TOWNSHIP OF MELANCTHON

A G E N D A

Thursday, March 1, 2018 - 9:00 a.m.

1. Call to Order

2. Announcements

3. Additions/Deletions/Approval of Agenda

4. Declaration of Pecuniary Interest and the General Nature Thereof

5. Approval of Draft Minutes - February 1, 2018

6. Business Arising from Minutes

7. Point of Privilege or Personal Privilege

8. Public Question Period (Please visit our website under Agendas and Minutes for information on Public Question Period)

9. <u>Public Works</u>

1. Accounts
2. Public Works Report
3. Half Load Roads for Enforcement - Verbal Report
4. Other

10. <u>Planning</u>

1. Applications to Permit
2. Other Planning
    1. Feral Cat Rescue - Zoning By-law Amendment Application
3. Unfinished Business
    1. Blue Sky RV Resort Zoning By-law Amendment
    2. Strada Aggregates Inc. Zoning By-law Amendment and Official Plan Amendment
    3. Source Water Protection Zoning By-law Amendment and Official Plan Amendment
    4. Proposed Greenbelt Expansion - Deadline for comments - March 7, 2018

11. <u>Police Services Board</u>

12. Committee Reports

13. Correspondence

<u>*Board & Committee Minutes</u>

1. Township of Melancthon Police Services Board - Dec 13, 2017
2. Shelburne and Public Library Board - Jan 16,2018

<u>* Items for Information Purposes</u>

1. Town of Mono News Release - Climate change documentary “Saving Snow” Screening in Mono on February 28th
2. 2017 Groundwater monitoring report - Township Landfill
3. Dufferin County Council in Brief - Feb 8, 2018
4. Strada Aggregates - 2017 Groundwater Compliance Report

<u>* Items for Council Action</u>

1. Draft Regulation Changes to the Fire Protection And Prevention Act response from Fire Chief Brad Lemaich, Shelburne and District Fire Department

14. General Business

1. Accounts
2. Notice of Intent to Pass By-laws
    1. By-law to Authorize an Extension Agreement for SPMIF Funds
3. New/Other Business/Additions
4. Unfinished Business
    1. Township Signage
    2. 2018 Mulmur Melancthon Fire Department Budget
    3. Action Item # 3 from December 7, 2017 meeting - *Email from Fred Natolochny, Grand River Conservation Authority, dated November 24, 2017, Re. GRCA Agreements with Municipalities*

15. Delegations

1. 9:30 a.m. - Alia Talbert and Thomas Long - North Dufferin Agricultural Community Taskforce **-** Proposed Greenbelt Expansion
2. 9:40 a.m. - Dave Milliner, CAO Township of Southgate and Al Madden, Executive Directive of the Southgate and South East Grey Community Health Centre - Presentation of the Erskine Clinic in Dundalk

16. Closed Session

1. Adoption of Minutes - February 15, 2018
2. Business Arising from Minutes
3. Personal matters about an identifiable individual, including municipal or local board employees - Township Compensation Plan for Employees - Proposal - Update
4. Adjourn Closed Session with or without Report

17. Third Reading of By-laws

18. Notice of Motion

19. Confirmation By-law

20. Adjournment and Date of Next Meeting - Thursday, March 15, 2018 - 5:00 p.m.

21. On Sites

22. Correspondence on File at the Clerk's Office

The Corporation of

THE TOWNSHIP OF MELANCTHON

157101 Highway 10,

Melancthon, Ontario, L9V 2E6

PUBLIC WORKS REPORT

TO: Council

FROM: Craig Micks, Director of Public Works

SUBJECT: February Work

DATE: February 23, 2018

<u>During the Month of February</u>

The day crew plowed, sanded & ice bladed for a total of 17 days.

<u>In the shop:</u>

We serviced Grader 2.
We changed wing & edge on Truck 2.
We changed plow cable on Truck 2.
Truck 2 also needed 2 new hydraulic lines.
We cleaned the shop & washed trucks & graders.

<u>On the roads:</u>

We fixed some signs, cleared bridge decks of snow & ice, picked up garbage.
We fixed washed out roads & shoulders due to heavy flooding.

Due to plus degree temperatures, we may put half load signs on some roads early.

<u>Things To Do In March Weather Permitting</u>

There are trees to cut down on River Road in Horning's Mills.
The remaining half load signs are to be posted.
The remaining washed out roads will be fixed.
There is cold patching & grading roads to be done.
We will be fixing signs & picking up garbage.

PW# 2

MAR 0 1 2018

Report Respectively Submitted

Craig Micks
Director of Public Works

TOWNSHIP OF MELANCTHON POLICE SERVICES BOARD

The Township of Melancthon Police Services Board held a meeting on Wednesday, December 13, 2017 at 10:00 a.m. at the Melancthon Township Municipal Office Committee Room. Those present: Chair and Public Member David Thwaites, Municipal Member Darren White, Staff Sergeant Nicol Randall, Dufferin OPP and Denise Holmes, Interim Secretary.

Call to Order

Chair Thwaites called the meeting to order at 10:00 a.m.

Declaration of Pecuniary Interest or Conflict of Interest

Chair Thwaites advised those in attendance that they could declare their pecuniary interest now or at any time during the meeting. None was declared.

Approval of Agenda

Additions:

1. From the December 7, 2017 Council meeting regarding the OPP advising to use 3rd Line OS when County Road 124 is closed
2. Police checks

Moved by White, Seconded by Thwaites that the agenda be approved as amended. Carried.

Approval of Minutes

Moved by White, Seconded by Thwaites that the minutes of the September 20, 2017 Police Services Board meeting be adopted as circulated. Carried.

Issues Arising from the Minutes

None.

Presentations/Delegations

10:30 a.m. - Susan Snider and Andy MacIntosh from Community Safety Partners attended Council and spoke to the Board about the Towing By-law. Ms. Snider advised that the County is rescinding the By-law, effective January 1, 2018, and that the lower tier municipalities need to put a Tow Truck By-law in place and presented a Draft Tow Truck By-law to the Board. She advised that the Dufferin Towing Association is on Board with this and that it is important that our travelling public are safe. She said the Public doesn't realize you can request what tow truck you want. Staff Sgt. Randall advised that there are lots of issues from the OPP and said there is a willingness to work together but to let the County handle this at the moment. Staff Sgt. Randall advised that Sgt. McConnell is available from the OPP on this matter and the OPP would like to be consulted before the By-law is passed. The draft By-law gives authorities that the OPP doesn't really have. It was advised that the original by-law was vetted by the County lawyer in 2009. Denise Holmes advised that the previous Council in 2009 would not have anything to do with a Tow Truck By-law as they

felt that they were regulating a private industry by putting one in place. It was decided that the PSB request the County to defer the rescinding of the By-law until 2018 and the following motion was introduced and passed: Moved by Thwaites, Seconded by White that as a result of a Presentation by Community Safety Partners on December 13, 2017, we would respectfully request County Council to defer the rescindment of the Tow Truck By-law for six months to give the Joint PSBs, affected municipalities, OPP and the Dufferin Towing Association an opportunity to consult on a new By-law. Carried.

Correspondence

1. AMO Communications Alert dated November 2, 2017 - **New Policing Legislation Introduced at Queen's Park**
2. Motion from the Township of Amaranth Police Services Board regarding Provincial Offences Court Administration
3. Motion from Town of Shelburne Police Services Board regarding Provincial Offences Court

No action taken on the correspondence.

Financial

There was $500.00 budgeted for 2017 and the advertising for the Community Policing Meeting held in November came out of that money. The Board would like to request that $500.00 be put in the Budget for 2018.

Detachment Commander's Report

Staff Sgt. Randall reviewed her report for July - September 2017 and spoke on Secondary Employment, Staffing Updates, statistics on violent crime, property crime, drug crime, clearance rates unfounded and criminal record and vulnerable sector screening checks. She also provided information on the POA ticket on 2016 vs 2017 (to Sept). The collisions by area was presented and she said most of the collisions were on County Road 124. She said the paid RIDE duty started in November.

Committee Reports

None.

Other Business

1. Quote for Portable Scales

Item was discussed and the following motion was introduced and passed: Moved by White, Seconded by Thwaites that the Township of Melancthon Police Services Board recommends to Council that the Township purchase two Portable Scales at a total cost of $6,434.22 including HST. The other participating municipalities to be billed by Melancthon Township for reimbursement of this purchase. Carried.

Staff Sgt. Randall advised that the scales would ship as soon as they got the go ahead.

2. Discussion regarding Speed Enforcement on Township and County Roads in Melancthon - Update

Chair Thwaites advised that there are still people speeding on the 3rd Line – it appeared to be as soon as the speed indicator sign was taken down. Discussion on rotation of the speed sign for next year. It was suggested that maybe the Township could invest in one more sign. Staff Sgt. Randall was asking about the County Stats and Member White advised that he would follow up with the County on this matter.

3. Provincial Offences Administration - Update

Member White advised that there has not been a lot of movement on this at the County level. There is a willingness to work together and he felt that we should let the County handle this at the moment. Staff Sgt. Randall advised of concerns from a Staffing perspective and gave a high and low end cost of the impact of moving the court to Caledon. The financial impact could range from $30,000.00 to $70,000.00 based on the number of hours and time spent in POA court and she could be down anywhere from one to four officers. She advised that it is 44 km to Caledon, there would be wear and tear on the car, meals to pay, etc. She said it is all about adequate staffing and how that is managed. The following motion was introduced and passed: Moved by Thwaites, Seconded by White that the Provincial Offences Administration and the County of Dufferin engage in good faith discussions and negotiations on operation and location of the Provincial Offences Courts expediently and forthwith. Carried.

4. Status on Bill 175, *Safer Ontario Act*

This Act passed 2nd reading on November 5, 2017. Chair Thwaites advised that as the draft regulations governing the composition/functioning of the OPP Detachment Boards had not been prepared or published, he could not address how it might impact the Melancthon PSB.

5. Feedback on Community Policing Meeting held on November 14th at Horning's Mills Hall

No feedback has been received on the meeting. There were very few people there this time, compared to the last meeting, so perhaps people are satisfied. During this time, Member White advised that he felt the new Staff Sgt. was making a difference and has changed things for the better.

6. Community Officer – arranging for home site inspections regarding property safety

Discussion ensued on how to get the word out about this and how to request a home inspection for safe guarding your home. The Secretary will work with Constable Nancekivell to get some wording for the website on this.

7. Setting of 2018 Meeting Dates

The meetings for 2018 will be held as follows:

Wednesday, February 21st - 10:00 a.m.
Wednesday, May 16th - 10:00 a.m.
Wednesday, September 19th - 10:00 a.m.
Wednesday, November 21st - 10:00 a.m.

8. Other/Additions

Concerns of Council - At the Council meeting held on December 7, 2017, the Public Works Director raised concerns that he heard on the radio that an Officer of the Dufferin Detachment was advising people to use Melancthon's 3rd Line OS when County Road 124 is closed. He feels that the 3rd Line is not a good alternative because once you get to 30 Sideroad, there is no where to go. There needs to be more communication on this issue. There needs to be messaging out there that if the County Road is closed, that people should use other Provincial Highways or County Roads and not local roads as they cannot accommodate the traffic. Staff Sgt. Randall asked if there were emergency detour routes and if we don't have them, can we implement them? She will reach out to Steve Murphy, Community Emergency Management Coordinator at the County about this.

During this time, Staff Sgt. Randall advised that they have partnered with Blue Mountain and whenever County road 124 is closed, they will tweet it out on their page. It was advised about the need for a large LED sign to be located in Orangeville advising commuters of County Road 124 closures.

Police Checks - A concern was raised at Council regarding the length of time it was taking to get a police check. Staff Sgt. Randall advised that there are two Admin Clerks who can do them but the demand for Criminal Checks is increasing. She had put in for an extra Detachment Clerk but was denied. She explained that the two admin clerks who do the checks, have been there so long they have many weeks of vacation and that is why it was taking 5-6 weeks for them. She advised that because of this issue, she went back and reapplied for the extra Detachment Clerk and it was approved. Therefore, going forward, police checks will be quicker. She is hoping to be able to keep this person three days per week.

Public Discussion

None.

Date of Next Meeting & Adjournment

11:15 a.m. - Moved by White, Seconded by Thwaites that we adjourn this Police Services Board meeting to meet again on Wednesday, February 21, 2018 at 10:00 a.m. or at the call of the Chair. Carried.

CHAIR

SECRETARY

Minutes for Shelburne Public Library Board Meeting
Tuesday, January 16, 2018

Present:	Geoff Dunlop	Laurita Townsend	Larry Haskell
	Erika Ulch	Gail Little	Paul Barclay
Regrets:	Dave Besley, Sharon Martin		
Also Present:	Rose Dotten, CEO/ Head Librarian		

The chair, Geoff Dunlop, called the meeting to order at 7:00 P.M. We welcomed Paul Barclay as a new member representing the Town of Shelburne.

Motion 1 -18 L. Townsend, E. Ulch
Be it resolved that we approve the agenda of the board meeting dated January 16, 2018.
Carried

Motion 2 -18 G. Little, L. Haskell
Be it resolved that we approve the minutes of the board meeting dated December 19, 2017.

Carried

Financial Reports:

Motion 3 -18 E. Ulch, P. Barclay
Be it resolved that we approve the Accounts Payable Register for November, 2017 with invoices and payments in the amount of $27,423.36.
Carried

CEO/ Head Librarian's Report:

- **Statistics**
  Our statistics this month were slightly inflated because an area of the library was inventoried. Nevertheless, the stats were still higher than at this time last year. DVDs and e-resources are still very popular. It seems many patrons are starting to use Flipster, our E-magazine subscription to access some magazines that we do not carry in print format.

- **Letters from Elizabeth Locs**
  We were immensely gratified to receive two very positive letters from a patron, Elizabeth Locs. One was addressed to staff commenting on their friendliness and professionalism. The other letter was a copy of a letter sent to Mulmur Council and it really outlines the value of our library to the residents of Mulmur. It reflects the concern that some patrons have about our ongoing discussions with Mulmur regarding the funding situation
  .

Correspondence:

1. **Correspondence from Mulmur**
   There still seems to be misunderstanding by the Township of Mulmur with regards to the funding and agreement. The Township is now requesting to see the actual waivers that the patron signed to verify that they are actually patrons as we have submitted to them. The Board felt that in order to finally resolve this issue we should invite Mulmur Council representatives for a transparent and open discussion

Motion 4 – 18 G. Little, E. Ulch
Be it resolved that the Board invite representatives of the Township of Mulmur council to attend the next meeting of the Shelburne Public library board which is scheduled for Tuesday, February 20, 2018, at 7 pm.

Carried

Business:

- **Coffee, Conversation & Books**

  The first event was well attended and a great discussion was held with author. Don Hayward. John Riley will be Orangeville on February 21 and Harry Posner will be in Shelburne on March 21st at Jelly Café.

- **Correspondence to Clearview Public Library Board and New Tecumseth Library Board**

  The Board has decided to write letters both to Clearview Library and New Tecumseth Board to ask about the rationale for the funding of their libraries from contracting municipalities. It is difficult for us to understand that their charges would be so low and we wondered how the rate payers felt about subsidizing these other libraries. We discovered that in a comparison that Mulmur Board sent out to their households, our fee was quite a bit higher because we were charging a comparable cost to what we obtain from our other municipalities. Indeed the non-resident amount reflects current costs.

- **Laurita Townsend – last meeting as Board member**

  Geoff Dunlop thanked Laurita Townsend for her past few years of Board membership.

Motion 5 - 18 L. Haskell, S. Martin
That we now adjourn at 6:52 p.m., to meet again January 16, 2018, at 7 pm., or at call of the Chair.

Carried

Town of Mono

347209 Mono Centre Road
Mono, Ontario L9W 6S3

FOR IMMEDIATE RELEASE

Climate change documentary "*Saving Snow*" Screening in Mono on February 28th

MONO, ON (February 21, 2018) - ***Saving Snow***, a documentary about how ski towns are coping with warmer winters and joining in the movement to reverse global warming, is being released in a wave of community screenings across North America including right here in Dufferin County on February 28th.

Mono Nordic Cross Country Ski Club and the Town of Mono are hosting a free screening of ***Saving Snow*** on Wednesday, February 28 at 7:30 pm at the Town of Mono Municipal Office, 347209 Mono Centre Road. This is the second film created by independent filmmaker Diogo Castro Freire as part of the Adaptation Now documentary project: www.adaptationnow.com.

The film educates audiences about the impacts of climate change on winter and winter snow sports. The film begins with last year's cancellation of the Berkebeiner Cross Country Ski Loppet in Wisconsin due to lack of snow. Here in Mono, the effects of climate change are also being felt, including by the Mono Nordic Cross Country Ski Club. Last weekend, challenging weather and snow conditions were experienced during the annual Family Ski Day.

The film concludes that we can make a difference and can advance solutions to climate change to save snow. The key is to motivate more individuals and policy makers towards action and to search for more innovative solutions. The film advances these concepts well.

At the conclusion of the film, for those who wish to stay, there will be an audience participation discussion about the film and the application of the ideas promoted by the film.

For further information contact Ralph Manktelow at ralph@manktelow.org.

Fred Simpson
Deputy Clerk
Fred.Simpson@townofmono.com
(519) 941-3599, 234

INFO #1
MAR 0 1 2018

Denise Holmes

From: BRET LEMIEUX <blemieux@rogers.com>
Sent: Wednesday, February 14, 2018 9:36 AM
To: Denise Holmes
Subject: 2017 Landfill Report
Attachments: BG-611- Township of Melancthon Landfill - 2017 Groundwater Monitoring Report.pdf

Good Morning, Denise: Please find attached the completed 2017 Landfill Monitoring and Sampling Report,

Thanks,

Bret

INFO#2
MAR 0 1 2018

SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT 2017

Township of Melancthon Landfill Site
Lot 12, Concession 4
Melancthon Township, Ontario

Project No. BG-611

Prepared for:

The Corporation of the Township of Melancthon
R.R. #6
Shelburne, ON.
L0N 1S9
ATTN: DENISE HOLMES, AMCT, CLERK-TREASURER

FEBRUARY 2018

BLUEWATER GEOSCIENCE
CONSULTANTS INC.

42 Shadyridge Place
Kitchener, Ontario
N2N 3J1

Tel: (519) 744-4123
Fax: (519) 744-1863
E-mail: blemieux@rogers.com

February 14, 2018

The Corporation of the Township of Melancthon
R.R. #6,
Shelburne, Ontario L0N 1S9
Attn: Ms. Denise Holmes, AMCT, Clerk-Treasurer

Dear Ms. Holmes:

Re: 2017 Semi-Annual Groundwater Monitoring and Sampling Report, Township of Melancthon Landfill Site, Lot 12, Concession 4 Melancthon Township, Ontario

Bluewater Geoscience Consultants Inc. (Bluewater) was retained by The Corporation of the Township of Melancthon to complete the 2017 Semi-Annual Groundwater Monitoring and Sampling Report for the Melancthon Township landfill property located on Lot 12, Concession 4 in Melancthon Township, Ontario. The Township operates a municipal landfill site at the property and requires the Groundwater Monitoring and Sampling Program for their MOE Certificate of Authorization (C of A) for the operation.

The scope of work, observations, analytical test results, and our conclusions and recommendations for the 2017 Semi-Annual Groundwater Monitoring and Sampling Report are presented in the following report.

We trust that this report is complete within our terms of reference and suitable for your present requirements. If you have any questions or require further information, please do not hesitate to contact our office.

Sincerely,
BLUEWATER GEOSCIENCE CONSULTANTS INC.

Breton J. Lemieux, M.Sc., P.Geo. QP_{ESA}
President, Senior Geoscientist

TABLE OF CONTENTS

1.0 INTRODUCTION

The Corporation of The Township of Melancthon (Township) retained Bluewater Geoscience Consultants Inc. (Bluewater) to complete the 2017 landfill (LF) groundwater monitoring and sampling program and to generate the annual report detailing the findings. The landfill site monitoring was undertaken to continue to assess any environmental impacts to surface and groundwater created by the LF operations. This landfill monitoring report was completed in accordance with the requirements of the Ministry of the Environment's Certificate of Approval for the LF site.

The site monitoring included completing two site inspections, measuring groundwater levels in all 35 observation wells during the Spring and Fall of the year and determination of the resulting groundwater flow patterns in and around the LF. Groundwater sampling was conducted on 31 selected sampling wells during both the Spring and Fall of each year. The groundwater samples for 2017 were submitted to a CAEL-accredited analytical laboratory for analysis. The results of the completed laboratory analyses were compared to MOE's Ontario Drinking Water Standards (ODWS) (for on-site monitors) and the Reasonable Use Policy (RUP) for off-site monitors.

2.0 PREVIOUS INVESTIGATIONS

2.1 R.J. Burnside & Associates Limited – Annual Groundwater Monitoring Reports 1993-2000

Annual groundwater monitoring reports for the LF were completed by R.J. Burnside & Associates Limited (Burnside) from 1993 – 2000. These reports included the sampling and analysis of groundwater samples from seventeen existing monitoring wells located in and around the LF site. Eleven of the monitors are located in the overburden aquifer while six are installed within the underlying bedrock aquifer. A summary of these reports indicates that no exceedance of the MOE RUP had been determined during the groundwater sampling events. In general, on-site monitoring locations indicated that exceedance of the MOE's ODWS for on-site monitors were rare and not sustained.

2.2 Rubicon Environmental Inc. – Groundwater Monitoring and Hydrogeological Investigations – Spring 2001

During 2001 Rubicon added another fourteen groundwater monitors to the existing network of monitors in and around the LF site. Eight of these monitors were installed in the overburden aquifer while six were installed in the bedrock aquifer.

During the 2001 investigations, the existing monitoring wells installed by Burnside were sampled and analysed. The additional monitoring wells were tied into the site survey, but not sampled.

2.3 Rubicon Environmental Inc. – Groundwater Monitoring and Hydrogeological Investigations – Spring 2002

This report included results of the Spring and Fall 2002 site monitoring and groundwater sampling and analysis program. The monitoring and sampling included the new monitors added during 2001.

2.4 Rubicon Environmental Inc. – Landfill Monitoring – March 24, 2004

This report provides details of the 2003 LF groundwater monitoring and sampling program completed at the site. The report details that some minor exceedances of the ODWS were determined for on-site monitoring wells.

2.5 Bluewater Geoscience Consultants Inc. – Annual Groundwater Monitoring and Sampling Reports 2004 - 2016

These reports detail the 2004 - 2016 LF groundwater monitoring and sampling program completed at the site. The report details that some minor exceedances of the ODWS were determined for on-site and off-site monitoring wells.

