

6. Review and adoption of Council Minutes

Draft Motion

Be it resolved that City Council approves the following minutes as printed:

- a) Regular Meeting of Council – December 6, 2016

7. Public Meetings pursuant to the Planning Act, Municipal Act and other Statutes

8. Question and Answer Period

9. Presentations / Delegations

10. Communications

- a) AMO Policy Update - AMO Communications

Re: Province releases discussion paper on Expanding Medical Responses through Fire Services

Reference: Received for Information

- b) AMO Policy Update - AMO Communications

Re: Province Proclaims Bill 151 *The Waste-Free Ontario Act* and moves towards full Producer Responsibility

Reference: Referred to the Technical and Environmental Compliance Coordinator

- c) Patrick Cantin, Supervisor of Plant Services – Conseil scolaire public du Nord-Est de L'Ontario

Re: Surplus Property – 183 Broadwood Avenue – Woodworking Shop

Reference: Received for information

- d) Lynn Dollin, AMO President – Association of Municipalities of Ontario

Re: Request for Support – Federal Infrastructure Phase 2 Incrementality Resolution

Reference: Received for Information

- e) Alison Stanley, Information and Communications Officer – Federation of Northern Ontario Municipalities (FONOM)

Re: Northern Policy Institute – Access to Government and local data

Reference: Referred to the Economic Development Officer

- f) Bob Angione, Municipal Clerk – Township of Havelock-Belmont-Methuen

Re: Request for Support – Tax Registrations and Tax Sales

Reference: Received for Information

- g) Paul Dubé, Ombudsman of Ontario

Re: 2015-2016 Annual Report

Reference: Hard copy of Report available for viewing in Clerk's Office

- h) Patricia Wilson, Volunteer – Haileybury Food Bank

Re: Funding Application to Frog's Breath Foundation - Sponsorship

Reference: Motion to be presented under New Business

- i) David Oraziotti, Minister – Ministry of Community Safety and Correctional Services

Re: Acknowledgement of Resolution No. 2016-098 Opposing relocation of OPP Helicopter from Sudbury to Orillia

Reference: Received for Information

- j) Christine Bolger, Special Education Resource Teacher – Timiskaming District Secondary School

Re: One Year Family Membership Request – Syrian Family

Reference: Referred to the Recreation Committee

- k) Carman Kidd, Chair – Timiskaming Board of Health

Re: Media Release – Timiskaming Health Unit Budget Approval / Medical Officer of Health/CEO Recruitment

Reference: Received for information

Draft Motion

Be it resolved that City Council agrees to deal with Communication Items 10. a) to 10. k) according to the Agenda references.

11. Committees of Council – Community and Regional

Draft Motion

Be it resolved that the following minutes and/or reports be accepted for information:

- a) Minutes of the Committee of Adjustment meeting held on September 21, 2016;
- b) Minutes of the District of Timiskaming Social Services Administration Board meeting held on August 17, 2016;

- c) Minutes of the District of Timiskaming Social Services Administration Board meeting held on September 21, 2016;
- d) Minutes of the District of Timiskaming Social Services Administration Board meeting held on October 19, 2016;
- e) Minutes of the Northeast Community Network (NeCN) meeting held on December 7, 2016; and
- f) Minutes of the Temiskaming Transit Committee meeting held on November 9, 2016.

12. Committees of Council – Internal Departments

Draft Motion

Be it resolved that the following minutes be accepted for information:

- a) Minutes of the Waste Management Advisory Committee meeting held on December 8, 2016; and
- b) Minutes of the Building Maintenance Committee meeting held on November 10, 2016.

13. Reports by Members of Council

14. Notice of Motions

15. New Business

a) Timiskaming Health Unit – Taxation of Sugar Sweetened Beverages

Draft Motion

Whereas the rates of obesity have been increasing among adults and children in Timiskaming and youth who are overweight and obese are at higher risk of being overweight or obese in adulthood; and

Whereas the etiology of obesity is complex and involves interactions between genetic, social and environmental factors; and

Whereas the Senate's Report on Obesity describes an innovative, whole-of-society approach to address this important issue, found to be most effective to bring about social change in order to improve health and wellbeing; and

Whereas as part of a comprehensive approach, specific policy measures such as taxation can have a measurable impact, particularly when they are large enough to affect consumer behavior and revenues are redirected toward prevention efforts; and

Whereas the World Health Organization recommends the consumption of sugar, both added and natural sugars, be limited to 10% of total energy intake to reduce the risk of overweight, obesity and tooth decay; and

Whereas it is estimated that Canadians consume as much as 15% of their total calorie intake from added sugars; and

Whereas children who consume sugar sweetened beverages, being the primary source of added sugar in diet, has been associated with a 55% increased risk of being overweight or obese compared to children with lower intake; and

Whereas Dietitians of Canada position statement *Taxation and Sugar-Sweetened Beverages* identifies sugar-sweetened beverages taxation as a public health intervention with potential positive health impact, specially when combined with further policy efforts.

Now therefore be it resolved that Council for the City of Temiskaming Shores hereby endorses the concept of a comprehensive province-wide healthy eating approach, including taxation of sugar-sweetened beverages with investment of generated revenue in health promotion and chronic disease prevention initiatives; and

Furthermore that a copy of this resolution be sent to the Timiskaming Health Unit; Sharon Lee Smith, Associate Deputy Ministry, Policy and Transformation with the Ministry of Health and Long-Term Care; Dr. David Williams, Chief Medical Officer of Health; Roselle Martino, Assistant Deputy Ministry, Population and Public Health Division of the Ministry of Health and Long-Term Care; John Vanthof, MPP Timiskaming-Cochrane; and Linda Stewart, Association of Local Public Health Agencies.

b) Township of McKellar – Support – Petition Province to provide funding for Fire Department Infrastructure as part of the Provincial Government’s Infrastructure Strategy

Draft Motion

Whereas the *Fire Protection and Prevention Act, 1997* legislates that fire prevention, public education and fire protection services are a mandatory municipal responsibility; and

Whereas there are a total of 449 Fire Departments operating in the province comprised of 32 Full-time Departments, 191 Composite Departments and 226 Volunteer Departments; and

Whereas the fire service represents a significant percentage of small, rural and northern municipalities’ managed capital assets; and

Whereas the Municipal Fire Department and associated assets represent critical municipal infrastructure; and

Whereas there are currently no funding opportunities available from the Provincial or the Federal Government for the equipment, training, maintenance, operating or capital requirements of local fire departments.

Now therefore be it resolved that Council of the City of Temiskaming Shores hereby petitions the Provincial Government to recognize the municipal fire service as critical infrastructure by including funding for Fire Department infrastructure as part of the Provincial Government’s Infrastructure Strategy to *Move Ontario Forward*; and

Further that a copy of this resolution be sent to the Township of McKellar; The Honourable Kathleen Wynne, Premier of Ontario; The Honourable Brad Duguid, Minister of Economic Development and Growth; John Vanthof, MPP Timiskaming-Cochrane; the Association of Municipalities of Ontario (AMO); the Federation of Northern Ontario Municipalities (FONOM) and the Rural Ontario Municipal Association (ROMA).

c) Appointment of Council Representative to Committee of Adjustment

Draft Motion

Whereas, in accordance to the Planning Act, the appointment of Council’s representative to the Committee of Adjustment must be done annually.

Now therefore be it resolved that **Mayor Carman Kidd** is hereby appointed to the Committee of Adjustment for the year 2017.

d) Administrative Report No. CGP-025-2016 – Building Permit Fees

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. CGP-025-2016; and

That Council directs staff to prepare the necessary by-law to amend By-law No. 2013-052 modifying the permit fee structure for consideration at the December 20, 2016 Regular Council meeting.

e) Administrative Report No. CGP-026-2016 – Site Plan Control Agreement with Canadian Tire Properties Inc. for 997431 Highway 11 North

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. CGP-026-2016;

That Council agrees to enter into a Site Plan Agreement with Canadian Tire Properties Inc. for 997431 Highway 11 North; and

That Council directs staff to prepare the necessary by-law to enter into a Site Plan Agreement with Canadian Tire Real Estate Limited and provide provisional approval (1st and 2nd reading) for consideration at the December 20, 2016 Regular Council meeting.

f) Haileybury Food Bank – Frog’s Breath Foundation Application

Draft Motion

Whereas the Haileybury Food Bank requires a registered charitable organization to sponsor their application to the Frog’s Breath Foundation and has requested that the City partner on the said application.

Now therefore be it resolved that the Council of the City of Temiskaming Shores hereby agrees to sponsor the Haileybury Food Bank’s funding application to the Frog’s Breath Foundation.

g) Administrative Report No. CS-018-2016 – Lease Agreement – Haileybury Food Bank

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. CS-018-2016;

That Council authorizes staff to proceed with converting the lunchroom area in the building for use by the Haileybury Food Bank; and

That Council directs staff to prepare the necessary By-law to enter into a new Five (5) Year Lease Agreement with the Haileybury Food Bank for operations at 500 Broadway Street effective January 1, 2017, at a rate of \$1/year for consideration at the December 20, 2016 Regular Council meeting.

h) Administrative Report No. CS-019-2016 – Annual Review of Health and Safety Policy (2017)

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. CS-019-2016;

That Council confirms it has reviewed the City of Temiskaming Shores Health and Safety Policy and Guidelines for the Structure and Function of the Joint Health and Safety Committee in accordance with the Occupational Health and Safety Act; and

That Council acknowledges that the TSJHSC will continue to operate under the requirements of the Occupational Health and Safety Act.

i) Administrative Report No. PPP-014-2016 – Emergency Management Program – Annual Status Report

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. PPP-014-2016; and

That the Annual Emergency Management Program Statement of Completion form be signed by the Head of Council and submitted along with the Annual Municipal Maintenance Checklist by the Community Emergency Management Coordinator to the Office of the Fire Marshal and Emergency

Management (OFMEM) confirming the City of Temiskaming Shores 2016 Emergency Management Program maintenance requirements.

j) Memo No. 027-2016-PW – Land Use Agreement (Sirizzotti)

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Memo No. 027-2016-PW; and

That Council hereby directs staff to prepare the necessary by-law to enter into an Agreement with Mr. Sirizzotti to permit the use of municipal land being a portion of Sunnyside Road for consideration at the December 20, 2016 Regular Council meeting.

k) Administrative Report No. PW-049-2016 – Accessibility Upgrades – Automated Doors at Riverside Place

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. PW-049-2016; and

That Council directs staff to prepare the necessary by-law and agreement with Pronor Construction Limited for accessibility upgrades at Riverside Place at an upset limit of \$63,124 plus applicable taxes for consideration at the December 20, 2016 Regular Council meeting.

l) Administrative Report No. PW-050-2016 – Acquisition of Two Accessible Transit Buses

Draft Motion

Be it resolved that the That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. PW-050-2016;

That Council directs staff to prepare the necessary by-law and agreement with Girardin Ontario Inc. for the purchase of two (2) new low floor 30' Transit Buses at an upset limit of \$854,624 plus applicable taxes for consideration at the December 20, 2016 Regular Council meeting; and

That Council directs the Treasurer to proceed with an application to the Ontario Infrastructure & Lands Corporation (OILC) to borrow the unfunded portion of the project estimated at \$611,710.

m) Administrative Report No. PW-051-2016 – Internal Audit and Management Review of the Drinking Water Quality Management System (DWQMS)

Draft Motion

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. PW-051-2016;

That Council Council acknowledges completion of the Internal Audit and Management Review (2016) in accordance to Section 12 *Communications* of the Operational Plan as well as receipt of the off-site Audit Report done by SAI Global; and

That Council directs staff to make the necessary changes within the Drinking Water Quality Management Standard (DWQMS) in accordance with the results of these audits.

16. By-laws

Draft Motion

Be it resolved that:

By-law No. 2016-181 Being a by-law to authorize an Agreement with Michele and Jamie Sirizzotti to permit the use of municipal land (Portion of Sunnyside Road)

By-law No. 2016-183 Being a by-law to authorize the entering into a Lease Agreement with the Haileybury Food Bank for rental space at 500 Broadway Street

By-law No. 2016-184 Being a by-law to authorize the Execution of a Site Plan Control Agreement with Canadian Tire Properties Inc.

(997431 Highway 11 North – Roll No. 54-18-020-002-069.04)

By-law No. 2016-185 Being a by-law to amend By-law No. 2013-052 (Construction, Demolition, Change of Use, Inspections, Permits and associated Fees)

By-law No. 2016-186 Being a by-law to enter into an agreement with Pronor Construction Limited for the Accessibility Upgrades at Riverside Place

By-law No. 2016-187 Being a by-law to authorize a Purchase Agreement with Girardin Ontario Inc. for two (2) 30 foot low floor Accessible Transit Buses for the Temiskaming Transit Committee

By-law No. 2016-188 A by-law to authorize certain new capital works of The Corporation of the City of Temiskaming Shores (the “municipality”); to authorize the submission of an application to Ontario Infrastructure and Lands Corporation (“OILC”) for financing such capital works; to authorize temporary borrowing from OILC to meet expenditures in connection with such works; and to authorize long term borrowing for such works through the issue of debentures to OILC

be hereby introduced and given first and second reading.

Draft Motion

Be it resolved that:

By-law No. 2016-181;

By-law No. 2016-182;

By-law No. 2016-183;

By-law No. 2016-185;

By-law No. 2016-186;
By-law No. 2016-187; and
By-law No. 2016-188

be given third and final reading, be signed by the Mayor and Clerk and the corporate seal affixed thereto.

17. Schedule of Council Meetings

- a) Regular – Tuesday, January 17, 2017 at 6:00 p.m.
- b) Regular – Tuesday, February 7, 2017 at 6:00 p.m.

18. Question and Answer Period

19. Closed Session

Draft Motion

Be it resolved that Council agrees to convene in Closed Session at _____ pm to discuss the following matters:

- a) **Adoption of the December 6, 2016 – Closed Session Minutes**
- b) **Under Section 239 (2) (c) of the Municipal Act, 2001 – Proposed Acquisition of Land – ARIO Property – Verbal Update**
- c) **Under Section 239 (2) (c) of the Municipal Act, 2001 – Proposed Acquisition of Land – KBR Property (View Street) – Confidential Administrative Report CS-020-2016**

Draft Motion

Be it resolved that Council agrees to rise with report from Closed Session at _____ p.m.

20. Confirming By-law

Draft Motion

Be it resolved that By-law No. 2016-189 being a by-law to confirm certain proceedings of Council of The Corporation of the City of Temiskaming Shores for its Regular Meeting held on **December 20, 2016** be hereby introduced and given first and second reading.

Draft Motion

Be it resolved that By-law No. 2016-189 be given third and final reading, be signed by the Mayor and Clerk and the corporate seal affixed thereto.

21. Adjournment

Draft Motion

Be it resolved that City Council adjourns at _____ pm.

Mayor – Carman Kidd

Clerk – David B. Treen



The Corporation of the City of Temiskaming Shores
Regular Meeting of Council
Tuesday, December 6, 2016
6:00 P.M.
City Hall Council Chambers – 325 Farr Drive

Minutes

1. Call to Order

The meeting was called to order by Mayor Carman Kidd at 6:00 p.m.

2. Roll Call

Council: Mayor Carman Kidd, Councillors Jesse Foley, Doug Jelly, Jeff Laferriere, Mike McArthur and Danny Whalen

Present: Christopher W. Oslund, City Manager
David B. Treen, Municipal Clerk
Doug Walsh, Director of Public Works
Tammie Caldwell, Director of Recreation
Kelly Conlin, Director of Corporate Services (A)
Tim Uttley, Fire Chief
Laura-Lee MacLeod
James Franks, Economic Development Officer
Rebecca Hunt, Library CEO

Regrets: Councillor Patricia Hewitt

Media: Darlene Wroe, Temiskaming Speaker
Bill Buchberger, CJTT 104.5 FM

Members of the Public: 12

3. Review of Revisions or Deletions to Agenda

None

4. Approval of Agenda

Resolution No. 2016-596

Moved by: Councillor Jelly

Seconded by: Councillor Foley

Be it resolved that City Council approves the agenda as printed/amended.

Carried

5. Disclosure of Pecuniary Interest and General Nature

None

6. Review and adoption of Council Minutes

Resolution No. 2016-597

Moved by: Councillor Whalen

Seconded by: Councillor McArthur

Be it resolved that City Council approves the following minutes as printed:

a) Regular Meeting of Council – November 15, 2016

b) Special Meeting of Council – November 22, 2016 (Budget)

Carried

7. Public Meetings pursuant to the Planning Act, Municipal Act and other Statutes

None

8. Question and Answer Period

None

9. **Presentations / Delegations**

None

10. **Communications**

a) Reynald Rivard, Clerk-Treasurer – Township of Armstrong

Re: Resolution approving Temiskaming Drag and Fly events at Earlton-Temiskaming Regional Airport

Reference: Received for Information

b) Anne-Marie Loranger, Project Coordinator – Building Ties Temiskaming

Re: Press Release – Meeting held Wednesday, November 9, 2016

Reference: Received for Information

c) Patricia Wilson, Co-Chair – Haileybury Heritage Museum

Re: Thank you Letter – Inaugural Great Fire of 1922 Challenge

Reference: Received for Information

d) Patricia Wilson, Volunteer - Haileybury Food Bank

Re: Extension Request to Lease Agreement for Haileybury Food Bank

Reference: Referred to the Director of Corporate Services

e) Dan Thibeault, Clerk-Treasurer CAO – Municipality of Charlton and Dack

Re: Municipal Election requirement for 25 Endorsements – Support to have this requirement be an optional local decision

Reference: Received for Information

- f) Carman Kidd, Chair – Board of Health – Timiskaming Health Unit
Re: Request for Support - Exploration of Taxation of Sugar Sweetened Beverages
Reference: Received for Information

- g) Kirsten Walli, Board Secretary – Ontario Energy Board
Re: Generic Proceeding on Community Expansion (Natural Gas)
Reference: Received for Information

- h) Alison Stanley, Information and Communications Officer – Federation of Northern Ontario Municipalities (FONOM)
Re: 2016 Fall Newsletter
Reference: Received for Information

- i) Shawn Boggs, Clerk Administrator – Township of McKellar
Re: Request for Support – Petition Provincial Government to provide funding for Fire Department Infrastructure
Reference: Received for Information

- j) Janet Hope, Assistant Deputy Minister – Ministry of Housing
Re: Implementation of Transfer Payment Common Registration System
Reference: Referred to the Treasurer

- k) John Vanthof, MPP – Timiskaming-Cochrane
Re: Soils Classification Mapping
Reference: Referred to the Planner

- l) Buildings and Industry Division – Natural Resources Canada

Re: Energy efficiency in Arenas

Reference: Referred to the Manager of Physical Assets

m) Guy Caron, MP - Rimouski-Neigette-Témiscouata-Les basques

Re: Ending unfair taxation on family business transfers

Reference: Received for Information

Resolution No. 2016-598

Moved by: Councillor Jelly

Seconded by: Councillor Foley

Be it resolved that City Council agrees to deal with Communication Items 10. a) to 10. m) according to the Agenda references.

Carried

11. Committees of Council – Community and Regional

Resolution No. 2016-599

Moved by: Councillor Laferriere

Seconded by: Councillor Foley

Be it resolved that the following minutes and/or reports be accepted for information:

- a) 2015 4th Quarter Haileybury Food Bank Report;
- b) Report from the Haileybury Food Bank from January 2016 to October 31, 2016;
- c) Minutes of the Timiskaming Board of Health meeting held on October 5, 2016;
- d) Third Quarter Report (January – September 2016) – Timiskaming Board of Health;
- e) Minutes of the Temiskaming Shores Public Library Board meeting held on October 19, 2016;
- f) Minutes of the Temiskaming Municipal Association meeting held on October 6, 2016;

- g) Minutes of the Age Friendly Community Committee meeting held on October 17, 2016;
- h) Motion No. 2016-35 from the Temiskaming Shores Public Library supporting recommendation LIB-2016-014; and
- i) Motion No. 2016-36 from the Temiskaming Shores Public Library supporting recommendation LIB-2016-015 “New location/facility for the New Liskeard Branch Library”.

Carried

12. Committees of Council – Internal Departments

Resolution No. 2016-600

Moved by: Councillor Foley

Seconded by: Councillor Jelly

Be it resolved that the following minutes be accepted for information:

- a) Minutes of the Corporate Services Committee meeting held on November 17, 2016; and
- b) Minutes of the Recreation Services Committee meeting held on October 17, 2016.

Carried

13. Reports by Members of Council

Mayor Kidd reported on the following:

- Timiskaming Health Unit: The current Medical Officer of Health/CEO has taken on a Job with the Algoma Health Unit and will be leaving by the end of December. The position has been posted with a closing date of December 15, 2016. In the meantime it is likely an interim MOH will be appointed for a six month duration as well as appointing an acting CEO until the position is filled.
- Airport Authority: The 13 municipalities have signed off on the articles of incorporation and we are in the process of registering those. An agreement is being drafted and will be sent to the respective clerks for consideration anticipating return of comments in early January. The Drag n’ Fly races have been approved by the Township of Armstrong for 2017.

14. Notice of Motions

None

15. New Business

a) January to November 2016 Year-to-Date – Capital Project Report

Resolution No. 2016-601

Moved by: Councillor Laferriere

Seconded by: Councillor Whalen

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of the January to November 2016 Year-to-Date Capital Report for information purposes.

Carried

b) Memo No. 029-2016-CS – Annual Borrowing By-law

Resolution No. 2016-602

Moved by: Councillor Jelly

Seconded by: Councillor Foley

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Memo No. 029-2016-CS; and

That Council directs staff to prepare the necessary by-law to authorize borrowing for the 2017 fiscal year for consideration at the December 6, 2016 Regular Council meeting.

Recorded Vote

For Motion

- Councillor Foley
- Councillor Jelly
- Councillor Laferriere
- Councillor McArthur
- Councillor Whalen
- Mayor Kidd

Against Motion

Carried

c) Approval to transfer surplus funds to Doctor Recruitment Reserve

Resolution No. 2016-603

Moved by: Councillor Foley

Seconded by: Councillor McArthur

Be it resolved that the Council of the City of Temiskaming Shores hereby directs staff to transfer any surplus budget in 2016 for Doctor Recruitment to the Doctor Recruitment Reserve.

Carried

d) Approval to transfer surplus/deficit funds to/from the Municipal Transit Reserve

Resolution No. 2016-604

Moved by: Councillor Laferriere

Seconded by: Councillor Jelly

Be it resolved that the Council of the City of Temiskaming Shores hereby directs staff to transfer any surplus/deficit budget in 2016 for Transit to/from the Municipal Transit Reserve.

Carried

e) Approval to transfer surplus/deficit funds to/from the Cemetery Reserve

Resolution No. 2016-605

Moved by: Councillor Foley

Seconded by: Councillor Jelly

Be it resolved that the Council of the City of Temiskaming Shores hereby directs staff to transfer any surplus/deficit budget in 2016 for Cemetery to/from the Cemetery Reserve.

Carried

f) Approval to transfer surplus/deficit funds to/from the Working Fund Reserve

Resolution No. 2016-606

Moved by: Councillor Whalen

Seconded by: Councillor Laferriere

Be it resolved that the Council of the City of Temiskaming Shores hereby agrees that any surplus or deficit from the 2016 Municipal Budget General Operations be transferred to or transferred from the Working Fund Reserve account.

Further be it resolved that Council for The Corporation of the City of Temiskaming Shores hereby agrees that any surplus or deficit from the 2016 Municipal Budget Environmental Operations be transferred to or transferred from the Environmental Water Working Fund Reserve and/or Environmental Sewer Working Fund Reserve account.

Carried

g) Approval to transfer surplus funds to the Library Building Reserve

Resolution No. 2016-607

Moved by: Councillor Laferriere

Seconded by: Councillor McArthur

Be it resolved that the Council of the City of Temiskaming Shores hereby directs staff to transfer any capital surplus budget in 2016 relating to the New Liskeard Branch Library Improvements to a Library Building Reserve to be utilized in the 2017 Capital Budget envelope.

Carried

h) Approval to transfer surplus funds to the Waterfront Development Reserve

Resolution No. 2016-608

Moved by: Councillor McArthur

Seconded by: Councillor Jelly

Be it resolved that the Council of the City of Temiskaming Shores hereby directs staff to transfer any capital surplus budget in 2016 relating to the Waterfront Development project to a Waterfront Development Reserve to be utilized in the 2017 Capital Budget envelope.

Carried

i) 2017 Municipal Operating Budget

Resolution No. 2016-609

Moved by: Councillor Laferriere

Seconded by: Councillor Jelly

Whereas Council adopted Resolution No. 2016-594 at its November 22, 2016 Special meeting directing staff to prepare the necessary resolution to adopt the 2017 Municipal Budget estimates for consideration at the December 6, 2016 Regular Council meeting utilizing a 2% increase to the Municipal Tax Levy and a 4% increase to the Water/Wastewater Rates.

Now therefore be it resolved that Council hereby adopts, in principal, the 2017 General Operating Budget estimates as follows:

| Department | Net Budget Estimates |
|---------------------------------|----------------------|
| General Government | \$ 346,645 |
| Policing | 2,225,645 |
| Health & Social Services | 2,789,358 |
| Fire & Emergency Management | 578,346 |
| Economic Development | 307,670 |
| Corporate Services | (14,361,787) |
| Community Growth & Planning | 320,329 |
| Recreation | 1,455,280 |
| Public Works | 5,000,536 |
| Transit | 238,750 |
| Libraries | <u>370,023</u> |
| Net Transfer to General Capital | (729,205) |

And further that Council adopts, in principal, the 2017 Environmental Operating Budget estimates as follows:

| Department | Net Budget Estimates |
|---------------------------------------|----------------------|
| Environmental Services | <u>(231,022)</u> |
| Net Transfer to Environmental Capital | (231,022) |

Recorded Vote

For Motion

Against Motion

- Councillor Foley
- Councillor Jelly
- Councillor Laferriere
- Councillor McArthur
- Councillor Whalen
- Mayor Kidd

Carried

j) 2017 Municipal Capital Budget

Resolution No. 2016-610

Moved by: Councillor Whalen
 Seconded by: Councillor Laferriere

Whereas Council adopted Resolution No. 2016-594 at its November 22, 2016 Special meeting directing staff to prepare the necessary resolution to adopt the 2017 Municipal Budget estimates for consideration at the December 6, 2016 Regular Council meeting utilizing a 2% increase to the Municipal Tax Levy and a 4% increase to the Water/Wastewater Rates.

Now therefore be it resolved that Council hereby adopts, in principal, the 2017 General Capital Budget estimates as follows:

| Department | Budget Estimates |
|--------------------------------|------------------|
| Corporate Services | \$ 71,420 |
| Public Works | 1,062,075 |
| Recreation & Social Services | 550,475 |
| Waterfront Development Project | 365,500 |
| Property Maintenance | 416,500 |
| Fleet | 793,000 |
| Transit | <u>970,000</u> |
| General Capital Project Total | \$ 4,228,970 |

And further that Council adopts, in principal, the 2017 Environmental Capital Budget estimates as follows:

| Department | Budget Estimates |
|------------------------|------------------|
| Environmental Projects | \$ 8,721,022 |

Recorded Vote

| <u>For Motion</u> | <u>Against Motion</u> |
|-----------------------|-----------------------|
| Councillor Foley | |
| Councillor Jelly | |
| Councillor Laferriere | |
| Councillor McArthur | |
| Councillor Whalen | |
| Mayor Kidd | |

Carried

k) Memo No. 016-2016-CGP – Downtown Event Infrastructure Upgrades

Resolution No. 2016-611

Moved by: Councillor Laferriere

Seconded by: Councillor Whalen

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Memo No. 016-2016-CGP; and

That Council directs staff to prepare the necessary by-law to enter into a Funding Agreement with Northern Ontario Heritage Fund Corporation (NOHFC) to complete Downtown Event Infrastructure Upgrades for consideration at the December 6, 2016 Regular Council meeting.

Carried

l) Administrative Report No. PW-048-2016 – Full-Time Engineering Technician

Resolution No. 2016-612

Moved by: Councillor Jelly

Seconded by: Councillor Foley

Be it resolved that Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. PW-048-2016;

That Council hereby approves a full-time Engineering Technician position for the Public Works Department and directs staff to incorporate the position in the City's Organizational Chart; and

That Council directs the staff to initiate the hiring process, to coincide with the end-date of the funding provided to the City through the Northern Ontario Heritage Fund - Internship Program and in accordance with the Collective Agreement between the City and CUPE Local 5014.

Carried

m) Administrative Report No. CGP-024-2016 – Cultural Sustainability Plan

Resolution No. 2016-613

Moved by: Councillor McArthur

Seconded by: Councillor

Be it resolved that Council for the City of Temiskaming Shores hereby defers consideration Resolution 2016-614 pending acknowledgement of other municipal funding partners.

Note: There was no seconder for the motion, therefore cannot be considered.

Resolution No. 2016-614

Moved by: Councillor Laferriere

Seconded by: Councillor Jelly

Be it resolved that Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report CGP-024-2016;

That Council adopts the South Temiskaming Cultural Sustainability Plan and agrees to work with the Conseil des Arts Temiskaming Arts Council to implement the recommendations of Plan;

That Council agrees to put the remaining municipal funds (estimated at \$24,910) from the South Temiskaming Cultural Sustainability Project into a Reserve; and

That Council agrees to allocate \$9,500 of the Reserve in 2017 and 2018 and \$5,910 in 2019 to enable the Temiskaming Arts Council to implement the recommendations of the South Temiskaming Cultural Sustainability Plan as they relate to the Municipal Cultural Plan.

Carried

16. By-laws

Resolution No. 2016-615

Moved by: Councillor Laferriere

Seconded by: Councillor Whalen

Be it resolved that:

By-law No. 2016-177 Being a by-law to enter into a Funding Agreement with Northern Ontario Heritage Fund Corporation (NOHFC) for the upgrading of electrical, lighting and event infrastructure in the downtown core of New Liskeard

By-law No. 2016-178 Being a by-law to authorize the entering into a Financing Agreement with Ontario Infrastructure and Lands Corporation (OILC) resulting from an application submitted under By-law No. 2016-112 for Capital Projects

(Temiskaming Shores Infrastructure Upgrades – Phase 1 / North Cobalt Water Stabilization)

By-law No. 2016-179 Being a by-law to authorize borrowing from time to time to meet current Expenditures during the Fiscal Year ending December 31, 2017

By-law No. 2016-180 Being a by-law to authorize the borrowing upon serial debentures in the principal amount of \$1,055,000 towards the cost of the vehicle replacement - 10yr

be hereby introduced and given first and second reading.

Carried

Resolution No. 2016-616

Moved by: Councillor Laferriere

Seconded by: Councillor Whalen

Be it resolved that:

By-law No. 2016-177;

By-law No. 2016-178;

By-law No. 2016-179; and

By-law No. 2016-180

be given third and final reading, be signed by the Mayor and Clerk and the corporate seal affixed thereto.

Carried

17. Schedule of Council Meetings

a) Regular – Tuesday, December 20, 2016 at 6:00 p.m.

b) Regular – Tuesday, January 17, 2017 at 6:00 p.m.

18. Question and Answer Period***Ray Lafleur – Resident***

Mr. Lafleur was concerned with the approved tax levy and water/wastewater increases for 2017 especially for seniors. Mr. Lafleur referenced a number of other increases being proposed by either the Federal and/or Provincial governments and inquired if the City of Temiskaming Shores is considering a tax break for seniors.

It was noted to Mr. Lafleur that OMPF funding has gone down almost \$90k as well as a possible increase in DTSSAB, thus the 2% increase is to cover those losses as well as to be able to put some funds into reserves. It was further noted that City under the Municipal Act does offer a deferral tax relieve program for seniors, persons of disabilities and low income. It is applicable for those groups if your tax increase is more than \$300/year excluding water and wastewater.

Candy Keith – Resident

On behalf of Pied Piper Kidsshows and outlined the programming offered by the group and invited Council members to attend a show by simply contact her in advance.

19. Closed Session***Resolution No. 2016-617***

Moved by: Councillor Whalen

Seconded by: Councillor Laferriere

Be it resolved that Council agrees to convene in Closed Session at 7:05 p.m. to discuss the following matters:

- a) **Adoption of the November 1, 2016 – Closed Session Minutes**
- b) **Under Section 239 (2) (d) of the Municipal Act, 2001 – Labour Relations – Human Resources update**
- c) **Under Section 239 (2) (c) of the Municipal Act, 2001 – Proposed Acquisition/Disposition of Land – ARIO Property (New Proposal from Private Sector)**

Recorded Vote**For Motion**

Councillor Foley
Councillor Jelly
Councillor Laferriere

Against Motion

Councillor McArthur
Councillor Whalen
Mayor Kidd

Carried

Resolution No. 2016-618

Moved by: Councillor

Seconded by: Councillor

Be it resolved that Council agrees to rise with report from Closed Session at 8:00 p.m.

Carried

Matters from Closed Session

a) Adoption of the November 1, 2016 – Closed Session Minutes

Resolution No. 2016-619

Moved by: Councillor Whalen

Seconded by: Councillor Jelly

Be it resolved that Council approves the November 1, 2016 Closed Session Minutes as printed.

Carried

b) Under Section 239 (2) (d) of the Municipal Act, 2001 – Labour Relations – Human Resources update

Council reviewed the Human Resources update and was informed of various postings, fillings and/or leaves.

c) Under Section 239 (2) (c) of the Municipal Act, 2001 – Proposed Acquisition/Disposition of Land – ARIO Property (New Proposal from Private Sector)

Council provided direction to staff in closed session.

20. Confirming By-law

Resolution No. 2016-620

Moved by: Councillor Laferriere

Seconded by: Councillor Foley

Be it resolved that By-law No. 2016-182 being a by-law to confirm certain proceedings of Council of The Corporation of the City of Temiskaming Shores for its Special Meeting held on **November 22, 2016** and its Regular Meeting held on **December 6, 2016** be hereby introduced and given first and second reading.

Carried

Resolution No. 2016-621

Moved by: Councillor Whalen

Seconded by: Councillor Laferriere

Be it resolved that By-law No. 2016-182 be given third and final reading, be signed by the Mayor and Clerk and the corporate seal affixed thereto.

Carried

21. Adjournment

Resolution No. 2016-622

Moved by: Councillor McArthur

Seconded by: Councillor Jelly

Be it resolved that City Council adjourns at 8:02 p.m.

Carried

Mayor – Carman Kidd

Clerk – David B. Treen

Dave Treen

From: AMO Communications <communicate@amo.on.ca>
Sent: November-21-16 5:37 PM
To: Dave Treen
Subject: AMO Policy Update - Province Releases Discussion Paper on Expanding Medical Responses through Fire Services
Attachments: Expanding Medical Responses Discussion Paper MOHLTC Nov 21 2016.pdf

November 21, 2016

Members' Update: Province Releases Discussion Paper on Expanding Medical Responses through Fire Services

The Ministry of Health and Long-Term Care (MOHLTC) has released a discussion paper (attached) on a controversial proposal by the Ontario Professional Fire Fighters Association (OPFFA). The proposal would allow full-time firefighters, who are also certified primary care paramedics, to provide patient care in a tiered response situation. The Province says this approach would be voluntary for municipalities. AMO flagged this consultation in our June 14th communique, [Government to Consult on Expanding Medical Responses through Fire Services](#).

Premier Wynne, speaking at both the June OPFFA conference and the August AMO conference, clearly said that she and Cabinet want consultations before making an evidence-based decision on this proposal, which is expected early in 2017.

Municipal governments are deeply concerned about the direct and significant impact of the proposal on municipal emergency services both financially and operationally. We will read the MOHLTC discussion paper carefully, but to date, there has been no evidence or cost-benefit analysis seen that shows such an approach would improve patient outcomes.

Given the lack of evidence, we don't know why this proposal is now a provincial priority, especially as municipalities would bear all the costs, labour challenges, and risks. Fire services are 100% funded by municipalities and only an elected Municipal Council has the authority to determine the level and type of fire protection services needed by its community. We are also concerned that if any Municipal Council agrees to this proposal it would be replicated throughout Ontario by the current interest arbitration system.

Municipal governments strongly prefer to work with the Province to improve and modernize our cost-shared land ambulance/EMS services. Specifically, municipalities have been asking the Province for years now to make improvements to land ambulance dispatch that would directly improve patient outcomes.

The MOHLTC discussion paper provides a clear overview of Land Ambulance and Fire Services Workforce Capacity. It demonstrates both the rising demand for paramedic services and decline in fire-related calls. We are very concerned about using municipal fire services to provide paramedic care – a shared provincial-municipal funding responsibility.

| | Land Ambulance Services | Fire Services |
|-------------------|--|--|
| Number of Workers | ~8,000 municipal paramedics province-wide 22 dispatch centres across Ontario: 11 are ministry-operated 11 are operated under transfer payment agreements (6 hospitals, 4 municipalities, 1 private) | 30,000 firefighters in Ontario (~11,300 are full-time, ~19,300 volunteer, ~300 part-time) Over 400 fire departments [municipal - 32 are full-time, 191 composite, 226 volunteer. Northern Fire Protection Program (NFPP) – 1 composite, 48 volunteer] |

| | | |
|---|---|---|
| Number of calls and percent change in calls | Approximately 1 million calls in 2014 Number of patients transported by land ambulance increased by about 3.5% year-over-year from 2009-2014 | Fire services respond to more than 400,000 calls annually (461,830 in 2014) of which less than 19,000 were fire-related (4-5% of all calls). The number of fire-related responses has dropped 35% since 2005. |
| Average Cost Per Hour | 2014 average cost per hour \$213 | 2014 average cost per hour \$331 |

Source: MOHLTC November 2016

AMO will fully review this discussion paper (attached) through its Task Force, which includes membership from Northwestern Ontario Municipal Association (NOMA), Federation of Northern Ontario Municipalities (FONOM), Emergency Services Steering Committee (ESSC), Ontario Association of Paramedic Chiefs (OAPC), and Ontario Association of Fire Chiefs (O AFC).

Over the next months, MOHLTC will hold separate meetings with municipal employers, unions and associations, as well as technical medical advisors and will also accept written submissions from these stakeholders. AMO will take the lead in organizing these MOHLTC consultation meetings for municipal employers, including ROMA, OSUM, NOMA, FONOM, LUMCO, MARCO, EOWC and WOWC, along with the municipal staff associations we have been working closely with on this matter.

AMO will update members as this matter develops.

For more information, please contact:

Monika Turner, Director of Policy, mturner@amo.on.ca, 416-971-9856 ext. 318.

PLEASE NOTE: AMO Breaking News will be broadcast to the member municipality’s council, administrator, and clerk. Recipients of the AMO broadcasts are free to redistribute the AMO broadcasts to other municipal staff as required. We have decided to not add other staff to these broadcast lists in order to ensure accuracy and efficiency in the management of our various broadcast lists.

DISCLAIMER: Any documents attached are final versions. AMO assumes no responsibility for any discrepancies that may have been transmitted with this electronic version. The printed versions of the documents stand as the official record.

OPT-OUT: If you wish to opt-out of these email communications from AMO please click [here](#).



Dave Treen

From: AMO Communications <communicate@amo.on.ca>
Sent: November-30-16 3:43 PM
To: Dave Treen
Subject: AMO Policy Update: Bill 151 - The Waste-Free Ontario Act

November 30, 2016

The Province Proclaims Bill 151 - *The Waste-Free Ontario Act* – and Moves Toward Full Producer Responsibility

Today the provincial government proclaimed Bill 151, *The Waste-Free Ontario Act* (WFOA). This Act creates a new legislative framework for waste management in the Province and will transition the existing diversion programs under the *Waste Diversion Act* (WDA) including the Blue Box, Municipal Hazardous and Special Waste, Waste Electrical and Electronic Equipment and Tires to the new framework. The Act is focused on creating a circular economy strategy through supporting Provincial Policy Statements and the development of an organic strategy.

We are transitioning from the municipally-run and co-funded Blue Box program toward an Extended Producer Responsibility (EPR) regime that requires producers to cover all end-of-life costs for waste. The municipal role in this system will be evolving. Eventually, producers will be fully responsible for meeting target recovery rates for designated products and packaging.

