation of weather proof pump control panel including connection to pump, and attachment to structure, primary and secondary level control complete with VFD (phase converter), alarm		$	34,000.00
Supply and installation of new hydro pole, transformer, feeder, meter		$	8,000.00

SCHEDULE 'B' - COST ESTIMATE (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

PUMP AND OUTLET DITCH (Cont.)

Supply and install 100mm topsoil, seed, and N.A.G. C350 Turf Mat on north slope (approx. 100 m²)		$	2,500.00
Supply and install 100mm topsoil, seed, and N.A.G. C350 Turf Mat on southeast slope (approx. 15m²)		$	500.00
Re-grade (lower) existing access ramp, supply and install 100mm topsoil, seed, and N.A.G. S75 erosion control blanket (approx. 80m²)		$	1,000.00
Supply, place and compact additional granular 'B' (benched) as laneway widening (approx.)		$	3,800.00
Supply and Install shot rock mixed with existing broken concrete and existing quarry stone on ditch slopes and around discharge and overflow pipe including geotextile (approx. 15m³ broken conc. and 27m³ shot rock req'd)		$	6,000.00
Supply and install quarry stone mixed with existing quarry stone around outside of concrete block entrance pit (approx. 3m new quarry stone and 3m existing quarry stone)		$	1,100.00
Contingencies		$	14,000.00
Allowances under Sections 29 & 30 of the Drainage Act		$	14,420.00

MAIN DITCH

Clearing & grubbing		$	1,200.00
Supply & installation of the following aluminized helical corrugated steel pipe as new farm culvert including supply and installation of quarry stone rip-rap protection at each end of pipe including, supply, installation & compaction of bedding and backfill materials Approx. 12m³ quarry stone req'd			
15.0 m - 1200mm dia, 2.0mm thick, 125mm x 25mm corrugations	Supply	$	2,960.00
STA. 4+940 (Roll # 090-023 P. Backx)	Installation	$	5,650.00
Clearing and Grubbing		$	800.00
Regrade ditch banks, seed, supply and place N.A.G. C350 Turf Mat protection on resloped and seeded bank at locations directed by engineer (Approx. 210 m²)		$	3,360.00
Contingencies		$	2,500.00
Allowances under Sections 29 & 30 of the Drainage Act		$	17,950.00

DRAIN "B" AND HAGMEIER DRAIN

Allowances under Sections 29 & 30 of the Drainage Act		$	7,970.00

SCHEDULE 'B' - COST ESTIMATE (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

ADMINISTRATION

Interest and Net Harmonized Sales Tax	$	11,661.00
Geotechnical Report and Inspection	$	7,500.00
Survey, Plan and Final Report	$	64,356.00
Expenses	$	4,123.00
Supervision and Final Inspection	$	20,000.00
TOTAL ESTIMATED COST	**$**	**385,300.00**

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION

LAKE SMITH No. 1 DRAIN

Municipality of Lambton Shores

Job No. 210087 July 31, 2017

* = *Non-agricultural*

	CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
PUMP AND OUTLET DITCH							
	Former Bosanquet						
*	A	Pt.N½ 10	0.71	460-090-008(T. Humphries)	$	$ 73.00	$ 73.00
	A	Pt.N½ 11	4.8	460-090-009(A. Kustermans)		326.00	326.00
	A	Pt.N½ 12	15.5	460-090-013(G. Peters)	660.00	1,053.00	1,713.00
	A	SPt. 12	20.2	460-090-012(New Venice Corp. Ltd.)	2,810.00	686.00	3,496.00
	A	SPt.13& 14	8.5	460-090-014(New Venice Corp. Ltd.)	3,440.00	289.00	3,729.00
	A	Pt. N½ 13	20.2	460-090-015(K. Peters)	4,030.00	1,372.00	5,402.00
	A	E½ 14	11.3	460-080-001(K. Peters)	1,800.00	768.00	2,568.00
	A	Pt.W½ 14	5.7	460-080-002(K. Peters)	910.00	387.00	1,297.00
	A	Pt.W½ 14	5.7	460-080-003(K. Peters)	910.00	387.00	1,297.00
	A	Pt. 15	21.6	460-080-004(G. Peters)	3,450.00	1,468.00	4,918.00
	A	Pt. 15	0.45	460-080-004-01(G. Peters)		31.00	31.00
	A	EPt. 16	11.5	460-080-005(C. Page)	1,830.00	781.00	2,611.00
	A	Pt.16& 17	30.0	460-080-006(A. Walden)	4,790.00	2,038.00	6,828.00
	A	Pt. 18	18.6	460-080-011(G. Peters)	2,630.00	1,121.00	3,751.00
*	A	Pt. 18	1.71	460-080-012(B. Bullock)	270.00	116.00	386.00
	A	EPt. 19	11.3	460-080-013(GeeJam Farm Ltd.)	1,800.00	768.00	2,568.00
	A	WPt. 19	10.1	460-080-014(G. Marrison)	1,360.00	577.00	1,937.00
	A	20	17.8	460-080-015(E. Rath)	2,840.00	1,209.00	4,049.00
	A	21	6.9	460-080-018(E. Rath)	1,100.00	469.00	1,569.00
	C&B	EPt. 6	13.2	460-090-016(A. Janssen)	2,010.00	856.00	2,866.00
	C&B	WPt. 6	14.0	460-090-017(A. Case)	2,110.00	900.00	3,010.00
	B	EPt. 7	14.2	460-090-019(Bridgeview Produce Ltd.)	2,410.00	965.00	3,375.00
	B	WPt. 7	17.0	460-090-020(W. Vandenberk)	2,870.00	1,087.00	3,957.00
	B	EPt. 8	21.4	460-090-023(P. Backx)	3,830.00	1,372.00	5,202.00
	B	WPt. 8	19.4	460-090-022(P. Backx)	3,870.00	1,318.00	5,188.00
*	B	WPt. 8	2.0	460-090-022-01(K. Rau)		85.00	85.00
	B	E¼ 9	12.1	460-090-024(W. Vandenberk)	2,410.00	822.00	3,232.00
	B	W½E½ 9	11.7	460-090-025(W. Vandenberk)	2,330.00	795.00	3,125.00
*	B	Pt.E½ 9	0.37	460-090-027(J. Kelders)		38.00	38.00
	B	Pt.W½ 9	14.2	460-090-026(1047588 Ontario Ltd.)	2,830.00	965.00	3,795.00
*	B	Pt.W½ 9	6.7	460-090-026-01(H & L Forming Ltd.)	620.00	353.00	973.00
*	B	Pt.W½ 9	0.55	460-090-026-02(H. Baltessen)		52.00	52.00
*	B	Pt.9& 10	10.8	460-090-031(S. Allen)	650.00	367.00	1,017.00
	B	Pt. 10	2.6	460-090-028(Ontario Peninsula Farms Ltd.)	180.00	122.00	302.00
	B	Pt. 10	8.9	460-090-028-01(1047588 Ontario Ltd.)	1,770.00	605.00	2,375.00
	B	Pt. 10	12.5	460-090-029(T. Rood)	2,240.00	764.00	3,004.00
	B	Pt. 10	15.4	460-090-030(1047588 Ontario Ltd.)	2,770.00	944.00	3,714.00
	B	11	45.5	460-090-032(Ontario Peninsula Farms Ltd.)	9,070.00	3,091.00	12,161.00
	B	12	48.6	460-090-033(Ontario Peninsula Farms Ltd.)	9,210.00	3,302.00	12,512.00

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

* = *Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
PUMP AND OUTLET DITCH (cont'd)						
Former Bosanquet						
B	13	48.6	460-090-034(Ontario Peninsula Farms Ltd.)	8,720.00	$ 3,302.00	$ 12,022.00
B	14	48.6	460-080-019(Ontario Peninsula Farms Ltd.)	8,240.00	3,302.00	11,542.00
B	15	48.6	460-080-020(Ontario Peninsula Farms Ltd.)	7,750.00	3,302.00	11,052.00
B	NPt. 16	40.5	460-080-021(Ontario Peninsula Farms Ltd.)	6,460.00	2,752.00	9,212.00
B	SPt. 16	8.1	460-080-022(I. Burley-Pachlarz)	1,290.00	550.00	1,840.00
B	Pt.E½ 17	8.1	460-080-023(H. Jamrozinski Jr.)	1,290.00	550.00	1,840.00
B	W½ 17	8.1	460-080-027(H. Jamrozinski Jr.)	1,290.00	550.00	1,840.00
B	E½ 18	8.1	460-080-028(K. Kwarciak)	1,290.00	550.00	1,840.00
B	Pt.18& 19	10.6	460-080-031(1047588 Ontario Ltd.)	1,690.00	720.00	2,410.00
B	Pt. 19	4.0	460-080-033(1047588 Ontario Ltd.)	640.00	272.00	912.00
B	Pt. 19	4.0	460-080-034(1047588 Ontario Ltd.)	640.00	272.00	912.00
B	Pt. 19	5.5	460-080-035(1047588 Ontario Ltd.)	880.00	374.00	1,254.00
B	Pt.E½ 20	8.1	460-080-037(1047588 Ontario Ltd)	1,290.00	550.00	1,840.00
B	Pt.W½ 20	8.1	460-080-039(H. Jamrozinski)	1,290.00	550.00	1,840.00
C	Pt. 6	12.1	460-090-050(Bridgeview Produce Ltd.)	1,930.00	822.00	2,752.00
C	Pt. 6	6.1	460-090-052(S. Vandenberk)	970.00	414.00	1,384.00
C	Pt. 6	13.4	460-090-053(S. Vandenberk)	2,250.00	910.00	3,160.00
C	SEPt. 7	12.1	460-090-054(Bridgeview Produce Ltd.)	2,050.00	822.00	2,872.00
C	SWPt. 7	12.1	460-090-055(W. Vandenberk)	2,000.00	822.00	2,822.00
C	NPt. 7	6.9	460-090-056(C. Vandenberk)	1,100.00	469.00	1,569.00
C	NPt. 7	8.8	460-090-056-01(M. Vandenberk)	1,400.00	598.00	1,998.00
C	NPt. 7	8.1	460-090-056-02(1047588 Ontario Ltd.)	1,290.00	550.00	1,840.00
C	E½ 8	24.3	460-090-058(P. Backx)	3,880.00	1,651.00	5,531.00
C	W½ 8	24.3	460-090-057(P. Backx)	3,880.00	1,651.00	5,531.00
C	E¼ 9	12.1	460-090-059(W. Vandenberk)	1,930.00	822.00	2,752.00
C	W½E½ 9	12.1	460-090-060(W. Vandenberk)	1,930.00	822.00	2,752.00
C	W½ 9	24.3	460-090-061(1047588 Ontario Ltd.)	3,880.00	1,651.00	5,531.00
C	EPt. 10	16.2	460-090-062(1047588 Ontario Ltd.)	2,580.00	1,101.00	3,681.00
C	CPt. 10	16.2	460-090-063(T. Rood)	2,580.00	1,101.00	3,681.00
C	WPt. 10	16.2	460-090-064(1047588 Ontario Ltd.)	2,580.00	1,101.00	3,681.00
C	11	42.5	460-090-065(Ontario Peninsula Farms Ltd.)	6,780.00	2,887.00	9,667.00
C	12	48.6	460-090-066(Ontario Peninsula Farms Ltd.)	7,750.00	3,302.00	11,052.00
C	13	48.6	460-090-067(Ontario Peninsula Farms Ltd.)	7,750.00	3,302.00	11,052.00
C	14	48.6	460-080-055(Ontario Peninsula Farms Ltd.)	7,750.00	3,302.00	11,052.00
C	15	48.6	460-080-056(Ontario Peninsula Farms Ltd.)	7,750.00	3,302.00	11,052.00
C	16	48.6	460-080-057(Ontario Peninsula Farms Ltd.)	7,750.00	3,302.00	11,052.00
* LRE	21-25	68.4	460-090-534(Natural Resources Ministry)		2,324.00	2,324.00
* LRE	Pt.25& 26	0.16	460-080-085(R. Holden)		11.00	11.00
* LRE	Pt. 25	0.37	460-080-085-04(L. Price)		25.00	25.00
* LRE	Pt. 25	0.39	460-080-085-05(D. Hewitt)		26.00	26.00
* LRE	Pt. 25	0.36	460-080-085-06(B. Silverthorne)		24.00	24.00
* LRE	Pt. 25	0.37	460-080-085-07(R. Cook)		25.00	25.00
* LRE	Pt. 25	0.38	460-080-085-08(N. Corriveau)		26.00	26.00
* LRE	Pt. 25	0.37	460-080-085-09(K. Williams)		25.00	25.00

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

** = Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
PUMP AND OUTLET DITCH (cont'd)						
Former Bosanquet						
* LRE	Pt. 25	0.37	460-080-085-10(J. Hebert)	$	$ 25.00	$ 25.00
* LRE	Pt. 25	0.36	460-080-085-11(R. Roth)		24.00	24.00
* LRE	Pt. 25	0.35	460-080-085-12(R. Tipping)		24.00	24.00
* LRE	Pt. 25	0.35	460-080-085-13(B. Sheppard)		24.00	24.00
* LRE	Pt. 25	0.35	460-080-085-14(E. Hartman)		24.00	24.00
* LRE	Pt. 25	0.36	460-080-085-15(P. Zylberstein)		24.00	24.00
* LRE	Pt. 25	0.37	460-080-085-16(H. Moloy)		25.00	25.00
* LRE	Pt. 24	0.38	460-080-085-17(L. Verhagen)		26.00	26.00
* LRE	Pt. 24	0.39	460-080-085-18(G. Harbin)		26.00	26.00
* LRE	Pt. 24	0.38	460-080-085-19(J. Logan)		26.00	26.00
* LRE	Pt. 24	0.37	460-080-085-20(M. Blackmore)		25.00	25.00
* LRE	Pt. 24	0.34	460-080-085-21(M. Redmond)		23.00	23.00
* LRE	Pt. 24	0.32	460-080-086(F. Costa)		22.00	22.00
* LRE	Pt. 24	0.30	460-080-086-01(N. Stanlick)		20.00	20.00
* LRE	Pt. 24	0.28	460-080-086-02(D. Jeffrey)		19.00	19.00
* LRE	Pt. 24	0.27	460-080-086-03(J. Hickey)		18.00	18.00
* LRE	Pt. 24	0.27	460-080-086-04(J. Furlong)		18.00	18.00
* LRE	Pt. 24	0.28	460-080-086-05(B. Sims)		19.00	19.00
* LRE	Pt. 24	0.28	460-080-086-06(D. Vanhevel)		19.00	19.00
* LRE	Pt. 24	0.29	460-080-086-07(K. Sartori)		20.00	20.00
* LRE	Pt.23& 24	0.30	460-080-086-08(M. Hajer)		20.00	20.00
* LRE	Pt. 23	0.31	460-080-086-09(K. Chiurko)		21.00	21.00
* LRE	Pt. 23	0.31	460-080-086-10(S. Gordon)		21.00	21.00
* LRE	Pt. 23	0.32	460-080-086-11(S. Gordon)		22.00	22.00
* LRE	Pt. 23	0.32	460-080-086-12(A. Saunders)		22.00	22.00
* LRE	Pt. 23	0.32	460-080-086-13(R. MacDouell)		22.00	22.00
* LRE	Pt. 23	0.32	460-080-086-14(J. McClennan)		22.00	22.00
* LRE	Pt. 23	0.58	460-080-086-15(W. Wark)		39.00	39.00
* LRE	Pt. 23	0.93	460-080-086-16(W. Wark)		63.00	63.00
* LRE	Pt. 23	0.51	460-080-086-17(W. Wark)		35.00	35.00
* LRE	Pt. 23	0.28	460-080-086-18(P. Morrissey)		19.00	19.00
* LRE	Pt. 23	0.32	460-080-086-19(R. Vermeiren)		22.00	22.00
* LRE	Pt. 23	0.38	460-080-087(H. Gelink)		26.00	26.00
* LRE	Pt. 23	0.34	460-080-087-01(M. Wilson)		23.00	23.00
* LRE	Pt. 23	0.34	460-080-087-02(2371587 Ontario Inc.)		23.00	23.00
* LRE	Pt. 23	0.29	460-080-087-03(S. Bowers)		20.00	20.00
* LRE	Pt. 23	0.29	460-080-087-04(R. Woodbridge)		20.00	20.00
* LRE	Pt. 23	0.30	460-080-087-05(D. McKay)		20.00	20.00
* LRE	Pt. 23	0.31	460-080-087-06(D. Agar)		21.00	21.00
* LRE	Pt.23& 24	0.32	460-080-087-07(J. Colizza)		22.00	22.00
* LRE	Pt. 24	0.34	460-080-087-08(R. Harrington)		23.00	23.00
* LRE	Pt. 24	0.35	460-080-087-09(W. Klodt)		24.00	24.00
* LRE	Pt. 24	0.36	460-080-087-10(D. Hill)		24.00	24.00
* LRE	Pt. 24	0.37	460-080-087-11(L. Rose)		25.00	25.00

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

* = *Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
PUMP AND OUTLET DITCH (cont'd)						
Former Bosanquet						
* LRE	Pt. 24	0.38	460-080-087-12(L. Robotham)	$	$ 26.00	$ 26.00
* LRE	Pt. 24	0.37	460-080-087-13(T. Pevler)		25.00	25.00
* LRE	Pt. 24	0.36	460-080-087-14(R. Creaghe)		24.00	24.00
* LRE	Pt. 24	0.34	460-080-087-15(H. Talbot)		23.00	23.00
* LRE	Pt. 24	0.32	460-080-087-16(T. Hayter)		22.00	22.00
* LRE	Pt. 24	0.30	460-080-087-17(J. Rood)		20.00	20.00
* LRE	Pt. 24	0.29	460-080-087-18(L. Taylor)		20.00	20.00
* LRE	Pt. 24	0.29	460-080-087-19(723060 Ontario Ltd.)		20.00	20.00
* LRE	Pt. 24	0.30	460-080-087-20(M. Statchuk)		20.00	20.00
* LRE	Pt. 25	0.32	460-080-087-21(F. Mazza)		22.00	22.00
* LRE	Pt. 25	0.33	460-080-087-22(M. Brudlo)		22.00	22.00
* LRE	Pt. 25	0.34	460-080-087-23(D. Stewart)		23.00	23.00
* LRE	Pt. 25	0.34	460-080-088(D. Tulloch)		23.00	23.00
* LRE	Pt. 25	0.34	460-080-088-02(P. Marlow)		23.00	23.00
* LRE	Pt. 25	0.33	460-080-088-03(M. Livingston)		22.00	22.00
* LRE	Pt. 25	0.32	460-080-088-04(W. MacCormack)		22.00	22.00
* LRE	Pt. 25	0.31	460-080-088-05(L. Pastorius)		21.00	21.00
* LRE	Pt. 25	0.32	460-080-088-06(J. Croft)		22.00	22.00
* LRE	Pt. 25	0.32	460-080-088-07(L. Wilkey)		22.00	22.00
* LRE	Pt. 25	0.32	460-080-088-08(W. Billington)		22.00	22.00
* LRE	Pt. 25	0.34	460-080-088-09(A. Szyszko)		23.00	23.00
* LRE	Pt. 25	0.39	460-080-088-10(E. Pruski)		26.00	26.00
* LRE	Pt.25& 26	0.08	460-080-088-11(G. Mayers)		5.00	5.00
* LRE	Pt.25& 26	0.08	460-080-088-12(P. Stanojevic)		5.00	5.00
* LRE	Pt.25& 26	0.08	460-080-088-13(D. McAlpine)		5.00	5.00
			TOTAL ASSESSMENT ON LANDS	$ 210,330.00	$ 89,066.00	$ 299,396.00
Cold Storage Rd.		1.3	Municipality of Lambton Shores	$ 620.00	$ 265.00	$ 885.00
Greenway Road		11.0	County of Lambton	8,220.00	2,804.00	11,024.00
Klondyke Road		1.5	Municipality of Lambton Shores	1,020.00	383.00	1,403.00
River Road		2.9	Municipality of Lambton Shores	940.00	591.00	1,531.00
Haig Line		9.3	Municipality of Lambton Shores	4,470.00	1,390.00	5,860.00
Blain Road		5.9	Municipality of Lambton Shores	1,320.00	561.00	1,881.00
Goosemarsh Line		5.7	Municipality of Lambton Shores	2,750.00	1,162.00	3,912.00
Museum Road		0.3	Municipality of Lambton Shores		61.00	61.00
Highway 21		5.8	Ministry of Transportation		1,576.00	1,576.00
Timberwood Trail		2.4	Municipality of Lambton Shores		571.00	571.00
			TOTAL ASSESSMENT ON ROADS	$ 19,340.00	$ 9,364.00	$ 28,704.00

TOTAL ASSESSMENT ON THE PUMP AND OUTLET DITCH **$ 328,100.00**

SCHEDULE 'C'- ASSESSMENT FOR CONSTRUCTION (Cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

** = Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	SPECIAL BENEFIT	BENEFIT	OUTLET	TOTAL
MAIN DITCH							
Former Bosanquet							
C&B	EPt. 6	13.2	460-090-016(A. Janssen)	$	$ 1,250.00	$ 1,455.00	$ 2,705.00
C&B	WPt. 6	14.0	460-090-017(A. Case)		1,330.00	1,454.00	2,784.00
B	EPt. 7	14.2	460-090-019(Bridgeview Produce Ltd.)		1,110.00	1,558.00	2,668.00
B	WPt. 7	17.0	460-090-020(W. Vandenberk)		1,780.00	1,767.00	3,547.00
B	EPt. 8	19.8	460-090-023(P. Backx)	6,338.00	1,670.00	1,825.00	9,833.00
B	WPt. 8	16.7	460-090-022(P. Backx)		2,000.00	1,543.00	3,543.00
B	WPt. 8	2.0	460-090-022-01(K. Rau)			115.00	115.00
B	E¼ 9	10.3	460-090-024(W. Vandenberk)		940.00	893.00	1,833.00
B	W½E½ 9	9.7	460-090-025(W. Vandenberk)		960.00	841.00	1,801.00
B	Pt.E½ 9	0.4	460-090-027(J. Kelders)			48.00	48.00
B	Pt.W½ 9	9.9	460-090-026(1047588 Ontario Ltd.)		1,610.00	719.00	2,329.00
B	Pt.W½ 9	6.7	460-090-026-01(H & L Forming Ltd.)		180.00	420.00	600.00
B	Pt.W½ 9	0.6	460-090-026-02(H. Baltessen)			62.00	62.00
B	Pt.9& 10	10.8	460-090-031(S. Allen)		120.00	419.00	539.00
B	Pt. 10	2.6	460-090-028(Ontario Peninsula Farms Ltd.)		60.00	135.00	195.00
B	Pt. 10	5.9	460-090-028-01(1047588 Ontario Ltd.)		1,060.00	443.00	1,503.00
B	Pt. 10	9.5	460-090-029(T. Rood)		1,100.00	572.00	1,672.00
B	Pt. 10	12.4	460-090-030(1047588 Ontario Ltd.)		1,150.00	755.00	1,905.00
B	11	20.2	460-090-032(Ontario Peninsula Farms Ltd.)		1,980.00	1,283.00	3,263.00
C	Pt. 6		460-090-053(S. Vandenberk)		1,100.00		1,100.00
C	SEPt. 7		460-090-054(Bridgeview Produce Ltd.)		740.00		740.00
			TOTAL ASSESSMENT ON LANDS	$ 6,338.00	$ 20,140.00	$ 16,307.00	$ 42,785.00
Cold Storage Rd.		0.6	Municipality of Lambton Shores		$ 250.00	$ 208.00	$ 458.00
Greenway Road		5.9	County of Lambton		510.00	408.00	918.00
Klondyke Road		1.5	Municipality of Lambton Shores			139.00	139.00
			TOTAL ASSESSMENT ON ROADS		$ 760.00	$ 755.00	$ 1,515.00
			TOTAL ASSESSMENT ON THE MAIN DITCH				**$ 44,300.00**

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (Cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

* = *Non-agricultural*

	CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
DRAIN "B" AND HAGMEIER DRAIN							
Former Bosanquet							
	A	Pt.N½ 10	0.7	460-090-008(T. Humphries)	$	$ 2.00	$ 2.00
	A	Pt.N½ 11	4.8	460-090-009(A. Kustermans)		14.00	14.00
	A	Pt.N½ 12	15.5	460-090-013(G. Peters)		44.00	44.00
	A	Pt. N½ 13	20.2	460-090-015(K. Peters)		57.00	57.00
	A	E½ 14	11.3	460-080-001(K. Peters)		32.00	32.00
	A	Pt.W½ 14	5.7	460-080-002(K. Peters)		16.00	16.00
	A	Pt.W½ 14	5.7	460-080-003(K. Peters)		16.00	16.00
	A	Pt. 15	21.6	460-080-004(G. Peters)		61.00	61.00
	A	Pt. 15	0.45	460-080-004-01(G. Peters)		1.00	1.00
	A	EPt. 16	11.5	460-080-005(C. Page)		33.00	33.00
	A	Pt.16& 17	30.0	460-080-006(A. Walden)		85.00	85.00
	A	Pt. 18	18.6	460-080-011(G. Peters)		47.00	47.00
*	A	Pt. 18	1.71	460-080-012(B. Bullock)		5.00	5.00
	A	EPt. 19	11.3	460-080-013(GeeJam Farm Ltd.)		32.00	32.00
	A	WPt. 19	10.1	460-080-014(G. Marrison)		24.00	24.00
	A	20	17.8	460-080-015(E. Rath)		50.00	50.00
	A	21	6.9	460-080-018(E. Rath)		20.00	20.00
	C&B	EPt. 6	13.2	460-090-016(A. Janssen)		36.00	36.00
	C&B	WPt. 6	14.0	460-090-017(A. Case)		38.00	38.00
	B	EPt. 7	14.2	460-090-019(Bridgeview Produce Ltd.)		40.00	40.00
	B	WPt. 7	17.0	460-090-020(W. Vandenberk)		45.00	45.00
	B	EPt. 8	21.4	460-090-023(P. Backx)		57.00	57.00
	B	WPt. 8	19.4	460-090-022(P. Backx)		55.00	55.00
	B	WPt. 8	2.0	460-090-022-01(K. Rau)		4.00	4.00
	B	E¼ 9	12.1	460-090-024(W. Vandenberk)		34.00	34.00
	B	W½E½ 9	11.7	460-090-025(W. Vandenberk)		33.00	33.00
	B	Pt.E½ 9	0.4	460-090-027(J. Kelders)		1.00	1.00
	B	Pt.W½ 9	14.2	460-090-026(1047588 Ontario Ltd.)		40.00	40.00
	B	Pt.W½ 9	6.7	460-090-026-01(H & L Forming Ltd.)		15.00	15.00
	B	Pt.W½ 9	0.6	460-090-026-02(H. Baltessen)		2.00	2.00
	B	Pt.9& 10	10.8	460-090-031(S. Allen)		15.00	15.00
	B	Pt. 10	2.6	460-090-028(Ontario Peninsula Farms Ltd.)		5.00	5.00
	B	Pt. 10	8.9	460-090-028-01(1047588 Ontario Ltd.)		25.00	25.00
	B	Pt. 10	12.5	460-090-029(T. Rood)		32.00	32.00
	B	Pt. 10	15.4	460-090-030(1047588 Ontario Ltd.)		39.00	39.00
	B	11	45.5	460-090-032(Ontario Peninsula Farms Ltd.)	130.00	129.00	259.00
	B	12	48.6	460-090-033(Ontario Peninsula Farms Ltd.)	1,420.00	138.00	1,558.00
	B	13	48.6	460-090-034(Ontario Peninsula Farms Ltd.)	1,420.00	138.00	1,558.00
	B	14	48.6	460-080-019(Ontario Peninsula Farms Ltd.)	1,510.00	138.00	1,648.00
	B	15	48.6	460-080-020(Ontario Peninsula Farms Ltd.)	1,870.00	138.00	2,008.00
	B	NPt. 16	40.5	460-080-021(Ontario Peninsula Farms Ltd.)	70.00	115.00	185.00
	B	SPt. 16	8.1	460-080-022(I. Burley-Pachlarz)		23.00	23.00
	B	Pt.E½ 17	8.1	460-080-023(H. Jamrozinski Jr.)		23.00	23.00

SCHEDULE 'C'- ASSESSMENT FOR CONSTRUCTION (Cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

** = Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
DRAIN "B" AND HAIGMEIR DRAIN (cont'd)						
Former Bosanquet						
B	W½ 17	8.1	460-080-027(H. Jamrozinski Jr.)	$	$ 23.00	$ 23.00
B	E½ 18	8.1	460-080-028(K. Kwarciak)		23.00	23.00
B	Pt.18& 19	10.6	460-080-031(1047588 Ontario Ltd.)		30.00	30.00
B	Pt. 19	4.0	460-080-033(1047588 Ontario Ltd.)		11.00	11.00
B	Pt. 19	4.0	460-080-034(1047588 Ontario Ltd.)		11.00	11.00
B	Pt. 19	5.5	460-080-035(1047588 Ontario Ltd.)		16.00	16.00
B	Pt.E½ 20	8.1	460-080-037(1047588 Ontario Ltd)		23.00	23.00
B	Pt.W½ 20	8.1	460-080-039(H. Jamrozinski)		23.00	23.00
C	Pt. 6	12.1	460-090-050(Bridgeview Produce Ltd.)		34.00	34.00
C	Pt. 6	6.1	460-090-052(S. Vandenberk)		17.00	17.00
C	Pt. 6	13.4	460-090-053(S. Vandenberk)		38.00	38.00
C	SEPt. 7	12.1	460-090-054(Bridgeview Produce Ltd.)		34.00	34.00
C	SWPt. 7	12.1	460-090-055(W. Vandenberk)		34.00	34.00
C	NPt. 7	6.9	460-090-056(C. Vandenberk)		20.00	20.00
C	NPt. 7	8.8	460-090-056-01(M. Vandenberk)		25.00	25.00
C	NPt. 7	8.1	460-090-056-02(1047588 Ontario Ltd.)		23.00	23.00
C	E½ 8	24.3	460-090-058(P. Backx)		69.00	69.00
C	W½ 8	24.3	460-090-057(P. Backx)		69.00	69.00
C	E¼ 9	12.1	460-090-059(W. Vandenberk)		34.00	34.00
C	W½E½ 9	12.1	460-090-060(W. Vandenberk)		34.00	34.00
C	W½ 9	24.3	460-090-061(1047588 Ontario Ltd.)		69.00	69.00
C	EPt. 10	16.2	460-090-062(1047588 Ontario Ltd.)		46.00	46.00
C	CPt. 10	16.2	460-090-063(T. Rood)		46.00	46.00
C	WPt. 10	16.2	460-090-064(1047588 Ontario Ltd.)		46.00	46.00
C	11	42.5	460-090-065(Ontario Peninsula Farms Ltd.)		120.00	120.00
C	12	48.6	460-090-066(Ontario Peninsula Farms Ltd.)		138.00	138.00
C	13	48.6	460-090-067(Ontario Peninsula Farms Ltd.)		138.00	138.00
C	14	48.6	460-080-055(Ontario Peninsula Farms Ltd.)		138.00	138.00
C	15	48.6	460-080-056(Ontario Peninsula Farms Ltd.)	1,320.00	138.00	1,458.00
C	16	48.6	460-080-057(Ontario Peninsula Farms Ltd.)	220.00	138.00	358.00
LRE	21- 25	68.4	460-090-534(Natural Resources Ministry)		97.00	97.00
LRE	Pt.25& 26	0.2	460-080-085(R. Holden)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-04(L. Price)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-05(D. Hewitt)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-06(B. Silverthorne)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-07(R. Cook)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-08(N. Corriveau)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-09(K. Williams)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-10(J. Hebert)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-11(R. Roth)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-12(R. Tipping)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-13(B. Sheppard)		1.00	1.00
LRE	Pt. 25	0.4	460-080-085-14(E. Hartman)		1.00	1.00

SCHEDULE 'C'- ASSESSMENT FOR CONSTRUCTION (Cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

* = *Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
DRAIN "B" AND HAIGMEIR DRAIN (cont'd)						
Former Bosanquet						
LRE	Pt. 25	0.4	460-080-085-15(P. Zylberstein)	$	$ 1.00	$ 1.00
LRE	Pt. 25	0.4	460-080-085-16(H. Moloy)		1.00	1.00
LRE	Pt. 24	0.4	460-080-085-17(L. Verhagen)		1.00	1.00
* LRE	24	0.4	460-080-085-18(G. Harbin)		1.00	1.00
* LRE	24	0.4	460-080-085-19(J. Logan)		1.00	1.00
* LRE	24	0.4	460-080-085-20(M. Blackmore)		1.00	1.00
* LRE	24	0.3	460-080-085-21(M. Redmond)		1.00	1.00
* LRE	24	0.3	460-080-086(F. Costa)		1.00	1.00
* LRE	24	0.3	460-080-086-01(N. Stanlick)		1.00	1.00
* LRE	24	0.3	460-080-086-02(D. Jeffrey)		1.00	1.00
* LRE	24	0.3	460-080-086-03(J. Hickey)		1.00	1.00
* LRE	24	0.3	460-080-086-04(J. Furlong)		1.00	1.00
* LRE	24	0.3	460-080-086-05(B. Sims)		1.00	1.00
* LRE	24	0.3	460-080-086-06(D. Vanhevel)		1.00	1.00
* LRE	24	0.3	460-080-086-07(K. Sartori)		1.00	1.00
* LRE	24	0.3	460-080-086-08(M. Hajer)		1.00	1.00
* LRE	23	0.3	460-080-086-09(K. Chiurko)		1.00	1.00
* LRE	23	0.3	460-080-086-10(S. Gordon)		1.00	1.00
* LRE	23	0.3	460-080-086-11(S. Gordon)		1.00	1.00
* LRE	23	0.3	460-080-086-12(A. Saunders)		1.00	1.00
* LRE	23	0.3	460-080-086-13(R. MacDouell)		1.00	1.00
* LRE	23	0.3	460-080-086-14(J. McClennan)		1.00	1.00
* LRE	23	0.6	460-080-086-15(W. Wark)		2.00	2.00
* LRE	23	0.9	460-080-086-16(W. Wark)		3.00	3.00
* LRE	23	0.5	460-080-086-17(W. Wark)		1.00	1.00
* LRE	23	0.3	460-080-086-18(P. Morrissey)		1.00	1.00
* LRE	23	0.3	460-080-086-19(R. Vermeiren)		1.00	1.00
* LRE	23	0.4	460-080-087(H. Gelink)		1.00	1.00
* LRE	23	0.3	460-080-087-01(M. Wilson)		1.00	1.00
* LRE	23	0.3	460-080-087-02(2371587 Ontario Inc.)		1.00	1.00
* LRE	23	0.3	460-080-087-03(S. Bowers)		1.00	1.00
* LRE	23	0.3	460-080-087-04(R. Woodbridge)		1.00	1.00
* LRE	23	0.3	460-080-087-05(D. McKay)		1.00	1.00
* LRE	23	0.3	460-080-087-06(D. Agar)		1.00	1.00
* LRE	24	0.3	460-080-087-07(J. Colizza)		1.00	1.00
* LRE	24	0.3	460-080-087-08(R. Harrington)		1.00	1.00
* LRE	24	0.4	460-080-087-09(W. Klodt)		1.00	1.00
* LRE	24	0.4	460-080-087-10(D. Hill)		1.00	1.00
* LRE	24	0.4	460-080-087-11(L. Rose)		1.00	1.00
* LRE	24	0.4	460-080-087-12(L. Robotham)		1.00	1.00
* LRE	24	0.4	460-080-087-13(T. Pevler)		1.00	1.00
* LRE	24	0.4	460-080-087-14(R. Creaghe)		1.00	1.00
* LRE	24	0.3	460-080-087-15(H. Talbot)		1.00	1.00

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (Cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

** = Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
DRAIN "B" AND HAIGMEIR DRAIN (cont'd)						
Former Bosanquet						
* LRE	24	0.3	460-080-087-16(T. Hayter)	$	$ 1.00	$ 1.00
* LRE	24	0.3	460-080-087-17(J. Rood)		1.00	1.00
* LRE	24	0.3	460-080-087-18(L. Taylor)		1.00	1.00
* LRE	24	0.3	460-080-087-19(723060 Ontario Ltd.)		1.00	1.00
* LRE	24	0.3	460-080-087-20(M. Statchuk)		1.00	1.00
* LRE	25	0.3	460-080-087-21(F. Mazza)		1.00	1.00
* LRE	25	0.3	460-080-087-22(M. Brudlo)		1.00	1.00
* LRE	25	0.3	460-080-087-23(D. Stewart)		1.00	1.00
* LRE	25	0.3	460-080-088(D. Tulloch)		1.00	1.00
* LRE	25	0.3	460-080-088-02(P. Marlow)		1.00	1.00
* LRE	25	0.3	460-080-088-03(M. Livingston)		1.00	1.00
* LRE	25	0.3	460-080-088-04(W. MacCormack)		1.00	1.00
* LRE	25	0.3	460-080-088-05(L. Pastorius)		1.00	1.00
* LRE	25	0.3	460-080-088-06(J. Croft)		1.00	1.00
* LRE	25	0.3	460-080-088-07(L. Wilkey)		1.00	1.00
* LRE	25	0.3	460-080-088-08(W. Billington)		1.00	1.00
* LRE	25	0.3	460-080-088-09(A. Szyszko)		1.00	1.00
* LRE	25	0.4	460-080-088-10(E. Pruski)		1.00	1.00
* LRE	26	0.1	460-080-088-11(G. Mayers)		1.00	1.00
* LRE	26	0.1	460-080-088-12(P. Stanojevic)		1.00	1.00
* LRE	26	0.1	460-080-088-13(D. McAlpine)		1.00	1.00
			TOTAL ASSESSMENT ON LANDS	$ 7,960.00	$ 3,681.00	$ 11,641.00
Cold Storage Rd.		1.3	Municipality of Lambton Shores	$	$ 12.00	$ 12.00
Greenway Road		11.0	County of Lambton		117.00	117.00
Klondyke Road		1.5	Municipality of Lambton Shores		16.00	16.00
River Road		2.9	Municipality of Lambton Shores		25.00	25.00
Haig Line		9.3	Municipality of Lambton Shores		57.00	57.00
Blain Road		5.9	Municipality of Lambton Shores	870.00	23.00	893.00
Goosemarsh Line		5.7	Municipality of Lambton Shores		47.00	47.00
Museum Road		0.3	Municipality of Lambton Shores		3.00	3.00
Highway 21		5.8	Ministry of Transportation		65.00	65.00
Timberwood Trail		2.4	Municipality of Lambton Shores		24.00	24.00
			TOTAL ASSESSMENT ON ROADS	$ 870.00	$ 389.00	$ 1,259.00

TOTAL ASSESSMENT ON DRAIN "B" AND HAGMEIER DRAIN **$ 12,900.00**

TOTAL ASSESSMENT ON THE LAKE SMITH No. 1 DRAIN **$ 385,300.00**

SCHEDULE OF NET ASSESSMENT

LAKE SMITH No. 1 DRAIN

Municipality of Lambton Shores

(FOR INFORMATION PURPOSES ONLY)

Job No. 210087 July 31, 2017

* = *Non-agricultural*

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
Former Bosanquet				
* 460-090-008(T. Humphries)	$ 75.00	$	$	$ 75.00
460-090-009(A. Kustermans)	340.00	113.00		227.00
460-090-013(G. Peters)	1,757.00		720.00	1,037.00
460-090-012(New Venice Corp. Ltd.)	3,496.00		3,070.00	426.00
460-090-014(New Venice Corp. Ltd.)	3,729.00		3,070.00	659.00
460-090-015(K. Peters)	5,459.00	1,820.00	2,570.00	1,069.00
460-080-001(K. Peters)	2,600.00	867.00		1,733.00
460-080-002(K. Peters)	1,313.00	438.00		875.00
460-080-003(K. Peters)	1,313.00	438.00		875.00
460-080-004(G. Peters)	4,979.00	1,660.00		3,319.00
460-080-004-01(G. Peters)	32.00	11.00		21.00
460-080-005(C. Page)	2,644.00	881.00		1,763.00
460-080-006(A. Walden)	6,913.00	2,304.00		4,609.00
460-080-011(G. Peters)	3,798.00	1,266.00		2,532.00
* 460-080-012(B. Bullock)	391.00			391.00
460-080-013(GeeJam Farm Ltd.)	2,600.00	867.00		1,733.00
460-080-014(G. Marrison)	1,961.00	654.00		1,307.00
460-080-015(E. Rath)	4,099.00	1,366.00		2,733.00
460-080-018(E. Rath)	1,589.00	530.00		1,059.00
460-090-016(A. Janssen)	5,607.00	1,869.00	1,170.00	2,568.00
460-090-017(A. Case)	5,832.00	1,944.00	1,250.00	2,638.00
460-090-019(Bridgeview Produce Ltd.)	6,083.00	2,028.00	830.00	3,225.00
460-090-020(W. Vandenberk)	7,549.00	2,516.00	1,540.00	3,493.00
460-090-023(P. Backx)	15,092.00	5,031.00	1,450.00	8,611.00
460-090-022(P. Backx)	8,786.00	2,929.00	1,740.00	4,117.00
* 460-090-022-01(K. Rau)	204.00			204.00
460-090-024(W. Vandenberk)	5,099.00	1,700.00	820.00	2,579.00
460-090-025(W. Vandenberk)	4,959.00	1,653.00	830.00	2,476.00
* 460-090-027(J. Kelders)	87.00			87.00
460-090-026(1047588 Ontario Ltd.)	6,164.00	2,055.00	1,560.00	2,549.00
* 460-090-026-01(H & L Forming Ltd.)	1,588.00			1,588.00
* 460-090-026-02(H. Baltessen)	116.00			116.00
* 460-090-031(S. Allen)	1,571.00			1,571.00
460-090-028(Ontario Peninsula Farms Ltd.)	502.00	167.00		335.00
460-090-028-01(1047588 Ontario Ltd.)	3,903.00	1,301.00	1,020.00	1,582.00
460-090-029(T. Rood)	4,708.00	1,569.00	1,010.00	2,129.00
460-090-030(1047588 Ontario Ltd.)	5,658.00	1,886.00	1,000.00	2,772.00
460-090-032(Ontario Peninsula Farms Ltd.)	15,683.00	5,228.00	4,020.00	6,435.00
460-090-033(Ontario Peninsula Farms Ltd.)	14,070.00	4,690.00	5,110.00	4,270.00

SCHEDULE OF NET ASSESSMENT (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