3.0 SITE BACKGROUND

The LF site has been in operation since ~1973 at its current location at Lot 12, Concession 4, Township of Melancthon, County of Dufferin. The LF serves the population of ~2,400 people in the Township. The nearest residence is located ~450 m south of the LF site. The location of the LF is remote and distant from any significant population centres.

The LF presently operates under Provisional Certificate of Approval (C of A) A180703. The total LF property comprises an area of ~33.038 ha., of which 6.1 ha. has been approved for landfilling. In 2013, waste placement was proceeding aboveground in the northwestern portion of the approved filling area. This fill area has been in use since late 2003 and is immediately adjacent to the west of the former fill area (Figure 1, Appendix A). During 2013 the County of Dufferin assumed waste collection and disposal services in the Township of Melancthon. Further waste disposal at this landfill is not anticipated should County of Dufferin services be found adequate.

3.1 Site Inspection

During both Spring and Fall monitoring events, a site inspection was completed. The main refuse disposal area has been covered with soil and grades have been established to reduce the amount of rainwater infiltration into the waste pod. Temporary fencing has been placed around portions of the fill area to control windblown waste. There was no waste placement at this landfill during 2017.

During the Spring 2006 inspection it was noted that OW-4S had been destroyed, likely by equipment working in the area. OW-4S is located within the current filling are. During the Fall inspection it was

noted that OW-4D had been destroyed during the summer months. OW-4D was also located within the current filling area.

4.0 GROUNDWATER MONITORING WELLS AND METHODOLOGY

4.1 Existing Monitoring Wells in 2017

Thirty-four groundwater-monitoring wells were in existence at the commencement of the 2017 monitoring period. All wells were inspected and found to be in good order, with the exceptions noted just above. During the Spring 2015 site inspection it was found that OW-17, located along the east side of the 4th Concession had been damaged during the winter and could not be located. This well was not sampled during 2017. OW-17 does not constitute a delineation well and is therefore not considered critical at this time. Should conditions dictate in the future, OW-17 may need to be replaced.

Seventeen monitoring wells had been installed by Burnside pre-2001. Six of these were installed in the deeper bedrock aquifer (denoted "D" for deep) while eleven were installed in the shallow overburden aquifer (denoted "S" for shallow). All existing monitoring wells were constructed of 50 mm diameter Schedule 40 PVC pipe and are fitted with steel protective casings and locks. The locations of all monitoring wells are presented on the Base Site Plan (Figure 1B, Appendix A). A brief description of each monitor locations is provided below:

- OW 1 is installed in the overburden aquifer and is located between two former refuse disposal areas
- OW 2S and OW 2D are located downgradient (east) of the current refuse disposal area
- OW 3S and OW 3D are located immediately downgradient (east) of the current refuse disposal area
- OW 4S and OW 4D are no longer present
- OW 5S is installed in the overburden aquifer and is located north of the disposal area, near the northern property boundary. This monitor is frequently dry in Fall
- OW 6S and OW 6D are located near the south property boundary and had been intended to represent background water quality
- OW 7S and OW 7D are located near the northeast property corner, northeast of the former refuse disposal area
- OW 8 is installed in the overburden aquifer and is located in the main refuse area. OW 8 is considered a 'leachate' well
- OW 9S and OW 9D are located off-site, northeast of the landfill and in the east ditch of the 4th Line
- OW 10S and OW 10D are located east of the main refuse disposal area
- OW 11S and OW 11D are located northwest of the main refuse disposal area. These monitors were intended to provide further clarification of groundwater flow patterns and are not included in the sampling program
- OW 12S and OW 12D are located west of the main refuse disposal area. These monitors were intended to provide further clarification of groundwater flow patterns and have been

included since the 2006 sampling program;

- OW 13S and OW 13D are located immediately south of the main refuse disposal area. These wells were located to provide better delineation of the groundwater mounding in the refuse area and provide chemical data south of the refuse area;
- OW 14S is located southeast of the main refuse disposal area and was intended to help clarify groundwater flow patterns distant from the refuse disposal area;
- OW 15S and OW 15D are located southeast of the main refuse disposal area and were intended to help clarify groundwater flow patterns distant from the main refuse disposal area. These monitors were sampled for the first time during 2006;
- OW 16S and OW 16D are located along the north property boundary. These monitors were intended to provide clarification of groundwater flow patterns and provide chemical analysis of groundwater at the north property boundary. These monitors were sampled for the first time during the 2006 program;
- OW 17S is located off-site in the overburden aquifer. The monitor is located in the east ditch of the 4th Line. This monitor was intended to provide better information on shallow groundwater flow patterns and potentially provide chemical data regarding the contribution of road salt to noted groundwater impacts. This monitor was destroyed in 2015 and has not been replaced;
- OW 18S and OW 18D are located off-site east of the 4th Line. These monitors were intended to help refine groundwater flow patterns in the overburden and bedrock aquifers and provide chemical data in that area.

4.2 Wells Installed in 2006

During 2006 an additional six monitoring wells were installed at the landfill. The six new wells consisted of three sets of two wells (OW-19S and 19I, OW20S and 20D and OW-21S and 21D). The locations of the new wells are shown on Figure 1B, Appendix A. A description of the location and rationale for each of the new wells is presented below:

- OW-19S and OW-19I are located in the southeast corner of the landfill property, just west of the 4th Line. These wells were installed to provide additional points for determining groundwater flow patterns and to provide chemical data at this downgradient property boundary. OW-19S is set in the shallow till overburden while OW-19I (intermediate) is set in a lower till unit. These two wells were included in the 2007 sampling and lab analysis program for the first time;

- OW-20S and OW-20D are located just southeast of the 'old closed landfill' in the northeast portion of the landfill property. These wells will provide further groundwater flow data as well as providing additional chemical data. OW-20S is set in the shallow overburden, just above the bedrock. OW-20D is sealed into the bedrock. These two wells were included in the 2007 sampling and lab analysis program for the first time;

- OW-21S and OW-21D are located along the north landfill property boundary, well west of the active landfilling area. These wells will be utilized to provide additional groundwater flow information as well as providing chemical data at locations well upgradient of the fill

area. OW-21S is set in the shallow overburden, just above the bedrock. OW-21D is sealed into the dolostone bedrock. These two wells were included in the 2007 sampling and lab analysis program for the first time;

All groundwater-monitoring wells have been surveyed relative to a geodetic datum and ground surface and top of monitoring well pipe elevations have been recorded. During 2006, waste placement was taking place in the immediate area of OW-4S and OW-4D. These wells were destroyed by the heavy equipment. OW-17 was destroyed during the winter of 2014-2015 and is no longer part of the monitoring network.

4.3 Water Level Monitoring

On April 24 and October 24, 2017 groundwater levels were measured in all 34 existing monitoring wells installed at the LF. The depth to water relative to the top of monitoring well pipe was measured using a Solinst water level gauge. The determined water depths were recorded and the resulting groundwater elevations were determined. Table 1, Appendix B provides the tabular representation of the groundwater elevation data, including historic groundwater levels.

After completion of the water level measurements, the monitors selected for sampling were thoroughly purged of a minimum of 3 casing volumes of water in anticipation of the groundwater sampling.

4.4 Groundwater Sampling

The 2017 groundwater sampling and analysis program consisted of sampling up to 30 selected groundwater monitoring locations at and around the LF property. Samples were obtained from both overburden and bedrock aquifer wells. Prior to obtaining the groundwater samples, the selected monitors had been purged of a minimum of three casing volumes of water in order to facilitate provision of representative samples.

Groundwater samples from the selected monitoring wells were obtained using dedicated Waterra tubes and foot valves and were placed directly into the laboratory-supplied sample bottles. The groundwater samples were obtained and submitted for analysis of the volatile organic compounds (VOC's), general water chemistry and heavy metals parameters. The heavy metal samples were field filtered and preserved. The groundwater samples were chilled in coolers prior to being submitted under Chain of Custody to ALS Laboratories of Waterloo, ON for analysis. ALS is a CAEL (Canadian Association of Environmental Laboratories) accredited laboratory.

4.5 Surface Water Sampling

Surface water sampling was completed during the Spring 2017 at the designated surface water sampling location SW-3 (Figure 1). This location is a small dugout (possible former gravel extraction pit) located on the property adjacent to the north. It is our understanding that the Township has now purchased this property.

4.6 Groundwater Flow

The determination of groundwater flow patterns in both overburden and bedrock aquifers are essential in determining the potential for off-site impacts and contaminant distribution. In general, groundwater levels in both overburden and bedrock aquifers were lower (~1m) in the Fall than the Spring monitoring. The measured groundwater elevations for each aquifer were determined and plotted on the site plan. The resulting groundwater flow patterns were determined based on this distribution. Figures 2 and 3 present the groundwater flow patterns for the Spring monitoring while Figures 4 and 5 provide the Fall 2017 aquifer flow patterns.

As may be noted from these Figures, mounding of groundwater in both aquifers within the refuse disposal area is occurring. This phenomenon is typical of landfill sites and should be expected to continue. The mounding creates radial flow, outwards, apparently in all directions away from the refuse disposal area. The flow then comes under the influence of background flow patterns. Based on the findings of this, and previous, monitoring events, the overburden groundwater flow is towards the northeast while the bedrock groundwater flow is more-directly eastwards.

Groundwater flow is driven by the gradient of the groundwater. This produces head differences between locations creating the conditions for groundwater movement. The horizontal hydraulic gradient in the overburden aquifer has been determined to be on the order of 0.007 m/m. Based on this gradient, and the characteristics of the overburden, the lateral groundwater flow velocity may be approximately 74 m/yr. The horizontal hydraulic gradient in the bedrock aquifer is lower; approximately 0.002 m/m. Based on this gradient and the characteristics of the aquifer, velocities of approximately 0.03 m/yr are estimated.

Vertical hydraulic gradients between the overburden and bedrock aquifers create the conditions for downward migration of groundwater impacted in the refuse disposal area. Downward vertical gradients allow downward movement of water into the bedrock aquifer. Downward vertical gradients are found in the refuse disposal area allowing shallow impacted groundwater to potentially enter the bedrock aquifer. This is significant because the bedrock aquifer is utilized as a potable water source within the Township and the bedrock aquifer is less able to attenuate groundwater contaminants.

5.0 GROUNDWATER QUALITY

5.1 Groundwater

Groundwater sampling and analysis for the LF site has been undertaken since 1993. Additional wells were added to the sampling regime in 1999 and selected monitoring wells installed in 2001 were added to the sampling list during 2002. Groundwater quality data for the 2017 program are provided in the Tables in Appendix B along with chemistry data from 2009 - 2017. Copies of the detailed Certificates of Analysis for the 2017 monitoring data are provided in Appendix C.

Inorganic parameters such as chloride, sulphate, hardness and alkalinity are frequently utilized to determine the extent of landfill leachate impacts in groundwater. Hardness and alkalinity are naturally elevated at the landfill property and throughout Melancthon Township. Chloride levels in both overburden and bedrock aquifers are elevated in the refuse disposal area. In general, concentrations in the bedrock aquifer are slightly higher than in the associated overburden wells. This is a reflection of the downward gradient from the overburden to the bedrock coupled with the lower attenuation capabilities in the bedrock. None of the on-site or off-site monitors exceeded the MOE ODWS concentration for chloride during the 2017 monitoring events. None of the wells sampled during 2017 exceeded the MOE RUP for chloride (125.5 mg/L) concentration. Elevated chloride concentrations in this vicinity of the 4th Line, east of the LF, may be partially attributable to the application of road salt during winter. OW –18 S and D (as well as OW-9S and D) are located within the roadside ditch of the 4th Line and are likely to collect runoff from the road. Chloride concentration was also elevated (but below RUP) at OW-3D, located just downgradient of the current fill area.

In general, the background groundwater quality at the LF site consists of hard water with elevated hardness, alkalinity, manganese and iron content. During the 2017 monitoring, all wells sampled had determined hardness in excess of the ODWS. Alkalinity concentrations in excess of the ODWS were noted at OW's 2S, 2D, 3D, 7S, 7D, 9D, 12S and 18S. Iron concentrations in excess of the ODWS were determined at all sampled wells including upgradient locations. Manganese concentrations in excess of the ODWS were determined for OW's 2S, 2D, 3S, 3D, 6S, 6D, 7S, 7D, 9S, 9D, 10S, 10D, 13S, 13D, 15D, 16S, 16D, 17S, 18S, 18D, 19S, 20S and 20D. As this list includes all sampled location except OW-1, OW-5 and OW-8 these elevated concentrations are likely reflective of background groundwater quality in the area. The lack of significantly elevated manganese concentrations at OW-8, which is considered a leachate well and displays elevated sulphate concentrations, further suggests that elevated manganese concentrations are not landfill related.

The sulphate concentrations at OW 8 of 743 mg/L in Spring 2017 and 636 mg/L in Fall 2017 were in excess of the ODWS of 500 mg/L and RUP of 253.9 mg/L. These elevated concentrations are likely related to leachate groundwater impacts in the main refuse disposal area. During the Fall monitoring, elevated sulphate concentrations approaching the RUP value were not recorded (except at OW-8). No other on-site or off-site monitor exceeded the RUP for sulphate.

Parameter concentration trends through time for sulphate, chloride and manganese for selected off-site, property boundary and downgradient wells reviewed. Manganese concentrations trends do not suggest rising levels as would be expected if landfill related. Chloride trends do not suggest rising concentrations for these wells. In fact, several locations have shown slightly declining levels over the last few years. This is likely reflective of an effort on Township personnel's behalf to reduce salting in the area of the landfill entrance after several elevated chloride concentrations were detected in past years. As suggested at that time, those past elevated chloride concentrations appear to have been affected by these road salting activities.

The sulphate concentration trends for the selected wells show generally rising concentrations at OW-2S and OW-2D. Sulphate concentrations at the other selected wells do not indicate any discernible rising trends. Sulphate concentrations are generally higher in Fall than Spring. A site plan showing concentration distribution during Spring 2017 for shallow groundwater wells is provided in Figure 6

and for deep groundwater wells is provided in Figure 8, Appendix A. A site plan showing concentration distribution for Sulphate during Fall 2017 for shallow wells is provided on Figure 10 and for deep groundwater wells is provided on Figure 12, Appendix A.

A site plan showing chloride distribution during Spring 2017 is provided in Figure 7 for shallow groundwater wells and in Figure 9 for deep groundwater wells. A site plan showing chloride distribution during Fall 2017 is provided in Figure 11 and for shallow groundwater wells and in Figure 13 for deep groundwater wells.

Trace concentrations of VOC parameters, well below ODWS's and close to method detection limits, were determined for the 2017 monitoring at OW's 2D, 3D, 7D and 18D. While these VOC concentrations are likely landfill related, they are not considered to be of significance at this landfill.

There was a general trend towards higher parameter concentrations during the Fall monitoring compared to Spring concentrations. This is a continuing trend, consistent with past findings and normal groundwater conditions.

Bluewater has evaluated the long-term trends in groundwater quality at the LF site. Most parameter concentrations have remained fairly steady over the past several years suggesting that dilution and attenuation are dealing adequately with the refuse area derived leachate impacts.

5.2 Surface Water

Surface water sampling was completed during the Spring 2017 monitoring events from the dugout located just north of the landfill. This dugout was noted to be dry during the Fall monitoring.

5.3 Methane Monitoring

Methane gas is a by-product of waste decomposition and will be generated in the waste unit until all the organic matter is completely decayed. Methane, while it is a potential explosion hazard, is not a major concern provided that no building is ever permitted within approximately 30 meters of the refuse disposal area. The shallow water table and relatively permeable cover material at the Melancthon landfill are expected to prevent significant migration of methane. Gas produced by the landfill is expected to vent naturally to the atmosphere. It should be noted however, that ice, snow cover, and frozen ground in the winter may prevent methane gas from venting and cause methane gas to migrate laterally from the refuse disposal area.

If methane is present in concentrations between 5% and 15% in air it can become explosive. Below this range, there is an inadequate amount of methane for explosion. Above this range, there is an inadequate amount of oxygen for explosion. Therefore, 5% is considered the Lower Explosive Limit (LEL) and 15% is considered the Upper Explosive Limit (UEL) for methane.

Headspace methane monitoring was completed on all wells during both Spring and Fall 2017 monitoring events. The results of the methane monitoring are presented in Table 2 Appendix B. A slight detectable methane concentration was determined for OW-8 however no other of the monitors

had detectable methane concentrations during the Spring or Fall 2017 monitoring events. On-going methane monitoring should be incorporated in future monitoring events.

6.0 LANDFILL VOLUMES AND CAPACITY

The Melancthon landfill has a current design capacity of 297,000 m^3 on the approved 6.1 ha area. At the completion of 2012, 89,326 m3 of the total volume had been filled. The volume survey completed during October 2013 determined that the landfill volume used during 2013 was 10,636 m^3 meaning the total volume used to the end of 2015 is 99,962 m^3. The 2013 volume included the importation of ~ 2,000 m3 of clean fill to cover the current fill area based on the end of waste receiving at the site. No waste was added during 2017. Based on this figure, the remaining fill volume for this design is 197,038 m^3.

7.0 SUMMARY AND CONCLUSIONS

The following section summarizes the findings of the 2017 Annual Groundwater Monitoring Report:

- The Township of Melancthon operates a 'natural attenuation' landfill site in a remote, sparsely populated area of the Township. Surrounding land use is predominantly agricultural and the nearest residence is located ~450 m south of the site;

- During 2013 The County of Dufferin assumed waste collections and disposal responsibilities for Melancthon Township. No waste was imported to the landfill during 2017. At this time, further waste placement at this landfill is not anticipated given adequate service is maintained by the County;

- Two main hydrogeological units exist in the subsurface of the site. The upper unit, referred to as overburden, consists of sand and gravel and silty sand soils. The groundwater level in the overburden is unconfined and shallow (<2m) and shows seasonal fluctuations with Spring levels generally higher than those in Fall. This fluctuation is likely the result of the addition of snow melt water during the Spring. The second, deeper hydrogeological unit is the underlying dolostone bedrock aquifer. The water level in the bedrock is generally lower than in the overburden. This creates a downward vertical hydraulic gradient that allows landfill-generated impacts to potentially enter the bedrock aquifer;

- Mounding of groundwater occurs within both hydrogeological units within the refuse disposal area. This mounding creates a radial flow pattern in the refuse area that drives flow in all directions away from the mound. The groundwater then comes under the influence of the background (natural) flow regime. Groundwater flow in the overburden aquifer is northeast towards the entrance to the landfill in the northeast corner of the property. Flow in the bedrock aquifer is more-directly to the east and the eastern property boundary;

- Comparison of the laboratory analytical data from the Spring and Fall 2017 monitoring events to the applicable ODWS and RUP objectives indicates that background water quality exceeds ODWS Standards for hardness, alkalinity, iron and manganese;

- Exceedance of the MOE RUP objectives for parameters such as hardness, alkalinity, manganese and iron were determined at most sampled locations during 2017. These concentrations are likely at least partially unrelated to landfill impacts and reflect general water quality in Melancthon Township. No chloride RUP exceedance was noted for any off-site or on-site wells. Exceedance of the RUP for other leachate-indicators such as sulphate was not noted during 2017 near property boundaries. Exceedance of the RUP and ODWS for sulphate occurred at OW-8, located immediately downgradient of the principal fill area. Elevated sulphate concentrations in excess of the RUP were determined at OW-18S, OW-18D and OW-20D during the Spring 2013 monitoring. These apparently anomalous sulphate concentrations were not repeated during 2017. Further on-going monitoring will be used to track future sulphate concentrations at these monitor locations;

- Significant methane concentrations were not determined during 2017;

- The site is currently in compliance with the terms and conditions of its C of A.

8.0 RECOMMENDATIONS

The following recommendations are made regarding the future Groundwater Monitoring and Sampling Program at the Township of Melancthon landfill site:

- Continuation of the semi-annual groundwater monitoring and sampling program including a routine site inspection, recording of static water levels at all 35 monitoring locations and groundwater sampling and laboratory analysis of the selected monitoring wells in both Spring and Fall;

- Preparation and submission of an Annual Monitoring Report to MOE for review.

- Natural dilution of contaminants derived in the refuse disposal area coupled with natural attenuation in the overburden appears to be dealing with derived groundwater impacts adequately at this time. The widespread occurrence, including upgradient locations, of ODWS and RUP exceeding manganese, iron, hardness and alkalinity concentrations appears to be more a function of natural geologic conditions than landfill-derived impacts. Lab results for monitors downgradient of the principal fill areas show more elevated chloride and sulphate concentrations, which are not similar to findings in the northeast corner of the property.

- Monitoring for headspace methane concentration in all wells should be continued for the 2018 program.

9.0 REFERENCES

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10.0 LIMITATIONS

This report was prepared for the exclusive use of The Township of Melancthon. This report is based on information and data collected during the completion of an environmental investigation of the Site carried out by Bluewater Geoscience Consultants Inc., and is based solely on the site conditions encountered at the time of the assessment and the applicable guidelines in place at the time of this investigation.

It should be noted that the observations and recommendations presented in this report are limited to the actual locations explored and laboratory parameters analyzed. The information presented in terms of the thickness and types of the sub-soils encountered, groundwater levels and chemical testing results, etc., are only applicable to the actual locations explored. Variations may be present between these locations. Should significant variation become apparent during later investigations, it may be necessary to re-evaluate the recommendations of this report. The results of an investigation of this nature should, in no way, be construed as a warranty that the site is free from any and all contamination from past or current practices since conditions may be different from the locations tested. This assessment was carried out using existing historical information as available from various agencies and no assurance is made regarding the accuracy or completeness of this information.

If new information is discovered during future work, including excavation, borings or other studies, Bluewater Geoscience Consultants Inc. should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required. The analytical test results are assumed to be correct and performed according to all current regulations. No audit of the laboratory's methods or procedures was performed.

This assessment does not include, nor is it intended to include, any option regarding the suitability of any structure on the site for any particular function, the integrity of the on-site buildings or the geotechnical conditions on the site. Inspections of buildings do not include compliance with building, gas, electrical or boiler codes, or any other federal, provincial or municipal codes not associated with environmental concerns. Should concerns regarding any issue other than environmental matters arise as a result of our investigations, appropriately qualified professionals should address them.