Until we know significant post-transition issues such as level of diversion rates, geographic requirements and what materials will be designated, our municipal programs will continue to run so that our communities receive a convenient, reliable waste services that residents depend on. Although it is too early for councils make informed decisions, municipal governments may be approached by producers to provide post-transition collection and/or processing services for designated materials.

The WFOA is based on open competition and free markets instead of the previous industry monopolies. The government has voiced a commitment to ensuring competition at the producer level throughout the market. We fully support and need competition in the system.

One of the biggest municipal risks is that this transition period could be drawn out — or worse, become the new normal. Municipal governments remain responsible for the majority of the waste management system until the transition is complete. Therefore, AMO will continue to work with our members, the government, the new Resource Productivity and Recovery Authority, Producers, Waste Management Service Providers and other interested stakeholders to ensure that the transition period is as efficient as possible, and maintains the same level of quality that residents come to expect with the Blue Box program.

In addition to working with key stakeholders, AMO is planning a one-day session for municipal elected officials to discuss the transition to the WFOA and the municipal challenges and

opportunities. Mark your calendars for February 8, 2017 (location TBD). Admission will be free with participation by teleconference and web also available. More information about this session will be posted shortly on our website at www.amo.on.ca.

AMO Contact: Dave Gordon, Senior Advisor, 416.971.9856 ext. 371, dgordon@amo.on.ca.

PLEASE NOTE: AMO Breaking News will be broadcast to the member municipality's council, administrator, and clerk. Recipients of the AMO broadcasts are free to redistribute the AMO broadcasts to other municipal staff as required. We have decided to not add other staff to these broadcast lists in order to ensure accuracy and efficiency in the management of our various broadcast lists.

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Au public, c'est comme ça!

December 1st, 2016

City of Temiskaming Shores
Clerk
325 Farr Dr
Haileybury, ON P0J 1K0

Dear Mr. David Treen,

The *Conseil scolaire public du Nord-Est de l'Ontario* has a building and site described below which has been declared surplus to its needs, and is therefore being offered for sale.

Woodworking Shop
183 Broadwood Ave, Temiskaming Shores ON P0J 1P0

Year of Construction: 1988
Net functional floor area: 4951 square feet
Site: 0.109 acres

In accordance with the *Education Act O. reg. 444/98*, the *Conseil scolaire public du Nord-Est de l'Ontario* is required to offer properties for sale to municipal, provincial and federal agencies before selling the property by public tender.

If you are interested in acquiring this property, please advise us within 90 days by contacting the undersigned. Interested preferred parties are required to submit an offer to purchase at fair market value prior to expiration of the 90 days.

If you are not interested in acquiring this property, please advise us in writing as soon as possible by mail or e-mail.

Yours truly,

Patrick Cantin, PQS
Supervisor of Plant Services
Patrick.Cantin@cspne.ca

c.c. Simon Fecteau, Director of Education

Siège social :

C.P. 3600, 820, promenade Lakeshore, North Bay ON P1B 9T5
Tél. : 705.472.3443 Sans frais : 1.888.591.5656 Téléc. : 705.472.5757

Bureau régional :

111, avenue Wilson, Timmins ON P4N 2S8
Tél. : 705.264.1119 Sans frais : 1.877.464.1119 Téléc. : 705.264.4037



Conseil scolaire public du Nord-Est de l'Ontario
L'enfant au coeur de nos décisions!

cspne.ca  

December 1, 2016

Dear AMO Member:

RE: Federal Infrastructure Phase 2 Incrementality Resolution

As you know, the federal government announced additional infrastructure funding over the next 12 years in the Fall Economic Statement as part of its Phase 2 programming. It is consulting on design aspects for Phase 2 in order for it to be known before the funding programs begin in 2018.

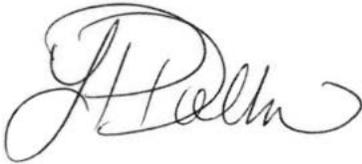
AMO has endorsed a number of principles for the funding design – that it should maximize municipal flexibility; respect the breadth of municipal infrastructure assets and priorities; and provide stable, predictable, formula-based funding to municipal governments.

The role of incrementality and the funding formula (i.e., the share by each order of government) are important aspects. In communicating our principles to the federal government, we have noted the impacts of different formula approaches. The ideal position for municipal governments would be a 50% federal, 33% provincial, and a 17% municipal portion. This would mean a smaller share of municipal capital costs would recognize ongoing municipal operating costs which are generally not eligible for funding purposes. In reality, very few provinces agreed to fund 33% of Phase 1 programs, and some didn't put up new funds where they agreed to it. In Ontario, the provincial government did add new funding, in the amount of \$250 million (25%) for the recent Clean Water and Wastewater Fund (CWWF). This was in addition to its existing multi-billion long term infrastructure plan. No provincial funding was added for the federal public transit agreement.

Generally, incrementality has been a feature of prior federal programs. It requires that municipal and provincial governments spend new additional funds for each infrastructure project in order to meet the eligibility rules. This requirement may have had some merit before municipal governments had comprehensive asset management plans and related multi-year capital plans. Going forward, it will confuse the principles and practice of asset management not to mention municipal financial planning because it would influence municipal priorities. Where there are multi-year capital plans, based on asset replacement and maintenance priorities of an asset management plan, the federal funding should be aligned with these municipal plans. Phase 2 should align with municipal long-term planned spending, not the other way around.

We hope that you agree. If so, please adopt the attached resolution and add your voice to AMO's. AMO continues to believe that good asset management is the foundation of appropriate municipal infrastructure and financial management. Funding approaches must support it to further advance the culture of municipal asset management in Ontario.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Dollin". The signature is fluid and cursive, with a large initial "L" and a long, sweeping tail.

Lynn Dollin
AMO President

FEDERAL INFRASTRUCTURE PHASE 2 INCREMENTALITY RESOLUTION

WHEREAS municipal governments' infrastructure is critical to our collective economic health;

WHEREAS stable, predictable and formula- based infrastructure funding allows municipal governments to plan and schedule investments in infrastructure;

WHEREAS Ontario municipal governments have asset management plans which set out a municipality's longer term capital plan which reflects the infrastructure priorities of these asset management plans; and

WHEREAS a federal incrementality rule interferes with municipal long-term infrastructure priorities and diminishes the value of municipal asset planning and management;

NOW, THEREFORE BE IT RESOLVED that the (name of municipality) calls on the federal government to provide long-term, predictable, and formula-based funding in its Phase 2 programs for municipal governments; and

BE IT ALSO RESOLVED that the (name of municipality) calls on the federal government to change incremental requirements in Phase 2 to recognize in Ontario that a municipal government' asset management plan meets a municipal incremental infrastructure requirement.

Please forward your resolution to:
AMO President Lynn Dollin amopresident@amo.on.ca

Northern Policy Institute

circulated by FONOM

Coming Soon:

Northern Ontarians will soon have open access to government and local data via a new tool, **Community Accounts**. This is the latest interactive tool from Northern Policy Institute that aims to encourage information sharing and provide individuals with a greater understanding of their communities and our region as a whole.

The online portal, no.communityaccounts.ca will provide reliable information on key economic and social indicators relevant to the people of Northern Ontario, broken down to the community, regional, provincial and national levels over census years 2001, 2006, 2011 **and 2016**.

This innovative system allows users to generate a limitless number of custom tables and illustrative graphics on key social and economic indicators organized by geography and data topic Information, and will be retrievable according to two Economic Regions, 11 Districts, 278 Census Sub-Divisions, 144 Municipalities, 118 First Nations, 16 unorganized CSDs, and the province.

Sponsorship opportunities are available for this initiative. Be seen every time someone wants to know about the north.

See Attached for more information.

--

Alison Stanley
Information and Communications Officer
Federation of Northern Ontario Municipalities
88 Riverside Drive
Kapusking, ON P5N 1B3
Tel: (705) 337-4454
Fax: (705) 337-1741



December 5, 2016

The Honourable Bill Mauro
Ministry of Municipal Affairs
777 Bay Street, 17th Floor
Toronto ON M5G 2E5

Sent via email:
minister.mma@ontario.ca

Dear Minister Mauro:

Re: Legislative Changes Impacting Tax Registrations and Tax Sales

At a recent meeting of the Council of the Township of Havelock-Belmont-Methuen a discussion took place regarding some key changes to the Municipal Act that will have a significant impact on tax registrations and tax sales. The discussion concluded with Council passing the following resolution:

R-743-16 Moved by Councillor Pomeroy
 Seconded by Deputy Mayor Martin

That the Council of the Township of Havelock-Belmont-Methuen opposes the legislative changes to the Municipal Act coming into effect on December 10, 2016 that will impact tax sales and related matters; and further

That the Province of Ontario re-open the consultation period to allow for informed public input regarding the changes to the Municipal Act that are being brought about by the implementation of the Forfeited Corporate Property Act, 2015; and further

That this resolution be circulated to the Association of Municipalities of Ontario and all Ontario municipalities for support.

Carried

Council thanks you in advance for your consideration of this request.

Sincerely,

Bob Angione

Bob Angione, M.P.A., B.Admin.
Municipal Clerk

Copy: Monika Turner, Director of Policy
Association of Municipalities of Ontario

Ontario Municipalities.

Dear stakeholder,

Further to my email of November 2, I am pleased to send you two hard copies of my latest Annual Report (one English, one French). This report covers the 2015-2016 fiscal year and significant developments in recent months.

This is our Office's first annual report since our jurisdiction was expanded to include municipalities, universities and school boards, in addition to provincial government organizations. As a stakeholder in one of these new areas of jurisdiction, I hope you will find the information in this report of interest.

You can also find the entire report, media materials and backgrounders, statistics and maps, as well as video of my press conference today at Queen's Park, available on our website, www.ombudsman.on.ca. In the interests of immediacy and "thinking green," we encourage you to let any interested colleagues and stakeholders know that they can access all of this information online.

Should you have any questions about the report or cases related to your organization, please do not hesitate to contact us. We are also happy to assist you with any general questions about our work. You can reach our staff at 1-800-263-1830 or info@ombudsman.on.ca.

Sincerely,



Paul Dubé
Ombudsman of Ontario

Haileybury Food Bank
P.O. Box 353
Haileybury, Ontario
P0J 1K0

10h)

December 1, 2016

City of Temiskaming Shores

P.O. Box 2050
325 Farr Drive
Haileybury, Ontario
P0J 1K0

Attention: Mayor and Council

Re: Frog's Breath Application – Sponsoring Organization

The Haileybury Food Bank will be applying to the Frog's Breath Foundation for funding in the amount of \$5,000 to assist with the purchase of groceries.

Since the Haileybury Food Bank is not a registered charitable organization we are required to obtain a Sponsoring Organization in order to receive the urgently need funds.

Therefore on behalf of the Haileybury Food Bank it is respectfully requested that the City of Temiskaming Shores act as sponsor in regards to our application to the Frog's Breath Foundation.

Yours truly,

Patricia Wilson

Patricia Wilson
Volunteer

Dec 20/16

100

**Ministry of Community Safety
and Correctional Services**

**Ministère de la Sécurité communautaire
et des Services correctionnels**



Office of the Minister

Bureau du ministre

25 Grosvenor Street
18th Floor
Toronto ON M7A 1Y6
Tel: 416-325-0408
Fax: 416-325-6067

25, rue Grosvenor
18^e étage
Toronto ON M7A 1Y6
Tél. : 416-325-0408
Télééc. : 416-325-6067



MC-2016-877

NOV 24 2016

Mr. David B. Treen
Municipal Clerk
City of Temiskaming Shores
325 Farr Drive
PO Box 2050
Haileybury ON P0J 1K0

Dear Mr. Treen:

Thank you for your letter and Council's resolution, addressed to the former Minister of Community Safety and Correctional Services, requesting the return of the Ontario Provincial Police (OPP) helicopter to the Sudbury Airport. I apologize for the delay in the response.

My most important priority as Minister of Community Safety and Correctional Services is the safety and security of all Ontarians, including Northerners. Without a doubt, safety must always be our first concern when making important decisions.

I understand that OPP Commissioner J.V.N. (Vince) Hawkes as had discussions with various communities throughout the Northern Region. The OPP continues to communicate with the affected communities, so that all Northerners can be assured that public safety and aviation support in the north are maintained, and that the safety of people in the Sudbury Region will not be compromised by the relocation.

I also understand that the OPP continues to work closely with the Ministry of Natural Resources and Forestry to ensure the sharing of provincial assets and ongoing use of ministry aircraft based in Dryden, Thunder Bay, Timmins, Muskoka, Sudbury and Sault Ste. Marie to ensure the safety of all Ontarians, including northern residents.

I can assure you that we will continue to review this closely.

Thank you again for your letter and resolution.

Sincerely,

David Oraziotti
Minister

c: Mr. Matthew Torigian, Deputy Minister of Community Safety and Correctional Services

OPP Commissioner J.V.N. (Vince) Hawkes

Dec 2016

90 Niven St
P.O. Box 4050
New Liskeard, ON
POJ 1P0

Tuesday, December 13, 2016

Mr. Carman Kidd, Mayor and Councillors
City of Temiskaming Shores
325 Farr Drive
P.O. Box 2050
Haileybury, ON
POJ 1K0

Dear Mayor and Councillors;

I am writing to make a request that the City of Temiskaming Shores consider gifting the Shubat family a one year family membership to the pool fitness centre. I believe that this would encourage this Syrian family to become further involved in our wonderful community and to create new and long lasting friendships. I believe this act of generosity would increase this family's sense of belonging and allow them to feel more at home here in Temiskaming Sores.

Manal Shubat is an 18 year old student at Timiskaming District Secondary School whom I have the pleasure of teaching. Recently, I brought my class to watch a hockey game and Manal was excited to watch some of her peers as they played. She is hoping to learn how to skate herself someday. After the game, she asked if we had a pool. I brought her to the pool fitness centre, where she was overwhelmed with the beauty of the facility. After taking many pictures to show her family, she told me that she was a very good swimmer and, in fact, swam 3 days a week when she lived in Syria. She asked for times when she and her family would be able to swim, as well as the cost involved. I am certain that a membership would be well used by Manal and her entire family.

I thank you for your time and consideration, and hope this request will appeal to your charitable natures. I am confident that your generosity towards this family will be much appreciated.

Yours truly,

Christine Bolger
Special Education Resource Teacher
Timiskaming District Secondary School

Media Release



Timiskaming Health Unit Budget Approval/ MOH/CEO Recruitment

December 12, 2016 - **For immediate release**

At the December 7th Board of Health meeting of the Timiskaming Health Unit the 2017 budget was approved. Chair, Carman Kidd said, "The board is pleased to report that this approval includes a 4% decrease in the municipal portion of the public health funding. Gaining efficiencies in operations and changes in additional 100% funding for some programs from the ministry has allowed for these local savings".

The next step will be for the board of health to present their approved budget to the ministry for their approval.

It was also noted at the meeting that the recruitment of a new Medical Officer of Health (MOH) for Timiskaming is underway. Dr. Marlene Spruyt, current Medical Officer of Health (MOH) and Chief Executive Officer (CEO) will be leaving the Timiskaming Health Unit and heading to Algoma Public Health at the end of the year.

Arrangements are being made with Dr. Alex Hukowich to cover as Acting Medical Officer of Health until a permanent replacement can be found. Dr. Hukowich will provide this service from his home in southern Ontario for the most part, although he is available to be on site if the situation demands it.

Dr. Hukowich is very familiar with Northern Ontario and was the full time MOH in Porcupine and then in Kawartha Pine Ridge, until his retirement. Since then he has provided Acting Medical Officer of Health (AMOH) services to a variety of public health units in need of temporary support.

The daily CEO duties will be covered by current Director of Corporate Services, Randy Winters, who has been appointed Acting CEO.

Chair Kidd commented that "With challenging budgets and operational changes, he and the board are very pleased with the municipal savings this budget brings, and is confident in the operational direction the management and staff will bring during this transition period and going forward".

Media Contact:

Carman Kidd – Board of Health Chair
705-672-3363

**The Corporation of the City of Temiskaming Shores
Committee of Adjustment**

Meeting Minutes

Wednesday, September 21, 2016

Present: Chair: Carman Kidd
Members: Maria McLean; Suzanne Othmer; Voula Zafiris

Regrets: Robert Dodge; Florent Heroux; Angela Hunter

Also Present: Jennifer Pye, Secretary-Treasurer

Public: Martin Maille, Applicant – A-2016-08(NL)
Frances Grignon, Applicant – A-2016-09(H)

1. Opening of Meeting

Resolution No. 2016-39

Moved By: Maria McLean
Seconded By: Suzanne Othmer

Be it resolved that the Committee of Adjustment meeting be opened at 1:32 p.m.

Carried

2. Adoption of Agenda

Resolution No. 2016-40

Moved By: Maria McLean
Seconded By: Suzanne Othmer

Be it resolved that the Committee of Adjustment adopts the agenda as printed.

Carried

3. Declaration of Pecuniary Interest

None

4. Adoption of Minutes

Resolution No. 2016-41

Moved By: Suzanne Othmer
Seconded By: Maria McLean

Be it resolved that the Committee of Adjustment for the City of Temiskaming Shores hereby approves the minutes of the August 31, 2016 Committee of Adjustment Meeting as printed.

Carried

5. Public Hearings

Chair Carman Kidd advised that this afternoon a public hearing is scheduled for three (3) minor variance applications.

The Planning Act requires that a public hearing be held before the Committee of Adjustment decides whether to approve such applications. The public hearing serves two purposes: first, to present to the Committee and the public the details and background to the proposed applications and, second, to receive comments from the public and agencies before a decision is made.

**The Corporation of the City of Temiskaming Shores
Committee of Adjustment**

Meeting Minutes

Wednesday, September 21, 2016

5.1 Minor Variance Application A-2016-08(NL) – Martin and Doris Maille, 53 Pine Street West

The Chair declared the public hearing for Minor Variance Application A-2016-08(NL) to be open.

The Chair asked the Planner, Jennifer Pye, to summarize the proposal, provide any additional information that may be relevant and summarize any correspondence received to date regarding this application.

Subject land: 53 Pine Street West; Plan M42NB Part of Lot 4; Parcel 15931SST; Town of New Liskeard, City of Temiskaming Shores.

Purpose of the application: The owner is seeking relief from the following requirements of Zoning By-law 2233:

| Provision | Zoning By-law 2233 | Subject Property |
|--|--|-------------------------|
| Section 7(2)(d)(i) Building Area, Single-family dwelling house (maximum) | 30%, provided that accessory uses shall not occupy more than 8% of the lot | 13% for accessory uses |
| Section 7(2)(h)(ii) Building Setback, Flank (minimum) | 5.4m | 4.8m |

Statutory public notice: The application was received on August 18, 2016 and was circulated to City staff. Notice of the complete application and notice of the public hearing were advertised in the Temiskaming Speaker on September 7, 2016 in accordance with the statutory notice requirements of the Planning Act. Notice was also mailed to property owners within 60m (200') of the subject land.

Jennifer Pye summarized the Planning Report and advised that in her opinion the application is consistent with the Provincial Policy Statement (2014), and meets the general intent and purpose of the City of Temiskaming Shores Official Plan and Town of New Liskeard Zoning By-law 2233, and respectfully requested that the Committee approve the application.

The Committee asked for clarification regarding the removal of the hedge between the subject property and the adjacent property to the west. The applicant indicated that the hedge was being removed to allow room to store various garden implements as well as for maintenance of eaves trough on the garage.

The committee considered the following resolution:

Resolution No. 2016-42

Moved By: Voula Zafiris

Seconded By: Maria McLean

Whereas the Committee of Adjustment for the City of Temiskaming Shores has considered Minor Variance Application A-2016-08(NL) as submitted by Martin and Doris Maille for the following lands: 53 Pine Street West; Plan M42NB Part of Lot 4; Parcel 15931SST; Town of New Liskeard;

And whereas the applicant is requesting relief from the following section of Zoning By-law 2233, as amended:

**The Corporation of the City of Temiskaming Shores
Committee of Adjustment**

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- 1) Section 7(2)(d)(i) permits a maximum building area for accessory buildings for a lot containing a single family dwelling house of 8%. The applicant is requesting 13%;
- 2) Section 7(2)(f) requires a minimum flank building setback of 5.4m. The applicant is requesting 4.8m;

And whereas the Committee of Adjustment for the City of Temiskaming Shores has received the planning report dated September 16, 2016 and has considered the recommendations therein;

Be it resolved that the Committee of Adjustment for the City of Temiskaming Shores approves Minor Variance Application A-2016-08(NL).

Further be it resolved that the following variance be granted:

That the Committee of Adjustment grant relief from Section 7(2)(d)(i) of Zoning By-law 2233 to permit a maximum accessory building area of 13%;

That the Committee of Adjustment grant relief from Section 7(2)(f) of Zoning By-law 2233 to permit a minimum flank building setback of 4.8m;

Subject to the following conditions:

- 1) The approval of the minor variance applies only to the detached garage.

For the following reasons:

In the opinion of the Committee:

1. The variance maintains the general intent and purpose of the City of Temiskaming Shores Official Plan;
2. The variance maintains the general intent and purpose of the Town of New Liskeard Zoning By-law 2233, as amended;
3. The variance is desirable for the appropriate development or use of the land, building, or structure;
4. The variance is minor.

Carried

The Chair declared the public hearing for Minor Variance application A-2016-08(NL) to be closed.

5.2 Minor Variance Application A-2016-09(H) – Frances Grignon, 311 Marcella Street

The Chair declared the public hearing for Minor Variance Application A-2016-09(H) to be open.

The Chair asked the Planner, Jennifer Pye, to summarize the proposal, provide any additional information that may be relevant and summarize any correspondence received to date regarding this application.

Subject land: 311 Marcella Street; Plan M13NB Block Q, Lot 17; Parcel 7936SST; Town of Haileybury, City of Temiskaming Shores.

Purpose of the application: The owner is seeking relief from the following requirements of Zoning By-law 2233:

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| Provision | Zoning By-law 85-27 | Subject Property |
|--|----------------------------|-------------------------|
| Schedule "D", Column 2, Row 6 – Minimum Front Yard | 6.0m | 3.6m |

Statutory public notice: The application was received on August 30, 2016 and was circulated to City staff. Notice of the complete application and notice of the public hearing were advertised in the Temiskaming Speaker on September 7, 2016 in accordance with the statutory notice requirements of the Planning Act. Notice was also mailed to property owners within 60m (200') of the subject land.

Jennifer Pye summarized the Planning Report and advised that in her opinion the application is consistent with the Provincial Policy Statement (2014), and meets the general intent and purpose of the City of Temiskaming Shores Official Plan and Town of Haileybury Zoning By-law 85-27, and respectfully requested that the Committee approve the application.

The committee considered the following resolution:

Resolution No. 2016-43

Moved By: Suzanne Othmer

Seconded By: Maria McLean

Whereas the Committee of Adjustment for the City of Temiskaming Shores has considered Minor Variance Application A-2016-09(H) as submitted by Frances Grignon for the following lands: 311 Marcella Street; Plan M13NB Block Q, Lot 17; Parcel 7936SST; Town of Haileybury;

And whereas the applicant is requesting relief from the following section of Zoning By-law 85-27, as amended:

- 1) Schedule "D", Column 2, Row 6 requires a minimum front yard of 6m. The applicant is requesting 3.6m;

And whereas the Committee of Adjustment for the City of Temiskaming Shores has received the planning report dated September 16, 2016 and has considered the recommendations therein;

Be it resolved that the Committee of Adjustment for the City of Temiskaming Shores approves Minor Variance Application A-2016-09(H).

Further be it resolved that the following variance be granted:

That the Committee of Adjustment grant relief from Schedule "D", Column 2, Row 6 of Zoning By-law 85-27 to permit a minimum front yard of 3.6m;

Subject to the following conditions:

- 1) The approval of the minor variance applies only to the enclosed front entryway as proposed in this application.

For the following reasons:

In the opinion of the Committee:

1. The variance maintains the general intent and purpose of the City of Temiskaming Shores Official Plan;

**The Corporation of the City of Temiskaming Shores
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2. The variance maintains the general intent and purpose of the Town of Haileybury Zoning By-law 85-27, as amended;
3. The variance is desirable for the appropriate development or use of the land, building, or structure;
4. The variance is minor.

Carried

The Chair declared the public hearing for Minor Variance application A-2016-09(H) to be closed.

5.3 Minor Variance Application A-2016-10(D) – Conseil scolaire catholique de district des Grandes Rivières, 998075 Highway 11 North

The Chair declared the public hearing for Minor Variance Application A-2016-10(D) to be open.

The Chair asked the Planner, Jennifer Pye, to summarize the proposal, provide any additional information that may be relevant and summarize any correspondence received to date regarding this application.

Subject land: 998075 Highway 11 North; Dymond Concession 4, North Part of Lot 9; RP TER888 Parts 1-4; Parcel 17712SST; Township of Dymond, City of Temiskaming Shores;

Purpose of the application: The applicant is seeking relief from the following requirements of Zoning By-law 984:

| Provision | Zoning By-law 984 | Subject Property |
|--|-------------------|------------------|
| Section 7(2)(h)(ii) Building Setback, Side (minimum) | 6.0m | 4.0m |

Statutory public notice: The application was received on August 31, 2016 and was circulated to City staff. Notice of the complete application and notice of the public hearing were advertised in the Temiskaming Speaker on September 7, 2016 in accordance with the statutory notice requirements of the Planning Act. Notice was also mailed to property owners within 60m (200') of the subject land.

Jennifer Pye summarized the Planning Report and advised that in her opinion the application is consistent with the Provincial Policy Statement (2014), and meets the general intent and purpose of the City of Temiskaming Shores Official Plan and Township of Dymond Zoning By-law 984, and respectfully requested that the Committee approve the application.

The committee considered the following resolution:

Resolution No. 2016-44

Moved By: Voula Zafiris

Seconded By: Maria McLean

Whereas the Committee of Adjustment for the City of Temiskaming Shores has considered Minor Variance Application A-2016-10(D) as submitted by Conseil scolaire catholique de district des Grandes Rivières for the following lands: 998075 Highway 11 North; Dymond Concession 4, North Part of Lot 9; RP TER888 Parts 1-4; Parcel 17712SST; Township of Dymond;

And whereas the applicant is requesting relief from the following section of Zoning By-law 984, as amended:

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1) Section 7(2)(h) requires a minimum side building setback of 6m. The applicant is requesting 4m;

And whereas the Committee of Adjustment for the City of Temiskaming Shores has received the planning report dated September 16, 2016 and has considered the recommendations therein;

Be it resolved that the Committee of Adjustment for the City of Temiskaming Shores approves Minor Variance Application A-2016-10(D).

Further be it resolved that the following variance be granted:

That the Committee of Adjustment grant relief from Section 7(2)(h) of Zoning By-law 984 to permit a minimum side building setback of 4m;

Subject to the following conditions:

1) The approval of the minor variance applies only to the detached garage as proposed in this application.

For the following reasons:

In the opinion of the Committee:

1. The variance maintains the general intent and purpose of the City of Temiskaming Shores Official Plan;
2. The variance maintains the general intent and purpose of the Township of Dymond Zoning By-law 984, as amended;
3. The variance is desirable for the appropriate development or use of the land, building, or structure;
4. The variance is minor.

Carried

The Chair declared the public hearing for Minor Variance application A-2016-10(D) to be closed.

6. New Business

None

7. Unfinished Business

None

8. Applications for Next Meeting

Next meeting: Wednesday, October 26, 2016

9. Adjournment

Resolution 2016-45

Moved By: Suzanne Othmer

Seconded By: Maria McLean

Be it resolved that the Committee of Adjustment meeting be closed at 2:10 pm.

**The Corporation of the City of Temiskaming Shores
Committee of Adjustment**

Meeting Minutes

Wednesday, September 21, 2016

Carried

Carman Kidd
Chair

Jennifer Pye
Secretary-Treasurer



District of Timiskaming Social Services Administration Board
Conseil d'administration des services sociaux du district de Timiskaming

Minutes of the Regular Meeting of the Board
held on Wednesday, August 17, 2016, 5:30 p.m.
at the NEOFACS Boardroom – 40 Third Street, Englehart

PRESENT: Jim Whipple – Chair; Doug Jelly – Vice-Chair; Cliff Fielder; Patricia Hewitt; Clermont Lapointe; Norm Mino; Todd Morgan; Tina Sartoretto; Don Studholme, CAO

REGRETS: Fred Deacon

STAFF: Kelly Black, Social Housing Manager

GUESTS: Keith Harriman, CGV Developments Inc.; David Butler, CGV Developments Inc.; Janet Edwards, Royal Canadian Legion Zone K1 & Area Veterans Home Corporation

Members of the Public Present: 8

CALL TO ORDER: The Regular Meeting of the Board was called to order at 5:30 p.m.

1.0 DISCLOSURE OF PECUNIARY INTEREST

None

2.0 PETITIONS AND DELEGATIONS

Delegation:

Keith Harriman and David Butler both from CGV Developments Inc. and Janet Edwards from the Royal Canadian Legion Zone K1 & Area Veterans Home Corporation, made a presentation to the Board regarding a possible 40-unit housing building to be constructed in Haileybury for 2017. The group is seeking non-capital support in the form of an operating agreement which may include the DTSSAB leveraging their goodwill in providing limited guarantees to secure a building lease. Jeffrey Kolibrash, Affordable Housing Consultant from CMHC, also joined the presentation to relay CMHC's support on the proposed project.

The Chair thanked the group and asked that they come back to the Board with a detailed agreement proposal including specific amounts. This submission will then allow the Board to review the responsibilities implicated and to make an informative decision.

The group and the members of the public left the meeting at 6:35 p.m.

3.0 ADDITIONS TO AGENDA / ACCEPTANCE OF AGENDA

Resolution # 2016-49 MOVED by Clermont Lapointe and SECONDED by Cliff Fielder

THAT the agenda of the regular Board meeting held on August 17, 2016 be accepted as amended:

Remove from the agenda, under Other Business: 6.1 – HCLink Project

CARRIED.

4.0 ADOPTION OF PREVIOUS MINUTES

Resolution # 2016-50 MOVED by Doug Jelly and SECONDED by Todd Morgan

THAT the minutes of the regular Board meeting held on May 18, 2016 be approved as presented.

CARRIED.

5.0 BUSINESS ARISING FROM PREVIOUS MINUTES

None

6.0 OTHER BUSINESS

6.1 HCLink Project

Item removed from the agenda per Resolution #2016-49.

6.2 Maximum Rent Increase 2017

Kelly Black, Social Housing Manager, presented this item to the Board for approval.

Resolution # 2016-52 MOVED by Cliff Fielder and SECONDED by Norm Mino

THAT the Board approve to increase the maximum rents for all family units and single units the full 1.5% allowed as per the 2017 Market Rent Control Guidelines set by the Ministry. The increase would be effective January 1, 2017.

CARRIED.

6.3 Social Infrastructure Funding (SIF) and Social Housing Improvement Program (SHIP)

Kelly Black, Social Housing Manager, presented this item to the Board for information and for approval.

Resolution # 2016-53 MOVED by Doug Jelly and SECONDED by Patricia Hewitt

THAT the Board approve the attached Program Delivery and Fiscal Plan (PDFP) for the Social Infrastructure Fund (SIF) and the Social Housing Improvement Program (SHIP) as presented.

CARRIED.

6.4 Social Infrastructure Funding (SIF)

Kelly Black, Social Housing Manager, presented this item to the Board for information and for approval.

Resolution # 2016-54 MOVED by Clermont Lapointe and SECONDED by Cliff Fielder

THAT the Board approve to request that the Ministry of Municipal Affairs and Housing reallocate Year 1 Social Infrastructure Funding (SIF) in the amount of \$440,100 to Year 2 resulting in a total SIF allocation of \$758,200 in Year 2.

CARRIED.

6.5 Social Infrastructure Funding (SIF) and Year 4 IAH

Kelly Black, Social Housing Manager, presented this item to the Board for information and approval.

Resolution # 2016-55 MOVED by Cliff Fielder and SECONDED by Tina Sartoretto

THAT the Board approve to transfer the Year 4 Investment in Affordable Housing (IAH)

2014 Extension allocation in the amount of \$315,470 from the Ontario Renovates Component to the Rental Housing Component in order to combine it with the Social Infrastructure Funding (SIF) and put out an Expression of Interest for the creation of new affordable housing units in the District.

CARRIED.

Kelly Black left the meeting at 7:40 p.m.

6.6 DSSAB Act

Don Studholme, CAO, presented this item for information.

6.7 2016 Q2 CAO Operational Overview Board Report

Don Studholme, CAO, presented this item for information.

6.8 2016 Q2 Budget Report

Don Studholme, CAO, presented this item for information.

6.9 CAO Report

Don Studholme, CAO, presented this item for information.

7.0 IN CAMERA SESSION

Resolution # 2016-56 MOVED by Clermont Lapointe and SECONDED by Norm Mino

THAT the Board move into closed session to discuss one Human Resources matter.

CARRIED

9.0 RETURN TO REGULAR MEETING

Resolution # 2016-57 MOVED by Cliff Fielder and SECONDED by Tina Sartoretto

THAT the Board resolve to rise from the in camera session and reconvene with the regular meeting of the Board without report at 8:00 p.m.

CARRIED

10.0 ADJOURNMENT / NEXT MEETING

Resolution # 2016-58 MOVED by Todd Morgan and SECONDED by Patricia Hewitt

RESOLVED THAT the Board meeting be hereby adjourned at 8:01 p.m.

AND that the next meeting be held on September 21, 2016, in Englehart or at the call of the Chair.

CARRIED

Minutes signed as approved by the Board:



Board Chair

21-09-16

Date

Recorder: Lise Gauvreau



District of Timiskaming Social Services Administration Board
Conseil d'administration des services sociaux du district de Timiskaming

Minutes of the Regular Meeting of the Board

held on Wednesday, September 21, 2016, 5:30 p.m.

at the NEOFACS Boardroom – 40 Third Street, Englehart

- PRESENT:** Jim Whipple – Chair; Doug Jelly – Vice-Chair; Cliff Fielder; Patricia Hewitt;
Tina Sartoretto; Don Studholme, CAO
- REGRETS:** Clermont Lapointe; Norm Mino; Todd Morgan
- STAFF:** Kelly Black, Social Housing Manager,
Dani Grenier-Ducharme, Children's Services Manager
- GUESTS:** Janet Edwards, Royal Canadian Legion Zone K1 & Area Veterans Home Corporation
Sue Weiss, City of Temiskaming Shores
- Media:** Darlene Wroe, Temiskaming Speaker

Members of the Public Present: 6

CALL TO ORDER: The Regular Meeting of the Board was called to order at 5:28 p.m.

1.0 DISCLOSURE OF PECUNIARY INTEREST

None

2.0 PETITIONS AND DELEGATIONS

Delegation:

Janet Edwards from the Royal Canadian Legion Zone K1 & Area Veterans Home Corporation and Sue Weiss from the City of Temiskaming Shores provided an update to the Board regarding a possible 40-unit housing project in Haileybury.

The Chair thanked the group and informed them that the Board will continue to follow-up with their ongoing project.

The group and the members of the public left the meeting at 6:00 p.m.

3.0 ADDITIONS TO AGENDA / ACCEPTANCE OF AGENDA

Resolution # 2016-59 MOVED by Doug Jelly and SECONDED by Patricia Hewitt

THAT the agenda of the regular meeting of the Board held on September 21, 2016 be approved as amended with the following additions:

7.10 Insurance Renewal

7.11 2017 WSIB Rates

CARRIED.

4.0 ADOPTION OF PREVIOUS MINUTES

Resolution # 2016-60 MOVED by Cliff Fielder and SECONDED by Doug Jelly

THAT the minutes of the regular Board meeting held on August 17, 2016 be approved as presented.

CARRIED.

5.0 BUSINESS ARISING FROM PREVIOUS MINUTES

None

6.0 CORRESPONDENCE

6.1 NE LHIN Info Sheet dated September 6, 2016 re: First Phase of a New Model to Transfer Non-Urgent Patients

6.2 Letter from the Ministry of Community Safety and Correctional Service dated August 19, 2016 re: Safer and Vital Communities (SVC) Grant Application

Resolution # 2016-61 MOVED by Doug Jelly and SECONDED by Cliff Fielder

THAT the Board receive the Correspondence as presented, for information.

CARRIED.

7.0 OTHER BUSINESS

7.1 Ontario Early Years Child and Family Centers / Service System Manager / Data Analysis Coordinator

Dani Grenier-Ducharme, Children's Services Manager, presented this item to the Board for information and for approval.

Resolution # 2016-62 MOVED by Cliff Fielder and SECONDED by Doug Jelly

THAT the Board approve to host the Data Analysis Coordinator (DAC) as part of the Children's Services department to support local service planning for early years programs and services for the District of Timiskaming..

CARRIED.

7.2 Community Hubs

Dani Grenier-Ducharme, Children's Services Manager, presented this item to the Board for information.

Dani Grenier-Ducharme left the meeting at 7:03 p.m.

7.3 Social Housing Improvement Program (SHIP)

Kelly Black, Social Housing Manager, presented this item to the Board for information and for approval.

Resolution # 2016-63 MOVED by Cliff Fielder and SECONDED by Patricia Hewitt

THAT the Board approve to allocate the \$617,500 in Federal/Provincial government funding under the Social Housing Improvement Program (SHIP) as follows;

| | |
|--|-----------------|
| New Liskeard Non-Profit Housing Corporation | \$90,000 |
| Kirkland Lake Non-Profit Housing Corporation | \$65,000 |
| Royal Canadian Legion Zone K-1 and Area Veterans Home Corporation | \$65,000 |

| | |
|--|------------------|
| Cochrane-Temiskaming Native Housing | \$58,400 |
| District of Timiskaming Social Services Administration Board | \$204,100 |
| Building Condition Assessments and Energy Audits for all five Housing Providers | \$135,000 |

CARRIED.

7.4 Social Housing Electricity Efficiency Program (SHEEP) Funding

Kelly Black, Social Housing Manager, presented this item to the Board for information and for approval.

Resolution # 2016-64 MOVED by Doug Jelly and SECONDED by Tina Sartoretto

THAT the Board approve to utilize the Social Housing Electricity Efficiency Program (SHEEP) funding in the amount of \$38,406 on three (3) of the eight (8) eligible units and contribute \$2,294 from the 2017 budget in order to make up the shortfall to complete the work. The total cost to complete the proposed work on the 3 units is \$40,700.

CARRIED.

7.5 Lieu Time and Overtime (Non-Union) Policy

Don Studholme, CAO, presented this item for discussion and for approval.

Resolution # 2016-65 MOVED by Doug Jelly and SECONDED by Patricia Hewitt

THAT the Board approve the revised policy HR-14 Lieu Time and Overtime (Non-Union) Policy.

CARRIED.

7.6 Review of the DSSAB Act

Don Studholme, CAO, presented this item for discussion and for approval.

Resolution # 2016-66 MOVED by Cliff Fielder and SECONDED by Patricia Hewitt

THAT the Board advises the Ministry of Community and Social Services to engage directly with municipalities regarding funding and levy matters and with the Northern Ontario Service Deliverer's Association and individual District Social Services Administration Boards on matters related to governance and accountability in regards to their review of the DSSAB Act.

CARRIED.

7.7 CAO Report

Don Studholme, CAO, presented this item for information.

7.8 Replacement of Board Member

Don Studholme, CAO, presented this item for information.

7.9 ONPHA Board Request

Don Studholme, CAO, presented this item for approval.

Resolution # 2016-67 MOVED by Doug Jelly and SECONDED by Patricia Hewitt

THAT the Board support the nomination of Kelly Black, Social Housing Manager, for the Ontario Non-Profit Housing Association Board.

CARRIED.

7.10 Insurance Renewal

Don Studholme, CAO, presented this item for information and for approval.

Resolution # 2016-68 MOVED by Tina Sartoretto and SECONDED by Cliff Fielder

THAT the Board approve the renewal of our general insurance package with Frank Cowan Company at a price of \$72,855 plus applicable taxes (subject to adjustment relating to the deletion of an ambulance not in service).