** = Non-agricultural*

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
Former Bosanquet				
460-090-034(Ontario Peninsula Farms Ltd.)	13,580.00 $	4,527.00 $	1,450.00 $	7,603.00
460-080-019(Ontario Peninsula Farms Ltd.)	13,190.00	4,397.00	1,530.00	7,263.00
460-080-020(Ontario Peninsula Farms Ltd.)	13,060.00	4,353.00	1,830.00	6,877.00
460-080-021(Ontario Peninsula Farms Ltd.)	9,397.00	3,132.00		6,265.00
460-080-022(I. Burley-Pachlarz)	1,863.00	621.00		1,242.00
460-080-023(H. Jamrozinski Jr.)	1,863.00	621.00		1,242.00
460-080-027(H. Jamrozinski Jr.)	1,863.00	621.00		1,242.00
460-080-028(K. Kwarciak)	1,863.00	621.00		1,242.00
460-080-031(1047588 Ontario Ltd.)	2,440.00	813.00		1,627.00
460-080-033(1047588 Ontario Ltd.)	923.00	308.00		615.00
460-080-034(1047588 Ontario Ltd.)	923.00	308.00		615.00
460-080-035(1047588 Ontario Ltd.)	1,270.00	423.00		847.00
460-080-037(1047588 Ontario Ltd)	1,863.00	621.00		1,242.00
460-080-039(H. Jamrozinski)	1,863.00	621.00		1,242.00
460-090-050(Bridgeview Produce Ltd.)	2,786.00	929.00		1,857.00
460-090-052(S. Vandenberk)	1,401.00	467.00		934.00
460-090-053(S. Vandenberk)	4,298.00	1,433.00	790.00	2,075.00
460-090-054(Bridgeview Produce Ltd.)	3,646.00	1,215.00	380.00	2,051.00
460-090-055(W. Vandenberk)	2,856.00	952.00		1,904.00
460-090-056(C. Vandenberk)	1,589.00	530.00		1,059.00
460-090-056-01(M. Vandenberk)	2,023.00	674.00		1,349.00
460-090-056-02(1047588 Ontario Ltd.)	1,863.00	621.00		1,242.00
460-090-058(P. Backx)	5,600.00	1,867.00		3,733.00
460-090-057(P. Backx)	5,600.00	1,867.00		3,733.00
460-090-059(W. Vandenberk)	2,786.00	929.00		1,857.00
460-090-060(W. Vandenberk)	2,786.00	929.00		1,857.00
460-090-061(1047588 Ontario Ltd.)	5,600.00	1,867.00		3,733.00
460-090-062(1047588 Ontario Ltd.)	3,727.00	1,242.00		2,485.00
460-090-063(T. Rood)	3,727.00	1,242.00		2,485.00
460-090-064(1047588 Ontario Ltd.)	3,727.00	1,242.00		2,485.00
460-090-065(Ontario Peninsula Farms Ltd.)	9,787.00	3,262.00		6,525.00
460-090-066(Ontario Peninsula Farms Ltd.)	11,190.00	3,730.00		7,460.00
460-090-067(Ontario Peninsula Farms Ltd.)	11,190.00	3,730.00		7,460.00
460-080-055(Ontario Peninsula Farms Ltd.)	11,190.00	3,730.00		7,460.00
460-080-056(Ontario Peninsula Farms Ltd.)	12,510.00	4,170.00	1,580.00	6,760.00
460-080-057(Ontario Peninsula Farms Ltd.)	11,410.00	3,803.00		7,607.00
* 460-090-534(Natural Resources Ministry)	2,421.00			2,421.00
* 460-080-085(R. Holden)	12.00			12.00
* 460-080-085-04(L. Price)	26.00			26.00
* 460-080-085-05(D. Hewitt)	27.00			27.00
* 460-080-085-06(B. Silverthorne)	25.00			25.00
* 460-080-085-07(R. Cook)	26.00			26.00
* 460-080-085-08(N. Corriveau)	27.00			27.00
* 460-080-085-09(K. Williams)	26.00			26.00
* 460-080-085-10(J. Hebert)	26.00			26.00

SCHEDULE OF NET ASSESSMENT (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

* = *Non-agricultural*

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
Former Bosanquet				
* 460-080-085-11(R. Roth)	$ 25.00	$	$	$ 25.00
* 460-080-085-12(R. Tipping)	25.00			25.00
* 460-080-085-13(B. Sheppard)	25.00			25.00
* 460-080-085-14(E. Hartman)	25.00			25.00
* 460-080-085-15(P. Zylberstein)	25.00			25.00
* 460-080-085-16(H. Moloy)	26.00			26.00
* 460-080-085-17(L. Verhagen)	27.00			27.00
* 460-080-085-18(G. Harbin)	27.00			27.00
* 460-080-085-19(J. Logan)	27.00			27.00
* 460-080-085-20(M. Blackmore)	26.00			26.00
* 460-080-085-21(M. Redmond)	24.00			24.00
* 460-080-086(F. Costa)	23.00			23.00
* 460-080-086-01(N. Stanlick)	21.00			21.00
* 460-080-086-02(D. Jeffrey)	20.00			20.00
* 460-080-086-03(J. Hickey)	19.00			19.00
* 460-080-086-04(J. Furlong)	19.00			19.00
* 460-080-086-05(B. Sims)	20.00			20.00
* 460-080-086-06(D. Vanhevel)	20.00			20.00
* 460-080-086-07(K. Sartori)	21.00			21.00
* 460-080-086-08(M. Hajer)	21.00			21.00
* 460-080-086-09(K. Chiurko)	22.00			22.00
* 460-080-086-10(S. Gordon)	22.00			22.00
* 460-080-086-11(S. Gordon)	23.00			23.00
* 460-080-086-12(A. Saunders)	23.00			23.00
* 460-080-086-13(R. MacDouell)	23.00			23.00
* 460-080-086-14(J. McClennan)	23.00			23.00
* 460-080-086-15(W. Wark)	41.00			41.00
* 460-080-086-16(W. Wark)	66.00			66.00
* 460-080-086-17(W. Wark)	36.00			36.00
* 460-080-086-18(P. Morrissey)	20.00			20.00
* 460-080-086-19(R. Vermeiren)	23.00			23.00
* 460-080-087(H. Gelink)	27.00			27.00
* 460-080-087-01(M. Wilson)	24.00			24.00
* 460-080-087-02(2371587 Ontario Inc.)	24.00			24.00
* 460-080-087-03(S. Bowers)	21.00			21.00
* 460-080-087-04(R. Woodbridge)	21.00			21.00
* 460-080-087-05(D. McKay)	21.00			21.00
* 460-080-087-06(D. Agar)	22.00			22.00
* 460-080-087-07(J. Colizza)	23.00			23.00
* 460-080-087-08(R. Harrington)	24.00			24.00
* 460-080-087-09(W. Klodt)	25.00			25.00
* 460-080-087-10(D. Hill)	25.00			25.00
* 460-080-087-11(L. Rose)	26.00			26.00
* 460-080-087-12(L. Robotham)	27.00			27.00
* 460-080-087-13(T. Pevler)	26.00			26.00
* 460-080-087-14(R. Creaghe)	25.00			25.00

SCHEDULE OF NET ASSESSMENT (cont'd)

LAKE SMITH No. 1 DRAIN
Municipality of Lambton Shores

* = *Non-agricultural*

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
Former Bosanquet				
* 460-080-087-15(H. Talbot)	$ 24.00	$	$	$ 24.00
* 460-080-087-16(T. Hayter)	23.00			23.00
* 460-080-087-17(J. Rood)	21.00			21.00
* 460-080-087-18(L. Taylor)	21.00			21.00
* 460-080-087-19(723060 Ontario Ltd.)	21.00			21.00
* 460-080-087-20(M. Statchuk)	21.00			21.00
* 460-080-087-21(F. Mazza)	23.00			23.00
* 460-080-087-22(M. Brudlo)	23.00			23.00
* 460-080-087-23(D. Stewart)	24.00			24.00
* 460-080-088(D. Tulloch)	24.00			24.00
* 460-080-088-02(P. Marlow)	24.00			24.00
* 460-080-088-03(M. Livingston)	23.00			23.00
* 460-080-088-04(W. MacCormack)	23.00			23.00
* 460-080-088-05(L. Pastorius)	22.00			22.00
* 460-080-088-06(J. Croft)	23.00			23.00
* 460-080-088-07(L. Wilkey)	23.00			23.00
* 460-080-088-08(W. Billington)	23.00			23.00
* 460-080-088-09(A. Szyszko)	24.00			24.00
* 460-080-088-10(E. Pruski)	27.00			27.00
* 460-080-088-11(G. Mayers)	6.00			6.00
* 460-080-088-12(P. Stanojevic)	6.00			6.00
* 460-080-088-13(D. McAlpine)	6.00			6.00
* Cold Storage Rd.	$ 1,355.00	$	$	$ 1,355.00
* Greenway Road	12,059.00			12,059.00
* Klondyke Road	1,558.00			1,558.00
* River Road	1,556.00			1,556.00
* Haig Line	5,917.00			5,917.00
* Blain Road	2,774.00			2,774.00
* Goosemarsh Line	3,959.00			3,959.00
* Museum Road	64.00			64.00
* Highway 21	1,641.00			1,641.00
* Timberwood Trail	595.00			595.00
TOTALS	**$ 385,300.00**	**$ 112,199.00**	**$ 40,340.00**	**$ 232,761.00**

SPECIFICATIONS FOR CONSTRUCTION
OF
MUNICIPAL DRAINAGE WORKS

G E N E R A L I N D E X

SECTION A - GENERAL CONDITIONS

I N D E X

SECTION A

GENERAL CONDITIONS

A.1 SCOPE

The work to be done under this specification consists of supplying all labour, materials and equipment to construct the work as outlined on the drawing(s). In some Municipalities, the Contractor shall supply all materials while in other Municipalities, he shall supply only certain materials. The form of Tender and Agreement lists which materials are to be supplied by the Contractor.

A.2 TENDERS

Tenders are to be submitted on a lump sum basis for the complete works or a portion thereof, as set out in the Form of Tender and Agreement.

A.3 DRAWINGS AND SPECIFICATIONS

The tenderer must satisfy himself that he understands the meaning and intent of the drawings and specifications before submission of his tender. The standard specifications have been separated into sections for reference purpose only. They shall be considered complementary and, where a project is controlled under one of the sections, the remaining sections will still apply for miscellaneous works. In case of any inconsistency or conflict in the Tender Documents, the following order of precedence shall apply:

- Contract Drawings
- Form of Tender and Agreement
- General Conditions
- Standard Specifications (Open Drain, Tile Drain, Specifications for Municipal Drain Crossing County Roads)
- Standard Drawings

A.4 PAYMENT

Progress payments equal to 87±% of the value of the work done and materials incorporated in the work will be made to the Contractor on the written request of the Contractor to the Engineer. An additional 10±% will be paid 45 days after the final acceptance by the Engineer. Before this payment is released, the Contractor shall provide the Municipality with a Statutory Declaration that all material and/or labour incorporated in the work has been fully paid for, along with a Certificate of Clearance from the Workplace Safety and Insurance Board stating that all compensation has been paid. The Municipality will reserve 3%± of the Contract Price for one year as warranty. After the completion of the work, any part of this reserve may be used to correct defects which may develop within that time from faulty workmanship or material or loose backfill, provided that notice shall first be given to the Contractor and that he may promptly make good such defects, if he desires.

A.5 SUPERINTENDENT

The word "Superintendent", as used hereinafter in these specifications, shall refer to a Drainage Superintendent, appointed by the Municipality. The Superintendent will act as the Engineer's representative. The Superintendent shall have the power to direct the execution of the work and to make any necessary minor adjustments. Adjustments in tile sizes or gradients shall not be made without the approval of the Engineer. Any instructions given by the Superintendent, which changes considerably the proposed work or with which the Contractor does not agree, shall be referred to the Engineer for his decision.

A.6 COMMENCEMENT AND COMPLETION OF WORK

The work must commence immediately after the Contractor is notified of the acceptance of his tender or at a later date, if set out as a condition of the tender. If weather creates poor ground or working conditions, the Contractor may be required, at the discretion of the Engineer, to postpone or halt work until conditions become acceptable.

The Contractor shall give the Engineer and Superintendent a minimum of forty-eight (48) hours notice before commencement of work on any municipal drain. As noted on the plan, he can then arrange for a meeting to be held on the site with the Contractor and affected owners attending to review in detail the construction scheduling and other details. The Contractor's costs for attending this meeting shall be included in his lump sum tender price. If the Contractor leaves the job site for a period of time after initiation of work, he shall give the Engineer and the Superintendent a minimum of twenty-four (24) hours notice prior to returning to the project.

The work must be proceeded with in such a manner as to ensure its completion at the earliest possible date and within the time limit set out in the tender or in the contract documents.

A.7 WORKING AREA AND ACCESS

The working area available to the Contractor to construct the drain and related works including an access route to the drain shall be as specified on the drawings.

Should the specified widths become inadequate due to unusual conditions, the Contractor shall notify the Engineer immediately in order that negotiations with the affected owners can take place.

Where a Contractor exceeds the specified widths due to the nature of his operations and without authorization he shall be held responsible for the costs of all additional damages and the amount shall be deducted from his contract price and paid to the affected owners by the Municipality.

A.8 SUPERVISION

The Contractor shall give the work his constant supervision and shall keep a competent foreman in charge at the site.

A.9 INSPECTION

Final inspection by the Engineer will be made within twenty days after he has received notice in writing from the Contractor that the work is complete.

Periodic inspections by the Engineer or Superintendent will be made during the performance of the work. These interim inspections are required to check such items as location of drainage course and structures, tile grades prior to backfilling, backfilling and miscellaneous work items.

A.10 ALTERATIONS AND ADDITIONS

The Engineer shall have the power to make alterations in the work shown or described in the drawings or specifications and the Contractor shall proceed to make such changes without causing delay. In every such case, the price agreed to be paid for the work under the contract shall be increased or decreased as the case may require according to a fair and reasonable valuation of the work added or deleted. The valuation shall be determined as a result of negotiations between the Superintendent, the Contractor, and the Engineer, but in all cases, the Engineer shall maintain the final responsibility for the decision. Such alterations and variations shall in no way render void the contract. No claim for variations or alterations in the increased or decreased price shall be valid unless done in pursuance of an order from the Engineer and/or Superintendent and notice of such claims made in writing before commencement of such work. In no case shall the Contractor commence work which he considers to be extra work before receiving the Engineer's and/or Superintendent's approval in writing.

A.11 MAINTENANCE

The Contractor shall repair and make good any damages or faults in the drain that may appear within one year after its completion (as dated on the final completion certificate) as the result of imperfect or defective work done or materials furnished by the Contractor. Nothing herein contained shall be construed as in any way restricting or limiting the liability of the Contractor under the laws of the Country, Province or Locality in which the work is being done.

A.12 INSURANCE

1) Bodily Injury Liability: The Contractor shall effect and maintain, a Comprehensive General Liability Policy or its equivalent, covering claims for bodily injury, including death arising from and during operations under his Contract whether performed by himself, by a sub-contractor or by anyone directly or indirectly employed by either of them in the sum of $ 2,000,000.00.
2) Property Damage: The Contractor shall effect and maintain Property Damage Liability Insurance to cover his and the sub-contractor's operations in the sum of $ 1,000,000.00.
3) Fire Insurance: The Contractor shall procure fire and extended coverage insurance on the work to 100% of the Contract Amount.
4) The following are to be named as co-insured:
   Successful Contractor
   Sub-Contractor
   Municipality
   County (if applicable)
   M.T.O. (if applicable)
   Railway (if applicable)
   Spriet Associates London Limited
5) Within 7 days of award of Contract and prior to commencing work, the successful Contractor shall file with the Municipality, a copy of each insurance policy and certificate required. All such insurance shall be maintained until final completion of the work including the making good of faulty work or materials; except that coverage of completed operations liability shall in any event be maintained for twelve (12) months from the date of final completion as certified by the Engineer.

A.13 LIMITATIONS OF OPERATIONS

Except for such work as may be required by the Engineer to maintain the works in a safe and satisfactory condition, the Contractor shall not carry on his operations under the contract on Sundays without permission in writing of the Municipality.

A.14 LOSSES

The Contractor shall take all risks from floods or casualties of any kind.

A.15 SUB-CONTRACTORS

The Contractor shall not sublet the whole or any part of the contract without the approval of the Engineer or Superintendent.

A.16 PERMITS, NOTICES, LAWS AND RULES

The Contractor shall ensure that all necessary permits or licences required for the execution of the work have been obtained (but this shall not include M.T.O. encroachment permits, County Road Permit, permanent easements or rights of servitude). The Contractor shall give all necessary notices and pay all fees required by law and comply with all laws, ordinances, rules and regulations (including the Occupational Health and Safety Act) relating to the work and to the preservation of the public's health and safety and if the specifications and drawings are at variance therewith, any resulting additional expenses incurred by the Contractor shall constitute an addition to the contract price.

A.17 ROAD CROSSINGS

.1 General

.1 Scope: These specifications apply to all road crossings - Municipal, County, Regional, or Highway Roads. Where the word "Authority" is used, it shall be deemed to apply to the appropriate owning authority. These specifications in no way limit the Authority's Specifications and Regulations governing the construction of drains on their Road Allowance. The Authority will supply no labour, equipment or materials for the construction of the road crossing unless otherwise noted on the drawings.

.2 Road Occupancy Permit: Where applicable the Contractor must submit an Application for a Road Occupancy Permit to the Authority and allow a minimum of 5 working days (exclusive of holidays) for its review and issuance.

.3 Road Closure Request and Construction Notification: The Contractor shall submit written notification of construction and request for road closure (if applicable) to the Road Authority/Public Works Manager and the Drainage Engineer or Superintendent for review and approval a minimum of five (5) working days (exclusive of holidays) prior to proceeding with any work on road allowance. It shall be the Road Authority's responsibility to notify all the applicable emergency services, schools, etc. of the road closure or construction taking place.

.4 Traffic Control: Where the Contractor is permitted to close the road to through traffic, the Contractor shall provide for and adequately sign the detour route to the satisfaction of the Road Authority. Otherwise, the Contractor shall keep the road open to traffic at all times. The Contractor shall provide, for the supply, erection and maintenance, suitable warning signs and/or flagmen in accordance with the Manual of Uniform Traffic Control Devices and to the satisfaction of the Road Authority to notify the motorists of work on the road ahead.

.5 Site Meeting/Inspection: A site meeting shall be held with the affected parties to review in detail the crossing and/or its related works. The Authority's Inspector and/or the Drainage Engineer will inspect the work while in progress to ensure that the work is done in strict accordance with the specifications.

.6 Weather: No construction shall take place during inclement weather or periods of poor visibility.

.7 Equipment: No construction material and/or equipment is to be left within 3 meters of the edge of pavement overnight or during periods of inclement weather.

.2 Jacking and Boring

.1 Material: The bore pipe shall consist of new, smooth wall steel pipe, meeting the requirements of H20 loading for road crossings and E80 loading for railway crossings. The minimum size, wall thickness and length shall be as shown on the drawings. Where welding is required, the entire circumference of any joint shall be welded using currently accepted welding practices.

.2 Site Preparation and Excavation: Where necessary, fences shall be carefully taken down as specified in the General Conditions. Prior to any excavation taking place, all areas which will be disturbed shall be stripped of topsoil. The topsoil is to be stockpiled in locations away from the bore operation, off the line of future tile placement and out of existing water runs or ditches. The bore pit shall be located at the upstream end of the bore unless otherwise specified or approved. Bore pits shall be kept back at least 1 meter from the edge of pavement and where bore pits are made in any portion of the shoulder, the excavated material shall be disposed of off the road allowance and the pit backfilled with thoroughly compacted Granular "A" for its entire depth.

.3 Installation: The pipe shall be installed in specified line and grade by a combination of jacking and boring. Upon completion of the operations, both ends of the bore pipe shall be left uncovered until the elevation has been confirmed by the Engineer or Superintendent. The ends of the bore pipe shall be securely blocked off and the location marked by means of a stake extending from the pipe invert to 300mm above the surrounding ground surface.

.2 **Jacking and Boring** (cont'd)

.4 Unstable Soil or Rock:The Contractor shall contact the Engineer immediately should unstable soil be encountered or if boulders of sufficient size and number to warrant concern are encountered. Any bore pipe partially installed shall be left in place until alternative methods or techniques are determined by the Engineer after consultation with the Contractor, the Superintendent and the owning authority.

.5 Tile Connections: Prior to commencement of backfilling, all tile encountered in excavations shall be reconnected using material of a size comparable to the existing material. Where the excavation is below the tile grade, a compacted granular base is to be placed prior to laying the tile. Payment for each connection will be made at the rate outlined in the Form of Tender and Agreement.

.6 Backfill: Unless otherwise specified, the area below the proposed grade shall be backfilled with a crushed stone bedding. Bore pits and excavations outside of the shoulder area may be backfilled with native material compacted to a density of 95% Standard Proctor. All disturbed areas shall be neatly shaped, have the topsoil replaced and hand seeded. Surplus material from the boring operation shall be removed from the site at the Contractor's expense.

.7 Restoration: The entire affected area shall be shaped and graded to original lines and grades, the topsoil replaced, and the area seeded down at the rate of 85 kg/per ha. unless otherwise specified or in accordance with the M.T.O. Encroachment Permit. Fences shall be restored to their original condition in accordance with the General Conditions.

.8 Acceptance: All work undertaken by the Contractor shall be to the satisfaction of the Engineer.

.3 **Open Cut**

.1 Material: The culvert or sub-drain crossing pipe material shall be specified on the drawings.

.2 Site Preparation and Excavation: Where necessary, fences shall be carefully taken down as specified in the general conditions. Prior to any excavation taking place, the areas which will be disturbed shall be stripped of topsoil. The topsoil is to be stockpiled in locations away from the construction area.

.3 Installation: The pipe shall be installed using bedding and cover material in accordance with Standard Detailed Drawing No. 2 or detail provided on drawings.

.4 Unstable Soil or Rock:The Contractor shall contact the Engineer immediately should unstable soil be encountered or if boulders of sufficient size and number to warrant concern are encountered.

.5 Tile Connections: Prior to commencement of backfilling, all tiles encountered in excavations shall be reconnected using material of a size comparable to the existing material. Where the excavation is below the tile grade, a compacted granular base is to be placed prior to laying the tile. Payment for connections not shown on the drawings shall be an extra to the contract.

.6 Backfill: Backfill from the top of the cover material up to the under side of road base shall meet the requirements for M.T.O. Granular "B". The backfill shall be placed in lifts not exceeding 300mm in thickness and each lift shall be thoroughly compacted to produce a density of 98% Standard Proctor. Granular "B" road base for County Roads and Highways shall be placed to a 450mm thickness and Granular "A" shall be placed to a thickness of 200mm, both meeting M.T.O. requirements. Granular road base materials shall be thoroughly compacted to produce a density of 100% Standard Proctor.

Where the road surface is paved, the Contractor shall be responsible for placing an HL-4 Hot Mix Asphalt patch of the same thickness as the existing pavement. The asphalt patch shall be flush with the existing roadway on each side and not overlap. If specified, the asphalt patch shall not be placed immediately over the road base and the Granular "A" shall be brought up flush with the existing asphalt and a liberal amount of calcium chloride shall be spread on the gravel surface. The asphalt patch must be completed within the time period set out on the drawing.

.3 **Open Cut** (cont'd)

The excavated material from the trench beyond a point 1.25 meters from the travelled portion or beyond the outside edge of the gravel shoulder, may be used as backfill in the trench in the case of covered drains. This material should be compacted in layers not exceeding 600mm.

A.18 FENCES

No earth shall be placed against fences and all fences removed by the Contractor are to be replaced by him in as good condition as found. In general, the Contractor will not be allowed to cut existing fences but shall disconnect existing fences at the nearest anchor post or other such fixed joint and shall carefully roll it back out of the way. Where the distance to the closest anchor post or fixed joint exceeds 50 meters, the Contractor will be allowed to cut and splice in accordance with accepted methods and to the satisfaction of the owner and the Engineer or Superintendent. Where existing fences are deteriorated to the extent that existing materials are not salvageable for replacement, the Contractor shall notify the Engineer or the Superintendent prior to dismantling. Fences damaged beyond salvaging by the Contractor's negligence shall be replaced with new materials, similar to those existing, at the Contractor's expense. The replacement of the fences shall be done to the satisfaction of the owner and the Engineer or Superintendent. The site examination should indicate to the Contractor such work, if any, and an allowance should be made in the tendered price.

The Contractor shall not leave any fence open when he is not at work in the immediate vicinity.

A.19 LIVESTOCK

The Contractor shall provide each property owner with 48 hours notice prior to removing any fences along fields which could possibly contain livestock. Thereafter, the property owner shall be responsible to keep all livestock clear of the construction areas until further notified. Where necessary, the Contractor will be directed to erect temporary fences. The Contractor shall be held responsible for loss or injury to livestock or damage caused by livestock, where the injury or damage is caused by his failure to notify the property owner or through negligence or carelessness on the part of the Contractor.

The Contractor constructing a tile drain shall not be held responsible for damages or injury to livestock occasioned by leaving trenches open for inspection by the Engineer if he notifies the owner at least 48 hours prior to commencement of the work on that portion. The Contractor will be held liable for such damages or injury if the backfilling of such trenches is delayed more than 1 day after acceptance by the Engineer.

A.20 STANDING CROPS

The Contractor shall not be held responsible for damages to standing crops within the working area available and the access route provided if he notifies the owner thereof at least 48 hours prior to commencement of the work on that portion.

A.21 SURPLUS GRAVEL

If as a result of any work, gravel or crushed stone is required and not all the gravel or crushed stone is used in the construction of the works, the Contractor shall haul away such surplus gravel or stone unless otherwise approved.

A.22 RAILWAYS, HIGHWAYS, UTILITIES

A minimum of forty-eight (48) hours notice to Railways, Highways and Utilities, exclusive of Saturdays, Sundays and Holidays, shall be required by the Contractor prior to any work being performed and in the case of a pipe being installed by open cutting or boring under a Highway or Railway, a minimum of 72 hours notice is required.

A.23 UTILITIES

The attention of the Contractor is drawn to the presence of utilities along the course of the drain. The contractor will be responsible for determining the location of all utilities and will be held liable for any damage to all utilities caused by his operations. The Contractor shall co-operate with all authorities to ensure that all utilities are protected from damage during the performance of the work. The cost of any necessary relocation work shall be borne by the utility. No allowance or claims of any nature will be allowed on account for delays or inconveniences due to utilities relocation, or for inconveniences and delays caused by working around or with existing utilities not relocated.

A.24 TERMINATION OF CONTRACT BY THE MUNICIPALITY

If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should refuse or fail to supply enough properly skilled workmen or proper materials after having received seven (7) days notice in writing from the Engineer to supply additional workmen or materials, or if he should fail to make prompt payment to sub-contractors or for material or labour or persistently disregarding laws, ordinances, or the instruction of the Engineer, or otherwise being guilty of a substantial violation of the provisions of the contract, then the Municipality, upon the certification of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy, by giving the contractor written notice, terminate the employment of the contractor and take possession of the premises and of all materials, tools and appliances, thereon, and complete the work by whatever method the Engineer may deem expedient, but without undue delay or expense. In such case, the Contractor shall not be entitled to receive any further payment until the work is completed. If the unpaid balance of the contract price exceeds the expense of completing the work, including compensation to the Engineer for his additional services, such excess shall be paid to the Contractor. If such expense does not exceed such unpaid balance, the Contractor shall pay the difference to the Municipality. The expense incurred by the Municipality, as herein provided, shall be certified by the Engineer. Where a Contractor fails to commence work within seven (7) days of his commencement date as indicated by him on his Tender Form, and such extension of time as allowed due to poor weather or ground conditions, then the Municipality shall have the option, after providing the Contractor with seven (7) days notice of their intention to terminate the contract, award the contract to another Contractor at their discretion by retendering the project, inviting bids or by appointment. The additional costs of the above or retendering, and all other administration costs shall be deducted from the Contractor's bid deposit and the balance, if any, returned to him.

A.25 ERRORS AND UNUSUAL CONDITIONS

The Contractor shall notify the Engineer immediately of any error or unusual condition which may be found. Any attempt by the Contractor to make changes because of the error or unusual condition on his own shall be done at his own risk. Any additional cost incurred by the Contractor to remedy a wrong decision on his part shall be borne by the Contractor.

The Engineer shall make the alteration necessary to correct errors or to adjust for unusual conditions during which time it will be the Contractor's responsibility to keep his men and equipment gainfully employed elsewhere on the project. The contract amount shall be adjusted in accordance with a fair evaluation of the work added or deleted.

A.26 IRON BARS

The Contractor shall be held liable for the cost of an Ontario Land Surveyor to replace any iron bars destroyed during the course of construction.

A.27 STAKES

At the time of the survey, stakes are set along the course of the drain at intervals of 50 meters. The Contractor shall ensure that the stakes are not disturbed unless approval is obtained from the Engineer. Any stakes removed by the Contractor without the authority of the Engineer, shall be replaced at the expense of the Contractor. At the request of the Contractor, any stakes which are removed or disturbed by others or by livestock, shall be replaced at the expense of the drain.

A.28 RIP-RAP

Rip-rap shall be specified on the drawings and shall conform to the following:

.1 **Quarry Stone**: shall range in size from 150mm to 300mm evenly distributed and shall be placed to a 300mm thickness on a filter blanket at a 1.5 : 1 slope unless otherwise noted. Filter blanket to be Mirafi 160N or approved equal.

.2 **Broken Concrete**: may be used in areas outside of regular flows if first broken in maximum 450mm sized pieces and mixed to blend with quarry stone as above. No exposed reinforcing steel shall be permitted.

.3 **Shot Rock**: shall range in size from 150mm to 600mm placed to a depth of 450mm thickness on a filter blanket at a 1.5:1 slope unless otherwise noted. Filter blanket to be Mirafi 160N or approved equal.

A.29 GABION BASKETS

Supply and install gabion basket rip-rap protection as shown on the drawings.

Gabion baskets shall be as manufactured by Maccaferri Gabions of Canada Ltd. or approved equal and shall be assembled and installed in strict accordance with the manufacturer's recommendations.

The gabion fill material shall consist solely of fractured field stone or gabion stone graded in size from 100mm to 200mm (4" to 8") and shall be free of undersized fragments and unsuitable material.

A.30 RESTORATION OF LAWNS

.1 **General**: Areas noted on the drawings to be restored with seeding or sodding shall conform to this specification, and the contractor shall allow for all costs in his lump sum bid for the following works.

.2 **Topsoil**: Prior to excavation, the working area shall be stripped of existing topsoil. The topsoil stockpile shall be located so as to prevent contamination with material excavated from the trench. Upon completion of backfilling operations, topsoil shall be spread over the working area to a depth equal to that which previously existed but not less than the following:

Seeding and sodding	-	minimum depth of 100mm
Gardens	-	minimum depth of 300mm

In all cases where a shortfall of topsoil occurs, whether due to lack of sufficient original depth or rejection of stockpiled material due to contractors operations, imported topsoil from acceptable sources shall be imported at the contractors expense to provide the specified depths. Topsoil shall be uniformly spread, graded and cultivated prior to seeding or sodding. All clods or lumps shall be pulverized and any roots or foreign matter shall be raked up and removed as directed.

.3 **Sodding**

.1 **Materials**: Nursery sod to be supplied by the contractor shall meet the current requirements of the Ontario Sod Growers Association for No. 1 Bluegrass Fescue Sod.

.2 **Fertilizer**: Prior to sod placement, approved fertilizer shall be spread at the rate of 5kg/100m² of surface area and shall be incorporated into such surfaces by raking, discing or harrowing. All surfaces on which sod is to be placed shall be loose at the time of placing sod to a depth of 25mm.

.3 **Placing Sod**: Sod shall be laid lengthwise across the face of slopes with ends close together. Sod shall be counter sunk along the joints between the existing grade and the new sodding to allow for the free flow of water across the joint. Joints in adjacent rows shall be staggered and all joints shall be pounded and rolled to a uniform surface.

A.30 **RESTORATION OF LAWNS** (cont'd)

On slopes steeper than 3:1, and in unstable areas, the engineer may direct the contractor to stake sod and/or provide an approved mesh to prevent slippages. In all cases where such additional work is required, it will be deemed an extra to the contract and shall be paid for in accordance with the General Conditions.
No sod shall be laid when frozen nor upon frozen ground nor under any other condition not favourable to the growth of the sod. Upon completion of sod laying the contractor shall thoroughly soak the area with water to a depth of 50mm. Thereafter it will be the responsibility of the property owner to maintain the area in a manner so as to promote growth.

.4 **Seeding**: Seed to be supplied by the contractor shall be "high quality grass seed" harvested during the previous year, and shall be supplied to the project in the suppliers original bags on which a tag setting out the following information is affixed:

- Year or Harvest - recommended rate of application
- Type of Mixture - fertilizer requirements

Placement of seed shall be by means of an approved mechanical spreader. All areas on which seed is to be placed shall be loose at the time of placing seed, to a depth of 25mm. Seed and fertilizer shall be spread in accordance with the suppliers recommendations unless otherwise directed by the Engineer. Thereafter it will be the responsibility of the property owner to maintain the area in a manner so as to promote growth.

.5 **Settlement**: The contractor shall be responsible during the one year guarantee period for the necessary repair of restored areas due to trench settlement. Areas where settlement does not exceed 50mm may be repaired by top dressing with fine topsoil. In areas where settlement exceeds 50mm, the contractor will be required to backfill the area with topsoil and restore with seeding and/or sodding as originally specified.

A.31 **RESTORATION OF ROADS AND LANEWAYS**

.1 **Gravel**: Restoration shall be in accordance with the applicable standard detailed drawing or as shown on the drawings.

.2 **Asphalt and Tar and Chip**: Prior to restoration all joints shall be neatly sawcut. Restoration shall be as a in gravel above with the addition of the following:
.1 Roads shall have the finished grade of Granular 'A', allow two courses of hot-mix asphalt (M.T.O. 310), 80mm HL6 and 40mm HL3 or to such greater thickness as may be required to match the existing.
.2 Laneways shall have the finished grade of Granular 'A' allow one 50mm minimum course of hot-mix asphalt (HL3) or greater as may be required to match existing.

SECTION B - OPEN DRAIN

I N D E X

SECTION B

OPEN DRAIN

B.1 PROFILE

The profile drawing shows the depth of cuts from the ground beside the stake to the final invert of the ditch in meters and decimals of a meter and also the approximate depth of cuts from the existing bottom of the ditch to the elevation of the ditch bottom. These cuts are established for the convenience of the Contractor; however, bench marks will govern the final elevation of the drain. Bench marks have been established along the course of the drain and their locations and elevations are noted on the profile drawing. A uniform grade shall be maintained between stakes in accordance with the profile drawing.

B.2 ALIGNMENT

The drain shall be constructed in a straight line and shall follow the course of the present drain or water run unless otherwise noted on the drawings. Where it is necessary to straighten any bends or irregularities in alignment not noted on the drawings, the Contractor shall contact the Engineer or Superintendent before commencing the work.

B.3 CLEARING AND GRUBBING

Prior to commencement of work, all trees, scrub, fallen timber and debris shall be removed from the side slopes of the ditch and for such a distance on the working side so as to eliminate any interference with the construction of the drain or the spreading of the spoil. The side slopes shall be neatly cut and cleared flush with slope whether or not they are affected directly by the excavation. With the exception of large stumps causing damage to the drain, the sideslope shall not be grubbed. All other cleared areas shall be grubbed and the stumps put into piles for disposal by the owner.

All trees or limbs 150mm (6") or larger, that it is necessary to remove, shall be considered as logs and shall be cut and trimmed, and left in the working width separte from the brush, for use or disposal by the owner. Trees or limbs less than 150mm in diameter shall be cut in lengths not greater than 5 meters and placed in separate piles with stumps spaced not less than 75 meters apart in the working width, for the use or disposal of the owner. In all cases, these piles shall be placed clear of excavated materials, and not be piled against standing trees. No windrowing will be permitted. The clearing and grubbing and construction of the drain are to be carried out in two separate operations and not simultaneously at the same location.

B.4 EXCAVATION

The bottom width and the side slopes of the ditch shall be those shown on the profile drawing.

Unless otherwise specified on the drawings, only the existing ditch bottom is to be cleaned out and the side slopes are not to be disturbed. Where existing side slopes become unstable because of construction, the Contractor shall immediately contact the Engineer or Superintendent. Alternative methods of construction and/or methods of protection will then be determined, prior to continuing the work.

Where an existing drain is being relocated or where a new drain is being constructed, the Contractor shall, unless otherwise specified, strip the topsoil for the full width of the drain, including the location of the spoil pile. Upon completion of levelling, the topsoil shall be spread to an even depth across the full width of the spoil.

B.5 EXCAVATED MATERIAL

Excavated material shall be deposited on either or both sides of the drain as indicated on the drawings or as directed by the Engineer or Superintendent. A buffer strip of not less than 3 meters in width through farmed lands and 2 meters in width through bush areas shall be left along the top edges of the drain. The buffer strip shall be seeded and/or incorporated as specified on the drawings. The material shall be deposited beyond the specified buffer strip.

No excavated material shall be placed in tributary drains, depressions, or low areas which direct water into the ditch so that water will be trapped behind the spoilbank. The excavated material shall be placed and levelled to a minimum width to depth ratio of 50:1 unless instructed otherwise. The edge of the spoilbank away from the ditch shall be feathered down to the existing ground; the edge of the spoilbank nearest the ditch shall have a maximum slope of 2 to 1. The material shall be levelled such that it may be cultivated with ordinary farm equipment without causing undue hardship on machinery and personnel. No excavated material shall cover any logs, scrub, debris, etc. of any kind.

Where it is necessary to straighten any unnecessary bends or irregularities in the alignment of the ditch, the excavated material from the new cut shall be used for backfilling the original ditch. Regardless of the distance between the new ditch and the old ditch no extra compensation will be allowed for this work and must be included in the Contractor's lump sum price for the open work.

Any stones 150mm or larger left exposed on top of the levelled excavated material shall be removed and disposed of as an extra to the contract unless otherwise noted on plans.

B.6 EXCAVATION THROUGH BRIDGES AND CULVERTS

The Contractor shall excavate the drain to the full specified depth and width under all bridges. Where the bridge or culvert pipe is located within a road allowance, the excavated material shall be levelled within the road allowance. Care shall be taken not to adversely affect existing drainage patterns. Temporary bridges may be carefully removed and left on the bank of the drain but shall be replaced by the Contractor when the excavation is completed unless otherwise specified. Permanent bridges must be left intact. All necessary care and precautions shall be taken to protect the structure. The Contractor shall notify the Engineer or Superintendent if excavation may cause the structure to undermine or collapse.

B.7 PIPE CULVERTS

Where specified on the drawings, the existing culvert shall be carefully removed, salvaged and either left at the site for the owner or reinstalled at a new grade or location. The value of any damage caused to the culvert due to the Contractor's negligence in salvage operation will be determined and deducted from the contract price.

All pipe culverts shall be installed in accordance with the standard detail drawings as noted on the drawings. If couplers are required, 5 corrugation couplers shall be used for up to and including 1200mm dia. pipe and 10 corrugation couplers for greater than 1200mm dia.

B.8 MOVING DRAINS OFF ROADS

Where an open drain is being removed from a road allowance, it must be reconstructed wholly on the adjacent lands with a minimum distance of 2.0 meters between the property line and the top of the bank, unless otherwise noted on the drawings. The excavated material shall be used to fill the existing open ditch and any excess excavated material shall be placed and levelled on the adjacent lands beyond the buffer strip, unless otherwise noted. Any work done on the road allowance, with respect to excavation, disposal of materials, installation of culverts, cleaning under bridges, etc., shall be to the satisfaction of the Road Authority and the Engineer.

B.9 TRIBUTARY OUTLETS

The Contractor shall guard against damaging the outlets of tributary drains. Prior to commencement of excavation on each property the Contractor shall contact the owner and request that all known outlet pipes be marked by the owner. All outlets so marked or visible or as noted on the profile, and subsequently damaged by the Contractor's operations will be repaired by the Contractor at his cost. All outlet pipes repaired by the Contractor under direction of the Drainage Superintendent or Engineer which were not part of the Contract shall be considered an extra to the contract price.

B.10 SEDIMENT BASINS AND TRAPS

The Contractor shall excavate sediment basins prior to commencement of upstream work as shown on the plan and profile. The dimension of the basin will be in a parabolic shape with a depth of 450mm below the proposed ditch bottom and the basin will extend along the drain for a minimum length of 15 meters.

A sediment trap 300mm deep and 5 meters long with silt fence placed across ditch bottom on the downstream end of the trap shall be constructed prior to and maintained during construction, to prevent silt from flushing downstream. The silt fence shall be removed and disposed of after construction.

B.11 SEEDING

.1 **Delivery**: The materials shall be delivered to the site in the original unopened containers which shall bear the vendor's guarantee of analysis and seed will have a tag showing the year of harvest.

.2 **Hydro Seeding**: Areas specified on drawings shall be hydro seeded and mulched upon completion of construction in accordance with O.P.S.S. 572 and with the following application rates:

Primary Seed (85 kg/ha.):	50% Creeping Red Fescue 40% Perennial Ryegrass 5% White Clover
Nurse Crop	Italian (Annual) Ryegrass at 25% of Total Weight
Fertilizer (300 kg/ha.)	8-32-16
Hydraulic Mulch (2000 kg/ha.)	Type "B"
Water (52,700 litres/ha.)	

Seeding shall not be completed after September 30.

.3 **Hand Seeding**: Hand seeding shall be completed daily with the seed mixture and fertilizer and application rate shown under "Hydro Seeding" above. Placement of the seed shall be by means of an approved mechanical spreader. Seeding shall not be completed after September 30.

SECTION C - TILE DRAIN

I N D E X

SECTION C

TILE DRAIN

C.1 PIPE MATERIALS

.1 **Concrete Tile**: All tile installed under these specifications shall be sound and of first quality and shall meet all A.S.T.M. Specifications current at the time of tendering. Concrete tile shall conform to Designation C412 "Extra Quality" except that the minimum compression strengths shall be increased by 25%. Heavy Duty tile shall conform to Designation C412 "Heavy Duty Extra Quality".

.2 **Corrugated Steel Pipe**: Unless otherwise specified all metal pipe shall be corrugated, rivetted steel pipe or helical corrugated steel pipe with a minimum wall thickness of 1.6mm (16 gauge) and shall be fully galvanized.

.3 **Plastic Tubing**: The plans will specify the type of tubing or pipe, such as non-perforated or perforated (with or without filter material).

i) Corrugated Plastic Drainage Tubing shall conform to the current O.F.D.A. Standards

ii) Heavy Duty Corrugated Plastic Pipe shall be "Boss 1000" manufactured by the Big 'O' Drain Tile Co. Ltd. or approved equal

.4 **Concrete Sewer Pipe**: The Designations for concrete sewer pipe shall be C14 for concrete sewer pipe 450mm (18") diameter or less; and C76 for concrete sewer pipe greater than 450mm (18") diameter. Where closed joints are specified, joints shall conform to the A.S.T.M. Specification C443.

Where concrete sewer pipe "seconds" are permitted the pipe should exhibit no damages or cracks on the barrel section and shall be capable of satisfying the crushing strength requirements for No. 1, Pipe Specifications (C14 or C76). The pipe may contain cracks or chips in the bell or spigot which could be serious enough to prevent the use of rubber gaskets but which are not so severe that the joint could not be mortared conventionally.

.5 **Plastic Sewer Pipe**: The plans will specify the type of sewer pipe, such as non-perforated or perforated (with or without filter material). All plastic sewer pipe and fittings shall be "Boss Poly-Tite", ULTRA-RIB", "Challenger 3000" or approved equal with a minimum stiffness of 320 kpa at 5% deflection..