11.0 CLOSURE

Bluewater Geoscience Consultants Inc. operates under a Certificate of Authorization from The Association of Professional Geoscientists of Ontario (APGO). Breton Lemieux is a registered Qualified Person (QP) with MOE and is a licensed Professional Geoscientist with over thirty years of international environmental consulting experience. Mr. Lemieux has a Geologic Technologist Diploma from Fleming College in Lindsay, Ontario, an Honours Bachelor of Science degree in Geology from the University of the West Indies in Kingston, Jamaica and a Master of Science degree in Earth Sciences from the University of Waterloo. His experience includes conducting Phase I, II and III ESAs at a wide variety of contaminated sites, underground storage tank removal supervision, water supply development, environmental building science and other site and landfill environmental monitoring projects.

Denise Holmes

From: Dufferin County <info=dufferincounty.ca@mail16.sea31.mcsv.net> on behalf of Dufferin County <info@dufferincounty.ca>
Sent: Monday, February 12, 2018 12:41 PM
To: dholmes@melancthontownship.ca
Subject: County in Brief - February 2018

Dufferin County's Official E-Newsletter

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DUFFERIN
COUNTY

COUNTY IN BRIEF

For February 8th, 2018

The following highlights from the February 8th, 2018 Dufferin County Council Meeting are provided for general information purposes. For the full agenda and minutes, please visit our website by clicking here. In addition we will also be providing some highlights of services, upcoming events and items of interest.

Family Day

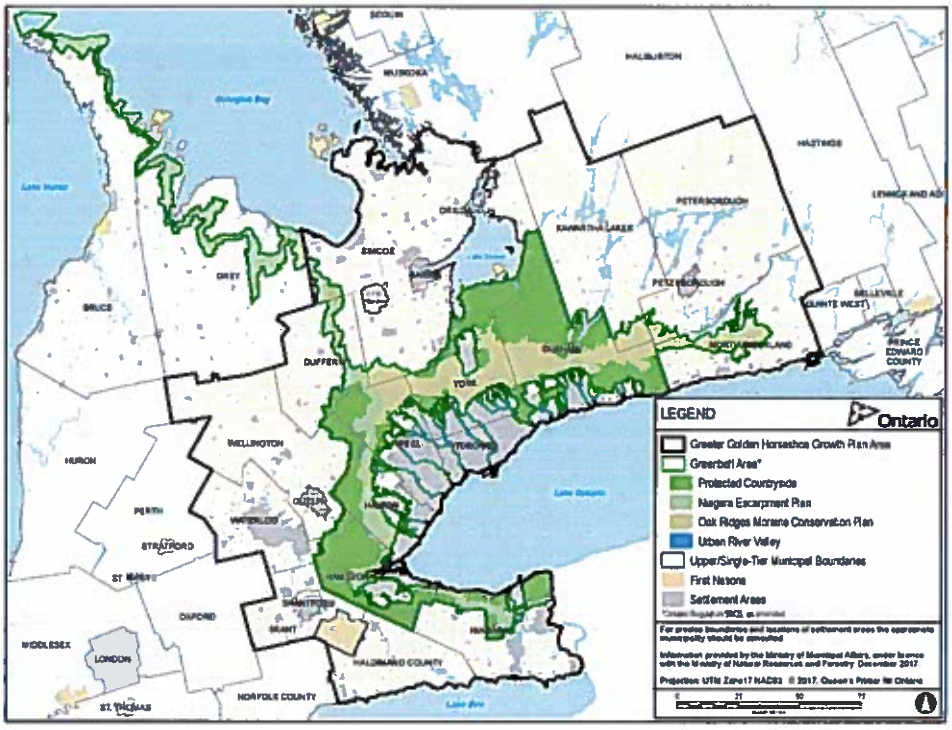
INFO#3
MAR 0 1 2018

Warden Paul Mills would like to invite everyone to participate in one of the many Family Day events planned for Monday, February 19th, 2018. The Dufferin County Museum and Archives are hosting their popular Family Play Day at the Centre Dufferin Recreation Complex in Shelburne, ON. Bring your skates and a helmet for some fun on the ice and meet hometown hockey legend Aaron Downey. There are also great outdoor activities scheduled at Island Lake Conservation Area in Orangeville where snowshoeing, ice fishing, skating and the newest Canadian winter activity, crokicurl, are going to take over the lake. If cross country skiing is your thing then you have to head over to the Mono Nordic Ski Club at Monora Park where equipment rentals are free for Family Day and the trails are in great condition.

"Warden Mills gets pinned"

During the public question period at the January County Council meeting Council was asked why the "Warden had to wait until the end of his or her term to be presented with an engraved Warden's pin?" Council agreed that this practice should be changed and they asked that Warden Mills be 'pinned' at the February Council meeting. County CAO, Sonya Pritchard, was pleased to present Warden Mills with his pin.

Protecting water for future generations



Mr. Brian Bell of NDACT, addressed Council regarding the proposed Greenbelt Expansion. Mr. Bell informed Council that the current proposal to expand the Greenbelt is focused on the water recharge and discharge areas, which is being called the Bluebelt. They asked that Council support the Greenbelt expansion, in principle and submit a comment to the Ministry stating that protecting water for future generations is a priority. They also asked that they receive a copy of the County's submission.

Prior to the meeting several members of Council attended an open house held for the proposed Greenbelt expansion. Council have asked the CAO to send a letter detailing the technical comments prepared by the County's planning consultants to the province.

There is still time for everyone to have their say about this provincial proposal. Visit http://www.mah.gov.on.ca/page17641.aspx and let the Minister know how you feel about this issue.

Waste Diversion is Everybody's Win

When it comes to waste diversion rates, Dufferin County is tied for first place within a larger regional group of municipalities, and third place in the province of Ontario overall. Diverting waste from landfills is a real team effort that relies on every resident of Dufferin County to do their part to reduce, reuse and recycle. This recognition belongs to every resident who diligently sorts their waste and supports the County's waste management initiatives.

Dufferin County to Host Flood Workshop

Dufferin County has partnered with the Credit Valley, Nottawasaga Valley and Grand River Conservation Authorities as well as the Insurance Bureau of Canada and Wellington Dufferin Guelph Public Health to bring flood preparedness education to a community near you. The public is invited to attend these sessions to hear about the increasing risk of flooding, the recent changes to some insurance coverages, the health hazards associated with flooding and the steps necessary to protect your family and property.

March 6th, 2018 6:30-8:30 pm - Mono Centre Community Centre - 754483 Mono Centre Road, Mono ON - Lower South Room

March 20th, 2018 6:30-8:30 pm - Grand Valley and District Community Centre - 90 Main Street N., Grand Valley, ON

Employment Opportunities

The Town of Grand Valley is currently recruiting for a part-

time Administrative/Accounting Assistant. Applications must be received by February 22, 2018 at 3:00 p.m.

https://www.townofgrandvalley.ca/en/town-hall/employment.aspx?_mid_=7013

The Town of Shelburne has several positions available for seasonal staff and crossing guards.

http://www.townofshelburne.on.ca/town-hall/employment

The Township of Mulmur has two administrative positions listed.

http://mulmur.ca/departments/administration/employment

The Town of Orangeville has several parks and rec jobs as well as a Treasury Department position posted.

https://www.orangeville.ca/jobs

The complete minutes from the February 8th, 2018 County Council meeting will be available on the County website.

The next County Council meeting is March 8th, 2018 at 7:00 pm - 51 Zina Street, Orangeville, ON

Upcoming Committee Meeting Dates

February 22nd, 2018 - Public Works Committee - 1:00 pm

February 22nd, 2018 - General Government Services - 3:00 pm

February 22nd, 2018 - Community Services/Dufferin Oaks Committee - 5:00 pm

All committee meetings will be held in the Sutton Room - 55 Zina Street, Orangeville, ON

To access agendas or minutes for any committee meetings please use the link to our website below:

https://www.dufferincounty.ca/government/council-and-committee-meetings

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Our mailing address is:
County of Dufferin
Administration Department
55 Zina Street
Orangeville, ON
L9W1E5
clerk@dufferincounty.ca

Total Control Panel Login

To: dholmes@melancthontownship.ca
From: bounce-mc.us3_23098803.3248901-dholmes=melancthontownship.ca@mail16.sea31.mcsv.net

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Denise Holmes

From: Tecia White <tecia@white-water.ca>
Sent: Monday, February 12, 2018 9:38 AM
To: 'Richardson, Seana (MNRF)'; dholmes@melancthontownship.ca
Cc: GHoran@Strada-Aggregates.com
Subject: Strada Aggregates - 2017 Groundwater Compliance Report
Attachments: 2017 compliance report final_COMPLETE.pdf

Good morning Seana and Denise,
Please see the attached 2017 groundwater compliance monitoring report for Strada Aggregates North Pit (Pit #1) in Melancthon. The report for the South Pit (Pit #2) will be following in a few weeks.

If you have any questions, please do not hesitate to contact me at any time.

Regards,
Tecia White
Whitewater Hydrogeology Ltd.
Cell: 705-888-7064

INFO #4
MAR 0 1 2018

Whitewater
Hydrogeology Ltd.

2017 COMPLIANCE GROUNDWATER MONITORING REPORT.

SHELBURNE NORTH PIT

Prepared for:
Strada Aggregates

Date: February 2018

Whitewater Hydrogeology Ltd
Phone: 705.888.7064
Email: tecia@white-water.ca

Whitewater
Hydrogeology Ltd.

80 Chamberlain Cres
Collingwood, ON L9Y 0C8
Phone: 705-888-7064
Email: tecia@white-water.ca

February 12, 2018

Strada Aggregates Inc.
30 Floral Parkway
Concord, Ontario
L4K 4R1

Attention: Mr. Grant Horan
Controller

Re: 2017 Compliance Report: Strada Aggregates: Shelburne North Pit

Dear Sir:

Whitewater Hydrogeology Ltd. (Whitewater) is pleased to present the 2017 Compliance Groundwater Monitoring Report for the Shelburne North Pit. The findings indicate that the extraction of aggregate from above the water table has had no measurable influence on the groundwater regime.

If you have any questions or concerns, please do not hesitate to call at any time.

Yours truly,

Tecia White, M.Sc., P.Geo.
Senior Hydrogeologist
Whitewater Hydrogeology Ltd.

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1.0 INTRODUCTION

Strada Aggregates Inc. (Strada) owns and operates the Shelburne North Pit, which is located on Lot 13, Concession, 3, Township of Melancthon, Dufferin County. This Class A pit above water is licensed to extract sand and gravel to an elevation of no less than 488.55 masl or to within 1.5 m of the water table, or within 1m of the bedrock surface where no water is encountered.

Whitewater Hydrogeology Ltd. (Whitewater) has been retained by Strada to monitor and report on the groundwater conditions and the impact, if any, on the influence of the aggregate extraction on this regime. The compliance monitoring has been completed to comply with the site license, which is regulated under the Aggregate Resources Act (ARA).

2.0 GROUNDWATER COMPLIANCE MONITORING PROGRAM

The 2017 groundwater monitoring program was carried out under the existing Operations Plan. A summary of the compliance program is provided on Table 1. Monitoring locations are provided on Figure 1.

Table 1: Groundwater Monitoring Program

Regulation	Requirement	Frequency
Aggregate Resources Act		
Operations Plan		
G3	Groundwater levels of all on-site monitoring wells and local domestic water wells (i.e., Nelson/Arnold, Banks (MW6), Garner)	Quarterly
G4	Groundwater quality sampling (general chemistry, TPHs, and VOCs)	Annually

Note:

1. The Garner well is inaccessible and therefore no water levels are collected from this location.
2. Nelson/Arnold has been removed from the monitoring program. It was determined that this well is not representative of the overburden conditions at the site.

Copies of all water well records are provided in Appendix A.

2.1 Compliance Reporting Requirements

An annual compliance report on the groundwater monitoring program is to be prepared and submitted to the Ministry of Natural Resources and Forestry (MNRF) and the Township of Melancthon, for the public record. The Site Plan does not include a reporting deadline. However, the MNRF expects to have reports available to review in conjunction with the Compliance Assessment Reports. The Compliance Assessment Reports are due at the end of September of the previous monitoring year. The 2017 Compliance Report will be submitted prior to March 31, 2018.

FIGURE 1: SITE LOCATION MAP

3.0 SITE SETTING

3.1 Physiography and Hydrology

The subject lands are within the Nottawasaga watershed, which covers an area of 3,361 km^2. The Shelburne North Pit is located in proximity to the drainage divide between two headwaters systems of the Nottawasaga River (the Pine River and the Boyne River). These rivers rise west of the Niagara Escarpment and flow in an easterly direction

The Shelburne North Pit resides within the physiographic region referred to as the Horseshoe Moraines (Chapman and Putnam, 1984). From Singhampton south to Caledon Village, the moraines lie along the brow and slopes of the Niagara Escarpment. Associated with these moraines is a system of spillways with board gravel and sand terraces. The aggregate operation extracts the sand and gravels from this spillway system referred to as the Orangeville Moraine.

A Digital Elevation Model (DEM) of the region is presented on Figure 2. DEMs consist of a sampled array of elevations for a number of ground positions at regularly spaced intervals (10 m resolution in southern Ontario). The DEM model has been conditioned to be hydrologically correct which simply means, spurious sinks (depressions) within a DEM have been removed and the data are topologically flow corrected.

The most dominant feature on the DEM in this region is the glacial re-entrant valley of the Pine River (Figure 2). This valley extends east of Horning Mills, terminating at Terra Nova. The Boyne River is also obvious on the DEM just north of Primrose. Both re-entrant valley systems cut deeply into the bedrock escarpment from the east. The Shelburne North Pit is located on the plateau formed by the dolostone cap rock, west of the Niagara Escarpment face.

3.2 Geology

3.2.1 Quaternary Geology

The Quaternary materials consist of ice-contact stratified deposits that are incised into the underlying fine grained till. The ice-contact drift materials are described as mainly medium-grained sand with some gravel and pebbly sand (Gwyn, 1972). This sand and gravel unit is the material extracted from the Shelburne North Pit. The unconsolidated sand and gravel resource overlays a silty clay till deposit at various locations across the pit. This till unit may represent the regionally extensive Tavistock Till sheet, which is a calcareous silty clay to silt till largely derived from glaciolacustrine sediments. This till sheet overlies the Paleozoic bedrock.

3.2.1 Paleozoic Geology

The Paleozoic bedrock beneath the subject property is made up of a sedimentary rock sequence consisting primarily of layered dolostone, shale and sandstones units that were deposited in an ocean environment 400 to 500 million years ago. Brunton and Brintnell (2011) recognized that the un-subdivided Amabel Formation actually represents the Goat Island, Gasport, and Irondequoit Formation; and the Lions Head Member of the basal Amabel Formation is actually a carbonate equivalent of part of the Rochester Formation. These recent changes in the geological units and nomenclature have been adopted for this hydrogeological assessment to ensure consistency with provincial documentation.

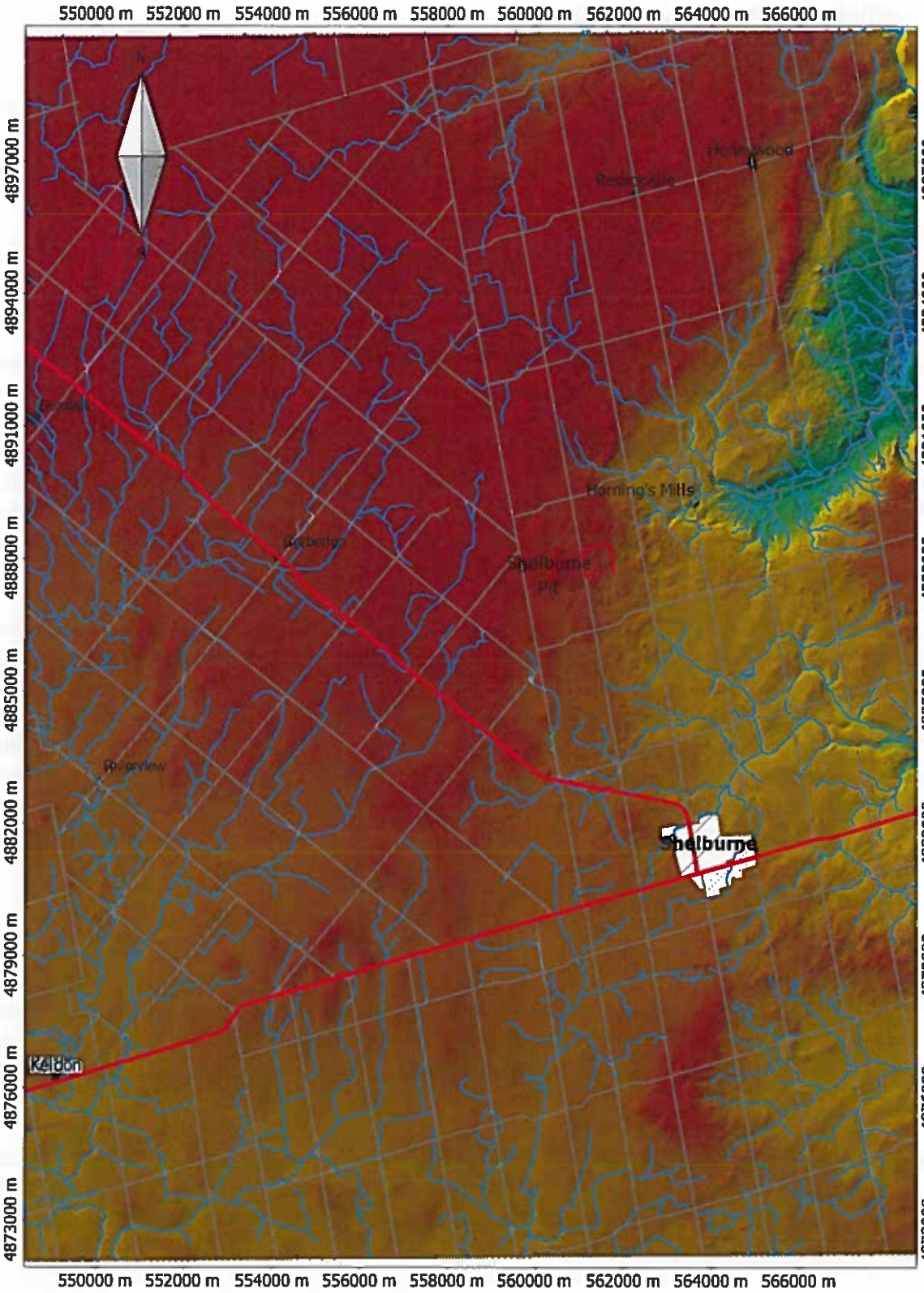


FIGURE 2: DIGITAL ELEVATION MODEL

4.0 HYDROGEOLOGICAL EVALUATION

4.1 Groundwater Elevations

The groundwater monitoring network at the Shelburne North Pit consists of multi-level monitoring wells that are constructed in the overburden and bedrock aquifers. The shallow wells, which are constructed in the sand and gravel aquifer (extraction unit) are identified as monitors "A". The remaining wells are constructed in the bedrock and are identified as monitors "B", as well as OW1, MW6 and OW8 (open-hole monitoring wells).

The manual water level measurements are provided in Table 2. Manual and continuous water levels are provided on Figure 3 and Figure 4.

4.1.1 Overburden Groundwater Elevations

The water level elevation in the overburden is monitored at 6 locations around the perimeter of the extraction area. The water levels collected over the history of the Shelburne North Pit indicate that the water table fluctuates above and below the geological contact between the overburden and bedrock. Groundwater monitoring wells MW1A, MW2A, MW9A, and MW10A have all reported to be dry, either seasonally or permanently. Water levels in 2016 remained within overburden in the southern portion of the site at MW1A, MW5A, and M10A. At MW1A, water levels ranged between 500.31 masl and <492.45 masl (well was dry during the summer/fall of 2016)). Groundwater was reported during the spring at MW10A, where water levels peaked at 495.23 masl before dropping below the base of the well screen (< 490.0 masl).

A perched water table in the vicinity of MW4A remained above the bedrock aquifer in 2016. Water levels remain relatively stable and fluctuate approximately 1 m over the course of the monitoring period, which captures several seasonal events. Under the Revision of Policies and Procedures Manual for the administration of the ARA (May 2005) a perched groundwater table is not usually considered the water table for the purpose of establishing the on-site groundwater conditions. Therefore, the water table in the overburden is only found in the south-western portion of the site. To the north and east, the overburden is generally unsaturated, with the exception of the perched system at MW4A, and the shallow water table (potentiometric surface) is reported only the bedrock aquifer.

4.1.2 Bedrock Groundwater Elevations

The bedrock aquifer monitoring network includes wells that are either constructed as:

1. discrete screened intervals that allow for the potentiometric surface to be monitored for a fracture zone; or as
2. open-holed wells where the water level corresponds to a composite hydraulic head that represents a weighted average of hydraulic heads based upon the transmissivity of different bedding plane fractures. This composite head is typically dominated by the most permeable fracture intersecting the bedrock well.

The monitoring locations that monitor discrete fracture intervals (typically 1.5 to 3 m span in the bedrock) include: MW1B, MW2B, MW4B, and MW5B. MW4B, which monitors the upper 3 meters of the bedrock (immediately below the overburden contact) remains dry, indicating that the upper portion of the bedrock is unsaturated below MW4A (perched water table).

Saturated conditions of discretely monitored portions of the bedrock are reported at MW1B, MW2B, and MW5B, all located along the southern property boundary. The top of the bedrock surface at MW1B is approximately 491 masl. In 2016, water levels in MW1B were reported to be above the geological contact and

ranged between approximately 497.52 and 491.78 masl. At MW2B, the bedrock contact is at approximately 483 masl. In 2016, water levels range between approximately 483.75 and 481.75 masl. The elevation drop of the bedrock surface across the site (from west to east) is reflected in the water level elevations (Figure 5).

Open-hole water levels within the bedrock are measured at MW6 (Scale House Well), OW1, and OW8. The water level in MW6 is relatively constant at 490 masl. In comparison, water levels at OW1 and OW8 report larger seasonal fluctuation (approximately 2m and 4m, respectively). As reported over the years, open-hole water levels must be interpreted with caution in heterogeneous fractured rock aquifers.

4.2 Groundwater Flow

Regionally, groundwater flow in the bedrock regime will be controlled by the glacial re-entrant valley of the Pine River, which begins near Horning Mills (Figure 2). This north-easterly regional flow direction is supported by on-site bedrock water level data. Figure 6 presents the groundwater flow contours for data collected on June 18, 2016 at the Shelburne North Pit. Generally, the groundwater flow direction in the bedrock is north-eastward towards Horning Mills, with a water level high reported at MW1B and a low at MW8.

There is insufficient groundwater in the overburden to map the water table and groundwater flow direction on-site. Groundwater (that isn't perched) in the overburden is present along the southern property boundary. Based on water levels reported in the overburden south of the Shelburne North Pit, the shallow groundwater flow direction is eastward (Whitewater, 2016).