CARRIED.

7.11 2017 WSIB Rates

Don Studholme, CAO, presented this item for information.

Darlene Wroe left the meeting at 8:00 p.m.

8.0 IN CAMERA SESSION

Resolution # 2016-69 MOVED by Doug Jelly and SECONDED by Tina Sartoretto

THAT the Board move into closed session to discuss a property issue.

CARRIED

9.0 RETURN TO REGULAR MEETING

Resolution # 2016-70 MOVED by Doug Jelly and SECONDED by Tina Sartoretto

THAT the Board resolve to rise from the in camera session and reconvene with the regular meeting of the Board without report at 8:25 p.m.

CARRIED

10.0 ADJOURNMENT / NEXT MEETING

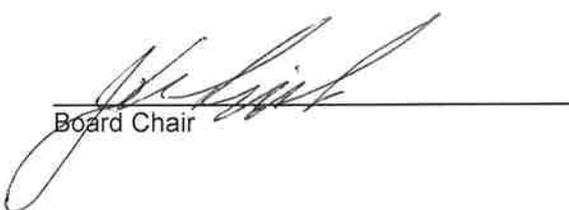
Resolution # 2016-71 MOVED by Cliff Fielder and SECONDED by Patricia Hewitt

RESOLVED THAT the Board meeting be hereby adjourned at 8:26 p.m.

AND that the next meeting be held on October 19, 2016, in Englehart or at the call of the Chair.

CARRIED

Minutes signed as approved by the Board:



Board Chair

Oct 19, 2016
Date

Recorder: Lise Gauvreau



District of Timiskaming Social Services Administration Board
Conseil d'administration des services sociaux du district de Timiskaming

Minutes of the Regular Meeting of the Board

held on Wednesday, October 19, 2016, 5:30 p.m.

Englehart Arena Boardroom – 80, Seventh Avenue, Englehart

PRESENT: Jim Whipple – Chair; Cliff Fielder; Patricia Hewitt; Clermont Lapointe; Norm Mino; Todd Morgan; Don Studholme, CAO

REGRETS: Doug Jelly – Vice-Chair; Tina Sartoretto;

STAFF: Kelly Black, Social Housing Manager,

MEDIA: Darlene Wroe, Temiskaming Speaker

CALL TO ORDER: The Regular Meeting of the Board was called to order at 5:25 p.m.

1.0 DISCLOSURE OF PECUNIARY INTEREST

None

2.0 PETITIONS AND DELEGATIONS

None

3.0 ADDITIONS TO AGENDA / ACCEPTANCE OF AGENDA

Resolution # 2016-72 MOVED by Clermont Lapointe and SECONDED by Cliff Fielder

THAT the agenda of the regular meeting of the Board held on October 19, 2016 be approved as amended:

Under item 4.0 – Adoption of Previous Minutes:

Change the date from August 17, 2016 to September 21, 2016

Under item 7.0 – Other Business:

Addition of item 7.25 – 2016/2017 Insurance Renewal

CARRIED.

4.0 ADOPTION OF PREVIOUS MINUTES

Resolution # 2016-73 MOVED by Patricia Hewitt and SECONDED by Cliff Fielder

THAT the minutes of the regular Board meeting held on September 21, 2016 be approved as amended:

Under item 7.6 – Review of the DSSAB Act:

Remove the word DTSSAB and replace to DSSAB

CARRIED.

5.0 BUSINESS ARISING FROM PREVIOUS MINUTES

None

6.0 CORRESPONDENCE

6.1 Innovative Housing with Health Supports Strategic Plan in Northeastern Ontario

The CAO will prepare a letter to the North East Local Health Integration Network for the Chair's signature in regards to the innovative housing with health supports.

Resolution # 2016-74 MOVED by Clermont Lapointe and SECONDED by Todd Morgan

THAT the Board receive the Correspondence as presented, for information.

CARRIED.

7.0 OTHER BUSINESS

7.1 Social Infrastructure Funding (SIF)

Kelly Black, Social Housing Manager, presented this item to the Board for information.

7.2 2017/2018 Bi-Annual Service Contract Tenders

Kelly Black, Social Housing Manager, presented this item to the Board for information and for approval.

Resolution # 2016-75 MOVED by Cliff Fielder and SECONDED by Norm Mino

THAT the Board approve to award the Bi-Annual Service Contract Tenders for social housing buildings effective January 1, 2017 through December 31, 2018 as follows;

- i) **Move Out Painting and Cleaning PTC 1017-01**
Northern/Central/Southern - Doug & JoAnn's Painting and Cleaning Services
- ii) **Plumbing and Heating PTC 1017-02**
Northern – Chad Plumbing
Central/Southern – Packard Plumbing
- iii) **Electrical PTC 1017-03**
Northern – Kohut Electric
Central/Southern – GRL Electric
- iv) **Appliance PTC 1017-04**
Northern/Central/Southern - Chico's Fix It All
- v) **Pest Control PTC 1017-05**
Northern/Central/Southern – Orkin

CARRIED.

7.25 2016/2017 Insurance Renewal

Kelly Black, Social Housing Manager, presented this item to the Board for information and for approval.

Resolution # 2016-76 MOVED by Todd Morgan and SECONDED by Clermont Lapointe

THAT the Board approve to renew the property and liability insurance for the DTSSAB public housing portfolio with Marsh Canada Ltd.as per the attached quote at a total cost to the DTSSAB of \$75,459.71 plus HST.

CARRIED.

7.3 Q3 Finance Report

Don Studholme, CAO, presented this item for information.

7.4 Budget Dates

Don Studholme, CAO, presented this item for information.

7.5 Teleconferencing for Board Meetings

Don Studholme, CAO, presented this item for discussion and for approval.

Resolution # 2016-77 MOVED by Todd Morgan and SECONDED by Clermont Lapointe

THAT the Board approve the use of teleconferencing for Board members who are out of the district and wishes to participate in the meeting. The Board member will have all of the rights and voting privileges as if they were at the meeting in person. That Board member would also be included to meet Board quorum for meetings. It is the responsibility of the Board member to notify the Executive Assistant at least four business days before the meeting to ensure that teleconferencing is available and the number and password that they will need to use is made available to them.

CARRIED.

7.6 2016 Q3 CAO Operational Overview Board Report

Don Studholme, CAO, presented this item for information.

7.7 CAO Report

Don Studholme, CAO, presented this item for information.

8.0 IN CAMERA SESSION

Resolution # 2016-78 MOVED by Cliff Fielder and SECONDED by Norm Mino

THAT the Board move into closed session to discuss three Human Resources matters.

CARRIED

9.0 RETURN TO REGULAR MEETING

Resolution # 2016-79 MOVED by Clermont Lapointe and SECONDED by Cliff Fielder

THAT the Board resolve to rise from the in camera session and reconvene with the regular meeting of the Board without report at 8:37 p.m.

CARRIED

10.0 ADJOURNMENT / NEXT MEETING

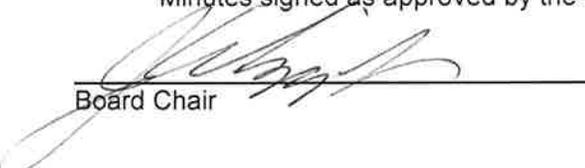
Resolution # 2016-80 MOVED by Patricia Hewitt and SECONDED by Cliff Fielder

RESOLVED THAT the Board meeting be hereby adjourned at 8:39 p.m.

AND that the next meeting be held on November 16, 2016, in Englehart or at the call of the Chair.

CARRIED

Minutes signed as approved by the Board:



Board Chair

Nov 16 / 16
Date

(Recorder: Lise Gauvreau)



NeCN Board of Directors

Meeting Minutes

December 7, 2016

11:00am – 1:30pm

Media Room, Tim Horton Events Center, Cochrane ON

Present

| Board Members, Alternates, Resource People | |
|---|---|
| Sylvie Fontaine, Hearst | Madeleine Tremblay, Fauquier-Strickland |
| Gilles Matko, Nord-Aski R.E.D.C. CFDC | James Franks, Temiskaming Shores |
| Antoine Vézina, Timmins | André Robichaud, Kapuskasing |
| Isabelle Denault, Cochrane | Micheal Shea, Iroquois Falls |
| Luc Denault, Smooth Rock Falls | Gilles Laderoute, Black River-Matheson |
| Michel Arsenaault, Smooth Rock Falls | Michel Lamontagne, MNDM |
| Alain Robichaud, Opatatika, Val Rita-Harty & Mattice-Val Côté | Carole Boucher, MNDM |
| Jamie Cotier, Hearst | |
| NeCN Staff | |
| Sara Haldenby, Tile Drainage Program Coordinator | Zoé Kavanagh, NeCN Regional Program Coordinator |
| Guests | |
| Joelle Faulkner | Benji Faulkner |

Regrets

| | |
|--------------------|--------------------|
| Al Spacek | Linda Semczyszyn |
| Alain Murray | Gilles Audet |
| Cassandra Child | Betty-Lou Purdon |
| Jason Felix | Gaetan Baillargeon |
| Christy Marinig | Chief Rick Allen |
| Alice Mercier | JP Ouelette |
| Paula Mangotich | Chris Sackaney |
| Francis Lamontagne | Graham Campbell |

1. Call to Order

The Board of Directors meeting of the Northeast Community Network was called to order at 11:05 a.m. on 07 December 2016 in Cochrane, Ontario by Sylvie Fontaine, Chairperson.

Resolution #: 16-12-07-001

Moved by: James Frank



Seconded by: Isabelle Denault

BE IT RESOLVED that the Annual General Meeting is called to order at 11:05 a.m.

CARRIED

2. Adoption of the Order of Business

The agenda was approved as distributed.

3. Conflicts of Interest

Antoine Vezina – Potential conflict when discussing item 5.3. Contribution Model Funding Structure based on stance taken by Timmins EDC.

4. Committee Updates

4.1. Mining

- André Robichaud lead this section update.
 - The NeCN lobbied to have a flyover geological survey of NeCN catchment area. This had not been done since the 1960s.
 - Efforts were successful and in 2015 the areas received a flyover resulting in two datasets from the areas to the east and west of Kapuskasing, respectively.
 - The eastern dataset was released in April; the western dataset has not yet been released.
 - Re: Western dataset
 - Discussions are taking place regarding the release of the western dataset
 - Negotiations with Constance Lake are ongoing, as to develop an agreeable release plan for the western dataset which includes Constance Lake
 - Issues are consultation and access
 - The NeCN had discussed the possibility of hiring a consultant to examine data and find relevant points, as well as creating a GIS project to map these points
 - However, the OGS is already doing that work, including creating paper and digital maps of the area that are already released for the industry
 - With the eastern dataset, approximately 1000 anomalies were found and this was subsequently narrowed down to between 30-50 potential mining-relevant anomalies
 - Since April, companies have already staked claims at some of the points discovered in flyover for Kimberlite (diamonds) and other materials
- Key points / challenges / discussion:
- Only half of NeCN region as other map not yet released; how to go forward with only half included?
 - NeCN to continue lobbying government to ensure area is continuously developed and not forgotten by OGS and industry



- potential to work on marketing and promotion of NeCN region
- There is a need to be cautious about not duplicating work already being done by OGS or attempt to steer an industry-driven market
- discussion about attending Roundup in Vancouver, or having a representative there
- For this group, we won't be the ones building a mine but our responsibility is to know about the opportunities that exist to promote the area and be able to steer people in the right direction when something comes up as well as lobbying government and making sure they know we are here and don't forget us

Other

- Look into opportunities to leverage the Golden North project.
- OGS has a regional symposium in Spring, will look at attending
- ***Temiskaming Shores is putting together a video and photo display of mining in the area so if any members have relevant material they can connect with James Franks***

4.1. Tourism

- Worlds Best Snowmobile Destination Summit occurred in Cochrane on November 3,4th 2016
- 80 participants, good feedback, good presenters and ideas
- "key speakers discussed best practices, tricks of the trade, and business development ideas"
- Audiovisual was fantastic
- Seemed to be a good split of stakeholders and snowmobilers
- Members who did not attend saw good feedback on social media and through word of mouth
- Members of the business community in Cochrane were happy and made good connections
 - Discussion as to the length of the event, two full days is a lot for a business to take off but otherwise it is rushed
 - The business community outside of Cochrane did not get as much out of it
- Discussion regarding how to capture what the business community in Cochrane got out of the project in order to share with other businesses in the region

Next steps

- Consulting company will release 2017-2022 Five-Year Destination Plan on January 10th in Timmins
- This document will be a full business plan with different areas to work on and governance structure, cash flows, etc.
- Likely the project is bigger than the NeCN
- Tourism agencies are excited and want to get on board ie. Algoma tourism

4.3. Agriculture/Symposium

- Tile drainage is ongoing, to be discussed in Section 5.2.
- SNAPP program is back, out of Sault Ste. Marie



- Sustainable New Agri-Food Products and Productivity Program
- In 2014 there was a pilot program that got restarted
- Now there is funding for 3 years, 700 thousand spread out over regions
- ***Call to members to encourage applications***
- Mennonite community is eligible to apply
 - perception that there is no appetite within community to participate in government programs however no restrictions for program
- Agriculture Symposium
 - Symposium scheduled for March 30, 31 2017 in Kapuskasing
 - Planning is ongoing
 - Sponsorships are being sought
 - NOHFC will get back to us in February
 - Farmers of Ontario and OMAFRA later in December
 - Sponsorship packages for businesses are ready
 - Sara compiled list of potential sponsors, including past sponsors
 - will work on getting requests sent out
 - Have not yet secured a keynote/ other speakers, this is ongoing
 - potential to invite member of Mennonite community to speak on decision to come to Northeastern Ontario, living here, etc.
 - Goal to send save the dates by December 15
 - If keynote speaker not set, may need to send without information re: speakers
 - Will send Save the Dates to NeCN members
- Other:
 - January 17, 2017 in Temiskaming Shores there will be a “Northern Ontario Forum for Food, Farms, and Tourism” which will be a full day examining the culinary industry and looking at ways to develop Food Tourism in the area/get kitchens to use local products.
 - Event information to be sent out.

5. New Business

5.1. Area One Presentation

- Joelle Faulkner & brother Benji from Area One
- Originally from London, have a dairy farm
- Last 3 years they've been co-investing with farmers in Manitoba, Saskatchewan, etc
- Submitting a proposal to NoHFC, wanted input from NeCN
 - Land conversion and clearing
 - Equity based financing model



- Farmer shares in income and appreciation
- So they can afford to buy out at end of partnership
- The great Claybelt is the next spot to look at develop
- It would take quite a bit for clearing and tiling
- We work with a guy in IF and Liskeard
- Area One to focus on Hearst: want to create separate consortium
 - o NeCN becomes management team
- Further away from elevators, etc.
- You have rail and highways and there is underused land
- The numbers to make it competitive in Alberta mean that the tiling/clearing grant is important piece
- With a big project, would one get the grant?
 - Is there a maximum in acres? Is it job creation? Is it land? Economic development?
- Don't want to take away from smaller farm, only want to focus on Hearst so as to not duplicate/crowd existing market elsewhere
- Establishment and infrastructure
- Area One initial view is to buy land, clear it, tile it and start getting things going
- Maybe put up a new tile maker
- Aiming to get 2-4 thousand acres in production at first step
- Through the consortium, this would not be on the project, can be 1 million a year
- Operate as current but specific to Hearst are with Area One
- Don't have farmers now but not concerned about finding them
- focus on bringing people from West or within NO, not aiming from Southern Ontario
- Talking about private, not crown land
- Can provide anything needed for administration to NeCN but looking to operate similar to current model
- Profit for Area One comes from being co-owners of farms when all is said and done

Concerns

- Granting agency allowing new grouping
 - request to get commitment in writing before moving forward
- Co-management of projects, however already being co-managed by North Claybelt
 - NeCN is a separate entity so conceptually this could work with the non-profit creating the consortium
- Can we have 4 projects open?
- 1 farmer in a consortium

Next Steps

- As project seems feasible and there seems to be some internal capacity we will look at supporting application



- Issue to be brought to the Agriculture Committee
- Potentially also back to the Board when assumptions are clarified
- Area One to provide written one-pager to be presented to Ag Committee

12:13 p.m. Break for lunch

12:37 p.m. Resume

5.2. 2017 NeCN Tile Drainage and Land Clearing Consortium Project

- Progress is being made
- 40% of current acres open are complete and the rest is mostly land clearing
- Two construction companies working on these
- Phase 1 for project 4 is just put in
 - Applications due at the end of December, so more producers expected to apply
 - Approximately 18,000 acres
- Require resolution to finalize application
 - Timelines mean that resolution should come as soon as possible to ensure approvals are done, however hands are tied until former project closes February or March
 - Granting agency may be able to pre-approve contingent or closure
 - The matter will be sent to the Agriculture Committee before returning to BOD for resolution – ideally as soon as possible
- Discussion of governance and best practices for NeCN
 - Should all matters be brought to individual committees or can Board of Directors make decisions?

5.3. Contribution Model Funding Structure

- Based on 3 year financial plan, and bank statements (provided) the NeCN is operating in deficits and using up accumulated surplus which is not viable
- Before 2012 the funding for the NeCN was \$0.50/capita but was changed to \$500/year and this is the current model
- Members of the Executive Council went to NEOMA for the purpose of an informational presentation to members regarding funding for the NeCN and to give a heads up about a requirement of increased funding
- NeCN presented different per capita funding options (\$0.125; \$0.25; \$0.50)
- The membership of NEOMA decided to formally support the \$0.25/capita option, which increases membership fees a significant amount for some communities with a larger population as compared to the current \$500/year fee
- As a result of this and other issues, some communities (Town of Kirkland Lake, City of Temiskaming Shores, City of Timmins) are withdrawing or indicating a desire to withdraw if membership fee escalates to the indicated rate



- NeCN Executive Council members presented to City of Temiskaming Shores for additional information in an attempt to convince the community to stay in the NeCN
- The City of Temiskaming Shores has decided to withdraw membership of the NeCN for 2017
- Additional discussions are set to take place with the City of Timmins; the Town of Kirkland Lake has also shown interest in being provided additional information but this has not been set up
- The matter was not previously brought to the Board of Directors as time was of the essence and the NeCN was advised to attend NEOMA in June at the AGM

Challenges

- Time crunch as budgets are being finalized for 2017
- Finding an appropriate funding model based on scale of variation in community and benefit from NeCN projects
- Prior years the NeCN went back to communities on a per project basis but this causes logistical complications (for both the NeCN and the members) and sometimes payment is not received
- Moving forward as Directors of NeCN when information is not passed along
- Staff requests versus council requests for involvement in different agencies, including NeCN
- Regional collaboration is difficult if all are not present and at table, issue regarding communities reaping benefits they are not willing to assist in creating opportunities for

Other issues:

- Communities having the perception of not belonging to the geographic area and having differing challenges to tackle than the NeCN majority catchment area (City of Temiskaming Shores)
- Communities earmarking funding through different channels ie. tourism agency funding tourism project and economic development corporation not wanting to contribute to NeCN tourism projects (City of Timmins)
- CFDCs used to have a much larger pot of money to spend for local initiatives ie. \$15,000 to symposium and that is no longer available as of 2014
- Regional span means memberships sometimes speak different languages and have unique regional issues
- Host community for events gains more from projects than rest of area

Options going forward:

- Need to find a way to keep going,
- Even if NeCN can't afford projects, it should try to find a way to afford to exist to be at same table
- Scale down on projects if need be
- Maybe have minimum and maximum to neutralize discrepancies in payment
- Maybe membership is just operating costs, then request additional funds for projects
- Create opt out options if specific projects are not part of mandate
- Readjust funding model
- Project driven funding
- Based on business plan with adequate backing for additional costs



- CFDCs paying on specific projects

Next Step:

- Executive Council to provide additional options for review by Board of Directors
 - \$0.125
 - Everybody pays the same
 - Floor and max

5.4. Regional Import Replacement Study

- Idea to look at imports into the community and what local products are being made in an effort to create a matching for these organizations
- Keep production and connections present on a regional basis
- There is a need for this
 - Example given of PDAC exhibit where businesses from Earlington and Cobalt met

5.5. Review of 2014 NeCN Action Plan / Strategic Planning Session

- Tabled for the next meeting

6. Other Business

- Next meeting: 10am Friday 16th teleconference to discuss funding scenarios
- Next face-to-face meeting: March, Matheson mentioned as location but TBD
 - Doodle will be sent out

7. Adjournment

Resolution #: 16-12-07-002
Moved by: Gilles Matko
Seconded by: Isabelle Denault

BE IT RESOLVED that the meeting is adjourned at 1:36 PM.

CARRIED

1.0 CALL TO ORDER

The meeting was called to order at 2:02 p.m.

2.0 ROLL CALL

- | | |
|---|--|
| <input checked="" type="checkbox"/> Councillor Mike McArthur | <input checked="" type="checkbox"/> Chris Oslund, City Manager |
| <input checked="" type="checkbox"/> Councillor Danny Whalen | <input type="checkbox"/> Michelle Larose, Cobalt |
| <input checked="" type="checkbox"/> Tina Sartoretto, Cobalt | <input checked="" type="checkbox"/> Mitch Lafreniere, Manager of Physical Assets |
| <input checked="" type="checkbox"/> Councillor Rochelle Schwartz, Cobalt | |
| <input checked="" type="checkbox"/> Airianna Misener, Executive Assistant | |

3.0 REVIEW OF REVISIONS OR DELETIONS TO AGENDA

- Addition Under New Business: Bus Stop Addition 9.2

4.0 APPROVAL OF AGENDA

Recommendation TC-2016-025

Moved by: Councillor Danny Whalen

Be it resolved that:

The Transit Committee agenda for the November 9, 2016 meeting be approved as amended.

Carried

5.0 REVIEW AND ADOPTION OF PREVIOUS MINUTES

Recommendation TC-2016-026

Moved by: Councillor Mike McArthur

Be it resolved that:

The Transit Committee minutes for the September 26, 2016 meeting be adopted as printed.

Carried

6.0 DISCLOSURE OF PECUNIARY INTEREST AND GENERAL NATURE

- None

7.0 CORRESPONDENCE

- None

8.0 UNFINISHED BUSINESS

8.1 Transit Financials – September, October

The Committee was provided with an updated financial summary. Christopher Oslund indicated that staff are working to resolve the discrepancy that occurred in previous months.

Due to the numerous maintenance issues with the smaller buses it has resulted in a deficit in operations of approximately \$20,368.00.

The Committee discussed advertising opportunities in 2017. James Franks and Mitch Lafreniere are working towards increasing the indoor advertising sponsors as well as the possibility of offering advertising space on the outside of each transit bus.

8.2 Passenger Count – September, October

Christopher Oslund reviewed the Passenger Counts for the months of September and October. Chris noted that the transit system is on track in achieving 138 k in ridership by year end.

8.3 Automated Announcement System - Update

The Automated Announcement System has been installed in all 4 busses, noted Mitch Lafreniere. At this point the system is not functioning; however training is scheduled with staff and drivers to get the system up and running. Once the system is fully functioning, CNIB will schedule a familiarization run with local clients. Mitch confirmed that the system is in both French and English languages.

8.4 Ontario Public Transit Infrastructure Fund

The application to the Ontario Public Transit Infrastructure Fund was submitted. Christopher Oslund thanked both the Council of the City of Temiskaming Shores and Town of Cobalt for their support in proceeding with the application.

The Committee expressed concerns in regards to the funding eligibility being based on ridership, as the cost to purchase a transit bus is the same for our area as it is for larger Cities.

The Committee will further investigate additional funding opportunities to assist in the purchase of transit fleet.

8.5 2017 Budget

Christopher Oslund presented the draft budget. Staff are hopeful to have the final budget passed at the December 6, 2016 regular Council meeting.

With the purchase of the new buses, there will be a requirement for an increase in the subsidy amounts from all partners.

9.0 NEW BUSINESS

9.1 Fleet procurement process

Mitch Lafreniere informed the group on the fleet procurement process and timeframes. Mitch has investigated fleet options and preliminary costs. Overall it could take from 6 months to one year for the delivery of the transit buses.

9.2 Transit Stop – Ali's Bar & Grill Hwy 11

Councillor Mike McArthur brought forward an inquiry for an additional transit stop at the new location of Ali's Bar and Grill located on Hwy 11. The Committee thanked Councillor Mike McArthur for bringing the suggestion forward, however due to MTO regulations and safety concerns a transit stop cannot be permitted on the hwy.

10.0 PUBLIC COMMENTS/COMPLAINTS

- None

11.0 CLOSED SESSION

- None

12.0 NEXT MEETING

The next meeting of the Transit Committee is scheduled for December 14, 2016 at 2:00 PM.

13.0 ADJOURNMENT

Recommendation TC- 2016-027

Moved by: Councillor Mike McArthur

Be it resolved that:

The Transit Committee meeting is adjourned at 2:52 p.m.

Carried

COMMITTEE CHAIR – T. SARTORETTO

COMMITTEE SECRETARY

1.0 Call to Order

The meeting was called to order at 11:05 a.m.

2.0 Roll Call

Present: Carman Kidd, Mayor;
Doug Jelly, Councillor;
Steve Burnett, Technical and Environmental Compliance Coordinator;
Doug Walsh, Director of Public Works;
Dave Treen, Municipal Clerk;
Jennifer Pye, Planner
Randy Phippen, Phippen Waste Management;
Tim McBride, Project Manager (AMEC) via phone;
Mary Kelly, Project Team (AMEC) via phone

Regrets: Chris Oslund, City Manager and Del Fuller, resident;

Others Present: None

3.0 Review of Revisions or Deletions to Agenda

None

4.0 Approval of Agenda

Recommendation WMAC- 2016-001

Moved by: **Doug Jelly**

Be it recommended that:

1. The Waste Management Advisory Committee Agenda for the December 8, 2016 meeting be approved as printed.

Carried

5.0 Review and Adoption of Previous Minutes

Recommendation WMAC- 2016-002

Moved by: **Doug Jelly**

Be it recommended that:

1. The Waste Management Advisory Committee Minutes of the October 15, 2015 meeting be approved as printed.

Carried

6.0 Unfinished Business

6.1 EA Process

Project Manager, Tim McBride outlined that they submitted the draft EA Report early in the year for comment, received comments back, modified and submitted it for formal review by the various departments within the Ministry of the Environment and Climate Change (MOECC). The document was also posted on the Environmental Bill of Rights (EBR) for public review until mid-October with no comments being returned from the public. Currently working to satisfy comments from various branches within MOECC.

Waste Branch: The overall proposed volume being applied for will be under 1.5 Million m³, thus no trigger for on-site gas collection. The report does not propose any wastewater management; however MOECC are requesting the inclusion of a storm water management pond designed to manage flows such that post-development run-off is not above pre-development run-off.

Surface Water Branch: Although there is no water courses within the landfill site, MOECC specialist is wanting the establishment of Base Line data for surface water and is not willing to budge on the matter. AMEC will prepare a proposal in this regard for consideration by the City from a financial perspective as well as satisfying the MOECC. It was noted that the Base Line data would be useful information moving forward and would not hold up the Environmental Compliance Approval (ECA) process.

Ground Water Branch: Requiring an enhanced monitoring program for Ground Water as there is a gap in data in regards to what is happening at bedrock. AMEC will prepare a proposal in this regard for the City's consideration.

Air Quality Branch: AMEC completed modeling on Air Quality based on a 9 yr. cycle based on current available data. However this branch is seeking modelling based on a 15 yr. cycle. AMEC is hopeful to explain that limitations of the data available and the worst case scenario is to have to run modeling for an additional 6 yrs using various assumptions.

Natural Heritage Branch: Is satisfied with the report; however want to be notified of any significant finds during construction that may point towards any Heritage values (i.e. arrow heads, etc.)

Tim also outlined that as part of the application for an ECA it will be necessary to finalize design drawings to construction ready. It is anticipated that any modifications to design drawings would be minor if necessary.

Technical and Environmental Compliance Coordinator, Steve Burnett requested that AMEC submit the additional proposals to his attention such that he could prepare a Contract Change Order for consideration by Council.

7.0 New Business

None

8.0 Next Meeting

The next meeting of the Waste Management Advisory Committee will be scheduled on an as needed basis.

9.0 Adjournment

Recommendation WMAC – 2016-003

Moved by:

Be it recommended that The Waste Management Advisory Committee meeting be adjourned at 11:50 a.m.

Carried

Carman Kidd
Committee Chair

David B. Treen
Recorder

1.0 CALL TO ORDER

The meeting was called to order at 10:23 A.M.

2.0 ROLL CALL

- Mayor Carman Kidd
- Chris Oslund, City Manager
- Councillor Doug Jelly
- Councillor Danny Whalen
- Doug Walsh, Director of Public Works
- Mitch Lafreniere, Manager of Physical Assets
- Steve Burnett, Technical and Environmental Compliance Coordinator
- Airianna Misener, Executive Assistant

3.0 REVIEW OF REVISIONS OR DELETIONS TO AGENDA

- None

4.0 ADOPTION OF AGENDA

Recommendation BM-2016-034

Moved by: Mayor Carman Kidd

Be it resolved that:

The Building Maintenance Committee Meeting Agenda for the November 10, 2016 meeting be adopted as printed.

Carried

5.0 REVIEW AND ADOPTION OF PREVIOUS MINUTES

Recommendation BM-2016-035

Moved by: Councillor Doug Jelly

Be it resolved that:

The Building Committee Meeting minutes of October 6, 2016 be adopted as presented.

Carried

6.0 DISCLOSURE OF PECUNIARY INTEREST AND GENERAL NATURE

- None

7.0 CORRESPONDENCE

- None

8.0 PRESENTATION

- None

9.0 UNFINISHED BUSINESS

9.1 PFC

Previous Discussion:

The following maintenance shutdown work has been completed:

- New flooring (nonslip) in the lifeguard room and Aqua Fitness office
- Painting
- New bathroom partitions in Men's and Ladies washrooms

Mitch Lafreniere commented that this year's budget was exceeded due to unforeseen issues at the Pool and Fitness Centre. Mitch Lafreniere further noted that the Mechanical Room is in need of upgrades. All equipment is original to the building and has not been upgraded. Mitch will look at allocating money in the 2017 budget, for engineering work to address the Mechanical Room.

Discussion:

As part of the Department's 2017 Capital budget staff included the engineering costs to investigate the mechanical room at the Pool and Fitness Centre.

9.2 Building Division Staff Update

Previous Discussion:

The department will begin winterizing municipal buildings throughout the coming weeks.

Discussion:

No update

9.3 Library Services Review

Previous Discussion:

The Library Building Committee met in September to discuss renovation/repair options. 75% of the roof replacement is complete. The Committee advised City staff to obtain quotes for various Library Building repairs including, the front parapet and bathrooms.

Discussion:

Mitch Lafreniere updated the group on the status of the New Liskeard Library parapet wall investigation. EXP completed the investigation and provided a report detailing the current condition, requirements to repairs and cost estimate. The estimated cost to repair is significant, this is primarily due to the work involved to maintain the heritage designation, noted Mitch Lafreniere. The Committee recognizes the financial realities and the amount of money it would take to address the entire building in order to meet the needs of Library Services.

The report will be discussed at the upcoming New Liskeard Library Building committee as well as the Library Board meetings and staff is seeking recommendation from each committee on how they wish to proceed.

9.4 DFO / City property off Main street, Haileybury

Previous Discussion:

The Group reviewed draft site plans for the DFO property shoreline stabilization. All 3 options will be presented to DFO for review and consideration. We are waiting for pricing for all 3 options from EXP. City staff will include culvert realignment or replacement costs in the 2017 budget.

Discussion:

EXP provided cost estimates for all 3 options that were presented in earlier weeks. Based on Operations the committee eliminated option #1. City staff will meet with DFO next week to present repair options and estimates.

9.5 Farmer's Market

Previous Discussion:

Christopher Oslund requested that the Committee discuss forming an Adhoc committee to address the Farmer's Market funding. The Committee provided the following direction.

Recommendation BM-2016-032

Moved by: Councillor Doug Jelly

Be it resolved that:

The Building Maintenance Committee hereby recommends that Riverside place is the preferred location to allocate the farmers market funding. The Committee further recommends that an Adhoc Committee be established consisting of members from the recreation department, building maintenance department and farmers market to develop a plan of action.

Discussion:

Members of Council and staff met with members from the Farmers market board on November 9, 2016. The Farmers Market board decided to continue to utilize the Riverside Place as the Farmers Market. Renovation discussions are underway. The group will meet in December to go over cost estimates for the accessibility upgrades.

9.7 2017 Budget

Previous Discussion:

Mitch Lafreniere reported that the Building Department's 1st Draft of the 2017 Operations budget has been submitted.

Discussion:

The group reviewed the Departments second draft of the 2017 Operations budget.

10.0 NEW BUSINESS

- None

11.0 ADMINISTRATIVE REPORTS

- None

12.0 CLOSED SESSION

- None

13.0 NEXT MEETING

The next meeting of the Building Maintenance Committee will be scheduled for December 15, 2016 at 10:00 A.M.

14.0 ADJOURNMENT

Recommendation PW-BL-2016-036

Moved by: Mayor Carman Kidd

Be it resolved that:

The Building Maintenance Committee, be hereby adjourned at 11:29 A.M.

Carried

COMMITTEE CHAIR – D. WHALEN

COMMITTEE SECRETARY

Subject: Amendments to By-law No. 2013-052
Building Permit Fees

Report No.: CGP-025-2016
Agenda Date: December 20, 2016

Attachments

Appendix 01: Draft By-law to amend By-law No. 2013-052

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report CGP-025-2016; and
2. That Council directs staff to prepare the necessary by-law to amend By-law No. 2013-052 modifying the permit fee structure for consideration at the December 20, 2016 Regular Council meeting.

Background

At the August 2, 2016 Regular Council meeting Administrative Report No. CGP-017-2016 was considered. The report outlined that the building department operates utilizing “Building By-law” (By-law No. 2013-052) a by-law to Regulate Construction, Demolition, Change of Use, Inspections, Permits and Associated Fees. The report also illustrated how the amended fee structure would be applied.

Administrative Report CGP-017-2016 resulted in the adoption of Resolution No. 2016-404 which reads as follows:

Be it resolved that the Council of the City of Temiskaming Shores hereby acknowledges receipt of Administrative Report No. CGP-017-2016; and

That Council directs staff to provide notice of a public meeting, scheduled for September 6, 2016, in accordance with the Building Code Act and Building By-law No. 2013-052 in regards to proposed Building Permit Application Fee changes

Analysis:

The Public Meeting indicated in Resolution No. 2016-404 was held as part of the September 20, 2016 Regular Council Meeting and there were no public in attendance to provide comments nor were any written comments received. It was noted at the meeting that the City would be hosting the bi-annual Contractors Night on November 23, 2016 which would include a venue to allow further input on the proposed amendments by Contractor’s. There were no written submissions in regards to the amendments; however verbal comments received that evening were positive.

Therefore it is recommended that Council consider the proposed amendments to By-law No. 2013-052, being Appendix 01, summarized as follows:

1. Appendix 1 be replaced with a flat fee and square footage based permit fee schedule, which would limit the variable of “construction value” and use a more calculated method.
2. Fee Schedule to be reviewed on a bi-annual basis in order to remain current.
3. Section 8.2 “Fees – Cost of Valuation” be deleted.
4. Section 8.5 “Fees – Cost of Valuation – Dispute” be deleted.
5. Appendix “6” to schedule “A” be deleted.

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

The time involved with the inspection, enforcement of the *BCA* and *OBC* and subsequent re-inspection costs will be at least partially offset by these proposed fee changes.

Staffing implications related to this matter are limited to normal administrative functions and duties.

Alternatives:

No alternatives were considered.

Submission

Prepared by:

Reviewed and approved by:

Reviewed and submitted for Council’s consideration by:

“Original signed by”

“Original signed by”

“Original signed by”

Clayton Seymour
Chief Building Official

Kelly Conlin
Director of Corporate Services

Christopher W. Oslund
City Manager

The Corporation of the City of Temiskaming Shores
By-law No. 2016-000
Being a by-law to amend By-law No. 2013-052 being a
by-law to regulate Construction, Demolition, Change of
Use, Inspections, Permits and associated Fees

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10.(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas under Section 10.(2) 6 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that a municipality may pass by-laws with respect to matters of health, safety and well-being of persons;

And whereas Section 7.(1) of *the Building Code Act, 1992, S.O. 1992, Chapter 23*, as amended provides that a *Council* may pass by-laws and make regulations, applicable to the matters for which and in the area in which the municipality has jurisdiction for the enforcement of this Act;

And whereas Section 7.(8.1) of *the Building Code Act, 1992, S.O. 1992, Chapter 23*, as amended provides that Section 398 of the Municipal Act, 2001, S.O. 2001, c. 25 applies, with necessary modifications, to fees established by a municipality under clause 7.(1)(c) of *the Building Code Act*;

And whereas Section 398.(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended provides that fees and charges imposed by a municipality on a person constitute a debt of the person to the municipality;

And whereas Section 398.(2) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the treasurer of a municipality may add fees and charges imposed by the municipality to the tax roll;

And whereas Council adopted By-law No. 2013-052 being a by-law to regulate Construction, Demolition, Change of Use, Inspections, Permits and associated Fees (Building By-law) on May 21, 2013;

And whereas Council considered Administrative Report No. CGP-025-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare

the necessary by-law to amend By-law No. 2013-052 to modify and impose Building Permit Application fees;

Now therefore the Council of The Corporation of the City of Temiskaming Shores enacts the following as a by-law:

1. That Council hereby amends By-law No. 2013-052 by deleting Section **8.2 Fees – Cost of Evaluation** of Schedule “A”.
2. That Council hereby amends By-law No. 2013-052 by deleting Section **8.5 Fees – Cost of Evaluation - Dispute** of Schedule “A”.
3. That Council hereby amends By-law No. 2013-052 by deleting **Appendix 01 – Classes of Permits and Permit Fees** and replacing it with Schedule “A” – **Building Permit Fees Structure**, a copy of which is attached hereto and forming part of this by-law.
4. That Council hereby amends By-law No. 2013-052 by deleting Section **8.5 Fees – Cost of Evaluation - Dispute** of Schedule “A”.
5. That is by-law is effective as of January 1, 2017.
6. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantical or descriptive nature or kind to the by-law and schedule as may be deemed necessary after the passage of this by-law where such modifications or corrections do not alter the intent of the by-law.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen

**Appendix 01
 Building Permit Fees Structure**

The fees payable by the applicant or authorized agent for a construction, demolition, change of use, conditional permit or inspection fees shall be as follows:

Permit fees shall be **\$8.50 per thousand** based on a value of contract price. If there is no contract price in a written agreement, the permit fee will be calculated by Building Department as follows:

| | |
|---|------------------|
| Residential | \$1.25 per sq ft |
| Residential Retrofit | \$0.75 per sq ft |
| Residential Accessory Building | \$0.60 per sq ft |
| Residential Deck | \$0.45 per sq ft |
| Seasonal Building no interior finish (insulation, sheeting, etc.) | \$0.75 per sq ft |
| Commercial/Industrial/Assembly/Institutional | \$2.25 per sq ft |
| Commercial/Industrial/Assembly/Institutional Retrofit | \$1.25 per sq ft |
| Commercial/Industrial/Assembly/Institutional Cold Storage | \$0.75 per sq ft |

Alterations

Flat Fee

Res / Comm

| | |
|--|---------------|
| Interior Renovations | \$150 / \$250 |
| New foundations | \$250 / \$400 |
| Foundation repairs | \$100 / \$175 |
| New roof (structural changes) | \$225 / \$375 |
| New doors and windows (structural changes) | \$85 / \$150 |
| Deck Repairs | \$85 / N/A |
| Plumbing modification (additions or relocations) | \$85 / \$150 |
| Fire alarm system | \$100 / \$200 |
| Wood Fired Appliance (no WETT cert) | \$85 / \$150 |
| Rooftop Solar | \$200 / \$350 |

Agricultural

Rate per sq ft

| | |
|-----------------------------|----------------|
| Farm buildings / additions | \$0.50 |
| Prefabricated storage silos | \$150 Flat Fee |
| Pole barn / coverall | \$0.40 |
| Restoration | \$0.25 |

Demolitions:

Flat Fee

| | |
|--|-------|
| Residential | \$ 85 |
| Agricultural | \$ 85 |
| Commercial/Industrial/Assembly/Institutional | \$150 |

Other:

Flat Fee

| | |
|--|--------------------|
| Change of use permit | \$85 |
| Change of use if construction is required | \$85 + fee formula |
| Permit renewal/dormant file | \$85 |
| Moving permit (relocation of structure over 108 sq ft to or from a property) | \$150 |
| Inspection request by owner/re-inspection | \$50 each visit |
| Administrative charge | \$50 |
| Accessible Upgrade | \$50 |
| Revisions | \$60 |
| Orders | \$200 |

Notes:

There shall be an administration charge equal to one and a half times the above calculated fees, applied to all construction that begins prior to the issuance of a permit;

No permit shall be less than \$85.00;

Fees will be rounded to the nearest dollar;

Conditional and partial permits will be calculated at the regular rate for the complete project.

| | | | |
|-----------------|------------------------------|---------------------|-------------------|
| Subject: | Site Plan Control Agreement: | Agenda Date: | December 20, 2016 |
| | Canadian Tire 997431 Hwy 11 | Report No.: | CGP-026-2016 |

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. CGP-026-2016;
2. That Council agrees to enter into a Site Plan Agreement with Canadian Tire Properties Inc. for 997431 Highway 11 North; and
3. That Council directs staff to prepare the necessary by-law to enter into a Site Plan Agreement with Canadian Tire Properties Inc. and provide provisional approval (1st and 2nd reading) for consideration at the December 20, 2016 Regular Council meeting.