.6 **Plastic Fittings**: All plastic fittings shall be "Boss 2000" or "Challenger 2000" with split coupler joints or approved equal.

C.2 TESTING

The manufacturer shall provide specimens for testing if required. The random selection and testing procedures would follow the appropriate A.S.T.M. requirements for the material being supplied. The only variation is the number of tile tested: 200mm to 525mm dia. - 5 tile tested, 600mm to 900mm dia. - 3 tile tested. The drain will be responsible for all testing costs for successful test results. Where specimens fail to meet the minimum test requirements, the manufacturer will be responsible for the costs of the unsuccessful tests. Alternately, the Engineer may accept materials on the basis of visual inspections and the receipt in writing from the Manufacturer of the results of daily production testing carried out by the Manufacturer for the types and sizes of the material being supplied.

C.3 LINE

Prior to stringing the tile, the Contractor shall contact the Superintendent or the Engineer in order to establish the course of the drain.

Where an existing drain is to be removed and replaced in the same trench by the new drain or where the new drain is to be installed parallel to an existing drain, the Contractor shall excavate test holes to locate the existing drain (including repairing drainage tile) at intervals along the course of the drain as directed by the Engineer and/or the Superintendent. The costs for this work shall be included in the tender price.

C.3 **LINE** (cont'd)

Where an existing drain is to be removed and replaced in the same trench by the new drain, all existing tiles shall be destroyed and all broken tile shall be disposed of off site.

The drain shall run in as straight a line as possible throughout its length, except that at intersections of other water courses or at sharp corners, it shall run on a curve of at least a 15 meter radius. The new tile drain shall be constructed at an offset from and generally parallel with any ditch or defined watercourse in order that fresh backfill in the trench will not be eroded by the flow of surface water. The Contractor shall exercise care not to disturb any existing tile drain or drains which parallel the course of the new drain, particularly where the new and the existing tile act together to provide the necessary capacity.

C.4 **CLEARING AND GRUBBING**

Prior to commencement of drain construction, all trees, scrub, fallen timber and debris shall be cleared and grubbed from the working area. Unless otherwise specified, the minimum width to be cleared and grubbed shall be 20 meters in all hardwood areas and 30 meters in all softwood areas (willow, poplar, etc.), the width being centred on the line of the drain.

All trees or limbs 150mm (6") or larger, that it is necessary to remove, shall be considered as logs and shall be cut and trimmed, and left in the working width separte from the brush, for use or disposal by the owner. Trees or limbs less than 150mm in diameter shall be cut in lengths not greater than 5 meters and placed in separate piles with stumps spaced not less than 75 meters apart in the working width, for the use or disposal of the owner. In all cases, these piles shall be placed clear of excavated materials, and not be piled against standing trees. No windrowing will be permitted. The clearing and grubbing and construction of the drain are to be carried out in two separate operations and not simultaneously at the same location.

C.5 **PROFILE**

The profile drawing shows the depth of cuts from the ground beside the stake to the final invert of the drain in meters and decimals of a meter. These cuts are established for the convenience of the Contractor; however, bench marks will govern the final elevation of the drain. Bench marks have been established along the course of the drain and their locations and elevations are noted on the profile drawing.

C.6 **GRADE**

The Contractor shall provide and maintain in good working condition, an approved system of establishing a grade sight line to ensure the completed works conform to the profile drawing. In order to confirm the condition of his system and to eliminate the possibility of minor errors on the drawings, he shall ensure his grade sight line has been confirmed to be correct between a minimum of two control points (bench marks) and shall spot check the actual cuts and compare with the plan cuts prior to commencement of tile installation. He shall continue this procedure from control point to control point as construction of the drain progresses. When installing a drain towards a fixed point such as a bore pipe, the Contractor shall uncover the pipe and confirm the elevation, using the sight line, a sufficient distance away from the pipe in order to allow for any necessary minor grade adjustments to be made in order to conform to the as built elevation of the bore pipe. All tile improperly installed due to the Contractor not following these procedures shall be removed and replaced entirely at the Contractor's cost.

When following the procedures and a significant variation is found, the Contractor shall immediately cease operations and advise the Engineer.

C.7 EXCAVATION

.1 **Trench:** Unless otherwise specified, all trenching shall be done with a recognized farm tiling machine approved by the Engineer or Superintendent. The machine shall shape the bottom of the trench to conform to the outside diameter of the pipe for a minimum width of one-half of the outside diameter. The minimum trench width shall be equal to the outside diameter of the tile to be installed plus 100mm (4") on each side unless otherwise approved. The maximum trench width shall be equal to the outside diameter of the tile to be installed plus 250mm (10") on each side unless otherwise approved.

.2 **Scalping**: Where the depths of cuts in isolated areas along the course of the drain as shown on the profile exceed the capacity of the Contractor's tiling machine, he shall lower the surface grade in order that the tiling machine may trench to the correct depth. Topsoil is to be stripped over a sufficient width that no subsoil will be deposited on top of topsoil. Subsoil will then be removed to the required depth and piled separately. Upon completion of backfilling, the topsoil will then be replaced to an even depth over the disturbed area. The cost for this work shall be included in his tender price.

.3 **Excavator**: Where the Contractor's tiling machine consistently does not have the capacity to dig to the depths required or to excavate the minimum trench width required, he shall indicate in the appropriate place provided on the tender form his proposed methods of excavation.
Where the use of an excavator is either specified on the drawings or approved as evidenced by the acceptance of his tender on which he has indicated the proposed use of a backhoe he shall conform to the following requirements:

a) the topsoil shall be stripped and replaced in accordance with Section .2 "Scalping".
b) all tile shall be installed on a bed of 19mm crushed stone with a minimum depth of 150mm which has been shaped to conform to the lower segment of the tile.
c) the Contractor shall allow for the cost of the preceding requirements (including the supply of the crushed stone) in his lump sum tender price unless it is otherwise provided for in the contract documents.

.4 **Backfilling Ditch**: Where the contract includes for a closed drain to replace an open drain and the ditch is to be backfilled, the Contractor shall install the tile and backfill the trench prior to backfilling the ditch unless otherwise noted. The distance the trench shall be located away from the ditch shall be as noted on the drawings, (beyond area required for stockpiling topsoil and backfilling). After tile installation is complete topsoil (if present) shall be stripped and stockpiled within the above limits prior to backfilling of ditch. Only tracked equipment shall be permitted to cross backfilled tile trench and must be at 90 degrees to line of tile.

C.8 INSTALLATION

The tile is to be laid with close fitting joints and in regular grade and alignment in accordance with the plan and profile drawings. The tiles are to be bevelled, if necessary, to ensure close joints (in particular around curves). Where, in heavy clay soils, the width of a joint exceeds 10mm the joint shall be wrapped with filter cloth as below. Where the width of a joint exceeds 12mm the tile shall first be removed and the joint bevelled to reduce the gap. The maximum deflection of one tile joint shall be 15 degrees. Where a drain connects to standard or ditch inlet catchbasins or junction box structures, the Contractor shall include in his tender price for the supply and installation of compacted Granular 'A' bedding under areas backfilled from the underside of the pipe to undisturbed soil. The connections will then be grouted.

Where a tile drain passes through a bore pit, the Tile Contractor shall include in his tender price for the supply and placement of compacted Granular "A" bedding from the underside of the pipe down to undisturbed soil within the limits of the bore pit.

As above and where soil conditions warrant, the Engineer may require (or as specified on the drawings) that each tile joint be wrapped with synthetic filter cloth. The width of the filter cloth shall be 300mm wide for tile sizes of 150mm to 300mm and 400mm wide for sizes of 350mm to 750mm. The filter cloth shall cover the full perimeter of the tile and overlap a minimum of 100mm or as specified on the drawings. The type of cloth shall be Mirafi 140NL for loam soils and 150N for sandy soil. Any such work not shown on the drawings shall be considered as an addition to the contract price unless specified on the drawings.

C.9 ROAD AND LANEWAY SUB-SURFACE CROSSINGS

All road and laneway crossings may be made with an open cut in accordance with standard detailed drawings in the specifications or on the drawings. The exact location of the crossing shall be verified and approved by the Road Authority and the Engineer and/or superintendent.

C.10 BACKFILLING

As the laying of the tile progresses, blinding up to the springline including compaction by tamping (by hand) is to be made on both sides of the tile. No tile shall be backfilled until inspected by the Engineer or Drainage Superintendent unless otherwise approved by the Engineer.

The remainder of the trench shall be backfilled with special care being taken in backfilling up to a height approximately 150mm above the top of the tile to ensure that no tile breakage occurs. During the backfilling operation no equipment shall be operated in a way that would transfer loads onto the tile trench. Surplus material is to be mounded over the tile trench so that when settlement takes place the natural surface of the ground will be restored. Upon completion, a minimum cover of 600mm is required over all tile. Where stones larger than 150mm are present in the backfill material, they shall be separated from the material and disposed of by the Contractor.

Where a drain crosses a lawn area, the backfilling shall be carried out as above except that, unless otherwise specified, the backfill material shall be mechanically compacted to eliminate settlement.

C.11 UNSTABLE SOIL

The Contractor shall immediately contact the Engineer or Superintendent if quicksand is encountered, such that installation with a tiling machine is not possible. The Engineer shall, after consultation with the Superintendent and Contractor, determine the action necessary and a price for additions or deletions shall be agreed upon prior to further drain installation. Where directed by the Engineer, test holes are to be dug to determine the extent of the affected area. Cost of test holes shall be considered an addition to the contract price.

C.12 ROCKS

The Contractor shall immediately contact the Engineer or Superintendent if boulders of sufficient size and number are encountered such that the Contractor cannot continue trenching with a tiling machine. The Engineer or Superintendent may direct the Contractor to use some other method of excavating to install the drain. The basis of payment for this work shall be determined by the Engineer and Drainage Superintendent.

If only scattered large stones or boulders are removed on any project, the Contractor shall haul same to a nearby bush or fenceline, or such other convenient location as approved by the Landowners(s).

C.13 BROKEN, DAMAGED TILE OR EXCESS TILE

The Contractor shall remove and dispose of off-site all broken (existing or new), damaged or excess tile or tiles. If the tile is supplied by the Municipality, the Contractor shall stockpile all excess tile in readily accessible locations for pickup by the Municipality upon the completion of the job.

C.14 TRIBUTARY DRAINS

Any tributary tile encountered in the course of the drain shall be carefully taken up by the Contractor and placed clear of the excavated earth. If the tributary tile drains encountered are clean or reasonably clean, they shall be connected into the new drain. Where existing drains are full of sediment, or contain pollutants, the decision to connect those drains to the new drain shall be left to the Engineer or Superintendent. Each tributary tile connection made by the Contractor shall be located and marked with a stake and no backfilling shall take place until the connection has been approved by the Engineer or Superintendent.

C.14 **TRIBUTARY DRAINS** (cont'd)

For tributary drains 150mm dia. or smaller connected to new tiles 250mm dia. or larger, and for 200mm dia. connected to 350mm dia. or larger, the Contractor shall neatly cut a hole in the middle of a tile length. The connections shall be made using a pre-fabricated adaptor. All other connections shall be made with pre-fabricated wyes or tees conforming to Boss 2000 split coupler or approved equal.

Where an open drain is being replaced by a new tile drain, existing tile outlets entering the ditch from the side opposite the new drain shall be extended to the new drain. All existing metal outlet pipes shall be carefully removed, salvaged, and left for the owner. Where the grade of the connection passes through the newly placed backfill in the ditch, the backfill material below the connection shall be thoroughly compacted and metal pipe of a size compatible with the tile outlet shall be installed so that a minimum length of 2 meters at each end is extending into undisturbed soil.

Where locations of tiles are shown on the drawings the Contractor shall include in his tender price, all costs for connecting those tiles to the new drain regardless of length.

Where tiles not shown on the drawings are encountered in the course of the drain, and are to be connected to the new drain, the Contractor shall be paid for each connection at the rate outlined in the Form of Tender and Agreement.

C.15 **OUTLET PIPES**

Corrugated steel pipe shall be used to protect the tile at its outlet. It shall have a hinged metal grate with a maximum spacing between bars of 40mm. The corrugated steel pipe shall be bevelled at the end to generally conform to the slope of the ditch bank and shall be of sufficient size that the tile can be inserted into it to provide a solid connection. The connection will then be grouted immediately.

The installation of the outlet pipe and the required rip-rap protection shall conform to the standard detailed drawing as noted on the drawing.

C.16 **CATCHBASINS AND JUNCTION BOXES**

.1 **Catchbasins**: Unless otherwise noted or approved, catchbasins shall be in accordance with O.P.S.D. 705.010, 705.030. All catchbasins shall include two - 150mm riser sections for future adjustments. All ditch inlet catchbasins shall include one 150mm riser section for future adjustments. The catchbasin top shall be a "Bird Cage" type substantial steel grate, removable for cleaning and shall be inset into a recess provided around the top of the structure. The grate shall be fastened to the catchbasin with bolts into the concrete. Spacing of bars on grates for use on 600mmx600mm structures shall be 65mm centre to centre. Spacing of bars on grates for use on structures larger than 600mmx600mm shall be 90mm with a steel angle frame.

The exact location and elevation of catchbasins shall be approved by the Road Authority or the Engineer/Superintendent. Catchbasins offset from the drain shall have "Boss 2000" 200mm diameter leads or approved equal unless otherwise noted and the leads shall have a minimum of 600mm of cover. The leads shall be securely grouted at the structures and the drain.

.2 **Junction Boxes**: Junction boxes shall be the precast type unless otherwise approved. Dimensions for precast junction boxes shall conform to those for catchbasins. The inside dimensions of the box shall be a minimum of 100mm larger than the outside diameter of the largest pipe being connected. The minimum cover over the junction box shall be 600mm. Benching to spring line shall be supplied with all junction boxes.

.3 **Connections**: Catchbasins and junction boxes shall not be ordered until elevations of existing pipes being connected have been verified in the field as indicated on the drawings. All connections shall be securely grouted at both the inside and outside walls of the structure.

.4 **Installation**: Where the native material is clay, all catchbasins shall be backfilled with an approved granular material placed and compacted to a minimum width of 300mm on all sides with the following exception. Where the native material is sandy or granular in nature it may be used as backfill. Filter cloth shall be placed between the riser sections of all catchbasins.

C.16 **CATCHBASINS AND JUNCTION BOXES** (cont'd)

Where the Contractor has over excavated or where ground conditions warrant, the structure shall be installed on a compacted granular base.

The Contractor shall include in his tender price for the construction of a berm behind all ditch inlet structures. The berm shall be constructed of compacted clay keyed 300mm into undisturbed soil. Topsoil shall be distributed to a 65mm thickness and seeded unless otherwise specified. The Contractor shall also include for regrading, shaping and seeding of road ditches for a maximum of 15 meters each way from all catchbasins.

C.17 **BLIND INLETS**

Where specified, blind inlets shall be installed along the course of the drain. In accordance with details on the drawings.

C.18 **GRASSED WATERWAY**

Topsoil to be stripped from construction area and stockpiled prior to construction of waterway. Waterway to be graded into a parabolic shape to the width shown on the drawings. Topsoil to be relevelled over the waterway and other areas disturbed by construction.

Waterway to be prepared for seeding by harrowing and then seeded by drilling followed by rolling. Seeding rate to be 85 Kg/Ha with the following mixture:

30% Canon Canada Bluegrass
25% Koket Chewings Fescue
30% Rebel Tall Fescue
15% Diplomat Perennial Rye
Plus #125 Birdsfoot Trefoil (25% of Total Weight)

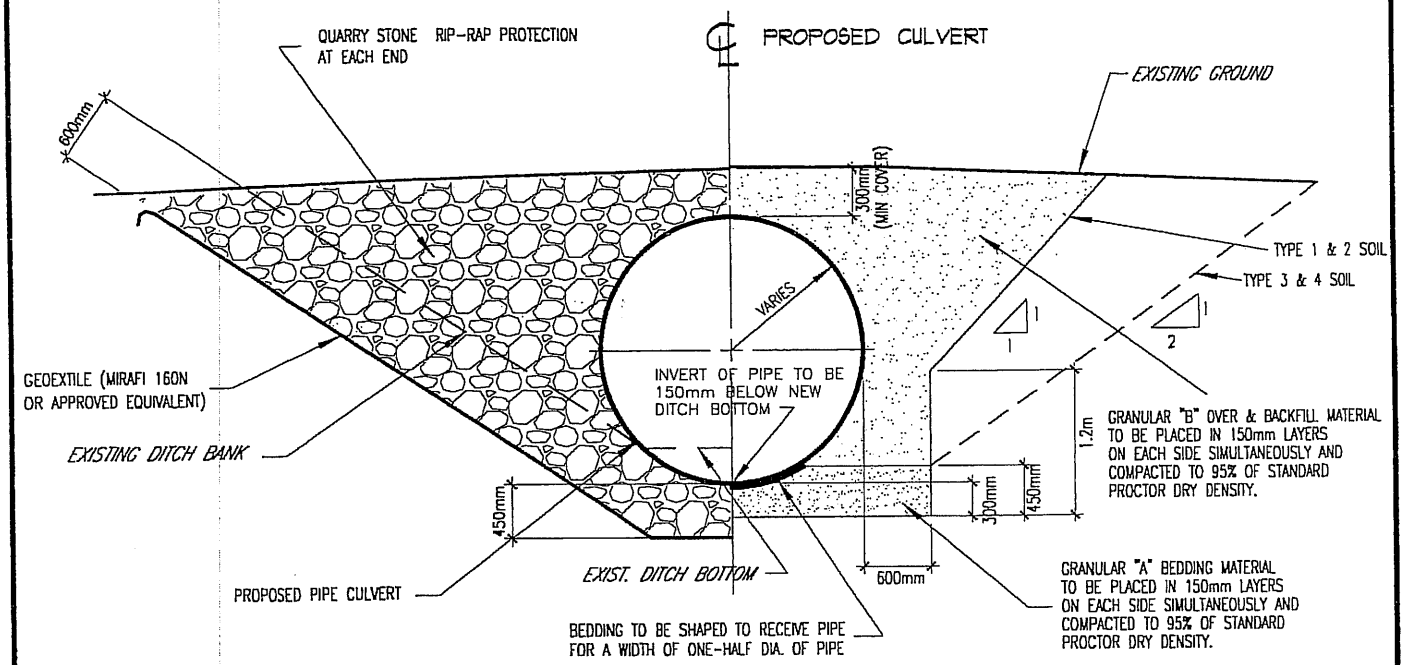
C.19 **BACKFILLING EXISTING DITCHES**

The Contractor shall backfill the ditch sufficiently for traversing by farm machinery. If sufficient material is not available from the old spoil banks to fill in the existing ditch, the topsoil shall be stripped and the subsoil shall be bulldozed into the ditch and the topsoil shall then be spread over the backfilled ditch unless otherwise specified on the contract drawings. The Contractor shall ensure sufficient compaction of the backfill and if required, repair excess settlement up to the end of the warranty period. The final grade of the backfilled ditch shall provide an outlet for surface water.

C.20 **RECOMMENDED PRACTICE FOR CONSTRUCTION OF SUBSURFACE DRAINAGE SYSTEM**

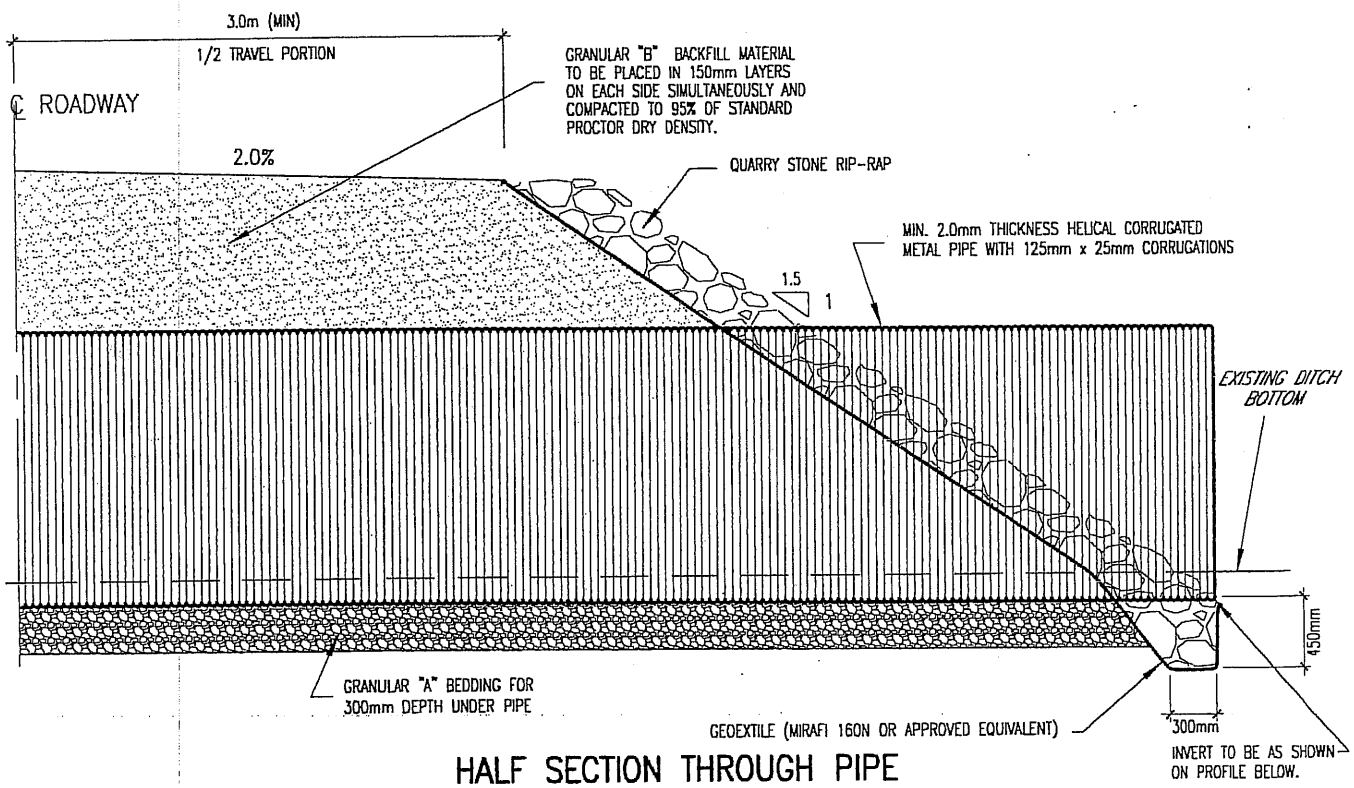
Drainage guide for Ontario, Ministry of Agriculture, Food and Rural Affairs Publication Number 29 and its amendments, dealing with the construction of Subsurface Drainage systems, shall be the guide to all methods and materials to be used in the construction of tile drains except where superseded by other specifications of this contract.

The requirements of licensing of operators, etc. which apply to the installation of closed drains under the Tile Drainage Act shall also be applicable to this contract in full unless approval otherwise is given in advance by the Engineer.



HALF ELEVATION

HALF SECTION



HALF SECTION THROUGH PIPE

NOTES

1) WHERE THE CULVERT IS TO BE INSTALLED IN POOR SOIL CONDITIONS, THE BEDDING MATERIAL SHALL BE 19mm CRUSHED STONE COMPLETELY WRAPPED IN GEOTEXTILE SUCH AS MIRAFI 160N OR APPROVED EQUIVALENT.

TYPICAL FARM CULVERT INSTALLATION DETAIL

Scale: N.T.S.	Approved by:	Date: January 1983
Drawn by: jk	M.P.D.	Revised: November 2000

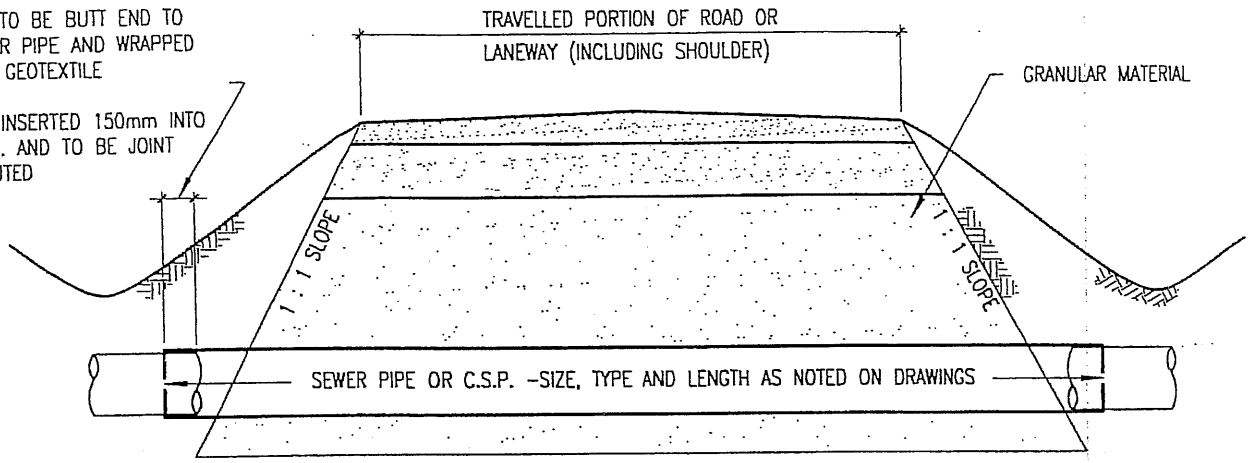
ELEVATION & SECTION

STANDARD DETAILED DRAWING No. 01

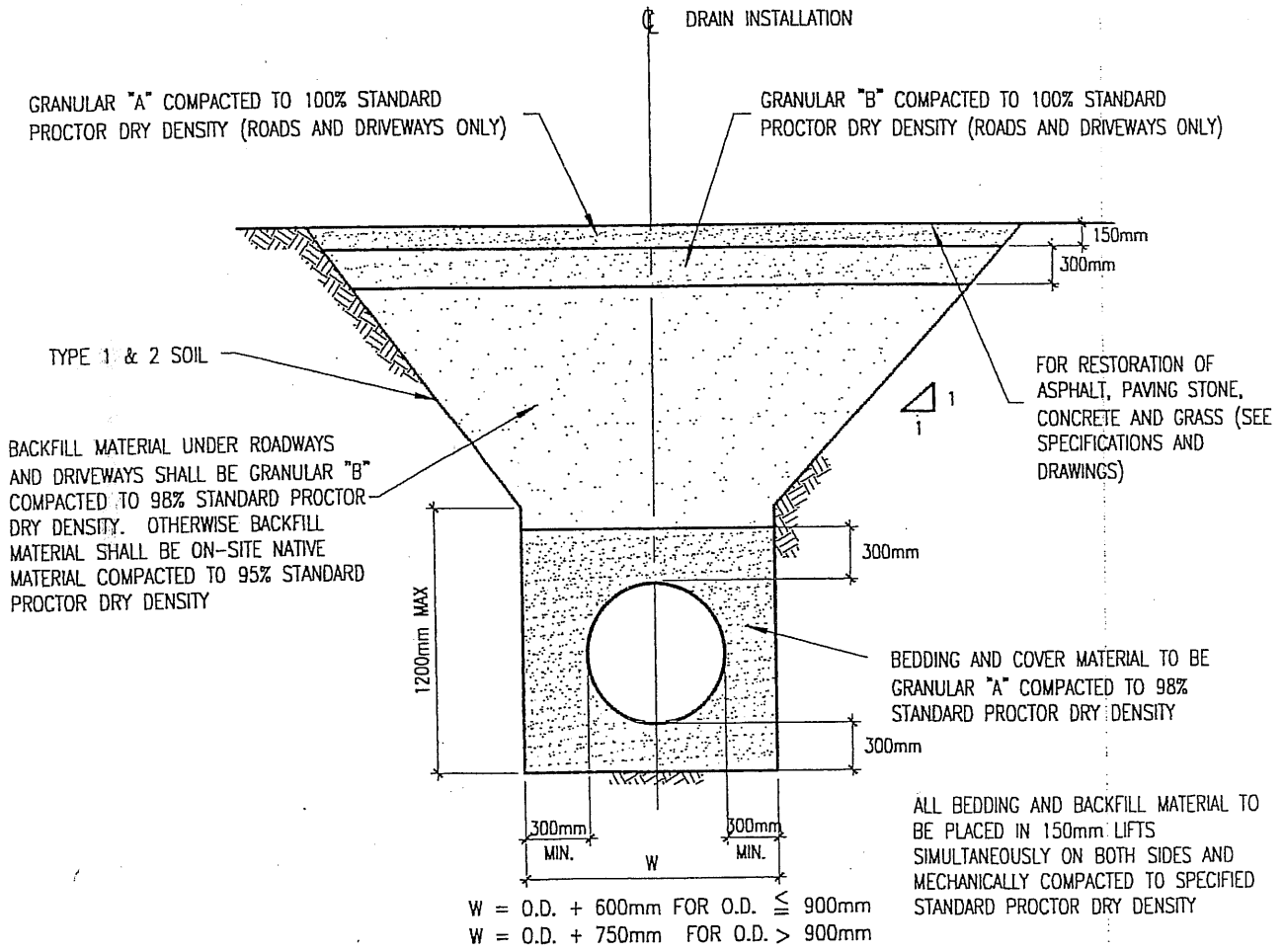
SPRIET ASSOCIATES LONDON LIMITED
CONSULTING ENGINEERS ARCHITECTS

1. TILE TO BE BUTT END TO SEWER PIPE AND WRAPPED WITH GEOTEXTILE

2. TILE INSERTED 150mm INTO C.S.P. AND TO BE JOINT GROUTED



SECTION THROUGH PIPE



W = O.D. + 600mm FOR O.D. ≦ 900mm
W = O.D. + 750mm FOR O.D. > 900mm

CROSS SECTION

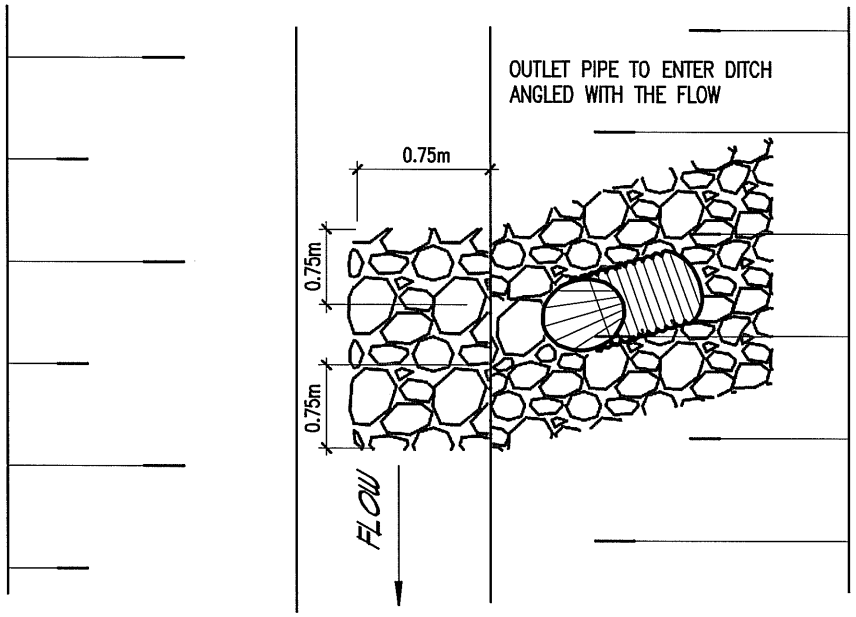
TYPICAL INSTALLATION DETAIL FOR FLEXIBLE PIPE

Scale: N.T.S.	Approved by:	Date: January 1983
Drawn by: jk	M.P.D.	Revised: November 2000

ELEVATION & SECTION

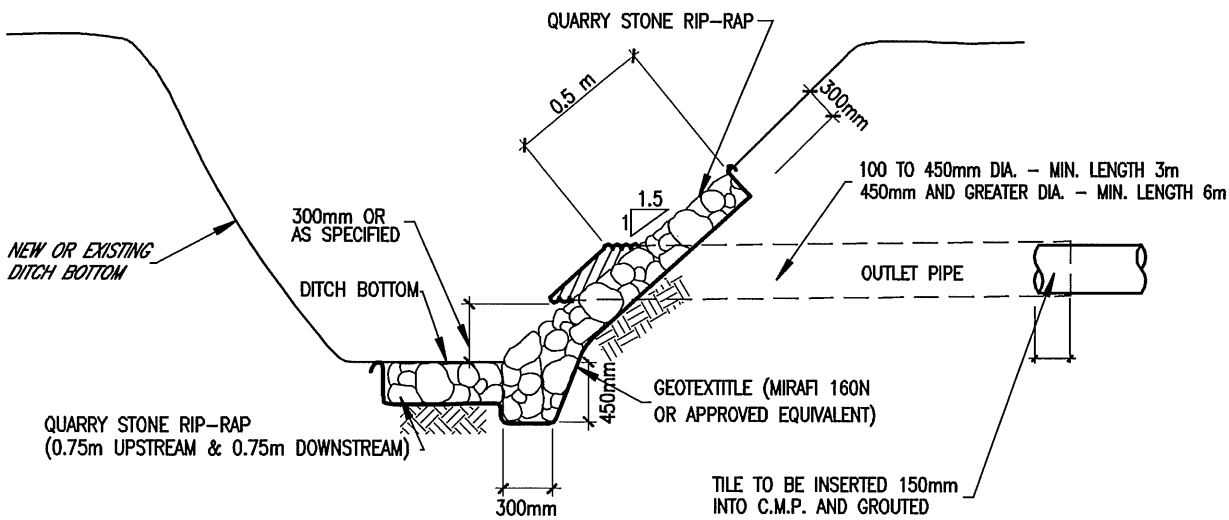
STANDARD DETAILED DRAWING No. 02

SPRIET ASSOCIATES LONDON LIMITED
CONSULTING ENGINEERS ARCHITECTS



PLAN

NOTES
1. WHERE THE DISTURBED AREA EXCEEDS THE MIN. WIDTHS, RIP-RAP TO EXTEND TO A MIN. OF 600mm BEYOND THE DISTURBED AREA

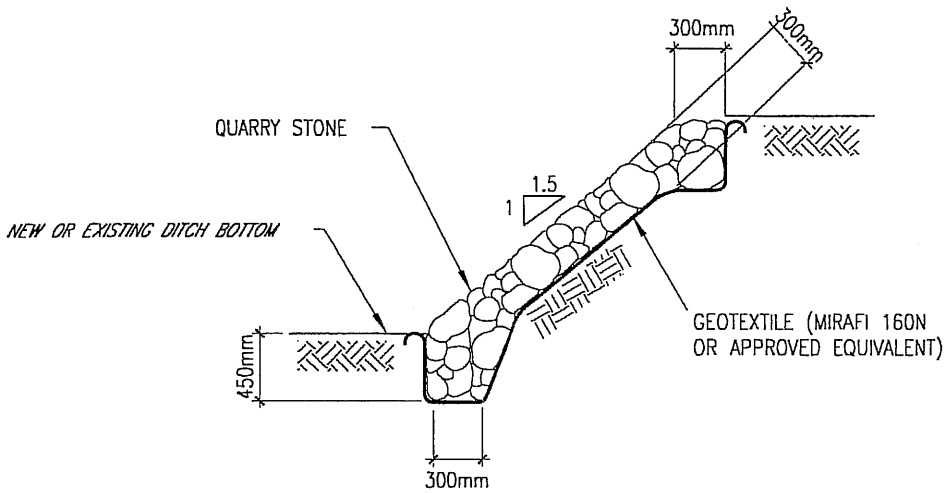


TYPICAL OUTLET RIP-RAP

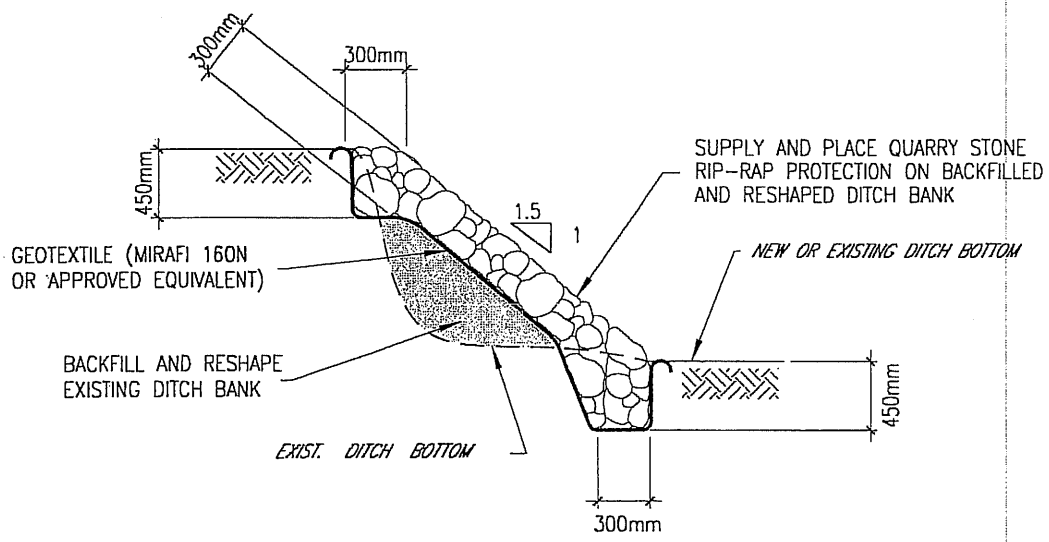
NOTES
1. RIP-RAP TO EXTEND UP THE SLOPE 0.5 METER ABOVE TOP OF OUTLET
2. WHERE SURFACE RUN ENTERS DITCH AT OUTLET PIPE, A ROCK CHUTE SHALL BE INSTALLED (SEE S.D.D. No. 05) AND PIPE SHALL BE INSTALLED ADJACENT TO ROCK CHUTE.
3. HINGED RODENT GATE TO BE AFFIXED TO END OF OUTLET PIPE.

TYPICAL OUTLET RIP-RAP THROUGH SIDE SLOPE OF DITCH		
Scale: N.T.S.	Approved by:	Date: November 2000
Drawn by: jk	M.P.D.	Revised: January 2009
PLAN & SECTION		STANDARD DETAILED DRAWING No. 03

SPRIET ASSOCIATES LONDON LIMITED
CONSULTING ENGINEERS ARCHITECTS



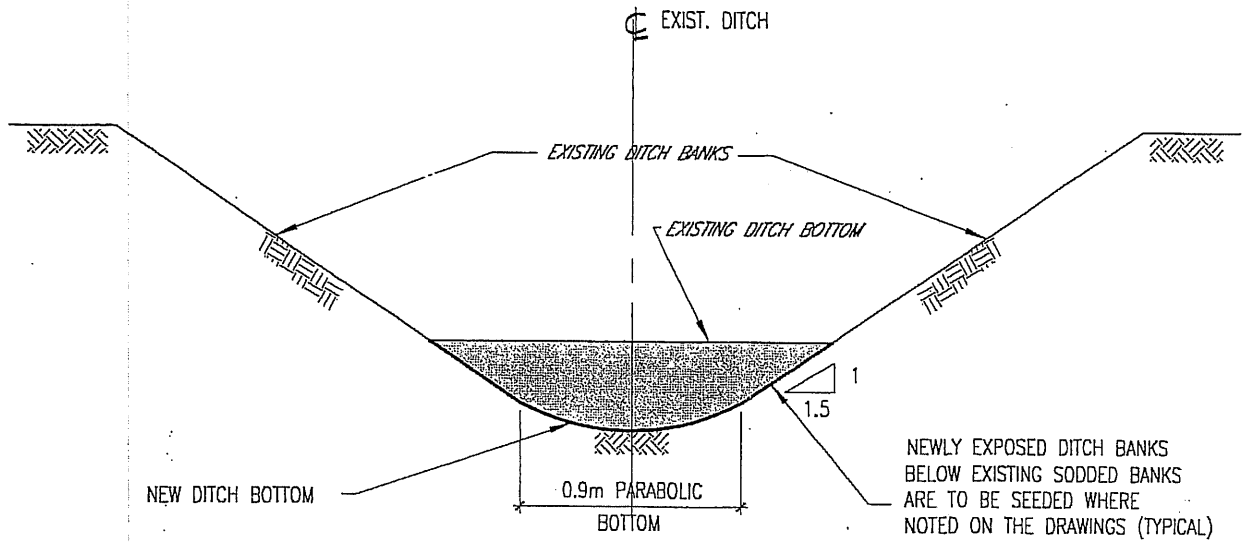
TYPICAL DITCH BANK RIP–RAP



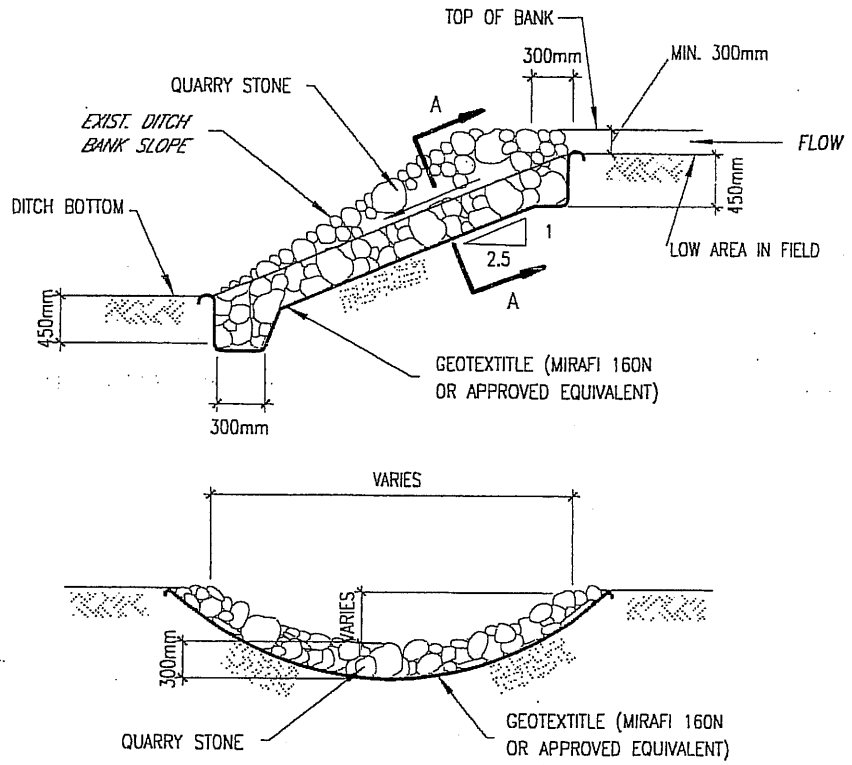
TYPICAL DITCH BANK RIP–RAP WITH BACKFILLING OF WASHOUT

TYPICAL DITCH BANK RIP–RAP DETAILS		
Scale: N.T.S.	Approved by:	Date: July 2000
Drawn by: jk	M.P.D.	Revised: November 2000
SECTIONS		STANDARD DETAILED DRAWING No. 04

SPRIET ASSOCIATES LONDON LIMITED
CONSULTING ENGINEERS ARCHITECTS



TYPICAL DITCH BOTTOM CLEANOUT



SECTION A–A

TYPICAL ROCK CHUTE

TYPICAL DITCH BOTTOM CLEANOUT TYPICAL ROCK CHUTE CONSTRUCTION		
Scale: N.T.S.	Approved by:	Date: November 2000
Drawn by: jk	M.P.D.	Revised:
SECTIONS		STANDARD DETAILED DRAWING No. 05
SPRIET ASSOCIATES LONDON LIMITED CONSULTING ENGINEERS ARCHITECTS		

110000 Process

1.0 LOW-LIFT COLUMN PUMP AND SUCTION/DISCHARDE COLUMN

.1 This item will include, without limitation, the supply, installation, and maintenance of one (1) column pump complete with drive, suction/discharge column, and other accessories as specified herein and shown on the drawings.