4.3 Groundwater Quality

Groundwater sampling took place on June 9, 2017. Water level measurements were obtained prior to any disturbance of the potentiometric surface/water level within each monitor. Groundwater samples were collected from dedicated monitoring wells following purging of at least three borehole volumes of water from each monitoring well (or until well pumped dry) using dedicated check valve pumps and tubing. Groundwater samples for inorganic analysis were also filtered using disposable 0.45 µm filters (where permissible). The samples obtained for VOC/PHC analyses were obtained from the top of the water column within the well utilizing dedicated bailers prior to any purging.

The laboratory provided all sample bottles, which were prepared with preservatives for consistency, as required. Samples were maintained in coolers with freezer packs and were delivered to the required laboratory within 24 to 36 hours of collection. The raw results from Testmark Laboratories are provided in Appendix B.

The groundwater geochemistry at the site is characterized by relatively low concentrations for most parameters. This is illustrated by the fact many inorganic parameters have a concentration that is below laboratory detection limits. There were no detections of petroleum hydrocarbons in the groundwater in 2017.

5.0 CONCLUSIONS

1. The operation of the Shelburne North Pit is currently not having any measureable impacts on the groundwater regime.
2. It is recommended that the compliance monitoring program continue as stipulated on the Site Plans in 2018.

6.0 REFERENCES

Brunton, F. R. and C. Brintnell. 2011.
Project Unit 08-004. Final Update of Early Silurian Stratigraphy of the Niagara Escarpment and Correlation with Subsurface Units across Southwestern Ontario and the Great Lakes Basin. Ontario Geological Survey.

Chapman, L.J., and Putman, D.F., 1984.
The Physiography of southern Ontario. 3rd Edition. Ontario Geological Survey, Special Volume 2.

Gwyn, Q.H.J., 1972
The Quaternary Geology of Dundalk area – Southern Ontario. Ont. Dept. Mines and Northern Affairs, P.727

Whitewater Hydrogeology Ltd., 2016
Melancthon Pit (Shelburne South Pit) 2016 Annual Compliance Report. Prepared for Strada Aggregates.

Table 2: 2017 Groundwater Measurements

Monitor Location	Base of Well (masl)	11-Feb	20-Mar	14-Apr	22-May	9-Jun	29-Aug	15-Sept	30-Oct	23-Nov	3-Dec
MW1A	492.1	494.58	493.8	494.37	497.08	497.29	494.92	492.53	492.37	492.92	493.13
MW1B	487.5	493.6	493.07	493.53	495.39	495.55	493.82	492.29	492.12	492.75	492.94
MW2A	484.1	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW2B	476.8	480.54	482.84	483.38	483.36	483.16	481.32	481.26	480.66	481.17	481.48
MW4A	495.2	497.56	497.13	496.76	497.25	498.09	497.76	497.63	497.58	498.4	497.88
MW4B	489.4	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW5A	488.9	NA	488.52	489.06	489.72	489.82	488.96	488.62	488.43	488.35	488.69
MW5B	479.8	NA	488.41	489.03	489.63	489.72	488.9	488.56	488.32	488.2	488.37
MW6	N/A	490.02	490.14	490.27	490.2	490.04	489.78	490.08	490.04	490.01	490
MW8	469.9	477.38	479.57	479.94	479.67	480.35	478.79	478.71	478.56	479.02	478.95
MW10	490.2	491.52	492.68	493.77	493.11	493.47	Dry	Dry	Dry	Dry	Dry
OW1	455.3	484.92	485.1	484.83	485.18	NA	484.35	485.18	484.7	484.48	504.77

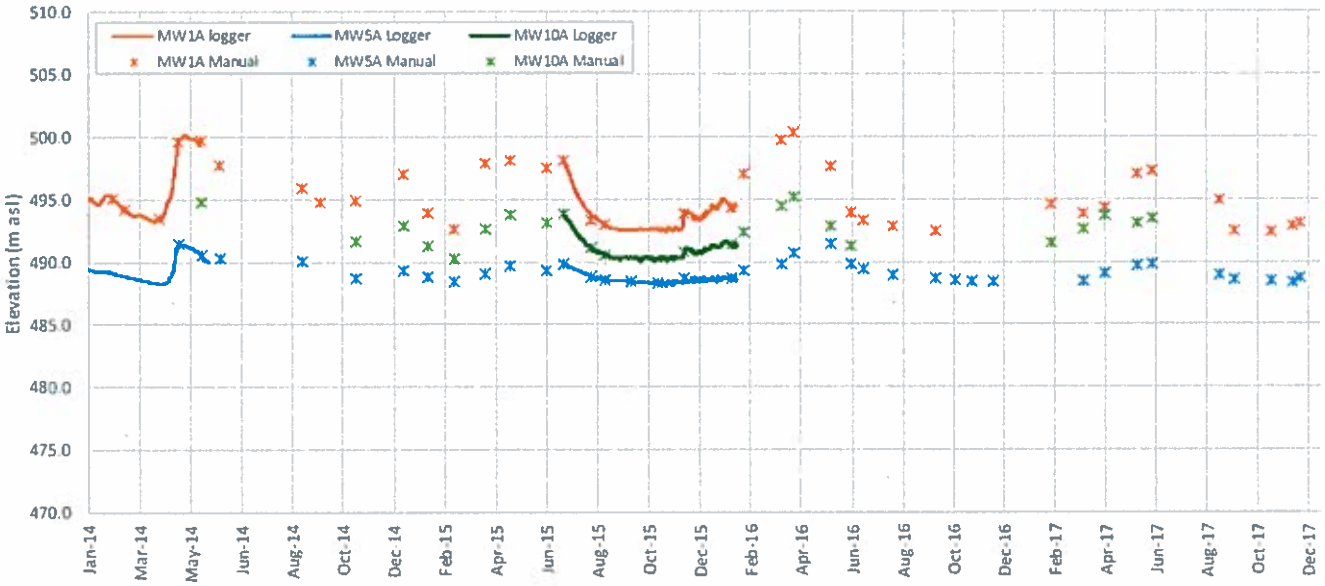


FIGURE 3: OVERBURDEN WATER LEVEL ELEVATIONS

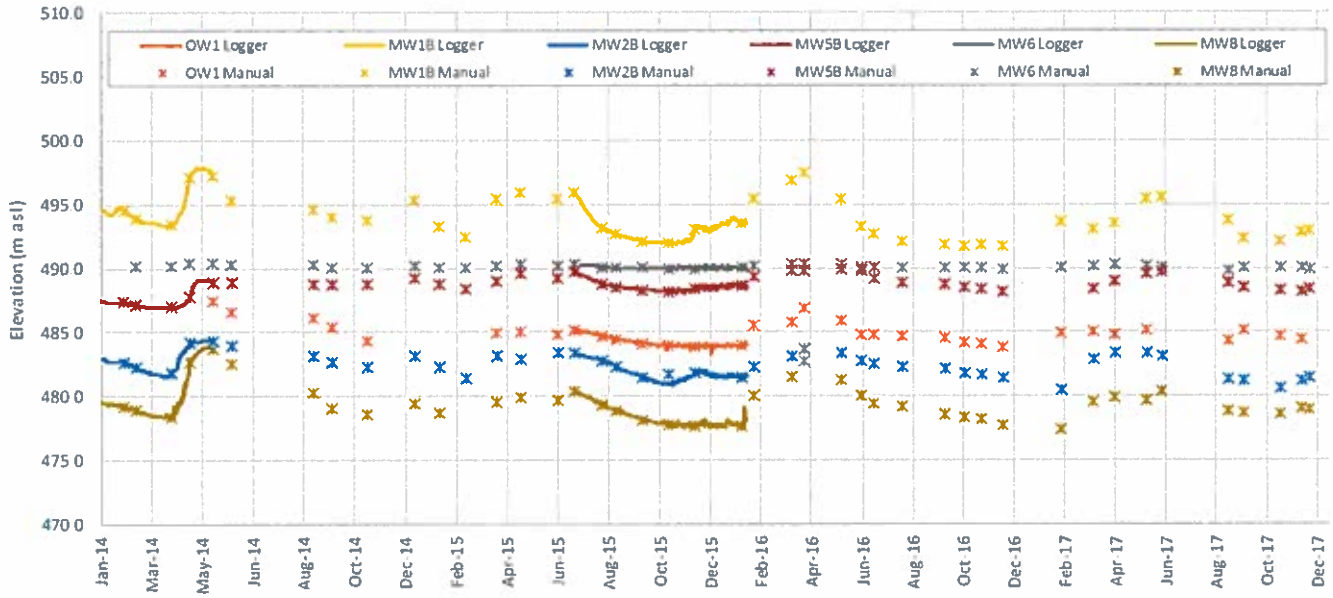


FIGURE 4: BEDROCK WATER LEVEL ELEVATIONS

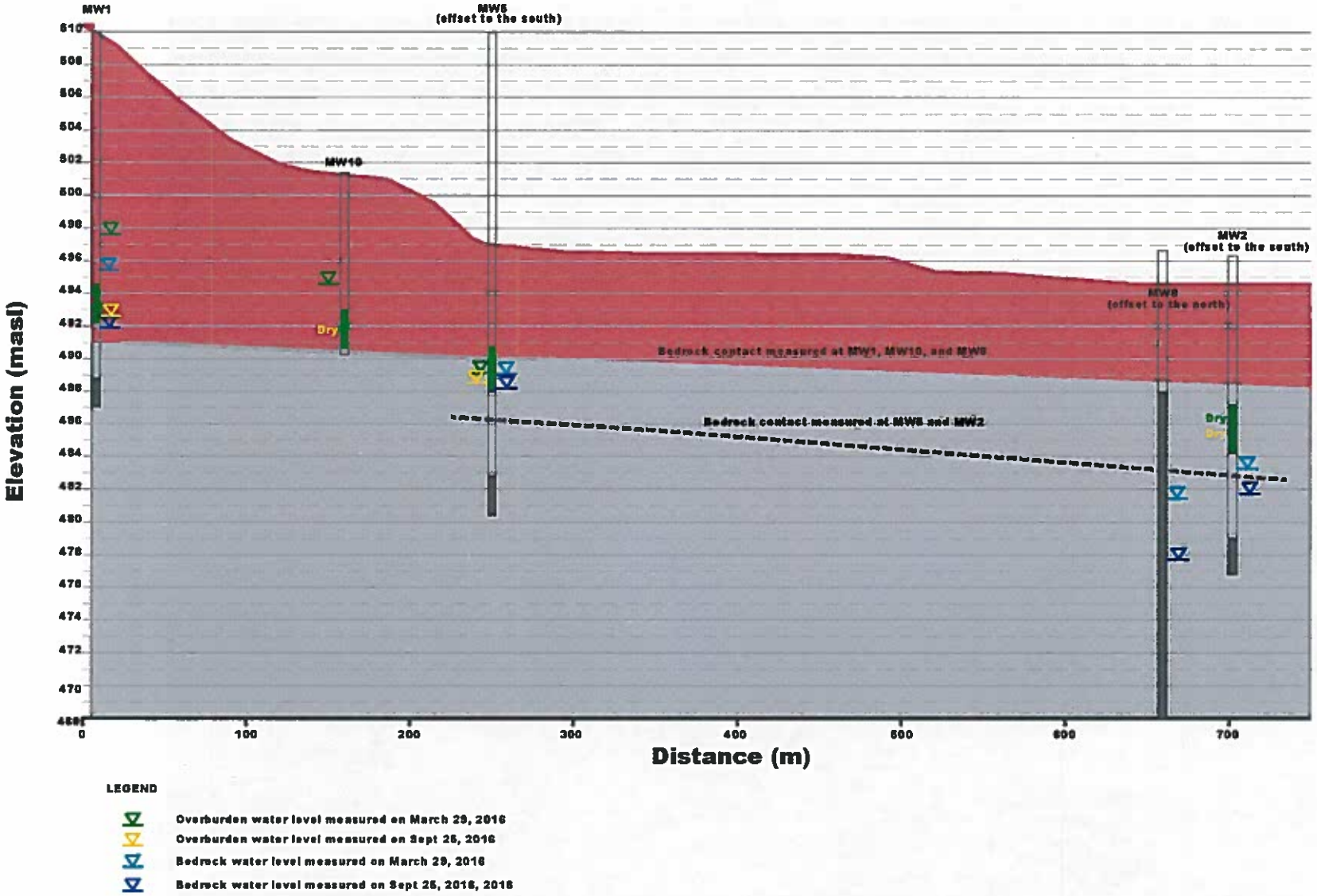


FIGURE 5: GEOLOGICAL AND HYDROGEOLOGICAL CROSS SECTION

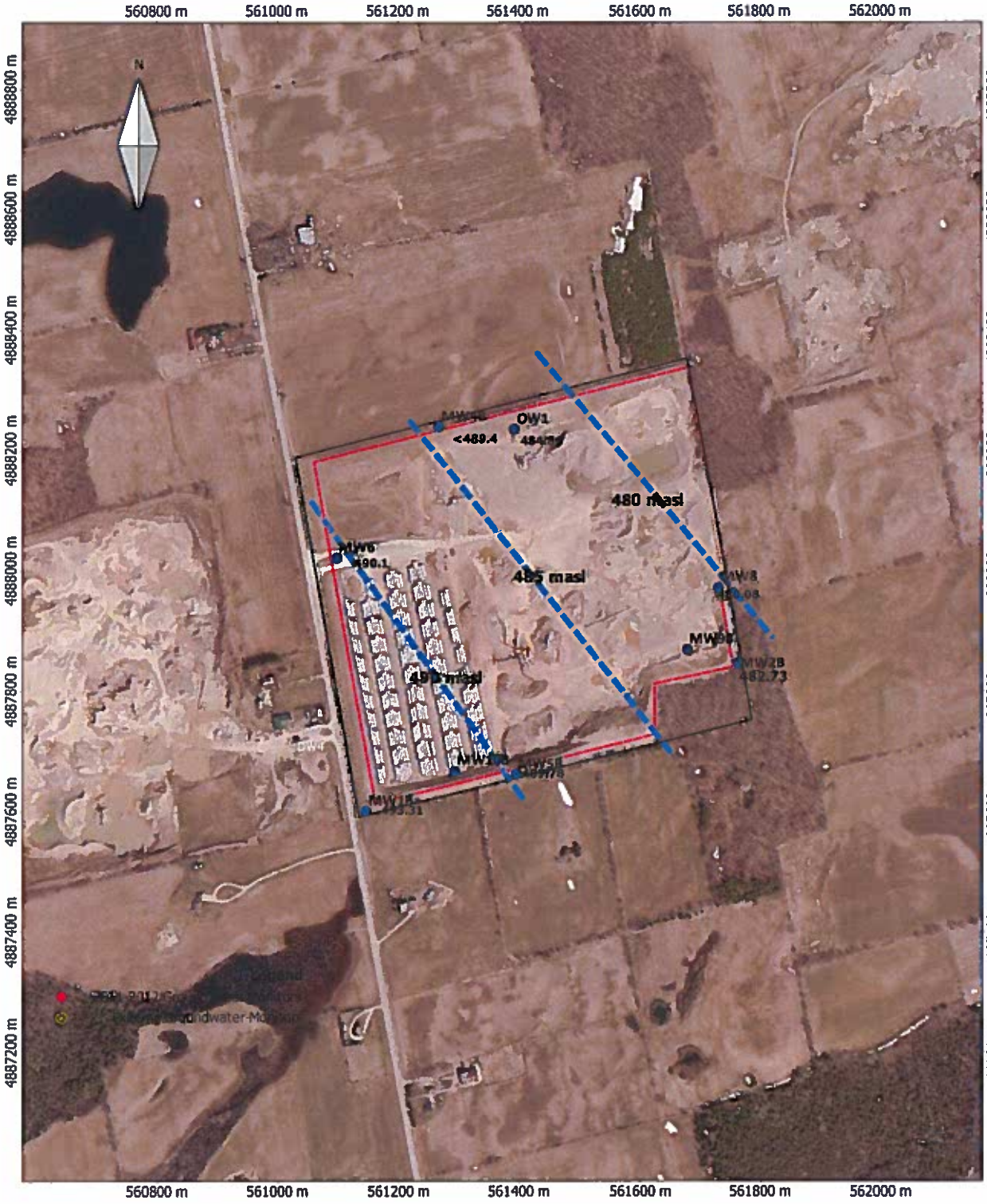


FIGURE 6: GROUNDWATER FLOW CONTOURS

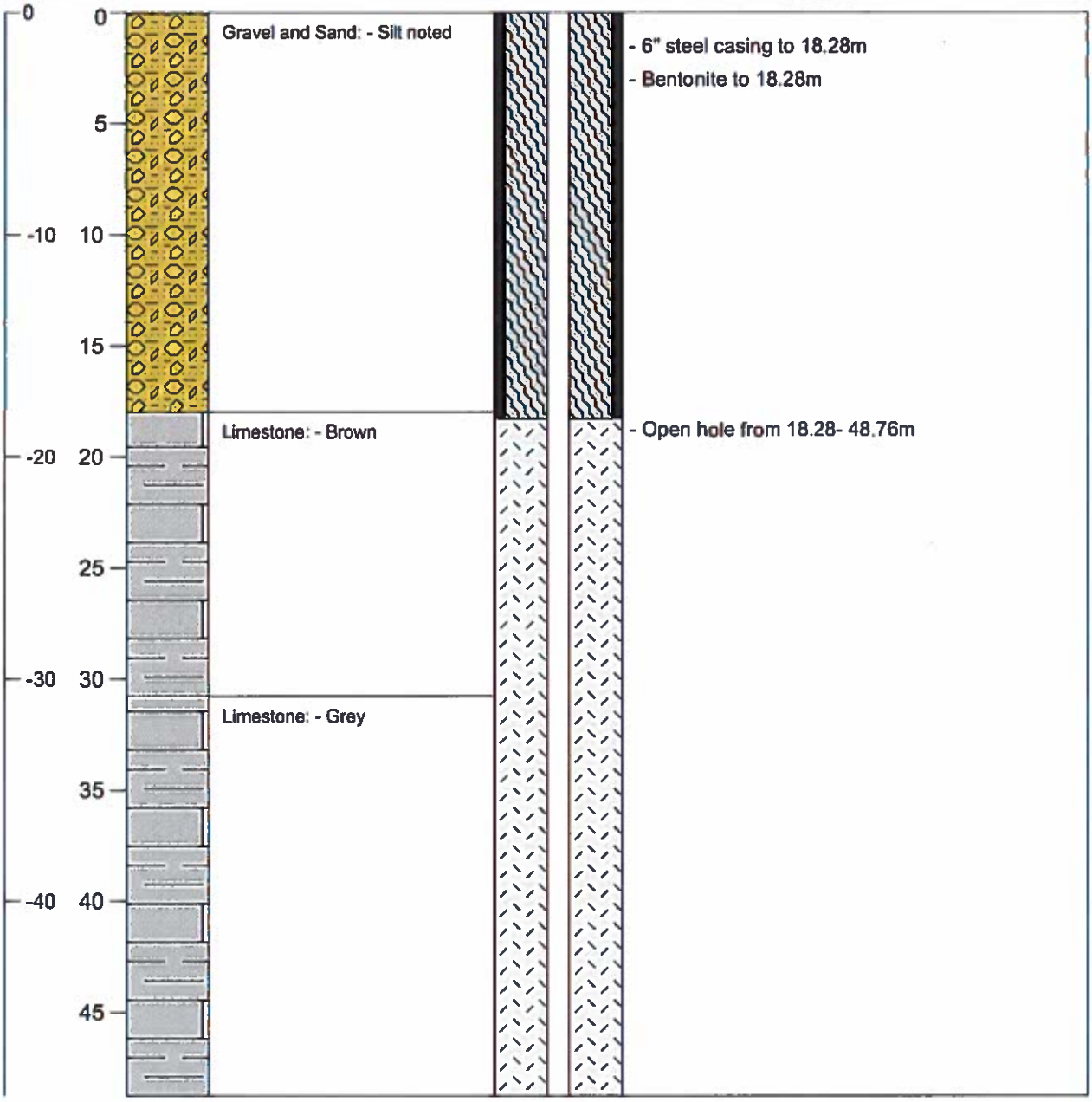
APPENDIX A

WATER WELL RECORDS

Well Name: OW1

Project No: 07-253p **Date:** August 2, 2004	**Location:** Lot 12, Con 3, Twp. of Melancthon Shelbourne
Logged By: Keith Lang	**Total Depth:** 48.76m **Ground Elevation:**504.07 (masl) **Top of Casing:**504.77 (masl)
Drilled by: Keith Lang Well Drilling	**UTM:** Northing: 4888237 Easting: 561395
MOE Well Tag I.D. A 006830	