Background

Canadian Tire Properties Inc. (CTPI) is planning an expansion to the north and east sides of the existing Canadian Tire retail store. The expansion will increase the floor area of the building by 1,758 m² (18,901 ft²), resulting in a gross floor area of 5,015 m² (53,982 ft²). The expansion to the east side of the building will bring the rear wall of the building approximately to the bend in the entrance driveway between the two retail stores and the expansion to the north side of the building will bring the side wall of the building to the fence around the current garden centre. The expansion also proposes the relocation of the garden centre to the south side of the existing entrance driveway to the south of the building.

This area functions as one retail complex site, however there are still legal boundaries within that site that must be respected. CTPI applied for consent and a minor variance to permit the transfer of a small piece of property from 3358771 Canada Limited (the Walmart property) to accommodate the northeastern corner of the addition and these applications were approved by the Committee of Adjustment on June 29, 2016. The conditions of the approval of the consent application are presently being addressed and the consent will be finalized prior to the site plan agreement receiving third and final reading.

Additionally, the property to the south of the existing entrance driveway south of the Canadian Tire is owned by 3358771 Canada Limited. This property is the location of the proposed garden centre for Canadian Tire. Because CTPI does not own this property the City cannot approve the site plan as it applies to this property. However 3358771 Canada Limited requires approval-in-principal of the site plan agreement before they will transfer the property to CTPI. The parties have requested that Council give first and second reading to the by-law authorizing the site plan agreement, allow the property to be transferred to CTPI, and then authorize third and final reading at a subsequent meeting.

Members of the City of Temiskaming Shores Accessibility Advisory Committee (TSAAC) reviewed the plans with staff on September 21, 2016. TSAAC members were generally pleased with the proposed expansion to the Canadian Tire store and the inclusion of accessibility considerations in the design of the site. TSAAC members were particularly pleased with the

developer's inclusion of additional accessible parking spaces and the redesign of the existing accessible parking spaces to meet the requirements of the City's Traffic and Parking By-law No. 2012-101. The following resolution was passed:

Moved By: Josette Cote
Seconded By: Walter Humeniuk

Whereas TSAAC has reviewed the site plan for the proposed expansion of the Canadian Tire store in New Liskeard located at 997431 Highway 11; and

Whereas TSAAC is generally pleased with the inclusion of accessibility considerations in the site plan, including the provision of additional accessible parking spaces and lighting around the building.

Now therefore be it resolved that TSAAC recommends to Council that these items be included in the site plan agreement; and

Further be it resolved that TSAAC is concerned about the transit stop at the south west corner of the Walmart building considering the proposed 6m drive aisle and the parking spaces on the south side of the Walmart building and requests consultation be had with the Temiskaming Transit Committee regarding the proposal.

Carried

It should be noted that the version of the site plan reviewed by TSAAC had been prepared using incorrect information. Upon further review by the consultant's for the applicant, the site plans were revised and it was found that the distance between the sidewalk around the expansion and the rear edge of the parking spaces is 14.138 m. The new side wall of the building will be in the same location as the existing garden centre fence, with a concrete sidewalk extending an additional 1.665 m. This updated information was provided to TSAAC on November 9, 2016 and the Committee indicated they had no concerns with the corrected proposal.

Analysis

The proposed expansion to the building is to the north and east sides only. No changes are being proposed to the existing entrance or parking area. A garden centre is proposed to be located to the south of the existing store and access driveway. This area is also proposed to include a parking area and underground stormwater management structures, including a storage tank.

Given that this property is within the Ministry of Transportation (MTO) Permit Control Area, MTO was circulated on the site plan application, including the stormwater management considerations. MTO had concerns with the initial proposal from the applicant's engineers and have worked with the applicant to ensure these concerns have been addressed in the final version of the site servicing and grading plan.

The City's Traffic and Parking By-law requires the provision of accessible parking spaces based on the overall number of parking spaces being provided. The Canadian Tire site must provide a minimum of 7 accessible parking spaces, which must be in accordance with the size requirements of the Traffic and Parking By-law. The current parking configuration includes 5

accessible parking spaces, however these spaces do not meet the size requirements. CTPI will be providing a total of 7 accessible spaces that meet the size requirements of the Traffic and Parking By-law and include a 1.5m access aisle between spaces.

Based on estimates provided by the developer's engineer, security in the amount of \$49,470.08 will be required to be posted with the City prior to the issuance of a building permit. The security ensures that the on-site works are completed in accordance with the approved Site Plans and the agreement.

Staff recommends that Council adopt a by-law to enter into a Site Plan Agreement with Canadian Tire Properties Inc. The agreement will be registered on title to the property at the owner's expense.

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

Staffing implications related to this matter are limited to normal administrative functions and duties.

Alternatives

No alternatives were considered.

Submission

Prepared by:

Reviewed and approved by:

Reviewed and submitted for
Council's consideration by:

"Original signed by"

"Original signed by"

"Original signed by"

Jennifer Pye
Planner

Kelly Conlin
Director of Corporate Services (A)

Christopher W. Oslund
City Manager

The Corporation of the City of Temiskaming Shores

By-law No. 2016-000

Being a by-law to authorize the Execution of a Site Plan Control Agreement with Canadian Tire Properties Inc. 997431 Highway 11 North - Roll No. 54-18-020-002-069.04

And whereas Section 41 of the Planning Act, R.S.O. 1990 c.P.13, as amended, enables the Municipality to establish a Site Plan Control Area;

And whereas the Council of the Corporation of the City of Temiskaming Shores passed By-law No. 2014-133 designating certain areas within the Township of Dymond as Site Plan Control Areas;

And whereas Council considered Administrative Report No. CGP-026-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into a Site Plan Control Agreement with Canadian Tire Real Estate Limited and provide provisional approval (1st and 2nd reading) for consideration at the December 20, 2016 Regular Council meeting;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. The Mayor and Clerk are hereby authorized to enter into a Site Plan Control Agreement with Canadian Tire Properties Inc. for 997431 Highway 11 North, a copy of which is attached hereto as Schedule "A" and forming part of this by-law.
2. That a Notice of Agreement be registered at the Land Titles Office in Haileybury to register Schedule "A" to this by-law.
3. That this by-law takes effect on the day of its final passing.
4. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantically or descriptive nature or kind to the by-law and schedule as may be deemed necessary after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law.

Read a first and second time this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen

Read a third time and finally passed this _____ day of _____, 2017.

Mayor – Carman Kidd

Clerk – David B. Treen

Site Plan Control Agreement
(Canadian Tire Properties Inc.)

This Agreement, made in triplicate, this ____ day of _____, 20____.

Between:

The Corporation of the City of Temiskaming Shores
325 Farr Drive, P.O. Box 2050, Haileybury, ON P0J 1K0
(hereinafter called the “**City**”)

And:

Canadian Tire Properties Inc.
2180 Yonge Street, Toronto, ON M4P 2V8
(hereinafter called the “**Owner**”)

Whereas the City of Temiskaming Shores enacted Site Plan Control Area By-law No. 2013-143 pursuant to the provisions of Section 41 of the *Planning Act*, R.S.O. 1990, c. P.13, as amended (the “**Act**”);

And Whereas the City has adopted By-law No. 2009-054 being a By-law to adopt a policy with respect to Site Plan Control Assurances;

And Whereas by an application dated on or about July 25, 2016, the Owner applied to the City for site plan approval in respect of its development described in Schedule “A”;

Now Therefore in consideration of the mutual covenants contained herein, the parties covenant and agree as follows:

Conditions for Site Plan Control Agreement

This Agreement shall apply to the Lands, and to the development and redevelopment of the Lands.

The Owner covenants and agrees:

1. That no development or redevelopment will proceed on the Lands except in accordance with the Plans approved by the City pursuant to Section 41 of the Planning Act R.S.O. 1990, c.P.13, and more specifically identified in Appendix 1 to 5 inclusive attached hereto (collectively, the “**Plans**”);
2. That the proposed buildings, structures and other works shown on the Plans with respect to the Lands shall be completed in conformity with the Plans;
3. To carry out all works in such a manner as to prevent erosion of earth, debris and other material from being washed or carried in any manner onto any road or road allowance whether opened or unopened or onto the property of any other person or persons;

4. To provide and construct all stormwater management works and drainage of the Lands to the satisfaction of the City and the Ministry of Transportation (the “MTO”) acting reasonably, as shown on the Plans; and further agrees to maintain same to the satisfaction of the City and the MTO;
5. To provide such pavement markings, sidewalks, paving, curb cuts, and to landscape the Lands as shown on the Plans and further agrees to maintain same to the satisfaction of the City;
6. That prior to the work commencing, arrangements for the necessary permits and approvals must be made with the MTO and the City’s Public Works Department and Building Department;
7. That all required work on the property in respect to municipal water and sanitary sewer must be carried out in accordance with City specifications, by a contractor approved by the City, at the expense of the Owner;
8. That in the event work is carried out on the water and sewer services the Owner’s engineer shall conduct testing of water and sanitary sewer services and confirm in writing to the Director of Public Works that testing has been completed to the satisfaction of the City;
9. That upon completion of installation and construction of all of the services, works and facilities, the Owner shall supply the City with a certificate from the Owner’s engineer verifying that the services, works and facilities were installed and constructed in accordance with the approved plans and specifications.
10. That all entrances, exits and fire routes within the parking areas shall, at all times, be kept clean and clear of snow or debris to the satisfaction of the City acting reasonably, failing which the City shall notify the Owner in writing by registered mail and allow the Owner two (2) business days from receipt of the written notice to perform the required work. If the Owner does not complete the required work within two (2) business days the City shall have the right to enter upon the parking areas, undertake the clearing and removal of snow or debris on all entrances, exits and fire routes and recover from the Owner all reasonable costs, by action or in like manner as municipal taxes (post project completion) as provided as taxes that are overdue and payable.
11. That all conditions as set out in this agreement and as shown on the Plans inclusive, shall be completed within one year of the issuance of an Occupancy Permit. That all work shown on the Plans that is legislated by Ontario Building Code shall be completed prior to the issuance of an Occupancy Permit.
12. That all conditions as set out in the agreement and as shown on the Plans inclusive, shall be completed within two (2) years of the issuance of any building permit. All work shown on the Plans that is legislated by the Ontario Building Code shall be completed prior to the issuance of an Occupancy Permit.
13. That prior to receiving a building permit, the Owner will deposit with the City, the sum of \$49,470.08 in Canadian Dollars by way of a certified cheque, cash or an irrevocable Letter

of Credit to ensure the satisfactory performance of all work to be done on the subject lands, to ensure fulfilment of all terms and conditions of this Agreement.

- (a) The Letter of Credit must be arranged such that draws may be made by the City, if necessary, in accordance with the terms and conditions of this Agreement.
 - (b) Upon completion of all works and services required by this Agreement to the satisfaction of the City acting reasonably, the City shall return any deposit to the then owner of the property.
 - (c) Should the owner fail to comply with the terms and conditions of this agreement the City may undertake the required work. Should the owner fail to pay the City forthwith upon demand, the City shall apply all or such portion of the deposit as may be required towards the cost.
 - (i) Should the cost exceed the amount of the deposit, the City will invoice the Owner for the additional amount.
14. That the Owner will indemnify the City and each of its officers, servants, and agents from all loss, damages, costs, expenses, claims, demands, actions, suits or other proceedings of every nature and kind arising from or in consequence of the execution, non-execution or imperfect execution of any of the work hereinbefore mentioned to be performed by the Owner or its contractors, officers, servants or agents or of the supply or non-supply of material therefore to be supplied by the Owner or its contractors, officers, servants or agents, provided such loss, damages, costs, expenses, claims, demands, actions, suits or other proceedings arise by reason of negligence on the part of the Owner or its contractors, officers, servants or agents.
 15. That the Owner shall not hold the City responsible for any and all costs related to the provision of revised site plans.
 16. That the Owner consents to the registration of this Agreement against the Lands by way of “Notice of Agreement” and understands that the said Notice of Agreement shall remain on title to the Lands in perpetuity or until mutual consent of the Owner and the City to remove the Notice of Agreement from title.
 17. That the Owner understands and agrees that it shall be responsible for all fees incurred in the registration of this Agreement against the title to the Lands and for all registration fees incurred in the registration of any subsequent amendment or deletion of the Agreement from title and for any approvals or consents required to register this Agreement.
 18. The Owner shall arrange for and shall be responsible for all fees incurred in the registration of postponements of all debentures, charges, mortgages, or other similar documents registered prior to the registration of this Agreement.
 19. That the Owner understands and agrees that any modifications to the site, additional structures, building additions and/or new buildings on the Lands shall require an amendment to this Agreement, if deemed by the City to be of a magnitude to warrant such an amendment.

20. The following Appendices are attached to this agreement:

Appendix 1 – **Project: Highway #11 New Liskeard, Ontario; Drawing: Site Plan;**
Drawing No. **A1-T**; issued for Review **2016-10-12**

Appendix 2 – **Project: Highway #11 New Liskeard, Ontario; Drawing: Code Analysis;**
Project Date: **2016-10-12**; Drawing No.; **A1-T.1**; issued for Review **2016-10-12**

Appendix 3 – Drawing: **Site Servicing & Grading Plan; 14229-1E**; Coordinated with
Architect Plan Dec 6/2016

Appendix 4 – Drawing: **Notes & Details; 14229-2E**; Coordinated with **Architect Plan Dec 6/2016**

Appendix 5 – Proposed Parking Lot and Retail Expansion Temiskaming Shores (New Liskeard), Ontario – **Stormwater Management Report** Project No. **14229**
Applicant: **Canadian Tire Reit**; Prepared by: **The Odan/Detech Group Inc. November 22, 2016**

This Agreement shall be binding upon the parties hereto and their respective successors and assigns.

In Witness Whereof the parties hereto have hereunto placed their respective hands and seals to these presents.

Remainder of Page left blank intentionally

In witness whereof the parties have executed this Agreement the day and year first above written.

Signed and Sealed in)
the presence of)

Company Seal)
(if applicable))

Municipal Seal)

Canadian Tire Properties Inc.

Signature

Print Name: _____

Title: _____

Signature of Witness

Print Name: _____

Title: _____

**Corporation of the City of
Temiskaming Shores**

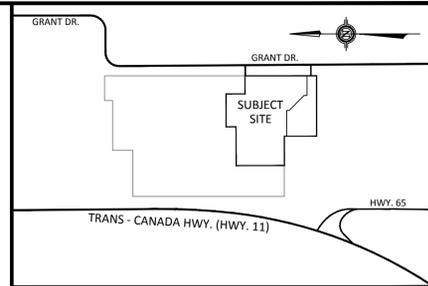
Mayor – Carman Kidd

Clerk – David B. Treen

GRANT DRIVE



- SERVICING AND GRADING LEGEND:**
- DENOTES EXISTING STORM MANHOLE
 - DENOTES PROPOSED STORM MANHOLE
 - DENOTES EXISTING CATCH BASIN
 - DENOTES PROPOSED CATCH BASIN
 - DENOTES EXISTING STORM MANHOLE WITH W/ SEDIMENT SACK
 - DENOTES EXISTING STORM SEWER
 - DENOTES EXISTING SANITARY MANHOLE
 - DENOTES PROPOSED SANITARY MANHOLE
 - DENOTES EXISTING SANITARY SEWER
 - DENOTES PROPOSED SANITARY SEWER
 - DENOTES EXISTING HYDRANT
 - DENOTES PROPOSED HYDRANT
 - DENOTES EXISTING WATER VALVE & BOX
 - DENOTES EXISTING WATER MAIN
 - DENOTES PROPOSED WATER MAIN
 - DENOTES EXISTING INLET CONTROL DEVICE (ICD)
 - DENOTES PROPOSED INLET CONTROL DEVICE (ICD)
 - + DENOTES EXISTING SPOT ELEVATION
 - + DENOTES PROPOSED ELEVATION
 - + DENOTES PROPOSED TOP OF CURB ELEVATION
 - + DENOTES PROPOSED GUTTER LINE ELEVATION
 - + DENOTES PROPOSED TOP ELEVATION OF SLOPE
 - + DENOTES PROPOSED EDGE ELEVATION OF PAVEMENT
 - + DENOTES PROPOSED HIGH POINT
 - + DENOTES PROPOSED LOW POINT
 - + DENOTES PROPOSED SWALE INVERT ELEVATION
 - + DENOTES PROPOSED ELEVATION BY OTHERS
 - + DENOTES PROPOSED ELEVATION BY OTHERS TO BE CHANGED
 - DENOTES PROPOSED FLOW ARROW AND SLOPE
 - DENOTES EXISTING FLOW ARROW
 - DENOTES EMERGENCY OVERLAND FLOW
 - DENOTES PROPOSED SLOPE (3:1 OR HIGHER)
 - DENOTES EXISTING CONTOUR
 - DENOTES PROPOSED SURFACE PONDING AREA
 - DENOTES PROPOSED LIMIT OF CONSTRUCTION
 - DENOTES PROPOSED SILT FENCE
 - DENOTES EXISTING CURB TO BE REMOVED
 - DENOTES EXTENT OF MAX. PONDING (0.30m) 100 YEAR STORM
 - DENOTES CROSS-SECTION REFERENCE
 - DENOTES DRAWING NUMBER



KEY PLAN
Scale : N.T.S.

NOTE :
THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.
ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
THIS DRAWING IS NOT TO BE SCALED. CONTRACTOR TO USE DIGITAL FILES FOR LAYOUT PROVIDED BY ENGINEER.
THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.
THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO, THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC..
EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY EXP SERVICES INC.

BENCH MARK:

| CONTROL TABLE UTM ZONE 17 NAD 83 | | | |
|----------------------------------|--------------|---------------|------------------|
| 170 | 600018.4450m | 5265200.8440m | 207.941m IB |
| 171 | 600024.3430m | 5264935.8390m | 203.181m IB |
| 172 | 601371.0200m | 5264120.9540m | 194.370m HCM 352 |

BEARING NOTE:
BEARINGS ARE ASTROMONIC AND ARE REFERRED TO THE WEST LIMIT OF GRANT DRIVE AS SHOWN ON PLAN 54R-409B HAVING A BEARING OF N017°50'W

METRIC NOTE:
DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

| NO. | REVISIONS | DATE | BY |
|-----|-------------------------------------|-------------|------|
| 5 | COORDINATED WITH ARCHITECT PLAN | DEC 6/2016 | Z.Z. |
| 4 | ISSUED FOR SITE PLAN & MTO APPROVAL | NOV 22/2016 | M.H. |
| 3 | ISSUED FOR MTO REVIEW & APPROVAL | NOV 2/2016 | M.H. |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JUL 14/2016 | C.M. |
| 1 | ISSUED FOR REVIEW | JUN 15/2016 | Z.Z. |



SITE SERVICING & GRADING PLAN

CLIENT :
CANADIAN TIRE REAL ESTATE LTD.
2180 YONGE STREET
TORONTO, ONTARIO

PROJECT :
RETAIL STORE AND SERVICE CENTRE #088
HIGHWAY #11
NEW LISKEARD, ONTARIO

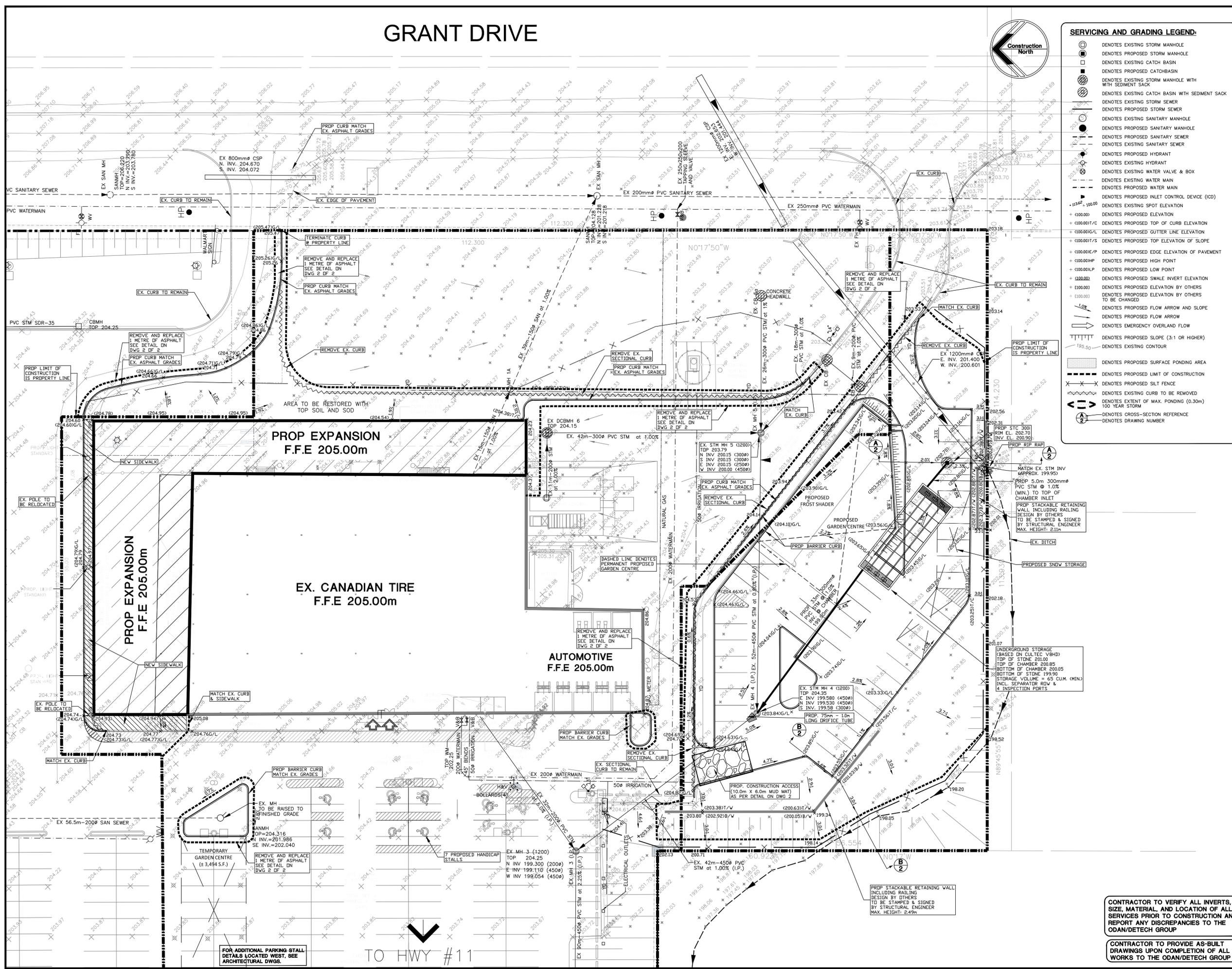
ODAN-DETECH CONSULTING ENGINEERS

The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
6230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 8K2

| | | | |
|------------------|---------------------|---------------------------|-----------------------|
| SCALE : 1:300 | PROJ. NO.: 14229 | DATE STARTED: JUN 2016 | DESIGN BY: J.K. |
| 14229-1 E.DWG | | | DRAWN BY: Z.Z. |
| | | | CHECKED BY: D.C.S. |
| | | | APPROVED BY: J.K. |
| | | | DRWG. NO.: 1 OF 2 |

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP

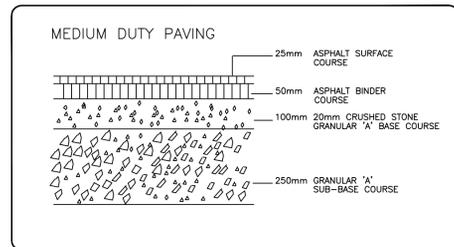


FOR ADDITIONAL PARKING STALL DETAILS LOCATED WEST, SEE ARCHITECTURAL DWGS.

TO HWY #11

GENERAL NOTES

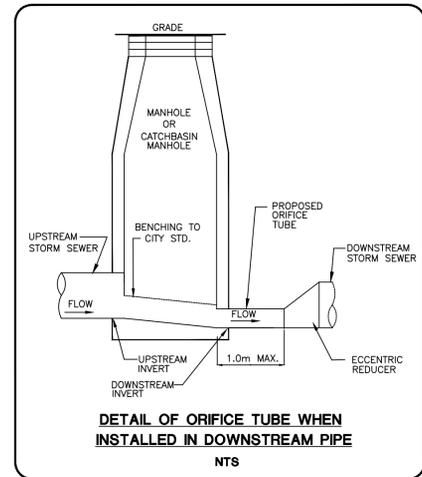
- DRAWINGS ARE NOT TO BE SCALED.
- DO NOT SITE BUILDINGS WITH THIS DRAWING.
- ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
- UNLESS OTHERWISE NOTED ON THE DRAWINGS THE STANDARD TOWN, REGION/COUNTY, MTO AND OPSD AND OSS ARE TO CONSTITUTE PART OF THIS CONTRACT AND SITE PLAN DRAWINGS.
- REFER TO TOWN STANDARDS AND SPECIFICATIONS FOR LIST OF APPROVED MANUFACTURERS AND MATERIALS.
- EXISTING STRUCTURES ARE NOT TO BE DISTURBED, NOR ENCROACHMENT ON ADJACENT PROPERTIES UNLESS INSTRUCTED BY THE ENGINEER.
- THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING AND PAYING FOR, BUT NOT LIMITED TO THE FOLLOWING PERMITS, ROAD CUTS, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC. ALL RESTORATION AS PER TOWN STANDARDS.
- PRIOR TO CONSTRUCTION, THE ENGINEER IS TO BE NOTIFIED BY THE OWNER AND THE CONTRACTOR AS TO THE EXTENT OF THE CONSTRUCTION LIMITS THEY PROPOSE. THE TOWN IS TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE SITE PLAN, LANDSCAPE PLAN, SITE ELECTRICAL PLANS, AND ANY OTHER PLANS OR DRAWINGS WHICH DEPICT WORKS THAT ARE PROPOSED FOR THIS SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR THE TOWN AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO.
- THE CONTRACTOR SHALL ENDEAVOR TO PREVENT MUD TRACKING ONTO EXISTING RIGHT-OF-WAYS AND SHALL PROVIDE FOR CLEANUP AT HIS OWN EXPENSE AS DIRECTED BY THE TOWN. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTROL DUST ON THE PROJECT AND HE SHALL PROVIDE AT HIS OWN EXPENSE, CONTROLLING MEASURES AS DIRECTED BY THE TOWN.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES TO BE VERIFIED IN THE FIELD.
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
- BLASTING WILL NOT BE ALLOWED UNLESS AUTHORIZED BY THE TOWN.
- ANY UTILITY RELOCATIONS DUE TO THIS DEVELOPMENT TO BE UNDERTAKEN AT THE EXPENSE OF THE OWNER/DEVELOPER.
- ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
- DRIVEWAYS SHALL BE SETBACK A MINIMUM CLEARANCE OF 1.0 m. FROM ALL ABOVEGROUND SERVICES OR OTHER OBSTRUCTIONS.
- ALL CONSTRUCTION WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE TOWN. LOCATION SHALL BE AS PER THE TOWN.
- MINIMUM CLEARANCE OF 1.0m FROM ALL ABOVE GROUND SERVICES AND UTILITIES.
- OUTSIDE LIGHTING TO BE DIRECTED DOWNWARD AS WELL AS INWARD AND DESIGNED TO MAINTAIN ZERO CUTOFF LIGHT DISTRIBUTION AT THE PROPERTY LINE.
- ALL WORKS WITHIN TOWN RIGHT-OF-WAY TO BE PERFORMED BY TOWN FORCES OR AN APPROVED CONTRACTOR AS PER TOWN ACCEPTANCE, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
- ALL EXISTING SEWERS ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION INCLUDING SEWER INVERTS, MATERIAL TYPE, AND SIZE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- ALL RELOCATION, RECONSTRUCTION AND RESTORATION TO BE PERFORMED TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.



NOTE: THE MEDIUM DUTY PAVING COMPOSITE WAS OBTAINED FROM THE ORIGINAL ENGINEERING DRAWINGS DONE BY BRONTE ENGINEERING LTD. FOR THE EXISTING CANADIAN TIRE

CURBING/SIDEWALKS/ASPHALT

- ALL PROPOSED INTERNAL CURBING TO BE BARRIER TYPE AS PER ARCHITECT DETAIL. ALL TOPS OF CURBS TO BE 150mm ABOVE PROPOSED GUTTER LINE, UNLESS OTHERWISE NOTED.
- PROPOSED CURB AND GUTTER ON TRAVELED ROADWAY AS PER CURRENT TOWN STD.
- ALL REQUIRED CURB CUTTING AT ENTRANCE AND CURB DEPRESSIONS AT SIDEWALK CROSSINGS SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWN AND AS PER TOWN DRAWING
- CURB CUTS WITHIN THE PUBLIC R.O.W. TO BE PERFORMED TO THE SATISFACTION OF THE TOWN.
- ALL PROPOSED ROAD CUTS TO BE PERFORMED AND RESTORED TO THE SATISFACTION OF THE TOWN, AND IN ACCORDANCE WITH TOWN STANDARDS & SPECIFICATIONS.
- CONCRETE SIDEWALK WITHIN PUBLIC R.O.W. AS PER OPSD-310.010 AND OPSD-310.020 (ADJACENT TO CURB). ALL RAMPS SHALL BE AS PER OPSD-310.031. ALL SIDEWALKS SHALL BE 300mm WITH 7% AIR. ALL CONCRETE SIDEWALKS TO BE MINIMUM 150mm THICK AT RESIDENTIAL DRIVEWAYS AND 200mm THICK THROUGH COMMERCIAL/INDUSTRIAL ENTRANCES HAVE 150mm GRANULAR 'A' BASE, COMPACTED TO 100% SPD.
- ALL CONCRETE CURB FROM EXISTING ROAD CURB TO STREET LINE SHALL BE AS PER TOWN STD. ALL CONCRETE CURB HEIGHTS SHALL BE 150mm UNLESS OTHERWISE NOTED. DRIVEWAY CURB TO BE DISCONTINUOUS AT SIDEWALK AND TAPERED BACK 450mm MINIMUM WHERE SIDEWALK CONTIGUES THROUGH THE ENTRANCE AS PER OPSD-350.01.
- APPROPRIATE CONSTRUCTION DETAILS SHOULD BE PROVIDED FOR RETAINING WALLS HIGHER THAN 1.0m. DETAILS SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER UPON APPROVAL. HANDRAIL IS REQUIRED WHEN HEIGHT EXCEEDS 0.60m AND SHALL BE AS PER OPSD-980.101.
- ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED
- ALL CONCRETE TOE WALLS SHALL BE AS PER OPSD 3120.100 TYPE 1
- ALL DEAD END BARRIAGES SHALL BE AS PER OPSD-912.532.
- ALL TEMPORARY STEEL BEAM GUIDE RAILS SHALL BE AS PER OPSD-912.532
- ALL SECTIONAL PRE-CAST CONCRETE CURBING AS PER OPSD-603.02.
- PERIMETER SUBDRAINS SHOULD BE PROVIDED AROUND PARKING AREAS AND ALONG DRIVEWAYS.



STORM SEWERS

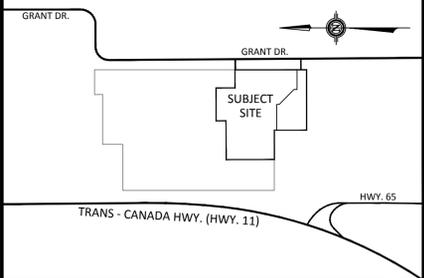
- ALL STORM SEWERS 450mm AND SMALLER TO BE PVC SDR 35 IN ACCORDANCE WITH CSA-8182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS UNLESS OTHERWISE NOTED. 525mm AND LARGER TO BE CONCRETE IN ACCORDANCE WITH CSA A257.2, CLASS 650 OR LATEST REVISIONS. UNLESS OTHERWISE NOTED. ROOF TOP STORM LEADS 150mm AND SMALLER TO BE PVC SDR 28.
- ULTRA RIBBED PVC PIPE SHALL NOT BE USED, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
- ALL CATCH BASIN LEADS TO BE A MINIMUM OF 300mm PVC SDR 35 IN ACCORDANCE WITH CSA-8182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS, UNLESS OTHERWISE NOTED.
- BEDDING AND COVER FOR PVC SEWERS (FLEXIBLE PIPE) AS PER OPSD 802.010, GRANULAR "A" COMPACTED TO 100% SPD.
- BEDDING AND COVER FOR CONCRETE SEWERS (RIGID PIPE) AS PER OPSD 802.030, CLASS B, GRANULAR 'A', COMPACTED TO 100% SPD, UNLESS OTHERWISE SPECIFIED.
- ALL STORM SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 1.0%
- THE CONTRACTOR IS TO CAP ALL STORM SERVICES 2.0 METRES AWAY FROM THE PROPOSED BUILDING LINES UNLESS OTHERWISE NOTED.
- CULVERT THICKNESS SHALL BE 1.6mm MINIMUM WITH LENGTHS IN STANDARD INCREMENTS OF 3, 6, AND 7 METRES.
- STORM MANHOLES SHALL BE AS PER OPSD-701.010, 701.011, 701.012, 701.013 AS SPECIFIED, BENCHING TO SPRINGLINE OF PIPE AS PER OPSD-701.021, FRAME & COVER AS PER OPSD-401.01, (TYPE A CLOSED COVER)
- ALL CATCH BASIN MANHOLES AS PER OPSD 701.010. FRAME AND GRATE AS PER OPSD 400.02.
- ALL MANHOLE AND CATCH BASIN ADJUSTMENTS SHALL BE AS PER OPSD-704.010. MAXIMUM OF THREE (3) UNITS AND 300mm HIGH, WHERE EXCEED CAST-IN-PLACE OR PRE-CAST RISER SECTIONS SHALL BE PROVIDED.
- ALL SAFETY GRATES AS PER OPSD 404.020 FOR MANHOLES > 5.0m DEPTH.
- EXISTING STORM MANHOLE(S) TO BE RE-BENCHED AS REQUIRED, AS PER OPSD-701.021.
- ALL CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD 705.010. INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
- ALL DOUBLE CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD-705.020. INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
- ALL DITCH INLET CATCH BASINS SHALL BE AS PER OPSD-705.030, WITH RIP-RAP TREATMENT AS PER OPSD-810.02, WITH GEOTEXTILE (MIRAF P-140N).
- ALL CATCH BASIN CONNECTIONS SHALL BE AS PER OPSD-708.01 (RIGID PIPE) AND OPSD-708.03 (FLEXIBLE PIPE).
- ALL CATCH BASINS CONSTRUCTED IN FILL AREAS TO BE SUPPORTED IN 14MPa CONCRETE.
- AT ALL CATCH BASIN & CATCH BASIN MANHOLE SAG POINTS INCLUDE FOUR (4) 4.0m LONG, 100mm PVC SUBDRAINS WITH FILTER CLOTH, CAP ONE END AND CONNECT THE OTHER TO THE CATCH BASIN OR CATCH BASIN MANHOLE.
- ALL SEWER SERVICE CONNECTIONS FOR RIGID PIPE SHALL BE AS PER OPSD-1006.01.
- ALL SEWER SERVICE CONNECTIONS FOR FLEXIBLE PIPE SHALL BE AS PER OPSD-1006.02.
- ALL CONCRETE OUTLETS AS PER OPSD 605.030 WITH ASPHALT SPILLWAY AND RIP-RAP.
- ALL RIP-RAP TREATMENT FOR SEWER AND CULVERT OUTLETS SHALL BE AS PER OPSD-810.01, TYPE "B" WITH GEOTEXTILE (MIRAF P-140N).

STORMCEPTOR

- THE CONTRACTOR SHALL CONTACT THE MANUFACTURER FOR INSTALLATION REQUIREMENTS AND PROCEDURES FOR ALL PROPOSED STORMCEPTORS.
- AN ENGINEER REPRESENTING THE MANUFACTURER AND/OR THE ENGINEER FOR THE PROJECT SHALL BE CONTACTED BY THE CONTRACTOR 48 HRS. PRIOR TO INSTALLATION TO WITNESS AS-BUILT CONDITIONS BEFORE PROCEEDING WITH BACKFILLING.
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION FROM THE MANUFACTURER TO THIS ENGINEER UPON COMPLETION OF THE INSTALLATION OF ALL STORMCEPTORS.
- OIL/GRIT SEPARATORS SHALL BE CLEANED AND MAINTAINED A MINIMUM OF TWICE A YEAR AND OIL SHALL BE REMOVED IF LEVELS GREATER THAN 2.5cm ARE REACHED.

GRADING

- THE GRADING PLAN IS TO BE READ WITH THE SITE SERVICES DRAWING AND THE SITE PLAN. FOR BUILDING DETAILS REFER TO THE LATEST REVISION OF THE SITE PLAN AS PER THE ARCHITECT.
- CONTRACTOR TO RESTORE ALL DISTURBED AREAS (I.E. PUBLIC R.O.W., ADJACENT LANDS) WHICH HAVE BEEN DISTURBED DURING CONSTRUCTION TO PREVIOUS OR BETTER CONDITION.
- ALL DRIVEWAY AND GRADING MATERIAL AND CONSTRUCTION METHODS MUST CONFORM TO CURRENT TOWN STANDARDS AND SPECIFICATIONS.
- ALL FILL WITHIN THE SITE TO BE COMPACTED TO A MIN. OF 100% STD. PROCTOR DENSITY. THE SUITABILITY OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A RECOGNIZED SOILS CONSULTANT TO THE DIRECTOR OF ENGINEERING PRIOR TO INSTALLATION OF ANY ROAD BASE MATERIALS.
- LANDSCAPE SHALL NOT ENCROACH ON BOULEVARD NOR SHALL BOULEVARD GRADES BE ALTERED.
- SILT FENCE(S) TO BE INSTALLED AND MAINTAINED TO PREVENT SILT FLOWING ONTO ADJACENT LANDS. SILTATION CONTROL METHODS SUCH AS ENVIROFENCE OR APPROVED EQUAL, SHALL BE ERRECTED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL BE MAINTAINED.
- ANY CHANGES IN GRADES OR CATCH BASINS REQUIRE THE APPROVAL OF THE ODAN/DETECH GROUP INC.
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CITY.
- ALL LANDSCAPING TO BE INSTALLED AS SOON AS POSSIBLE OR PRIOR TO THE END OF THE FIRST GROWING SEASON. LANDSCAPING TO BE MAINTAINED UNTIL IT IS ESTABLISHED.
- ALL CONNECTIONS WITH PAVED PORTIONS OF EXISTING ROADS TO BE BACKFILLED WITH GRANULAR 'A' MATERIAL OR LATEST CITY SPECIFICATIONS AND COMPACTED TO 100 % SPD.
- CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE CITY.
- ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED
- PAVEMENT GRADE (MIN. 0.5%, MAX. 5%).
- DRAINAGE SWALES WITH GRADES (MIN. 2%, MAX. 5%).
- SLOPES IN LANDSCAPE AREAS AND ON BERMS SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL.
- THE PARKING AREAS AND DRIVEWAY HAVE BEEN DESIGNED ACCORDING TO A FROST SUSCEPTIBILITY FACTOR OF 5. THIS FACTOR IS TO BE VERIFIED BY A SOILS CONSULTANT.