.2 The pump supplier shall supply one (1) complete suction/discharge column as shown on the drawings, including a formed suction intake, discharge column, horizontal flanged connection for forcemain, and vertical access flange (see drawings for additional details and required dimensions) suitable for operation with the low-lift column pump. The suction/discharge column shall be constructed of 316 stainless steel as specified herein.

.3 Pump to be supplied with complete system for removing pump from wet well.

.4 Column pump to be suitable for use in a municipal stormwater pumping application, non-classified hazardous classification, and suitable for up to 10-starts-per-hour.

.5 Column pump shall be Xylem Model PL 7030 , with following parameters:

Location	Tag	Media	Capacity	Head	Model	Impeller	Power
Drain Chamber	SWP01	Stormwater	498 l/s	3m	Xylem, PL 7030	345mm	28.3 kW, 230Vac/ 3ph/60Hz

.6 Shop and field testing to be undertaken as follows:

- Submit certified pump curves from Manufacturer indicating relationship between speed, capacity, head, power and efficiency. Indicate design operating point on curve.
- Field test pump in presence of the Contract Administrator to demonstrate that the installation is correctly completed and pump is operating satisfactorily without vibration or cavitation.
- All field tests must be supervised by pump manufacturer's representative.
- Contract Administrator requires 72 working hours written notice prior to such tests.
- The Contractor shall supply all required metering devices and gauges necessary to demonstrate pump performance. Supply and install gauge connections as required.
- Test results must be properly documented and presented to the Contract Administrator.

.7 Install equipment and accessories in accordance with the manufacturer's recommendations and to the satisfaction of the Contract Administrator, including

all necessary materials not specifically noted herein or shown on the Contract Drawings or provided by the equipment supplier in order to make the mechanical and electrical connections required for the specified operation of the equipment.

2.0 PROCESS PIPING

.1 The work shall include, without limitation, the supply, installation, and maintenance of piping for the proposed pumping chamber.

.2 Victaulic couplings shall not be used unless under direction of the Engineer.

.3 10% of welded stainless steel joints to be 100% X-rayed to ASTM B31.3 (normal fluid service) standards. Completed x-ray reports shall be sent to the Contract Administrator for review and acceptance.

.4 All PVC forcemain shall be white in colour.

.5 Pipe supports shall be included under this tender item as detailed on the Contract Drawings.

.6 For the purposes of this section, "maintenance" shall refer to any/all servicing of process pipes and appurtenances during the warranty period, including but not limited to the repair of leaking/burst pipes (plant and/or buried).

ABBR	SERVICE	PIPE MAT.	DATA SHEET NO.	PRIMARY JOINT	WORKING PRESS. kPa	TEST PRESS. kPa	TEST MEDIA	TEST DURATION (hours)	DESIGN TEMP. °C	ALLOWABLE LEAKAGE	REMARKS
SS	Storm water	SS	SS1	W/FL	30	350	Water	4	0-40	0	Plant
PVC	Storm water	PVC	PVC1	FL/BS/C	30	350	Water	4	0-40	0	Buried
Note: Refer to following table for legend.											

ABBREVIATION	DESCRIPTION
BS	Bell and Spigot
BW	Butt Welded
C	Coupling
FL	Flanged
MJ	Mechanical Joint
SPIG	Spigot
W	Welded

.7 Type 316L (ASTM A312) Stainless Steel – SS

Data Sheet No. **SS1**

ITEM	SIZES (mm)	GENERAL DESCRIPTION
Pipe	80 to 900	Schedule 10S Type 316L stainless steel conforming to ASTM A312 and ANSI B36.19, seamless or welded, pickled.
Fittings	80 - 900	Schedule 10S Type 316L stainless steel, butt-welded, smooth flow long radius elbows, caps and reducers conforming to ASTM A403 and ANSI B16.9.
Branches	In piping 80 - 900	Schedule 10S Type 316L stainless steel, butt welded, smooth flow tees, conforming to ASTM A403, with weldolets, threaded couplings conforming to ASTM A182, Class 3000, 316L stainless steel.
Stub-End	80 to 900	Schedule 10S Type 316L stainless steel stub-end, butt-welded, conforming to ASTM A403.
Flanges	80 - 600	Type 316L stainless steel, ANSI B16.5, Class 150, weld neck, flanges bored for Schedule 10S pipe conforming to ASTM A182. Schedule 10S Type 316L stainless steel stub-end conforming to ASTM A403 with lap joint flange drilled to ANSI B16.5 Class 150, Hot Dip Galvanized or AWWA Class "D" rated flange.
Bolts	All	Type 316 stainless steel, ASTM A307, Grade B, zinc chromate plated carbon, steel heavy hexagonal head.
Nuts	All	Type 316 stainless steel ASTM A194, Grade 8 hexagonal nuts, scale free, shiny stainless steel finish.
Gaskets	All	3 mm thick full-faced premium grade Neoprene.
Welding	All	In accordance with SP108.
Piping	All	Piping system to withstand pressures to 1050 kPa and temperatures from -30°C to 82°C, unless otherwise specified in Table 1.

.8 Polyvinyl Chloride (PVC) (Buried)

Data Sheet No. **PVC1**

ITEM	SIZES (mm)	GENERAL DESCRIPTION
Pipe	100 - 600	Polyvinyl Chloride (PVC) pipe 100 mm diameter to 600 mm diameter shall conform to ASTM D2241, SDR41 (minimum) as determined by the Design Engineer, to be certified by the Canadian Standards Association to CSA Standard B137.3 and have Iron Pipe Size Outside Diameter (IPSOD).
Fittings	100 - 600	Fabricated fittings to CSA B137.3 and ASTM D2241. All fittings to be in accordance with Municipality Standards.
Joints	100 - 600	Integral bell and spigot ends with stiffened wall section and formed groove for rubber gasket.
Installation	All	.1 Lay and join pipe to CSA B182.11 and per manufacturer's instructions. .2 Install pipe with bell ends facing upgrade. .3 Install gaskets as recommended by manufacturer. .4 Support pipes with hand slings or crane as required to minimize lateral pressure on gasket and maintain concentricity until gasket is properly positioned. .5 Align pipes carefully before joining. .6 Maintain pipe joints free from mud, silt, gravel and other foreign material. .7 Avoid displacing gasket or contaminating with dirt or other foreign material. Remove disturbed or dirty gaskets; clean, lubricate and replace before joining is attempted. .8 Complete each joint before laying next length of pipe. .9 Minimize joint deflection to manufacturer's recommendations. .10 Apply pressure in making joints to ensure that joint is complete as outlined in manufacturer's recommendations.

3.0 VALVES

.1 The work shall include, without limitation, the supply, installation, and maintenance of process valves for the proposed pumping station and forcemain in the sizes and in the locations shown on the Contract Drawings.

.2 For the purposes of this item, "maintenance" shall include any/all required servicing of the valve and appurtenances during the warranty period.

.3 Refer to the valve specification sheets in this section for detailed material and performance requirements for each valve.

GENERAL						
TYPE OF VALVE	SYMBOL	TYPE OF COMMODITY	RATING			
			PRESSURE (kPa)	TEMP. (°C)		
End of Pipe	**CHV**	Liquid	-	-		
TYPICAL SERVICE						
Storm water						

VALVE MATERIALS		**VALVE DESCRIPTION**	
ITEM	MATERIAL	Reference Document	
Body	100% Elastomer (Neoprene)	Size Range	50mm to 900mm
Retaining Rings	304SS	Style	Curved bill, flat bottom.
Fasteners	304SS	Valve Ends	Slip-on
		Additional Items	Note 1.

NOTES

.1 Tag numbers and description/service on all valves.

ACCEPTABLE PRODUCTS			
Tideflex/Red Valve	EVR Products	Cla-Val	

4.0 SHOP DRAWINGS AND OPERATIONS MANUALS

.1 Equipment requiring shop drawings and Operations Manuals to be submitted to the Engineer for approval include the following:

.1 Chamber;
.2 Piping and appurtenances;
.3 Pump and formed suction/discharge column;
.4 Variable Frequency Drive, auto dialer, level transmitter and controls;
.5 Service entrance fused disconnect;
.6 Meter base;
.7 Junction boxes.

.2 The General Contractor shall submit shop drawings via email (email address to be provided at pre-construction meeting). Returned shop drawings shall also be returned via email.

.3 Identify each shop drawing with a cover sheet, giving reference such as: Project name and location, Section of specifications where specified, Location where equipment or material is to be installed, Name of Sub-Contractor or supplier, NFPA Area Classification, and other relevant information.

.4 Each shop drawing submitted by the Contractor shall have affixed to it the following certification statement and shall be signed by the Contractor: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalogue numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements."

.5 Shop drawings will not be reviewed by Contract Administrator unless they have been signed and stamped (as per above), certifying review and approval of submittal by the Contractor.

.6 Shop drawings to detail completely all equipment to be installed and components thereof, including the location and type of process connections and mounting hardware.

.7 Upon completion of installation and testing, Contractor to submit:

.1 Three (3) hard copy sets of the "Operation and Maintenance" manuals contained in new, clean "D" Ring binders, either originals or lefible copies (colour originals shall be copied in colour).
.2 Three (3) DVDs each containing electronic versions of the entire "Operation and Maintenance" manuals. All filed are to be in Adobe Acrobat format, latest version.

.3 Binder, DVD case and DVD to have title, "Operation and Maintenance Manual – 3313-3405 Wonderland Road, Contract No. 16-03303-1 Pumping Station."

.8 Complete information is to be included in each operation and maintenance manual submitted for:

.1 Each and every piece of equipment installed under this Contract, referred to be name and by tag number

.2 All installed electrical/control components

.3 A functional description of the control method or interface with SCADA system (where applicable).

.9 Where Manufacturer's literature covers several covers several models or options, highlight the applicable information and cross out an non-relevant information

.10 Final copies of all required Operation and Maintenance Manuals (in the quantities stipulated in this section are required to be submitted prior to Substantial Performance.

.11 The manual shall follow the structure outlined below:

.1 Title Page;

.2 Date, Owner, Contract Administrator, General and Major Sub-Contractor information;

.3 Table of Contents;

.4 Supplier address, phone number, fax number, email address, website and item supplied;

.5 Group 1, 2,3, etc., - use numbered tab dividers for each group of items. Each group to contain the following information for each and every product and/or item of equipment used on the project as follows:

.1 Section 1

.1 Signed letter of certification that the equipment/product has been properly installed, serviced, is in proper running order and ready to operate (if applicable).

.2 Process narrative

.3 Safety Procedures

.4 Copy of all inspection, start-up and commissioning reports (if applicable)

.5 Copy of Warranty and Technical Service information

.2 Section 2

.1 Reviewed shop drawings, outlines and descriptive literature

.3 Section 3

.1 Installation and Operating Manual – Information for installing and operating each item of equipment/product.

.2 Maintenance Manual – information for maintaining, adjusting, troubleshooting, repairing and dismantling each item of equipment/product

.3 Parts manual – to include parts schematic, reference numbers and part names, and a list of recommended spare

parts. Also furnish address and phone number of nearest spare parts and service depot.

.4 Identify all drawings and instruction by Project Title and Contract Number etc.

.6 The DVD version of the O&M manual shall be laid out in the same format and the DVD version shall be linked to each section and tabs such that the user can easily navigate and find the required information.

.7 Confirm layout with Contract Administrator prior to assembling documents for review.

5.0 ELECTRICAL SERVICE

.1 Provide electrical services as per drawings E101 and E102, and Division 26 Specifications.

6.0 COMMISSIONING AND CERTIFICATION

.1 Commissioning and certification is required for all installed equipment components per SP 4.1 to the satisfaction of the Contract Administrator and equipment manufacturers.

.2 Provide a qualified technical representative of the equipment supplier for a minimum of one (1) day to supervise the commissioning of the equipment.

.3 Operate equipment for at least three (3) hours to demonstrate operations of the equipment and controls over several cycles, and take necessary remedial steps to ensure satisfactory operations.

.4 Arrange for the Contract Administrator and the Owner's representatives to be present at the time of commissioning.

.5 Demonstrate that all the equipment is installed properly and is performing satisfactorily.

.6 Obtain a certificate from the supplier stating that his qualified representative has found the installation to be to his satisfaction. Submit the certificate to the Contract Administrator.

.7 The manufacturer shall provide a Certificate of Installation for all equipment to the Contract Administrator

7.0 TRAINING PROVIDED BY MANUFACTURER

.1 Provide services of authorized manufacturer for one (1) day training session for each installed system SP 4.1 to train Owner's staff.

8.0 WARRANTY PERIOD

.1 Except where indicated otherwise in the Specifications, the Contractor shall warranty all work performed under this Contract, for all equipment installed for a period of twelve (12) months from date of Substantial Completion.

.2 The Contract Administrator will arrange and conduct with the Owner and the Contractor a warranty inspection at the site prior to the expiration of the twelve (12) month warranty period.

.3 The Contractor shall co-ordinate any site visits required for correction of deficiencies so as to minimize the impact on operation of Municipal facilities.

260000 Electrical

260500	Common Work Results for Electrical
260511	Cables and Wiring
260533	Raceways and Boxes
260800	Commissioning of Electrical Systems
260900	Instrumentation and Control
260901	Process and Building Instrumentation
262000	Low Voltage Electrical Distribution
262823	Low Voltage Disconnect Switches
262923	Low Voltage Variable Frequency Drives

End of Section

260500 Common Work Results for Electrical

1.0 General

1.1 Scope of Work

.1 The following is a general but not necessarily complete description of the electrical work and services to be provided under this contract. All the products and services mentioned or shown in the documents shall be provided, including all the incidentals necessary for a complete and working electrical system to the satisfaction of the Engineer.

.1 Service pole;
.2 Utility meter-base;
.3 Service entrance fused disconnect;
.4 Variable frequency drive;
.5 Level tranmistter and level indication;
.6 Autodialer; and
.7 Others.

1.2 References, Codes and Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards, in particular the following collection of standards:

CSA C22.1	Canadian Electrical Code Part 1 - Safety Standard for Electrical Installation, and Ontario Amendments to CSA C22.2 Canadian Electrical Code, Part 1 (Ontario Electrical Safety Code - OESC)
CSA C22.2	Canadian Electrical Code Part 2 – General Requirements
CSA C22.3	Canada Electrical Code Part 3 - Electricity Distribution and Transmission

.2 Where any code, regulation, by-law or standard is quoted it means, unless otherwise specifically noted, the current edition including all revisions and amendments at the time of the Contract.

.3 Where regulatory codes, standards and regulations are at variance with the Contract Documents, the more stringent requirement shall apply.

1.3 Permits, Fees and Inspection

.1 The Contractor shall submit for, obtain and pay for all permits required to complete the Work.

.2 The Contractor shall notify the Engineer of changes required by the Electrical Inspection Department prior to making changes.

.3 Include in each copy of operating and maintenance instruction manuals, copies of inspection certificates issued by regulatory authorities to certify that the completed Work is in accordance with the regulations of the regulatory authorities and is acceptable to them.

1.4 Electrical Contractor Qualifications

.1 The Work is to be carried out by a Contractor who holds a valid contractor license for each respective trade.

.2 The site foreman for each respective trade must be a registered master journeyman.

.3 All work is to be carried out by qualified, licensed trade persons in their particular disciplines as in accordance with the conditions of the governing requirements respecting manpower vocational training and qualification. Employees registered in certified apprentice programs shall be permitted, under the direct supervision of qualified licensed trade persons in that discipline, to perform specific tasks.

.4 Specialist Contractors shall have received specific training by the applicable manufacturer for the products being provided.

.5 All trade people are to provide proof of qualification upon request by the Engineer. Failure to do so might result in removal of that individual from the site, without compensation.

.6 Submit its company's policies and procedures for confined space entry, hot work, and live work; follow Owner's or own procedures whichever is more stringent.

.7 The Contractor shall follow Owners standard lock-out/tag-out procedures. Padlocks shall be supplied by the Contractor.

1.5 Equipment Manufacturer Qualifications

.1 The Manufacturer of the assembly shall be the manufacturer, or an OEM company certified by the Manufacturer, of the components used within the assembly.

.2 The Manufacturer shall be CSA certified in accordance with CAN/CSA-Q9000-2.

.3 The manufacturer shall be approved and registered with the International Standards Organization in the applicable ISO 9000, ISO14000 or ISO product manufacturing category.

.4 The specified/acceptable Manufacturer requesting approval to substitute a new product line and Manufacturer of an alternate shall have produced similar electrical equipment with a sufficient installation base for a minimum period of five (5) years. When requested by the Engineer an acceptable list of installations (installation base) with similar equipment shall be provided demonstrating compliance with this requirement.

.5 The Manufacturer of the new product or alternate without the sufficient installation base for the above stipulated time period shall:

.1 Provide in addition to the standard warranty, the extended warranty and technical support for minimum of five (5) years without increase in the equipment price and without additional incremental cost to the Owner.

.2 Provide access to the Engineer of the standard installation, functional and operational drawings for the complete assembly, sub-assemblies and components, as well as the copies of the required regulatory certificates and test results.

.3 When requested by the Engineer, the Manufacturer shall arrange a visit to the manufacturing and design facilities for inspection and verification. The Manufacturer shall be responsible for transportation, meals, lodging and incidental cost for up to two (2) Engineer's representatives for an agreed duration.

1.6 Specified, Acceptable and Alternative Manufacturers, Equipment and Materials

.1 Naming specific manufacturer, equipment or material does not imply acceptance of their standard products nor relieve them from meeting these specifications in their entirety.

.2 Materials and equipment scheduled and/or specified in the Contract Documents have been selected to establish a performance and quality standard, and, in some instances, a dimensional standard. In most cases, acceptable manufacturers are stated for any material or equipment specified by manufacturer's name and model number. The Schedule of Prices may be based on materials and equipment supplied by any of the manufacturers named as acceptable for the particular material or equipment. If acceptable manufacturers are not stated for a particular material or equipment, base the Schedule of Prices on material or equipment supplied by the specified manufacturers.

.3 If materials or equipment supplied by a manufacturer named as acceptable are used in lieu of the manufacturer specified, be responsible for ensuring that the substituted material or equipment is equivalent in performance and operating characteristics to the specified materials or equipment, and, it is to be understood that any additional costs, and changes to associated or adjacent work resulting from provision of materials supplied by a manufacturer other than the specified manufacturer is included in the Schedule of Prices. In addition, in equipment locations where equipment named as acceptable is used in lieu of specified equipment and the dimensions of such equipment differs from the specified equipment, prepare and submit for review, accurately dimensioned layouts for the locations affected.

.4 In addition to the manufacturers specified or named as acceptable, alternative manufacturers of materials or equipment may be proposed to the Engineer for acceptance. Prior to submittal of shop drawings, provide list of products proposed, including any alternatives submitted with tender. To receive acceptance, proposed alternates are to equal or exceed the quality, finish and performance of those specified and/or shown, and not to exceed the physical space requirements allotted, as shown on the drawings. Provide to the Engineer documentary proof of equality, difference in price (if any) and delivery dates, in the form of certified quotations from suppliers of both specified items and proposed substitutions. Include costs for any required revisions to other structures and products to accommodate such substitutions.

1.7 Warranty

.1 The Contractor shall warrant the installation and equipment in strict accordance with the Contract Documents and free from all defects in materials and workmanship for a period of one (1) year minimum from the date of an acceptance of the commissioning report, unless otherwise stated in the specific sections.

.2 The Manufacturer shall warrant the equipment in strict accordance with the Contract Documents and free from all defects in materials and assemblies for a period of two (2) years minimum from the date of an acceptance of the commissioning report, unless otherwise stated in the specific sections.

.3 Indicate any no-charge extended warranty including the conditions of such warranty.

.4 The Manufacturer or manufacturer's certified technical representative, and the Contractor, as required, shall repair and/or replace any defects that appear in equipment and assemblies within the warranty period, due to the ordinary wear and tear, and expected environmental agents, without additional expense or deductibles to the Owner, such as travel time, service hours, repair parts cost, etc. Where such defects occur, be responsible for all costs incurred in making the defective equipment and assemblies good, including repair or replacement of building finishes, other materials, or damage to other equipment caused by such defects, or by subsequent replacement and repairs.

.5 After commissioning and start-up but prior to applying for final payment or release of statutory holdback, the Contractor and Manufacturer shall provide two separate, but cross-referenced, letters of warranty and guarantee, signed and issued in the name of the Owner, stating that complete assembly including all accessories is guaranteed against defects and malfunction for the specified warranty period.

1.8 Shop Drawings and Product Data

.1 Provide shop drawings and product data in accordance with the requirements of Specal Provision.

.2 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided to illustrate details of a portion of Work.

.3 Submit shop drawings as indicated in individual specification sections.

.1 Indicate materials, methods of construction and attachments or anchorages, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.2 Accompany submissions with transmittal letter, containing: date, project title and number, Manufacturer's/Contractor's name and address, identification and quantity of each shop drawing, product data and sample, and other pertinent data.

.3 Endorse each shop drawing copy to be in accordance with specification and contract documents, including your company name, the submittal date, and signature. Shop drawings that are received and are not endorsed, dated and signed will be returned for re-submittal.

.4 Submit product data and shop drawings in AutoCAD DWF and/or PDF format; the scanned PDFs shall not be accepted.

.5 Submit electronic copy in non-scanned PDF format of product data sheets where shop drawings will not be prepared due to standardized manufacture of product. Supplement standard information to provide details applicable to project and delete information not applicable to project for clarity and ease of reading.

.4 Submissions shall include details as applicable, including:

.1 Performance characteristics

.2 Standards

.3 Technical data sheet

.4 Fabrication details;

.5 Layout, elevation and plans, showing dimensions, including identified field dimensions and clearances

.6 Physical capacities and operating weight

.7 Relationship to adjacent work, where applicable

.8 Setting or erection details, where applicable

.9 Single line, winding configuration, wiring and schematic diagrams, including polarities and phase rotation

.10 Component schedules, including circuit breakers, disconnect/loadbreak switches, fuses, relays, trip-units, solenoids, switches, pushbuttons, timers, etc.

.11 Nameplate schedule

.12 Ratings including: voltage, BIL, continuous current, short-circuit / interrupting ratings, insulation class and temperature rise, etc.

.13 Specific test data, and where applicable including: no-load and full-load losses, excitation and starting current, design impedance at rated temperature rise, efficiencies at 25%, 50%, 75% and 100% load, regulation at 80% and 100% load power factor, audible sound level, etc.

.14 Dimensioned cable/busway entry and exit locations, including cable lug sizes

.15 Dimensioned cable terminations

.16 Dimensioned position and size of bus bars and extension details

.17 Connection details and composite floor plan of close-coupled assemblies

.18 Key interlock schemes diagram and sequence of operations

.19 Time-current characteristics of protective devices.

.5 Allow fifteen (15) days for Engineer's review of each submission. The Engineer will review shop drawings and will indicate his review status by stamping shop drawing copies.

.1 "Reviewed" or "Reviewed as Noted" - If the Engineer's review of a shop drawing is final, the Engineer will stamp the shop drawing "Reviewed" or

"Reviewed as Noted" (appropriately marked). After which fabrication and installation of Work may proceed.

.2 "Revise and Resubmit" - If the Engineer's review of a shop drawing is not final, the Engineer will stamp the shop drawing "Revise and Resubmit", mark the submission with comments, and return the submission. Revise the shop drawing in accordance with the Engineer's notations and resubmit.

.3 It is understood that the following is to be read in conjunction with the wording on the Engineer's shop drawing review stamp applied: "This review by the Engineer is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that the Engineer approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all subtrades".

.6 Make changes in shop drawings as the Engineer may require, consistent with Contract Documents. When resubmitting, notify the Engineer in writing of any revisions.

.7 Adjustments made on shop drawings by the Engineer are not intended to change Contract Price. If adjustments affect value of the Work, state such in writing to the Engineer prior to proceeding with the Work.

.8 If upon review by the Engineer, no errors or omissions are discovered or if only minor corrections are needed, one (1) copy in DWF, PDF format or hard copy will be returned. The Contractor is responsible for distribution of the required numbers of copies, after which fabrication and installation of the Work may proceed.

1.9 Operation and Maintenance Manuals

.1 Provide operation and maintenance manuals in accordance with the requirements of Specal Provision.

.2 Provide operation and maintenance manual in English to include equipment as indicated in individual specification sections.

.1 Provide one (1) electronic copy for review that will be returned after final inspection, with Engineer's comments.

.2 Two weeks prior to Substantial Performance of the Work, submit to the Engineer, six (6) final copies of operating and maintenance instruction manuals. Include within each binder the final electronic copy on DVD(s) or memory stick/card(s).

.3 Format:

.1 Hard covered vinyl binders, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.

.2 Text: manufacturer's original printed data, or typewritten data. Also provide all information in electronic PDF format, searchable and bookmark organized, on DVD(s) or memory stick/card(s).

.3 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages. Also provide all engineering drawings in electronic AutoCAD DWG format (Version 2000 and above) on DVD(s) or memory stick/card(s).

.4 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.

.5 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

.6 Each Volume to be arranged by system, under section numbers and sequence of table of contents.

.7 Provide tabbed fly leaf for each separate product and system section, with typed description of product and major component parts of equipment.

.8 Table of contents to include: title of project; date of submission; list of project sections covered by manual; addresses and telephone numbers of the Engineer and the Contractor with name of responsible parties. For each product or system list names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.4 Include details of design elements, construction features, component function and maintenance requirements, to permit effective start-up, operation, maintenance, repair, modification, extension and expansion of any portion or feature of installation shall form part of the binder.

.5 Include manufacturer's printed operation and maintenance instructions.

.1 Include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

.2 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions; and any special operating instructions.

.3 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

.4 Provide parts list, illustrations, assembly drawings, and diagrams required for maintenance.

.6 Include as-built single-line diagrams, power and controls wiring and schematic diagrams.

.7 Include as-built shop drawings, with revisions noted for shop drawing review, manufacturing, installation and commissioning, where applicable.

.8 Include power system analysis report.

.9 Include commissioning report.

.10 Include manufacturer's certification sing-off letter.

.11 Include all ESA inspection certificates. Include a copy of the ESA Plan Review report where applicable.

.12 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

.13 Substantial Performance may not be granted without above submittals being received and approved by the Engineer.

1.10 Definitions

.1 For this and all related contracts, specification, drawings and provisions, the following definitions will apply:

.1 Concealed – hidden from normal sight in furred spaces, shafts, ceiling spaces, walls and partitions, etc.

.2 Exposed – work normally visible, including Work in equipment rooms, tunnels, and similar accessible spaces.

.3 Provide – supply, install and connect complete.

.4 Retrofit or replace – remove existing, and provide new complete.

.5 Install – install and connect complete.

.6 Furnish or supply – supply only.

.7 Work – the execution of all items in this contract.

.8 Days – a required number of working days.

.9 Complete – installed and running to the satisfaction of the Engineer.

.10 Restoration – repair and renewal to good condition to the satisfaction of the Engineer.

.11 Labour – persons with appropriate certified skills to complete the work.

.12 Materials – all things required the complete the work.

.13 Commissioning – work by specialist sub-contractors to test, verify and certify the proper condition, wiring connections and operation of the subject equipment.

.14 Remove – consult and coordinate with the Owner, make the subject equipment safe, disconnect and remove all subject electrical and support materials, cables and wiring, back to the source of electrical supply, and dispose offsite in a safe and approved manner, all according to Engineer's instructions and applicable Regulations.

.15 Replace – remove and provide.

.16 Decommissioning – take out of service in coordination with the Engineer and the Owner.

.17 Returned – supply the subject equipment in the possession of the contractor to the designated party.

.18 Verification – inspect, measure and test using approved specialist sub-contractors as may by requested by the Engineer.

.19 Start-up – that process after commissioning to coordinate with the Engineer and Owner, to turn on and leave running the subject equipment.

2.0 Products

2.1 Materials and Equipment

.1 Provide all materials and equipment including incidentals necessary for a complete and working system to the satisfaction of the Engineer.

.2 Equipment, materials, components and assemblies to be CSA/cUL approved/certified. Where there is no alternative to supplying assemblies with CSA/cUL approved/certified, obtain special field approval from CSA/cUL or ESA Special Inspection.

.3 Unless otherwise specified, all materials and apparatus for permanent installations are to be new. All expressly permitted used material and equipment shall be tested and certified prior to use.

.4 Assemble in factory all control panels and component assemblies.

2.2 Enclosure

.1 Provide enclosures in accordance with CSA C22.2 No. 94.1/UL 50 and CSA C22.2 No. 94.2/UL 50E.

.2 Each enclosure shall be properly sized to dissipate the heat generated by the equipment within the limits of the specified environmental operating conditions.

.3 The steel structure shall be welded steel frame, formed steel doors and side sheets, flat steel top and rear covers, and provision for lifting.

.4 The enclosures of the assemblies and subassemblies metal surfaces shall be given a phosphatizing pre-treatment after machining and prior to assembly.

.5 The paint coating shall be a polyester urethane, thermosetting powder minimum of 2-mil thickness, applied by electrostatic means, and unless specified otherwise, exterior shall be painted to the standard manufacturer's colour; enclosures interior shall be painted white.

.6 Unless specified otherwise, enclosure shall have full height hinged door(s) with key-lockable handle.

.7 The equipment shall be pre-wired and factory assembled.

.1 Unless required otherwise, all components shall be dead front with the door open.

.2 Components requiring system level voltage shall not be mounted on the door.

.8 Enclosure shall be provided with adequate removable lifting means and shall be capable of being rolled or lifted into installation position and bolted to the floor and/or wall.

.9 Outdoor enclosures shall have thermostatically controlled heaters in each section.

2.3 Equipment Identification

.1 Provide equipment manufacturer nameplates in accordance with CSA requirements.

.2 Provide equipment warning labels in accordance with CSA C22.1 requirements.

.3 Provide manufacturer's identification nameplates for the control identification tags (e.g. HAND, START, RUN etc.). Unless otherwise specified, lamacoid to be white text on black background.

.4 Provide manufacturer's identification and custom enclosure identification nameplates, lamacoid with black text on white background. Include distribution centres (one per each vertical section), distribution centre components (e.g. breaker, starter, etc.), control power panels, control panels, control stations, disconnects, etc. Alternatively when approved by the Engineer, provide thermal transfer laser printed labels for smaller equipment such as control stations and disconnects. Minimum sizes as follow:

.1 Distribution centre, single-line: 75mm x 175mm, text 50mm (single-line).

.2 Control/power panel: 50mm x 125mm, text 25mm (single-line) or 15mm (multi-line).

.3 Individual starter, breaker, control station, etc: 25mm x 63mm, text 3mm (multi-line).

.5 Wording on nameplates and labels to be approved by Engineer prior to manufacture. Include equipment tag, supply voltage, power source and signal destination.

.6 Identification to be in English.

3.0 Execution

3.1 Planning and Coordination of Services or Installations

.1 The Contractor shall visit the site before submitting his tender and shall by personal examination satisfy himself as to the local conditions that may be encountered during construction of the Work. The Contractor shall make his own estimate of the facilities and difficulties that may be encountered and the nature of the subsurface condition, building construction, finishes and work associated with the electrical work in order that the tender price includes for everything necessary for completion of the electrical work.

.2 The drawings are performance drawings, diagrammatic, and show approximate locations for equipment and materials. The drawings are intended to convey the scope of work and do not show architectural and structural details. The locations of materials and equipment may be altered to meet requirements of the material and/or equipment.

.3 The Contractor is to plan exact locations and routing of the services and these are to be properly co-ordinated, optimized, and established with all affected Owner processes and other trades prior to installation such that the services will clear each other as well as any obstructions. Generally, give the right of way to civil, structural, process, mechanical and architectural works, locate and arrange electrical, control and instrumentation services to suit.

.4 The drawings, specifications and schedules are intended to be co-operative. Perform all work that is shown, specified or reasonably implied on the drawings but not mentioned in the other documents, and vice versa, as though fully covered by each.

.5 The Contractor shall examine the drawings and specifications of all divisions and become fully familiar with the work. Before commencing work, obtain a ruling from the Engineer on any conflicting issues between divisions. No compensation will be made for any costs arising from conflict not identified before work has commenced.

.6 The Contractor shall prepare detailed installation and interference drawings, together with instructions, supplementary to the Contract Drawings, for all areas where a multiplicity of services and/or equipment occurs, or where the work, due to architectural, physical, structural or other considerations, is complex or involves special study or treatment. Provide detailed drawings to the Engineer in shop drawing form for review before the affected work is installed. Work that has been installed without proper co-ordination, study, and review, even if in accordance with the Contract Documents, shall be carried out without additional cost. In addition, make any alterations necessary in other work required by such alterations, without additional cost.

.7 The Contractor is to be responsible for the care of all existing equipment and services and shall repair or replace any damage whatsoever caused by the installation or workers of the work under this contract at the contractor's cost. All repairs and or replacements are to be approved by the Eengineer and accepted by the City prior to installation.

.8 Where new work connects with existing work and where existing work is altered, cut, patch and make good to match existing work.

3.2 Conductor Disconnection or Removal

.1 The Contractor shall ensure that all conductors, wires or cable that the Contractor disconnects, or has disconnected on their behalf by others, shall be uniquely identified on both sides of the disconnection and the other end of the conductor, wire and cable.

.2 Fully remove all cables and surface wireways identified for the removal, unless otherwise noted on the drawings or directed by the Engineer.

.3 All abended metal wireways, concealed or identified to remain, shall be bonded to ground using approved bonding material and methods. All wireways shall be capped using individual or grouped covers. The covers to be bonded to ground as required.

.4 Phase rotations on power cables, polarities on direct current systems shall also be identified. No additional monies shall be payable for additional costs incurred on reconnection or otherwise for failure to adequately identifying conductors, wires or cables.

3.3 Finishes

.1 Clean and touch up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original factory finish.

.2 Clean, prime and paint exposed non-galvanized hangers, racks and fastenings to prevent rusting.

3.4 Manufacturer's Quality Control & Factory Testing

.1 Manufacturer to provide proof of quality control program in accordance with CAN/CSA-Q9000-2.

.2 All assemblies and sub-assemblies shall be inspected and/or tested for conformance to the manufacturer's engineering and quality assurance specifications. The specifications shall be available to the Engineer upon request.

.1 Where manufacturer's specifications are not available, provide manufacturer's quality control and testing in accordance with applicable paragraphs of the Section 260800 Commissioning of Electrical Systems.

.3 Functional checks of all components shall be performed wherever possible. Otherwise, inspection and continuity checks shall be performed as required. Component devices shall be functionally operated in circuits as shown on electrical diagrams or as called for by specific test instructions. Instruments, meters, protective devices and associated controls shall be functionally tested by applying the specified control signals, current and/or voltages. Control and power wiring and bus work shall be point-to-point verified and continuity checked.

.4 The assembly and power components shall have been tested in a high-power laboratory to prove adequate mechanical and electrical capabilities.

.5 All factory tests required by the latest CSA, UL/CUL, NEMA/EEMAC, ANSI and or IEEE standards shall be performed for complete assembly, including operation of all power and control components.

.6 A certified test report of all standard production tests shall be available to the Engineer upon request.

.7 Factory tests as outlined above and as specified in the subsequent sections shall be witnessed by the Owner's representative.

.1 The Manufacturer shall notify the Engineer two (2) weeks prior to the date the tests are to be performed.

.2 The Manufacturer shall include the cost of transportation, meals and lodging as required.

3.5 Equipment Installation – General Requirements

.1 Fully inspect shipments for damage and report damage to the Manufacturer and file claim upon shipper, if necessary.

.2 Verify CSA assembly and components nameplates.

.3 Verify minimum equipment clearances.

.4 Follow Manufacturer's installation instructions.

.5 Rig equipment and assemblies into final location, and install and secure on level surface, channel bases, rigid, plumb and square to building floors and walls.

.6 Ensure moving and working parts are lubricated where required.

.7 Check all removable subassemblies and equipment for easy removal and re-insertion.

.8 Torque all bolted connections made in the field to manufacturers recommended values using a calibrated tool.

.9 Remove wedges, clamps from breakers, contactors and relays.

.10 Provide all power and control wiring, and install and support properly.

.11 Interface all local and remote devices into the control wiring and operational systems for each load, including field power and control connections as indicated. Control and power wiring shall be as shown on the Drawings and specifications except as modified by the approval and submittal process.

.12 After installation, render entire enclosures rodent and insect proof by means of steel plates, grouting, screens, etc.

3.6 Field Quality Control, Start-up & Commissioning

.1 Provide field quality control, start-up and commissioning of the electrical, control and instrumentation systems in accordance with Section 260800 Commissioning of Electrical Systems.

.2 Provide commissioning, verification and operational testing of the lighting, and emergency lighting system, and their associated controls as detailed in the individual specification sections.

.3 Provide commissioning, verification and operational testing of the fire alarm and communication systems as detailed in the individual specification sections.

.4 Provide commissioning, verification and operational testing of the motors, heaters and other electrical equipment operation, including associated control equipment sequenced operation of systems where applicable.

3.7 Manufacturer's Certification

.1 The Manufacturer's Representative shall provide technical direction and assistance to the Contractor in the general assembly of the equipment, connections and adjustments, and testing of the assembly and components contained therein.

.2 A qualified factory-trained Manufacturer's Representative shall certify in writing that the equipment has been installed, adjusted and tested in accordance with the manufacturer's recommendations.

.3 Submit manufacturer's certification letter for the review by the Engineer prior to applying for the substantial performance.

End of Section

260511 Cables and Wiring

1.0 General

1.1 Scope of Work

.1 This section includes specifications for products, specific criteria and characteristics, methods and execution for electrical cables and wiring.

.2 For common criteria see Section 260500 Common Work Results for Electrical.

.3 The Contractor shall provide all required cables and wiring as indicated on the drawings and schedules; including all necessary cables, not specifically indicated, for complete and working system.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

CSA C22.2 No.38 / UL 44	Thermoset-insulated wires and cables
CSA C22.2 NO. 75 / UL 83	Thermoplastic insulated wires and cables
CSA C22.2 No.131	Type TECK 90 Cable
CSA C22.2 No. 239	Control and Instrumentation Cables
CSA C22.2 No. 65-13	Wire Connectors
CSA C22.2 No. 0.3	Test methods for electrical wires and cables

1.3 Equipment and Materials

.1 All conductors to be stranded, sizes and material as indicated; minimum #12AWG for low voltage power cables, #14AWG control cables, #18AWG instrumentation cables.

1.4 Equipment Manufacturer Qualification

.1 The Manufacturer shall satisfy the requirements in accordance with Section 260500 Common Work Results for Electrical.

1.5 Product Data, Shop Drawings, Operating and Maintenance Instruction Manuals

.1 Provide product data, shop drawings, operating and maintenance instruction manuals, and record drawings in accordance with Section 260500 Common Work Results for Electrical.

.2 Include product data sheet for each type of cable, cable termination, fittings and accessories.

2.0 Products

2.1 Low Voltage Power and Control Cables

.1 Armoured Power Cables TECK90 to CSA C22.2 No. 131, including CSA C22.2 No. 174; copper (Cu) or aluminum (Al) single-conductor (1/C), three-conductors (3/C), four-conductors (4/C) or multi-conductor; with semi-conducting conductor shield; 1000V TRXLPE RW90 rated conductor insulation (600V for smaller size and control cables); bare copper bonding wire; PVC inner jacket; aluminum interlocking armour; PVC outer jacket; suitable for installation in hazardous locations (HL) where required.

.2 Thermoset Insulated Wires and Cables to CSA C22.2 No. 38 / UL 44; copper (Cu) or aluminum (Al) single-conductor (1/C); RW90 1000V rated (600V for smaller cables), or RWU90 1000V rated (below ground), XLPE conductor insulation.

2.2 Control Cables

.1 ACIC (Armoured Canadian Instrumentation Cable) to CSA C22.2 No. 239, including CSA C22.2 No. 174; multiple stranded tinned copper conductors, #14AWG and larger; 300V rated (600V where required) XLPE RW90 conductor insulation; bare copper bonding wire; PVC inner jacket; aluminum interlocking armour; outer PVC jacket; suitable for installation in hazardous locations (HL) where required.

.2 CIC (Canadian Instrumentation Cable) to CSA C22.2 No. 239 with multiple stranded tinned copper conductors; #14AWG and larger; 300V rated (600V where required), XLPE RW90 conductor insulation; PVC outer jacket.

.3 Switchboard Cable to CSA C22.2 No. 38 / UL 44; multiple stranded tinned-copper (Cu) single-conductor (1/C); SIS 90°C 600V rated, XLPE conductor insulation.

.4 Thermoplastic Equipment Wire to CSA C22.2 No. 127; multiple stranded tinned-copper (Cu) single-conductor (1/C); TEW 105°C 600V rated, PVC conductor insulation.

2.3 Instrumentation Cables

.1 ACIC (Armoured Canadian Instrumentation Cable) to CSA C22.2 No.239, including CSA C22.2 No. 174; multiple stranded tinned-copper conductor (Cu) pairs (_/P) / triads (_/T), #16AWG and smaller; with 300V (600V where required) 105°C (dry) / 75°C (wet) rated PVC conductor insulation; shielding of aluminum foil-polyester tape for 100% coverage over each pair/triad and over all conductors; bare copper bonding wire; PVC inner jacket; interlocking aluminum armour; PVC outer jacket; suitable for installation in hazardous locations (HL) where required.

.2 CIC (Canadian Instrumentation Cable) to CSA C22.2 No.239; multiple stranded tinned copper conductor (Cu) pairs (_/P) / triads (_/T), #16AWG and smaller; with 300V (600V where required) 105°C (dry) / 75°C (wet) rated PVC conductor insulation; shielding of aluminum foil-polyester tape for 100% coverage over each pair/triad and over all conductors; PVC outer jacket.

2.4 Low Voltage Cable Terminations and Fitting

.1 Cable termination and fittings to CSA C22.2 No.18.3, including CSA C22.2 No. 174.

.2 Aluminum or stainless steel watertight fittings c/w o-ring, CSA listed and approved for TECK or ACIC cables, explosion-proof as required for hazardous areas, and with grounding bushing for end not terminating at approved bonding materials.

.3 Watertight, oil-tight, bushing stress-relief fittings for non-armoured cables, service entrance as required.

.4 Cold shrink sleeve termination for instrumentation and control cable insulation jacket.

2.5 Conductor and Wire Connectors

.1 Conductor and wire connectors to CSA C22.2 No.65.

.2 Fixture type splicing connectors for low voltage power conductors #10AWG and smaller; insulated butt-splices, insulated set-screw connector, or tapped splice cap & crimp connector; tin-plated suitable for copper and/or aluminum conductors; and for voltage applied. Wire nut connectors are not acceptable.