Depth (m) Elev. (masl)	Stratigraphic Description	Monitor Details



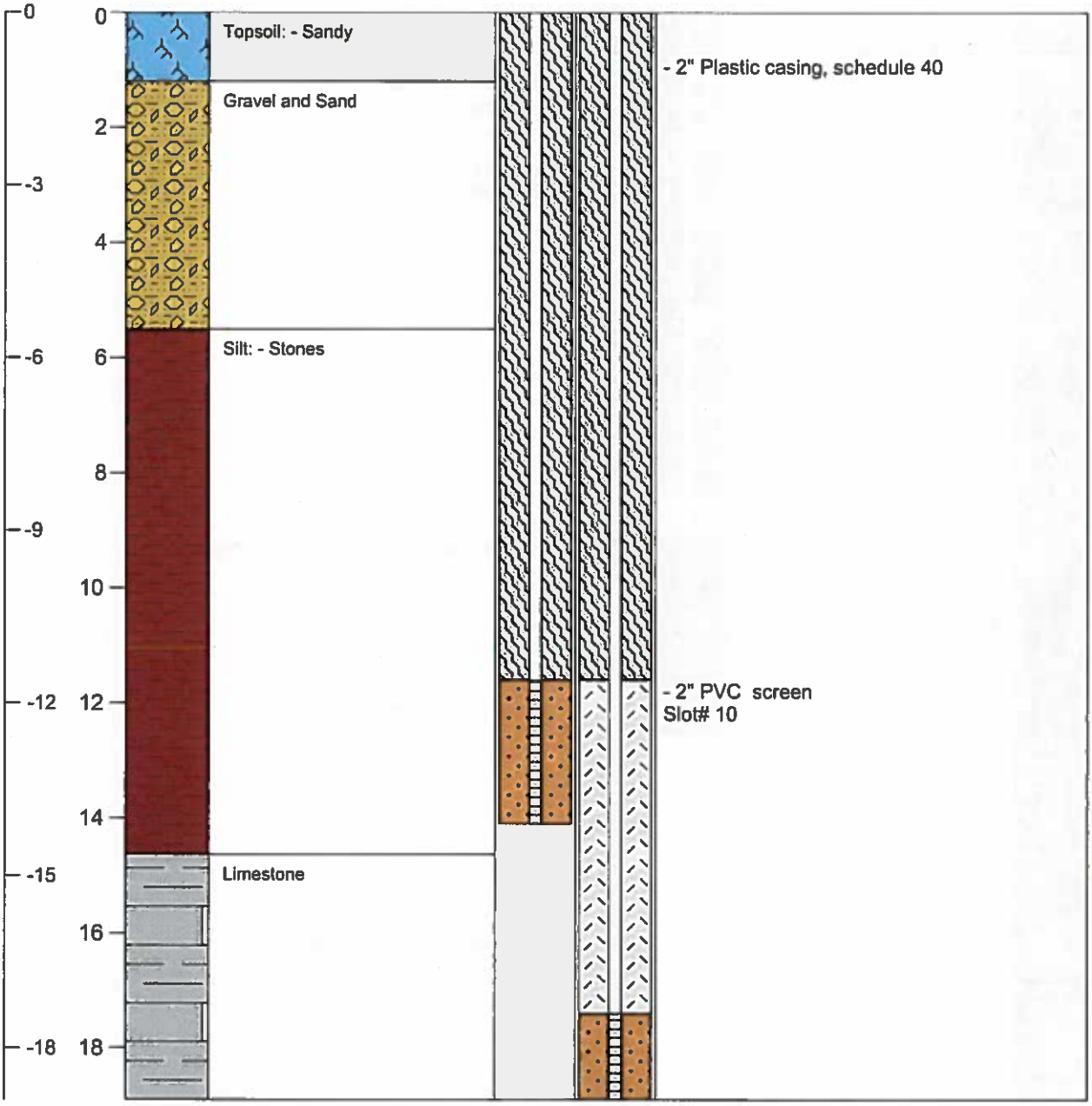
Prepared By: Goffco Limited

Prepared For: STRADA AGGREGATES

Well Name: MW1-01

Project No: 07-253p **Date:** December 1, 2001	**Location:** Lot 12, Con 3, Twp. of Melancthon Shelbourne
Logged By: Keith Lang	**Total Depth:** 18.9m **Ground Elevation:** 507 (masl) **Top of Casing:** (masl)
Drilled by: Keith Lang Well Drilling	**UTM:** Northing: 4887604 Easting: 561145
MOE Well Tag I.D. MW1-01	

Depth (m) Elev. (masl)	Stratigraphic Description	Monitor Details



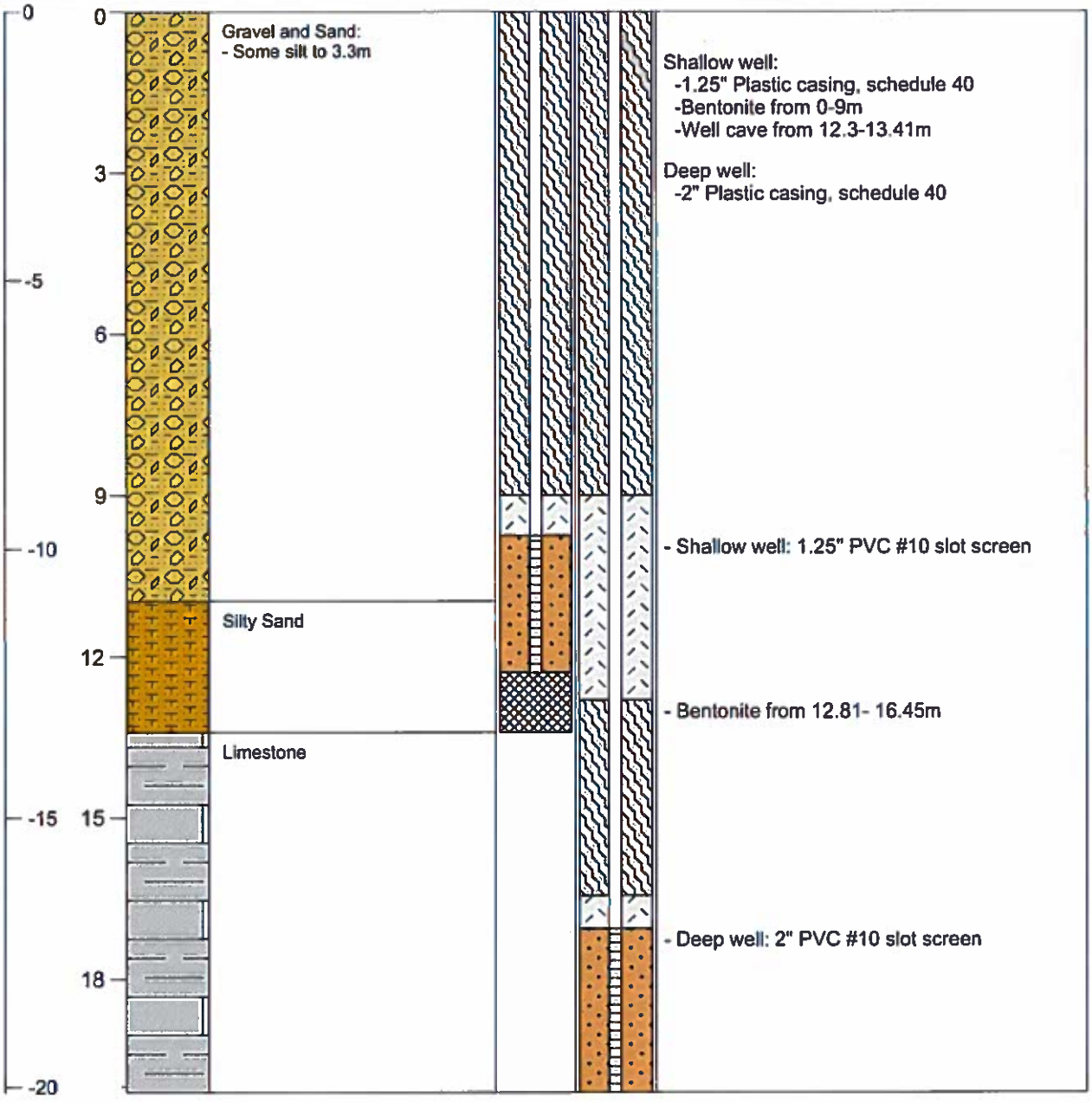
Prepared By: Goffco Limited

Prepared For: STRADA AGGREGATES

Well Name: MW2-04

Project No: 07-253p **Date:** August 1, 2004	**Location:** Lot 12, Con 3, Twp. of Melancthon Shelbourne
Logged By: Keith Lang	**Total Depth:** 20.11m **Ground Elevation:** 496.32 (masl) **Top of Casing:** 497.36 (masl)
Drilled by: Keith Lang Well Drilling	**UTM:** Northing: 4887847 Easting: 561769
MOE Well Tag I.D. A 006815	

Depth (m) Elev. (masl)	Stratigraphic Description	Monitor Details

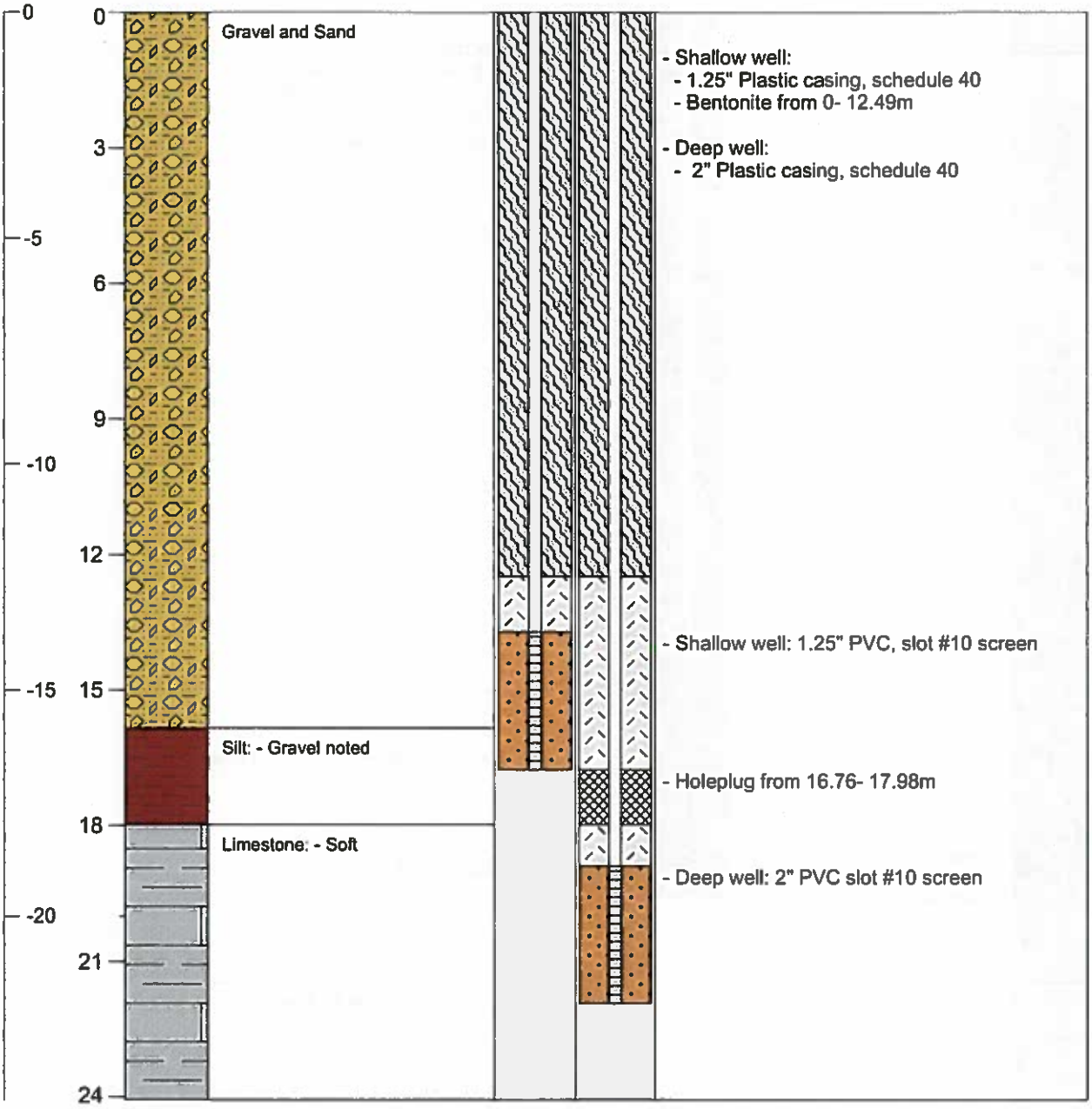


Prepared By: Goffco Limited

Prepared For: STRADA AGGREGATES

Well Name: MW4-04

Project No: 07-253p **Date:** August 1, 2004	**Location:** Lot 12, Con 3, Twp. of Melancthon Shelbourne
Logged By: Keith Lang	**Total Depth:** 24.07m **Ground Elevation:** 511.17 (masl) **Top of Casing:** 512.08 (masl)
Drilled by: Keith Lang Well Drilling	**UTM:** Northing: 4888243 Easting: 561230
MOE Well Tag I.D. A 006827	

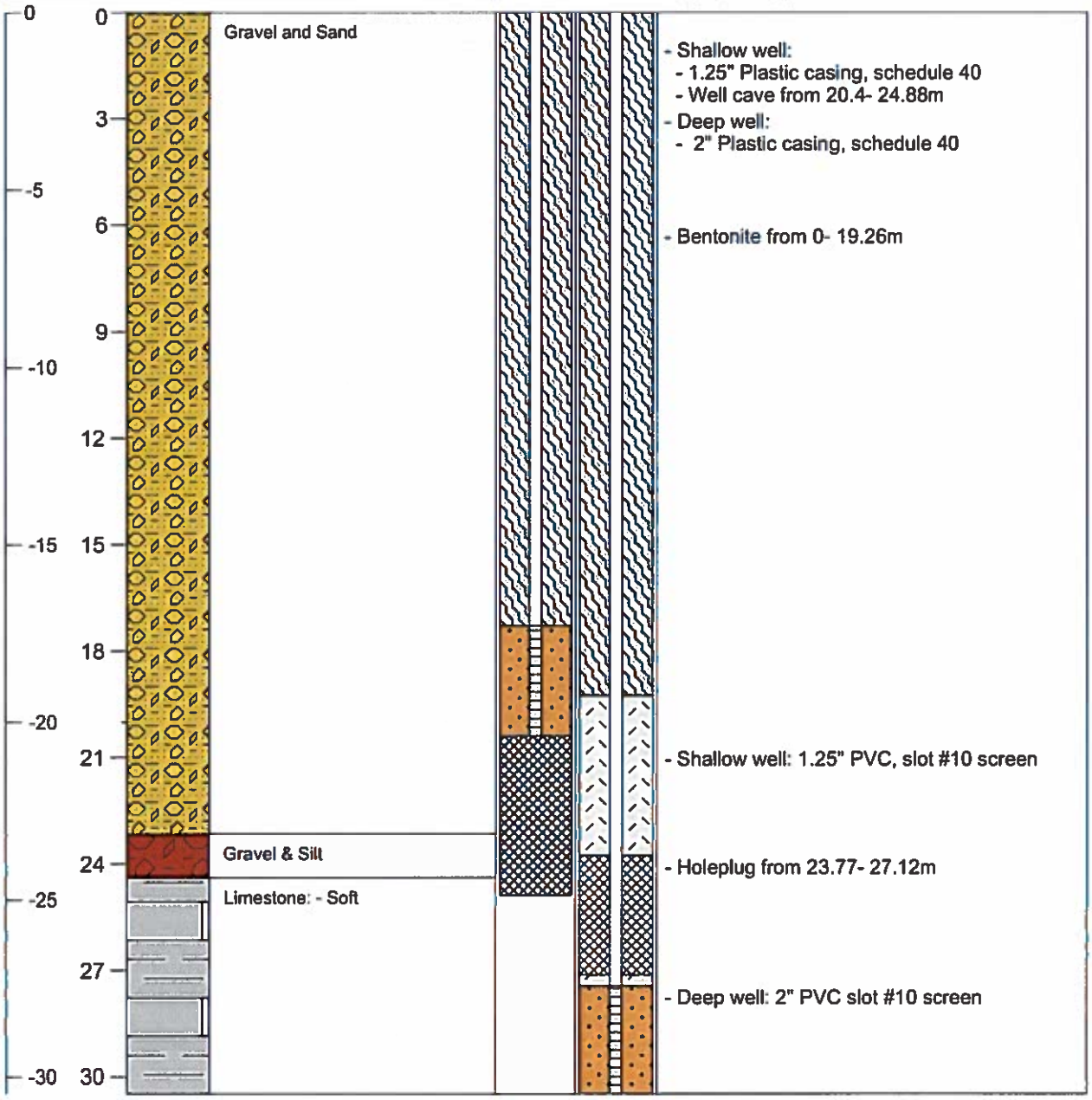


Prepared By: Goffco Limited

Prepared For: STRADA AGGREGATES

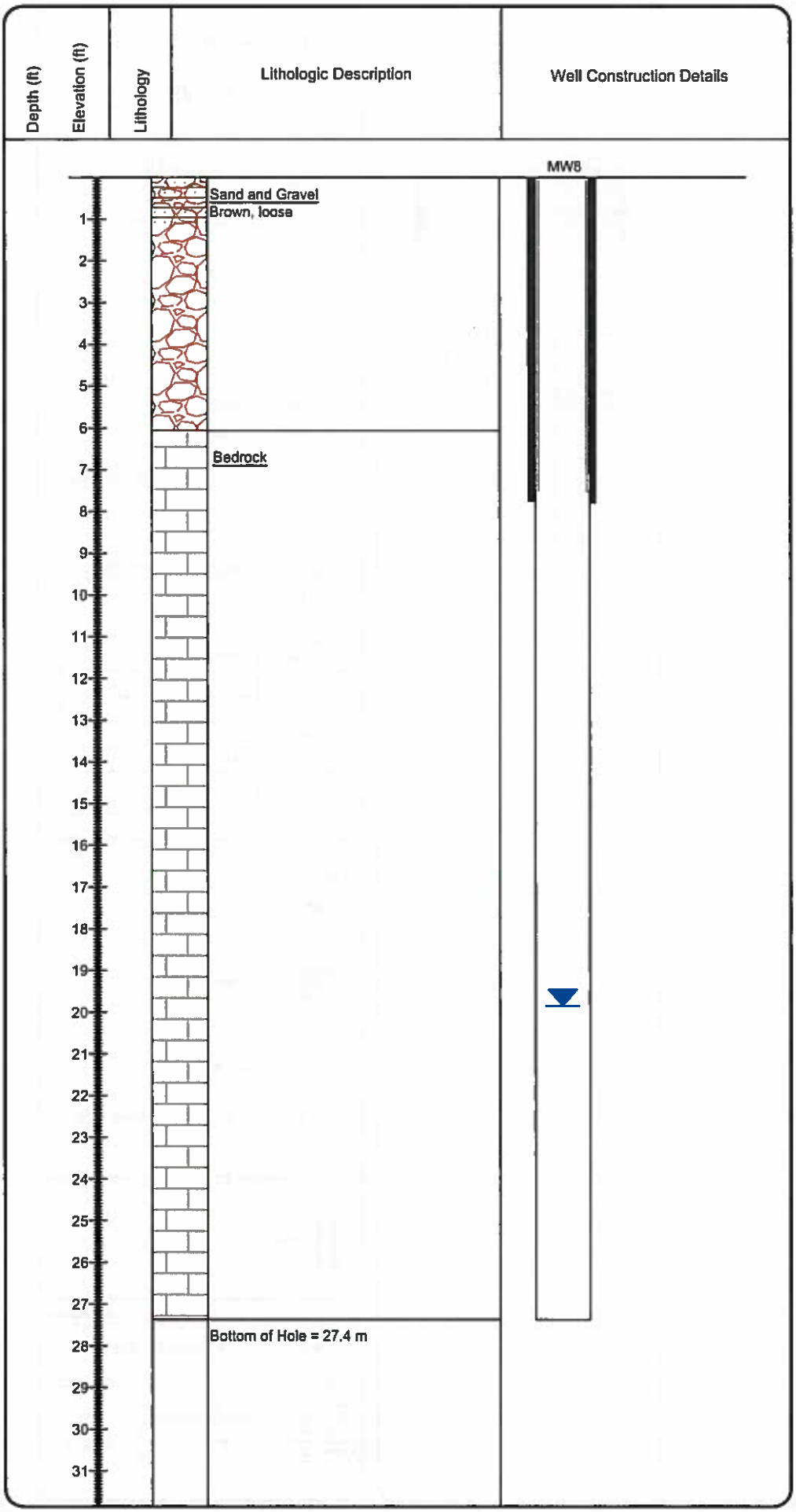
Well Name: MW5-04

Project No: 07-253p **Date:** August 8, 2004	**Location:** Lot 12, Con 3, Twp. of Melancthon Shelbourne
Logged By: Keith Lang	**Total Depth:** 30.48m **Ground Elevation:** 510.35 (masl) **Top of Casing:** 511.48 (masl)
Drilled by: Keith Lang Well Drilling	**UTM:** Northing: 4887669 Easting: 561431
MOE Well Tag I.D. A 006826	



Prepared By: Goffco Limited

Prepared For: STRADA AGGREGATES



MONITORING WELL NEST

MW8

Shelburne Pit
Compliance Monitoring
Hydrogeological Assessment

Lot 12, Con 3
Township of Melancthon

DRILLING DETAILS

Drill Date: June 2012
Drilling Method: Mud Rotary
Driller: Keith Lang Well Drilling
Geologist: Tecia White

MONITORING WELL INFORMATION

NAD83 Zone 17 Easting:
Northing:

Monitoring Well	MW8		
Ground Elev.			
Top of Casing Elev.			
Stick Up (m)			
Well Depth (m)	27.4 m		
High Water Level (date of water level)			

All units expressed as metres above sea level unless otherwise noted

LEGEND

- Water Level Elevation
- Bentonite Slurry
- Backfill
- Silica Sand
- Schedule 40 (2") PVC Riser Pipe
- Schedule 40 (2") 10-slot PVC Screen
- Protective Casing (4")

Whitewater Hydrogeology Ltd.