KEY PLAN
Scale : N.T.S.

NOTE :
THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.
ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
THIS DRAWING IS NOT TO BE SCALED. CONTRACTOR TO USE DIGITAL FILES FOR LAYOUT PROVIDED BY ENGINEER.
THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.
THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...
EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY EXP SERVICES INC.

BENCH MARK:

| CONTROL TABLE | UTM_ZONE | UTM_ZONE | UTM_ZONE | UTM_ZONE |
|---------------|--------------|---------------|----------|----------|
| 170 | 600018.4450m | 5265200.8440m | 207.941m | IB |
| 171 | 600024.3430m | 5264935.8390m | 203.181m | IB |
| 172 | 601371.0820m | 5264120.9540m | 194.370m | HCN 352 |

BEARING NOTE:
BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE WEST LIMIT OF GRANT DRIVE AS SHOWN ON PLAN 54R-409B HAVING A BEARING OF N07750'W.

METRIC NOTE:
DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

| NO. | REVISIONS | DATE | BY |
|-----|-------------------------------------|-------------|------|
| 5 | COORDINATED WITH ARCHITECT PLAN | DEC 6/2016 | Z.Z. |
| 4 | ISSUED FOR SITE PLAN & MTO APPROVAL | NOV 22/2016 | M.H. |
| 3 | ISSUED FOR MTO REVIEW & APPROVAL | NOV 2/2016 | M.H. |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JUL 14/2016 | C.M. |
| 1 | ISSUED FOR REVIEW | JUN 15/2016 | Z.Z. |

SCALE : 0 5 10 20 30

NOTES & DETAILS

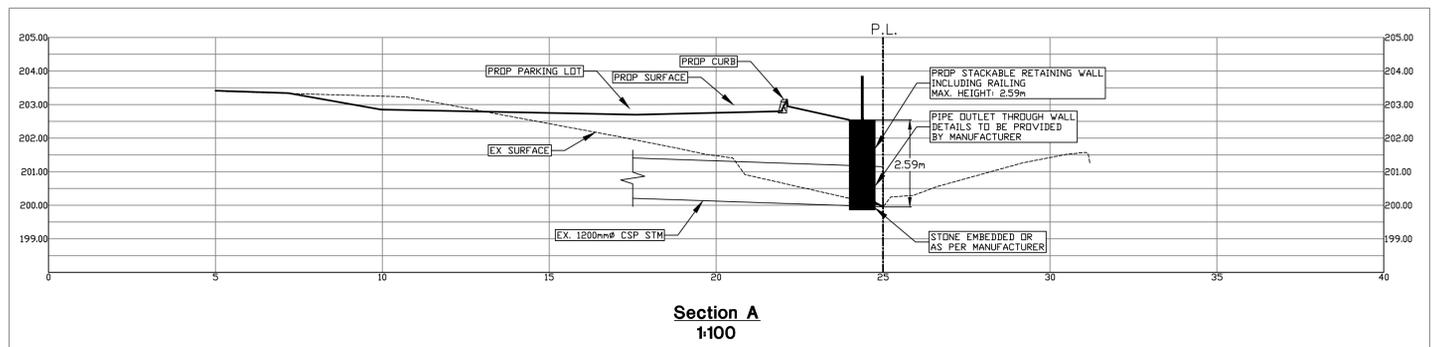
CLIENT : **CANADIAN TIRE REAL ESTATE LTD.**
2180 YONGE STREET
TORONTO, ONTARIO

PROJECT : **RETAIL STORE AND SERVICE CENTRE #088**
HIGHWAY #11
NEW LISKEARD, ONTARIO

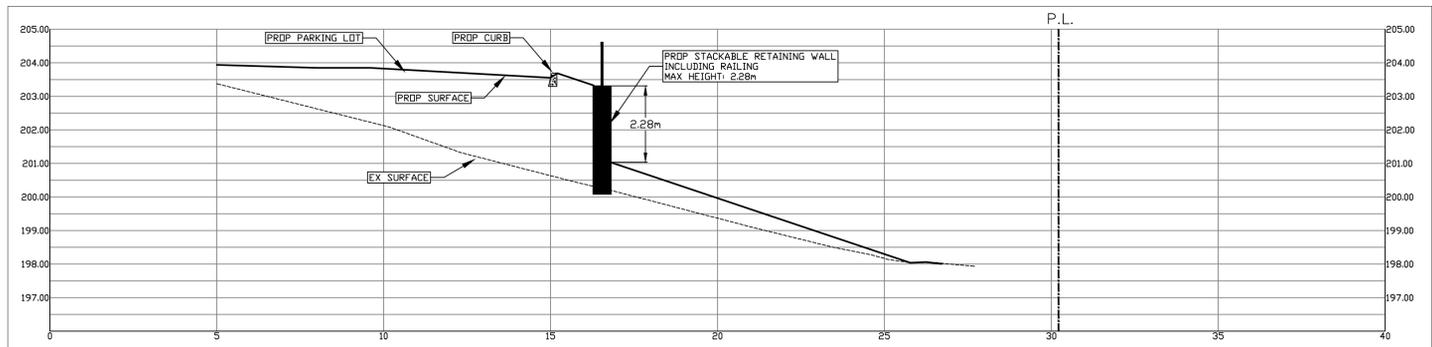
ODAN-DETECH CONSULTING ENGINEERS

The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
8230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 8K2

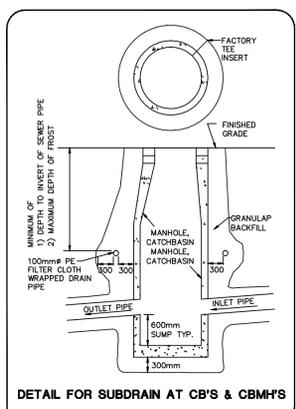
| | | | |
|---------------|------------------|------------------------|--------------------|
| SCALE : 1:300 | PROJ. NO.: 14229 | DATE STARTED: JUN 2016 | DESIGN BY: J.K. |
| 14229-2E.DWG | | | DRAWN BY: Z.Z. |
| | | | CHECKED BY: D.C.S. |
| | | | APPROVED BY: J.K. |
| | | | DRWG. NO.: 2 OF 2 |



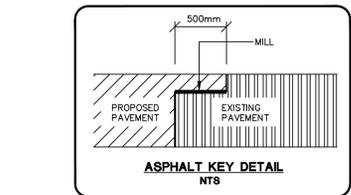
Section A
1:100



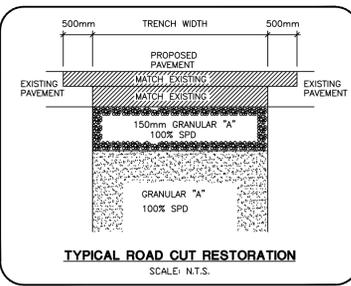
Section B
1:100



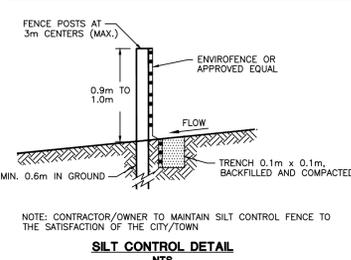
DETAIL FOR SUBDRAIN AT CB'S & CBM'S



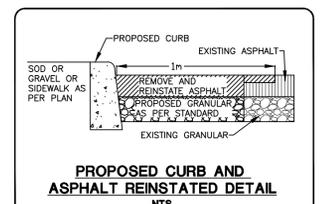
ASPHALT KEY DETAIL
N.T.S.



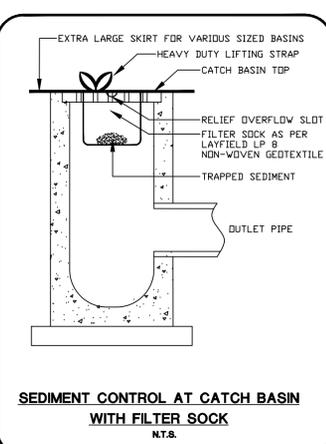
TYPICAL ROAD CUT RESTORATION
SCALE: N.T.S.



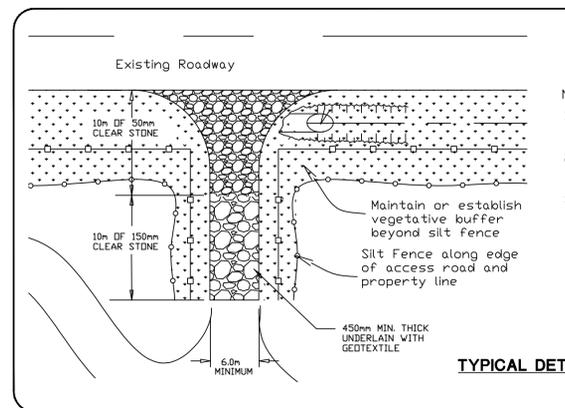
SILT CONTROL DETAIL
N.T.S.



PROPOSED CURB AND ASPHALT REINSTATEMENT DETAIL
N.T.S.



SEDIMENT CONTROL AT CATCH BASIN WITH FILTER SOCK
N.T.S.



TYPICAL DETAIL OF MUD MAT
N.T.S.

- NOTES:**
- Purpose of Construction Mat is to minimize transportation of sediment onto roadways.
 - Construction mat is to be installed as the first step in the site alteration process.
 - Construction mats are required where paved roads are within 300 m of the site.

REGISTERED PROFESSIONAL ENGINEER
I. KRPAN
DEC 6/16
ENGINEER



The Odan/Detech Group Inc.
P: (905) 632-3811
F: (905) 632-3363
5230, SOUTH SERVICE ROAD, UNIT 107
BURLINGTON, ONTARIO, L7L 5K2
www.odandetech.com

**PROPOSED PARKING LOT AND RETAIL EXPANSION
TEMISKAMING SHORES (NEW LISKEARD), ONTARIO**

PROJECT No.: 14229

**STORMWATER MANAGEMENT
REPORT**

APPLICANT:

CANADIAN TIRE REIT

Prepared By:

THE ODAN/DETECH GROUP INC.

NOVEMBER 22 2016

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APPENDIX A

Aerial Bird Eye View

Site Plan

Google Street View Images Surrounding Development

APPENDIX B

Figure 1 - Storm Tributary Area Plan – Pre Development Existing Conditions

Figure 2 - Storm Tributary Area Plan –Post Development Conditions

Stage-Storage-Discharge Table

Visual OTTYMO Model (2 – 100 Year) (Existing and Proposed Development)

STC 300i Brief

APPENDIX C

Engineering Plans

Topographic Survey

1.0 BACKGROUND

The property under study is a Canadian Tire store which is a 2.31 ha site located at 997431 Highway #11 in New Liskeard, Ontario. A portion of this site is currently undeveloped, approximately 0.45ha. of the 2.31 ha. Site area. It is proposed to expand the existing store, add parking. The Garden Centre is to be relocated to the new parking lot as per the Architect plans prepared by Turner Fleischer Architects Inc., refer to Appendix A.

The purpose of this letter is to summarize the proposed stormwater management (SWM) strategies that will be implemented to meet the requirements of the City of Temiskaming Shores (New Liskeard) and the Ministry of Transportation.

For the purposes of this report only the area of expansion and new parking lot area will be reviewed for Stormwater Management water quantity and water quality controls.

2.0 SCOPE OF WORKpage

THE ODAN/DETECH GROUP INC. was retained by the Applicant Canadian Tire REIT to review the site, collect data, evaluate the site for the proposed land use and present the findings in a Storm Water Management Report.

This report will evaluate the serviceability of the site with respect to stormwater services and also evaluate the stormwater management (SWM) strategies that will be implemented to provide the required servicing.

For detailed topography of the existing site conditions refer to the latest topographic survey Appendix C.

This report was prepared in general conformance with MTO requirements and references the following documents in support of this report.

Drainage Management - Overview

<http://www.mto.gov.on.ca/english/publications/drainage/index.shtml>

Quick Reference Guide for Identifying MTO SWM Requirements

<http://www.mto.gov.on.ca/english/publications/drainage/stormwater/section2.shtml>

Providing Stormwater Management Controls (RE: Parking Lot or Rooftop Storage)

<http://www.mto.gov.on.ca/english/publications/drainage/stormwater/section8.shtml#controls>

3.0 STORMWATER MANAGEMENT

Stormwater management for the site will assess post development to predevelopment design storms. The design storms from the 2 to 100 year storms will be reviewed. Visual OTTHYMO will be used to determine the predevelopment allowable flows and post development controlled flows and volumes.

3.1 Existing Site Conditions

The existing site consists of the existing Canadian Tire store with an existing Garden Centre to the north of the building, along with related parking. The site generally slopes from north to southwest. Ultimately draining to the east side ditch located on Hwy. 11. This drainage ditch continues south to the intersection of Hwy 11 and Hwy 65 continuing to drain south to an existing culvert which crosses Hwy 11. Refer to Figures in Appendix A for additional information regarding the drainage areas. Stormwater drains towards existing catch basins on site which drain to an existing 675mm storm sewer outlet on Highway #11. Some of these catch basins are located outside of the Canadian Tire property limits.

The pre-development allowable flows were based on the following:

Design storm data for the site was taken from the MTO IDF Curve Lookup. These IDF Equation were used within OTTYMO to determine pre and post development flows.

3.2 Allowable Flows

Modelling for predevelopment flows was established using Visual OTTHYMO. For drainage areas with significant imperviousness the calculation of effective rainfall in Visual OTTHYMO is accomplished using the “Standhyd” method. This method is used in urban watersheds to simulate runoff by combining two parallel standard unit hydrographs resulting from the effective rainfall intensity over the pervious and impervious surfaces. For pervious surfaces, losses are calculated using the SCS modified CN method.

For existing predevelopment Tributary Areas refer to Figure 1 in Appendix A. Table 1 below shows the results from the predevelopment OTTHYMO Model. These flows will be used to determine the allowable flows and storage for the post development model.

| TABLE 1 – Pre Development Peak Flows of Site | |
|---|--|
| Storm Event | Pre-development Peak Flow (L/sec) |
| 2 Year Design Storm | 310 |
| 5 Year Design Storm | 434 |
| 10 Year Design Storm | 518 |
| 25 Year Design Storm | 619 |
| 50 Year Design Storm | 703 |
| 100 Year Design Storm | 779 |

The above flows will be used to establish the post development allowable flows.

3.3 Post Development Flows

It is propose to expand the existing Canadian Tire along with a new parking lot. Canadian Tire is relocating their Garden Centre to the new parking lot to the south and expanding the retail store into the existing location of the current Garden Centre and to the east of the existing store into existing asphalt. The retail expansion will be replacing existing asphalt and canopies. The new parking lot will be replacing a grassed area.

The allowable post development peak flows for the proposed site will meet the pre development peak flows where achievable under site conditions and site constraints. Only the Canadian Tire site areas will be analyzed for SWM purposes. There are multiple property's located within the existing Mall area which connect to the same storm sewer system. These areas are not part of this development and its expansion areas and have not been included in this assessment. Refer to Appendix A Figure 2 for post development tributary areas.

As noted above Visual OTTHYMO was used to model the predevelopment site conditions. Post development site conditions will be modelled using the same method. Table 2 shows the results from the post development OTTHYMO Model. These models along with their inputs and outputs can be found in Appendix A.

To match the post-development flows to the pre-development flows, storage controls are required. The retail expansion roof will not have rooftop controls as these are not permitted by the MTO. It is proposed to use a 75mm diameter Orifice Tube device buried underground for 1m downstream of EX MH 4 to control the post-development flows from the proposed new parking lot. Underground storage will be provided upstream of this control device. As the head (m) acting on the device determines the discharge rate underground storage will be utilized to minimize the head acting on the system therefore reducing the flows to match the existing allowable flows on various storm events. These storage areas are modelled in OTTHYMO. Details on these storage areas and the orifice tube device can be found in Appendix B. It was determined that 75m³ of combined

underground pipe and arched chamber storage will be required for the 100-year storm runoff from the site. The total pre-development flows and post-development flows from the site are shown in Table 1.

| TABLE 2 – Pre Development Peak Flows of Site | | |
|---|---|---|
| Storm Event | Predevelopment Peak Flow (L/sec) | Post Development Peak Flow (L/sec) |
| 2 Year Design Storm | 310 | 315 |
| 5 Year Design Storm | 434 | 436 |
| 10 Year Design Storm | 518 | 517 |
| 25 Year Design Storm | 619 | 614 |
| 50 Year Design Storm | 703 | 696 |
| 100 Year Design Storm | 779 | 768 |

Due to site constraints (invert elevations) and the storage-storage-discharge characteristics of a 75mm diameter orifice device the 2 and 5 year post development flows are marginally higher than the predevelopment allowable flows. The additional flow is minor being an additional 5 l/sec on the 2 year storm and an additional 2 l/sec on the 5 year storm. The increase is less than 2% on both of these storms. It is not recommended that an orifice device be reduced to less than 75mm due to the increase risk of blockage.

Table 2 above demonstrates that the post-development flows are close to pre-development allowable flows and within allowable tolerances.

3.4 Water Quality

As required the proposed rooftop addition and proposed parking lot area must achieve water quality. The proposed development includes a rooftop expansion and a new asphalt parking area. These areas will be reviewed for water quality. The remaining portion of the site will remain unchanged as per existing site conditions.

Rooftop water is considered clean and provides a TSS removal of 80%, therefore no further assessment of the proposed rooftop addition is required for water quality.

Asphalt areas must be treated prior to entering into the existing storm sewer system. In order to achieve the required water quality requirement it is proposed to treat the new parking area with an

oil/grit separator. To address water quality within the new parking area it is proposed to provide a Stormceptor STC 300i (Inlet) Oil/Grit Separator.

The entire site ultimately drains to a ditch on the east side of HWY #11 through storm pipes or overland through a swale. This ditch travels south along HWY #11 and ultimately drains to a creek nearby.

The retail expansion will be replacing asphalt and concrete pavers changing the TSS removal rate from 0% to 90% since roofs have an inherent TSS removal rate of 90%. This is a significant improvement to this area of the site.

The parking lot is replacing a grassed hill which changes the TSS removal rate from 80% to 0% because of the vehicular traffic that will be present. An oil-grit separator (Stormceptor 300i) will be installed at the inlet in the parking lot achieving a TSS removal rate of 93%. Refer to Appendix B for detailed design calculations. This will further treat oils entering into the downstream system from this parking area include the downstream underground storage system.

Stormceptor Sizing:

| TABLE 3 – Stormceptor Sizing | | | |
|-------------------------------------|--------------------------|--------------------------------|-------------------------------|
| Location | Stormceptor Model | Annual Flow Capture (%) | Annual TSS Removal (%) |
| Prop. Oil/Grit MH 1 | <i>300i</i> | 95 | 93 |

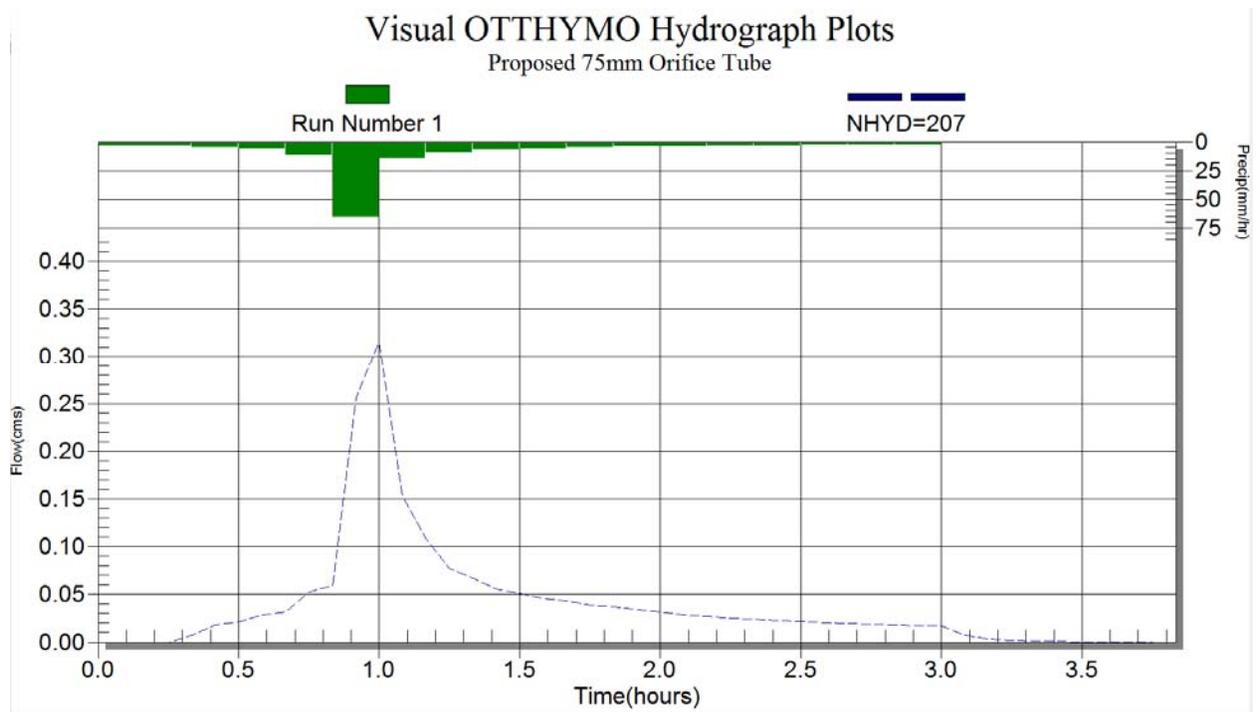
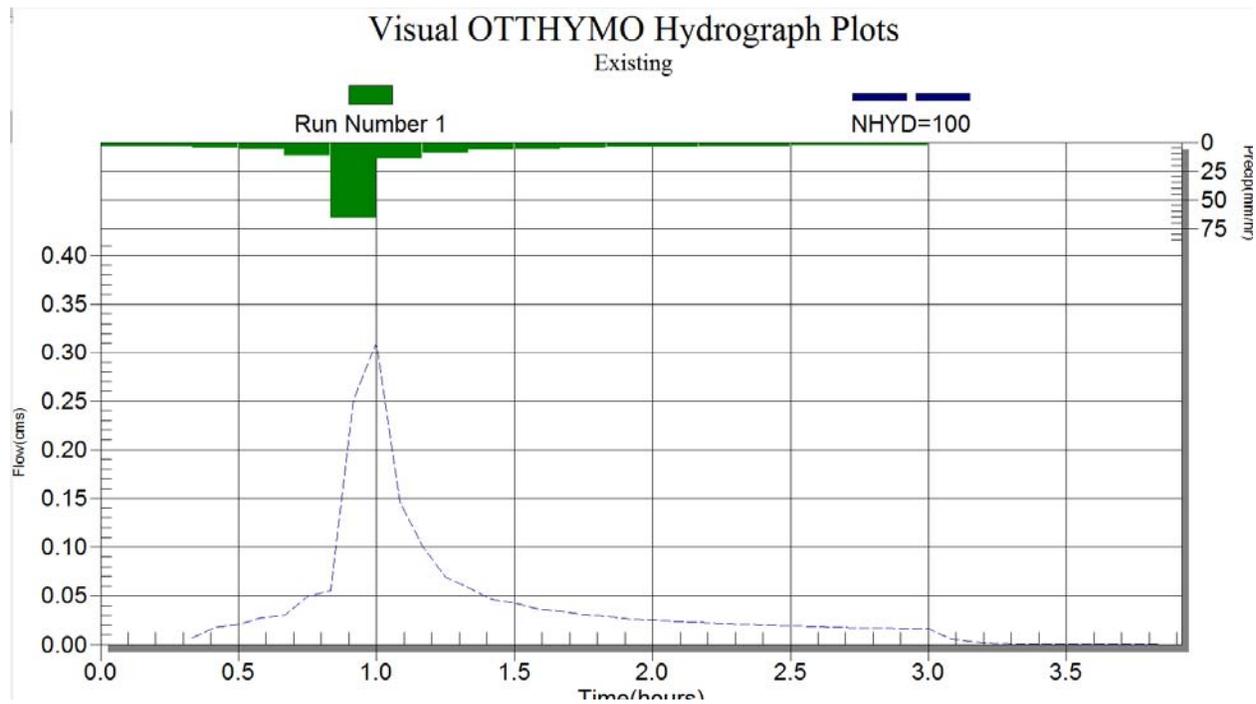
The proposed expansion and additional parking lot will not adversely impact the downstream system. Further TSS removal will occurring within the downstream ditch. Though this is offsite it will help further improve the water quality downstream.

3.5 Overland Flow Route

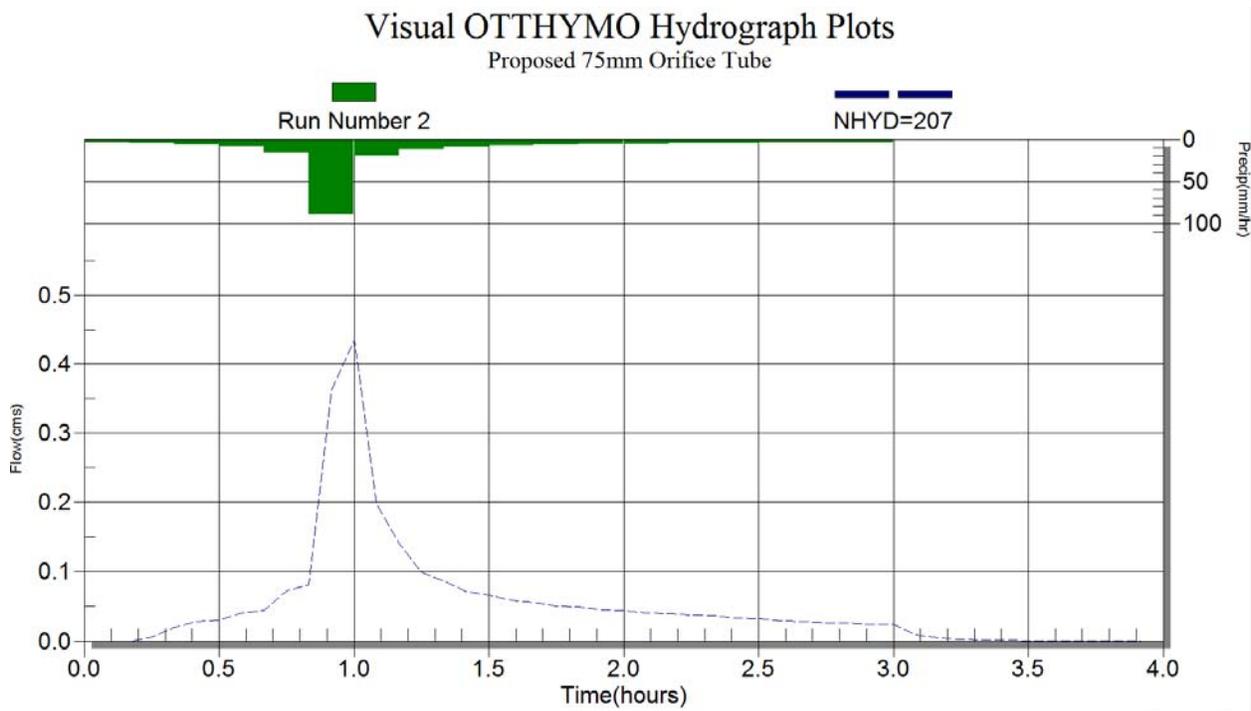
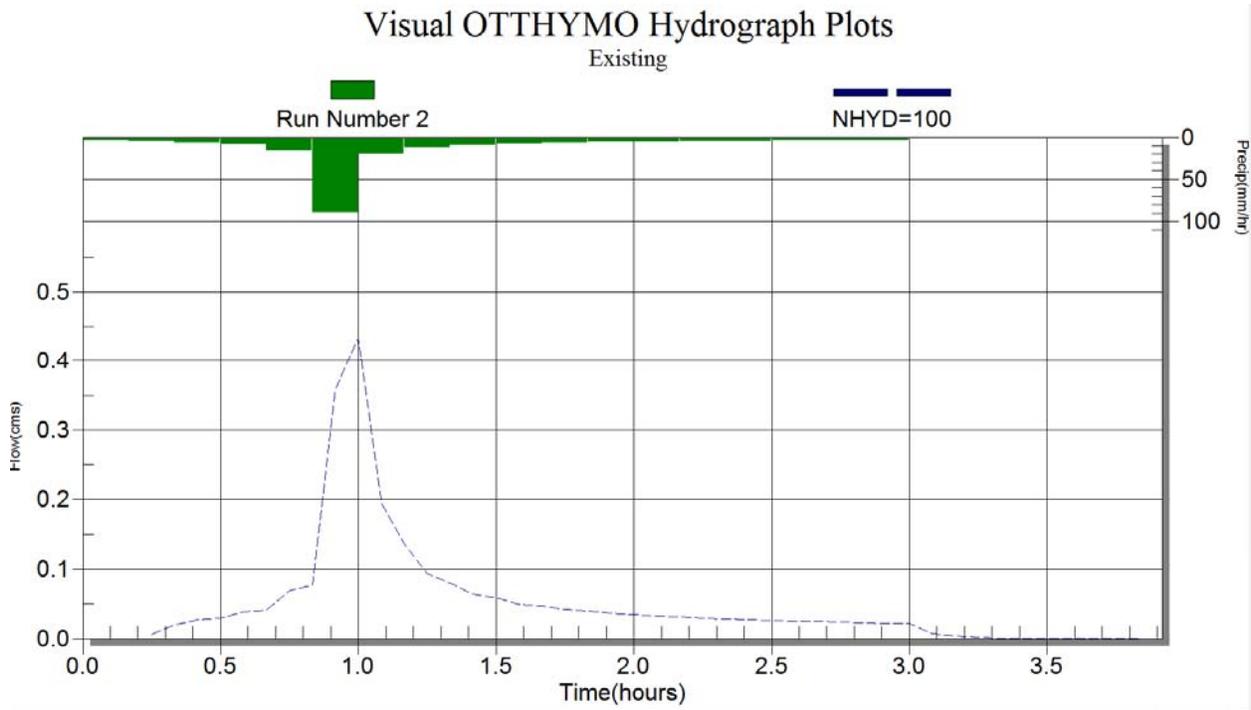
The majority of overland flow from the Canadian Tire site will be directed to the ditch on the west and south side of the site. This maintains existing site conditions and current overland flow route.

3.6 Hydrograph Plot Comparison

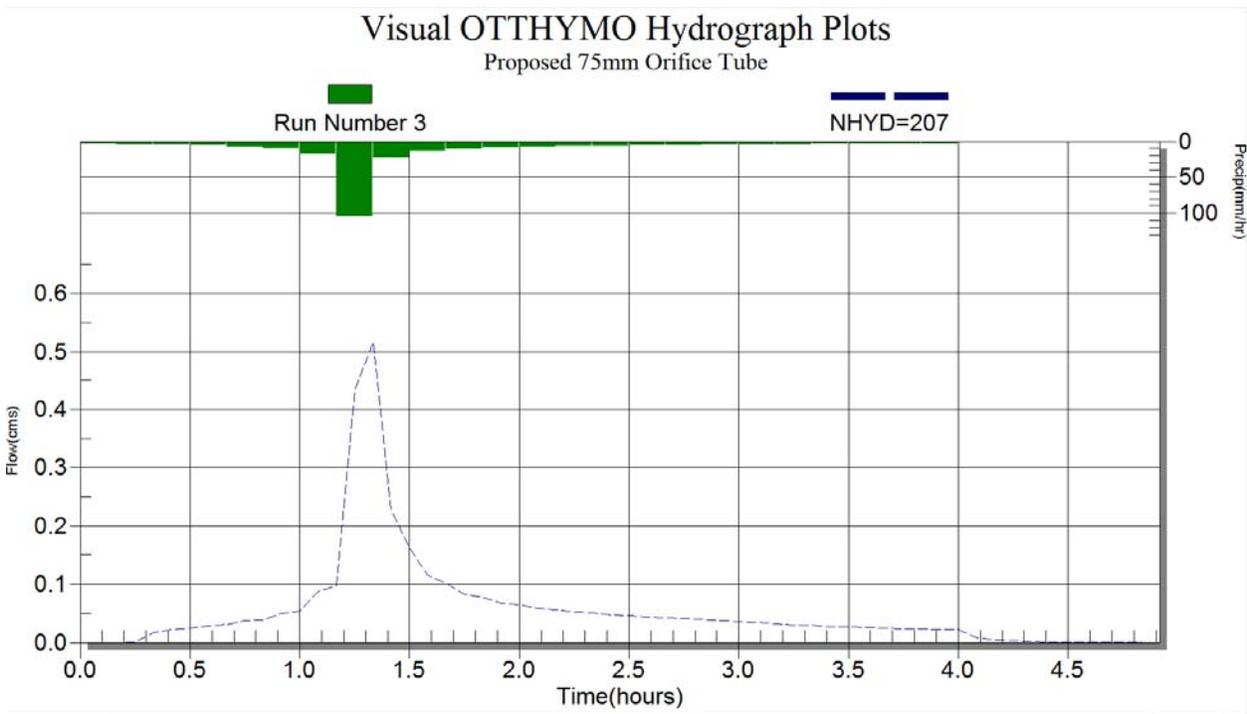
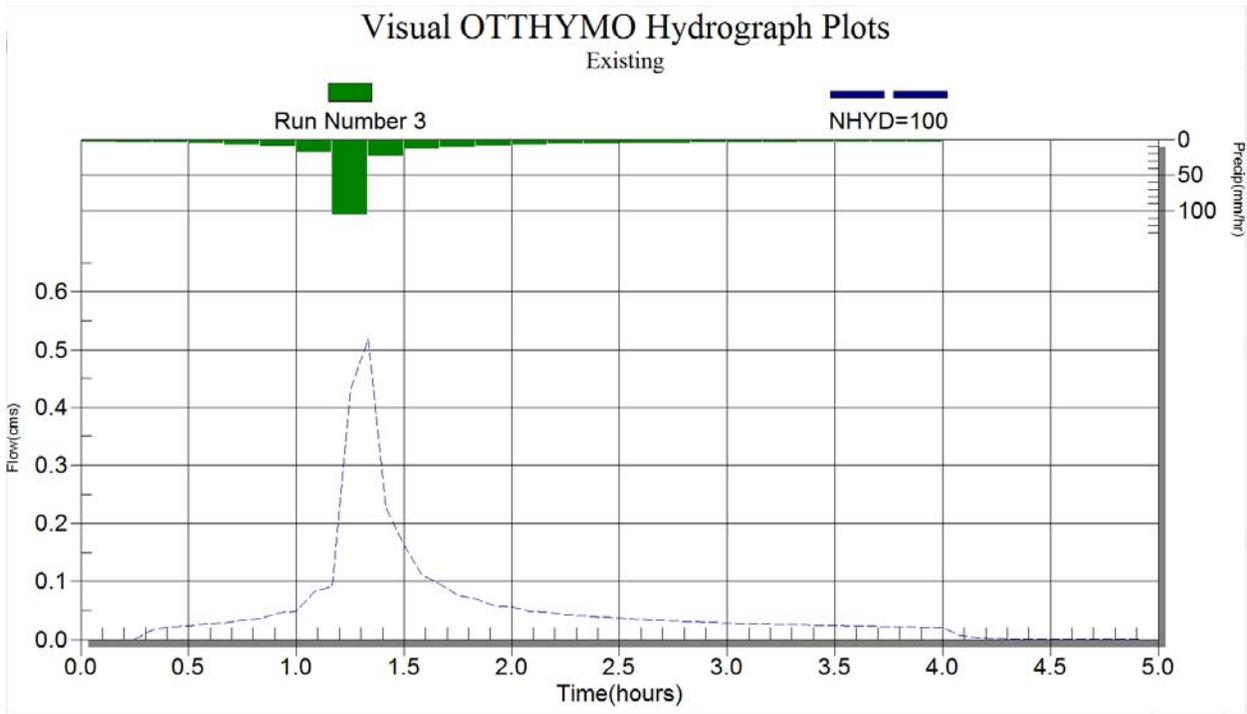
2 Year Pre to Post Hydrographs



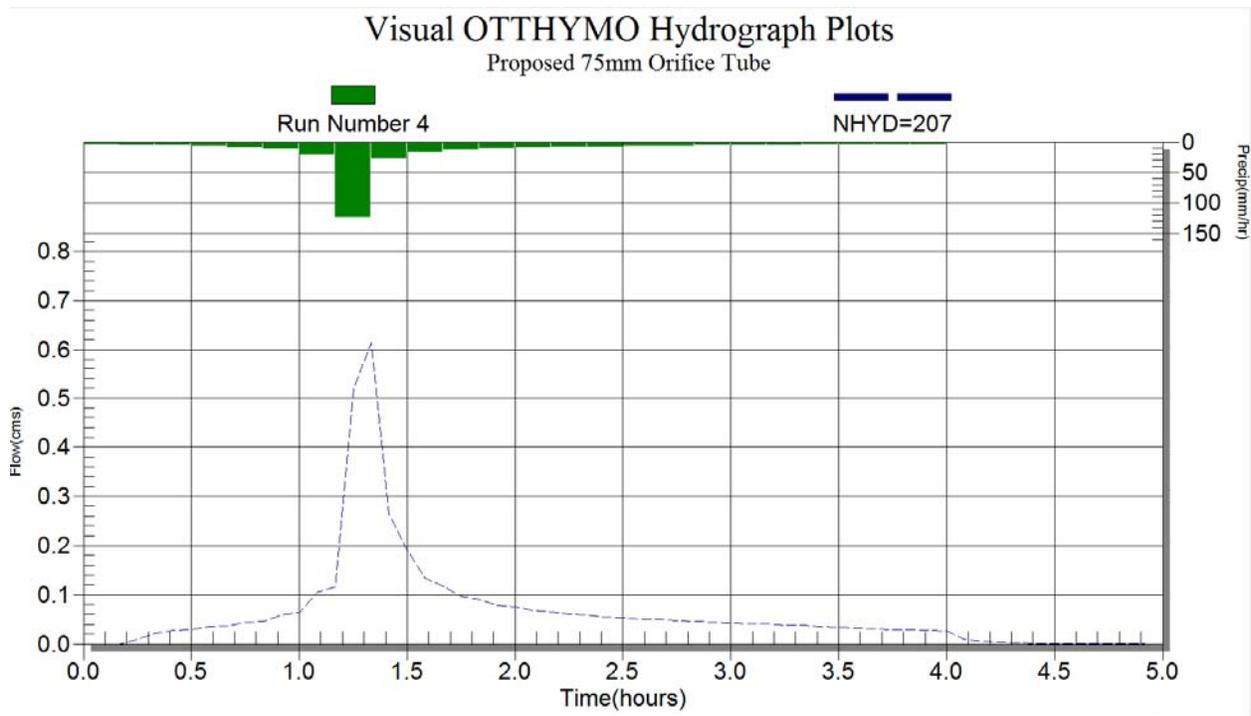
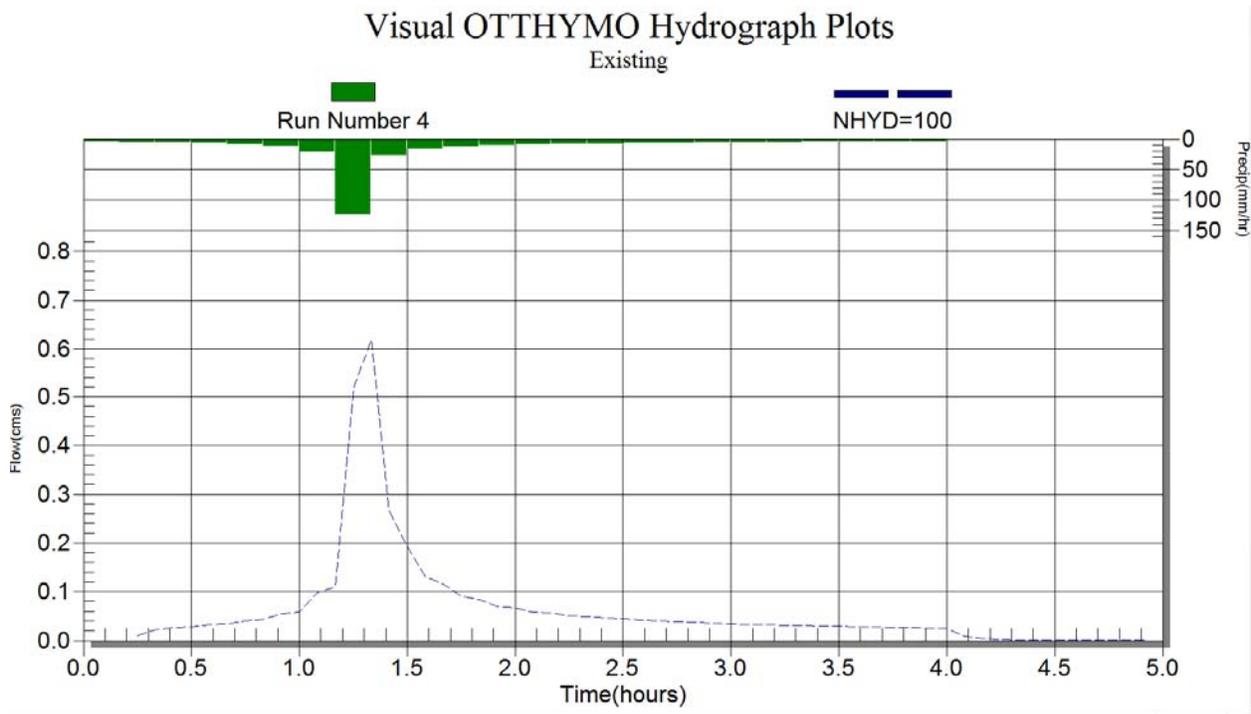
5 Year Pre to Post Hydrographs