.3 Compression type wire connectors for larger size low voltage and all medium voltage power conductors not terminating at equipment lugs/terminals or mechanical lugs, tin-plated suitable for copper and/or aluminum conductors, and for voltage applied; size as required; 90°C rated; with standard NEMA bolt hole spacing, 2-hole for larger size conductors and distribution centre/transformer feeders.

.4 Pressure type wire connectors and terminals for control and instrumentation conductors not terminating at the approved terminal block, or where specified; insulated 300V rated, 600V where required, size as required; fork or ring type to suit application; tin-plated suitable for copper conductors.

3.0 Execution

3.1 Cables in Underground Ducts

.1 Install cables in ducts without splices. Install multiple cables in duct simultaneously.

.2 Copiously lubricate duct immediately prior to pulling in the cables. Lubrication from prior attempts to install cable shall be removed. Use CSA approved lubricants of type compatible with cable jacket.

.3 Before pulling cable into ducts and until cables are properly terminated, seal ends of cables with moisture-resistant seal tape.

.4 After installation of cables, seal duct ends with duct sealing compound.

.5 Leave pulling rope in all ducts.

.6 For cables without internal bonding conductor, provide an insulated bonding conductor in each duct; sized to CSA C22.1 unless otherwise indicated.

3.2 Cables in Conduits

.1 Install cables in conduits without splices. Install multiple cables in conduit simultaneously.

.2 Where required, lubricate duct immediately prior to pulling in the cables. Lubrication from prior attempts to install cable shall be removed. Use CSA approved lubricants of type compatible with cable jacket.

.3 Leave pulling rope in all conduits.

.4 For cables without internal bonding conductor, provide an insulated bonding conductor in each conduit; sized to CSA C22.1 unless otherwise indicated.

3.3 Cable and Conductor Termination

.1 Remove insulation and armour/sheath carefully from both ends of conductors.

.2 Terminate armoured cables with approved cable fittings to manufacturer specification. Bond and ground as required.

.3 Terminate service entrance cables and thermoset insulated cables with approved bushing stress-relief fittings to manufacturer specification.

.4 Terminate instrumentation and control cable insulation jacket with cold shrink sleeve. Bond and ground drain wire/shield as required.

.5 Terminate medium voltage cables with insulation shields using stress cones and terminations in accordance with manufacturer's instructions. Bond and ground as required.

.6 Apply coat of zinc joint compound on all conductors prior to installation of connectors. Terminate all conductors connecting to equipment without lugs or terminal blocks with specified cable connectors.

.7 Connect and tighten conductors. Connect to ground and tighten cable shields and bonding conductors as required and/or indicated on the drawings.

3.4 Cable and Conductor Identification

.1 Provide conductor colour coding and identification to CSA C22.1.

.2 Unless specified otherwise, provide thermal transfer laser printed labels for individual conductor and cable identification, sufficiently large to clearly identify conductor and cable. Unless otherwise specified, labels to be multi-line repetitive black text on white background, with clear protective end, containing conductor/cable tag as identified on the drawings and schedules.

.1 Place cables labels outside of the entry to all enclosures, were penetrating through separations (both sides), and where entering or leaving raceways.

.2 Place conductors labels within the equipment at all terminal and junction points.

.3 Maintain phase sequence and colour coding throughout. Unless power conductor insulation is colour coded to CSA C22.1, provide color coded phasing tape at each termination as follows:

.1 1-phase / 2-wire DC or AC system: red (positive) / black or yellow (negative), or black or yellow (line) / white (neutral);

.2 1-phase / 3-wire DC or AC system: red (positive line - hot) / black or yellow (negative line - hot) / white (positive neutral - return) / white or grey (negative neutral - return), or black (line 1) / red (line 2) / white (neutral); and

.3 3-phase / 3 or 4-wire AC system: red (phase A) / black or yellow (phase B) / blue (phase C) / white (neutral).

3.5 Field Quality Control, Start-up and Commissioning

.1 Perform field quality control, start-up and commissioning in accordance with Section 260800 Commissioning of Electrical Systems.

.1 Remove and replace entire length of cable if cable fails to meet any of test criteria.

.2 Damage to the outer jacket shall be repaired by heat-shrink tubing with factory-applied adhesive, to form a gas impenetrable seal. If the cable cannot be sealed, it shall be replaced in its entirety. Heat-shrink colour shall match cable jacket colour.

End of Section

260533 Raceways and Boxes

1.0 General

1.1 Scope of Work

.1 This section includes specifications for products, specific criteria and characteristics, methods and execution for electrical raceways and boxes.

.2 For common criteria see Section 260500 Common Work Results for Electrical.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

CSA C22.2 No.18.2	Nonmetallic Outlet Boxes
CSA C22.2 No.18.3	Conduit, Tubing, and Cable Fittings
CSA C22.2 No.18.4	Hardware for the Support of Conduit, Tubing, and Cable
CSA C22.2 No.18.5	Positioning Devices
CSA C22.2 No.40	Cutout, Junction and Pull Boxes
CSA C22.2 No.85	Rigid PVC Boxes and Fittings
CSA C22.2 No.158	Terminal Blocks
CSA C22.2 No.211.2	Rigid PVC (Unplasticized) Conduit
CSA C22.3 No.7	Underground Systems

1.3 Equipment Manufacturer Qualification

.1 The Manufacturer shall satisfy the requirements in accordance with Section 260500 Common Work Results for Electrical.

1.4 Product Data, Shop Drawings, Operating and Maintenance Instruction Manuals

.1 Provide product data, shop drawings, operating and maintenance instruction manuals, and record drawings in accordance with Section 260500 Common Work Results for Electrical.

.1 Provide product data sheets for each type of raceway and boxes used.

2.0 Products

2.1 Non-metallic Conduits and Tubing

.1 Rigid PVC conduit (PVC) to CSA C22.2 No. 211.2, suitable for concrete encasement, direct buried and above ground installation, including solvent weld joints and factory made expansion joints, elbows, bends, and couplings.

.2 Factory made bell-end fittings, connectors, terminations and elbows for rigid PVC conduits to CSA C22.2 No.85; weatherproof expansion fittings for linear expansion at entry to panels; weatherproof expansion fittings suitable for minimum 100mm linear expansion and 19mm deflection in all directions.

2.2 Outlet and Conduit Boxes

.1 Outlet boxes, conduit boxes and fittings, non-metallic to CSA C22.2 No. 18.2, of the style and construction to match wireways used; sized to CSA C22.1, larger sizes for special devices; with blank cover plates for boxes without wiring devices; gang boxes where wiring devices are grouped, and with barriers where outlets for more than one system/voltage are grouped.

.2 Stamped galvanized steel outlet boxes with concealed wiring, only when approved by the Engineer.

.3 Cast zinc-electroplated malleable iron or cast aluminum metallic outlet boxes with rigid metallic conduit, except EMT, for surface mounted indoors/outdoors, flush-mounted in masonry walls, and hazardous areas connected with explosion-proof wiring.

.4 PVC plastic outlet boxes with rigid non-metallic conduit, for surface mounted indoors/outdoors, and flush-mounted in masonry walls.

.5 Conduit boxes where there is adequate space for cable radii, otherwise adequately sized pull boxes.

2.3 Junction Boxes, Pull Boxes, and Terminal Boxes

.1 Junction boxes (JB/JBX), pull boxes (PB/PBX), and terminal boxes (TB/TBX) to CSA C22.2 No. 40; indoor/outdoor water-tight CSA 4 type enclosure, with material construction to match wireway construction used, unless otherwise noted on the drawings, with screw-on flat cover, surface-mount or flush-mount with 25mm minimum cover extension all around, to suit installation.

.2 Terminal blocks to CSA C22.2 No. 158, as required and/or indicated on the drawings.

3.0 Execution

3.1 Underground Conduits

.1 Install direct buried or concrete encased conduits in trenches to depth as indicated on the drawings.

.2 Use mitre box to field cut conduit where required to ensure a square cut. Where required, chamfer inside of all conduit ends, 2.5 mm at 15°, remove burrs and break outside edge.

.3 Stagger joints in adjacent layers at least 150mm. Ensure full insertion of conduit at joints. Apply approved PVC solvent cement and permit it to set to manufacturer recommendations. Solvent cementing shall not be attempted in the rain.

.4 Complete entire conduit lengths where possible prior to backfilling or concrete encasement.

.5 Clean and proof conduits before setting in place.

.1 Immediately after placing of concrete and before it is set, or before backfilling direct buried conduits, pull through each conduit a stiff bristle brush to remove sand, earth and other foreign matter.

.2 Pull through a wooden round-end cylindrical mandrel, not less than 300mm long and 6mm less in diameter than internal diameter of duct.

.3 Prove that each conduit has not collapsed or that any joint has come apart.

.4 If failure is evidenced by the presence of concrete or water in any conduit or the inability to pull mandrill through, immediately remove the concrete or backfill and replace failed conduit sections fully.

.6 Cap ends of conduits during construction and after installation to prevent entrance of foreign materials.

.7 Excavate minimum 50mm below required trench depth. Place and firmly compact bedding of native or imported screened material, with granules not exceeding 9.5mm, up to required trench depth.

.8 After each **direct buried conduit** tier is installed, place and firmly compact initial backfill of native or imported screened material, with granules not exceeding 9.5mm, minimum 50mm above top conduit tier. Where indicated on the drawings, supply thermally controlled lime-stone screened sand material, or equivalent, with thermal resistivity in °C-m/W as specified.

3.2 Junction Boxes, Pull Boxes and Terminal Boxes

.1 Install pull boxes, junction boxes and terminal boxes in conduit systems wherever shown on the drawings, and/or wherever necessary to facilitate conductor installations. Install boxes in inconspicuous but accessible locations.

.2 Generally, only main junction and pull boxes are indicated on the drawings and/or schedules; provide pull boxes at a convenient and suitable intermediate and accessible locations for conduit runs exceeding 30m in length, or with more than three 90° bends.

.3 Accurately locate and identify all concealed and visible pull boxes and junction boxes on record drawings.

.4 Provide bonding for terminal boxes as required.

End of Section

260800 Commissioning of Electrical Systems

1.0 General

1.1 Scope of Work

.1 This section includes specifications for common criteria and characteristics, methods and execution for the commissioning services that include inspection, testing and startup of electrical works specified under the Electrical Division.

.2 The Contractor to arrange, coordinate, and pay for the field quality control, start-up and commissioning.

.1 Provide all material, equipment, labour, and technical supervision to perform inspection, test, commissioning and startup for the period as required to complete the installation.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

ANSI/NETA ATS	Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems

1.3 Quality Assurance

.1 Provide qualified trades persons, certified testing agencies, factory trained manufacturer's representative, and/or third-party independent engineering service company for commissioning services.

.1 Submit the names of all representatives including personnel to be used during the Commissioning activities for Engineer's Approval.

.2 Notwithstanding, electrical assemblies and equipment such as switchgear, switchboard, MCCs, transformers, generator, VFDs, etc., shall be commissioned by a certified testing agencies, qualified factory-trained manufacturer's representative, or qualified third-party independent engineering service company.

1.4 Commissioning – General Requirements

.1 The purpose of the commissioning process is to fully test all systems including architectural, mechanical and electrical components and operating procedures by challenging these systems to realistic operation conditions.

.2 The Contractor shall arrange and coordinate for all outside suppliers, equipment manufacturers, test agencies and others as identified in the commissioning sections of this specification. The cost associated with this requirement shall be included as part of the tender price.

.3 The Commissioning activities for the electrical systems must have available up to date as-built drawing information and accurate Operations and Maintenance Manuals.

.4 Confirm all scheduled activities have identified personnel available.

.5 Verify all systems are in compliance with the contract design and operational requirements.

.6 Perform commissioning and startup in accordance with manufacturer's published procedures.

.7 Where systems or equipment do not operate as required, make the necessary corrections or modifications, retest and recommission.

.8 All the tests to be carried out in the presence of the Engineer.

.1 Notify the Engineer two (2) weeks prior to the date the tests are to be performed.

.2 Proceed with tests without witnessing only with prior written notification from the Engineer.

1.5 Submittals

.1 Prepare commissioning activity procedures and schedule document prior to conducting commissioning activities for review and approval by the Engineer.

.1 The Contractor shall be responsible for ensuring all activities are properly documented and coordinated.

.2 As-built construction and shop drawings and data sheets must be available two (2) weeks prior to commissioning for review and use by the Engineer and Commissioning Team prior to the start of the commissioning activities.

.3 The Contractor shall be responsible to update all documentation with information and any changes duly noted during the Commissioning.

.4 Generate and provide to the Engineer field commissioning report.

.1 Scan hand-written or generate draft copy of the field report immediately after the tests are performed.

.2 Not later than one (1) week after start-up and commissioning is complete, provide one final (1) copy in original electronic PDF format of individual subsystem commissioning reports.

.3 Not later than two (2) weeks after last commissioning activity is complete, provide one final (1) copy in original electronic PDF format of compile, tabulated and indexed overall system commissioning report.

.4 This is in addition to the requirements of the Installation and Maintenance Manuals.

2.0 Products

.1 Provide calibrated and verified instruments, meters, and test equipment required to conduct tests. Where indicated, provide specific test equipment.

3.0 Execution

3.1 Low Voltage Power and Control Cables

.1 Related Sections

Section 260511 Cables and Wiring

.2 Visual and Mechanical Inspection

.1 Compare cable data with drawings and specifications, and report discrepancies.

.2 Inspect cables for physical damage and proper connection in accordance with single-line diagrams.

.3 Inspect compression-applied connectors for correct cable match and indentation.

.4 Test cable mechanical connections by verifying tightness using calibrated torque wrench in accordance with published manufacturer's data.

.5 Check cable color coding with specifications and applicable codes.

.6 Verify cables are tagged per drawings and specifications.

.3 Electrical Tests

.1 Perform **cable insulation resistance** test on each conductor with respect to ground and adjacent conductors for one (1) minute.

.1 Test voltages and minimum insulation resistance shall be in accordance with manufacturer's recommendations corrected to nominal temperature; in absence of manufacturer's data use Table 260800.1.

.2 Values less than specified should be investigated.

.3 Also evaluate results by comparison with cables of same length and type.

3.2 Low Voltage Starters, Contractors and Variable Frequency Drives

.1 Related Sections

Section 262923 Low Voltage Variable Frequency Drives

.2 Visual and Mechanical Inspection

.1 Compare nameplate data with drawings and specifications, and report discrepancies.

.2 Inspect for physical and mechanical condition and check for proper mounting, anchorage, and grounding.

.3 Inspect electrical connections for high resistance by verifying tightness using calibrated torque wrench in accordance with published manufacturer's data.

.4 Operate motor circuit protector or switch to ensure smooth operation.

.5 Perform manual push-to-trip test of motor circuit protector.

.3 Electrical Tests

.1 Perform **contact resistance test** of each **protective device** (motor circuit protector or switch) and **starter** using low-resistance ohmmeter.

.1 Compare contact resistance values to adjacent poles and similar breakers. Investigate deviations of more than 50%. Investigate any value exceeding manufacturer's recommendations.

.2 Before proceeding with insulation resistance tests, control transformer to be isolated, and all other protective devices in the assembly to be opened.

.1 Perform **starter insulation resistance** test from pole to pole and from each pole to ground with starter contacts closed and protective device open, and across open contacts of each phase.

.2 Perform **protective device insulation resistance** test from pole to pole and from each pole to ground with protective device closed and starter open, and across open contacts of each phase.

.3 Test voltages and minimum resistances shall be in accordance with Table 260800.1.

.4 Values less than indicated or manufacture's recommendations should be investigated.

.4 Setup and Programming

.1 Compare motor circuit protector range and setting with motor full-load current rating and motor starting current. Adjust as necessary to ensure settings are above motor starting current, maximum 1300% of full load current; account for manufacturer specified trip tolerances.

.2 Program and setup overload relays, RVSSs and VFDs to suit each motor nameplate and operational parameters.

.1 Compare motor protective overload function range and setting with motor full load current rating to verify proper sizing. Adjust as necessary for motor service factor, and if power factor correction capacitors are connected on load side of overload relay.

.2 Adjust additional current and voltage based protective and alarm functions as required.

.3 For VFDs, apply minimum and maximum speed setpoints.

.4 For RVSSs and VFDs, apply starting / acceleration and stopping / decelerations setpoints.

.5 Verify setpoints are within limitations of the load coupled to the motor.

.6 Program local and remote control sources, and speed references for VFDs.

.3 For communicating I/O modules, overload relays, RVSSs and VFDs, program communicating modules with MAC IDs / address, baud rate / speed, and required input/output data assemblies.

.4 Energize control circuit by applying secondary control test voltage, or if applicable, by applying power.

.5 Perform point-to-point verification of all control wiring.

.5 Startup

.1 Perform startup of starters, RVSSs and VFDs in accordance with manufacturer's published data.

.2 Operational tests shall conform to system design requirements.

.3 Verify operation by initiating control devices to affect proper starting, stopping, direction or speed change, and speed variation for VFDs, where applicable.

.1 Local and field manual control devices and/or OITs;

.2 Hardwired remote automatic control devices; and

.3 Hardwired and/or communicating remote manual and automatic PLC and SCADA control.

.4 Verify proper actuation of local and remote hardwired indication devices.

.5 Verify proper actuation of discrete and analog data, indication, statuses and alarms at PLC and SCADA.

.6 Energize load.

.1 Record frequency, voltage, power, and current, including corresponding process variable where applicable (e.g. flow, level, pressure, etc.).

.1 For VFDs motors, vary speed between minimum and maximum speed setpoints in 5% increments and record parameters at every step.

.2 Observe motor and load for unusual vibration and noise.

4.0 Tables

Table 260800.1 Insulation Resistance Test Voltages

Voltage Rating/Class	Test Voltage	$IR_{1\ min}$
250V, 300V	500Vdc	50MΩ
480V, 600V, 1,000V	1kVdc	100MΩ
2.5kV	2.5kVdc	500MΩ
5kV	2.5kVdc	1TΩ
15kV	2.5kVdc	5TΩ
28kV	5kVdc	20TΩ
34.5kV and above	15kVdc	100TΩ

Table 260800.2 Dielectric Withstand Test Voltages

Rated Voltage	Max AC Test Voltage	Max DC Test Voltage
4.76kV	14.3kVac	20.3kVac
15kV	27kVdc	37.5kVac
27kV	45kVdc	
38kV	60kVdc	

Table 260800.3 Transformer Insulation Resistance Test Voltages			
Voltage Rating	**Test Voltage**	**$IR_{1\ min}$ Liquid-Filled**	**$IR_{1\ min}$ Dry-Type**
0 - 600V	1kVdc	100MΩ	500MΩ
601V – 5kV	2.5kVdc	1TΩ	5TΩ
Above 5kV	5kVdc	5TΩ	25TΩ

Table 260800.4 Rotating Machines Insulation Resistance Test Voltages	
Voltage Rating	**Minimum Test Voltage**
<1kV	500Vdc
1-2.5kV	1kVdc
2.5 – 5kV	2.5kVdc
5-12kV	5kVdc
Above 12kV	10kVdc

Table 260800.5 Rotating Machines Minimum Insulation Resistance (IR)	
$IR_{1\ min}$ = kV + 1	For most windings made before about 1970, all field windings, and others not described below
$IR_{1\ min}$ = 100MΩ	For most dc armature and ac windings built after about 1970 (formwound coils)
$IR_{1\ min}$ = 5MΩ	For most machines with random-wound stator coils and formwound coils rated below 1 kV

Table 260800.6 Rotating Machines Minimum Polarization Index (PI)	
PI_{min} = 1.5	Thermal Class A
PI_{min} = 2	Thermal Class B, F and H

End of Section

260900 Instrumentation and Control

1.0 General

1.1 Scope of Work

.1 This section includes specifications for common criteria and characteristics, methods and execution that are common to the following sections, it is intended as a supplement to each section, and is to be read accordingly:

260901 Process and Building Instrumentation

.2 For common criteria see Section 260500 Common Work Results for Electrical.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

1.3 Contractor Qualifications

.1 The Controls and Instrumentation Subcontractor shall satisfy the general requirements in accordance with Section 260500 Common Work Results for Electrical.

.1 The Subcontractor shall be approved by the Engineer prior to project commencement.

.2 The Subcontractor shall have experience in the installation of the process instrumentation, field communication networks and programmable logic controllers, with demonstrated experience on similar applications (e.g. water and wastewater treatment plants).

.3 The Subcontractor shall provide qualified personnel to install equipment, assist in commissioning and testing of systems to the satisfaction of the Engineer.

1.4 Product Data, Shop Drawings, Operating and Maintenance Instruction Manuals

.1 Provide product data, shop drawings, operating and maintenance instruction manuals, and record drawings in accordance with Section 260500 Common Work Results for Electrical.

1.5 Spare Parts and Maintenance Material

.1 Provide spare parts and maintenance materials in accordance with Section 260500 Common Work Results for Electrical.

1.6 Warranty

.1 Provide warranty in accordance with Section 260500 Common Work Results for Electrical.

2.0 Products

2.1 Pre-packaged Standalone Control

.1 Where pre-packaged, stand-alone control systems are supplied under other divisions of this specification, provide wiring to connect to the required remote monitoring and/or control functions. Provide end-to-end commissioning of all required remote monitoring and/or control functions. Ensure the correct functionality of any equipment supplied under other divisions of this specification.

2.2 Equipment and Wiring Identification

.1 Provide equipment and wiring identification in accordance Section 260500 Common Work Results for Electrical and Section 260511 Cables and Wiring.

2.3 Enclosures

.1 Enclosure shall be in accordance with Section 260500 Common Work Results for Electrical.

3.0 Execution

3.1 Planning and Coordination of Services or Installations

.1 Plan and coordinate services and installation in accordance with Section 260500 Common Work Results for Electrical.

3.2 Manufacturer's Quality Control & Factory Testing

.1 Provide manufacturer's quality control program and factory testing in accordance with Section 260500 Common Work Results for Electrical.

3.3 Installation, Field Quality Control, Start-up & Commissioning

.1 Install the equipment and provide field quality control, start-up and commissioning in accordance with Section 260500 Common Work Results for Electrical.

3.4 Manufacturer's Certification and Training

.1 Provide manufacturer's certification and training in accordance with Section 260500 Common Work Results for Electrical.

End of Section

260901 Process and Building Instrumentation

1.0 General

1.1 Scope

.1 This section includes specifications for products, specific criteria and characteristics, methods and execution for process and building instrumentation for measurement of flow, pressure, level, temperature, analytical variables, etc.

.2 For common criteria see Section 260900 Instrumentation and Control.

.3 Provide devices, components, accessories and control panels for the operation of the complete and working instrumentation and control system. Coordinate instrumentation supply and installation to assure proper interface and system integration.

.4 Provide signal processing equipment, to include, but not be limited to, process sensing and measurement transducers, signal converters and conditioners, transmitters, receivers and power supplies.

.5 Provide services of qualified, manufacturer trained and certified, field personnel to check out, test, calibrate, commission, troubleshoot and adjust system until acceptance by the Engineer and Owner.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

CSA C22.2 No.14 UL 508	Industrial Control Equipment
CSA C22.2 No. 94.1 / UL 50	Enclosures for Electrical Equipment, Non-Environmental Considerations
CSA C22.2 No. 94.2 / UL 50E	Enclosures for Electrical Equipment, Environmental Considerations
CSA C22.2 No. 142	Process Control Equipment
CSA-C22.2 No. 157	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CSA C22.2 No. 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1 and Part 2 (collection)
NEMA ICS 1	Industrial Control and Systems General Requirements
NEMA ICS 6	Industrial Control and Systems Enclosures
ANSI/ISA-S5.1	Instrumentation Symbols and Identification
ANSI/ISA-S5.4	Instrument Loop Diagrams

ISA-20	Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves
ISA-TR20.00.01	Specification Form for Process Measurement and Control Instruments, General Consideration
ISA-S50.1	Compatibility of Analog Signals for Electronic Industrial Process Instruments

1.3 Product Data and Shop Drawings

.1 Provide product data and shop drawings in accordance with Section 260900 Instrumentation and Control.

.2 Also submit the following:

.1 Instrument data sheets, conforming to ISA-20.

.2 Descriptive literature.

.3 Manufacturer's installation diagrams for field mounted equipment.

.4 Proposed instrument panel/backplane layout drawing.

.5 Instrument and instrument panel wiring diagrams.

1.4 Operating and Maintenance Instruction Manuals, and Record Documentation

.1 Provide operating and maintenance instruction manuals, and record documentation in accordance with Section 260900 Instrumentation and Control.

.2 Also submit the following:

.1 Manufacturer's calibration certificates.

.2 Instrument field calibration sheets.

.3 Instrument field loop check sheets.

2.0 Products

2.1 General

.1 Provide instruments of a certain type from one manufacturer for entire project.

.2 Provide only new and of current manufacture, made or stocked in Canada, standard, first-grade materials and instruments throughout, conforming to standards established by CSA/cUL, and so marked or labelled.

.3 Provide specified instruments for the continuous measurement of the process variables, that are microprocessor based, self-checking, fully programmable indicating transmitters and primary elements (transducers), primary element with integrated indicating transmitter, or primary element with integrated blind transmitter, c/w galvanically isolated inputs and outputs, as specified herein and shown on the drawings.

.4 Provide specified instruments for discrete measurements of process conditions c/w galvanically isolated outputs actuated by the changes of set process conditions, as specified herein and shown on the drawings.

.5 Provide instruments complete with process connections, mounting hardware, floor stands, wall brackets and/or instrument racks as required for complete and operational system to the satisfaction of the Engineer.

.6 Provide manufacturer recommended/supplied cables for connection between primary elements (transducers) and transmitters, continuous without any splices, factory sealed at the transducer, c/w wireways, mounting hardware, and cable connectors and glands as required.

.7 Supply field-mounted indicators calibrated in metric engineering units.

.8 All Manufacturer's recommendations for installation must be followed. If for special conditions, the instrument will not be installed as recommended, the deviation must be clearly highlighted in the shop drawing submission.

.9 Provide instrument enclosures CSA/NEMA rated for the environment. In hazardous areas, meet the CSA Code Zone, Class, Division and Group as specified. In areas subject to flooding, provide submergence rated enclosures as specified.

.10 Provide programming units, cabling and programming software for all programmable instruments.

.11 Unless otherwise specified, all analog inputs and outputs to be 4-20mA, linear, live-zero signals, proportional to the measured and derived variables. All discrete outputs to have NEMA rated contacts: NEMA A300 / P300 rated for 120Vac or 24Vdc control application, NEMA A600 / P600 rated for 600Vac or 120Vac/120Vdc line application.

.12 All carbon steel/aluminum process connections and instrument enclosures shall be Zn/Al painted/power-coated, colour to match process piping colour. See individual specification sections for more details.

2.2 Specified, Acceptable and Alternative Instrument Manufacturers

.1 For general requirements for specified, acceptable and alternate manufacturers, equipment and materials see Section 260500 Common Work Results for Electrical.

.2 The design has been based on the specified instruments that are referenced by manufacturer's name and type / catalogue number.

.3 If more than one instruments are referenced by manufacturer's name and type / catalogue number, only first in the list is specified instrument; others, including instruments referenced by manufacturer name only, are considered acceptable alternatives.

3.0 Execution

3.1 Manufacturer's Quality Control & Factory Testing

.1 Provide manufacturer's quality control program and factory testing in accordance with Section 260900 Instrumentation and Control.

.2 Provide calibration of all instruments. The Calibration Certificates shall be shipped with the instruments; the original documents shall be submitted to the Engineer and copies shall be included in the Operations and Maintenance Manual.

3.2 Planning and Coordination of Services or Installations

.1 Plan and coordinate services and installation in accordance with Section 260900 Instrumentation and Control.

.2 Install anchors, bolts, pipe sleeves, hanger inserts, etc. required in ample time to prevent delays to other division's installation work.

3.3 Delivery, Storage and Handling

.1 Provide and securely attach the tag number and instructions for proper field handling and installation to each instrument prior to packaging.

.2 Package instrumentation to provide protection against shipping damage, dust, moisture and atmospheric contaminants.

.3 Transport, unload, store and handle instrumentation at the site. Inspect instrumentation for damage in shipment and return damaged instrumentation to the manufacturer. Store instruments indoors, in dry, clean and temperature controlled storage facilities.

3.4 Field Installation

.1 Provide field instruments as indicated in accordance with Section 260900 Instrumentation and Control.

.2 Do not install primary elements or other sensitive equipment until construction is sufficiently completed to provide an "operating condition" environment. Notify the Engineer prior to installing any equipment of this type.

.3 The instrument locations are to be coordinated with the installation of adjacent equipment under other Divisions, but locations must be approved by the Engineer prior to installation.

.4 Equipment, supplied under other Divisions/Sections, but interconnected with the work of this Section will be either mounted by these other Divisions/Sections or, handed over for installation by this Section as indicated.

.5 Provide process connections, mounting hardware, floor stands, wall brackets and/or instrument racks as required for complete and operational system to the satisfaction of the Engineer.

.6 Ensure that covers where required are properly installed on all equipment. Provide all covers, padding, guards, etc. as required to guard any equipment against damage to finish, proper operation or life expectancy.

.7 Obtain and use instrument mounting details from the manufacturer or supplier for installation purposes. Where the instrument installation details furnished with the Specification and Drawings conflict with the manufacturer's installation detail, mount the instrument in accordance with manufacturer's specifications and instructions. Prior to installation, obtain the ruling and approval from the Engineer.

.8 Unless shown otherwise, do not mount direct reading or electrical transmitters on process piping; mount on instrument racks or stands or in enclosures near the sensor at a level that permits viewing from floor elevation.

.9 Install the instrumentation and auxiliary devices such that they are accessible for operation and maintenance. Provide space between instruments and other equipment and piping for ease of removal and servicing. Generally, install instrumentation to be accessible from floor level or grade.

.1 Locate indicators such that indicator display is readily readable at eye level (1.5–1.6m) from floor elevation.

.2 Locate transmitter with adequate clearance and accessibility for service. For pipe/rack mounted instruments at least 1m distance/ clearance to the wall.

.3 Allow sufficient clearance for cover removal and adjustment of switches.

.4 Provide adequate clearance (100mm minimum) from piping and other obstructions for operation of valve handles.

.5 Provide safe access to the sensor.

.10 Provide field wiring c/w cables, raceway (wireways, conduit, wiring-duct, cable tray, etc.), terminations, etc.

.1 Where the instruments are installed in the hazardous areas, provide wiring, sensors/instruments enclosures and intrinsically safety circuitry to meet the CSA Code Class, Group or Division as specified.

.2 For remote transmitter units, installed manufacture supplied primary signal cables from primary element / transducer to the transmitter per manufacturer's instructions. Where cables are not supplied by the manufacturer, the Contractor is responsible to provide the required cable. The cables are to be installed without any splices. Where maximum standard cable length is inadequate for the field conditions, provide manufacturer's approved termination box, suitable for the environment.

.3 Provide junction/terminal boxes as required and/or indicated on the drawings; terminate cables and conduits as required.

.4 Provide liquid-tight flexible metal or non-metallic conduit for up to a meter from the primary sensor or transmitter, or as appropriate to allow removal of it, for the following installations:

.1 Where primary sensor signal cables are required to be installed in the conduit.

.2 Where cables are required to be installed in the conduit for integral transmitter units.

.3 Where vibration of the process piping is excessive, beyond manufacturer's recommendations.

.5 Terminate primary sensor cables and conductors at the primary element / transducer (for non-sealed cables) and transmitter in accordance with

manufacturer's recommendations, Section 260511 Cables and Wiring and Section 260533 Raceways and Boxes.

.6 Provide and terminate control power, discrete indication and control, analog indication and control, and communication cables and conductors at transmitters and control panels as indicated on the drawings as directed by the Engineer, in accordance with manufacturer's recommendations, Section 260511 Cables and Wiring and Section 260533 Raceways and Boxes.

.11 Verify all identification legends on equipment and cross-check wiring identification numbers with drawings and schedules.

.12 Return all damaged equipment to the factory for total corrective repairs. Replace damaged equipment with new product if deemed necessary by the Engineer. The Contractor to bear any costs due to construction delays resulting from the delay in delivery of acceptable equipment.

3.5 Field Quality Control, Start-up & Commissioning

.1 Provide field quality control, start-up and commissioning in accordance with Section 260900 Instrumentation and Control.

.2 After the instrument is fully installed, (including mounting, process connections, signal connections and power connections) and after the process is put into test mode or actual operation, perform preventative maintenance tasks, calibrate the instrument, and perform commissioning and start-up.

.3 Provide services of a competent Manufacturer's/Supplier's trained and certified technical representative to verify the installation, and provide calibration, adjustment, testing, and troubleshooting of all the instrumentation and control devices and systems until the operation of the systems are satisfactory to the Engineer and Owner.

.1 The Contractor is responsible for coordination and scheduling of such a work. Notify the Engineer in writing 5 working days prior to scheduling the visits.

.2 Tests shall be carried out either separately or in conjunction with other equipment tests as determined by the Engineer.

.3 Prepare instrumentation installation and calibration certification sheet for each primary element sensor and electronic indicator/analyzer/transmitter for each instrument uniquely specified. Utilize this sheet to calibrate, test and record each instrument.

.4 Calibrate measurements over the full instrument range, including zero, full range and 3 intermediate points. Repeat 2 times and document all results.

.5 Demonstrate alarms by varying process conditions. Repeat 3 times and document all results.

.6 Where equipped, calibrate instruments communication to insure that the device communicates all information to the communication network.

.7 Provide record of the calibration and testing to the Engineer after the work is completed; a copy of the field notes before leaving the site if practical, or faxed copy within 12h, and a copy of the final typed-written record report within 48h.

.8 In the Instrument Data Sheet document the results of calibration and note any setting or adjustment made.

3.6 Manufacturer's Certification and Training

.1 Provide manufacturer's certification and training in accordance with Section 260900 Instrumentation and Control and as modified herein.

.1 The Manufacturer's Qualified Technical Representative shall provide a training session for up to six (6) Owner's representatives for minimum of half (1/2) normal workday per each type of instrument at the job site location determined by the Owner.

.2 Include training on calibration, testing, maintenance and operation.

.3 The Contractor is responsible for coordination and scheduling of such a work.

End of Section

262000 Low Voltage Electrical Distribution

1.0 General

1.1 Scope of Work

.1 This section includes specifications for common criteria and characteristics, methods and execution that are common to the following sections, it is intended as a supplement to each section, and is to be read accordingly:

262823 Low Voltage Disconnect Switches

262923 Low Voltage Variable Frequency Drives

.2 For common criteria see Section 260500 Common Work Results for Electrical.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

1.3 Equipment Manufacturer Qualification

.1 The Manufacturer of the assembly shall satisfy the requirements in accordance with Section 260500 Common Work Results for Electrical.

1.4 Submittals

.1 Provide product data, shop drawings, operating and maintenance instruction manuals, and record drawings in accordance with Section 260500 Common Work Results for Electrical.

.2 Include individual control schematic drawing for each automatic transfer switch, power circuit breaker and load controlled by the combination starter, VFD, RVSS. Show all interlocks and local/field control/indication devices.

.3 Include time-current characteristic curves for all breakers, fuses and overload relays.

1.5 Spare Parts and Maintenance Material

.1 Provide spare parts and maintenance materials in accordance with Section 260500 Common Work Results for Electrical.

.1 One (1) of each control fuse, and set of two (2) power fuses of each type and size.

2.0 Products

2.1 Summary of Ratings & Characteristics

.1 The quantity and ratings, including system operating voltage, current rating, and short-circuit rating are indicated on the drawings, specification and schedules.

.2 To assure a fully selective system, switchgear, switchboard, panelboards, grouped and motor control centres, combination contractors, starters, VFDs and RVSS starters that are part of an assembly, shall have combination short-circuit rating certified by the assembly manufacturer. The equipment without the short-circuit rating on the CSA nameplate, or ESA special inspection nameplate, or the equipment without certified test records, will not be accepted.

.3 Provide full line-line voltage rated 3-pole and 2-pole components, without dual voltage rating, with line-neutral rated only for 1-pole components.

2.2 Wiring/Terminations

.1 Provide wiring and terminations in accordance with Section 260500 Common Work Results for Electrical and Section 260511 Cables and Wiring.

.2 All wiring and terminations shall be CSA/UL approved.

.3 Small wiring, necessary fuse blocks and terminal blocks within the assemblies and free standing / wall mount enclosures shall be furnished as required.

.4 A termination system shall be provided such that no additional cable bracing is required to maintain the short circuit withstand ratings of the assembly.

.5 Power Wiring/Terminations

.1 Provide XLPE, RW90, 600/1000V rated insulation power wiring, copper conductors, extra-flexible where required, size to suit ampacity as required.

.2 Where required, enclosures, cable entrance, or cable compartment(s) shall be provided with a non-magnetic, non-metalic plate for single-phase cable entry.

.3 Cable compartment(s) cell shall have adequate space dedicated for the type and size of wiring used.

.4 Where cable terminates on the bus bars or equipment without lugs, provide NEMA 2-hole mechanical lugs with anti-turn feature, suitable for copper or aluminum cable rated for 90°C of the size as indicated on the drawings.

.5 Provide NEMA 1-hole mechanical lugs with anti-turning feature for termination grounding/bonding conductors.

.6 Control Wiring/Terminations

.1 Control wiring to be XLPE type SIS 90°C or TEW 105°C, 600V rated, with flexible, stranded, tin-plated copper conductors, supported and neatly bundled.

.2 Unless specified otherwise, provide 14AWG red AC and blue DC control wiring, 12AWG grey or black VT and CT wiring.

2.3 Equipment and Wiring Identification

.1 Provide equipment and wiring identification in accordance with Section 260500 Common Work Results for Electrical and Section 260511 Cables and Wiring.

2.4 Warning Signs

.1 Provide warning signs for the power assemblies and individual components as required by the local authority having jurisdiction.

2.5 Enclosures

.1 Enclosure shall be in accordance with Section 260500 Common Work Results for Electrical.

3.0 Execution

3.1 Manufacturer's Quality Control & Factory Testing

.1 Provide manufacturer's quality control program and factory testing in accordance with Section 260500 Common Work Results for Electrical.

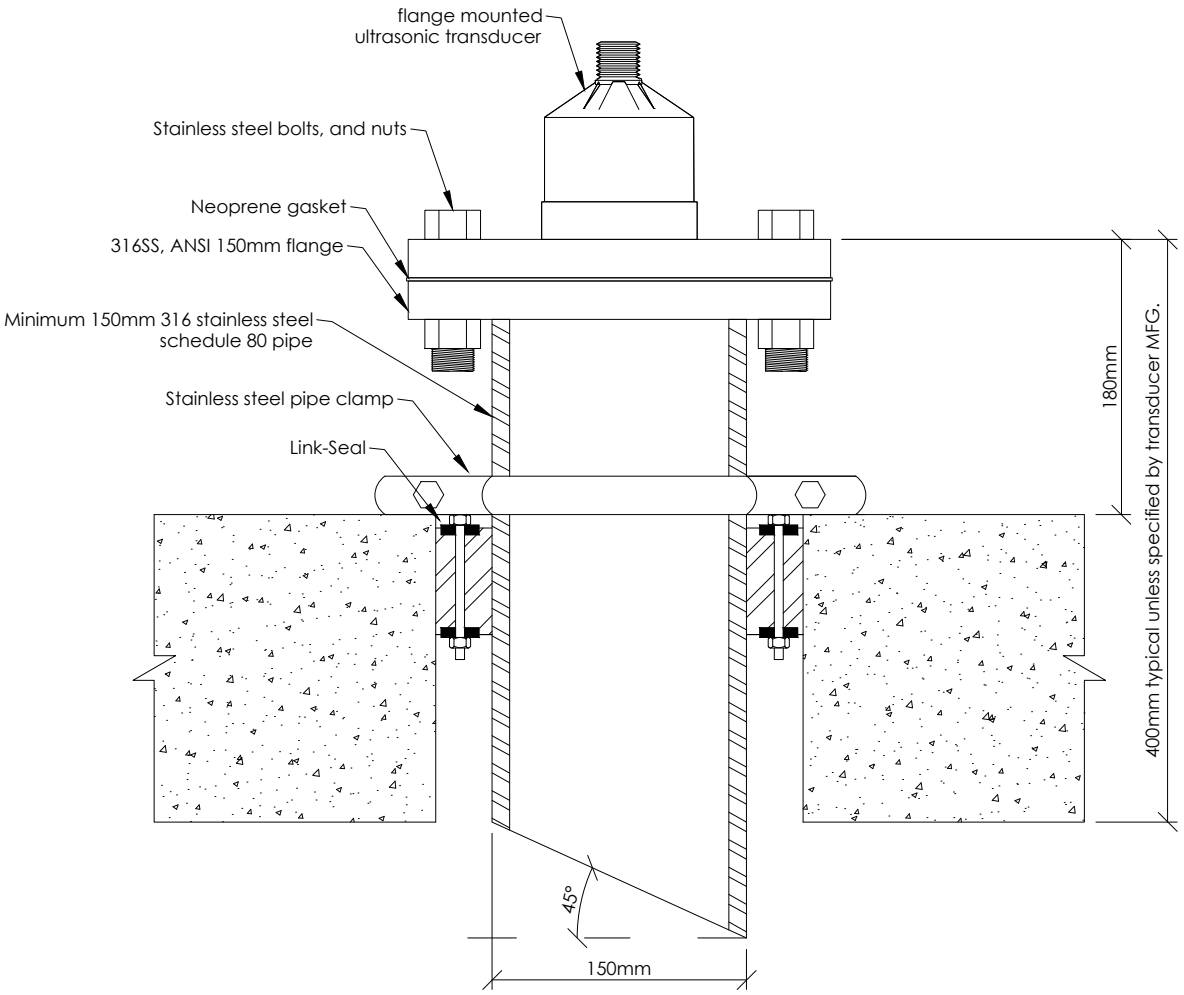
3.2 Installation, Field Quality Control, Start-up & Commissioning

.1 Install the equipment and provide field quality control, start-up and commissioning in accordance with Section 260500 Common Work Results for Electrical and Section 260800 Commissioning of Electrical Systems.

3.3 Manufacturer's Certification and Training

.1 Except for panelboards, provide manufacturer's certification and training in accordance with Section 260500 Common Work Results for Electrical.

End of Section



Notes

1. Installation is not for pressure applications.
2. Angle of propagation is chosen to focus on the process liquid, clear tank side walls and stationary part of the tank.
3. Transducer to have built-In temperature compensation.
4. Keep within torque requirements of manufacture when installing transducer.
5. Pipe nipples shall be schedule 80, maximum 30mm from process pipe or pipe lagging.
6. Conduit (and cable) connection to the transducer shall be 900mm (max) flexible PVC liquid tight conduit, the balance to source shall be ridge PVC conduit or ACIC cabling.
7. All materials are to be stainless steel unless otherwise noted.

262823 Low Voltage Disconnect Switches

1.0 General

1.1 Scope of Work

.1 This section includes specifications for products, specific criteria and characteristics, methods and execution for manual low voltage disconnect switches, fused or non-fused, installed as a part of the motor control centre (MCC), switchboards, or enclosed equipment safety disconnect and switch-rated plug and receptacles.