Date Issued: 2012	Page 1 of 1
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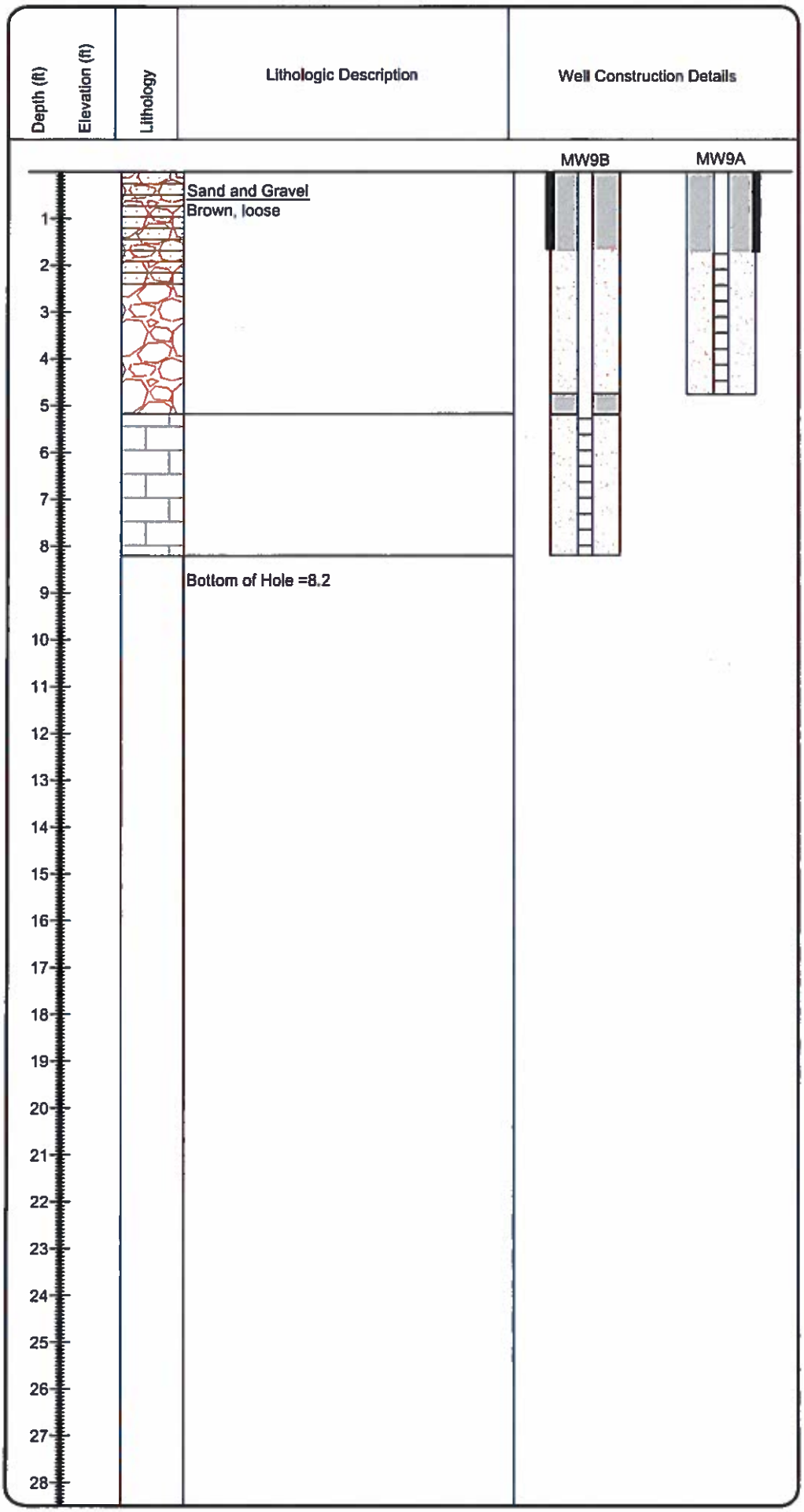

MONITORING WELL NEST

MW9

Shelburne Pit
Compliance Monitoring
Hydrogeological Assessment

Lot 12, Con 3
Township of Melancthon

DRILLING DETAILS

Drill Date: June 2012
Drilling Method: Mud Rotary
Driller: Keith Lang Well Drilling
Geologist: Tecia White

MONITORING WELL INFORMATION

NAD83 Zone 17 Easting:
Northing:

Monitoring Well	MW9A	MW9B	
Ground Elev.			
Top of Casing Elev.			
Stick Up (m)			
Well Depth (m)	4.8 m	8.2 m	
High Water Level (date of water level)			

All units expressed as metres above sea level unless otherwise noted

LEGEND

Water Level Elevation

Bentonite Slurry

Backfill

Silica Sand

Schedule 40 (2") PVC Riser Pipe

Schedule 40 (2") 10-slot PVC Screen

Protective Casing (4")

Whitewater Hydrogeology Ltd.

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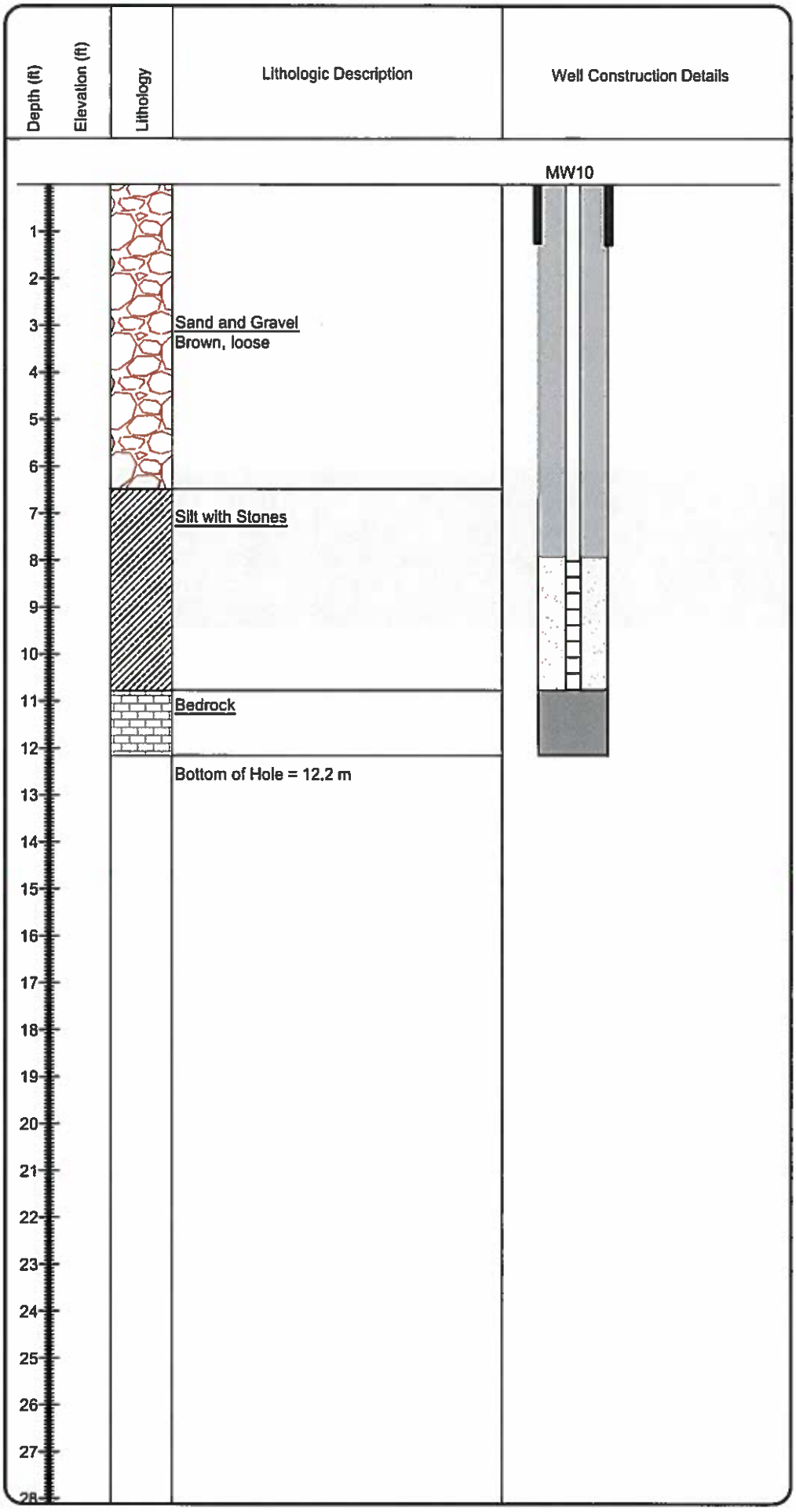

MONITORING WELL NEST

MW10

Shelburne Pit
Complaince Monitoring
Hydrogeological Assessment

Lot 12, Con 3
Township of Melancthon
-

DRILLING DETAILS

Drill Date:	22/06/11
Drilling Method:	Hollow Stem
Driller:	Keith Lang Well Drilling
Geologist:	Tecia White

MONITORING WELL INFORMATION

NAD83 Zone 17 Easting:
Northing:

Monitoring Well	MW10		-
Ground Elev.			-
Top of Casing Elev.			-
Stick Up (m)	0.8 m		-
Well Depth (m)	10.8 m		-
High Water Level (date of water level)	dry October 2017		- -

All units expressed as metres above sea level unless otherwise noted

LEGEND

- Bentonite Slurry
- Backfill
- Silica Sand
- Schedule 40 (2") PVC Riser Pipe
- Schedule 40 (2") 10-slot PVC Screen
- Protective Casing (4")

Whitewater Hydrogeology Ltd.

Date Issued: November, 2011	Page 1 of 1
Created By: Whitewater Hydrogeology	
Project No. 00-000	
File Name: -	

APPENDIX B

WATER QUALITY RESULTS

TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Tecia White	Work Order Number:	308182
Company:	Whitewater Hydrogeology Ltd.	PO #:	
Address:	80 Chamberlain Cres Collingwood, Ontario, L9Y 0C8	Regulation: Project #:	Information not provided Strada Aggregates (Shelburne Pit North)
Phone:	(705) 888-7064	DWS #:	
Email:	tecia@white-water.ca	Sampled By:	
Date Order Received:	6/12/2017	Analysis Started:	6/13/2017
Arrival Temperature:	24.6 °C	Analysis Completed:	6/19/2017

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
MW1-A	885753	Ground Water	None		6/9/2017	
MW1-B	885754	Ground Water	None		6/9/2017	
MW2-B	885755	Ground Water	None		6/9/2017	
MW5-B	885756	Ground Water	None		6/9/2017	
MW8	885757	Ground Water	None		6/9/2017	
MW10	885758	Ground Water	None		6/9/2017	

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
A23-TP Water	Mississauga	Determination of Total Phosphorus in Water	Modified from APHA-4500P
A27-TDS	Mississauga	Determination of Total Dissolved Solids in water by gravimetry	Modified from APHA-2540
A42-Ammonia Water	Mississauga	Determination of Ammonia/Ammonium in Water	Modified from APHA-4500-NH3
Anions Water	Garson	Determination of Anions by Ion Chromatography	Based on SW846-9056A
T01-Alkalinity	Mississauga	Determination of Alkalinity in Water	Modified from APHA-2320
T02-pH Water	Mississauga	Determination of pH in Water	Modified from APHA-4500-H+B
T12-Cond Water	Mississauga	Determination of Conductivity in Water	Modified from APHA-2510
T127-BTEX Water	Mississauga	Determination of F1/ BTEX in Water by Headspace GC/MS/FID	Modified from CWS/ EPA 624

6820 Kitimat Road Unit 4, Mississauga, ON, L5N 5M3
Phone: (905) 821-1112 Fax: (905) 821-2095 Web: www.testmark.ca

CERTIFICATE OF ANALYSIS

Whitewater Hydrogeology Ltd.

Work Order Number: 308182

Method	Lab	Description	Reference
T13-Hardness	Mississauga	Determination of Total Hardness	Modified from APHA-2340B
T13-ICPMS Dis Water	Mississauga	Determination of Dissolved Metals in Water by ICP/MS	Modified from SW846-6020
T13-ICPMS Dis Water FF	Mississauga	Determination of Dissolved (Field Filtered) Metals in Water by ICP/MS	Modified from SW846-6020
T13-ICPMS Water	Mississauga	Determination of Metals in Water by ICP/MS	Modified from SW846-6020
T14-VOC water	Mississauga	Determination of Volatile Organic Compounds in Water by P&T/GC/MS	Modified from EPA SW846-8260 B
T59-PHC F2-F4 Water	Mississauga	Determination of PHC (F2-F4) in Water - Tier 1 CCME by GC/FID	CWS PHC Tier I CCME

This report has been approved by:

Nancy Yin, Ph.D.
Laboratory Director

6820 Kitimat Road Unit 4, Mississauga, ON, L5N 5M3
Phone: (905) 821-1112 Fax: (905) 821-2095 Web: www.testmark.ca

CERTIFICATE OF ANALYSIS

Whitewater Hydrogeology Ltd.

Work Order Number: 308182

WORK ORDER RESULTS

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Anions	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Bromide	<0.1	0.1	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	mg/L
Chloride	5.54	0.2	8.46 [8.43]	0.2	1.5	0.2	4.82	0.2	mg/L
Fluoride	<0.1	0.1	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	mg/L
Nitrate (as N)	0.92	0.1	2.26 [2.26]	0.1	1.81	0.1	1.41	0.1	mg/L
Nitrite (as N)	<0.03	0.03	<0.03 [<0.03]	0.03	<0.03	0.03	<0.03	0.03	mg/L
Sulphate	16.5	1	13.4 [13.3]	1	8.8	1	12.7	1	mg/L

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Anions	Result	MDL	Result	MDL	Units
Bromide	<0.1	0.1	<0.1	0.1	mg/L
Chloride	4.51	0.2	3.56	0.2	mg/L
Fluoride	<0.1	0.1	0.72	0.1	mg/L
Nitrate (as N)	1.7	0.1	0.86	0.1	mg/L
Nitrite (as N)	<0.03	0.03	<0.03	0.03	mg/L
Sulphate	7.9	1	86.6	1	mg/L

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	<0.01	0.01	<0.01	0.01	0.022	0.01	0.02	0.01	mg/L
Conductivity	495	1	564	1	645	1	423	1	µS/cm

6820 Kitimat Road Unit 4, Mississauga, ON, L5N 5M3
Phone: (905) 821-1112 Fax: (905) 821-2095 Web: www.testmark.ca

CERTIFICATE OF ANALYSIS

Whitewater Hydrogeology Ltd.

Work Order Number: 308182

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
M-Alkalinity (pH 4.5)	228	2	291	2	364	2	207	2	mg/L as CaCO3
pH	7.68	N/A	7.78	N/A	7.65	N/A	7.8	N/A	pH
Total Hardness (as CaCO3)	279	0.1	327	0.1	352	0.1	251	0.1	mg/L
Total Phosphorus (as P)	0.0562	0.002	0.0253	0.002	0.185	0.002	4.25	0.02	mg/L

Sample Description	MW8		MW10		
Lab ID	885757		885758		
General Chemistry	Result	MDL	Result	MDL	Units
Ammonia (as N)	<0.01	0.01	0.014	0.01	mg/L
Conductivity	432	1	612	1	µS/cm
M-Alkalinity (pH 4.5)	213	2	254	2	mg/L as CaCO3
pH	7.86	N/A	7.92	N/A	pH
Total Hardness (as CaCO3)	208	0.1	277	0.1	mg/L
Total Phosphorus (as P)	0.0021	0.002	0.0616	0.002	mg/L

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Metals	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Calcium	83800	500	99000	500	101000	500	75000	500	ug/L
Magnesium	17100	4	19400	4	24100	4	15500	4	ug/L

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Metals	Result	MDL	Result	MDL	Units
Calcium	61200	500	55400	50	ug/L

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Sample Description	MW8		MW10		
Lab ID	885757		885758		
Metals	Result	MDL	Result	MDL	Units
Magnesium	13500	4	33800	4	ug/L

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Metals (Dissolved - Field Filtered)	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Dissolved Aluminum	<2 [<2]	2	<2	2	<2	2	<2	2	ug/L
Dissolved Antimony	<0.5 [<0.5]	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Dissolved Arsenic	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Barium	23.7 [23.5]	1	32.8	1	62.5	1	22.7	1	ug/L
Dissolved Beryllium	<0.5 [<0.5]	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Dissolved Bismuth	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Boron	2.8 [2.6]	2	2.2	2	<2	2	<2	2	ug/L
Dissolved Cadmium	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L
Dissolved Calcium	83800 [83900]	500	99000	500	101000	500	75000	500	ug/L
Dissolved Chromium	2.4 [2.5]	1	2.9	1	3.7	1	2.1	1	ug/L
Dissolved Cobalt	<0.1 [<0.1]	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	ug/L
Dissolved Copper	1 [<1]	1	<1	1	<1	1	4.2	1	ug/L
Dissolved Iron	68 [75]	20	93	20	100	20	80	20	ug/L
Dissolved Lanthanum	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Lead	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L

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Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Metals (Dissolved - Field Filtered)	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Dissolved Lithium	<5 [<5]	5	<5	5	<5	5	<5	5	ug/L
Dissolved Magnesium	17100 [17500]	4	19400	4	24100	4	15500	4	ug/L
Dissolved Manganese	<1 [<1]	1	<1	1	3.3	1	4.1	1	ug/L
Dissolved Mercury	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L
Dissolved Molybdenum	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Nickel	1 [1.2]	1	1.3	1	1.5	1	1.4	1	ug/L
Dissolved Potassium	1060 [1120]	100	1320	100	720	100	930	100	ug/L
Dissolved Selenium	<1 [<1]	1	1.2	1	<1	1	<1	1	ug/L
Dissolved Silver	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L
Dissolved Sodium	5310 [5450]	100	7590	100	2450	100	3150	100	ug/L
Dissolved Strontium	113 [115]	1	123	1	169	1	97.3	1	ug/L
Dissolved Sulfur	3800 [4500]	800	1500	800	960	800	2600	800	ug/L
Dissolved Thallium	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L
Dissolved Thorium	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Tin	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Titanium	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Tungsten	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Uranium	<1 [<1]	1	<1	1	<1	1	<1	1	ug/L
Dissolved Vanadium	<1 [<1]	1	<1	1	1	1	<1	1	ug/L

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Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Metals (Dissolved - Field Filtered)	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Dissolved Zinc	1.4 [6.1]	1	10.2	1	13.7	1	7	1	ug/L

Sample Description	MW10		
Lab ID	885758		
Metals (Dissolved - Field Filtered)	Result	MDL	Units
Dissolved Aluminum	<2	2	ug/L
Dissolved Antimony	<0.5	0.5	ug/L
Dissolved Arsenic	<1	1	ug/L
Dissolved Barium	63.9	1	ug/L
Dissolved Beryllium	<0.5	0.5	ug/L
Dissolved Bismuth	<1	1	ug/L
Dissolved Boron	18	2	ug/L
Dissolved Cadmium	<0.1	0.1	ug/L
Dissolved Calcium	55400	50	ug/L
Dissolved Chromium	2.3	1	ug/L
Dissolved Cobalt	<0.1	0.1	ug/L
Dissolved Copper	<1	1	ug/L
Dissolved Iron	62	20	ug/L
Dissolved Lanthanum	<1	1	ug/L
Dissolved Lead	<1	1	ug/L
Dissolved Lithium	<5	5	ug/L
Dissolved Magnesium	33800	4	ug/L
Dissolved Manganese	<1	1	ug/L
Dissolved Mercury	<0.1	0.1	ug/L
Dissolved Molybdenum	18.9	1	ug/L
Dissolved Nickel	1.3	1	ug/L

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Sample Description	MW10		
Lab ID	885758		
Metals (Dissolved - Field Filtered)	**Result**	**MDL**	**Units**
Dissolved Potassium	2290	100	ug/L
Dissolved Selenium	<1	1	ug/L
Dissolved Silver	<0.1	0.1	ug/L
Dissolved Sodium	26800	100	ug/L
Dissolved Strontium	348	1	ug/L
Dissolved Sulfur	29900	800	ug/L
Dissolved Thallium	<0.1	0.1	ug/L
Dissolved Thorium	<1	1	ug/L
Dissolved Tin	<1	1	ug/L
Dissolved Titanium	<1	1	ug/L
Dissolved Tungsten	<1	1	ug/L
Dissolved Uranium	6.3	1	ug/L
Dissolved Vanadium	1.1	1	ug/L
Dissolved Zinc	2.3	1	ug/L

Sample Description	MW8		
Lab ID	885757		
Metals (Dissolved)	**Result**	**MDL**	**Units**
Dissolved Aluminum	<2 [<2]	2	ug/L
Dissolved Antimony	<0.5 [<0.5]	0.5	ug/L
Dissolved Arsenic	<1 [<1]	1	ug/L
Dissolved Barium	30.4 [30.8]	1	ug/L
Dissolved Beryllium	<0.5 [<0.5]	0.5	ug/L
Dissolved Bismuth	<1 [<1]	1	ug/L

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Sample Description	MW8		
Lab ID	885757		
Metals (Dissolved)	**Result**	**MDL**	**Units**
Dissolved Boron	5.7 [5.5]	2	ug/L
Dissolved Cadmium	<0.1 [<0.1]	0.1	ug/L
Dissolved Calcium	61200 [59700]	500	ug/L
Dissolved Chromium	5.6 [5.3]	1	ug/L
Dissolved Cobalt	<0.1 [<0.1]	0.1	ug/L
Dissolved Copper	1.8 [1.7]	1	ug/L
Dissolved Iron	65 [66]	20	ug/L
Dissolved Lanthanum	<1 [<1]	1	ug/L
Dissolved Lead	<1 [<1]	1	ug/L
Dissolved Lithium	<5 [<5]	5	ug/L
Dissolved Magnesium	13500 [13400]	4	ug/L
Dissolved Manganese	<1 [<1]	1	ug/L
Dissolved Mercury	<0.1 [<0.1]	0.1	ug/L
Dissolved Molybdenum	<1 [<1]	1	ug/L
Dissolved Nickel	1.2 [1.2]	1	ug/L
Dissolved Potassium	970 [930]	100	ug/L
Dissolved Selenium	<1 [<1]	1	ug/L
Dissolved Silver	<0.1 [<0.1]	0.1	ug/L
Dissolved Sodium	3030 [2950]	100	ug/L

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Sample Description	MW8		
Lab ID	885757		
Metals (Dissolved)	**Result**	**MDL**	**Units**
Dissolved Strontium	92.2 [90.2]	1	ug/L
Dissolved Sulfur	1500 [1500]	800	ug/L
Dissolved Thallium	<0.1 [<0.1]	0.1	ug/L
Dissolved Thorium	<1 [<1]	1	ug/L
Dissolved Tin	<1 [<1]	1	ug/L
Dissolved Titanium	<1 [<1]	1	ug/L
Dissolved Tungsten	<1 [<1]	1	ug/L
Dissolved Uranium	<1 [<1]	1	ug/L
Dissolved Vanadium	1.5 [1.5]	1	ug/L
Dissolved Zinc	12.9 [12.9]	1	ug/L

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Petroleum Hydrocarbons	**Result**	**MDL**	**Result**	**MDL**	**Result**	**MDL**	**Result**	**MDL**	**Units**
F1 (C6-C10) - Less BTEX	<20	20	<20	20	<20	20	<20	20	ug/L
F1 (C6-C10) Incl. BTEX	<20	20	<20	20	<20	20	<20	20	ug/L
F2 (C10-C16)	<60	60	<60	60	<60	60	<70	70	ug/L
F3 (C16-C34)	<60	60	<60	60	<60	60	<70	70	ug/L
F4 (C34-C50)	<60	60	<60	60	<60	60	<70	70	ug/L
Baseline @ C50	Yes	N/A	Yes	N/A	Yes	N/A	Yes	N/A	NA
1,4-dichlorobenzene-d4 (Surr)	95.8	N/A	94.3	N/A	97.7	N/A	95.6	N/A	% Rec
o-Terphenyl (Surr.)	63.4	N/A	66.5	N/A	72	N/A	64.1	N/A	% Rec

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Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Petroleum Hydrocarbons	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
undecane (Surr)	111	N/A	113	N/A	96.4	N/A	108	N/A	% Rec