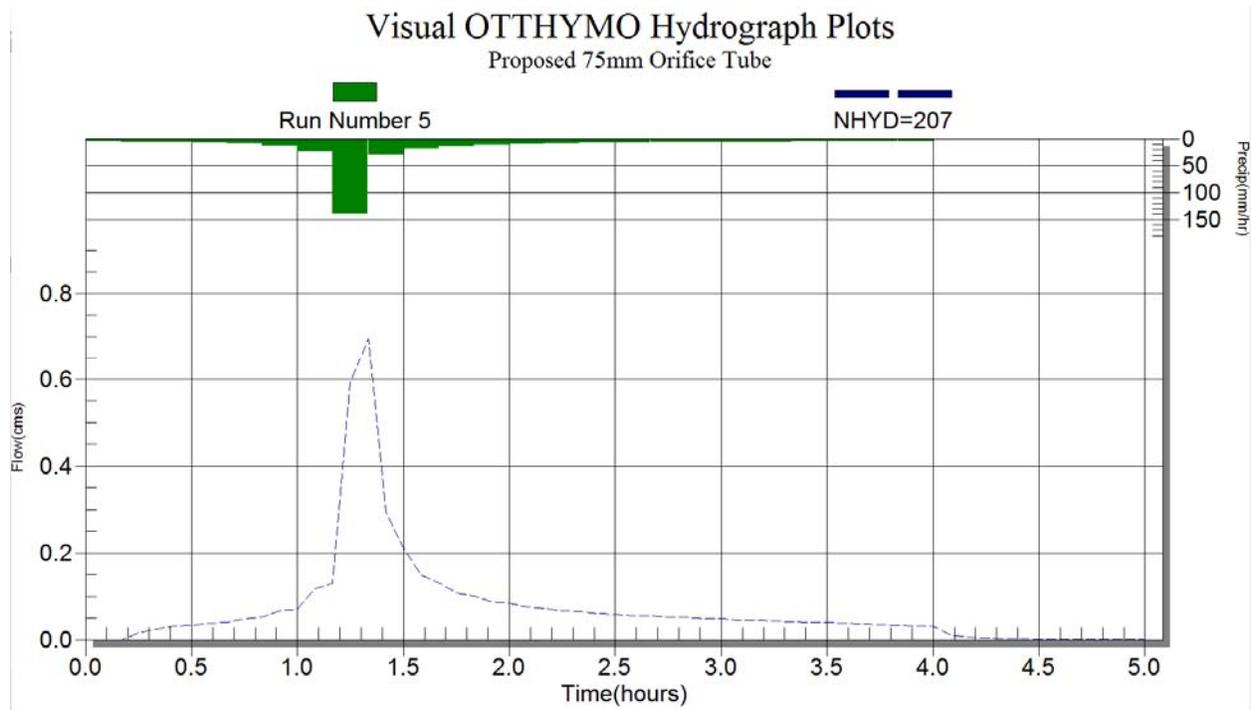
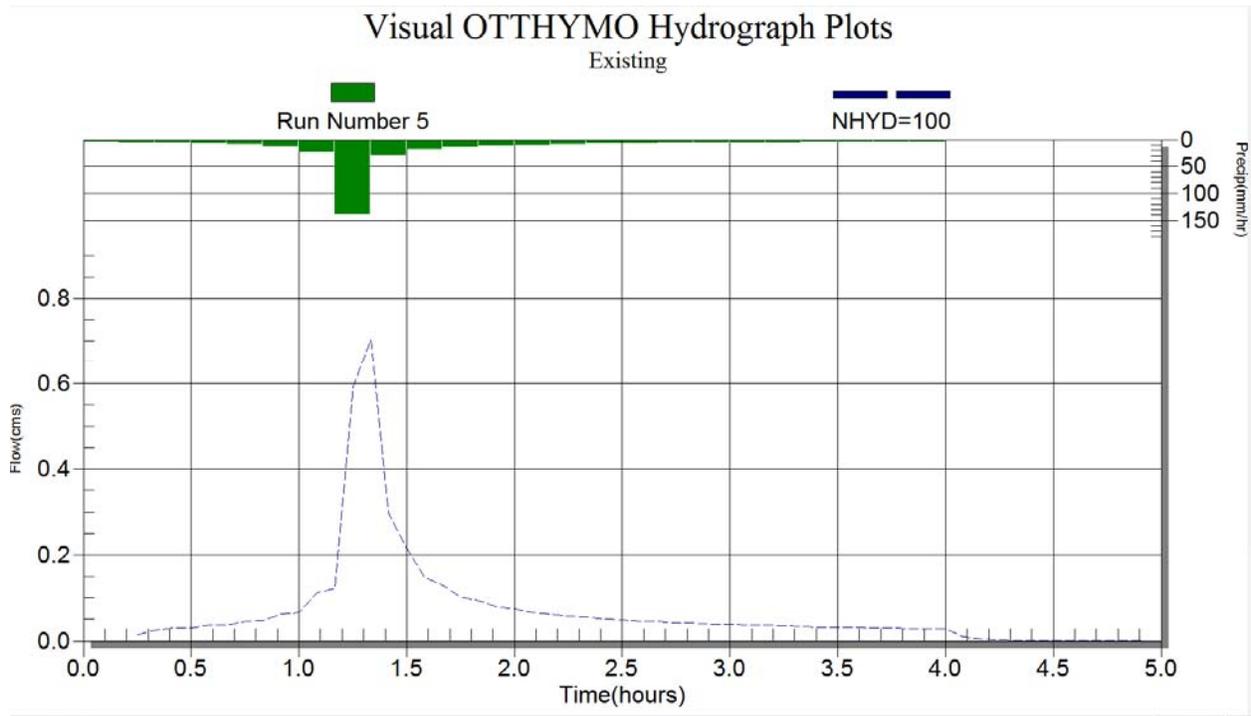
10 Year Pre to Post Hydrographs



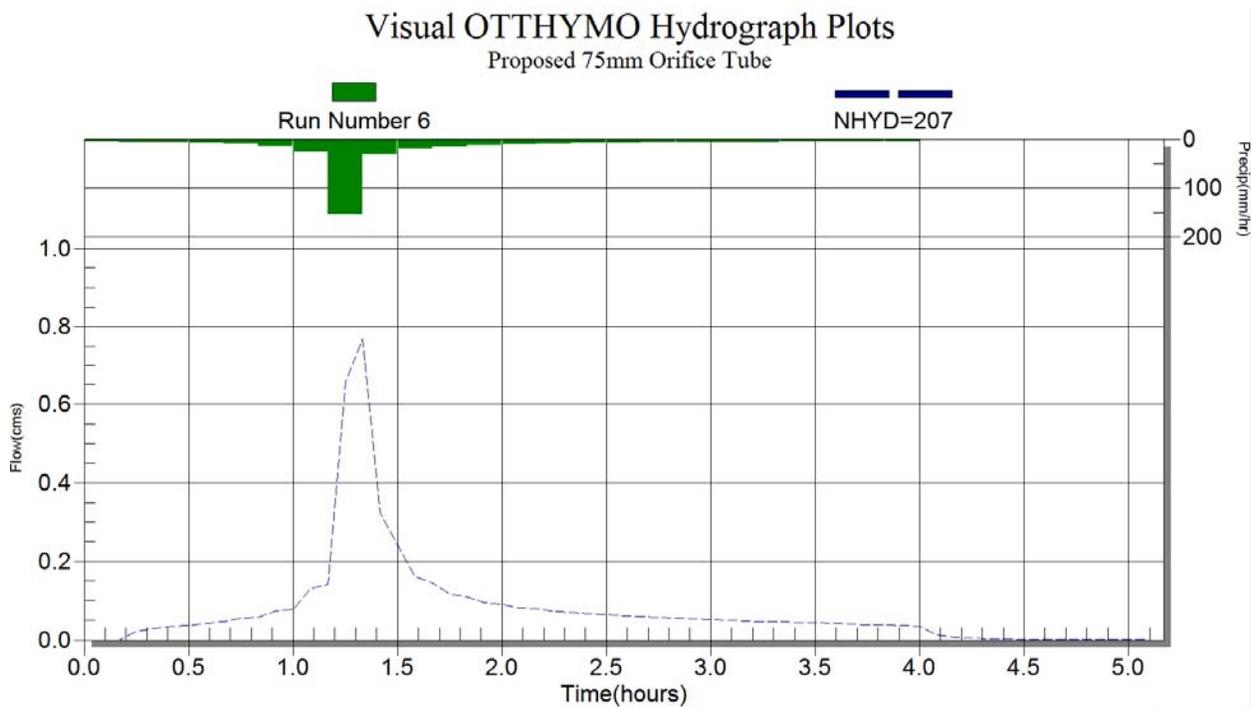
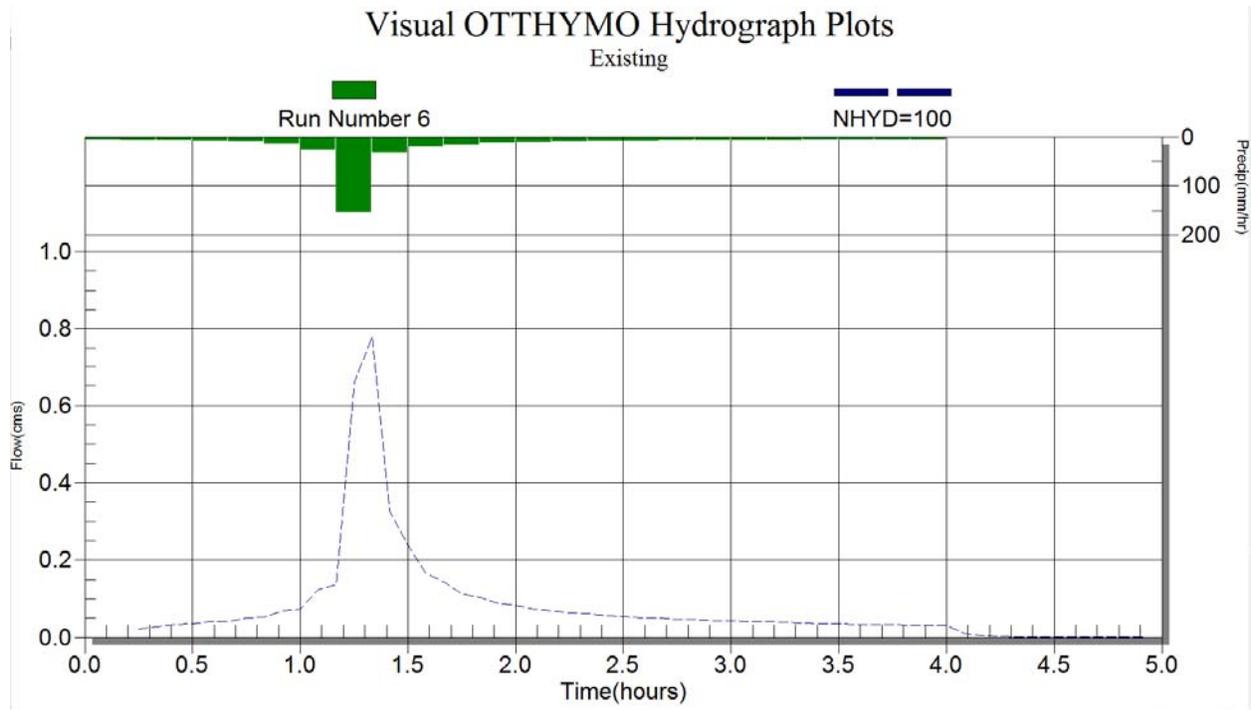
25 Year Pre to Post Hydrographs



50 Year Pre to Post Hydrographs



100 Year Pre to Post Hydrographs



4.0 CONCLUSIONS

Conclusion

Under proposed development site conditions the flows from the retail expansion and the new parking lot will be controlled by the proposed underground storage to flow rates that are with tolerances to the allowable flow rates.

Based on our analysis of the expansion of The Canadian Tire and the site will provides adequate storm water controls for the receiving downstream system.

Respectfully Submitted;
The Odan/Detech Group Inc.



John Krpan, M.S.C.E., P.Eng.

Mark Harris, Dipl. Tech.

APPENDIX A

Birdseye Aerial View



Hwy. 11 and Hwy. 65 Intersection

ON-65 - Google Maps

<https://www.google.ca/maps/@47.5293645,-79.6744299,3a,75y,4.15h,78.63t/data=!3m6!1e1!...>

Google Maps ON-65



Territorial Hwy, Ontario
Street View - May 2015

Image rights: May 2015 © 2015 Google

Grant Drive Facing North – CTC Rear Entrance Driveway-

Grant Dr - Google Maps

<https://www.google.ca/maps/@47.5298623,-79.6708951,3a,75y,310.29h,87.46t/data=!3m6!1e...>

Google Maps Grant Dr



Typical Street View, Google
Street View - May 2015

Image captured by Google © 2016 Google

Grant Drive Facing South – CTC Rear Entrance Driveway-

Grant Dr - Google Maps

<https://www.google.ca/maps/@47.5298623,-79.6708951,3a,75y,172.98h,88.99t/data=!3m6!1e...>

Google Maps Grant Dr



Transparency Maps, Google
Street View - Map 360

Image square 600 600 © 2016 Google

Hwy. 11 – Culver Crossing Facing East -

950907 ON-11 - Google Maps

<https://www.google.ca/maps/place/Temiskaming+Shores,+ON/@47.5252023,-79.680801,3a,60...>

Google Maps 950907 ON-11



Temiskaming Shores, Ontario
Street View - Sep 2016

Image captured Sep 2016 © 2016 Google

Hwy. 11 – Culvert Crossing Facing West -

950907 ON-11 - Google Maps

<https://www.google.ca/maps/place/Temiskaming+Shores,+ON/@47.5252023,-79.680801,3a,60...>

Google Maps 950907 ON-11



Temiskaming Shores, Ontario
Street View - Sep 2015

Image captured Sep 2015 © 2014 Google

APPENDIX B

STAGE-STORAGE-DISCHARGE TABLE

| SWM INFORMATION FOR ORIFICE CONTROLLED STORM TRIBUTARY AREAS | | | | | |
|---|---------------|----------|--|--------------------------|---------------|
| Tributary Area No. | 2 | | Tributary Area | 0.27 ha | |
| INLET CONTROL DEVICE (ICD) INFORMATION | | | STORM WATER STORAGE INFORMATION | | |
| Location of ICD | EX STMMH 4 | | Surface Ponding Area | 0 m ² | |
| Type of ICD | Tube | | Surface Pond Depth | 0.00 m | |
| Rim Elevation | 202.85 m | | Underground Pipe Storage | 10.1 m ³ | |
| Orifice Invert Elevation | 199.53 m | | | | |
| Orifice Size | 75.00 mm | | | | |
| Orifice Coefficient | 0.82 | | | | |
| STAGE/DISCHARGE/VOLUME RELATIONSHIP | | | | | |
| Stage Description | Elevation (m) | Head (m) | Discharge (m ³ /s) | Volume (m ³) | Volume (ha-m) |
| Orifice | 199.53 | 0.00 | 0.0000 | 0.0 | 0.00000 |
| Bottom of Chamber | 199.90 | 0.33 | 0.0093 | 10.1 | 0.00101 |
| Top of Stone | 200.05 | 0.48 | 0.0112 | 15.6 | 0.00156 |
| U/G Storage | 200.21 | 0.64 | 0.0128 | 27.1 | 0.00271 |
| U/G Storage | 200.41 | 0.84 | 0.0147 | 42.1 | 0.00421 |
| U/G Storage | 200.64 | 1.07 | 0.0166 | 57.1 | 0.00571 |
| Top of Chamber | 200.87 | 1.30 | 0.0183 | 68.1 | 0.00681 |
| Top of Stone | 201.17 | 1.60 | 0.0203 | 73.1 | 0.00731 |
| CB Rim | 202.85 | 3.28 | 0.0291 | 73.1 | 0.00731 |
| 1st stage | 202.90 | 3.33 | 0.0293 | 73.1 | 0.00731 |
| 2nd stage | 202.95 | 3.38 | 0.0295 | 73.1 | 0.00731 |
| 3rd stage | 203.00 | 3.43 | 0.0297 | 73.1 | 0.00731 |
| 4th stage | 203.05 | 3.48 | 0.0299 | 73.1 | 0.00731 |
| 5th stage | 203.15 | 3.58 | 0.0304 | 73.1 | 0.00731 |

CULTEC DESIGN PARAMETERS

CULTEC Recharger V8HD Stormwater System Calculations

PREPARED FOR:

| |
|--|
| |
| |
| |
| |

PROJECT INFORMATION:

| |
|--|
| |
| |
| |

CALCULATED BY:

| |
|----------------------|
| |
| Cultec, Inc. |
| 878 Federal Rd. |
| Brookfield, CT 06804 |
| 203.775.4415 |
| 203.775.1462 |

DATE:

| |
|---------|
| 11/2/16 |
|---------|

System Information

Proposed bed layout of Rows x No. of Units per Row

Given:

| | | | | |
|-------------------------------------|----|--------|--------|----------------|
| Storage required | 0 | CF | 0 | m ³ |
| Stone base | 6 | inches | 152.4 | mm |
| Stone above | 6 | inches | 152.4 | mm |
| Chamber Spacing | 6 | inches | 152.4 | mm |
| No. of HVLV F-110x4 Feed Connectors | 0 | units | | |
| Stone Porosity | 40 | % | | |
| Stone Border Width | 1 | feet | 0.3048 | m |

Assumptions

| Model Name | | Chamber Height | | Design Unit Height | | Chamber Width | | Chamber Spacing | | Design Unit Width | | Chamber Volume per Linear Foot | | Design Unit Volume | | Installed Chamber Length | |
|-------------------------------|---------|----------------|-----|--------------------|-------|---------------|-------|-----------------|-----|-------------------|------|--------------------------------|---------|--------------------|---------|--------------------------|-------|
| | | inches | mm | feet | m | inches | mm | inches | mm | feet | m | cu. ft/ft | cu. m/m | cu. ft/ft | cu. m/m | feet | m |
| Recharger® V8HD Intermediate | English | 32 | 813 | 3.667 | 1.118 | 60 | 1524 | 6 | 152 | 5.5 | 1.68 | 8.679 | 0.806 | 13.274 | 1.213 | 7.500 | 2.286 |
| | Metric | 32 | 813 | 3.667 | 1.118 | 60 | 1524 | 6 | 152 | 5.5 | 1.68 | 8.679 | 0.806 | 13.274 | 1.213 | 7.500 | 2.286 |
| Recharger® V8SHD Starter | English | 32 | 813 | 3.667 | 1.118 | 60 | 1524 | 6 | 152 | 5.5 | 1.68 | 8.679 | 0.806 | 13.274 | 1.213 | 4.583 | 1.397 |
| | Metric | 32 | 813 | 3.667 | 1.118 | 60 | 1524 | 6 | 152 | 5.5 | 1.68 | 8.679 | 0.806 | 13.274 | 1.213 | 4.583 | 1.397 |
| Recharger® V8EHD End | English | 18 | 457 | n/a | n/a | 27.5 | 698.5 | n/a | n/a | n/a | n/a | 1.968 | n/a | n/a | n/a | 0.500 | 0.152 |
| | Metric | 18 | 457 | n/a | n/a | 27.5 | 698.5 | n/a | n/a | n/a | n/a | 1.968 | n/a | n/a | n/a | 0.500 | 0.152 |
| HVLV™ F-110x4 Feed Connectors | | | | | | | | | | | | | | | | | |

Storage Provided within CULTEC Recharge V8HD Stormwater Chambers and HVLV F-110x4 Feed Connector Internal Manifold System - not including stone

| | | | |
|--|----------|-------------|----------------------------|
| Number of Recharger V8 HD Intermediates by design | = | 16 | pcs |
| 16 pcs x 7.5 | = | 120.00 | feet |
| 120.00 feet | = | 36.58 | m |
| Number of Recharger V8 SHD Starters by design | = | 4 | pcs |
| 4 pcs x 4.583 | = | 18.33 | feet |
| 18.33 feet | = | 5.588 | m |
| Number of Recharger V8 EHD Ends by design | = | 4 | pcs |
| 4 pcs x 4.583 | = | 18.33 | feet |
| 18.33 feet | = | 5.588 | m |
| Number of HVLV F-110x4 Feed Connectors | = | 0 | pcs |
| 0 pcs x 0.500 | = | 0.00 | feet |
| 0.00 feet | = | 0 | m |
| Total footage of V8 chambers | = | 156.67 | feet |
| 156.67 feet | = | 47.75 | m |
| Total footage of HVLV F-110x4 Feed Connectors | = | 0.00 | feet |
| 0.00 feet | = | 0.00 | m |
| Storage provided within V8 chambers | = | 1359.71 | CF |
| 1359.71 CF | = | 38.51 | m ³ |
| Storage within HVLV F-110x4 Feed Connectors | = | 0.00 | CF |
| 0.00 CF | = | 0.00 | m ³ |
| Total Storage within CULTEC Recharger V8HD chambers and feed connectors | = | 1360 | CF |
| | | | 38.51 m³ |

Storage Provided within CULTEC Stormwater System - including stone

| | | | |
|---|----------|-------------|----------------------------|
| Effective Bed depth (not including additional cover) | = | 3.67 | feet |
| 3.67 feet | = | 1.12 | m |
| Total Area | = | 967.42 | sq. ft. |
| 967.42 sq. ft. | = | 89.87 | m ² |
| Volume of Effective Excavation (not including additional cover) | = | 3547.19 | CF |
| 3547.19 CF | = | 100.46 | m ³ |
| Min. Installed Depth (including min. cover) | = | 4.67 | feet |
| 4.67 feet | = | 1.42 | m |
| Perimeter of Bed | = | 129.33 | feet |
| 129.33 feet | = | 39.42 | m |
| Total Min. Excavation (including min. cover) | = | 4515 | CF |
| 4515 CF | = | 127.85 | m ³ |
| Total Storage within CULTEC Recharger V8 chambers and feed connectors | = | 1360 | CF |
| 1360 CF | = | 38.51 | m ³ |
| Total Stone Required | = | 2187 | CF |
| 2187 CF | = | 61.95 | m ³ |
| 81 | tons | | |
| 113 | tons | | |
| Storage provided within stone | = | 874.99 | CF |
| 874.99 CF | = | 24.78 | m ³ |
| Total Storage within CULTEC Stormwater System | = | 2235 | CF |
| | | | 63.30 m³ |

Req. storage attained.

CULTEC MATERIALS LIST

| Model | Quantity | Unit of Measure | Quantity | Unit of Measure |
|---|----------|-----------------|----------|-----------------|
| Recharger V8 SHD Starter Heavy Duty | 4 | pcs | | |
| Recharger V8 IHD Intermediate Heavy Duty | 16 | pcs | | |
| Recharger V8 EHD End Heavy Duty | 4 | pcs | | |
| HVLV F-110x4 Feed Connectors | 0 | pcs | | |
| CULTEC No. 410 Filter Fabric 7.5' W x 300' L (0.29 m W x 91.44 m L) | 2 | rolls | | |
| CULTEC No. 20L Polyethylene Liner | 0 | feet | 0 | m |
| Total Stone | 113 | tons | 62 | cubic meters |
| Volume of Excavation | 167 | cubic yds | 128 | cubic meters |

Call CULTEC for cost estimates and system design.
 This calculator program is for estimation purposes only and should not take the place of a comprehensive engineering design.
 System calculations do not include materials required conventional pipe manholes.
 The successful application and use of this software product is dependent on the application of skilled engineering judgment supplied by the user and/or their consultant.
 The user of this software must select input values suitable to describe their specific engineering situation.
 The information presented in the computer output is for review, interpretation, application, and approval by a qualified engineer who must assume full responsibility for verifying that all outputs are appropriate and correct.
 Any implied or expressed warranties covering this software program or user manual including warranties of merchantability or fitness for any particular purpose are expressly excluded.
 CULTEC, Inc. and any of its affiliates shall not be held liable for any special, incidental, or consequential, indirect or other similar damages resulting from the use of this software.
 Use of this program constitutes acceptance of this liability agreement by the user.
 Reconfiguring the bed layout may affect actual storage provided.
 Contact CULTEC Technical Assistance at 800-428-5832 or 203-775-4416 for further assistance.
 Copyright 1996 - 2016 CULTEC, Inc. All rights reserved.
 Last updated: 05/06/16



CULTEC System

The following information is based on a CULTEC Recharger V8 Stormwater System with these parameters:

| | | |
|------------------------------------|-------|--------------------------------|
| 40 stone void (%) | | |
| 4 number of rows | | |
| 967.42 sq. ft. area | 89.87 | m ² area |
| 156.67 ft. of chambers | 47.75 | m of chambers |
| 0 ft. of feed connectors (exposed) | 0.00 | m of feed connectors (exposed) |

The system includes the following components:

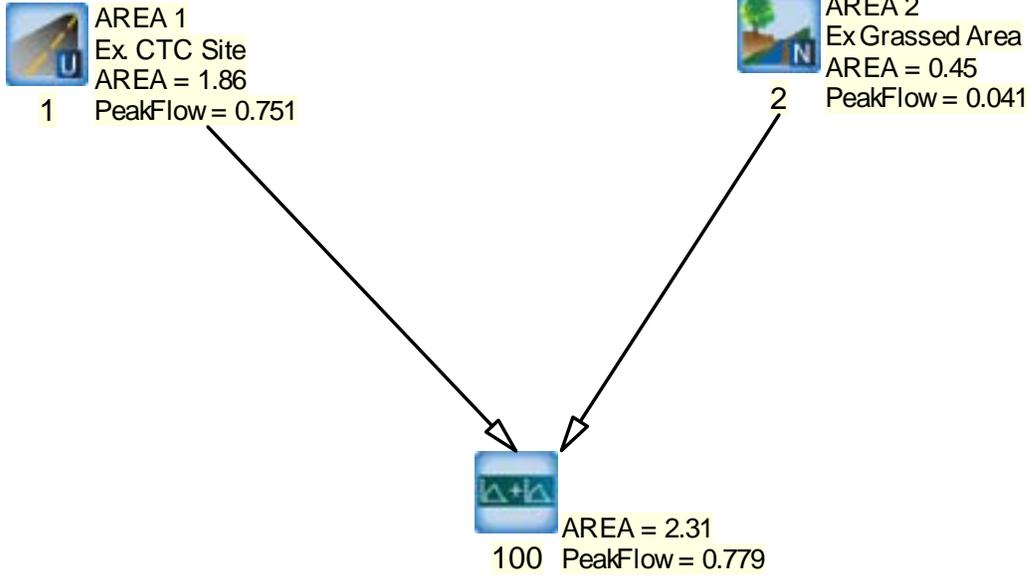
| | | |
|----|--------|------------------------------------|
| 4 | pcs of | Recharger V8SHD Starter Units |
| 4 | pcs of | Recharger V8EHD End Units |
| 16 | pcs of | Recharger V8IHD Intermediate Units |
| 0 | pcs of | HVLV F-110x4 Feed Connectors |

INCREMENTAL STORAGE FOR CULTEC RECHARGER V8HD SYSTEM

| TOP OF SYSTEM | Elevation | | | | Chamber Volume | | HVLV F-110X4 Feed Connector Volume | | Stone Volume | | Cumulative Storage Volume | | Total Cumulative Storage Volume | |
|------------------|----------------------|------|--------|-----------------|-----------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|---------------------------|-----------------|---------------------------------|----------------|
| | Cumulative Elevation | | | | per inch | per 25.4 mm | per inch | per 25.4 mm | per inch | per 25.4 mm | per inch | per 25.4 mm | per inch | per 25.4 mm |
| | inches | mm | inches | mm | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ |
| STONE ABOVE | 44 | 1118 | 6 | 152 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2234.70 | 63.29 |
| | 43 | 1092 | 5 | 127 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2202.46 | 62.31 |
| | 42 | 1067 | 4 | 102 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2170.21 | 61.46 |
| | 41 | 1041 | 3 | 76 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2137.96 | 60.51 |
| | 40 | 1016 | 2 | 51 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2105.71 | 59.61 |
| | 39 | 991 | 1 | 25 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2073.47 | 58.71 |
| CHAMBER HEIGHT | 38 | 965 | 32 | 813 | 0.94 | 0.03 | | | 31.87 | 0.90 | 32.81 | 0.93 | 2041.22 | 57.81 |
| | 37 | 940 | 31 | 787 | 4.23 | 0.12 | | | 30.56 | 0.87 | 34.79 | 0.99 | 2008.41 | 56.88 |
| | 36 | 914 | 30 | 762 | 6.27 | 0.18 | | | 29.74 | 0.84 | 36.01 | 1.02 | 1973.62 | 55.85 |
| | 35 | 889 | 29 | 737 | 13.16 | 0.37 | | | 26.98 | 0.76 | 40.14 | 1.14 | 1937.62 | 54.87 |
| | 34 | 864 | 28 | 711 | 20.21 | 0.57 | | | 24.16 | 0.68 | 44.37 | 1.26 | 1897.47 | 53.74 |
| | 33 | 838 | 27 | 686 | 24.91 | 0.71 | | | 22.28 | 0.63 | 47.19 | 1.34 | 1853.10 | 52.48 |
| | 32 | 813 | 26 | 660 | 28.67 | 0.81 | | | 20.78 | 0.59 | 49.45 | 1.40 | 1805.91 | 51.14 |
| | 31 | 787 | 25 | 635 | 31.96 | 0.91 | | | 19.46 | 0.55 | 51.42 | 1.46 | 1756.46 | 49.74 |
| | 30 | 762 | 24 | 610 | 34.78 | 0.98 | | | 18.34 | 0.52 | 53.12 | 1.50 | 1705.03 | 48.25 |
| | 29 | 737 | 23 | 584 | 37.29 | 1.06 | | | 17.33 | 0.49 | 54.62 | 1.55 | 1651.92 | 46.78 |
| | 28 | 711 | 22 | 559 | 39.48 | 1.12 | | | 16.46 | 0.47 | 55.94 | 1.58 | 1597.30 | 45.24 |
| | 27 | 685 | 21 | 533 | 41.52 | 1.18 | | | 15.64 | 0.44 | 57.16 | 1.62 | 1541.37 | 43.65 |
| | 26 | 660 | 20 | 508 | 43.40 | 1.23 | | | 14.89 | 0.42 | 58.29 | 1.65 | 1484.21 | 42.01 |
| | 25 | 635 | 19 | 483 | 44.96 | 1.27 | | | 14.26 | 0.40 | 59.23 | 1.68 | 1425.92 | 40.38 |
| | 24 | 610 | 18 | 457 | 46.69 | 1.32 | 0.00 | 0.00 | 13.57 | 0.38 | 60.26 | 1.71 | 1366.70 | 38.70 |
| | 23 | 584 | 17 | 432 | 48.10 | 1.36 | 0.00 | 0.00 | 13.01 | 0.37 | 61.11 | 1.73 | 1306.44 | 37.00 |
| | 22 | 559 | 16 | 406 | 49.35 | 1.40 | 0.00 | 0.00 | 12.51 | 0.35 | 61.86 | 1.75 | 1245.33 | 35.27 |
| | 21 | 533 | 15 | 381 | 50.60 | 1.43 | 0.00 | 0.00 | 12.01 | 0.34 | 62.61 | 1.77 | 1183.48 | 33.52 |
| | 20 | 508 | 14 | 356 | 51.54 | 1.46 | 0.00 | 0.00 | 11.63 | 0.33 | 63.17 | 1.79 | 1120.87 | 31.74 |
| | 19 | 483 | 13 | 330 | 52.64 | 1.49 | 0.00 | 0.00 | 11.19 | 0.32 | 63.83 | 1.81 | 1057.69 | 29.91 |
| | 18 | 457 | 12 | 305 | 53.89 | 1.53 | 0.00 | 0.00 | 10.69 | 0.30 | 64.58 | 1.83 | 993.86 | 28.15 |
| | 17 | 432 | 11 | 279 | 54.83 | 1.55 | 0.00 | 0.00 | 10.31 | 0.29 | 65.15 | 1.84 | 929.28 | 26.32 |
| | 16 | 406 | 10 | 254 | 55.15 | 1.56 | 0.00 | 0.00 | 10.19 | 0.29 | 65.34 | 1.85 | 864.13 | 24.47 |
| | 15 | 381 | 9 | 229 | 57.50 | 1.63 | 0.00 | 0.00 | 9.25 | 0.26 | 66.75 | 1.89 | 798.80 | 22.62 |
| | 14 | 356 | 8 | 203 | 57.81 | 1.64 | 0.00 | 0.00 | 9.12 | 0.26 | 66.93 | 1.90 | 732.05 | 20.73 |
| | 13 | 330 | 7 | 178 | 57.97 | 1.64 | 0.00 | 0.00 | 9.06 | 0.26 | 67.03 | 1.90 | 665.12 | 18.84 |
| | 12 | 305 | 6 | 152 | 58.12 | 1.65 | 0.00 | 0.00 | 9.00 | 0.25 | 67.12 | 1.90 | 598.09 | 16.94 |
| | 11 | 279 | 5 | 127 | 58.28 | 1.65 | 0.00 | 0.00 | 8.94 | 0.25 | 67.22 | 1.90 | 530.97 | 15.04 |
| 10 | 254 | 4 | 102 | 58.28 | 1.65 | 0.00 | 0.00 | 8.94 | 0.25 | 67.22 | 1.90 | 463.75 | 13.13 | |
| 9 | 229 | 3 | 76 | 58.44 | 1.65 | 0.00 | 0.00 | 8.87 | 0.25 | 67.31 | 1.91 | 396.54 | 11.21 | |
| 8 | 203 | 2 | 51 | 58.75 | 1.66 | 0.00 | 0.00 | 8.75 | 0.25 | 67.50 | 1.91 | 329.23 | 9.32 | |
| 7 | 178 | 1 | 25 | 60.00 | 1.70 | 0.00 | 0.00 | 8.25 | 0.23 | 68.25 | 1.93 | 261.73 | 7.41 | |
| STONE BASE | 6 | 152 | 6 | 152 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 193.48 | 5.48 |
| | 5 | 127 | 5 | 127 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 161.24 | 4.57 |
| | 4 | 102 | 4 | 102 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 128.99 | 3.65 |
| | 3 | 76 | 3 | 76 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 96.74 | 2.74 |
| | 2 | 51 | 2 | 51 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 64.49 | 1.83 |
| | 1 | 25 | 1 | 25 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 32.25 | 0.91 |
| BOTTOM OF SYSTEM | 0 | 0 | 0 | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | Chamber Volume | | HVLV F-110X4 Feed Connector Volume | | Stone Volume | | Cumulative Storage Volume | | Total Cumulative Storage Volume | |
| | | | | 1359.71 | 38.51 | 0.00 | 0.00 | 874.99 | 24.78 | 2234.70 | 63.29 | 2234.70 | 63.29 | |
| | | | | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | |

VISUAL OTTHYMO MODEL – PRE-DEVELOPMENT

100 YEAR SHOWN



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=====
*****
V V I SSSS U U A L
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSS UUUU A A LLLL

OOO TTTT TTTT H H Y Y M M OOO
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 2.3.3\voim.dat
 Output filename: G:\14229\OTTHYMO\PREAND-2\Existing.out
 Summary filename: G:\14229\OTTHYMO\PREAND-2\Existing.sum

DATE: 11/1/2016 TIME: 5:07:51 PM

USER:

COMMENTS: _____

 ** SIMULATION NUMBER: 1 **

```

-----
| CHICAGO STORM | IDF curve parameters: A= 319.000
| Ptotal= 26.71 mm | B= .000
| | C= .689
-----
used in: INTENSITY = A / (t + B)^C

Duration of storm = 3.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33

```

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 3.22 | 1.00 | 65.28 | 1.83 | 4.96 | 2.67 | 3.11 |
| .33 | 3.78 | 1.17 | 14.35 | 2.00 | 4.39 | 2.83 | 2.91 |
| .50 | 4.67 | 1.33 | 9.11 | 2.17 | 3.96 | 3.00 | 2.75 |
| .67 | 6.36 | 1.50 | 6.98 | 2.33 | 3.62 | | |
| .83 | 11.73 | 1.67 | 5.76 | 2.50 | 3.34 | | |

```

-----
| CALIB |
| NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
| U.H. Tp(hrs)= .20
-----

```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

```

----- TRANSFORMED HYETOGRAPH -----

```

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.22 | .833 | 11.73 | 1.583 | 5.76 | 2.33 | 3.62 |
| .167 | 3.22 | .917 | 65.28 | 1.667 | 5.76 | 2.42 | 3.34 |
| .250 | 3.78 | 1.000 | 65.28 | 1.750 | 4.96 | 2.50 | 3.34 |
| .333 | 3.78 | 1.083 | 14.35 | 1.833 | 4.96 | 2.58 | 3.11 |
| .417 | 4.67 | 1.167 | 14.35 | 1.917 | 4.39 | 2.67 | 3.11 |
| .500 | 4.67 | 1.250 | 9.11 | 2.000 | 4.39 | 2.75 | 2.91 |
| .583 | 6.36 | 1.333 | 9.11 | 2.083 | 3.96 | 2.83 | 2.91 |
| .667 | 6.36 | 1.417 | 6.98 | 2.167 | 3.96 | 2.92 | 2.75 |
| .750 | 11.73 | 1.500 | 6.98 | 2.250 | 3.62 | 3.00 | 2.75 |

Unit Hyd Qpeak (cms) = .086
 PEAK FLOW (cms) = .007 (i)
 TIME TO PEAK (hrs) = 1.167
 RUNOFF VOLUME (mm) = 5.522
 TOTAL RAINFALL (mm) = 26.714
 RUNOFF COEFFICIENT = .207