.2 For common criteria see Section 262000 Low Voltage Electrical Distribution.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

CSA C22.2 No. 4 / UL 98	Enclosed Manual Air Break Switches
CSA C22.2 No. 94.1 / UL 50	Enclosures for Electrical Equipment, Non-Environmental Considerations
CSA C22.2 No. 94.2 / UL 50E	Enclosures for Electrical Equipment, Environmental Considerations
CSA C22.2 No. 248 / UL 248 Series	Low Voltage Fuses
CSA C22.2 No. 39	Fuseholder Assemblies

2.0 Products

2.1 Summary of Ratings and Characteristics

.1 Provide enclosed disconnects, fused and/or unfused, and/or switch-rated plug and receptacles of the quantity and ratings as indicated on the drawings and/or schedules, and unless indicated otherwise, the ratings, characteristics and accessories as indicated herein.

Summary of Standard Ratings and Characteristics	
Design Standards	CSA/UL
Type	Enclosed non-fused or fused; service entrance where required;
Switching Poles (/w Neutral, Ground)	Single-throw: 2P+N, 1p+N;
Nominal Voltage	240V for 208Y/120V 3ø/4w 240/120V (1ø/3w) system
Nominal Current	200A
Short-circuit Withstand Rating	100kA SCR
Frequency	60Hz
Enclosure	Painted Steel, CSA 3, outdoor weather-proof
Acceptable Manufacturers	ABB, Cooper Crouse-Hinds, Eaton, Hubbell, Schneider, Siemens

.2 All switches to be suitable for 100% brake and make capability of their continuous current rating, service entrance rated where required.

.3 All switches that are part of motor branch circuits to be suitable as motor disconnects.

2.2 Disconnect Switches

.1 Heavy-duty disconnect switch, with gang-operated, quick-make quick-break mechanism, line terminal shields and visible blades, non-teasible.

.2 The operating handle shall be an integral part of the enclosure base, with ON-OFFposition indicated on the enclosure.

.3 Provision for padlocking in OFF position.

.4 Mechanically interlocked door to prevent opening when handle is in ON position, defeatable unless otherwise indicated.

.5 Metal nameplates, front cover mounted, that contain a permanent record of switch type and rating (voltage and amperes), including CSA approval "suitable as a motor disconnecting means" (horsepower rated), where required.

.6 Neutral bus bar for system requiring neutral, rating equal to swith rating. Ground bar for terminating bonding conductor.

.7 One (1) internally mounted NO/NC switch auxiliary contacts, early-break/early-make, rated A300/P300, unless otherwise specified.

2.3 Fuses

.1 Where specified, provide fuses, size as indicated c/w fuseholders same rating as fuse, suitable for type and size of fuse specified without adapters.

.2 Provide fuses of one manufacturer for entire project, quantity, characteristics, ratings and accessories as indicated in the specification, drawings, and schedules.

.3 Unless otherwise indicated, provide Class J and L fuses throughout, fast acting for motor circuit protection (type 1), or time-delay for transformer or feeder protection (type 2). Alternatively, Class R or Class CC for transformer/feeder and motor circuit protection respectively.

3.0 Execution

3.1 Manufacturer's Quality Control & Factory Testing

.1 Assemble switches and provide manufacturer's quality control & factory testing in accordance with Section 262000 Low Voltage Electrical Distribution.

3.2 Installation, Field Quality Control, Start-up & Commissioning

.1 Install enclosed disconnects and provide field quality control, start-up and commissioning in accordance with Section 262000 Low Voltage Electrical Distribution.

.2 Provide all necessary corrosion resistant mounting haedware as required, including stands for free standing disconnects.

.3 Provide corrosion resistant floor supports for mounting units on the concrete floor, provide frost-free concrete footings for mounting outdoors on the native soil.

.4 Mount disconnects as indicated on the drawings, with handless 1500 mm above finsished floor, unless noted otherwise. Group mount multiple switches in uniform arrangement.

.5 Wall mount disconnects where possible, otherwise provide hollow corrosion resistant post or Unistrut support for mounting of units on the common backplane.

.6 Ship fuses separately from switches.

.7 Ensure correct fuses fitted to physically matched mounting devices.

.8 Install fuses before energizing circuit; face rating to be visible.

End of Section

262923 Low Voltage Variable Frequency Drives

1.0 General

1.1 Scope of Work

.1 This section includes specifications for products, specific criteria and characteristics, methods and execution for low voltage variable-frequency drives (VFD) installed as a part of a motor control centre (MCC), grouped motor control panels, or mounted in a stand-alone enclosure.

.2 For common criteria see Section 262000 Low Voltage Electrical Distribution.

1.2 Standards

.1 All components and assemblies are to be designed, manufactured, installed and tested in accordance with the latest applicable CSA, UL/cUL/ULC, NEMA, ANSI, and/or IEEE standards.

CSA C22.2 No. 274	Adjustable Speed Drives
NEMA ICS 7	Adjustable Speed Drives

2.0 Products

2.1 Summary of Ratings and Characteristics

.1 Provide low voltage VFDs of the quantity and ratings as indicated on the drawings and/or schedules, and unless indicated otherwise, the ratings, characteristics and accessories as indicated herein.

Summary of Standard Ratings and Characteristics	
Design Standards	CSA
Location	Indoor
Ambient Temperature	-30°C to 40°C
Humidity	0-95% non-condensing
Storage Temerature	-40°C to 70°C
Altitude	<1,000m
Input Voltage/Frequency	240V (1ø), ±10%, 60Hz for $240V_{nom}$ 1ø system
Output Voltage/Frequency	0-240V (3ø), 0-60Hz
Displacement Power Factor	0.93-0.95 lagging @ 0-100% speed
Efficiency	96% @ Nominal Power
Nominal Power/Owerlaod	110% Light-Overlaod for 60s, Varible Torque Load (VT); altenatevelly where indicted, 150% Heavy-Overload for 60s, Constant Torque Loads (CT)

Summary of Standard Ratings and Characteristics	
Short-circuit Rating SCR (rms sym)	100kA$_{mom}$
BIL	10kV
Rectifier	6-pulse passive diode or fully gated SCR bridge
Inverter	PWM, IGBT bridge
PWM Carrier Frequency	2-8kHz
Input Filter	3% input line or 5% DC reactor
Output Filter	dV/dt filter
Enclosure	Wall-mounted painted steel, CSA 3, outdoor weather-proof
Acceptable Manufacturers	ABB (ACS 550), Allen-Bradley (PowerFlex 753), Eaton (PowerXL DG1), Schneider (ATV61), Yaskawa (A1000)

2.2 Summary of Ratings and Characteristics

.1 Where 1-phase input is indicated on the drawings, provide additional capacitors on the DC bus; alternatively, oversize VFD as required.

.2 VFD shall be capable of operating any NEMA design B squirrel cage induction motor, regardless of manufacturer, with a horsepower and current rating within the capacity of the VFD.

.3 The drive shall be designed to operate on an AC line which may contain line notching and up to 10% harmonic distortion and minimum 1% AC line impedance (based on drive rating). An input isolation transformer shall not be required for protection from normal line transients. If line conditions dictate the use of a transformer, the K factor shall be 4.0 or less.

2.3 Features

.1 Operate VFD with motor disconnected.

.2 Programmable sensorless vector or V/Hz mode. The sensorless vector mode uses motor nameplate data plus motor operating data such as IR drop, nominal flux current and flux up time. The volts per hertz mode shall be programmed as a straight line, pre-programmed fixed boost or full custom patterns.

.3 Programmable current limit from 20% to 250% of constant torque rating. Current limit is active for all drive states; accelerating, constant speed and decelerating. The drive employs PI regulation with an adjustable gain for smooth transition in and out of current limit.

.4 Multi-Accel/Decel settings provide separate adjustments to allow either setting to be adjusted from 0-3000s. An adaptive current limit circuit can be disabled in programming for fast acceleration of low inertia loads.

.5 Programmable speed regulation modes include open loop, slip compensation with 0.5% speed regulation, droop - negative slip compensation with 0.5% speed regulation, closed loop encoder feedback with 0.1% speed regulation, and process PI control.

.6 Programming capability allows the user to produce speed profiles with linear acceleration/deceleration or "S-Curve" profiles that provide changing accel/decel rates. S-Curve profiles shall be selectable for fixed or adjustable values.

.7 The internal process PI regulator has both proportional and integral gain adjustments as well as error inversion and output clamping functions. The feedback can be configured for normal or square root functions. If the feedback indicates that the process is moving away from the set point, the regulator will adjust the drive output until the feedback equals the reference. Process control can be enabled or disabled with a hardwire input. Transitioning in and out of process control can be tuned for faster response by preloading the integrator. Protection is provided for a loss of feedback or reference signal. A signal can also be provided to indicate that excess error exists.

.8 The control logic is capable of "riding through" a power outage of at least 2 seconds in duration. The inverter section is shut off after a drop in bus voltage to conserve power for the drive logic. The amount of drop required will be adjustable to 50% of nominal.

.9 The drive can respond to a loss of AC input power by adjusting the output frequency to create a regenerative situation in the motor. This regenerated energy recaptures the mechanical energy and converts it to electrical energy to power the drive logic during the power outage. This allows the drive to retain control of the motor during the power outage. Performance is based on the amount of system inertia and the length of the outage. The amount of voltage drop required to trigger inertia ride through and the level at which regulation occurs shall both be adjustable. Inertia Ride Through can be enabled or disabled via programming.

.10 DC bus regulation is available to reduce the possibility of drive over-voltage trips due to regenerative conditions. Bus voltage is monitored and an internal regulator, triggered by a 15% rise in voltage, adjusts the drive's output frequency to maintain bus voltage at a nominal (100%) level. Bus regulation can be enabled or disabled via programming.

.11 The drive shall run under selectable PWM switching frequency and upon over-temperature shall fold-back the switching frequency to reduce the operating temperature. The drive shall return to the rated switching frequency after the over-temperature condition has passed.

.12 The drive provides up to nine automatic fault reset and restarts following a fault condition before locking out and requiring manual restart. The automatic mode is not applicable to a ground fault, shorted output faults and other internal microprocessor faults. The time between restarts is adjustable from 0.5-30.0s.

.13 Enabled or disabled via programming, this feature allows the user to select the output current level that indicates that the load has been disconnected (broken belt / shaft / coupling) from the motor is indicated. Action is also selectable.

.14 Minimum of three (3) adjustable set points that lock out continuous operation at frequencies which may produce mechanical resonance are provided. The set points have an adjustable bandwidth.

.15 Minimum last four faults, as well as operating frequency, drive status and power mode, shall be stored at the time of fault. Information is maintained in the event of a power loss.

.16 Programmable class 10, 20 or 30 motor overload protection and motor stall protection. A viewable parameter stores the overload usage in percent. An alarm bit can be used to adjust a process to eliminate an overload trip.

.17 The drive is capable of determining the speed and direction of a spinning motor and adjusts its output to "pick-up" the motor at the rotating speed. The flying start feature is operable with or without encoder feedback.

.18 The digital interface is used for all set-up, operation and adjustment settings. All adjustments are stored in non-volatile memory (EEPROM). No potentiometer adjustments are used. The drive provides EEPROM memory for factory default values.

2.4 Analog & Discrete I/Os Interface

.1 Two (2) single-ended fully programmable analog inputs, jumper and/or software configurable, rating 4-20mAdc and 0-10Vdc shall be provided with process control speed reference, and potentiometer speed reference programmed as a default.

.2 One (1) single-ended fully programmable analog outputs, jumper and/or software configurable, rated 4-20mAdc and 0-10Vdc, with motor speed programmed as a default.

.3 Six (6) programmable digital inputs, rated 120Vac/24Vdc, powered from external control transformer or from internal power supply, with local start (2-wire), enable, external fault, two pre-set speeds, and remote/local selection programmed as a default.

.4 Two (2) Form C relay programmable outputs, NEMA A300 / P300 rated, with running and fault status programmed as a default.

2.5 Operator Interface

.1 Frequently accessed programmable parameters shall be adjustable from a "hot-swap" removable digital operator interface, multi-line, backlit LCD alphanumeric display, with status indicators and control, capable of showing drive operating conditions, fault indications and programming information, with use of plain language for parameters, status, and diagnostic messages.

.2 The operator shall be able to scroll through the keypad menu to choose between monitoring, operational, parameter setup, actual parameter values, faults, fault history, and LCD contrast adjustment. Information also to indicate the standard software and optional features software loaded.

.3 The following set-ups and adjustments, at a minimum, shall be available:

.1 Start/Stop command from keypad, remote or communications port, for either 2-wire or 3-wire configuration, and maintained or pulse operation.

.2 Speed command from keypad, remote or communications port

.3 Motor direction selection

.4 Maximum and minimum speed limits

.5 Acceleration and deceleration times, two settable ranges

.6 Critical frequency avoidance

.7 Torque limit

.8 Multiple attempt restart function

.9 Multiple preset speeds adjustment

.10 Catch a spinning motor start or normal start selection

.11 Programmable discrete and analog I/Os

.4 The run, forward, reverse, stop, ready, alarm, fault, local/remote, off status indicators shall be available as a minimum.

.5 The following monitoring functions, at a minimum, shall be available:

.1 Output frequency and speed;

.2 Motor current, torque, power, and voltage;

.3 DC-link voltage;

.4 Heat-sink temperature;

.5 Operating hours/days counter;

.6 Operating kWkh;

.7 Voltage and current level of analog input, digital inputs status, digital and relay outputs status; and

.8 Motor temperatures rise, percentage of allowable.

.6 Unless otherwise specified, the operator interface will be mounted at the door for enclosed units.

.7 Programming, trouble-shooting, diagnostic, control and monitoring functions shall also be available by using serial, Ethernet or USB port and Windows based software. The manufacturer shall supply required software at no additional cost.

2.6 Control Power

.1 Where required, provide line-to-line connected, 120Vac control power transformer, mounted within each unit compartment/enclosure, VA rating at least twice the seal VA rating of the contactor and relay coils plus auxiliaries, with primary dead-front fuse blocks and fuses installed in both phases and secondary fuse installed in one phase with other phase grounded.

.2 Where required, provide 24Vdc power supply mounted within each unit compartment/enclosure, secondary voltage connected 1-phase input, switching type, featuring high out-rush capabilities, self-protecting, with ride-through for 50% voltage sag for 200ms at 150% nominal load.

.3 All components shall be dead front and finger safe.

2.7 Local Control and Indication

.1 Unless otherwise specified, local control and indication to be via operator interface.

2.8 Disconnecting / Short-Circuit Protection Devices

.1 Provide fused disconnect switches in accordance with Section 262823 Low Voltage Disconnect Switches, as indicated on the drawings.

2.9 Wiring/Terminations

.1 Provide wiring and termination in accordance with Section 262000 Low Voltage Electrical Distribution.

.2 In addition to the control terminals at the VFD, provide additional customer connection pull-apart control terminal blocks for termination of all analog and discrete I/Os originating from VFD. Provide separation between analog and discrete signals, and inputs and outputs.

3.0 Execution

3.1 Manufacturer's Quality Control & Factory Testing

.1 Assemble VFD and provide manufacturer's quality control & factory testing in accordance with Section 262000 Low Voltage Electrical Distribution.

.2 Program and setup VFD; obtain actual motor and process data.

.3 Perform point-to-point verification of all control wiring.

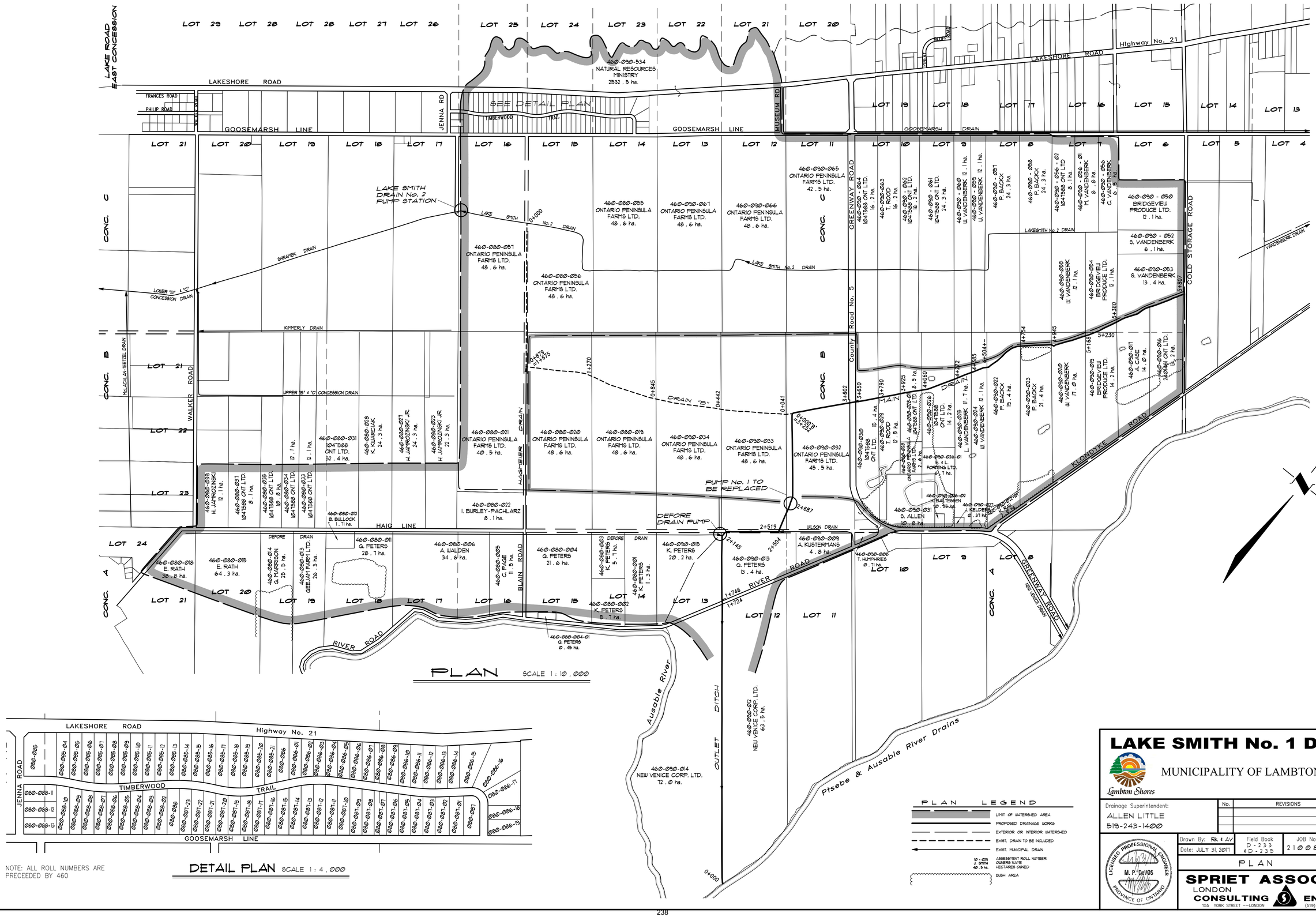
3.2 Installation, Field Quality Control, Start-up & Commissioning

.1 Install enclosed VFDs and provide field quality control, start-up and commissioning in accordance with Section 262000 Low Voltage Electrical Distribution.

.2 Verify VFD setup/program, and record starting and running load parameters. Adjust settings and/or program protection functions to suit each motor operational, running and starting requirements.

.3 Verify status indication and control from each local control panel/MCC and remote PLC/SCADA source.

End of Section



LAKE SMITH No. 1 DRAIN

MUNICIPALITY OF LAMBTON SHORES

Lambton Shores

Drainage Superintendent:
ALLEN LITTLE
519-243-1400

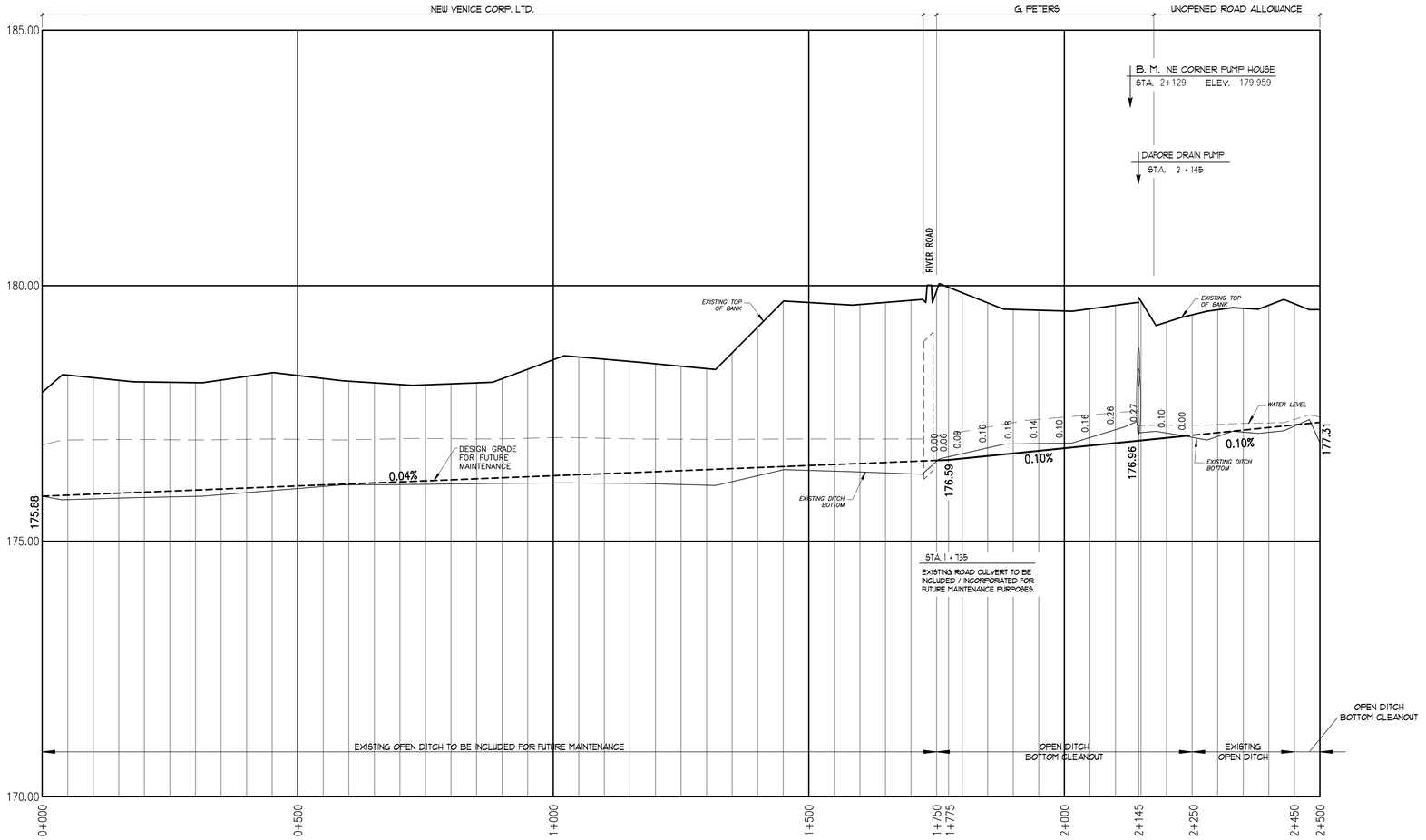
No.	REVISIONS	DATE

Drawn By: RK & AV
Date: JULY 31, 2017
Field Book D-233 4D-235
JOB No. 210087
Drawing No. 1 of 5

PLAN

LICENSED PROFESSIONAL ENGINEER M. P. DeVOS PROVINCE OF ONTARIO

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET — LONDON (519) 672-4100 — N6A 1A8



OUTLET DITCH PROFILE

SCALE : HOR. 1 : 5,000
VERT. 1 : 50

GENERAL NOTES

1/ OUR SPECIFICATIONS DATED JANUARY 2009 APPLY TO THIS PROJECT.

2/ THE WORKING WIDTH AVAILABLE TO THE CONTRACTOR TO CONSTRUCT THE NEW DRAINS SHALL CONSIST OF THOSE LANDS IMMEDIATELY ADJACENT TO THE DRAIN AND CONNECTIONS AND SHALL NOT EXCEED THE FOLLOWING AVERAGE WIDTHS :
OPEN PORTIONS - 18 meters (INCLUDING 3m BUFFER)
OPEN PORTIONS-BUSH AREAS - 15 meters TOTAL (REMOVE ONLY TREES ALONG BANK AND THOSE ABSOLUTELY NECESSARY TO COMPLETE CONSTRUCTION
CLOSED PORTIONS - 15 meters
CLOSED PORTIONS (THROUGH BUSH) - 30 meters
THE WORKING WIDTH FOR PURPOSES OF FUTURE MAINTENANCE SHALL BE THE SAME AS ABOVE EXCEPT FOR CLOSED PORTIONS (NOT THROUGH BUSH) SHALL BE 10m.

3/ ALL OWNERS ALONG THE COURSE OF THE DRAIN SHALL MAKE AN ACCESS ROUTE FROM THE NEAREST ROAD TO THE DRAIN LOCATION AVAILABLE TO THE CONTRACTOR THE AVERAGE WIDTH OF THIS ROUTE SHALL NOT EXCEED 8 METERS. THE ACCESS ROUTE SHALL ALSO APPLY FOR FUTURE MAINTENANCE PURPOSES .

4/ a) ALL UTILITIES TO BE LOCATED AND EXPOSED PRIOR TO CONSTRUCTION SO THAT THE NEW TILE GRADES CAN BE CONFIRMED. IF THERE IS A CONFLICT IN ELEVATION BETWEEN THE PROPOSED DRAIN AND THE UTILITY, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY.
b) CONTRACTOR TO NOTIFY ALL UTILITIES 72 HOURS PRIOR TO HIS SCHEDULED TIME FOR STARTING THE ABOVE WORK.

5/ ALL TREES , SCRUB , BRUSH , ETC. TO BE CLEARED AND GRUBBED IN ACCORDANCE WITH "SECTION B. 3 AND C. 4" SPECIFICATIONS .

6/ RIP-RAP TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH "SECTION A. 28" IN THE SPECIFICATIONS.

7/ EROSION CONTROL MAT SHALL BE "NORTH AMERICAN GREEN C 350 TURF MAT AND EROSION CONTROL BLANKET SHALL BE NAG S75" (OR APPROVED EQUALS). BLANKET/MAT SHALL BE INSTALLED ON SEEDED BANK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS WITH THE FOLLOWING EXCEPTIONS :
a) STAPLES TO BE 200mm LONG AND SHALL BE INSTALLED TO MANUFACTURER'S " D " PATTERN
b) TURFMAT TO BE KEYED 300mm BELOW DITCH BOTTOM, 200mm INTO BANK SLOPE AT UPSTREAM LIMIT AND SHALL BE STAPLED 200mm BELOW TOE OF BANK .

8/ CONTRACTOR TO ARRANGE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER , DRAINAGE SUPERINTENDENT , AND THE AFFECTED OWNERS . ALL PARTIES SHALL RECEIVE 48 HOURS NOTICE TO THE MEETING .

9/ EXISTING DITCH BOTTOM ONLY TO BE CLEANED OUT IN ACCORDANCE WITH SPECIFICATIONS UNLESS OTHERWISE NOTED ON PROFILES AND IN SECTIONS.

10/ WORK TO BE COMPLETED FROM AND EXCAVATED MATERIAL TO BE DEPOSITED AND LEVELLED ON ONE SIDE OF THE DITCH SPECIFIED BY THE OWNER IN ACCORDANCE WITH " SECTION B. 5 " IN THE SPECIFICATIONS .

11/ A 0 . 3 METER WIDE BUFFER STRIP OF EXISTING VEGETATION BETWEEN THE TOP OF THE BANK AND THE CULTIVATED LANDS ON BOTH SIDES OF THE DITCH SHALL BE MAINTAINED AS PART OF THE OPEN PORTION OF THE DRAIN .

12/ NEWLY EXPOSED DITCH BANKS ARE TO BE HAND SEEDED UPON COMPLETION OF CONSTRUCTION IN ACCORDANCE WITH " SECTION B. 11 " IN THE SPECIFICATIONS

13/ SILT FENCE TO BE PLACED ACROSS DITCH BOTTOM AT STA. 1 + 775 & STA. 2 + 650 DURING CONSTRUCTION TO PREVENT SILT FROM FLUSHING DOWNSTREAM . SILT FENCE AND SILT TO BE REMOVED AND DISPOSED OF AFTER CONSTRUCTION .

LAKE SMITH No. 1 DRAIN

MUNICIPALITY OF LAMBTON SHORES

Lambton Shores

Drainage Superintendent:
ALLEN LITTLE
519-243-1400

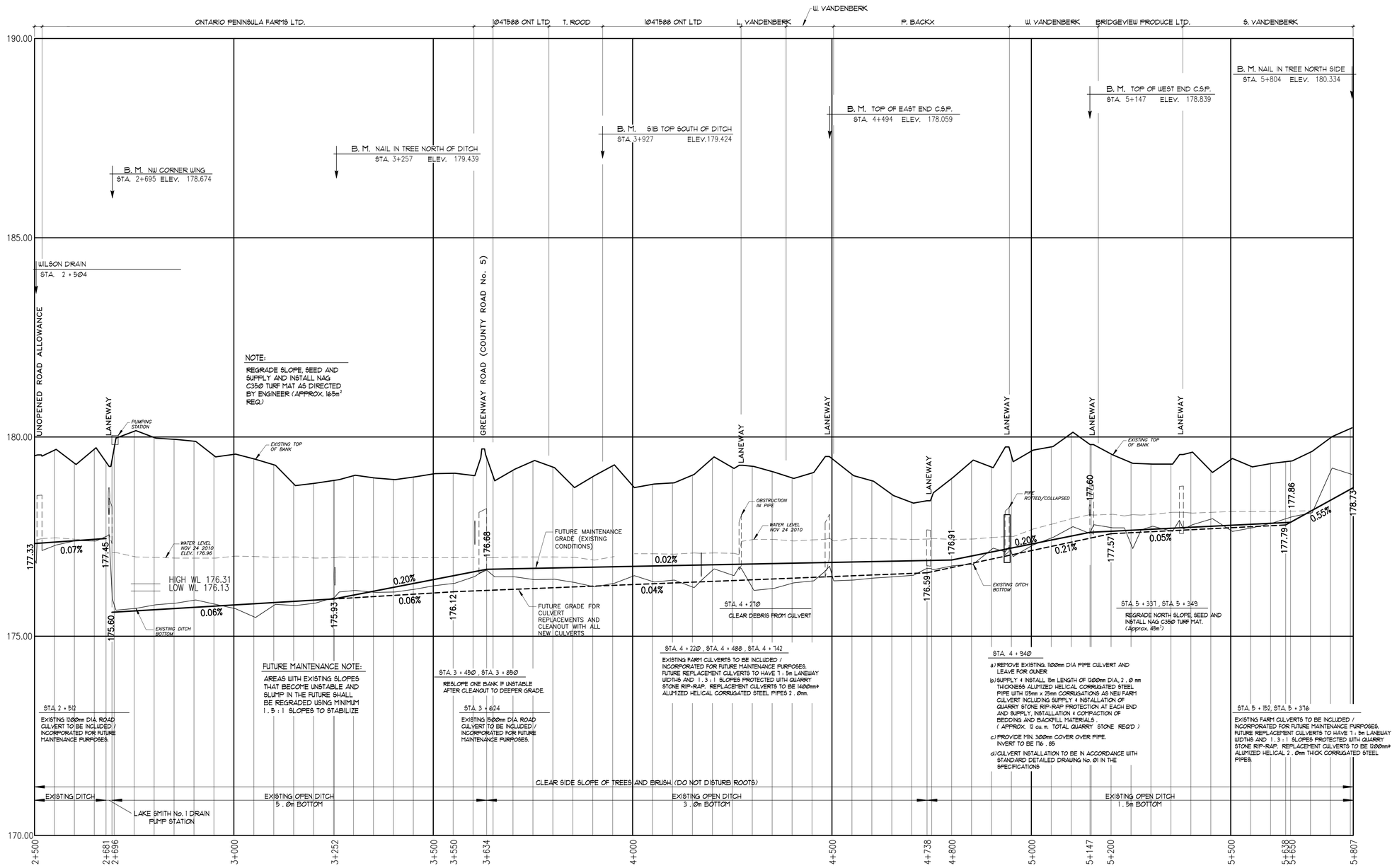
No.	REVISIONS	DATE

Drawn By: RK & AV
Date: JULY 31, 2017
Field Book: D-233 & D-235
JOB No. 210087
Drawing No. 2 of 5

PROFILE

LICENSED PROFESSIONAL ENGINEER
M. P. DeVOS
PROVINCE OF ONTARIO

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET --- LONDON (519) 672-4100---N6A 1A8



OUTLET DITCH

SCALE : HOR. 1 : 5 , 000
VERT. 1 : 50

MAIN DITCH PROFILE

SCALE : HOR. 1 : 5 , 000
VERT. 1 : 50

LAKE SMITH No. 1 DRAIN

MUNICIPALITY OF LAMBTON SHORES

Lambton Shores

Drainage Superintendent:
ALLEN LITTLE
519-243-1400

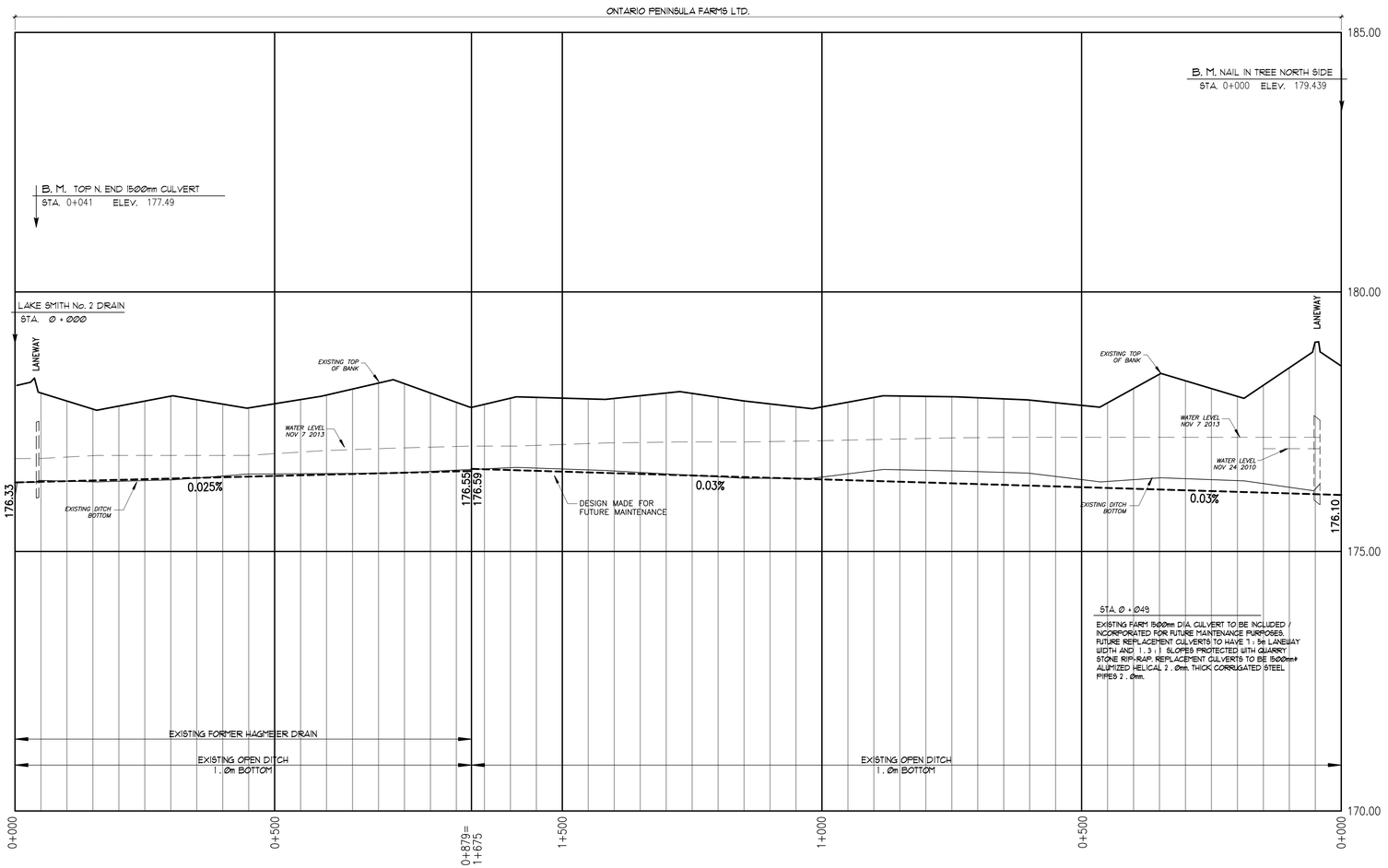
No.	REVISIONS	DATE

Drawn By: RK & AV
Date: JULY 31, 2017
Field Book: D-233 & D-235
JOB No. 210087
Drawing No. 3 of 5

PROFILE

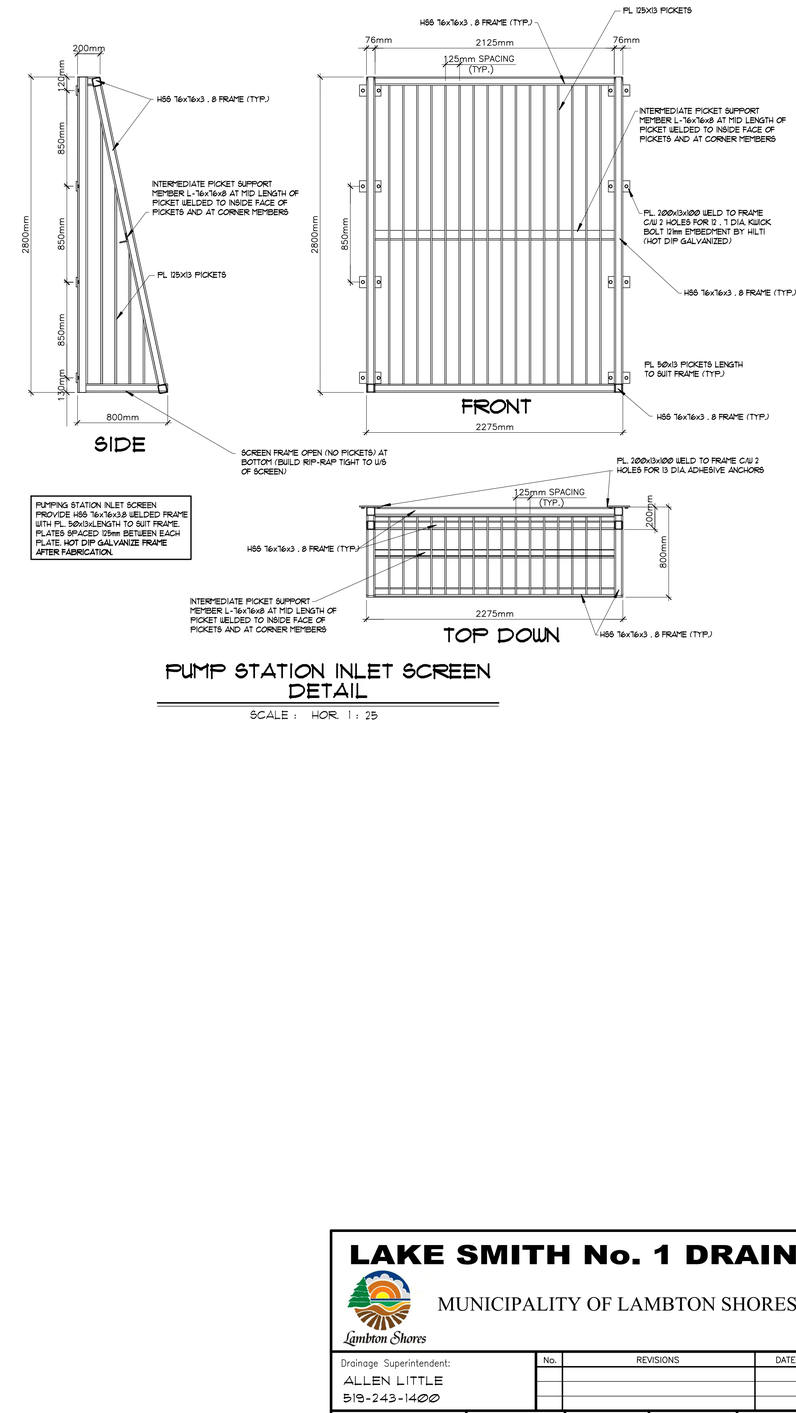
LICENSED PROFESSIONAL ENGINEER
M. P. DeVOS
PROVINCE OF ONTARIO

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET – LONDON (519) 672-4100 – N6A 1A8



LAKE SMITH DRAIN 'B' PROFILE

SCALE : HOR. 1 : 5 , 000
VERT. 1 : 50



PUMPING STATION INLET SCREEN. PROVIDE HSS 76x76x3.8 WELDED FRAME WITH FL. 50x13xLENGTH TO SUIT FRAME. PLATES SPACED 125mm BETWEEN EACH PLATE. HOT DIP GALVANIZE FRAME AFTER FABRICATION.

PUMP STATION INLET SCREEN DETAIL

SCALE : HOR. 1 : 25

LAKE SMITH No. 1 DRAIN

MUNICIPALITY OF LAMBTON SHORES

Lambton Shores

Drainage Superintendent:
ALLEN LITTLE
519-243-1400

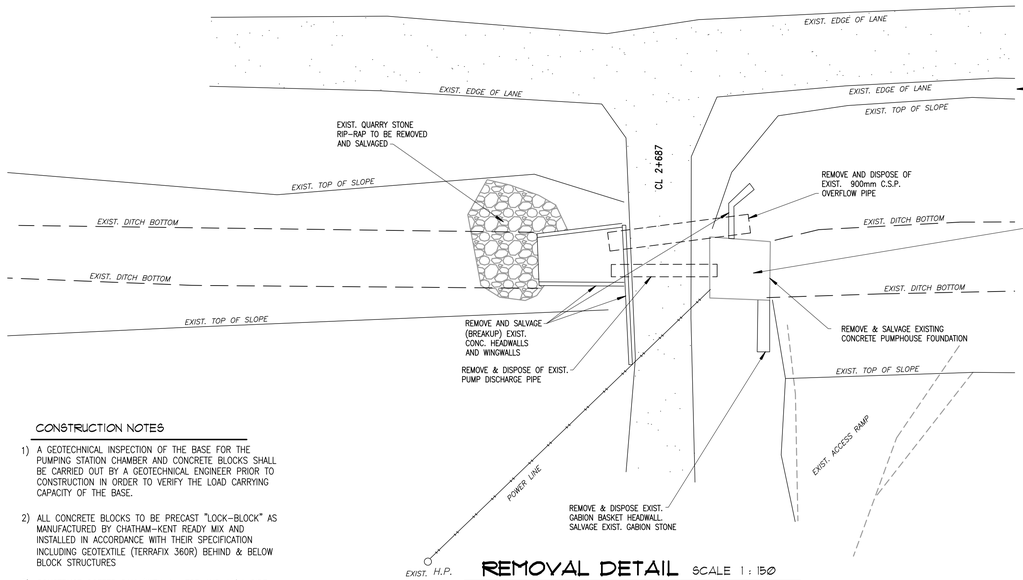
No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
M. P. DeVOS
PROVINCE OF ONTARIO

Drawn By: RK & AV
Date: JULY 31, 2017
Field Book: D-233 & D-235
JOB No. 210087
Drawing No. 4 of 5

PROFILE & DETAIL

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8



REMOVE & DISPOSE OF EXIST. PUMPHOUSE BUILDING, DEBRIS GRATE, ELECTRICAL WIRING, PANEL AND POLE ETC.