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Petroleum Hydrocarbons	Result	MDL	Result	MDL	Units
F1 (C6-C10) - Less BTEX	<20	20	<20	20	ug/L
F1 (C6-C10) Incl. BTEX	<20	20	<20	20	ug/L
F2 (C10-C16)	<60	60	<50	50	ug/L
F3 (C16-C34)	<60	60	<50	50	ug/L
F4 (C34-C50)	<60	60	<50	50	ug/L
Baseline @ C50	Yes	N/A	Yes	N/A	NA
1,4-dichlorobenzene-d4 (Surr)	96.1	N/A	95.4	N/A	% Rec
o-Terphenyl (Surr.)	68.8	N/A	67.6	N/A	% Rec
undecane (Surr)	109	N/A	102	N/A	% Rec

Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Solids	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Total Dissolved Solids	250 [210]	30	256	10	368	10	256	10	mg/L

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Solids	Result	MDL	Result	MDL	Units
Total Dissolved Solids	200	10	324	10	mg/L

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Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Volatile Organic Compounds	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Benzene	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L
Ethylbenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Toluene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
m+p-Xylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
o-Xylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Total Xylenes	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,1,1,2-Tetrachloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,1,1-Trichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,1,2,2-Tetrachloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,1,2-Trichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,1-Dichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,1-Dichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,2,4-Trichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,2-Dibromo-3-chloropropane	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L
1,2-Dibromoethane	<0.2	0.2	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L
1,2-Dichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,2-Dichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,2-Dichloroethane-d4 (Surr)	118	N/A	117	N/A	119	N/A	118	N/A	% Rec
1,2-Dichloropropane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,3-Dichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1,3-Dichloropropane	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L
1,4-Dichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
1-Bromo-4-fluorobenzene (Surr.)	103	N/A	104	N/A	107	N/A	106	N/A	% Rec
Acetone	<30	30	<30	30	<30	30	<30	30	ug/L
Bromobenzene	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L
Bromochloromethane	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L

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Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Volatile Organic Compounds	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Bromodichloromethane	<0.2	0.2	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L
Bromoform	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Bromomethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Carbon tetrachloride	<0.2	0.2	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L
Chlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Chloroethane	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L
Chloroform	<1	1	<1	1	<1	1	<1	1	ug/L
Chloromethane	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L
cis - + trans-1,3-Dichloropropene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
cis-1,2-Dichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
cis-1,3-Dichloropropene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Dibromochloromethane	<2	2	<2	2	<2	2	<2	2	ug/L
Dibromomethane	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	ug/L
Dichlorodifluoromethane	<2	2	<2	2	<2	2	<2	2	ug/L
Dichloromethane	<5	5	<5	5	<5	5	<5	5	ug/L
Hexachlorobutadiene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Methyl ethyl ketone	<20	20	<20	20	<20	20	<20	20	ug/L
Methyl isobutyl ketone (MIBK)	<20	20	<20	20	<20	20	<20	20	ug/L
Methyl tert-butyl ether (MTBE)	<2	2	<2	2	<2	2	<2	2	ug/L
n-Hexane	<5	5	<5	5	<5	5	<5	5	ug/L
Styrene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Tetrachloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Toluene-d8 (Surr.)	102	N/A	102	N/A	105	N/A	103	N/A	% Rec
Trans-1,2-dichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Trans-1,3-dichloropropene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Trichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L

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Sample Description	MW1 - A		MW1 - B		MW2 - B		MW5 - B		
Lab ID	885753		885754		885755		885756		
Volatile Organic Compounds	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Trichlorofluoromethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L
Vinyl chloride	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Volatile Organic Compounds	Result	MDL	Result	MDL	Units
Benzene	<0.1	0.1	<0.1	0.1	ug/L
Ethylbenzene	<0.5	0.5	<0.5	0.5	ug/L
Toluene	<0.5	0.5	<0.5	0.5	ug/L
m+p-Xylene	<0.5	0.5	<0.5	0.5	ug/L
o-Xylene	<0.5	0.5	<0.5	0.5	ug/L
Total Xylenes	<0.5	0.5	<0.5	0.5	ug/L
1,1,1,2-Tetrachloroethane	<0.5	0.5	<0.5	0.5	ug/L
1,1,1-Trichloroethane	<0.5	0.5	<0.5	0.5	ug/L
1,1,2,2-Tetrachloroethane	<0.5	0.5	<0.5	0.5	ug/L
1,1,2-Trichloroethane	<0.5	0.5	<0.5	0.5	ug/L
1,1-Dichloroethane	<0.5	0.5	<0.5	0.5	ug/L
1,1-Dichloroethylene	<0.5	0.5	<0.5	0.5	ug/L
1,2,4-Trichlorobenzene	<0.5	0.5	<0.5	0.5	ug/L
1,2-Dibromo-3-chloropropane	<0.3	0.3	<0.3	0.3	ug/L
1,2-Dibromoethane	<0.2	0.2	<0.2	0.2	ug/L
1,2-Dichlorobenzene	<0.5	0.5	<0.5	0.5	ug/L
1,2-Dichloroethane	<0.5	0.5	<0.5	0.5	ug/L
1,2-Dichloroethane-d4 (Surr)	120	N/A	121	N/A	% Rec
1,2-Dichloropropane	<0.5	0.5	<0.5	0.5	ug/L
1,3-Dichlorobenzene	<0.5	0.5	<0.5	0.5	ug/L

6820 Kitimat Road Unit 4, Mississauga, ON, L5N 5M3
Phone: (905) 821-1112 Fax: (905) 821-2095 Web: www.testmark.ca

CERTIFICATE OF ANALYSIS

Whitewater Hydrogeology Ltd.

Work Order Number: 308182

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Volatile Organic Compounds	Result	MDL	Result	MDL	Units
1,3-Dichloropropane	<0.3	0.3	<0.3	0.3	ug/L
1,4-Dichlorobenzene	<0.5	0.5	<0.5	0.5	ug/L
1-Bromo-4-fluorobenzene (Surr.)	105	N/A	105	N/A	% Rec
Acetone	<30	30	<30	30	ug/L
Bromobenzene	<0.3	0.3	<0.3	0.3	ug/L
Bromochloromethane	<0.3	0.3	<0.3	0.3	ug/L
Bromodichloromethane	<0.2	0.2	<0.2	0.2	ug/L
Bromoform	<0.5	0.5	<0.5	0.5	ug/L
Bromomethane	<0.5	0.5	<0.5	0.5	ug/L
Carbon tetrachloride	<0.2	0.2	<0.2	0.2	ug/L
Chlorobenzene	<0.5	0.5	<0.5	0.5	ug/L
Chloroethane	<0.3	0.3	<0.3	0.3	ug/L
Chloroform	<1	1	<1	1	ug/L
Chloromethane	<0.3	0.3	<0.3	0.3	ug/L
cis - + trans-1,3-Dichloropropene	<0.5	0.5	<0.5	0.5	ug/L
cis-1,2-Dichloroethylene	<0.5	0.5	<0.5	0.5	ug/L
cis-1,3-Dichloropropene	<0.5	0.5	<0.5	0.5	ug/L
Dibromochloromethane	<2	2	<2	2	ug/L
Dibromomethane	<0.3	0.3	<0.3	0.3	ug/L
Dichlorodifluoromethane	<2	2	<2	2	ug/L
Dichloromethane	<5	5	<5	5	ug/L
Hexachlorobutadiene	<0.5	0.5	<0.5	0.5	ug/L
Methyl ethyl ketone	<20	20	<20	20	ug/L
Methyl isobutyl ketone (MIBK)	<20	20	<20	20	ug/L
Methyl tert-butyl ether (MTBE)	<2	2	<2	2	ug/L
n-Hexane	<5	5	<5	5	ug/L

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CERTIFICATE OF ANALYSIS

Whitewater Hydrogeology Ltd.

Work Order Number: 308182

Sample Description	MW8		MW10		
Lab ID	885757		885758		
Volatile Organic Compounds	Result	MDL	Result	MDL	Units
Styrene	<0.5	0.5	<0.5	0.5	ug/L
Tetrachloroethylene	<0.5	0.5	<0.5	0.5	ug/L
Toluene-d8 (Surr.)	104	N/A	104	N/A	% Rec
Trans-1,2-dichloroethylene	<0.5	0.5	<0.5	0.5	ug/L
Trans-1,3-dichloropropene	<0.5	0.5	<0.5	0.5	ug/L
Trichloroethylene	<0.5	0.5	<0.5	0.5	ug/L
Trichlorofluoromethane	<0.5	0.5	<0.5	0.5	ug/L
Vinyl chloride	<0.1	0.1	<0.1	0.1	ug/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

F1-BTEX, F2-NAPTH, and F3-PAH: BTEX and selected PAHs have been subtracted from the appropriate fractions only if the parameter names are F1-BTEX, F2-NAPTH, and F3-PAH, otherwise these compounds have not been subtracted from their respective fractions.

MDL: Method detection limit or minimum reporting limit.

[ ]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

% Rec: Surrogate compounds are added to the sample in some cases and the recovery is reported as a % recovered.

Total Petroleum Hydrocarbons: For the analysis of Total Petroleum Hydrocarbons, the Chromatogram descended to the baseline at or before nC50; if F4G results are reported, they are not to be added to the C6 to C50 results.

Quality Control: All associated Quality Control data is available on request.

6820 Kitimat Road Unit 4, Mississauga, ON, L5N 5M3
Phone: (905) 821-1112 Fax: (905) 821-2095 Web: www.testmark.ca

Denise Holmes

From:	Brad Lemaich <blemaich.sdfd@bellnet.ca>
Sent:	Wednesday, February 21, 2018 4:01 PM
To:	dholmes@melancthontownship.ca; 'Carol Sweeney'; ClerksOffice@townofmono.com; 'Terry Horner'; 'Susan Stone'
Cc:	hfoster@amaranth.ca; glittle@amaranth-eastgary.ca; ken.mcghee@townofmono.com; fred.nix@townofmono.com; jelliott@melancthontownship.ca; whannon@melancthontownship.ca; 'Paul Mills'; jhorner@mulmurtownship.ca; wmills@shelburne.ca; wbenotto@shelburne.ca; 'Nicole Hill'
Subject:	Draft regulation changes to the Fire Protection and Prevention Act
Attachments:	AMO - DRAFT MCSCS Regulations on Mandatory Certification.pdf; Position on Draft MCSCS Regulations on Mandatory Firefighter Certification and Community Risk Assessments.docx

Good afternoon,

I am sending this email to assist your understanding of the proposed changes to the Fire Protection and Prevention Act.

This is a timely topic for 2 reasons. The first being the limited time allotted for feedback, and the second, the financial implications for municipalities.

Attached are 2 documents, the AMO briefing to member municipalities, and my position (the position of the fire service in general), regarding the proposed changes.

I did not get into extreme detail regarding the draft certification regulations, but I believe I captured the areas of greatest concern.

I urge you to take advantage of the opportunity to provide to the Ministry of Community Safety and Correctional Services your municipality's concerns regarding these draft regulations.

If I can be of further assistance, do not hesitate to contact me.

Brad Lemaich
Fire Chief

Shelburne & District Fire Dept.
114 O'Flynn St.
Shelburne, ON
L9V 2W9
Office 519-925-5111
Mobile 519-938-1609

ACT # 1

MAR 0 1 2018

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To: dholmes@melancthontownship.ca
From: blemaich.sdfd@bellnet.ca

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This message was delivered because the content filter score did not exceed your filter level.

Response to Ministry of Community Safety and Correctional Services draft regulations under the Fire Protection and Prevention Act (FPPA)

There are two draft regulations that are being circulated by the MCSCS, and a period of commenting has been opened to allow stakeholders to provide input.

The draft regulations come as a result of efforts to increase the level of professionalism within the Ontario fire service. This in itself is a good thing. Issues arise however with the availability of funding and access to training and testing, and the compliance schedule, as presented in the draft.

The Shelburne & District Fire Department trains all members in the skills required, to the current NFPA standards. We do not, and have not, made NFPA certification mandatory. We have some members who have used personal vacation time, weekends, etc., to attend the Ontario Fire College or private service providers to achieve NFPA certification.

By the timeline proposed in the draft regulations, any new hire after Jan 1 2019, and any current members that we are unable to "grandfather" to the certification standard, (basically any member with less than 5 years of service), must become certified to the NFPA standards for:

1- Exterior fire attack
2- Interior fire attack
3- Pumping apparatus operator
4- Fire officer
5- Public educator
6- Technical rescue
7- Hazmat response (Technician level)

before they can perform those duties. As stated before, this is not necessarily a bad thing. The difficulty for us lies with the affordability and accessibility of the training and testing required to achieve certification.

We currently have 2 options available to us for certification.

1. Have members attend courses offered by the Ontario Fire College, or
2. Have members attend accredited private service providers (eg. Private career college)

The Ontario Fire College provides affordable ($65.00 per course), but limited enrollment opportunities. There are literally thousands of applications for only hundreds of available spots. This also requires our members to attend at various times of the year, typically on weekdays, for sometimes up to 5 consecutive days.

Option 2 has more availability for enrollment as the demand is not as great as option 1, but comes at a cost $6000 to $10000 per student. It also entails members attending for up to 2 or 3 weeks at a time, depending on the program.

Furthermore, the draft regulation requires that by Jan. 1 2020, any member performing duties as a:

1. Fire Instructor
2. Fire Investigator
3. Fire Inspector
4. Internal Fire Dispatcher

must be certified to the applicable NFPA standard.

These regulations are achievable, but not within the current delivery model being used by the ministry. My hope is that you will reply to the ministries echoing the following:

<u>Mandatory Training and Certification Draft Regulation:</u>

- That the Mandatory Training and Certification regulation not come into force until at least July 1, 2019, preferably January 1, 2020, to allow municipal councils and their fire services to make all the necessary training funding decisions. It will also enable the provincial government to provide the necessary funding for training and liability indemnification 12 months prior to the regulations coming into force.
- That the OFMEM must ensure timely access to free, online testing for departments.
- That the Internship Program of 24 months be expanded to include all applicable areas and positions, such as fire inspectors and Fire Officer I & II, replacing the limiting language found in section 3(b). As it's currently written, the regulation only applies to new hires.
- That Table 1 be revised to include wording that ensures future updates to NFPA standards are implemented by the Authority Having Jurisdiction (AHJ) as standards are updated, published, and testing/skills are made available. This will support and complete the certification process.

- Certification for some individual chapters within NFPA 1006 may not be available for the January 1, 2020 deadline. Therefore, additional wording should be added to the regulations, allowing the AHJ to manage the implementation of NFPA 1006 Technical Rescue as the standards are updated, published, and testing/skills are made available, in order to support and complete the certification process.

The second area being addressed by the MCSCS in the draft regulations in the need for enhancement in the completion of Community Risk Assessments.

Again, not a bad thing, but the draft requires some adjustments to make it achievable. It currently states that a municipality will require a Community Risk Assessment every 5 years, and that it is reviewed annually.

I think it will benefit your municipality if your feedback regarding the draft regulation re: CRA's echoes the following:

Community Risk Assessments (Schedule 1 Mandatory Profiles) Draft Regulation:

- That the reference to building stock and classifications should use MPAC data to classify building usage in regards to fire risk.
- That the line about reporting the "state of compliance within the fire code" in Section 2 be deleted, as this is directly dependent upon municipalities' set level of service for fire prevention (e.g. fire inspections upon request or complains as permitted, under the FPPA).
- That Section 6 be removed. In a multi-tier government (e.g. lower-tier fire, upper-tier EMS and provincial police), the data required for a public safety response profile, as currently called for in the draft regulation, is not attainable.
- That the mandatory risk assessment for fire, under Section 7 of this regulation, be clarified in regards to content and formatting as a stand-alone document.
- That Section 9(2) be edited to remove the requirement to compare to other "like"

municipalities, as this data is not readily available. Reporting against provincial trends would be more appropriate.

If you any questions regarding the draft regulation changes, or the responses to the request for comments, please do not hesitate to contact me.

Brad Lemaich

Fire Chief

To submit comments to the MCSCS

http://www.ontariocanada.com/registry/view.do?postingId=26546&language=en

AMO Association of Municipalities Ontario

MEMO

January 30, 2018

Draft MCSCS Regulations on Mandatory Certification and Training for Firefighters and Community Risk Assessments by Municipalities- Briefing Note

ISSUE:

On January 25, 2018, The Ministry of Community Safety and Correctional Services (MCSCS) released draft regulations under the *Fire Protection and Prevention Act* (FPPA) regarding:

1) Mandatory Certification and Training for Firefighters; and
2) Community Risk Assessments by Municipalities.

Responses to these draft regulations are due March 11, 2018.

The draft regulation on Public Reporting on Fire Responses by Municipalities has not been shared for review or consultation. We understand that it is to be released shortly and will also be due March 11, 2018.

This briefing note has been prepared to assist AMO members in the development of their municipal responses to the draft MCSCS fire regulations. Please work with your Fire Chief and fire services to develop a comprehensive response for your municipality.

BACKGROUND:

WHAT:

- In January 2017, the MCSCS established an advisory Fire Safety Technical Table (the Table) as part of a mandate commitment to provide recommendations to modernize fire service delivery.
- The Table consists of MCSCS and Ontario Fire Marshal (OFM) executive and staff, the Ontario Professional Fire Fighters Association, the Toronto Fire Fighters Association, the Ontario Fire Chiefs Association (OAFC), Fire Chiefs from full-time, composite and volunteer services, Toronto Fire Services, and for the municipal government perspective- an AMO staff member and a lower tier CAO representative.
- The Table was established to review new and emerging challenges in fire safety with a view to identifying opportunities to enhance delivery in Ontario, such as:
  - Firefighter training and professionalism (e.g., identification of specialized knowledge requirements and core competencies);
  - Public education and prevention measures, including community risk assessments;
  - Provincial standards for fire services, such as fire service dispatch; and
  - Public reporting of fire service data.
- It must be emphasized that the Table has only been advisory. MCSCS, as informed by the Table, will develop recommendations for the MCSCS Minister's final approval.

INFO #1

FEB 15 2018

- Municipal governments under the FPPA are required to:

Municipal responsibilities

2. (1) Every municipality shall,

(a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and

(b) provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.

Methods of providing services

(2) In discharging its responsibilities under subsection (1), a municipality shall,

(a) appoint a community fire safety officer or a community fire safety team; **or**

(b) establish a fire department

WHY:

- The Fire Safety Technical Table was established to address public safety and firefighter safety gaps identified by the Coroner's Inquests over the last several years.
- The Table has had active discussions on modernizing fire standards for firefighters' training and certification, community risk assessment, and public reporting on fire responses.
- Third party training for technical rescues, such as the tragic ice-training incident in SW Ontario that was the subject of a 2017 Coroner's inquest, is not addressed in these draft regulations.
- There appears to be a past informal agreement made around 2012 between MCSCS, OFM, the OAFC, and fire services that Ontario would use the National Fire Protection Association (NFPA) standards going forward. Neither AMO nor its members were part of this discussion or decision.
- The National Fire Protection Association is a United States trade association, with some international members, that creates and maintains private, copyrighted standards and codes for usage and adoption by local governments.
- One of the most notable features about NFPA's code development process is that it is open and consensus-based. That means anybody can participate in the development of these important documents. More than 9,000 volunteer committee members with a wide range of professional expertise periodically review all NFPA codes and standards.

THE REGULATIONS:

1. **The draft Mandatory Certification and Training for Firefighters and Other Persons Providing Fire Protection Services includes:**

- Every municipality, and in unorganized areas where the Province is responsible for certification and training, must make sure that its fire service is responsible for compliance.
- Mandatory certification is to occur for those firefighters who are performing the fire protection service: fire suppression exterior and interior attack (if provided), pump operations, fire suppression supervision, fire public education, fire prevention, fire instruction, fire dispatch, fire investigation, technical rescue, and hazardous materials to respective NFPA standards.
- Existing firefighters can be grandfathered if they can demonstrate that they have met the standard by an alternate/previous means. Grandfathering requirements are outlined in a Fire Marshal guideline (link is below). Fire chiefs are responsible for ensuring that their Firefighters have achieved the standard by courses/exams or alternate means.
- It is proposed that these standards are to be achieved by January 1, 2019 except for the following that come into force on January 1, 2020 – fire inspection, fire instruction, fire dispatch, fire investigation, hazardous materials, and technical rescue.
- Fire dispatch certification currently is only for fire services who do dispatch themselves. It does not include 3rd party dispatch at this time.
- The OFM is updating its educational offerings and approach so that all required courses and exams can be accessed online 24/7 in 2018 free of charge. Practical exams will still need to be done in person under the direction of a certified fire instructor in each area of competence.

Analysis:

- Although a complete gap analysis of firefighters who meet the NFPA standards and/or can be grandfathered was requested throughout this exercise and MCSCS surveys were attempted, the full impact of the mandatory training and certification regulation will not be known until the regulation is consulted on and/or goes into force.
- We understand that under the proposed mandatory training and certification regulation, the minimum certification/training requirements for five categories will be for new hires only as of January 1, 2019 (for Suppression Firefighters (external/interior); Pump Operators; Fire Officers; and Fire Educators).
- The draft regulation requires only those firefighters, in the five categories noted above, hired after January 1, 2019 to be certified. However, there is concern that municipal governments will still have a significant risk of potential liability if they simply follow the proposed regulatory approach being suggested – grandfather those that can be and make sure that any new hires are certified at the specific NFPA level.
    - The magnitude of the number of fire service staff who will be able to be grandfathered is unknown.

- If municipal fire services do not make sure that everyone is certified to the new mandatory standard for all categories of fire operations, there remains a great liability risk if anything unfortunate occurs.
- Stated more clearly, no municipality is likely to want to state in a Coroner's inquest or legal suit that a firefighter was not certified to the standard despite the provisions in the regulation without indemnification from the province.
- This is a Catch-22 for municipal fire services. Municipalities essentially will need to make sure everyone is trained and certificated to the certification standard for all firefighters in the service despite the go-forward approach in the regulation.
- Although there is protection from personal liability and indemnification provisions in the FPPA (see s. 74, 75, 76), it is only for those working in fire services (municipal or provincial) and not for municipal corporations.