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| CALIB |
| STANDHYD (0001) | Area (ha)= 1.86
| ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00
-----

```

IMPERVIOUS PERVIOUS (i)

```

Surface Area (ha)= 1.58 .28
Dep. Storage (mm)= 1.00 1.00
Average Slope (%)= 1.00 2.00
Length (m)= 111.40 40.00
Mannings n = .013 .250

Max.Eff.Inten.(mm/hr)= 65.28 61.50
over (min) 5.00 10.00
Storage Coeff. (min)= 3.23 (ii) 7.41 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= .27 .13

PEAK FLOW (cms)= .28 .03
TIME TO PEAK (hrs)= 1.00 1.08
RUNOFF VOLUME (mm)= 25.71 23.38
TOTAL RAINFALL (mm)= 26.71 26.71
RUNOFF COEFFICIENT = .96 .88

```

TOTALS
 .306 (iii)
 1.00
 25.36
 26.71
 .95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| ADD HYD (0100) |
| 1 + 2 = 3 |
-----

```

| | AREA | QPEAK | TPEAK | R.V. |
|------------------|------|-------|-------|-------|
| | (ha) | (cms) | (hrs) | (mm) |
| ID1= 1 (0002): | .45 | .007 | 1.17 | 5.52 |
| + ID2= 2 (0001): | 1.86 | .306 | 1.00 | 25.36 |
| ID = 3 (0100): | 2.31 | .310 | 1.00 | 21.50 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 2 **

```

-----
| CHICAGO STORM | IDF curve parameters: A= 438.700
| Ptotal= 35.98 mm | B= .000
| | C= .693
-----
used in: INTENSITY = A / (t + B)^C

```

Duration of storm = 3.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.29 | 1.00 | 88.95 | 1.83 | 6.62 | 2.67 | 4.14 |
| .33 | 5.04 | 1.17 | 19.27 | 2.00 | 5.85 | 2.83 | 3.88 |
| .50 | 6.23 | 1.33 | 12.20 | 2.17 | 5.27 | 3.00 | 3.65 |
| .67 | 8.50 | 1.50 | 9.32 | 2.33 | 4.82 | | |
| .83 | 15.72 | 1.67 | 7.69 | 2.50 | 4.44 | | |

```

-----
| CALIB |
| NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
| U.H. Tp(hrs)= .20
-----

```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

```

----- TRANSFORMED HYETOGRAPH -----

```

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.29 | .833 | 15.72 | 1.583 | 7.69 | 2.33 | 4.82 |
| .167 | 4.29 | .917 | 88.95 | 1.667 | 7.69 | 2.42 | 4.44 |
| .250 | 5.04 | 1.000 | 88.95 | 1.750 | 6.62 | 2.50 | 4.44 |
| .333 | 5.04 | 1.083 | 19.27 | 1.833 | 6.62 | 2.58 | 4.14 |
| .417 | 6.23 | 1.167 | 19.27 | 1.917 | 5.85 | 2.67 | 4.14 |
| .500 | 6.23 | 1.250 | 12.20 | 2.000 | 5.85 | 2.75 | 3.88 |
| .583 | 8.50 | 1.333 | 12.20 | 2.083 | 5.27 | 2.83 | 3.88 |
| .667 | 8.50 | 1.417 | 9.32 | 2.167 | 5.27 | 2.92 | 3.65 |
| .750 | 15.72 | 1.500 | 9.32 | 2.250 | 4.82 | 3.00 | 3.65 |

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .013 (i)
 TIME TO PEAK (hrs) = 1.167
 RUNOFF VOLUME (mm) = 10.139
 TOTAL RAINFALL (mm) = 35.983
 RUNOFF COEFFICIENT = .282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| CALIB |
-----

```

STANDHYD (0001) | Area (ha)= 1.86
 |ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

RUNOFF COEFFICIENT = .349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

IMPERVIOUS PERVIOUS (i)
 Surface Area (ha)= 1.58 .28
 Dep. Storage (mm)= 1.00 1.00
 Average Slope (%)= 1.00 2.00
 Length (m)= 111.40 40.00
 Mannings n = .013 .250
 Max.Eff.Inten.(mm/hr)= 88.95 85.85
 over (min)= 5.00 10.00
 Storage Coeff. (min)= 2.86 (ii) 6.55 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= .28 .14
 TOTALS
 PEAK FLOW (cms)= .38 .05 .426 (iii)
 TIME TO PEAK (hrs)= 1.00 1.08 1.00
 RUNOFF VOLUME (mm)= 34.98 32.59 34.62
 TOTAL RAINFALL (mm)= 35.98 35.98 35.98
 RUNOFF COEFFICIENT = .97 .91 .96

CALIB
 STANDHYD (0001) | Area (ha)= 1.86
 |ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

IMPERVIOUS PERVIOUS (i)
 Surface Area (ha)= 1.58 .28
 Dep. Storage (mm)= 1.00 1.00
 Average Slope (%)= 1.00 2.00
 Length (m)= 111.40 40.00
 Mannings n = .013 .250
 Max.Eff.Inten.(mm/hr)= 104.39 102.10
 over (min)= 5.00 10.00
 Storage Coeff. (min)= 2.68 (ii) 6.15 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= .29 .15
 TOTALS
 PEAK FLOW (cms)= .45 .06 .505 (iii)
 TIME TO PEAK (hrs)= 1.33 1.33 1.33
 RUNOFF VOLUME (mm)= 44.99 42.56 44.63
 TOTAL RAINFALL (mm)= 45.99 45.99 45.99
 RUNOFF COEFFICIENT = .98 .93 .97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0100) |
 | 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)
 ID1= 1 (0002): .45 .013 1.17 10.14
 + ID2= 2 (0001): 1.86 .426 1.00 34.62
 ID = 3 (0100): 2.31 .434 1.00 29.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0100) |
 | 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)
 ID1= 1 (0002): .45 .020 1.50 16.05
 + ID2= 2 (0001): 1.86 .505 1.33 44.63
 ID = 3 (0100): 2.31 .518 1.33 39.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM | IDF curve parameters: A= 516.000
 | Ptotal= 45.99 mm | B= .000
 C= .694
 used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 3.93 | 1.17 | 18.38 | 2.17 | 7.73 | 3.17 | 4.52 |
| .33 | 4.39 | 1.33 | 104.39 | 2.33 | 6.83 | 3.33 | 4.26 |
| .50 | 5.00 | 1.50 | 22.53 | 2.50 | 6.15 | 3.50 | 4.03 |
| .67 | 5.88 | 1.67 | 14.25 | 2.67 | 5.62 | 3.67 | 3.83 |
| .83 | 7.27 | 1.83 | 10.89 | 2.83 | 5.19 | 3.83 | 3.65 |
| 1.00 | 9.93 | 2.00 | 8.98 | 3.00 | 4.83 | 4.00 | 3.50 |

CHICAGO STORM | IDF curve parameters: A= 608.500
 | Ptotal= 54.24 mm | B= .000
 C= .694
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.63 | 1.17 | 21.67 | 2.17 | 9.11 | 3.17 | 5.33 |
| .33 | 5.17 | 1.33 | 123.10 | 2.33 | 8.06 | 3.33 | 5.02 |
| .50 | 5.90 | 1.50 | 26.56 | 2.50 | 7.26 | 3.50 | 4.75 |
| .67 | 6.93 | 1.67 | 16.81 | 2.67 | 6.63 | 3.67 | 4.52 |
| .83 | 8.58 | 1.83 | 12.84 | 2.83 | 6.11 | 3.83 | 4.31 |
| 1.00 | 11.71 | 2.00 | 10.59 | 3.00 | 5.69 | 4.00 | 4.12 |

CALIB
 NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
 |ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.93 | 1.083 | 18.38 | 2.083 | 7.73 | 3.08 | 4.52 |
| .167 | 3.93 | 1.167 | 18.38 | 2.167 | 7.73 | 3.17 | 4.52 |
| .250 | 4.39 | 1.250 | 104.39 | 2.250 | 6.83 | 3.25 | 4.26 |
| .333 | 4.39 | 1.333 | 104.39 | 2.333 | 6.83 | 3.33 | 4.26 |
| .417 | 5.00 | 1.417 | 22.53 | 2.417 | 6.15 | 3.42 | 4.03 |
| .500 | 5.00 | 1.500 | 22.53 | 2.500 | 6.15 | 3.50 | 4.03 |
| .583 | 5.88 | 1.583 | 14.25 | 2.583 | 5.62 | 3.58 | 3.83 |
| .667 | 5.88 | 1.667 | 14.25 | 2.667 | 5.62 | 3.67 | 3.83 |
| .750 | 7.27 | 1.750 | 10.89 | 2.750 | 5.19 | 3.75 | 3.65 |
| .833 | 7.27 | 1.833 | 10.89 | 2.833 | 5.19 | 3.83 | 3.65 |
| .917 | 9.93 | 1.917 | 8.98 | 2.917 | 4.83 | 3.92 | 3.50 |
| 1.000 | 9.93 | 2.000 | 8.98 | 3.000 | 4.83 | 4.00 | 3.50 |

Unit Hyd Qpeak (cms)= .086
 PEAK FLOW (cms)= .020 (i)
 TIME TO PEAK (hrs)= 1.500
 RUNOFF VOLUME (mm)= 16.050
 TOTAL RAINFALL (mm)= 45.992

CALIB
 NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
 |ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.63 | 1.083 | 21.67 | 2.083 | 9.11 | 3.08 | 5.33 |
| .167 | 4.63 | 1.167 | 21.67 | 2.167 | 9.11 | 3.17 | 5.33 |
| .250 | 5.17 | 1.250 | 123.10 | 2.250 | 8.06 | 3.25 | 5.02 |
| .333 | 5.17 | 1.333 | 123.10 | 2.333 | 8.06 | 3.33 | 5.02 |
| .417 | 5.90 | 1.417 | 26.56 | 2.417 | 7.26 | 3.42 | 4.75 |
| .500 | 5.90 | 1.500 | 26.56 | 2.500 | 7.26 | 3.50 | 4.75 |
| .583 | 6.93 | 1.583 | 16.81 | 2.583 | 6.63 | 3.58 | 4.52 |
| .667 | 6.93 | 1.667 | 16.81 | 2.667 | 6.63 | 3.67 | 4.52 |
| .750 | 8.58 | 1.750 | 12.84 | 2.750 | 6.11 | 3.75 | 4.31 |
| .833 | 8.58 | 1.833 | 12.84 | 2.833 | 6.11 | 3.83 | 4.31 |
| .917 | 11.71 | 1.917 | 10.59 | 2.917 | 5.69 | 3.92 | 4.12 |

1.000 11.71 | 2.000 10.59 | 3.000 5.69 | 4.00 4.12

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .028 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 21.462
 TOTAL RAINFALL (mm) = 54.237
 RUNOFF COEFFICIENT = .396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 CALIB
 STANDHYD (0001) | Area (ha) = 1.86
 ID= 1 DT= 5.0 min | Total Imp(%) = 85.00 Dir. Conn.(%) = 85.00

| | | |
|----------------------------------|---------------|----------------|
| | IMPERVIOUS | PERVIOUS (i) |
| Surface Area (ha) | 1.58 | .28 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 111.40 | 40.00 |
| Mannings n | .013 | .250 |
| Max.Eff.Inten.(mm/hr) over (min) | 123.10 / 5.00 | 121.10 / 10.00 |
| Storage Coeff. (min) | 2.51 (ii) | 5.75 (ii) |
| Unit Hyd. Tpeak (min) | 5.00 | 10.00 |
| Unit Hyd. peak (cms) | .29 | .15 |
| | | *TOTALS* |
| PEAK FLOW (cms) | .53 | .07 |
| TIME TO PEAK (hrs) | 1.33 | 1.33 |
| RUNOFF VOLUME (mm) | 53.24 | 50.79 |
| TOTAL RAINFALL (mm) | 54.24 | 54.24 |
| RUNOFF COEFFICIENT | .98 | .94 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 ADD HYD (0100)
 1 + 2 = 3

| | | | | |
|------------------|------|-------|-------|-------|
| | AREA | QPEAK | TPEAK | R.V. |
| | (ha) | (cms) | (hrs) | (mm) |
| ID1= 1 (0002): | .45 | .608 | 1.50 | 21.46 |
| + ID2= 2 (0001): | 1.86 | .600 | 1.33 | 52.87 |
| ===== | | | | |
| ID = 3 (0100): | 2.31 | .619 | 1.33 | 46.75 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 5 **

CHICAGO STORM | IDF curve parameters: A= 690.600
 Ptotal= 60.55 mm | B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.12 | 1.17 | 24.14 | 2.17 | 10.11 | 3.17 | 5.90 |
| .33 | 5.72 | 1.33 | 138.75 | 2.33 | 8.93 | 3.33 | 5.56 |
| .50 | 6.53 | 1.50 | 29.60 | 2.50 | 8.04 | 3.50 | 5.26 |
| .67 | 7.68 | 1.67 | 18.69 | 2.67 | 7.34 | 3.67 | 5.00 |
| .83 | 9.51 | 1.83 | 14.27 | 2.83 | 6.77 | 3.83 | 4.77 |
| 1.00 | 13.00 | 2.00 | 11.76 | 3.00 | 6.30 | 4.00 | 4.56 |

 CALIB
 NASHYD (0002) | Area (ha) = .45 Curve Number (CN) = 80.0
 ID= 1 DT= 5.0 min | Ia (mm) = 5.00 # of Linear Res. (N) = 3.00
 U.H. Tp(hrs) = .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

----- TRANSFORMED HYETOGRAPH -----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.12 | 1.083 | 24.14 | 2.083 | 10.11 | 3.08 | 5.90 |
| .167 | 5.12 | 1.167 | 24.14 | 2.167 | 10.11 | 3.17 | 5.90 |
| .250 | 5.72 | 1.250 | 138.75 | 2.250 | 8.93 | 3.25 | 5.56 |

.333 5.72 | 1.333 138.75 | 2.333 8.93 | 3.33 5.56
 .417 6.53 | 1.417 29.60 | 2.417 8.04 | 3.42 5.26
 .500 6.53 | 1.500 29.60 | 2.500 8.04 | 3.50 5.26
 .583 7.68 | 1.583 18.69 | 2.583 7.34 | 3.58 5.00
 .667 7.68 | 1.667 18.69 | 2.667 7.34 | 3.67 5.00
 .750 9.51 | 1.750 14.27 | 2.750 6.77 | 3.75 4.77
 .833 9.51 | 1.833 14.27 | 2.833 6.77 | 3.83 4.77
 .917 13.00 | 1.917 11.76 | 2.917 6.30 | 3.92 4.56
 1.000 13.00 | 2.000 11.76 | 3.000 6.30 | 4.00 4.56

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .034 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 25.870
 TOTAL RAINFALL (mm) = 60.551
 RUNOFF COEFFICIENT = .427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 CALIB
 STANDHYD (0001) | Area (ha) = 1.86
 ID= 1 DT= 5.0 min | Total Imp(%) = 85.00 Dir. Conn.(%) = 85.00

| | | |
|----------------------------------|---------------|----------------|
| | IMPERVIOUS | PERVIOUS (i) |
| Surface Area (ha) | 1.58 | .28 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 111.40 | 40.00 |
| Mannings n | .013 | .250 |
| Max.Eff.Inten.(mm/hr) over (min) | 138.75 / 5.00 | 136.90 / 10.00 |
| Storage Coeff. (min) | 2.39 (ii) | 5.48 (ii) |
| Unit Hyd. Tpeak (min) | 5.00 | 10.00 |
| Unit Hyd. peak (cms) | .30 | .16 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 ADD HYD (0100)
 1 + 2 = 3

| | | | | |
|------------------|------|-------|-------|-------|
| | AREA | QPEAK | TPEAK | R.V. |
| | (ha) | (cms) | (hrs) | (mm) |
| ID1= 1 (0002): | .45 | .034 | 1.50 | 25.87 |
| + ID2= 2 (0001): | 1.86 | .680 | 1.33 | 59.18 |
| ===== | | | | |
| ID = 3 (0100): | 2.31 | .703 | 1.33 | 52.69 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 CHICAGO STORM | IDF curve parameters: A= 760.000
 Ptotal= 66.64 mm | B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.64 | 1.17 | 26.56 | 2.17 | 11.13 | 3.17 | 6.49 |
| .33 | 6.30 | 1.33 | 152.69 | 2.33 | 9.83 | 3.33 | 6.12 |
| .50 | 7.18 | 1.50 | 32.58 | 2.50 | 8.85 | 3.50 | 5.79 |
| .67 | 8.46 | 1.67 | 20.57 | 2.67 | 8.08 | 3.67 | 5.50 |
| .83 | 10.47 | 1.83 | 15.70 | 2.83 | 7.45 | 3.83 | 5.24 |
| 1.00 | 14.31 | 2.00 | 12.94 | 3.00 | 6.93 | 4.00 | 5.02 |

 ** SIMULATION NUMBER: 6 **

 CHICAGO STORM | IDF curve parameters: A= 760.000
 Ptotal= 66.64 mm | B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

 CALIB
 NASHYD (0002) | Area (ha) = .45 Curve Number (CN) = 80.0
 ID= 1 DT= 5.0 min | Ia (mm) = 5.00 # of Linear Res. (N) = 3.00
 U.H. Tp(hrs) = .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.64 | 1.083 | 26.56 | 2.083 | 11.13 | 3.08 | 6.49 |
| .167 | 5.64 | 1.167 | 26.56 | 2.167 | 11.13 | 3.17 | 6.49 |
| .250 | 6.30 | 1.250 | 152.69 | 2.250 | 9.83 | 3.25 | 6.12 |
| .333 | 6.30 | 1.333 | 152.69 | 2.333 | 9.83 | 3.33 | 6.12 |
| .417 | 7.18 | 1.417 | 32.58 | 2.417 | 8.85 | 3.42 | 5.79 |
| .500 | 7.18 | 1.500 | 32.58 | 2.500 | 8.85 | 3.50 | 5.79 |
| .583 | 8.46 | 1.583 | 20.57 | 2.583 | 8.08 | 3.58 | 5.50 |
| .667 | 8.46 | 1.667 | 20.57 | 2.667 | 8.08 | 3.67 | 5.50 |
| .750 | 10.47 | 1.750 | 15.70 | 2.750 | 7.45 | 3.75 | 5.24 |
| .833 | 10.47 | 1.833 | 15.70 | 2.833 | 7.45 | 3.83 | 5.24 |
| .917 | 14.31 | 1.917 | 12.94 | 2.917 | 6.93 | 3.92 | 5.02 |
| 1.000 | 14.31 | 2.000 | 12.94 | 3.000 | 6.93 | 4.00 | 5.02 |

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .041 (i)

TIME TO PEAK (hrs) = 1.500

RUNOFF VOLUME (mm) = 30.300

TOTAL RAINFALL (mm) = 66.636

RUNOFF COEFFICIENT = .455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--

| | | | |
|-------------------|----------------|-------|-----------------------|
| CALIB | | | |
| STANDHYD (0001) | Area (ha) = | 1.86 | |
| ID= 1 DT= 5.0 min | Total Imp(%) = | 85.00 | Dir. Conn.(%) = 85.00 |

| | IMPERVIOUS | PERVIOUS (i) | |
|-------------------------|------------|--------------|------------|
| Surface Area (ha) = | 1.58 | .28 | |
| Dep. Storage (mm) = | 1.00 | 1.00 | |
| Average Slope (%) = | 1.00 | 2.00 | |
| Length (m) = | 111.40 | 40.00 | |
| Mannings n = | .013 | .250 | |
| Max.Eff.Inten.(mm/hr) = | 152.69 | 150.99 | |
| over (min) = | 5.00 | 10.00 | |
| Storage Coeff. (min) = | 2.30 (ii) | 5.28 (ii) | |
| Unit Hyd. Tpeak (min) = | 5.00 | 10.00 | |
| Unit Hyd. peak (cms) = | .30 | .16 | |
| | | *TOTALS* | |
| PEAK FLOW (cms) = | .66 | .09 | .751 (iii) |
| TIME TO PEAK (hrs) = | 1.33 | 1.33 | 1.33 |
| RUNOFF VOLUME (mm) = | 65.64 | 63.17 | 65.26 |
| TOTAL RAINFALL (mm) = | 66.64 | 66.64 | 66.64 |
| RUNOFF COEFFICIENT = | .98 | .95 | .98 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--

| ADD HYD (0100) | AREA | QPEAK | TPEAK | R.V. |
|------------------|------|-------|-------|-------|
| 1 + 2 = 3 | (ha) | (cms) | (hrs) | (mm) |
| ID1= 1 (0002): | .45 | .041 | 1.50 | 30.30 |
| + ID2= 2 (0001): | 1.86 | .751 | 1.33 | 65.26 |
| ID = 3 (0100): | 2.31 | .779 | 1.33 | 58.45 |

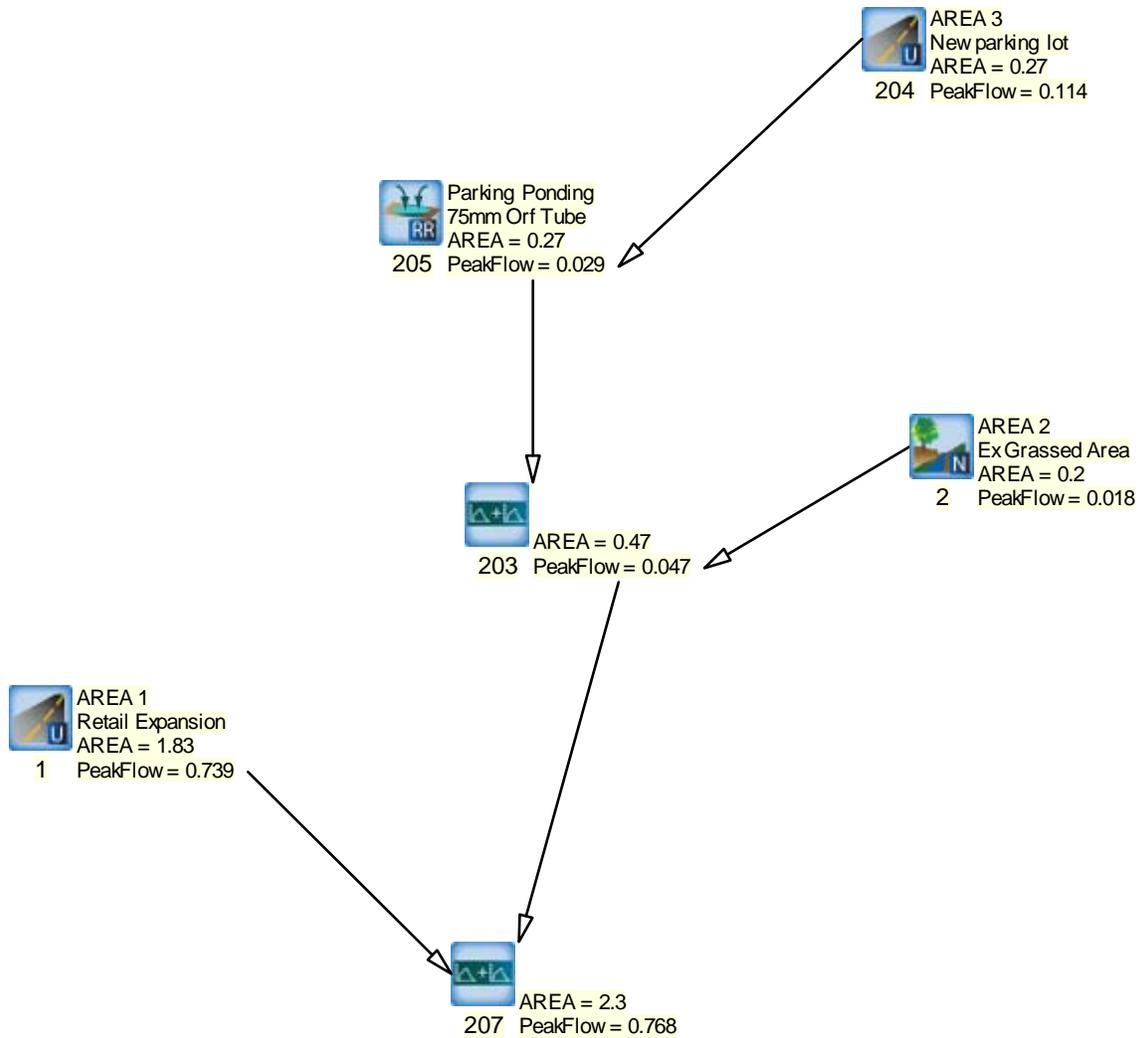
NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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FINISH

VISUAL OTTHYMO MODEL – POST-DEVELOPMENT

100 YEAR SHOWN



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*****
V V I SSSS U U A L
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLL
OOO TTTT TTTT H H Y Y M M OOO
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 2.3.3\voim.dat
 Output filename: G:\14229\OTTHYMO\PREAND-2\Proposed 75mm Orifice Tube.out
 Summary filename: G:\14229\OTTHYMO\PREAND-2\Proposed 75mm Orifice Tube.sum

DATE: 11/2/2016 TIME: 12:17:39 PM

USER:

COMMENTS: _____

```

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*****
** SIMULATION NUMBER: 1 **
*****

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-----
| CHICAGO STORM | IDF curve parameters: A= 319.000
| Ptotal= 26.71 mm | B= .000
| | C= .689
-----
used in: INTENSITY = A / (t + B)^C

Duration of storm = 3.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33

```

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 3.22 | 1.00 | 65.28 | 1.83 | 4.96 | 2.67 | 3.11 |
| .33 | 3.78 | 1.17 | 14.35 | 2.00 | 4.39 | 2.83 | 2.91 |
| .50 | 4.67 | 1.33 | 9.11 | 2.17 | 3.96 | 3.00 | 2.75 |
| .67 | 6.36 | 1.50 | 6.98 | 2.33 | 3.62 | | |
| .83 | 11.73 | 1.67 | 5.76 | 2.50 | 3.34 | | |

```

-----
| CALIB |
| STANDHYD (0001) | Area (ha)= 1.83
| ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00
-----

```

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | 1.56 | .27 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 110.50 | 40.00 |
| Mannings n = | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.22 | .833 | 11.73 | 1.583 | 5.76 | 2.33 | 3.62 |
| .167 | 3.22 | .917 | 65.28 | 1.667 | 5.76 | 2.42 | 3.34 |
| .250 | 3.78 | 1.000 | 65.28 | 1.750 | 4.96 | 2.50 | 3.34 |
| .333 | 3.78 | 1.083 | 14.35 | 1.833 | 4.96 | 2.58 | 3.11 |
| .417 | 4.67 | 1.167 | 14.35 | 1.917 | 4.39 | 2.67 | 3.11 |
| .500 | 4.67 | 1.250 | 9.11 | 2.000 | 4.39 | 2.75 | 2.91 |
| .583 | 6.36 | 1.333 | 9.11 | 2.083 | 3.96 | 2.83 | 2.91 |
| .667 | 6.36 | 1.417 | 6.98 | 2.167 | 3.96 | 2.92 | 2.75 |
| .750 | 11.73 | 1.500 | 6.98 | 2.250 | 3.62 | 3.00 | 2.75 |

Max.Eff.Inten.(mm/hr)= 65.28 61.50
 over (min) = 5.00 10.00
 Storage Coeff. (min)= 3.22 (ii) 7.40 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= .27 .13

PEAK FLOW (cms)= .27 .03 .302 (iii)
 TIME TO PEAK (hrs)= 1.00 1.08
 RUNOFF VOLUME (mm)= 25.71 23.38 25.36
 TOTAL RAINFALL (mm)= 26.71 26.71 26.71
 RUNOFF COEFFICIENT = .96 .88 .95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| CALIB |
| STANDHYD (0204) | Area (ha)= .27
| ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
-----

```

| | IMPERVIOUS | PERVIOUS (i) |
|------------------------|------------|--------------|
| Surface Area (ha)= | .24 | .03 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 42.40 | 40.00 |
| Mannings n = | .013 | .250 |
| Max.Eff.Inten.(mm/hr)= | 65.28 | 61.50 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min)= | 1.81 (ii) | 5.29 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 10.00 |
| Unit Hyd. peak (cms)= | .32 | .16 |
| PEAK FLOW (cms)= | .04 | .00 |
| TIME TO PEAK (hrs)= | 1.00 | 1.00 |
| RUNOFF VOLUME (mm)= | 25.71 | 23.38 |
| TOTAL RAINFALL (mm)= | 26.71 | 26.71 |
| RUNOFF COEFFICIENT = | .96 | .88 |

TOTALS

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| CALIB |
| NASHYD (0002) | Area (ha)= .20 Curve Number (CN)= 80.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
| | U.H. Tp(hrs)= .20
-----

```

Unit Hyd Qpeak (cms)= .038
 PEAK FLOW (cms)= .003 (i)
 TIME TO PEAK (hrs)= 1.167
 RUNOFF VOLUME (mm)= 5.519
 TOTAL RAINFALL (mm)= 26.714
 RUNOFF COEFFICIENT = .207

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| RESERVOIR (0205) |
| IN= 2--> OUT= 1 |
| DT= 5.0 min |
-----

```

| | OUTFLOW | STORAGE | OUTFLOW | STORAGE |
|-------|---------|---------|---------|---------|
| (cms) | (ha.m.) | (cms) | (ha.m.) | |
| .0000 | .0000 | .0203 | .0073 | |
| .0093 | .0010 | .0291 | .0073 | |
| .0112 | .0016 | .0293 | .0073 | |
| .0128 | .0027 | .0295 | .0073 | |
| .0147 | .0042 | .0297 | .0073 | |
| .0166 | .0057 | .0299 | .0073 | |
| .0183 | .0068 | .0304 | .0073 | |