REMOVE AND SALVAGE EXIST. PUMP MOTOR, PUMP AND ELECTRICAL PANEL WHICH ARE TO BE DELIVERED TO THE NORTHVILLE MUNICIPAL WORKS YARD

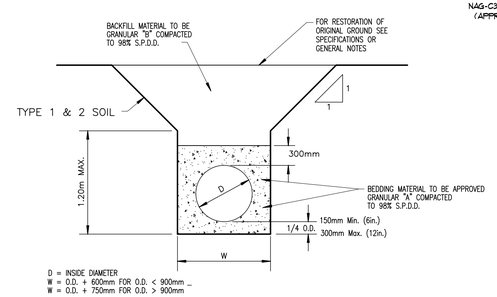
REMOVAL DETAIL SCALE 1 : 150

CONSTRUCTION NOTES

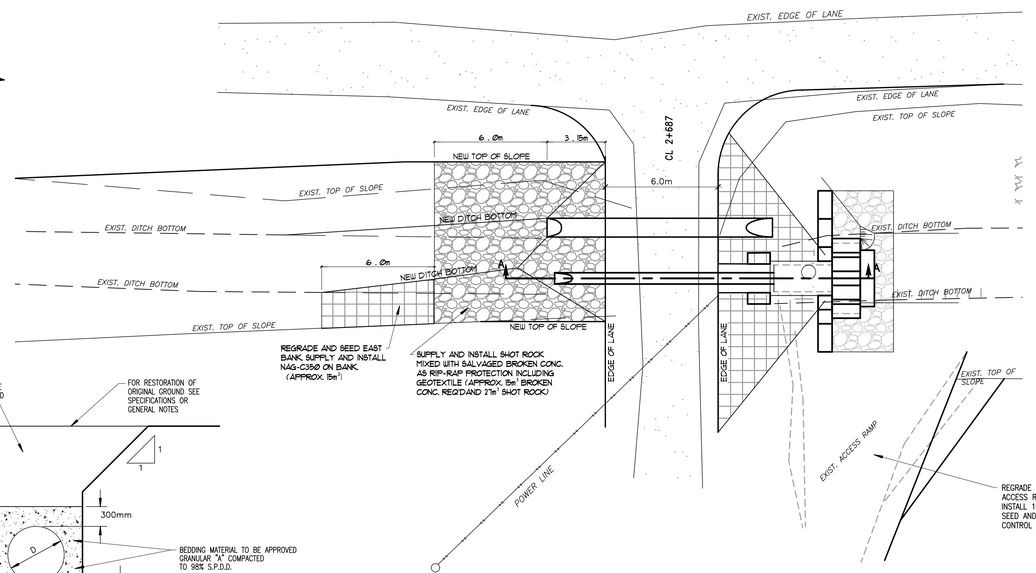
1) A GEOTECHNICAL INSPECTION OF THE BASE FOR THE PUMPING STATION CHAMBER AND CONCRETE BLOCKS SHALL BE CARRIED OUT BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION IN ORDER TO VERIFY THE LOAD CARRYING CAPACITY OF THE BASE.

2) ALL CONCRETE BLOCKS TO BE PRECAST "LOCK-BLOCK" AS MANUFACTURED BY CHATHAM-KENT READY MIX AND INSTALLED IN ACCORDANCE WITH THEIR SPECIFICATION INCLUDING GEOTEXTILE (TERRAFIX 360R) BEHIND & BELOW BLOCK STRUCTURES

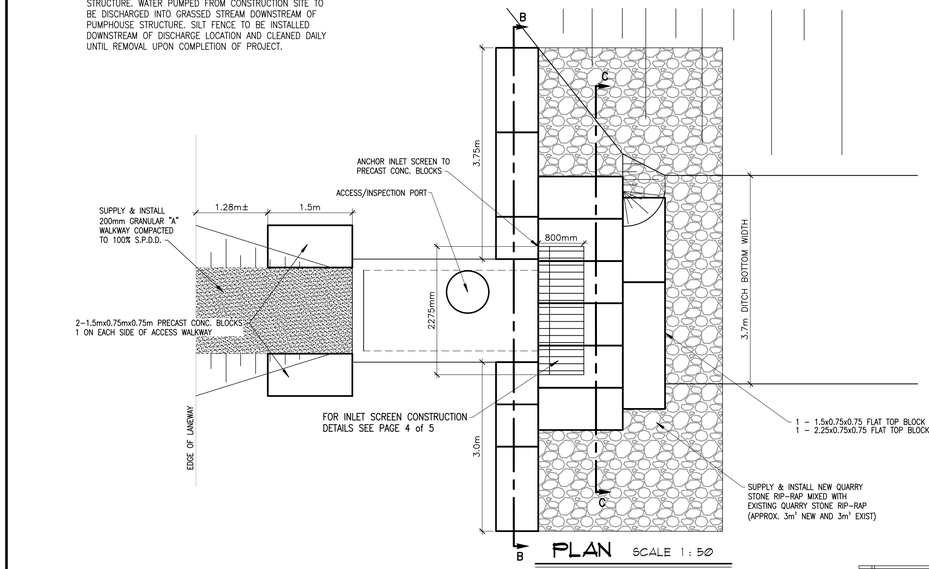
3) CONSTRUCT COFFER DAM (WITH 1m TOP AND 1½:1 SIDE SLOPES WITH QUARRY STONE ON FILTER BLANKET ON DOWNSTREAM SLOPE) UPSTREAM OF PUMPHOUSE STRUCTURE. WATER PUMPED FROM CONSTRUCTION SITE TO BE DISCHARGED INTO GRASSED STREAM DOWNSTREAM OF PUMPHOUSE STRUCTURE. SILT FENCE TO BE INSTALLED DOWNSTREAM OF DISCHARGE LOCATION AND CLEANED DAILY UNTIL REMOVAL UPON COMPLETION OF PROJECT.



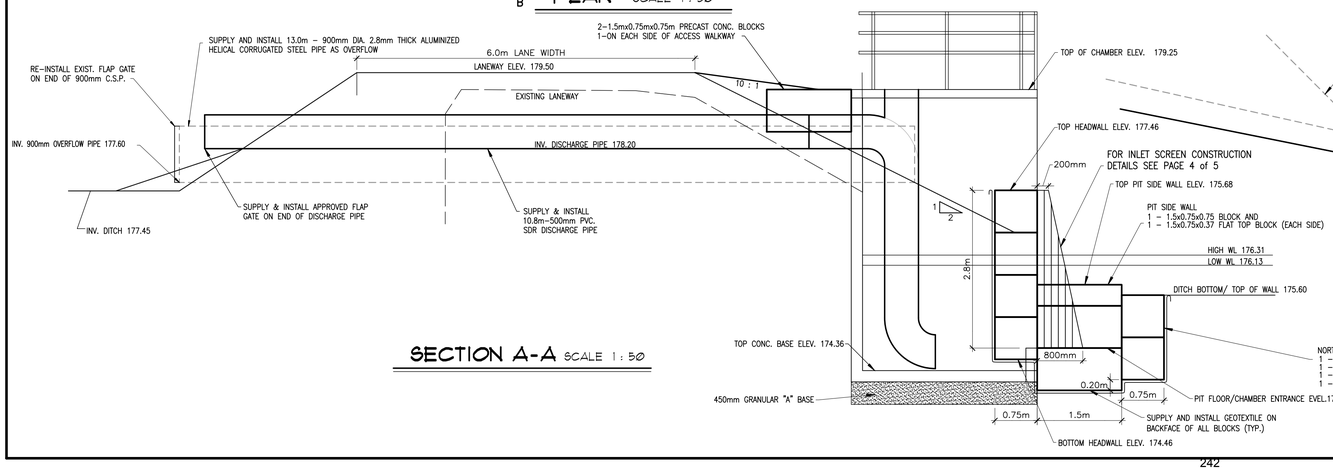
BEDDING FOR DISCHARGE & OVERFLOW PIPE
BEDDING DETAIL
N. T. S.



DETAIL PLAN SCALE 1 : 150

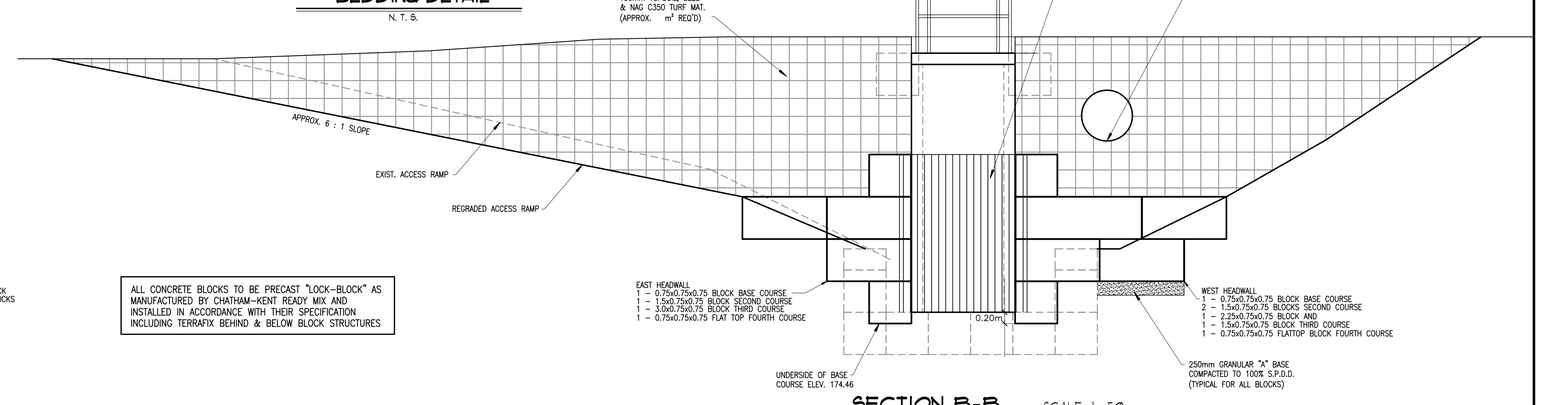


PLAN SCALE 1 : 50

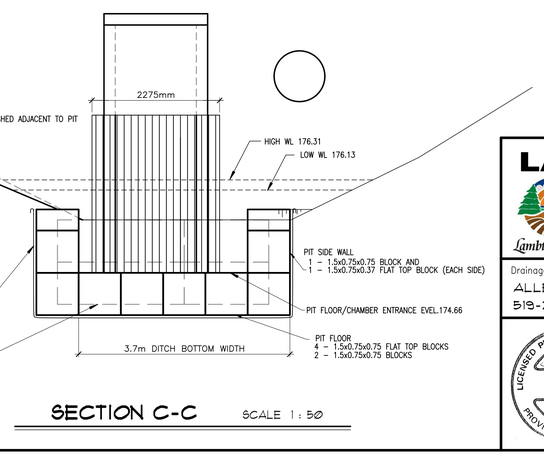


SECTION A-A SCALE 1 : 50

ALL CONCRETE BLOCKS TO BE PRECAST "LOCK-BLOCK" AS MANUFACTURED BY CHATHAM-KENT READY MIX AND INSTALLED IN ACCORDANCE WITH THEIR SPECIFICATION INCLUDING TERRAFIX BEHIND & BELOW BLOCK STRUCTURES



SECTION B-B SCALE 1 : 50



SECTION C-C SCALE 1 : 50

LAKE SMITH No. 1 DRAIN

MUNICIPALITY OF LAMBTON SHORES

Lambton Shores

Drainage Superintendent:
ALLEN LITTLE
519-243-1400

No.	REVISIONS	DATE

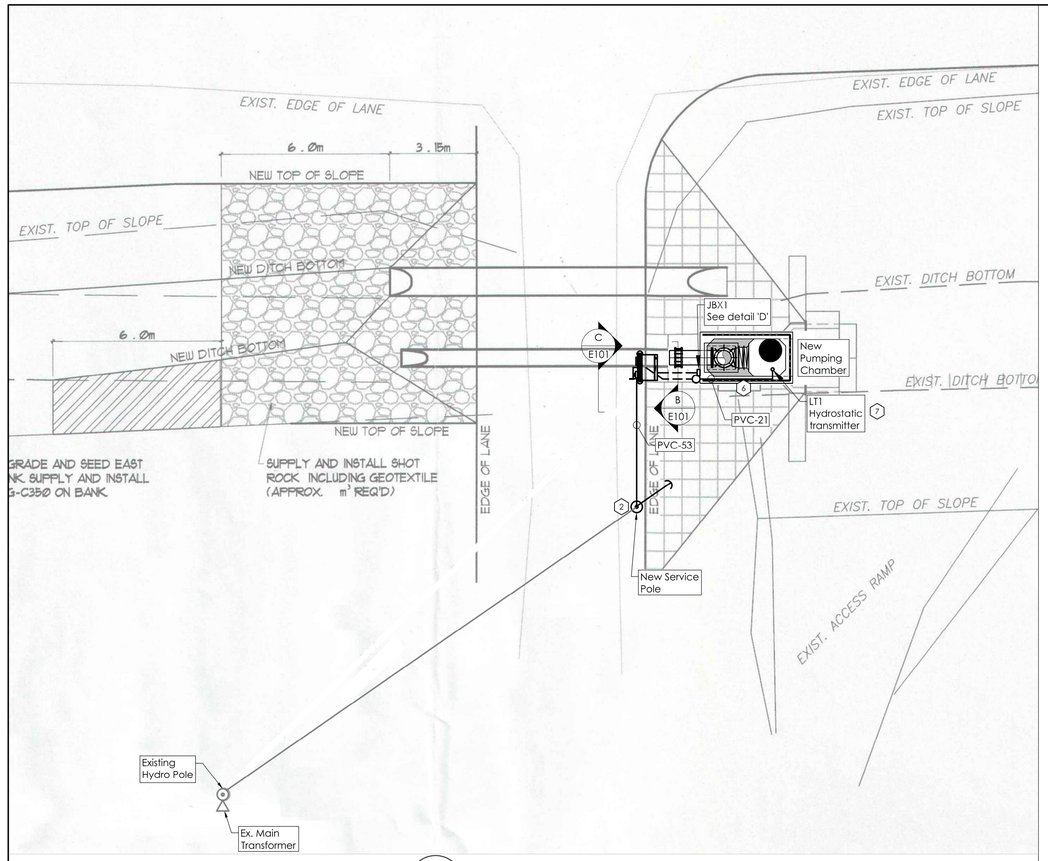
Drawn By: RK & AV | Field Book: D-233, AD-235 | JOB No. 210087 | Drawing No. 5 of 5

Date: JULY 31, 2017

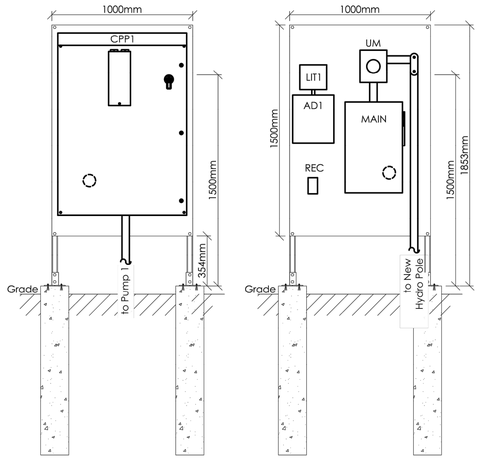
DETAILS AND SECTIONS

LICENSED PROFESSIONAL ENGINEER
M. P. DeVOS
PROVINCE OF ONTARIO

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET --LONDON (519) 672-4100--N6A 1A8

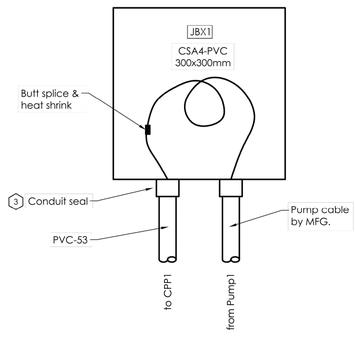


A E101 SITE PLAN
SCALE: 1:100

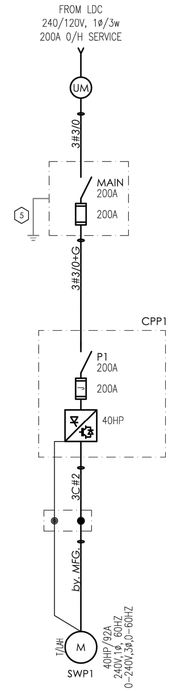


B E101 ELEVATION
SCALE: 1:20

C E101 ELEVATION
SCALE: 1:20



D E101 JBX1 DETAIL
SCALE: 1:5



SINGLE-LINE DIAGRAM

CABLE SCHEDULE	
TAGS	DESCRIPTION
3#3/0	3-1/C, #3/0AWG, Cu, RW90
3#3/0+G	3-1/C, #3/0AWG, Cu, RW90+GND GND: 1/C, #6AWG, Cu
3C#2	3/C, #2AWG, Cu, TECK90
All power and control wiring to be copper, Thermoset Insulated RW90 cables to CSA C22.2 No. 38, with required number of conductors, including bonding conductor sized to CSA C22.1/OESC, installed in the conduit; or armored TECK90 cables to CSA C22.2 No. 131.	
All conduit is to be rigid PVC conduit to CSA C22.2 No. 211.2, and Flexible liquid-tight corrugated non-metallic conduit to CSA C22.2 No. 227.2.1 as Required. Size based on CSA C22.1/OESC unless otherwise indicated.	

BILL OF MATERIAL	
TAGS	DESCRIPTION
LT1	LEVEL TRANSMITTER Endress+Hauser Part# FMU42-NTB2A43A Flange mounted 2-Wire, 4-20mA HART
LIT	LEVEL INDICATION TRANSMITTER Precision Digital Part# PD765 c/w NEMA 4X enclosure Part# PDA2700
AD1	AUTODIALER Rremote alarm dialing monitor VERBATIM BY RACO NEMA 4X ENCLOSURE

Notes

1. Coordinate de-commisioning of the existing hydro service, and commissioning of new hydro service with local distribution company.
2. Provide new 9.5m Class 3 wooden hydro pole according to OPSD standard detail 2235.01 & 2238.01 c/w dead end insulator, PVC weather head, down PVC-53 conduit and guying support. Installation details for dead end and guy location shall be followed according to OESC Specification 39.
3. Provide U/G service from new hydro pole to utility meter base rigid PVC-53 .
4. Provide conduit seal at outgoing conduit from JBX1 to CPP1.
5. Provide #6AWG, Cu, bare conductor and Ø19mm 3m long, copper clad grounding rod, installed 300mm below finished grade in native soil.
6. Strap PVC conduit to surface of pumping chamber.
7. For transmitter installation details refer to Figure 26 09 01.05

Stantec

Stantec Consulting Ltd.
600-171 Queens Avenue
London ON Canada
Tel. 519.645.2007
www.stantec.com

Legend

Revision

		By	Appd.	YY.MM.DD
B	For Tender	ML	SSS	17.07.31
A	For Review	ML	SSS	17.04.07

Issued

	By	Appd.	YY.MM.DD
165630109-E101.dwg	ML	SSS	17.03.06
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

17240-165630109

Client/Project

SPRIET ASSOCIATES for
MUNICIPALITY OF LAMBTON SHORES

LAKE SMITH No.1 DRAIN
PUMPING STATION LIFT CHAMBER
Lambton Shores, Ontario.

Title
ELECTRICAL PLANS
ELEVATION AND DETAILS

Project No.	Scale	
165630109		
Drawing No.	Sheet	Revision
E101	1 of 3	B

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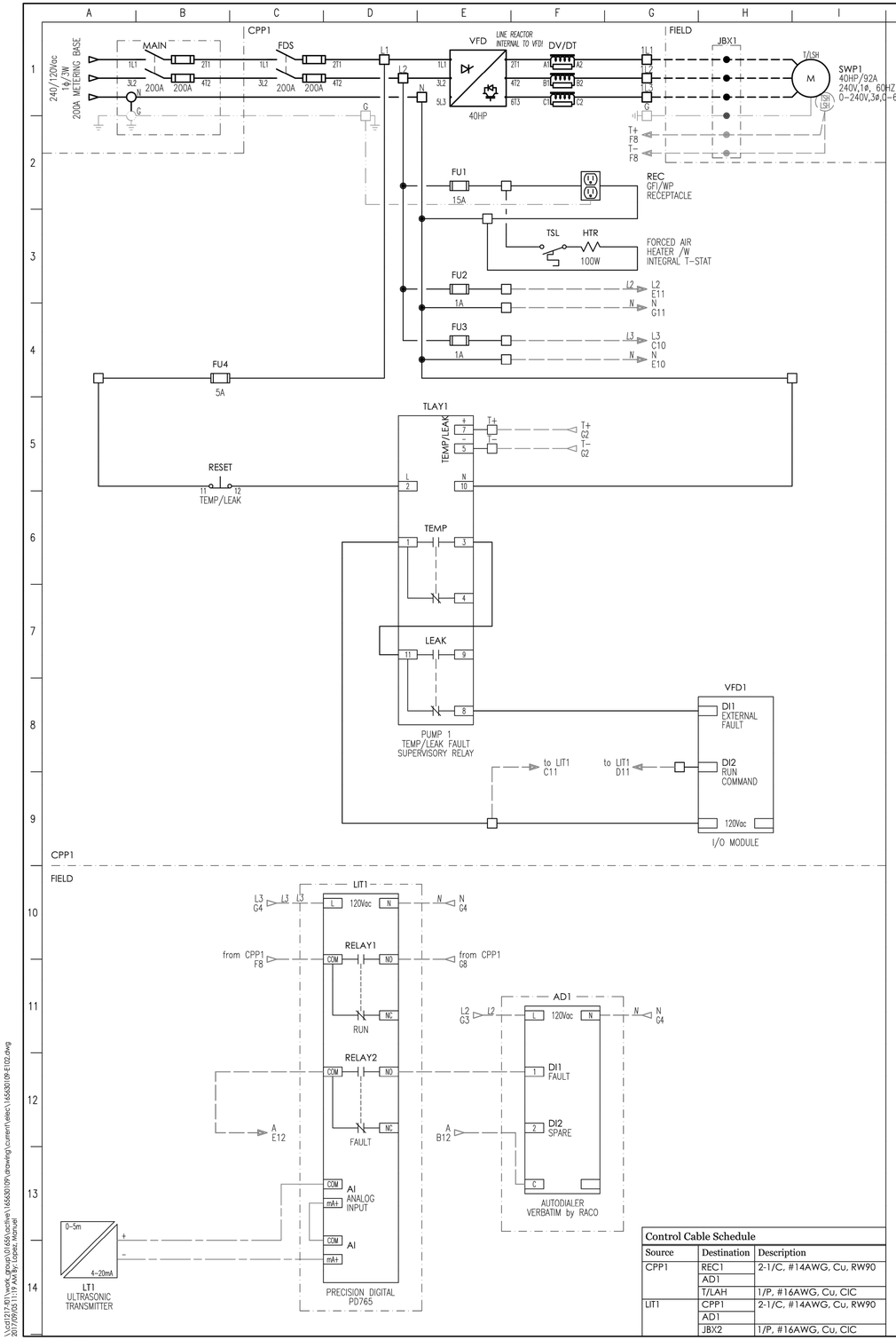
2017/09/05 11:19 AM By: Lopez, Marisel

ORIGINAL SHEET - ANSI D



Control Cable Schedule

Source	Destination	Description
CPP1	REC1	2-1/C, #14AWG, Cu, RW90
	AD1	
	T/LAH	1/P, #16AWG, Cu, CIC
LIT1	CPP1	2-1/C, #14AWG, Cu, RW90
	AD1	
	JBX2	1/P, #16AWG, Cu, CIC

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2017/09/05 1:17 AM By: Lopez, Manuel

ORIGINAL SHEET - ANSI D

Stantec

Stantec Consulting Ltd.
600-171 Queens Avenue
London ON Canada
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www.stantec.com

Legend

- 120Vac Power
- 120Vac Local Control
- 120Vac Field Control
- 4-20mA Field Control
- Terminal Block in CPP1

Notes

Revision	By	Appd.	YY.MM.DD
B For Tender	ML	SSS	17.07.31
A For Review	ML	SSS	17.04.07

Issued

	By	Appd.	YY.MM.DD
165630109-E102.dwg	ML	SSS	17.03.06
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

LICENSED PROFESSIONAL ENGINEER
S.STEVANDIC
90483983
Jul 31, 2017
PROVINCE OF ONTARIO

17240-165630109

Client/Project

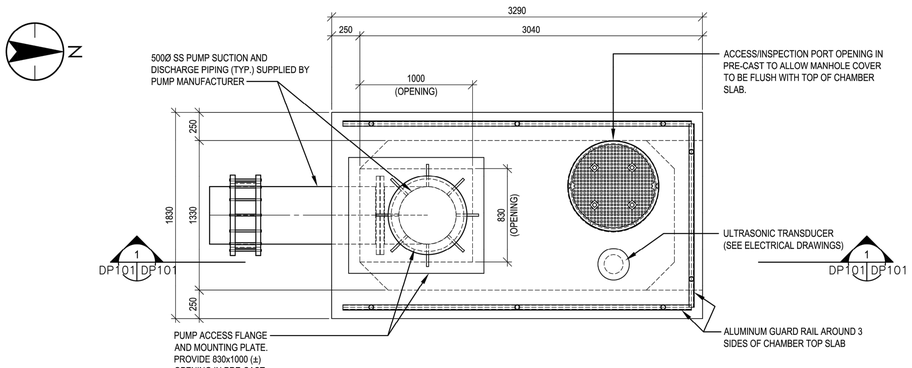
SPRIET ASSOCIATES for
MUNICIPALITY OF LAMBTON SHORES

LAKE SMITH No.1 DRAIN
PUMPING STATION LIFT CHAMBER
Lambton Shores, Ontario.

Title

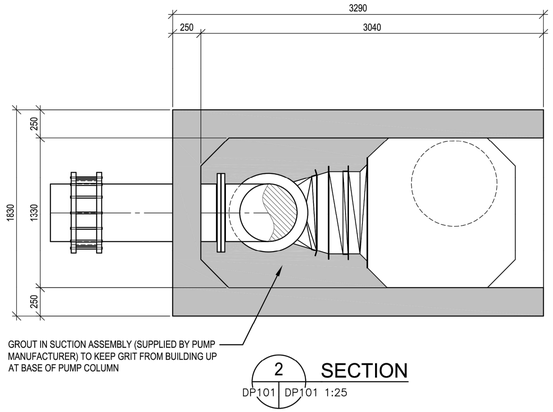
ELECTRICAL
SCHEMATIC DIAGRAM

Project No.	Scale	
165630109		
Drawing No.	Sheet	Revision
E102	2 of 3	B

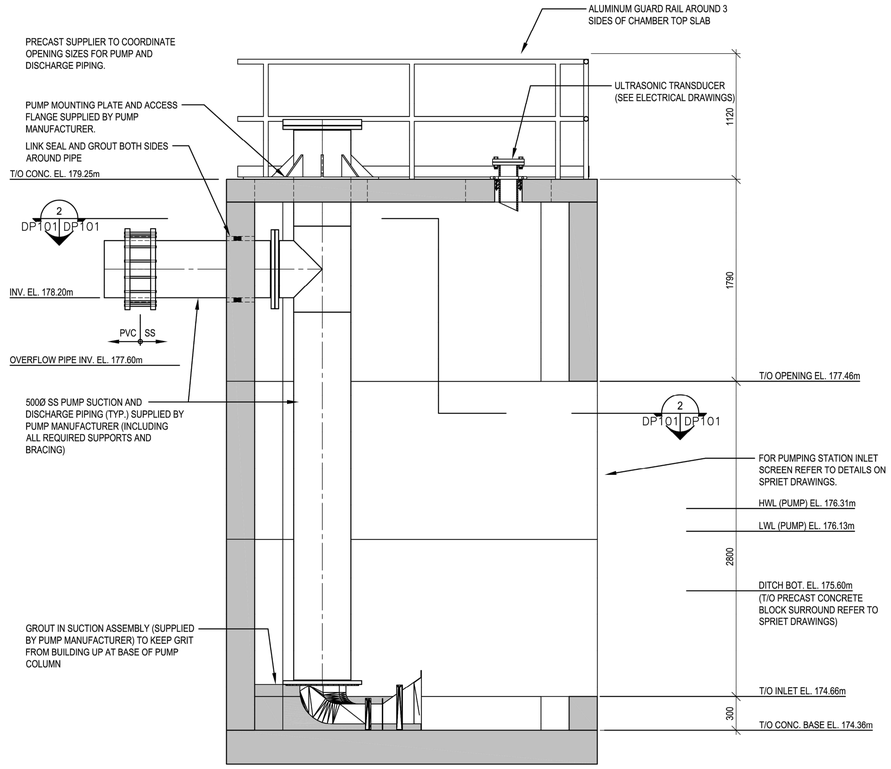


PRE-CAST CONCRETE
PUMP STATION LIFT CHAMBER - TOP PLAN

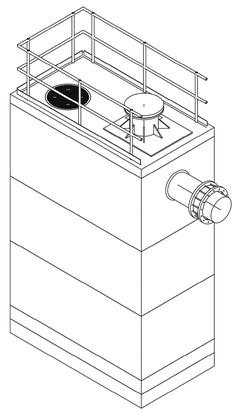
SCALE 1:25

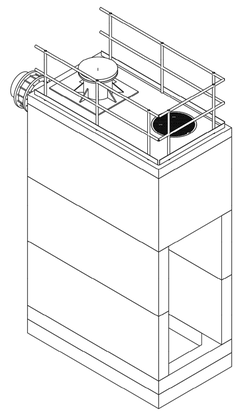


2 SECTION
DP101 DP101 1:25



1 SECTION
DP101 DP101 1:25





PUMP STATION
ISOMETRIC VIEWS

SCALE 1:50

Stantec

Stantec Consulting Ltd.
600-171 Queens Avenue
London ON Canada
Tel. 519.645.2007
www.stantec.com

Consultants

Legend

Notes

- THIS DRAWING IS TO BE REVIEWED WITH REFERENCE TO COMPLETE CONTRACT DOCUMENTS, INCLUDING ADDENDA ISSUED DURING TENDER.
- GENERAL INFORMATION ONLY. BIDDER SHALL BE RESPONSIBLE TO CONFIRM ALL NECESSARY DIMENSIONS & INFORMATION AS PART OF THEIR SUBMISSION.

Revision	By	Appd.	YY.MM.DD
B For Tender	JPK	SSS	17.07.31
A For Review	JPK	SSS	17.04.07

Issued	By	Appd.	YY.MM.DD
165630109-DP101.dwg	JPK Dwn.	SS Chkd.	GS Dsgn.	17.02.14 YY.MM.DD

Permit-Seal

LICENSED PROFESSIONAL ENGINEER
S.STEVANDIC
90483983
Jul 31, 2017
PROVINCE OF ONTARIO

17240-165630109

Client/Project

SPRIET ASSOCIATES for
MUNICIPALITY OF LAMBTON SHORES

LAKE SMITH No.1 DRAIN
PUMPING STATION LIFT CHAMBER
Lambton Shores, Ontario.

Title

PUMPING CHAMBER
PLANS SECTIONS AND DETAILS

Project No.	Scale	
165630109		
Drawing No.	Sheet	Revision
DP101	3 of 3	B

ORIGINAL SHEET - ANSI D

THE MUNICIPALITY OF LAMBTON SHORES

Report CL 32-2017 **Council Meeting Date: October 17, 2017**

TO: Mayor Weber and Members of Council

FROM: Stephanie Troyer-Boyd, Clerk

RE: Parking By-law Consolidation

RECOMMENDATION:

THAT Report CL 32-2017 regarding the consolidation of amendments to Parking By-law 20 of 2002 be received; and

THAT the appropriate by-law implementing and consolidating those amendments to Parking By-law 20 of 2002 be approved.

SUMMARY

This report is provided to consolidate amendments to Parking By-law 20 of 2002 that were approved by Council in 2016.

BACKGROUND

At the May 17, 2016 Council meeting Council received Report CL 13-2016 being amendments to the Parking By-law 20 of 2002. These amendments were approved by Council with the addition of two further amendments. Council approved the following amendments:

1) Paid parking cease in Beach Lots at 7:00 p.m. and
2) No overnight parking being changed from 2:00 a.m. to 6:00 a.m. to 3:00 a.m. to 6:00 a.m.

At the June 28, 2016 meeting Council reconsidered the time change for the overnight parking restriction and agreed that the overnight parking restriction remain at 2:00 a.m. – 6:00 a.m.

This report is provided to consolidate all changes that have been approved by Council into one amended documents.

ALTERNATIVES TO CONSIDER

Council may reconsider the approved amendments to the parking by-law

RECOMMENDED ACTIONS

THAT Report CL 32-2017 regarding amendments to Parking By-law 20 of 2002 be received; and

THAT the appropriate by-law implementing those amendments to the Parking by-law 20 of 2002 be approved.

FINANCIAL IMPACT

There is no financial impact in respect to the recommendation in this report

CONSULTATION

By-law Enforcement

ATTACHEMENTS

1. Final Consolidated By-law
2. Final Consolidated By-law Schedules

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES
(Consolidated as of October 17, 2017)

BY-LAW NUMBER 20 OF 2002

A By-law to regulate and prohibit parking in the
Municipality of Lambton Shores

WHEREAS: The Council of the Corporation of the Municipality of Lambton Shores deems it expedient to regulate the parking of vehicles and the movement of traffic within the Municipality;

THEREFORE: Pursuant to the pertinent sections of the *Municipal Act*, 2001 the *Highway Traffic Act*, and the *Provincial Offences Act*, the Council of the Corporation of the Municipality of Lambton Shores enacts as follows:

1. Definitions and Interpretations

1.1 In this by-law,

"By-law Enforcement Officer" means a person duly appointed by the Corporation of the Municipality of Lambton Shores for the purpose of enforcing or carrying out the provisions of Municipal by-laws.

"Commercial Motor Vehicle" means a motor vehicle having permanently attached thereto a truck or delivery body and includes ambulances, hearses, casket wagons, fire apparatus, buses and tractors used for hauling purposes on the highway.

"Corner" means the point of intersection of curbs or edges of the portion of highway(s) used for vehicular traffic.

"Council" means the Council of the Municipality of Lambton Shores.

"Crosswalk" means that part of a highway at an intersection that is included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or in the absence of curbs, from the edges of the roadway, or that part of a roadway or highway or street, at an intersection or elsewhere, distinctly indicated for pedestrian crossing by signs or by lines or other markings on the surface thereof.

"Designated Disabled Parking Space" means parking space designated under this by-law for the exclusive use of a vehicle displaying an original and current disabled permit in accordance with the requirements of the Ministry of Transportation, the regulations under the Highway Traffic Act and this by-law.

"Dock/Park" shall mean to bring a vessel or boat into or along side a specified area and occupy space whether temporarily or for a longer duration.

"Driveway" or "Laneway" means that portion of a lot used for or intended as an entrance to a lot.

"Fire Route" means any portion of a roadway where official signs designating a "Fire Route" are erected

"Handicapped Parking Space" see " Designated Disabled Parking space"

"Highway" or "Street" shall include a common and public highway, street, avenue, boulevard, crescent, cul-de-sac, court, parkway, driveway, square, place, shoulder, bridge, viaduct, or trestle, or the like, any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

"Intersection" shall mean the area embraced within the prolongation or connection of the lateral curb lines, or if none, then of the lateral boundary lines of two or more highways that join one another at an angle, whether or not one highway crosses the other.

"Ministry" means the Ministry of Transportation

"**Motor Vehicle"** includes an automobile, motorcycle, motor assisted bicycle, and any other vehicle propelled or driven otherwise than by muscular power.

"**Motorcycle"** means a self-propelled vehicle having a seat or saddle for the use of the driver and designated to travel with not more than 3 wheels in contact with the ground, and includes a motor scooter, but does not include a motor assisted bicycle.

"Municipal Parking Lot" means land, structures or portions of any street which may have been set aside, designated or established by the Municipality for the parking of motor vehicles, and can be either paid or unpaid.

"Municipal Property" means property owned or occupied by the Municipality of Lambton Shores, or any local board thereof

"Occupant" when used in relation to property means;

a) the tenant, or spouse thereof, of the property or part thereof, whose consent shall extend only to the control of the land of which he or she is tenant and any parking spaces allotted to him or her under the lease or tenancy agreement;

b) a person or a municipality or a local board thereof, having an interest in the property under an easement or right of way granted to or expropriated by the person, municipality or local board whose consent shall extend only to the part of the property that is subject to the easement or right of way;

c) a person authorized in writing by the occupant as defined in sub-clauses a or b to act on the owner's behalf

"One Way Street" means a street upon which vehicular traffic is limited to movement in one direction.

"Owner" when used in relation to property means;

a) the registered owner of the property, or the spouse thereof;

b) the registered owner, or spouse thereof, of a condominium unit, whose consent shall extend only to the control of the unit of which he or she is the owner and any parking spaces allotted to him or her by the condominium corporation or reserved for his or her exclusive use in the declaration of description of the property;

c) where the property is included in a description registered under the "Condominium Act" , the board of directors of the condominium corporation;

d) a person authorized in writing by the property owner as defined in sub-clauses a, b, and c to act of the owner's behalf

"**Park" and "parking",** when prohibited, means the stopping, halting or standing of a vehicle, whether occupied or not, even temporarily, except when standing temporarily during the time necessary for the purpose of and while actually engaged in loading or unloading passengers.

"Parking Machine" means a device that when payment is deposited, a timing mechanism shall indicate the actual time to which parking is allowed and will dispense a Validation Receipt which will indicate the date, amount deposited and time to which use of a parking space has been paid for.

"**Pedestrian"** includes a person afoot or an invalid or child in a wheelchair or carriage.

"**Pedestrian Cross Walk"** means any portion of a roadway designed by By-law of a Municipality at an intersection or elsewhere distinctly intended for pedestrian crossing by signs on the highway and lines or other markings on the surface of the roadway as prescribed by the regulations under the Highway Traffic Act and regulations.

"Person" includes any person, firm, partnership, association, corporation, company, or organization of any kind.

"Private Property" means all property, save and except highways and property owned or occupied by the Municipality of Lambton Shores, the Provincial Government or Federal Government.

"**Recreation Vehicle"** means a boat, jet ski/seadoo, snowmobile (or motorized snow vehicle), camper, motor home, all terrain vehicles and similar vehicles.

"Road Allowance" shall mean all allowances for roads, except insofar as they have been stopped up according to law, made by the Crown surveyors, all highways laid out or established under the authority of any statute, all roads on which public money has been expended for opening them or on which statute labour has been usually performed, all roads dedicated by the owner of the land to the public use and all alternations and deviations of all bridges over any such allowances for highway or road.

"Roadway" means that part of the highway that is improved, designed or ordinarily used for vehicular traffic, but does not include the shoulder, and, where a highway includes two or more separate roadways, the term "roadway" refers to any one roadway separately and not to all of the roadway collectively.

"Shoulder" means the un-travelled portion running along either side of a highway.

"**Sidewalk**" means a walk or raised path or that portion of a street between the curb line or edge of pavement or the lateral line of a roadway and the adjacent property line, primarily intended for the use of pedestrians.

"**Stand or standing"** when prohibited, means the halting of a vehicle, whether occupied or not, except for the purpose of and while actually engaged in receiving or discharging passengers.

"**Stop or stopping"** means a complete cessation of movement, and when prohibited, means the halting of any vehicle, with the exception of emergency vehicles, even momentarily, whether occupied or not, except when necessary to avoid conflicts with other traffic, or in compliance with the directions of a police officer or of a traffic control device or signal,

"Traffic Control Device" means any sign or roadway, curb or sidewalk marking, or other device erected or placed under the authority of the Municipal Council or the Ministry of Transportation for the purpose of guiding or directing traffic.

"Traffic Control Signal" means any device, manually, electronically, or mechanically operated for the regulation or control of traffic.

"**Trailer"** includes a unit that can be towed behind any type of vehicle and includes, but is not limited to, a flat bed trailer, box trailer, boat trailer, snowmobile trailer and similar units.

"U turn" means the turning of a vehicle upon a highway so as to proceed in the opposite direction.

"**Vehicle"** includes a motor vehicle, traction engine, farm tractor, road-building machine, bicycle and any vehicle drawn, propelled or driven by any kind of power, including muscular power but does not include motorized snow vehicle

"Vessel/Boat" shall mean any craft or ship which is propelled on the water by any mechanical or manual means.

1.2 Where any expression of time occurs or where any hour or other period is stated, the time referred to shall be standard time except in periods when daylight savings time is in effect, in which periods, it shall be daylight savings time

TRAFFIC REGULATIONS

2. Enforcement of the By-law

The enforcement of this by-law shall be undertaken by By-Law Enforcement Officers appointed by the Municipality of Lambton Shores, or when applicable, by the Ontario Provincial Police.

3. General Stopping and Parking Regulations

In addition to the parking restrictions otherwise set out in this by-law;

3.1 Close to the Curb

3.1 Where there is a raised curb, on the right side of the roadway, having regard to the direction such vehicle was proceeding, no person shall park a vehicle except with its right front and rear wheels parallel to and not more than 15 centimetres out from the curb. Where parking is permitted on the left-hand side of a roadway or a highway designated for one-way traffic, no person shall park or stop any vehicle on the left-hand side of the highway or portion thereof except where there is a raised curb, on the left-hand side of the roadway, having regard to the direction such vehicle was proceeding, no person shall park a vehicle except with its left front and rear wheels parallel to and not more than 15 centimetres out from the curb

3.2 Angle Parking

3.2 Where angle parking is permitted on a highway, no person shall stop or park any vehicle except at an angle of 60 degrees from the curb or boundary of the roadway with the front end of the vehicle at such curb or boundary.

3.3 Within the Painted Lines

3.3 Where parking spaces are designated by lines painted on the roadway, no person shall stop or park any vehicle except within the area designated as a parking space.

3.4 Within the Roadway

3.4 Where no curb exists, no person shall stop or park any part of a vehicle on a roadway.

4. Parking Regulations and Restrictions

In addition to the parking restrictions otherwise set out in this by-law, where appropriate signs are erected and are on display;

4.1 No Parking

4.1 No person shall park or permit to be parked a vehicle, recreational vehicle or trailer on any highway at the side and between the limits set out respectively in Columns 1, 2 and 3 of Schedule “B” to this By-law, during the prohibited times or days set out in Column 4 of the said Schedule.