- It will be helpful to municipal fire services that the Fire College curriculum and testing will all be online for 2018 free of charge.
- That said, municipalities will still have unfunded staff costs for those who need to take the training and for the required testing to achieve certification. This will result in staff time costs for these required training hours. Municipalities may not have provided for the now needed training costs in their 2018 budget.
- We understand that MCSCS will consider if there is provincial funding available for implementation of this regulation, once final, however no decisions have been made to date.
- It has been said at the Table that there has been significant training over the years to these standards so this should reduce the risk exposure. This needs to be validated.
- It should be noted that not all these proposed standards can be grandfathered – only those identified in the January 2014 OFM communique can be grandfathered.
- Fire inspectors, Fire instructors, Fire Investigators, Technical Rescue, Fire Dispatchers and Hazardous Materials Personnel cannot be grandfathered. So as per the draft regulation, those currently employed or appointed in fire departments must all be certified by January 1, 2020.
- In rural and northern Ontario, there are many other non-fire services that provide fire dispatch services for the fire services (e.g. consolidated fire dispatch that does many departments' dispatch, police dispatch, answering services, taxi dispatch). The full extent of different types of fire dispatch and where it occurs is not known at this time by MCSCS or OFM.
- Only fire services that do their own dispatch will be captured by this draft regulation; however, MCSCS is looking to include other fire dispatch service providers in a future regulation. Properly trained fire dispatchers is a critical area of public safety that will be pursued by the Province as inquests have, or will, identify this as a current vulnerability for the public.
- During this draft regulation consultation, municipal fire services will need to identify clearly how achievable the mandatory certification will be for all identified positions and the additional training costs that will be necessary. The value of any additional training (number of staff per position, training time needed and associated costs) should be outlined in your response.

2. **The draft Community Risk Assessment by Municipalities includes:**

- The process to identify, analyze, evaluate and prioritize public safety risks to inform the municipal decision-making on the provision of fire protection services, fire safety education and fire prevention programs as required by the FPPA.
- This risk assessment must be done within five years of the regulation coming into force and at then each year thereafter.
- The draft regulation outlines the mandatory profiles of community attributes that must be considered in the development of the risk assessment.
- A copy of the Community Risk Assessment must done in the form as set out by the OFM and be filed with them once completed.

Analysis:

- The Table did work well to get the draft Community Risk Assessment regulation as balanced and flexible as possible – and that the assessment is focused on the needs and circumstances of each community.
- We understand that this standardization is similar to the voluntary simplified risk assessment from the OFM that municipalities have been using to date.
- We understand that the OFM will be providing support and assistance for small rural and northern municipalities in completing these Community Risk Assessments.
- As municipal councils have up to five years to implement this regulation, a change in the date of the regulation coming into force does not need to be requested.

COMMENTARY:

- The nature of the magnitude of how many firefighters need to be trained, certified and/or grandfathered is not known by the OFM.
- The full nature of the risk or financial exposure for municipal governments and their fire services is not known at this time from these draft FPPA regulations.
- To date, no additional provincial funding has been offered by the Province to help manage the costs of mandatory training and certification.
- There is no commitment from MCSCS/provincial government to provide municipal governments with protection from litigation as part of the entire package surrounding these regulations as discussed by the Table as a quid pro quo for mandatory certification. The Province of Quebec government provided this protection to local governments in a similar mandatory training and certification situation.
- Municipal governments will have the on-going pressure to determine the level and nature of fire services in their communities through these regulations. The level of fire services is a local decision under the FPPA (s. 2(1), 2(2)) as only fire safety education and fire prevention programs that must be provided by each municipal government.

- 2018 is a municipal election year. As consistent with prudent planning and municipal election legislation, all municipal councils need to assume that as of July 2018 they may have a Lame Duck period. Given this and that the proposed draft regulation is to come into force by January 1, 2019, there may not be enough time before July 2018 or at the initial council meeting on or after December 1st, 2018, to make decisions (e.g. training funding) to ensure full implementation of the Mandatory Training and Certification regulation. For this reason, a later effective date is needed.

Suggested Recommendations for Municipal Responses:

- That the provincial government provide liability indemnification for all municipal governments who comply with these new regulations at least 12 months before the training and certification regulation comes into force.
    - If they do not provide this liability indemnification, it will be necessary for the province to provide the new funding that would be required to train and certify all firefighters to achieve the standards before the mandatory training and certification regulation comes into force.
- Municipal fire services will need to identify clearly how achievable the mandatory certification will be and the additional training costs that will be necessary. The value of any additional training (both time and costs) should be outlined in your response.
    - If the province does not provide liability indemnification, MCSCS should make the required training funding available to municipal fire services for all the identified NFPA professional qualifications at least at least 12 months before the training and certification regulation comes into force
    - If the province does provide liability indemnification to accompany these regulations, the province should provide sufficient funding to municipalities to cover the new training and certification costs for those designated positions at least at least 12 months before the training and certification regulation comes into force for those positions.
    - If sufficient provincial funding is not provided to municipal governments, the province will be knowingly creating a new unfunded mandate on municipalities.
- That the Mandatory Training and Certification regulation not come into force until at least July 1, 2019, preferably January 1, 2020, to allow municipal councils and their fire services to make all the necessary training funding decisions. It will also enable the provincial government to provide the necessary funding for training and liability indemnification 12 months prior to the regulations coming into force.

Denise Holmes

From: Source Protection Funding (MOECC) <SourceProtectionFunding@ontario.ca>
Sent: Thursday, February 22, 2018 3:37 PM
To: Denise Holmes
Cc: Source Protection Funding (MOECC)
Subject: RE: SPMIF - Melancthon - 2017/18 Extension Request
Attachments: SPMIF_1314_056_MEL_Amend4_2018 Timeline Extension.pdf

Dear Denise,

Please be advised that your extension request has been approved.

Attached is your Agreement Amendment 4 to formally extend the timelines for expending SPMIF funds. Please:

1. Print off two copies of the attached amendment.
2. Have both copies signed by someone with the authority to bind the municipality (Please advise if the signing authority is incorrectly listed in the attached Amendment)
3. Scan and send a signed copy to sourceprotectionfunding@ontario.ca using the subject line: "SPMIF_1314_056 Township of Melancthon and– 2018 Extension Amendment".
4. Return the two original signed copies to the address below **March 8, 2018.**

   Ministry of the Environment and Climate Change
   Source Protection Programs Branch
   40 St. Clair Avenue W., 14th Floor
   Toronto, ON M4V 1M2
   Attn: Ms. Saira Bozin Ilisinovic, Program Coordinator

5. Email updated certificate of insurance to sourceprotectionfunding@ontario.ca

We will return an original duly executed amendment to you once signed at the Ministry for your files.
If you have any questions please let us know,

Best regards,

Saira Bozin Ilisinovic
Program Coordinator
MOECC – Source Protection Programs Branch
40 St. Clair Avenue W. Toronto ON M4V 1M2
416-212-5483
Saira.Bozin-Ilisinovic@Ontario.ca

From: Denise Holmes [mailto:dholmes@melancthontownship.ca]
Sent: January-12-18 11:28 AM
To: Source Protection Funding (MOECC)
Subject: SPMIF - Melancthon - 2017/18 Extension Request

G·B·2.1
MAR 0 1 2018

This message has been archived. View the original item

Good afternoon,

The Township of Melancthon is requesting an extension to December 31, 2018 to expend its unused funds under this program.

Attached is the work plan.

Thank you.

Attachments:

image003.jpg	(2 KB)
SPMIF 2017 Extensions_work plan template_FNL.docx	(52 KB)

THE CORPORATION OF THE TOWNSHIP OF MELANCTHON

BY-LAW NUMBER _____ - 2018

BEING A BY-LAW TO AUTHORIZE THE EXECUTION OF AN AGREEMENT BETWEEN HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO AS REPRESENTED BY THE MINISTER OF THE ENVIRONMENT AND CLIMATE CHANGE AND THE CORPORATION OF THE TOWNSHIP OF MELANCTHON

WHEREAS it is deemed expedient that the Corporation of the Township of Melancthon and Her Majesty the Queen and MOECC enter into an agreement for funding through the Source Protection Municipal Implementation Fund;

NOW THEREFORE THE CORPORATION OF THE TOWNSHIP OF MELANCTHON BY THE MUNICIPAL COUNCIL THEREOF ENACTS AS FOLLOWS:

1. THAT the Head of Council and Clerk are hereby authorized to execute the agreement, in the same form or substantially the same form, as attached hereto as Schedule "A" to this by-law.

BY-LAW READ A FIRST AND SECOND TIME THIS 1ST DAY OF MARCH, 2018.

BY-LAW READ A THIRD TIME AND PASSED THIS 1ST DAY OF MARCH, 2018.

_____ _____

CLERK HEAD OF COUNCIL

AMENDMENT NO. 4
to a Ontario Transfer Payment Agreement under the
Source Protection Municipal Implementation Fund (SPMIF_1314_056)

THIS AMENDMENT NO. 4 made in duplicate, as of the 21st day of February 2018,

B E T W E E N:

HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO
as represented by the Minister of the Environment and Climate Change

(the **"Province"**)

- and -

The Corporation of the Township of Melancthon

(the **"Municipality"**)

WHEREAS the parties entered into a transfer payment agreement under the Source Protection Municipal Implementation Fund dated as of December 13, 2013 for the Municipality to build municipal capacity to implement source protection plans and support sustainable, local actions to protect drinking water (the **"Agreement"**);

AND WHEREAS the parties entered into Amendment No. 1 as of September 8, 2015 to extend the term of the Agreement, add an additional report and include new timelines;

AND WHEREAS the parties entered into Amendment No. 2 as of July 11, 2016 to extend the term of the Agreement, add an additional report, include new timelines, and expand the scope of eligible activities;

AND WHEREAS the parties entered into Amendment No. 3 as of March 9, 2017 to extend the term of the Agreement, add an additional report, and include new timelines;

AND WHEREAS pursuant to Section 20.2 of the Agreement, the parties may amend the agreement in writing;

NOW THEREFORE in consideration of the contractual relationship between the Municipality and the Province referred to above and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by both parties, the Municipality and the Province hereby acknowledge, agree and undertake as follows:

1. Unless otherwise specified in this Amendment No. 4, capitalized words and phrases have their prescribed meaning as set out in the Agreement.

2. The Agreement is amended as follows:

2.1 Section 2.1 is deleted in its entirety and replaced with the following:

2.1 The term of the Agreement shall commence on the Effective Date and shall expire 90 days after the final report due date in Schedule "D" unless terminated earlier pursuant to Article 9. The Municipality shall, upon expiry or termination of the Agreement, return to the Province any Funds remaining in its possession or under its control.

2.2 The first paragraph in Section B.1 (Eligible Activities) as amended by Amendment No. 3 is again deleted and replaced with the following:

The Municipality may only spend the Funds on the following eligible activities that are undertaken by the Municipality, or that are undertaken on the Municipality's behalf, between December 13, 2013 and December 31, 2018 that are directly related to the following:

2.3 The chart in Schedule "D" (Reports) as amended by Amendment No. 3 is again deleted in its entirety and replaced with the following:

Name of Report	Due Date
Collaboration Statement (if applicable)	December 12, 2014
Progress Report 1	December 12, 2014
Progress Report 2	December 11, 2015
Progress Report 3	August 26, 2016
Progress Report 4	August 25, 2017
Progress Report 5	December 8, 2017
Progress Report 6	October 31, 2018
Final Report	January 31, 2019
Other Reports as specified from time to time	On a date or dates specified by the Province.

3. This Amendment No. 4 shall be in force from December 13, 2013 and shall have the same expiry or termination date as the Agreement.

4. All other terms and conditions of the Agreement and Amendment No. 1, Amendment No. 2 and Amendment No. 3 shall remain in full force and effect unchanged and unmodified.

5. This Amendment No. 4 shall enure to the benefit of and be binding upon the Municipality and the Province and each of their administrators, permitted successors and permitted assigns, respectively.

6. This Amendment No. 4 may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. To evidence its execution of an original counterpart, a party may send a copy of its original signature on the execution page hereof to the other party by facsimile or other means of recorded electronic transmission (including in PDF) and such transmission with an acknowledgement of receipt shall constitute delivery of an executed copy of this Amendment.

IN WITNESS WHEREOF the parties have executed this Amendment No. 4 as of the date first written above.

HER MAJESTY THE QUEEN in Right of Ontario
as represented by the Minister of the Environment and Climate Change

_____

Name: Heather Malcolmson
Title: Director
Source Protection Programs Branch

Pursuant to delegated authority.

The Corporation of the Township of Melancthon

_____

Name: Denise Holmes
Title: CAO

I have authority to bind the Municipality.

TOWNSHIP OF MELANCTHON

DELEGATION REQUEST FORM

Request for Delegation, any written submissions and background information for consideration by Council must be submitted to the Clerk's Office by 12:00 noon on the Thursday, **prior to the requested meeting.**

REQUEST DATE: March 1/18

NAME: Alia Talbert & Thomas Long PHONE: [redacted]
NDACT

ADDRESS: _____

EMAIL ADDRESS: [redacted]

SIGNATURE: [redacted]

Purpose of Delegation Request (state position taken on issue, if applicable).

See attached

REMINDER - DELEGATIONS ARE ALLOWED 10 MINUTES TO SPEAK

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TOWNSHIP OF MELANCTHON
157101 HIGHWAY 10
MELANCTHON, ONTARIO
L9V 2E6
519-925-5525 Fax - 519-925-1110 Email info@melancthontownship.ca

DEL #1

MAR 0 1 2018

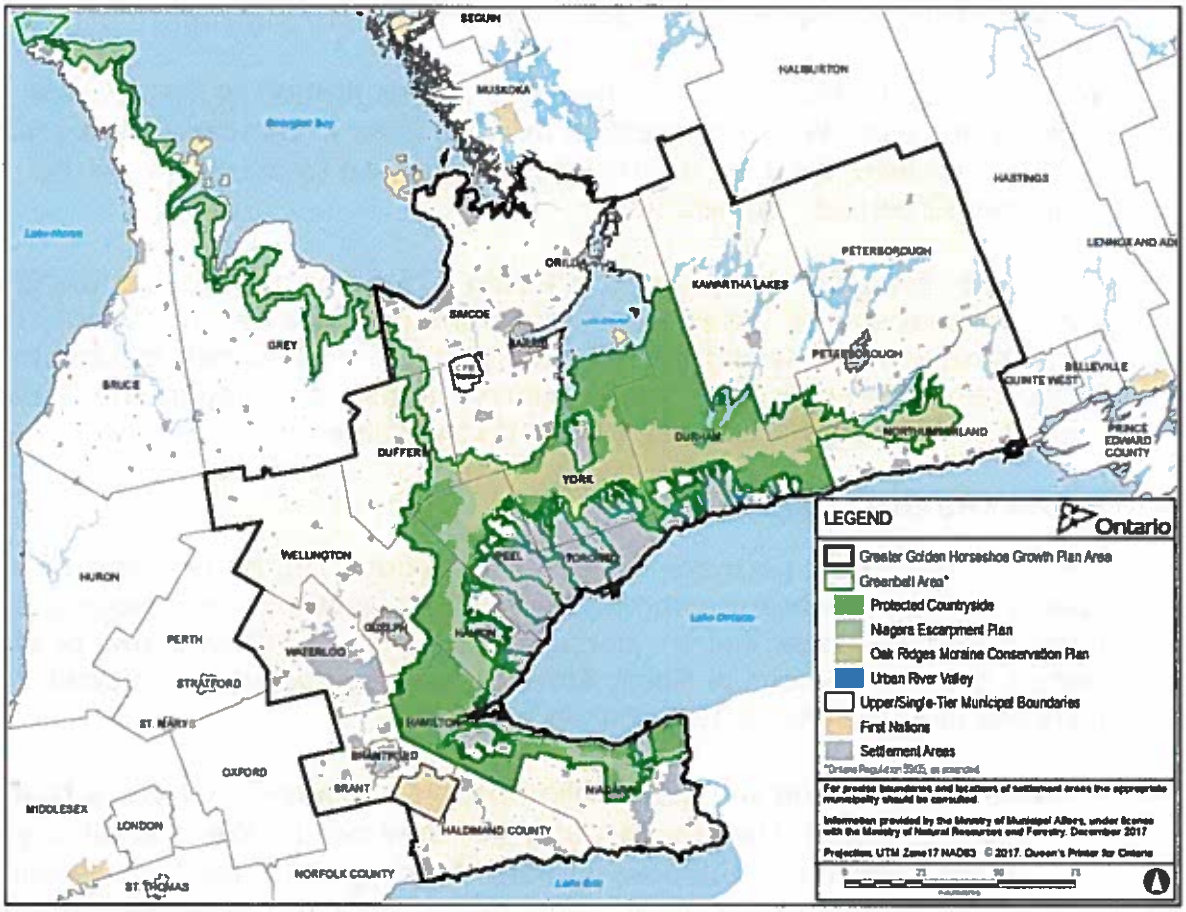
February 5, 2018

Proposed Greenbelt Expansion

Listed on Ontario's Environmental Registry (EBR #013-1661)

Public comment period until March 7, 2018.

Greater Golden Horseshoe



Seven "study" areas include Dufferin (4) & Simcoe (5) counties:

1. Waterloo and Paris/Galt Moraine complex (Waterloo Region, Brant County, Wellington County)
2. Orangeville Moraine (Wellington County, Dufferin County)
3. Escarpment Area Moraines (Dufferin County, Simcoe County)
4. Oro Moraine (Simcoe County)
5. Nottawasaga River Corridor (Dufferin County, Simcoe County)
6. Important surface water and recharge features in southeast Simcoe County
7. Catchment Areas and Wetlands West of Minesing (Dufferin County, Simcoe County)

Link to detail map: Study Area for Potential Greenbelt Expansion

Link to: MMAH Protecting water for future generations: Public consultation document

Who Are We?

In the fight to "Stop the Mega Quarry" and defend 2,300 acres of prime farmland as well as the headwaters of five rivers, we were joined by 28,000 people at "Foodstock" (2011) and 40,000 people at "Soupstock" (2012) to stand up for the Township of Melancthon's food land and source water.

We, the people behind Food and Water First, learned first-hand the need to protect farmland and source water from short-term thinking.

We have also learned to value meaningful consultation in the decision-making process. We were grateful to participate in the coordinated four plan land use review. Now we appreciate being asked to comment on the proposed Greenbelt expansion.

Today we recognize that Ontario is losing 175 acres of prime farmland every day, and that source water areas across the province are in jeopardy from various issues. We would be delighted to see the Greenbelt expand to include and protect former "mega quarry" lands. We support the Greenbelt expansion and are here to ask you to do the same.

About the Greenbelt

Ontario's Greenbelt permanently protects about 810,000 hectares of green space, farmland, vibrant communities, forests, wetlands and watersheds bordering the Greater Golden Horseshoe (GGH). The GGH is one of the fastest growing regions in North America with a population projected to increase almost 50% to 13.5 million by 2041.

- ➔ How much food will 13.5 million people consume? Where is that food coming from? How much water will they need? We talk blithely about increasing the population, without thinking about food and water. We must protect our local food land and water sources keeping the future in mind.

The Bluebelt

The current proposal to expand the Greenbelt is focused on water recharge and discharge areas, being called the "Bluebelt". The province has identified seven (7) study areas (4 include Dufferin & 5 include Simcoe) without defined borders. The province is asking us to share our opinions and insights to help identify the borders.

Municipalities

We're hearing that there will be little impact on municipalities. Most of the additional regulation will be garnering greater information via Environmental Impact Study(ies) (EIS). At this point, there seems to be no tax base implications. We have not heard of a plan to convert land to conservation other than what is already delineated under the official plans. Similarly there will be little effect on farm operations except for the enhanced requirements under EIS.

It should be noted that we are opposed to the Greenbelt protocol (proposed legislation/current legislation) overriding local Official Plans if those plans already offer more strict protections.

Our Ask

This municipality is a Food & Water First partner. That means you understand the importance of water, and you committed to "make every effort to preserve the land and water that sustain us now and for future generations."

If you truly believe in protecting source water areas, we ask you to support this endeavor. Tell the province that the "Bluebelt" is important and give them the mandate to work out the details.

We understand that there are complex issues around the details, but at this early stage the province is simply gauging support and defining the areas of study. We ask you to agree in principal. Submit a comment to the Ministry stating that protecting water for future generations is a priority.

The province's onus is on the Greater Golden Horseshoe, but farmland and water are just as important to the people of Dufferin & Simcoe counties. Inaction is still a decision. If this administration does not participate in the project, we may find ourselves in a less opportune position in the future.

The deadline is March 7th. Our organization is currently working on our submission. Once it has been finalized we will send you a copy for your files. We respectfully request that you send us a copy of your submission. (to NDACT, PO Box 875, Shelburne, ON, L9V 3M1)

In Conclusion

In conclusion, we would like to point out that Ontario has a long history of protecting watersheds or 'greenbelting' if you will. As early as 1878 there were calls to protect the watershed of five different river systems in Ontario that resulted in a Royal Commission in 1892 recommending in 1893 the formation of Algonquin Park. The first purpose of the Park was "to preserve the headwaters of the watersheds (of five river systems)". Algonquin Park included 18 townships and additions have been made starting in 1894 right up to 1993 to its current size of 763,459 hectares. The need to protect our source water regions has long been recognized and acted upon in Ontario.

It is an unfortunate reality that decades of good decisions can be wiped out with the stroke of a pen. Therefore, we ask you to be vigilant and persistent in the protection of our green space, farm land and source water. Food and water are essential to life.

Today's decisions are your legacy.

#Greenbelt #Bluebelt #ProtectOurWater #FoodAndWaterFirst #FarmersFeedCities

TOWNSHIP OF MELANCTHON

DELEGATION REQUEST FORM

Request for Delegation, any written submissions and background information for consideration by Council must be submitted to the Clerk's Office by 12:00 noon on the Thursday, **prior to the requested meeting.**

REQUEST DATE: March 1, 2018 @ 9AM. 519-923-2110 x223

NAME: Township of Southgate PHONE: 519-375-0122

ADDRESS: 185667 Grey Rd #9, Dundalk, ON.

EMAIL ADDRESS: dmilliner@southgate.ca.

SIGNATURE: Dave Mill.

Purpose of Delegation Request (state position taken on issue, if applicable).

① Presentation by Southgate + South East Grey Community Health Centre on the Erskine Clinic in Dundalk.
* See attached for detailed information
Presenters: Dave Milliner - Southgate CAO
+ Al Madden - Executive Director SEGCHC.

REMINDER - DELEGATIONS ARE ALLOWED 10 MINUTES TO SPEAK

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157101 HIGHWAY 10
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L9V 2E6
519-925-5525 Fax - 519-925-1110 Email [illegible]

② General Q+A on other Municipal issues that Melancthon Council may want to discuss on this subject or others issues.

DEC #2

MAR 0 1 2018

Township of Melancthon

Council Delegation:

Delegation: Al Madden - Executive Director SEGCHC

Dave Milliner - CAO Township of Southgate

Date: March 1, 2018 @ 9:00 am

Subject: South East Grey Community Health Centre Services

1. To introduce the Health Clinic Services Model
2. How and why Southgate has partnered with the SEGCHC
3. Health Programming Services for Seniors & Youth
4. What's next in the Evolution of the CHC Clinic Services in Dundalk?
5. Why we are hear?