4.1.1 On Street Parking in the Beach Areas

4.1.1 No person shall park or permit to be parked a vehicle, recreational vehicle or trailer on any highway at the side and between the limits set out respectively in Columns 1, 2 and 3 of Schedule “L” to this By-law, during the prohibited times or days set out in Column 4 of the said Schedule.

4.2 No Stopping

4.2 No person shall stop, or permit to be stopped a vehicle, a recreational vehicle, commercial vehicle or trailer on any highway at the side and between the limits set out respectively in Columns 1, 2 and 3 of Schedule “C” to this By-law, during the prohibited times or days set out in Column 4 of the said Schedule.

4.3 No Parking on Municipal Streets from 2:00 a.m. and 6:00 a.m.

4.3 No person shall park a vehicle, trailer, recreation vehicle or commercial motor vehicle on any highway within the Municipality of Lambton Shores between the hours of 2:00 a.m. and 6:00 a.m., except where allowed by permit issued by the Municipality.

4.4 No Parking in Municipal Parking Lots adjacent to the Beach from 11:00 p.m. to 6:00 a.m.

4.4 No person shall park or permit to be parked a vehicle, trailer, recreation vehicle or commercial motor vehicle on any municipal parking lot adjacent to a beach area between the hours of 11:00 p.m. and 6:00 a.m. except where allowed by permit issued by the Municipality.

4.4.1 No Parking in a Municipal Parking Lot adjacent to a Residential Area from 11:00 p.m. to 6:00 a.m.

4.4.1 No person shall park or permit to be parked a vehicle, trailer, recreation vehicle or commercial motor vehicle on any municipal parking lot adjacent to a residential area listed in “Schedule K” between the hours of 11:00 p.m. and 6:00 a.m. except where allowed by permit issued by the Municipality.

4.5 No Parking in Municipal Parking Lots from 3:00 a.m. to 6:00 a.m.

4.5 No person shall park or permit to be parked a vehicle, trailer, recreation vehicle or commercial motor vehicle on any municipal parking lot listed in Schedule “J“ between the hours of 3:00 a.m. and 6:00 a.m. except where allowed by permit issued by the Municipality.

4.6 Tow Away Zones

4.6 No person shall park or permit to be parked a vehicle, trailer, recreation vehicle or commercial motor vehicle in any designated “Tow Away” zone.

4.7 Disabled Parking Spaces

4.7 No person or organization shall park a vehicle in a designated disabled parking space unless a valid permit has been issued to that person or organization or to a passenger being picked up or transported in the vehicle and such permit is displayed on or in the vehicle in accordance with the requirements of the Highway Traffic Act, the regulations made there under and this by-law.

4.7.1 Vehicles parking in “Designated Disabled Parking Space” and displaying a valid disabled permit will be exempt from the requirement to “pay and display” or to pay using a Parking Mobile Application.

5. Further General Parking and Stopping Restrictions

5.1 No Commercial Vehicle Parking for More that 3 Consecutive Hours

5.1 In addition to the streets and highways so designated on Schedule “B” and “C”, no person shall park or stop or leave standing a commercial motor vehicle on any highway or part thereof for a period longer than three (3) consecutive hours.

5.2 No person shall, on any highway, stop, park or allow to be stopped or parked a vehicle, trailer, recreation vehicle or commercial motor vehicle in any of the following places

5.2.1 Fire Hydrant

5.2.1 Within a 3 metre radius of any fire hydrant. Where the hydrant is set back from the edge of the roadway, no person shall park within 3 metres of the point

at which the prolongation of the centre line of the hydrant at right angles to the edge of the roadway intersects such edge at any time.

5.2.2 Driveways, Laneways

5.2.2 In front of a public or private driveway, laneway, or private road so as to obstruct vehicles in the use of the driveway, laneway or private road.

5.2.3 Intersections

5.2.3 Within an intersection or within nine (9) metres of an intersection unless otherwise indicated by a sign.

5.2.4 Sidewalk

5.2.4 In a manner as to obstruct a sidewalk.

5.2.5 Impeding the Removal of Vehicles

5.2.5 In such a position as will prevent the removal of any other vehicle previously parked on the highway.

5.2.6 Pedestrian Cross Walk

5.2.6 Within a designated pedestrian cross walk

6. Additional General Parking Restrictions

In specified places where signs are displayed, no person shall park a vehicle, trailer, recreation vehicle or commercial motor vehicle in the following locations:

6.1 Fire Route

6.1 On a Highway, Street or Area designated as a fire route

6.2 Fire Hall

6.2 Within 10 metres of the entrance to a firehall on either side of the road.

6.3 School Zones

6.3 In the case of a school, provided that the signs bear the additional inscription regulating the time that the regulations are in effect, " between 8:00 a.m. and 4:00 p.m., on both sides of the road contiguous to the limit of the land used for school purposes.

6.4 Loading and Unloading Zone

6.4 When properly worded signs have been erected, and are on display, no person shall stop, stand, or park a vehicle between the hours of 7:00 a.m. and 5:00 p.m.. Monday to Saturday inclusive, in a loading or unloading zone named or described in Schedule “D” to this by-law, with the exception of a delivery truck during the time it is being loaded or unloaded

6.5 Boat Launch Area

6.5 No person shall park, stand or stop, a vehicle, trailer, recreation vehicle or commercial motor vehicle in a designated boat launch area, as set out in Schedule “I” to this By-law, other than a vehicle or tractor with a boat trailer attached which is used to launch a boat.

6.6 Bus Loading Zone

6.6 When authorized signs have been erected, no person shall park or stop a vehicle or permit a vehicle to remain parked or stopped in a school bus loading zone in the location, and during the time period set out in Schedule "N" of By-law 20-2002.

7. Time Restricted Parking

No person shall stop, park or permit to be stopped or parked, a vehicle, trailer, recreation vehicle or commercial motor vehicle on any highway at the side and between the limits set out respectively in Columns 1, 2 and 3 of Schedule “G” to this By-law, for a period of time longer than set out in Column 4 of the said Schedule.

7.1 Time Restricted Parking – Commercial Core

No person shall stop, park or permit to be stopped or parked, a vehicle, trailer, recreation vehicle or commercial motor vehicle at the side and between the limits of any Highway set out in Columns 1, 2 and 3 of Schedule “M” to this By-law, for a period of time longer than set out in Column 4, during the times specified in Columns 5 and 6 of the said Schedule.

8. Miscellaneous

8.1 Emergencies and Special Events

Notwithstanding any other provision of this by-law to the contrary, in the event of a fire, parade, assembly of persons, congestion of traffic, construction project or an emergency, parking may be restricted or prohibited by the Mayor or his designate and no person shall park a vehicle in contravention of such restrictions or prohibition.

8.1.1 For the purposes of this section, “emergency” includes a snow fall or other act of God which hinders, restricts, or prohibits movement of vehicles or pedestrians on a highway.

8.1.2 The declaration of an emergency and the parking restrictions or prohibitions will be effected by a systematic broadcast on a local radio station, and such broadcast shall be deemed to be sufficient notification of the restrictions or prohibitions then in effect.

8.2 Private and Public Property

No person, without the consent of the owner or occupant of the property, shall park or leave any vehicle, trailer, recreation vehicle or commercial motor vehicle on private or publicly owned property.

8.3 Paid Parking Lots

8.3.1 No person shall park or leave any vehicle, trailer, recreation vehicle or commercial motor vehicle in a municipal parking lot during its time of operation without first paying the appropriate fee and attaching proof of such payment for visual inspection. The receipt must be displayed face up on the dashboard of the vehicle. Payment may also be made by using a Parking Mobile Application if such service is authorized and provided in the Municipality.

8.3.2 No person shall leave a car parked in a paid lot after the parking time purchased has expired.

8.3.3 No parking fees required after 7:00 p.m. in Beach Parking lots.

8.4 Trailer Parking

No person shall park or leave a trailer in any area designated in Schedule “F” of this by-law.

8.5 Grand Bend United Church exemption

Attendees of the Grand Bend United Church parking on the Main Street with a Church Parking pass will be exempt from the requirement to “pay and display” during the hours on the pass, if the pass is properly displayed and visible.

8.6 Multiple Motorcycles in Paid Parking Spaces

Motorcycle(s) parked in a paid parking space are required to pay for the parking privilege. When 4 or 5 motorcycles are parked within one space, 1 ticket only would be required for all vehicles

9. One Way Streets

Where appropriate signs are erected and on display, no person shall drive or park or permit to be parked a vehicle, recreation vehicle or commercial motor vehicle on any highway or portion thereof listed in Schedule “H” of this by-law, except in the direction stated in Schedule “H” of this by-law.

10. Tow Away Provisions

Where a vehicle, trailer, recreation vehicle or commercial motor vehicle has been left parked, stopped or standing in contravention of this by-law, and the appropriate signage depicting the violation is erected, or where a vehicle has been abandoned on any Highway or Street, an officer appointed for the carrying out of the provisions of this by-law may cause it to be moved or taken to and placed or stored in a suitable place and all costs and charges for removing, care and storage thereof are liens upon the vehicle, which may be enforced in the manner provided by the “Repair and Storage Liens Act”

11. Schedules

The schedules referred to in this by-law shall form part of this by-law and each entry in Column 1 of such a Schedule shall be read in conjunction with the entry or entries across therefrom and not otherwise.

12. Offence

12.1 Every person who breaches a section of this By-law is guilty of an offence and subject to a penalty as provided under the “Provincial Offences Act”

12.2 Notwithstanding 12.1, where an owner of a vehicle proves to the satisfaction of the court that, at the time of the offence, the vehicle was in the possession of another person without the owner’s consent, expressed or implied, the owner shall not be guilty of an offence.

12.3 In addition to any other remedy or penalty imposed under this by-law, the court in which a conviction has been entered and, any Court of competent jurisdiction thereafter, may make an order prohibiting the continuation or repetition of the offence by the person convicted.

13. Voluntary Payment of Parking Penalties

Notwithstanding all other provisions of the By-law in respect to penalties for violation of the provisions of this By-law, any person, within seven (7) days of the date of a violation tag issued alleging commission of an offence under this By-law, may pay a penalty reduced in amount by $ 5.00.

Payment may be made on or before the date specified on the parking infraction notice,

13.1 Payable to the Municipality of Lambton Shores sent by prepaid mail to the address indicated on the parking infraction notice; or

13.2 In person at the address indicated on the parking infraction notice

14. Conflict with the Highway Traffic Act

In the event of a conflict between the provisions of this By-law and the Highway Traffic Act, the Highway Traffic Act will prevail.

15. Headings Not Part of the By-law

The headings in the body of this by-law are used for convenience or reference only and do not form part of the by-law.

16. Force and Effect

This By -law shall come into force and effect on July 2, 2002.

17. Repealed

All by-laws listed in Schedule "A-1" of this by-law are repealed as of the final passing of this by-law.

READ A FIRST AND SECOND TIME THIS 6th DAY OF MAY 2002

"MAYOR – J. C. Ivey"

"CLERK - Carol McKenzie"

READ A THIRD TIME AND FINALLY PASSED THIS 6th DAY OF May 2002.

"MAYOR – J. C. Ivey"

"CLERK - Carol McKenzie"

Amended by By-law 44-2002
Passed the 9th day of July, 2003-08-13

Amended by By-law 26-2003
Passed the 20th day of May, 2003

Amended by By-law 47-2003
Passed the 22nd day of September

Amended by By-law 16-2004 (fine amounts)
Passed the 1st day of March, 2004

Amended by By-law 17-2004 (section 5.2.3)
Passed the 1st day of March, 2004

Amended by By-Law 43-2004
Passed the 7th day of June, 2004 (schedules)

Amended by By-law 47-2005
Passed the 20th day of June, 2005 (Huron Woods)

Amended by By-law 64-2005
Passed the 6th day of September, 2005 (schedules)

Amended by By-law 78-2005
Passed the 5th day of December, 2005 (schedules)

Amended by By-law 07-2006
Passed the 19th day of January, 2006 (addition of Section 3.4)

Amended by By-law 08-2006
Passed the 19th day of January, 2006 (increase of fines of offences under sections 4.3, 4.4, 4.5)

Amended by By-law 30-2006
Passed the 4th day of May, 2006 (River Road)

Amended by By-law 31-2006
Passed the 20th day of April, 2006 (Bond Road – temporary ban)

Amended by By-law 40-2006
Passed the 18th day of May, 2006 (Shoreline Drive)

Amended by By-law 53-2006
Passed the 3rd day of August, 2006 (schedules)

Amended by By-law 80-2006
Passed the 7th day of December, 2006 (schedules – Lake Road, section 4.6)

Amended by By-law 22-2007
Passed the 19th day of March, 2007 (add section 4.4.1 and 4.4.1 – add in the Ontario and Gill Road lots into the schedules – increase fines for parking near the beach)

Amended by By-law 48-2007
Passed the 7th day of May, 2007 (schedules)

Amended by By-law 54-2007
Passed the 22nd day of May, 2007 (schedules)

Amended by By-law 47-2008
Passed the 15th day of July, 2008 (remove timed parking Main Street GB)

Amended by By-law 56-2008
Passed the 2nd day of September, 2008 (amending disabled parking areas)

Amended by By-law 17-2009
Passed the 4th day of May, 2009 (Schedule B Lake Road both side)

Amended by By-law 42-2009
Passed the 4th day of August, 2009 (Schedule E Handicapped/Disabled Parking)

Amended by By-law 06-2010
Passed the 25th day of January, 2010 – Schedule M – timed parking – commercial core for Grand Bend

Amended by By-law 14-2010
Passed the 8th day of February, 2010 – Schedule B Main Street – east and west restricted parking & Main Street N. – west side of Queen to Townsend – ½ hour

Amended by By-law 33-2010
Passed the 17th day of May, 2010 – Schedule B – Centre St GB, add Smith Street Arkona, amend Schedule J re: new parking lots and changed names – GB

Amended by By-law 65-2010
Passed the 13th day of July, 2010 – Schedule B – Boat Launch areas of Army Camp, Centre & West Ipperwash Roads

Amended by By-law 21-2011
Passed the 7th day of March, 2011 – Schedule B – Gill Road – Bus Parking

Amended by By-law 23-2011
Passed the 8th day of March, 2011 – Schedule G – Main Street, Thedford
Timed parking in front Zavitz General Store

Amended by By-law 73-2011
Passed the 8th day of August, 2011 – Schedule B – Sandy Lane – it its entirety

Amended by By-law 13-2012
Passed the 21st day of February, 2012 – Schedule B – Main Street E, Grand Bend

Amended by By-law 21-2012
Passed the 5th day of March, 2012 - Schedule "E" – Arkona Senior Centre

Amended by By-law 61-2013
Passed the 6th day of June, 2013 – Schedule B – Elmwood Ave, Grand Bend
Schedule H – Morenz Lane, Grand Bend

Amended by By-law 99 – 2013
Passed the 17th day of October, 2013 – Section 6.6 re Bus Loading Zone
Schedule "B" Parking on Gill and 81 Cres
Schedule "H" Bus zone parking

Amended by By-law 38 of 2014
Passed the 15th day of May, 2014 – Schedule "O" – Ontario Street Pedestrian Crossovers

Amended by By-law 61 of 2014
Passed the 5th day of June, 2014 – Schedule B – Ipperwash area (W Ipperwash)

Amended by By-law 90 of 2014
Passed the 18th day of September, 2014 – Schedule B – Port Franks – Windsor Park

Amended by By-Law 27 of 2015
Passed the 5th day of May, 2015 – Schedule B – Grand Bend – Lake Road

Amended June 16, 2015 – Resolution 15-0616-31 – additional definition:

Municipal Parking Lot *shall mean land, structures or portions of any street which have been set aside, designated or established by the Municipality for the parking of motor vehicles*

Amended by By-law 94 of 2017
Passed the 17th day of October, 2017

SCHEDULE "A"

BY-LAW 20 OF 2002

Every person who contravenes any provision of this by-law is guilty of an offence and on conviction is liable to a fine as provided in the Provincial Offences Act.

SCHEDULE "A-1"
BY-LAW 20 OF 2002

The following by-laws are hereby repealed as of the final passing of By-law 20 of 2002:

Bosanquet	By-law 63-1985 By-law 14-1999 By-law 05-2000
Forest	By-law 16-1985 By-law 35-1994
Grand Bend	By-law 3040-1993 By-law 3025-1990
Lambton Shores	By-law 65-2001 By-Law 15-2002

Any other by-law regulating parking passed by the Municipality of Lambton Shores or its predecessors are also hereby repealed.

Schedule "B" – By-law 20/2002 – RESTRICTED PARKING

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
PORT FRANKS				
Ann Cres.	north	Dolway Dr.	Edward St.	anytime
Ann Cres.	south	Dolway Dr.	Edward St.	9 am – 5 pm Saturday, Sunday & Holidays
Biddulph St.	both	Superior St.	Erie St.	anytime
Biddulph St.	north east	Lot E. ½ Lot 142	Ontario St.	anytime
Bond Road	North	Wedd Road	w/s of Con LRW Lot 30	anytime
Bond Road	South	Wedd Road	Sanderson Road	anytime
Burley Rd.	both	Seth Lane	Lake Huron	anytime
Clarke Dr.	north	Poplar Ave.	Dune Dr.	anytime
Clarke Dr.	south	Poplar Ave.	175' east of Dune Dr.;	9 am – 5 pm Saturday, Sunday & Holidays
Clarke Dr.	south	175'east of Dune Dr.	Dune Dr.	anytime
Creek Tr.	both	Outer Dr.	Westerly End of Road	anytime
Dolway Dr.	east	Outer Dr.	Edward St.	anytime
Dolway Dr.	north	Raeburn Rd.	Edward St.	9 am – 5 pm Saturday, Sunday & Holidays
Dolway Dr.	west	Outer Dr.	Raeburn Rd.	anytime
Dune Dr.	north	Poplar Ave.	Wedd Road .	9 am – 5 pm Saturday, Sunday & Holidays
Dune Dr.	south	Poplar Ave.	Wedd Rd.	anytime
Dune Dr.	south	175' west of Clarke Rd.	Clarke Rd.	anytime
Edward St.	both	Mud Creek Tr.	Outer Dr.	anytime
Erie St.	both	Biddulph St.	Riverside Dr.	anytime
Mud Creek Tr.	south	Raeburn Rd.	Edward St.	anytime
Outer Dr.	both	Mud Creek Bridge	Lakeshore Rd. – Hwy. 21	anytime

Poplar Ave.	both	Riverside Dr.	Dune Dr.	anytime

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
Riverside Dr.	both	Superior St.	Mud Creek Bridge	anytime
Sanderson Rd.	north	Bond Rd.	Wedd Rd.	anytime
Sanderson Rd.	south	Bond Rd.	Wedd Rd.	9 am – 5 pm Saturday, Sunday & Holidays
Sanderson Rd	Both	Bond Road	West end of the road	Anytime
Superior St.	both	Riverside Dr.	Biddulph St.	anytime
Wedd Rd.	east	Sanderson Rd.	175’ west of Clark Dr.	9 am – 5 pm Saturday, Sunday & Holiday
Wedd Rd	west	Sanderson Rd	Dune Drive	anytime
SOUTHCOTT PINES				
Maplewood Ave.	both	Shoreline Rd.	50 m S/E of Shoreline Rd.	anytime
Shoreline Dr.	both	in its entirety		anytime
HURONWOODS				
Huron Woods Dr.	both	in its entirety		anytime
Huron Woods Lane	both	in its entirety		anytime
Old River Rd.	both	in its entirety		anytime
Pinery Lane	both	in its entirety		anytime
Pinetree Cres.	both	in its entirety		anytime
Pinetree Dr.	both	in its entirety		anytime
Pintree Crt.	both	in its entirety		anytime
Riverview Rd.	both	in its entirety		anytime
The Trail	both	in its entirety		anytime

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
IPPERWASH				
Agnes Pl.	both	in its entirety		anytime
Army Camp Rd.	both	Clemens Line	Lake Huron	anytime
Centre Ipperwash Rd.	east	East Parkway Dr.	Lake Huron	anytime
Centre Ipperwash Rd.	west	Highway 21	Lake Huron	anytime
Centre Ipperwash Rd.		50’ south east of Lake Huron	Lake Huron	anytime
East Parkway Dr.	both	Army Camp Rd.	Centre Ipperwash Rd.	anytime
Margaret Pl.	both	in its entirety		anytime
Ruth Pl.	both	in its entirety		anytime
Sandy Lane	both	in its entirety		anytime
Tanner Rd.	both	in its entirety		anytime
Victoria St.	both	in its entirety		anytime
Wakefield St.	both	in its entirety		anytime
West Parkway Dr.	both	Centre Ipperwash Rd.	West Ipperwash Rd.	anytime
West Ipperwash Rd.	east	West Parkway Dr.	Lake Huron	anytime
West Ipperwash Rd.	west	Huron St.	Lake Huron	anytime
William St.	both	in its entirety		anytime
MISCELLANEOUS				
Dalton St.	both	Plan 468 Lot 1	Con LRE, Pt Lot 12	Sunday 9 a.m.- 4 p.m.
Joanne Ave.	both	Mary Ave.	Daniel Ave.	Sunday 9 a.m.- 4 p.m.

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
Julie Ave.	both	Lakeshore Rd. (Highway 21)	Joanne Ave.	anytime
Klondyke Rd.	both	Lakeshore Rd.(Hwy. 21)	1000 m s/e of Hwy.21	Sundays 9 am – 4 pm
Northville Cres.	both	Lakeshore Rd.	Lakeshore Rd.	anytime
Rock Glen Rd.	both	Townsend Line	Arkona Rd.	anytime
FOREST				
Albert St.	east	100’ north of Townsend Line	Maple St.	anytime
Albert St.	west	King St.	100’ north of Townsend Line	anytime
Argyle St.	west	Clyde St.	Jefferson St.	anytime
Arthur St.	both	King St.	Townsend Line	anytime
Broadway St.	North	Main St.	Townsend Line	anytime
George St.	both	Main St.	James St.	anytime*
George St.	both	James St.	Victoria St.	8 am – 5 pm
James St. S.* (Except for temporary funeral parking)	west	George St.	Watt St.	7:00 am – 5:00 p.m.
James St. S	east	George St.	Watt St.	anytime *
Jefferson St.	both	Main St. ~~King & Main Intersection~~	41 m west of Main St.	anytime
King St. E	north	Main St.	Townsend Line	anytime
King St. E	both	Townsend Line	256 m (840’) east	anytime
King St. W	north	Washington St.	15 m west of Washington St.	anytime

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
King St. E	south	a point 36.4 m east of King & Main intersection	a point 34 m easterly	anytime
King St. E	South	Main St.	30 m east of Main St.	anytime
King St. W	both	42 m east of Washington St.	Washington St.	anytime
King St. W	north	31.7 m east of James St.	40.25 m east of James St.	Fri. Sat. Sun & Tues 7 pm – 11 pm
Main St. N	west	Queen St.	Jefferson St.	anytime
Main St. N	east	Queen St.	Townsend Line	anytime
Main St. S	both	George St.	Broadway St.	anytime
Main St. S	east	King St.	Broadway St.	anytime
Main St. S	west	a point 135’ to the south	Victoria St.	anytime
Main St. S	west	King St.	to a point 80’ to the south	anytime
MacDonald St.	west	Royal St.	80’ north of Royal St.	anytime
MacDonald St.	east	Morris St.	206 m. south of Royal St.	anytime
MacDonald St.	west	Royal St.	206 m. south of Royal St.	8a.m. – 4 p.m. Monday - Friday
MacDonald St.	west	Morris St.	22 m. south of Morris St.	anytime
Morris St.	both	Main St.	300 m east of MacDonald St.	anytime
Prince St.	both	King St.	Townsend Line	anytime
Railroad Way	east	Watt St	King St	anytime
Royal St.	south	MacDonald St.	MacHenry St.	anytime
Washington St. N	west	Ann St.	King St.	anytime
Washington St. S	east	George St.	Watt St	anytime
Washington St.	west	King St.	Clyde St.	anytime

* NOTE: Exception is to be made to designated “no Parking” areas for temporary funeral parking.

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
GRAND BEND				
81 Crescent	south	65’ west of Gill Road	Gill Road	Monday – Friday 8:00 a.m. to 5:00 p.m. September 1 – June 30
Alberta St.	east	River Rd.	Lake Rd.	anytime
Beach Lane	both	Oak St.	Southerly Dead End	anytime
Centre St.	both	Hill St.	Pine St.	anytime
Centre St.	south	Queens Ave.	Huron Ave.	anytime
Centre St.	north	Queens Ave.	Huron St.	anytime
Dietrich Cres.	both	In its entirety		anytime
Eilber St.	west	Main St.	Dietrich Cres.	anytime
Elmwood Ave.	east	Main St.	Centre St.	anytime
Gibbs Park	both	In its entirety (Lakeside Circle, Gibbs Lane, Shady Lane)		anytime
Gill Road	West	81 Crescent	100 feet south of 81 Crescent	Monday – Friday 8:00 a.m. to 5:00 p.m. September 1 – June 30
Hill St.	both	Centre St.	Oakwood fence	anytime
Huron Ave.	both	King St.	Main St.	anytime
Huron St.	east	Centre St.	Oak St.	anytime
King St.	both	Woodward St.	Condo service entrance	anytime
Lake Rd.	both	Alberta St.	Lake Huron	anytime
Morenz Lane	both	Eilber St.	Main St.	anytime
Main St. E	both	Ontario St.	Mollard Line	anytime
Municipal Dr.	south	from the northeast corner of the Municipal office Parking lot 60 metres east of the entrance of the Legion parking lot		anytime

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
Oak St.	both	Highway #21	Beach Lane	anytime
Ontario St.(Hwy. 21)	both	In its entirety		anytime
Park Ave.	both	In its entirety		anytime
Pine St.	west	In its entirety		anytime
Queens Ave.	east	Main St. down Queen St. a distance of 67 metres to driveway accessing commercial development		anytime
River Rd.	north	Highway #21	to a point 70 metres west of Highway 21	anytime
River Rd.	south	Ontario St.	Alberta St.	anytime
Sauble River Rd.	both	In its entirety		anytime
Shady Lane	both	In its entirety		anytime
Walker St.	both	In its entirety		anytime
ARKONA				
Smith St.	east	Church St.	Union St.	anytime

Schedule “C” – By-law 20/2002 – NO STOPPING

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
GRAND BEND				
Ontario St.	both	in its entirety		anytime
FOREST				
George St.	north	Main St.	Victoria St.	anytime
George St.	south	Main St. S	James St.S	anytime
King St. E	both	Rawlings Road	Arthur St.	anytime

Schedule “D” – By-law 20/2002 - LOADING & UNLOADING ZONES

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
FOREST				
King St.	north	where signs erected between Main St. and James St.		8 am – 2 pm
Victoria St.	south	where signs erected between Main St. S. and James St. S.		
PORT FRANKS				
Mud Creek Trail	both	intersection of Raeburn Ave. and Mud Creek Tr.		15 Minutes

Schedule "E" – By-law 20/2002 - HANDICAPPED/DISABLED PARKING

ON STREET PARKING

FOREST

King St., North Side, approximately 15 metres from the intersection of Main St.
To a point 21.6 metres from the said intersection

James St., West side, 8.5 metres from the intersection of King St.
To a point 15 metres from the said intersection

Main St. N. East side, immediately North of King St.

IPPERWASH

Centre Ipperwash Rd. – Boat Launch Area – 5 spaces

PORT FRANKS

Bond Rd. Parking Area – 2 spaces
Mud Creek Trail – Parking Area – 2 spaces

THEDFORD

Main St., South side	immediately west of Royal St.
Main St., South side	adjacent to and in front of 95 Main St.
Main St. North Side	Village Complex

ARKONA

Arkona Community Centre – 2 spaces
Arkona Senior Centre – 2 spaces

OFF STREET PARKING

FOREST

Forest Community Memorial Arena – Townsend Line – 2 spaces

Forest Rotary Medical Building – 15 Main St. N

The Shores Recreation Complex - 6 spaces

BOSANQUET

Port Franks Optimist Hall

The Legacy Centre

Northville Office – 2 spaces

GRAND BEND

North Beach Lot

Beach Lot

Municipal Office Parking Area

Mid Town Street Lot

Ontario Street Lot

THEDFORD

Thedford Village Complex - 3 spaces

Schedule "F" – By-law 20/2002 – NO TRAILER PARKING

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period
GRAND BEND				
Sauble River Rd.	both	In its entirety		anytime
Eighty One Cres.	both	In its entirety		anytime
River Rd.	both	Highway 21	Alberta St.	anytime
River Rd.	south	750' west of Alberta Street	Lake Huron	8:00 a.m. – 4:00 p.m.

TOW VEHICLE \ TRAILER PARKING ONLY

River Rd.	south	Alberta Street	750’ west of Alberta Street	8:00 a.m. – 4:00 p.m.
Alberta Street	west	River Road	Lake Road	8:00 a.m. – 4:00 p.m.

Schedule "G" – By-law 20/2002 – LIMITED OR TIMED PARKING

COLUMN 1 Highway	COLUMN 2 Side (s)	COLUMN 3 From	 To	COLUMN 4 Period	COLUMN 5 Max time
GRAND BEND					
Eighty One Cres.	north	Sauble River Rd.	Gill Rd.	anytime	2 Hours
Main St.	both	Ontario St.	Lake Huron	anytime	2 hours
River Rd.	north	Municipal addresses # 55 to # 59 fisheries	Yacht Club to Purdy	anytime	10 minutes
River Road	South	750' west of Alberta St.	Lake Huron	8:00 a.m. to 4:00 p.m.	2 hours only
PORT FRANKS					
Mud Creek Trail	North	Edward Street	Raeburn	Parking Prohibited between 11:00 p.m. and 6:00 a.m	
Bond Road	North	w/s Lot 39, Con LRW	Sanderson Rd	Parking Prohibited between 11:00 p.m. and 6:00 a.m.	
FOREST					
George St.	south	James St.	Victoria St.	½ hour parking 7 am – 4 pm	
James St. S	west	George St.	Watt St.	2 Hours* anytime except funerals	
Main St. N.	west	Jefferson St.	King St.	2 hours	
Main St. N.	east	Jefferson St.	King St.	2 hours	
Main St. N.	west	Queen St.	Townsend Line	30 minutes between 7 am – 6 pm	
Main St. S.	west	Victoria St.	Watt St.	30 minutes between 7 am – 6 pm	
Washington St. S	west	George St.	Watt St.	30 minutes between 8 am – 6 pm	
Washington St.	east	King St.	Ann St.	2 hour parking - anytime	
THEDFORD					
Main St.	both sides	King St.	Louisa St.	2 hours	
Main St.	south	23 m west of Victoria St.	41 m west of Victoria St.	30 minutes	

Schedule “H” – By-law 20/2002 - ONE WAY STREETS

COLUMN 1 Highway	COLUMN 2 From	COLUMN 3 To	Direction
GRAND BEND			
Eight One Cres.	Sauble River Rd.	Gill Rd.	East
Gibbs Lane	Lakeside Cir.	Lakeside Cir.	West
Heaman Dr.	In its entirety		South West
Lakeside Cir.	In its entirety		Westerly in a circle
Morenz Lane	In its entirety		East
Sauble River Rd.	Main St. E.	Eighty One Cres.	South

Schedule "I" – By-law 20/2002 – BOAT LAUNCH AREA

COLUMN 1 Highway	COLUMN 2 From	COLUMN 3 To	COLUMN 4 Restriction
Army Camp Rd.	50' south-east of Lake Huron	Lake Huron	Anytime
Centre Ipperwash Rd.	50' south-east of Lake Huron	Lake Huron	Anytime
Centre Ipperwash Rd.	East and West Parkway Dr.	Lake Huron	Anytime
West Ipperwash Rd.	50' south-east of Lake Huron	Lake Huron	Anytime

Schedule “J” – By-law 20/2002 – REGULATED MUNICIPAL PARKING LOTS
Section 4.5 – No Parking between 3:00 a.m. and 6:00 a.m.

Grand Bend:	Mid Town Lot
	King Street Lot
	Legion Parking Lot (West of Legion)

Schedule “K” – By-law 20/2002 – REGULATED MUNICIPAL PARKING LOTS ADJACENT TO RESIDENTIAL AREAS AND/OR THE BEACH
Section 4.4 and 4.4.1- No Parking between 11:00 p.m. and 6:00 a.m.

Grand Bend	Beach Lot
	Gill Road
	Ontario Street Lot
	North Beach Lot

Schedule "L" – By-law 20/2002 - ON STREET PARKING – BEACH AREAS

Highway	Sides	From	To	Period
Bond Road	North	Wedd Road	w/s of Con LRW Lot 30	Anytime
Bond Road	South	Wedd Road	Sanderson Road	Anytime
Clarke Drive	North	Poplar Ave	Dune Drive Anytime	
Clarke Drive	South	Poplar Ave	175' east of Wedd Road	9 am to 5 pm. Saturday, Sunday and Holidays
Clarke Drive	South	Wedd Road	75' east of Wedd Road	Anytime
Dune Drive	North	Poplar Ave	Wedd Road	9 am to 5 pm. Saturday, Sunday and Holidays
Dune Drive	South	Poplar Ave	Wedd Road	Anytime
Sanderson Rd	North	Bond Road	Wedd Road	Anytime
Sanderson Rd	South	Bond Road	Wedd Road	9 am to 5 pm. Saturday, Sunday and Holidays
Sanderson Rd	Both	Bond Road	West end of the road	Anytime
Wedd Road	East	Sanderson Road	175' S of Clarke Drive	9 am to 5 pm. Saturday, Sunday and Holidays
Wedd Road	East	175' S of Clarke Dr	Clarke Drive	Anytime
Wedd Road	West	Dune Drive	Sanderson Road	Anytime
Mud Creek Tr.	South	Edward St.	Raeburn Rd.	anytime
Raeburn Rd.	both	Hazelwood Dr.	Dolway Dr.	anytime

Schedule "M" – By-law 20/2002 – LIMITED OR TIMED PARKING IN A COMMERCIAL CORE

GRAND BEND

Column 1 Highway	Column 2 Side(s)	Column 3 From	To	Column 4 Restriction	Column 5 Time Restriction in Place	Column 6 Dates Restriction in Place
Main St.	Both	Ontario St.	Lake Huron	2 hours	10:00 am – 6:00 p.m.	May 15th to September 15th
Non Holiday Weekdays						
Main St. (14-0417-16)	Both	Ontario St.	Lake Huron	2 Hours	12:00 noon – 5:00 p.m.	May 15th of September 15th

Schedule “N” – By-law 20/2002 - BUS LOADING - UNLOADING ZONE

Location	Side	Period
Gill Road Parking Lot	West side	Monday to Friday 8.00 a.m. to 5:00 p.m. September 1– June 30

Schedule “O” – By-law 20/2002 - PEDESTRIAN CROSSWALKS

Column 1 Highway	Column 2 Location
Ontario Street (Grand Bend)	145 m south of the Oak Street/Ontario Street intersection
Ontario Street (Grand Bend)	360 m south of the Lake Road/Ontario Street intersection

Schedule "P" – By-law 20/2002 –DOCKAGE PERMIT PARKING ONLY

GRAND BEND

Column 1 Highway	Column 2 Side(s)	Column 3 From	To	Column 4 Time Restriction in Place	Column 5 Dates Restriction in Place
River Road.	North	Ontario St.	Launch Ramp	anytime	May 15th to September 15th

Revised – October 17, 2017

Notice of Motion October 17, 2017

Moved by: Councillor Dodge

THAT a review of Beechwood Cemetery be undertaken to assess its possible future needs, such as a columbium and/or scattering grounds; and

THAT as part of this review we look at putting the beech back into Beechwood Cemetery with a beech tree planting plan; and

THAT funding for 10 nursery grown and planted beech trees be included in the 2018 budget consideration.

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES

BY-LAW 94 OF 2017

Being a By-Law to amend the Consolidated Parking By-Law 20 of 2002

WHEREAS: The Council for the Municipality of Lambton Shores passed By-Law 20-2002 on the 6th day of May 2002, being the Consolidated Parking By-Law for the Municipality;

AND WHEREAS: The Council of the Municipality of Lambton Shores deems it expedient to amend sections of By-law 20-2002;

THEREFORE: The Council of the Municipality of Lambton Shores enacts as follows:

1. That the amendments to the Lambton Shores' parking By-law 20 of 2002, as detailed on Schedule "A" to By-law 94 of 2017 are approved.

2. That the amendments to By-law 20 of 2002 come into force and effect upon the passing of By-law 94 of 2017, and the erection of any required signage.

READ a FIRST and SECOND TIME this 17th DAY of OCTOBER, 2017.

READ a THIRD TIME and FINALLY PASSED this 17TH DAY of OCTOBER, 2017.

_____
MAYOR – Bill Weber

_____
CLERK – Stephanie Troyer-Boyd

Schedule “A” to By-law 94 of 2017

Parking By-Law Amendments

Section 1.1 – add the words ““Parking Machine” means a device that when payment is deposited, a timing mechanism shall indicate the actual time to which parking is allowed and will dispense a Validation Receipt which will indicate the date, amount deposited and time to which use of a parking space has been paid for.”

Section 3.3 – remove the word “angle”

Add Section 4.7.1 “Vehicles parking in “Designated Disabled Parking Space” and displaying a valid disabled permit will be exempt from the requirement to “pay and display” or to pay using a Parking Mobile Application

Section 5.2.3 – remove the words “In an intersection or too close to an intersection or corner where signed” and replace with “Within an intersection or within nine (9) metres of an intersection unless otherwise indicated by a sign;”

Section 5.2.4 – remove the words “On or over a sidewalk” and replace with “In a manner as to obstruct a sidewalk”

Section 8.3.1 – add the words “Payment may also be made by using a Parking Mobile Application if such service is authorized and provided in the Municipality.”

Add Section 8.3.3 “No parking fees required after 7:00 p.m. in Beach Parking Lots.”

Add Section 8.5 – “Grand Bend United Church Exemption

Attendees of the Grand Bend United Church parking on the Main Street with a Church Parking pass will be exempt from the requirement to “pay and display” during the hours on the pass, if the pass is properly displayed and visible.”

Add Section 8.6 – “Multiple Motorcycles in Paid Parking Spaces

Motorcycle(s) parking in a paid parking space are required to pay for the parking privilege. When 4 or 5 motorcycles are parking within one space, 1 ticket only would be required for all vehicles”

Section 13.1 – remove the words “By cash or cheque or money order”

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES

BY-LAW NUMBER 95 OF 2017

A By-law to provide for drainage works in the Municipality of Lambton Shores in the County of Lambton known as the Lake Smith No. 1 Drain

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WHEREAS: The Council of the Municipality of Lambton Shores in the County of Lambton has appointed Spriet and Associates to prepare a report under *Section 78 of the Drainage Act, 19*90 as amended respecting the Lake Smith No. 1 Drain, and the report is attached hereto and forms part of this By-law.

AND WHEREAS: The estimated total cost of the improvements is $385,300.00

AND WHEREAS: $232,761.00 of the estimated total cost is the net contribution of the assessed owners in the Municipality for construction of the drainage works.

THEREFORE: The Council of the Municipality of Lambton Shores pursuant to the *Drainage Act, 1990* enacts as follows:

1) The report dated July 31, 2017 attached hereto is hereby adopted and the drainage works as therein indicated and set forth are hereby authorized and shall be completed in accordance therewith.

2) The Corporation of the Municipality of Lambton Shores may borrow on the credit of the Corporation the amount of $232,761.00 being the net amount necessary for construction of the drainage works required from the assessed residents.

3) The Corporation may issue debentures for the amount borrowed less the total amount of:

   (a) Grants received under Section 85 of the Act;

   (b) Commuted payments made in respect of lands and roads assessed within the Municipality

   (c) Money paid under Section 61 (3) of the Act; and

   (d) Money assessed in and payable by another municipality;

   and such debentures shall be made payable within the time determined by the Municipality, but no less than five years from the date of the debenture and shall bear interest at a rate charged by the Ontario Municipal Improvement Corporation on the date of sale of such debenture.

4) A special equal annual rate sufficient to redeem the principal and interest on the debentures shall be levied upon the lands as set forth in the Schedule to be collected in the same manner and at the same time as other taxes are collected in each year for 5 years after the passing of this By-law.

5) All assessments of $50.00 or less are payable in the first year in which the assessment is imposed, and shall be deemed to be taxes, and the provisions of the Municipal Act as to the collection and recovery of taxes and the proceedings that may be taken in default of payment thereof, apply.

6) This By-law comes into force on the passing thereof and may be cited as the "Grant Relief Drain".

READ A FIRST AND SECOND TIME AND PROVISIONALLY ADOPTED OCTOBER 17, 2017

_____
MAYOR – Bill Weber

_____
CLERK – Stephanie Troyer-Boyd

THIRD READING ENACTED this ____ day of _____ 2017

_____
MAYOR – Bill Weber

_____
CLERK – Stephanie Troyer-Boyd

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES

BY-LAW 96 OF 2017

Being a By-law to authorize an Agreement between
the Corporation of the Municipality of Lambton Shores and Lavis Contracting Limited
for the 2017 Asphalt Resurfacing Project

WHEREAS: The Municipality of Lambton Shores invited tenders for the 2017 Asphalt Resurfacing Project; and

WHEREAS: The tender from Lavis Contracting Ltd. was accepted by Council on October 17, 2017; and

WHEREAS: It is deemed appropriate for the Municipality to authorize the Mayor and Clerk to sign the necessary agreement;

THEREFORE: The Council of the Corporation of the Municipality of Lambton Shores enacts as follows:

1. The Mayor and Clerk are authorized to execute an agreement on behalf of the Corporation between the Municipality of Lambton Shores and Lavis Contracting Inc. and to affix to the contract the Corporate Seal of the Corporation of the Municipality of Lambton Shores;

2. This By-law comes into force and effect upon being finally passed.

Read a FIRST and SECOND time, this 17th day of October, 2017.

READ A THIRD TIME AND PASSED THIS 17th DAY OF OCTOBER, 2017.

_____
MAYOR – Bill Weber

_____
CLERK – Stephanie Troyer-Boyd

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES

BY-LAW 97 OF 2017

A By-law of the Corporation of the Municipality of Lambton Shores
to confirm the proceedings of October 17, 2017

WHEREAS: It has been expedient that from time to time, the Council of the Corporation of the Municipality of Lambton Shores should act by resolution of Council; and

WHEREAS: It is deemed advisable that all such actions that have been adopted by a resolution of the Council be authorized by By-law;

THEREFORE: The Council of the Corporation of the Municipality of Lambton Shores enacts as follows;

THAT all actions of Council which have been authorized by a resolution of the Council and adopted in open Council and accepted by Council up to and including **October 17, 2017** be hereby confirmed; and

THAT the Mayor and the proper officials of the Municipality of Lambton Shores are hereby authorized and directed to do all things necessary to give effect to the approved actions or to obtain approvals where required, and to execute all documents as may be necessary in that behalf and the Clerk is hereby authorized and directed to affix the Corporate Seal to all such documents.

THAT any pecuniary interest declared during any Council meeting or Committee meeting is deemed to be in force and the same as though repeated in this by-law.

READ a FIRST and SECOND TIME this 17th day of October, 2017.

READ a THIRD TIME and FINALLY PASSED this 17TH DAY of OCTOBER, 2017.

_____
MAYOR – Bill Weber

_____
CLERK – Stephanie Troyer-Boyd