INFLOW : ID= 2 (0204) .270 .047 1.00 25.47
 OUTFLOW: ID= 1 (0205) .270 .013 1.17 25.39

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.98
 TIME SHIFT OF PEAK FLOW (min)= 10.00
 MAXIMUM STORAGE USED (ha.m.)= .0027

```

-----
| ADD HYD (0203) |
| 1 + 2 = 3 |
-----
ID1= 1 (0205): .27 .013 1.17 25.39
+ ID2= 2 (0002): .20 .003 1.17 5.52
ID = 3 (0203): .47 .016 1.17 16.93

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0207) |

| | 1 | 2 | 3 | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|------|------|------|--------------|----------------|----------------|--------------|
| ID1= 1 (0001): | 1.83 | .302 | 1.00 | 25.36 | | | |
| + ID2= 2 (0203): | .47 | .016 | 1.17 | 16.93 | | | |
| ===== | | | | | | | |
| ID = 3 (0207): | 2.30 | .315 | 1.00 | 23.64 | | | |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 2 **

CHICAGO STORM | IDF curve parameters: A= 438.700
 Ptotal= 35.98 mm | B= .000
 C= .693
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 3.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.29 | 1.00 | 88.95 | 1.83 | 6.62 | 2.67 | 4.14 |
| .33 | 5.04 | 1.17 | 19.27 | 2.00 | 5.85 | 2.83 | 3.88 |
| .50 | 6.23 | 1.33 | 12.20 | 2.17 | 5.27 | 3.00 | 3.65 |
| .67 | 8.50 | 1.50 | 9.32 | 2.33 | 4.82 | | |
| .83 | 15.72 | 1.67 | 7.69 | 2.50 | 4.44 | | |

CALIB | Area (ha)= 1.83
 STANDHYD (0001) | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00
 ID= 1 DT= 5.0 min

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | 1.56 | .27 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 110.50 | 40.00 |
| Mannings n = | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

----- TRANSFORMED HYETOGRAPH -----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.29 | .833 | 15.72 | 1.583 | 7.69 | 2.33 | 4.82 |
| .167 | 4.29 | .917 | 88.95 | 1.667 | 7.69 | 2.42 | 4.44 |
| .250 | 5.04 | 1.000 | 88.95 | 1.750 | 6.62 | 2.50 | 4.44 |
| .333 | 5.04 | 1.083 | 19.27 | 1.833 | 6.62 | 2.58 | 4.14 |
| .417 | 6.23 | 1.167 | 19.27 | 1.917 | 5.85 | 2.67 | 4.14 |
| .500 | 6.23 | 1.250 | 12.20 | 2.000 | 5.85 | 2.75 | 3.88 |
| .583 | 8.50 | 1.333 | 12.20 | 2.083 | 5.27 | 2.83 | 3.88 |
| .667 | 8.50 | 1.417 | 9.32 | 2.167 | 5.27 | 2.92 | 3.65 |
| .750 | 15.72 | 1.500 | 9.32 | 2.250 | 4.82 | 3.00 | 3.65 |

| | | | |
|---------------------------|-----------|-----------|---------------------|
| Max. Eff. Inten. (mm/hr)= | 88.95 | 85.85 | |
| over (min) | 5.00 | 10.00 | |
| Storage Coeff. (min)= | 2.84 (ii) | 6.54 (ii) | |
| Unit Hyd. Tpeak (min)= | 5.00 | 10.00 | |
| Unit Hyd. peak (cms)= | .28 | .14 | |
| PEAK FLOW (cms)= | .37 | .05 | *TOTALS* .419 (iii) |
| TIME TO PEAK (hrs)= | 1.00 | 1.08 | 1.00 |
| RUNOFF VOLUME (mm)= | 34.98 | 32.59 | 34.62 |
| TOTAL RAINFALL (mm)= | 35.98 | 35.98 | 35.98 |
| RUNOFF COEFFICIENT = | .97 | .91 | .96 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | Area (ha)= .27
 STANDHYD (0204) | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
 ID= 1 DT= 5.0 min

| | IMPERVIOUS | PERVIOUS (i) |
|---------------------------|------------|--------------|
| Surface Area (ha)= | .24 | .03 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 42.40 | 40.00 |
| Mannings n = | .013 | .250 |
| Max. Eff. Inten. (mm/hr)= | 88.95 | 85.85 |
| over (min) | 5.00 | 5.00 |
| Storage Coeff. (min)= | 1.60 (ii) | 4.67 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 5.00 |
| Unit Hyd. peak (cms)= | .32 | .22 |

| | | | |
|----------------------|-------|-------|------------|
| PEAK FLOW (cms)= | .06 | .01 | .066 (iii) |
| TIME TO PEAK (hrs)= | 1.00 | 1.00 | 1.00 |
| RUNOFF VOLUME (mm)= | 34.98 | 32.59 | 34.74 |
| TOTAL RAINFALL (mm)= | 35.98 | 35.98 | 35.98 |
| RUNOFF COEFFICIENT = | .97 | .91 | .97 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | Area (ha)= .20 Curve Number (CN)= 80.0
 NASHYD (0002) | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ID= 1 DT= 5.0 min | U.H. Tp(hrs)= .20

| | |
|-----------------------|----------|
| Unit Hyd Qpeak (cms)= | .038 |
| PEAK FLOW (cms)= | .006 (i) |
| TIME TO PEAK (hrs)= | 1.167 |
| RUNOFF VOLUME (mm)= | 10.138 |
| TOTAL RAINFALL (mm)= | 35.983 |
| RUNOFF COEFFICIENT = | .282 |

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205) |
 IN= 2----> OUT= 1 |
 DT= 5.0 min |

| OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|---------------|-----------------|---------------|-----------------|
| .0000 | .0000 | .0203 | .0073 |
| .0093 | .0010 | .0291 | .0073 |
| .0112 | .0016 | .0293 | .0073 |
| .0128 | .0027 | .0295 | .0073 |
| .0147 | .0042 | .0297 | .0073 |
| .0166 | .0057 | .0299 | .0073 |
| .0183 | .0068 | .0304 | .0073 |

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|-----------------------|-----------|-------------|-------------|-----------|
| INFLOW : ID= 2 (0204) | .270 | .066 | 1.00 | 34.74 |
| OUTFLOW: ID= 1 (0205) | .270 | .014 | 1.17 | 34.67 |

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.95
 TIME SHIFT OF PEAK FLOW (min)= 10.00
 MAXIMUM STORAGE USED (ha.m.)= .0040

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0205): | .27 | .014 | 1.17 | 34.67 |
| + ID2= 2 (0002): | .20 | .006 | 1.17 | 10.14 |
| ===== | | | | |
| ID = 3 (0203): | .47 | .020 | 1.17 | 24.23 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0001): | 1.83 | .419 | 1.00 | 34.62 |
| + ID2= 2 (0203): | .47 | .020 | 1.17 | 24.23 |
| ===== | | | | |
| ID = 3 (0207): | 2.30 | .436 | 1.00 | 32.50 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 3 **

CHICAGO STORM | IDF curve parameters: A= 516.000
 Ptotal= 45.99 mm | B= .000
 C= .694
 used in: INTENSITY = A / (t + B)^C

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| | | | | | | | |

| | | | | | | | |
|------|------|------|--------|------|------|------|------|
| .17 | 3.93 | 1.17 | 18.38 | 2.17 | 7.73 | 3.17 | 4.52 |
| .33 | 4.39 | 1.33 | 104.39 | 2.33 | 6.83 | 3.33 | 4.26 |
| .50 | 5.00 | 1.50 | 22.53 | 2.50 | 6.15 | 3.50 | 4.03 |
| .67 | 5.88 | 1.67 | 14.25 | 2.67 | 5.62 | 3.67 | 3.83 |
| .83 | 7.27 | 1.83 | 10.89 | 2.83 | 5.19 | 3.83 | 3.65 |
| 1.00 | 9.93 | 2.00 | 8.98 | 3.00 | 4.83 | 4.00 | 3.50 |

Unit Hyd Qpeak (cms)= .038
 PEAK FLOW (cms)= .009 (i)
 TIME TO PEAK (hrs)= 1.500
 RUNOFF VOLUME (mm)= 16.048
 TOTAL RAINFALL (mm)= 45.992
 RUNOFF COEFFICIENT = .349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 STANDHYD (0001) | Area (ha)= 1.83
 ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

| | IMPERVIOUS | PERVIOUS (i) |
|-------------------|------------|--------------|
| Surface Area (ha) | 1.56 | .27 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 110.50 | 40.00 |
| Mannings n | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

| --- TRANSFORMED HYETOGRAPH --- | | | | | | | |
|--------------------------------|-------|-------|--------|-------|-------|------|-------|
| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.93 | 1.083 | 18.38 | 2.083 | 7.73 | 3.08 | 4.52 |
| .167 | 3.93 | 1.167 | 18.38 | 2.167 | 7.73 | 3.17 | 4.52 |
| .250 | 4.39 | 1.250 | 104.39 | 2.250 | 6.83 | 3.25 | 4.26 |
| .333 | 4.39 | 1.333 | 104.39 | 2.333 | 6.83 | 3.33 | 4.26 |
| .417 | 5.00 | 1.417 | 22.53 | 2.417 | 6.15 | 3.42 | 4.03 |
| .500 | 5.00 | 1.500 | 22.53 | 2.500 | 6.15 | 3.50 | 4.03 |
| .583 | 5.88 | 1.583 | 14.25 | 2.583 | 5.62 | 3.58 | 3.83 |
| .667 | 5.88 | 1.667 | 14.25 | 2.667 | 5.62 | 3.67 | 3.83 |
| .750 | 7.27 | 1.750 | 10.89 | 2.750 | 5.19 | 3.75 | 3.65 |
| .833 | 7.27 | 1.833 | 10.89 | 2.833 | 5.19 | 3.83 | 3.65 |
| .917 | 9.93 | 1.917 | 8.98 | 2.917 | 4.83 | 3.92 | 3.50 |
| 1.000 | 9.93 | 2.000 | 8.98 | 3.000 | 4.83 | 4.00 | 3.50 |

Max.Eff.Inten.(mm/hr)= 104.39 102.10
 over (min) = 5.00 10.00
 Storage Coeff. (min)= 2.67 (ii) 6.13 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= .29 .15

PEAK FLOW (cms)= .44 .05
 TIME TO PEAK (hrs)= 1.33 1.33
 RUNOFF VOLUME (mm)= 44.99 42.56
 TOTAL RAINFALL (mm)= 45.99 45.99
 RUNOFF COEFFICIENT = .98 .93

TOTALS
 .497 (iii)
 44.63
 45.99
 .97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 STANDHYD (0204) | Area (ha)= .27
 ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

| | IMPERVIOUS | PERVIOUS (i) |
|-------------------|------------|--------------|
| Surface Area (ha) | .24 | .03 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 42.40 | 40.00 |
| Mannings n | .013 | .250 |

Max.Eff.Inten.(mm/hr)= 104.39 102.10
 over (min) = 5.00 5.00
 Storage Coeff. (min)= 1.50 (ii) 4.38 (ii)
 Unit Hyd. Tpeak (min)= 5.00 5.00
 Unit Hyd. peak (cms)= .33 .23

PEAK FLOW (cms)= .07 .01
 TIME TO PEAK (hrs)= 1.33 1.33
 RUNOFF VOLUME (mm)= 44.99 42.56
 TOTAL RAINFALL (mm)= 45.99 45.99
 RUNOFF COEFFICIENT = .98 .93

TOTALS
 .077 (iii)
 44.74
 45.99
 .97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 NASHYD (0002) | Area (ha)= .20 Curve Number (CN)= 80.0
 ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= .20

| RESERVOIR (0205) | OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|-------------------|---------------|-----------------|---------------|-----------------|
| IN= 2----> OUT= 1 | | | | |
| DT= 5.0 min | | | | |
| | .0000 | .0000 | .0203 | .0073 |
| | .0093 | .0010 | .0291 | .0073 |
| | .0112 | .0016 | .0293 | .0073 |
| | .0128 | .0027 | .0295 | .0073 |
| | .0147 | .0042 | .0297 | .0073 |
| | .0166 | .0057 | .0299 | .0073 |
| | .0183 | .0068 | .0304 | .0073 |

AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)
 INFLOW : ID= 2 (0204) .270 .077 1.33 44.74
 OUTFLOW: ID= 1 (0205) .270 .016 1.50 44.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.12
 TIME SHIFT OF PEAK FLOW (min)= 10.00
 MAXIMUM STORAGE USED (ha.m.)= .0049

| ADD HYD (0203) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0205): | .27 | .016 | 1.50 | 44.67 |
| + ID2= 2 (0002): | .20 | .009 | 1.50 | 16.05 |
| ID = 3 (0203): | .47 | .025 | 1.50 | 32.49 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0207) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0001): | 1.83 | .497 | 1.33 | 44.63 |
| + ID2= 2 (0203): | .47 | .025 | 1.50 | 32.49 |
| ID = 3 (0207): | 2.30 | .517 | 1.33 | 42.15 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 4 **

CHICAGO STORM | IDF curve parameters: A= 608.500
 Ptotal= 54.24 mm | B= .000
 C= .694

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.63 | 1.17 | 21.67 | 2.17 | 9.11 | 3.17 | 5.33 |
| .33 | 5.17 | 1.33 | 123.10 | 2.33 | 8.06 | 3.33 | 5.02 |
| .50 | 5.90 | 1.50 | 26.56 | 2.50 | 7.26 | 3.50 | 4.75 |
| .67 | 6.93 | 1.67 | 16.81 | 2.67 | 6.63 | 3.67 | 4.52 |
| .83 | 8.58 | 1.83 | 12.84 | 2.83 | 6.11 | 3.83 | 4.31 |
| 1.00 | 11.71 | 2.00 | 10.59 | 3.00 | 5.69 | 4.00 | 4.12 |

CALIB
 STANDHYD (0001) | Area (ha)= 1.83
 ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

| | IMPERVIOUS | PERVIOUS (i) |
|-------------------|------------|--------------|
| Surface Area (ha) | 1.56 | .27 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 110.50 | 40.00 |
| Mannings n | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.63 | 1.083 | 21.67 | 2.083 | 9.11 | 3.08 | 5.33 |
| .167 | 4.63 | 1.167 | 21.67 | 2.167 | 9.11 | 3.17 | 5.33 |
| .250 | 5.17 | 1.250 | 123.10 | 2.250 | 8.06 | 3.25 | 5.02 |
| .333 | 5.17 | 1.333 | 123.10 | 2.333 | 8.06 | 3.33 | 5.02 |
| .417 | 5.90 | 1.417 | 26.56 | 2.417 | 7.26 | 3.42 | 4.75 |
| .500 | 5.90 | 1.500 | 26.56 | 2.500 | 7.26 | 3.50 | 4.75 |
| .583 | 6.93 | 1.583 | 16.81 | 2.583 | 6.63 | 3.58 | 4.52 |
| .667 | 6.93 | 1.667 | 16.81 | 2.667 | 6.63 | 3.67 | 4.52 |
| .750 | 8.58 | 1.750 | 12.84 | 2.750 | 6.11 | 3.75 | 4.31 |
| .833 | 8.58 | 1.833 | 12.84 | 2.833 | 6.11 | 3.83 | 4.31 |
| .917 | 11.71 | 1.917 | 10.59 | 2.917 | 5.69 | 3.92 | 4.12 |
| 1.000 | 11.71 | 2.000 | 10.59 | 3.000 | 5.69 | 4.00 | 4.12 |

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------------------------|-----------|-------------|-------------|-----------|
| INFLOW : ID= 2 (0204) | .270 | .091 | 1.33 | 52.99 |
| OUTFLOW: ID= 1 (0205) | .270 | .017 | 1.50 | 52.91 |
| PEAK FLOW REDUCTION [Qout/Qin](%)= | 18.56 | | | |
| TIME SHIFT OF PEAK FLOW (min)= | 10.00 | | | |
| MAXIMUM STORAGE USED (ha.m.)= | .0060 | | | |

Max.Eff.Inten.(mm/hr)= 123.10 121.10
 over (min) 5.00 10.00
 Storage Coeff. (min)= 2.50 (ii) 5.74 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= .29 .15

PEAK FLOW (cms)= .52 .07
 TIME TO PEAK (hrs)= 1.33 1.33
 RUNOFF VOLUME (mm)= 53.24 50.79
 TOTAL RAINFALL (mm)= 54.24 54.24
 RUNOFF COEFFICIENT = .98 .94

ADD HYD (0203)

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0205): | .27 | .017 | 1.50 | 52.91 |
| + ID2= 2 (0002): | .20 | .012 | 1.50 | 21.46 |
| ID = 3 (0203): | .47 | .029 | 1.50 | 39.53 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0207)

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0001): | 1.83 | .591 | 1.33 | 52.87 |
| + ID2= 2 (0203): | .47 | .029 | 1.50 | 39.53 |
| ID = 3 (0207): | 2.30 | .614 | 1.33 | 50.14 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB | STANDHYD (0204) | Area (ha)= | Total Imp(%)= | Dir. Conn.(%)= |
|-------------------|-----------------|------------|---------------|----------------|
| ID= 1 DT= 5.0 min | | .27 | 90.00 | 90.00 |

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | .24 | .03 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 42.40 | 40.00 |
| Mannings n = | .013 | .250 |

Max.Eff.Inten.(mm/hr)= 123.10 121.10
 over (min) 5.00 5.00
 Storage Coeff. (min)= 1.40 (ii) 4.10 (ii)
 Unit Hyd. Tpeak (min)= 5.00 5.00
 Unit Hyd. peak (cms)= .33 .24

PEAK FLOW (cms)= .08 .01
 TIME TO PEAK (hrs)= 1.33 1.33
 RUNOFF VOLUME (mm)= 53.24 50.79
 TOTAL RAINFALL (mm)= 54.24 54.24
 RUNOFF COEFFICIENT = .98 .94

CHICAGO STORM IDF curve parameters: A= 690.600
 B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.12 | 1.17 | 24.14 | 2.17 | 10.11 | 3.17 | 5.90 |
| .33 | 5.72 | 1.33 | 138.75 | 2.33 | 8.93 | 3.33 | 5.56 |
| .50 | 6.53 | 1.50 | 29.60 | 2.50 | 8.04 | 3.50 | 5.26 |
| .67 | 7.68 | 1.67 | 18.69 | 2.67 | 7.34 | 3.67 | 5.00 |
| .83 | 9.51 | 1.83 | 14.27 | 2.83 | 6.77 | 3.83 | 4.77 |
| 1.00 | 13.00 | 2.00 | 11.76 | 3.00 | 6.30 | 4.00 | 4.56 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | STANDHYD (0001) | Area (ha)= | Total Imp(%)= | Dir. Conn.(%)= |
|-------------------|-----------------|------------|---------------|----------------|
| ID= 1 DT= 5.0 min | | 1.83 | 85.00 | 85.00 |

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | 1.56 | .27 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 110.50 | 40.00 |
| Mannings n = | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

Unit Hyd Qpeak (cms)= .038

PEAK FLOW (cms)= .012 (i)
 TIME TO PEAK (hrs)= 1.500
 RUNOFF VOLUME (mm)= 21.461
 TOTAL RAINFALL (mm)= 54.237
 RUNOFF COEFFICIENT = .396

- (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0205) | OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|------------------|---------------|-----------------|---------------|-----------------|
| IN= 2--> OUT= 1 | | | | |
| DT= 5.0 min | | | | |
| | .0000 | .0000 | .0203 | .0073 |
| | .0093 | .0010 | .0291 | .0073 |
| | .0112 | .0016 | .0293 | .0073 |
| | .0128 | .0027 | .0295 | .0073 |
| | .0147 | .0042 | .0297 | .0073 |
| | .0166 | .0057 | .0299 | .0073 |

---- TRANSFORMED HYETOGRAPH ----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.12 | 1.083 | 24.14 | 2.083 | 10.11 | 3.08 | 5.90 |
| .167 | 5.12 | 1.167 | 24.14 | 2.167 | 10.11 | 3.17 | 5.90 |
| .250 | 5.72 | 1.250 | 138.75 | 2.250 | 8.93 | 3.25 | 5.56 |
| .333 | 5.72 | 1.333 | 138.75 | 2.333 | 8.93 | 3.33 | 5.56 |
| .417 | 6.53 | 1.417 | 29.60 | 2.417 | 8.04 | 3.42 | 5.26 |
| .500 | 6.53 | 1.500 | 29.60 | 2.500 | 8.04 | 3.50 | 5.26 |
| .583 | 7.68 | 1.583 | 18.69 | 2.583 | 7.34 | 3.58 | 5.00 |
| .667 | 7.68 | 1.667 | 18.69 | 2.667 | 7.34 | 3.67 | 5.00 |
| .750 | 9.51 | 1.750 | 14.27 | 2.750 | 6.77 | 3.75 | 4.77 |
| .833 | 9.51 | 1.833 | 14.27 | 2.833 | 6.77 | 3.83 | 4.77 |
| .917 | 13.00 | 1.917 | 11.76 | 2.917 | 6.30 | 3.92 | 4.56 |
| 1.000 | 13.00 | 2.000 | 11.76 | 3.000 | 6.30 | 4.00 | 4.56 |

Max.Eff.Inten.(mm/hr)= 138.75 136.90
 over (min) 5.00 10.00
 Storage Coeff. (min)= 2.38 (ii) 5.47 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= .30 .16

PEAK FLOW (cms) = .59 .08
 TIME TO PEAK (hrs) = 1.33 1.33
 RUNOFF VOLUME (mm) = 59.55 57.09 59.18
 TOTAL RAINFALL (mm) = 60.55 60.55 60.55
 RUNOFF COEFFICIENT = .98 .94 .98

TOTALS
 .669 (iii)

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0207) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0001): | 1.83 | .669 | 1.33 | 59.18 |
| + ID2= 2 (0203): | .47 | .034 | 1.50 | 45.03 |
| ID = 3 (0207): | 2.30 | .696 | 1.33 | 56.29 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB | STANDHYD (0204) | Area (ha) | Total Imp(%) | Dir. Conn.(%) |
|-------------------|-----------------|-----------|--------------|---------------|
| ID= 1 DT= 5.0 min | | .27 | 90.00 | 90.00 |

 ** SIMULATION NUMBER: 6 **

IMPERVIOUS PERVIOUS (i)
 Surface Area (ha) = .24 .03
 Dep. Storage (mm) = 1.00 1.00
 Average Slope (%) = 1.00 2.00
 Length (m) = 42.40 40.00
 Mannings n = .013 .250

CHICAGO STORM IDF curve parameters: A= 760.000
 Ptotal= 66.64 mm B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C

Max.Eff.Inten.(mm/hr) = 138.75 136.90
 over (min) = 5.00 5.00
 Storage Coeff. (min) = 1.34 (ii) 3.91 (ii)
 Unit Hyd. Tpeak (min) = 5.00 5.00
 Unit Hyd. peak (cms) = .33 .25

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

PEAK FLOW (cms) = .09 .01
 TIME TO PEAK (hrs) = 1.33 1.33
 RUNOFF VOLUME (mm) = 59.55 57.09 59.30
 TOTAL RAINFALL (mm) = 60.55 60.55 60.55
 RUNOFF COEFFICIENT = .98 .94 .98

TOTALS .103 (iii)

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.64 | 1.17 | 26.56 | 2.17 | 11.13 | 3.17 | 6.49 |
| .33 | 6.30 | 1.33 | 152.69 | 2.33 | 9.83 | 3.33 | 6.12 |
| .50 | 7.18 | 1.50 | 32.58 | 2.50 | 8.85 | 3.50 | 5.79 |
| .67 | 8.46 | 1.67 | 20.57 | 2.67 | 8.08 | 3.67 | 5.50 |
| .83 | 10.47 | 1.83 | 15.70 | 2.83 | 7.45 | 3.83 | 5.24 |
| 1.00 | 14.31 | 2.00 | 12.94 | 3.00 | 6.93 | 4.00 | 5.02 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | STANDHYD (0001) | Area (ha) | Total Imp(%) | Dir. Conn.(%) |
|-------------------|-----------------|-----------|--------------|---------------|
| ID= 1 DT= 5.0 min | | 1.83 | 85.00 | 85.00 |

IMPERVIOUS PERVIOUS (i)
 Surface Area (ha) = 1.56 .27
 Dep. Storage (mm) = 1.00 1.00
 Average Slope (%) = 1.00 2.00
 Length (m) = 110.50 40.00
 Mannings n = .013 .250

U.H. Tp(hrs) = .20
 Unit Hyd Qpeak (cms) = .038
 PEAK FLOW (cms) = .015 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 25.869
 TOTAL RAINFALL (mm) = 60.551
 RUNOFF COEFFICIENT = .427

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---- TRANSFORMED HYETOGRAPH ----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.64 | 1.083 | 26.56 | 2.083 | 11.13 | 3.08 | 6.49 |
| .167 | 5.64 | 1.167 | 26.56 | 2.167 | 11.13 | 3.17 | 6.49 |
| .250 | 6.30 | 1.250 | 152.69 | 2.250 | 9.83 | 3.25 | 6.12 |
| .333 | 6.30 | 1.333 | 152.69 | 2.333 | 9.83 | 3.33 | 6.12 |
| .417 | 7.18 | 1.417 | 32.58 | 2.417 | 8.85 | 3.42 | 5.79 |
| .500 | 7.18 | 1.500 | 32.58 | 2.500 | 8.85 | 3.50 | 5.79 |
| .583 | 8.46 | 1.583 | 20.57 | 2.583 | 8.08 | 3.58 | 5.50 |
| .667 | 8.46 | 1.667 | 20.57 | 2.667 | 8.08 | 3.67 | 5.50 |
| .750 | 10.47 | 1.750 | 15.70 | 2.750 | 7.45 | 3.75 | 5.24 |
| .833 | 10.47 | 1.833 | 15.70 | 2.833 | 7.45 | 3.83 | 5.24 |
| .917 | 14.31 | 1.917 | 12.94 | 2.917 | 6.93 | 3.92 | 5.02 |
| 1.000 | 14.31 | 2.000 | 12.94 | 3.000 | 6.93 | 4.00 | 5.02 |

| RESERVOIR (0205) | IN= 2--> OUT= 1 | DT= 5.0 min | OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|------------------|-----------------|-------------|---------------|-----------------|---------------|-----------------|
| | | | .0000 | .0000 | .0203 | .0073 |
| | | | .0093 | .0010 | .0291 | .0073 |
| | | | .0112 | .0016 | .0293 | .0073 |
| | | | .0128 | .0027 | .0295 | .0073 |
| | | | .0147 | .0042 | .0297 | .0073 |
| | | | .0166 | .0057 | .0299 | .0073 |
| | | | .0183 | .0068 | .0304 | .0073 |

Max.Eff.Inten.(mm/hr) = 152.69 150.99
 over (min) = 5.00 10.00
 Storage Coeff. (min) = 2.29 (ii) 5.27 (ii)
 Unit Hyd. Tpeak (min) = 5.00 10.00
 Unit Hyd. peak (cms) = .30 .16

AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)
 INFLOW : ID= 2 (0204) .270 .103 1.33 59.30
 OUTFLOW: ID= 1 (0205) .270 .018 1.58 59.23

PEAK FLOW REDUCTION [Qout/Qin](%) = 17.80
 TIME SHIFT OF PEAK FLOW (min) = 15.00
 MAXIMUM STORAGE USED (ha.m.) = .0069

- ***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0203) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0205): | .27 | .018 | 1.58 | 59.23 |
| + ID2= 2 (0002): | .20 | .015 | 1.50 | 25.87 |
| ID = 3 (0203): | .47 | .034 | 1.50 | 45.03 |

| CALIB | STANDHYD (0204) | Area (ha) | Total Imp(%) | Dir. Conn.(%) |
|-------------------|-----------------|-----------|--------------|---------------|
| ID= 1 DT= 5.0 min | | .27 | 90.00 | 90.00 |

IMPERVIOUS PERVIOUS (i)

| | | | | | | | | |
|------------------------|-----------|-----------|--|-------|-------|--|-----------------------|-------|
| Surface Area (ha)= | .24 | .03 | | .0000 | .0000 | | .0203 | .0073 |
| Dep. Storage (mm)= | 1.00 | 1.00 | | .0093 | .0010 | | .0291 | .0073 |
| Average Slope (%)= | 1.00 | 2.00 | | .0112 | .0016 | | .0293 | .0073 |
| Length (m)= | 42.40 | 40.00 | | .0128 | .0027 | | .0295 | .0073 |
| Mannings n = | .013 | .250 | | .0147 | .0042 | | .0297 | .0073 |
| | | | | .0166 | .0057 | | .0299 | .0073 |
| Max.Eff.Inten.(mm/hr)= | 152.69 | 150.99 | | .0183 | .0068 | | .0304 | .0073 |
| over (min) | 5.00 | 5.00 | | | | | | |
| Storage Coeff. (min)= | 1.29 (ii) | 3.76 (ii) | | | | | AREA | QPEAK |
| Unit Hyd. Tpeak (min)= | 5.00 | 5.00 | | | | | (ha) | (cms) |
| Unit Hyd. peak (cms)= | .33 | .25 | | | | | TPEAK | R.V. |
| | | | | | | | (hrs) | (mm) |
| | | | | | | | INFLOW : ID= 2 (0204) | |
| | | | | | | | OUTFLOW: ID= 1 (0205) | |
| | | | | | | | .270 | .114 |
| | | | | | | | .270 | .029 |
| | | | | | | | | 1.33 |
| | | | | | | | | 1.50 |
| | | | | | | | | 65.38 |
| | | | | | | | | 65.32 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| ADD HYD (0203) |
| 1 + 2 = 3 |
-----
          AREA   QPEAK   TPEAK   R.V.
          (ha)   (cms)   (hrs)   (mm)
ID1= 1 (0205): .27 .029  1.50  65.32
+ ID2= 2 (0002): .20 .018  1.50  30.30
-----
ID = 3 (0203): .47 .047  1.50  50.42
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB |
| NASHYD (0002) | Area (ha)= .20 Curve Number (CN)= 80.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
|-----| U.H. Tp(hrs)= .20
  
```

Unit Hyd Qpeak (cms)= .038
 PEAK FLOW (cms)= .018 (i)
 TIME TO PEAK (hrs)= 1.500
 RUNOFF VOLUME (mm)= 30.298
 TOTAL RAINFALL (mm)= 66.636
 RUNOFF COEFFICIENT = .455

```

-----
| ADD HYD (0207) |
| 1 + 2 = 3 |
-----
          AREA   QPEAK   TPEAK   R.V.
          (ha)   (cms)   (hrs)   (mm)
ID1= 1 (0001): 1.83 .739  1.33  65.26
+ ID2= 2 (0203): .47 .047  1.50  50.42
-----
ID = 3 (0207): 2.30 .768  1.33  62.23
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR (0205) |
| IN= 2--> OUT= 1 |
| DT= 5.0 min |
|-----|
          OUTFLOW   STORAGE   OUTFLOW   STORAGE
          (cms)     (ha.m.)   (cms)     (ha.m.)
  
```

FINISH



Stormceptor Design Summary

PCSWMM for Stormceptor

Project Information

| | |
|----------------|-----------------------|
| Date | 6/7/2016 |
| Project Name | CTC - New Liskeard |
| Project Number | 14229 |
| Location | Prop. CB 1 (STC 300i) |

Designer Information

| | |
|---------|----------------------------|
| Company | The Odan/Detech Group Inc. |
| Contact | N/A |

Notes

| |
|-----|
| N/A |
|-----|

Drainage Area

| | |
|--------------------|------|
| Total Area (ha) | 0.27 |
| Imperviousness (%) | 90 |

The Stormceptor System model STC 300 achieves the water quality objective removing 93% TSS for a Fine (organics, silts and sand) particle size distribution and 95% runoff volume.

Rainfall

| | |
|------------------|--------------|
| Name | NORTH BAY A |
| State | ON |
| ID | 5700 |
| Years of Records | 1964 to 2003 |
| Latitude | 46°22'N |
| Longitude | 79°25'W |

Water Quality Objective

| | |
|-------------------|----|
| TSS Removal (%) | 80 |
| Runoff Volume (%) | 90 |

Upstream Storage

| Storage (ha-m) | Discharge (L/s) |
|-----------------|-----------------|
| 0.000 | 00.000 |
| 0.003 | 00.021 |
| 0.003 | 00.022 |
| 0.003 | 00.022 |
| Partial Listing | |

Stormceptor Sizing Summary

| Stormceptor Model | TSS Removal | Runoff Volume |
|-------------------|-------------|---------------|
| | % | % |
| STC 300 | 93 | 95 |
| STC 750 | 94 | 99 |
| STC 1000 | 94 | 99 |
| STC 1500 | 94 | 99 |
| STC 2000 | 95 | 100 |
| STC 3000 | 95 | 100 |
| STC 4000 | 96 | 100 |
| STC 5000 | 96 | 100 |
| STC 6000 | 97 | 100 |
| STC 9000 | 98 | 100 |
| STC 10000 | 98 | 100 |
| STC 14000 | 98 | 100 |



Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

| Fine (organics, silts and sand) | | | | | | | |
|---------------------------------|--------------|------------------|-------------------|---------------|--------------|------------------|-------------------|
| Particle Size | Distribution | Specific Gravity | Settling Velocity | Particle Size | Distribution | Specific Gravity | Settling Velocity |
| µm | % | | m/s | µm | % | | m/s |
| 20 | 20 | 1.3 | 0.0004 | | | | |
| 60 | 20 | 1.8 | 0.0016 | | | | |
| 150 | 20 | 2.2 | 0.0108 | | | | |
| 400 | 20 | 2.65 | 0.0647 | | | | |
| 2000 | 20 | 2.65 | 0.2870 | | | | |

Stormceptor Design Notes

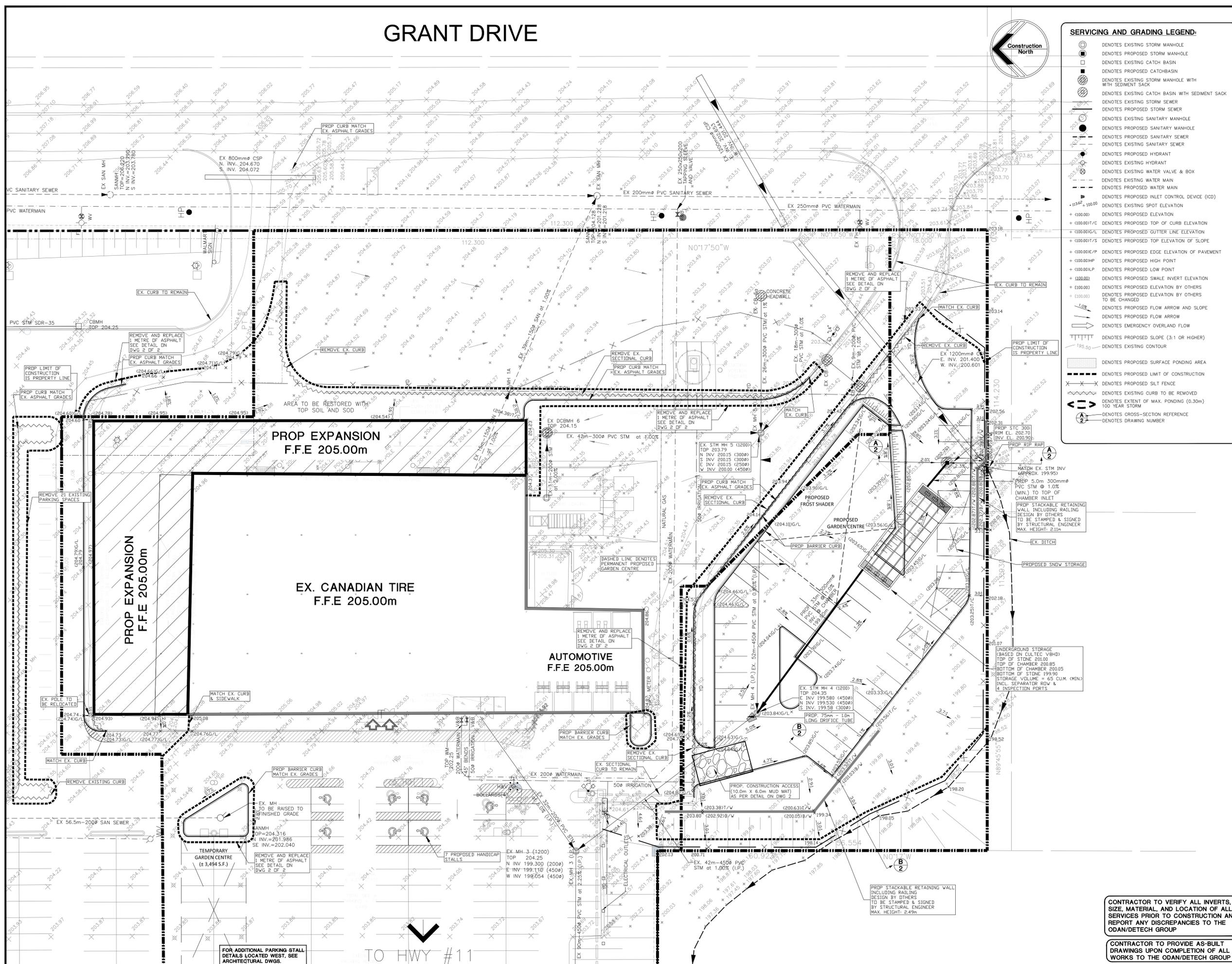
- Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor version 1.0
- Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal.
- Only the STC 300 is adaptable to function with a catch basin inlet and/or inline pipes.
- Only the Stormceptor models STC 750 to STC 6000 may accommodate multiple inlet pipes.
- Inlet and outlet invert elevation differences are as follows:

| Inlet and Outlet Pipe Invert Elevations Differences | | | |
|--|---------|---------------------|-----------------------|
| Inlet Pipe Configuration | STC 300 | STC 750 to STC 6000 | STC 9000 to STC 14000 |
| Single inlet pipe | 75 mm | 25 mm | 75 mm |
| Multiple inlet pipes | 75 mm | 75 mm | Only one inlet pipe. |

- Design estimates are based on stable site conditions only, after construction is completed.
- Design estimates assume that the storm drain is not submerged during zero flows. For submerged applications, please contact your local Stormceptor representative.
- Design estimates may be modified for specific spills controls. Please contact your local Stormceptor representative for further assistance.
- For pricing inquiries or assistance, please contact Imbrium Systems Inc., 1-800-565-4801.

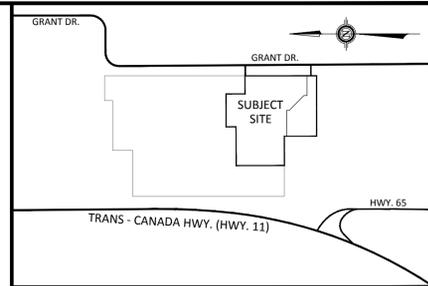
APPENDIX C

GRANT DRIVE



SERVICING AND GRADING LEGEND:

- DENOTES EXISTING STORM MANHOLE
- DENOTES PROPOSED STORM MANHOLE
- DENOTES EXISTING CATCH BASIN
- DENOTES PROPOSED CATCH-BASIN
- DENOTES EXISTING STORM MANHOLE WITH W/ SEDIMENT SACK
- DENOTES EXISTING CATCH BASIN WITH SEDIMENT SACK
- DENOTES EXISTING STORM SEWER
- DENOTES PROPOSED STORM SEWER
- DENOTES EXISTING SANITARY MANHOLE
- DENOTES PROPOSED SANITARY MANHOLE
- DENOTES EXISTING SANITARY SEWER
- DENOTES PROPOSED SANITARY SEWER
- DENOTES EXISTING HYDRANT
- DENOTES PROPOSED HYDRANT
- DENOTES EXISTING WATER VALVE & BOX
- DENOTES EXISTING WATER MAIN
- DENOTES PROPOSED WATER MAIN
- DENOTES EXISTING INLET CONTROL DEVICE (ICD)
- DENOTES PROPOSED INLET CONTROL DEVICE (ICD)
- DENOTES EXISTING SPOT ELEVATION
- + DENOTES PROPOSED ELEVATION
- + DENOTES PROPOSED TOP OF CURB ELEVATION
- + DENOTES PROPOSED GUTTER LINE ELEVATION
- + DENOTES PROPOSED TOP ELEVATION OF SLOPE
- + DENOTES PROPOSED EDGE ELEVATION OF PAVEMENT
- + DENOTES PROPOSED HIGH POINT
- + DENOTES PROPOSED LOW POINT
- + DENOTES PROPOSED SWALE INVERT ELEVATION
- + DENOTES PROPOSED ELEVATION BY OTHERS
- + DENOTES PROPOSED ELEVATION BY OTHERS TO BE CHANGED
- DENOTES PROPOSED FLOW ARROW AND SLOPE
- DENOTES EXISTING FLOW ARROW
- DENOTES EMERGENCY OVERLAND FLOW
- DENOTES PROPOSED SLOPE (3:1 OR HIGHER)
- DENOTES EXISTING CONTOUR
- DENOTES PROPOSED SURFACE PONDING AREA
- DENOTES PROPOSED LIMIT OF CONSTRUCTION
- DENOTES PROPOSED SILT FENCE
- DENOTES EXISTING CURB TO BE REMOVED
- DENOTES EXTENT OF MAX. PONDING (0.30m) 100 YEAR STORM
- DENOTES CROSS-SECTION REFERENCE
- DENOTES DRAWING NUMBER



KEY PLAN

Scale : N.T.S.

SUBJECT LANDS

NOTE :
 THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
 THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.
 ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
 THIS DRAWING IS NOT TO BE SCALED. CONTRACTOR TO USE DIGITAL FILES FOR LAYOUT PROVIDED BY ENGINEER.
 THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.
 THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO, THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...
 EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY EXP SERVICES INC.

BENCH MARK:

| CONTROL TABLE | UTM_ZONE | Easting | Northing | IB |
|---------------|----------|---------|---------------|----------|
| 170 | 600018 | 4450m | 5265200.8440m | 207.941m |
| 171 | 600024 | 3430m | 5264935.8390m | 203.181m |
| 172 | 601371 | 0920m | 5264120.9540m | 194.370m |

BEARING NOTE:

BEARINGS ARE ASTROMERIC AND ARE REFERRED TO THE WEST LIMIT OF GRANT DRIVE AS SHOWN ON PLAN 54R-4098 HAVING A BEARING OF N01750°W.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

| NO. | REVISIONS | DATE | BY |
|-----|-------------------------------------|-------------|------|
| 4 | ISSUED FOR SITE PLAN & MTO APPROVAL | NOV 22/2016 | M.H. |
| 3 | ISSUED FOR MTO REVIEW & APPROVAL | NOV 2/2016 | M.H. |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JUL 14/2016 | C.M. |
| 1 | ISSUED FOR REVIEW | JUN 15/2016 | Z.Z. |

SCALE : 0 5 10 20 30

SITE SERVICING & GRADING PLAN

CLIENT : **CANADIAN TIRE REAL ESTATE LTD.**
 2180 YONGE STREET
 TORONTO, ONTARIO

PROJECT : **RETAIL STORE AND SERVICE CENTRE #088**
HIGHWAY #11
 NEW LISKEARD, ONTARIO

ODAN-DETECH
 CONSULTING ENGINEERS

The Odan/Detech Group Inc. P: (855) 632-3811 F: (855) 632-3363
 6230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 8K2

| SCALE : | PROJ. NO.: | DATE STARTED: | DESIGN BY: |
|--------------|------------|---------------|-----------------------|
| 1:300 | 14229 | JUN 2016 | J.K. |
| 14229-1D.DWG | | | DRAWN BY: Z.Z. |
| | | | CHECKED BY: D.C.S. |
| | | | APPROVED BY: J.K. |
| | | | DRWG. NO.: |

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

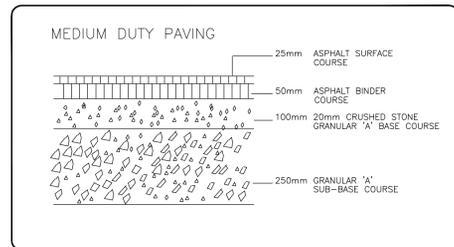
CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP

REGISTERED PROFESSIONAL ENGINEER
 I. KRPAN
 NOV 22/16
 PROVINCE OF ONTARIO
 ENGINEER

1 OF 2

GENERAL NOTES

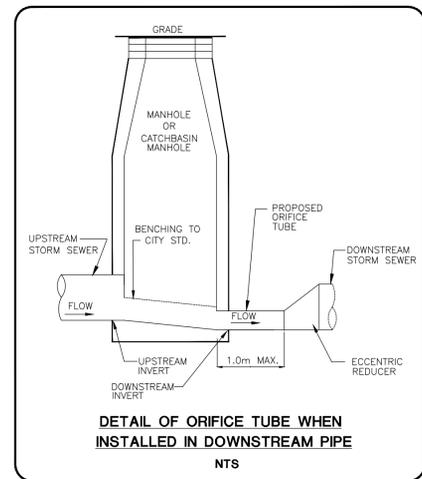
- DRAWINGS ARE NOT TO BE SCALED.
- DO NOT SITE BUILDINGS WITH THIS DRAWING.
- ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
- UNLESS OTHERWISE NOTED ON THE DRAWINGS THE STANDARD TOWN, REGION/COUNTY, MTO AND OPSD AND OSS ARE TO CONSTITUTE PART OF THIS CONTRACT AND SITE PLAN DRAWINGS.
- REFER TO TOWN STANDARDS AND SPECIFICATIONS FOR LIST OF APPROVED MANUFACTURERS AND MATERIALS.
- EXISTING STRUCTURES ARE NOT TO BE DISTURBED, NOR ENCROACHMENT ON ADJACENT PROPERTIES UNLESS INSTRUCTED BY THE ENGINEER.
- THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING AND PAYING FOR, BUT NOT LIMITED TO THE FOLLOWING PERMITS, ROAD CUTS, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC. ALL RESTORATION AS PER TOWN STANDARDS.
- PRIOR TO CONSTRUCTION, THE ENGINEER IS TO BE NOTIFIED BY THE OWNER AND THE CONTRACTOR AS TO THE EXTENT OF THE CONSTRUCTION LIMITS THEY PROPOSE. THE TOWN IS TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE SITE PLAN, LANDSCAPE PLAN, SITE ELECTRICAL PLANS, AND ANY OTHER PLANS OR DRAWINGS WHICH DEPICT WORKS THAT ARE PROPOSED FOR THIS SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR THE TOWN AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO.
- THE CONTRACTOR SHALL ENDEAVOR TO PREVENT MUD TRACKING ONTO EXISTING RIGHT-OF-WAYS AND SHALL PROVIDE FOR CLEANUP AT HIS OWN EXPENSE AS DIRECTED BY THE TOWN. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTROL DUST ON THE PROJECT AND HE SHALL PROVIDE AT HIS OWN EXPENSE, CONTROLLING MEASURES AS DIRECTED BY THE TOWN.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES TO BE VERIFIED IN THE FIELD.
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
- BLASTING WILL NOT BE ALLOWED UNLESS AUTHORIZED BY THE TOWN.
- ANY UTILITY RELOCATIONS DUE TO THIS DEVELOPMENT TO BE UNDERTAKEN AT THE EXPENSE OF THE OWNER/DEVELOPER.
- ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
- DRIVEWAYS SHALL BE SETBACK A MINIMUM CLEARANCE OF 1.0 m. FROM ALL ABOVEGROUND SERVICES OR OTHER OBSTRUCTIONS.
- ALL CONSTRUCTION WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE TOWN. LOCATION SHALL BE AS PER THE TOWN.
- MINIMUM CLEARANCE OF 1.0m FROM ALL ABOVE GROUND SERVICES AND UTILITIES.
- OUTSIDE LIGHTING TO BE DIRECTED DOWNWARD AS WELL AS INWARD AND DESIGNED TO MAINTAIN ZERO CUTOFF LIGHT DISTRIBUTION AT THE PROPERTY LINE.
- ALL WORKS WITHIN TOWN RIGHT-OF-WAY TO BE PERFORMED BY TOWN FORCES OR AN APPROVED CONTRACTOR AS PER TOWN ACCEPTANCE, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
- ALL EXISTING SEWERS ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION INCLUDING SEWER INVERTS, MATERIAL TYPE, AND SIZE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- ALL RELOCATION, RECONSTRUCTION AND RESTORATION TO BE PERFORMED TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.



NOTE: THE MEDIUM DUTY PAVING COMPOSITE WAS OBTAINED FROM THE ORIGINAL ENGINEERING DRAWINGS DONE BY BRONTE ENGINEERING LTD. FOR THE EXISTING CANADIAN TIRE

CURBING/SIDEWALKS/ASPHALT

- ALL PROPOSED INTERNAL CURBING TO BE BARRIER TYPE AS PER ARCHITECT DETAIL. ALL TOPS OF CURBS TO BE 150mm ABOVE PROPOSED GUTTER LINE, UNLESS OTHERWISE NOTED.
- PROPOSED CURB AND GUTTER ON TRAVELED ROADWAY AS PER CURRENT TOWN STD.
- ALL REQUIRED CURB CUTTING AT ENTRANCE AND CURB DEPRESSIONS AT SIDEWALK CROSSINGS SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWN AND AS PER TOWN DRAWING.
- CURB CUTS WITHIN THE PUBLIC R.O.W. TO BE PERFORMED TO THE SATISFACTION OF THE TOWN.
- ALL PROPOSED ROAD CUTS TO BE PERFORMED AND RESTORED TO THE SATISFACTION OF THE TOWN, AND IN ACCORDANCE WITH TOWN STANDARDS & SPECIFICATIONS.
- CONCRETE SIDEWALK WITHIN PUBLIC R.O.W. AS PER OPSD-310.010 AND OPSD-310.020 (ADJACENT TO CURB). ALL RAMPS SHALL BE AS PER OPSD-310.031. ALL SIDEWALKS SHALL BE 300mm WITH 7% AIR. ALL CONCRETE SIDEWALKS TO BE MINIMUM 150mm THICK AT RESIDENTIAL DRIVEWAYS AND 200mm THICK THROUGH COMMERCIAL/INDUSTRIAL ENTRANCES HAVE 150mm GRANULAR 'A' BASE, COMPACTED TO 100% SPD.
- ALL CONCRETE CURB FROM EXISTING ROAD CURB TO STREET LINE SHALL BE AS PER TOWN STD. ALL CONCRETE CURB HEIGHTS SHALL BE 150mm UNLESS OTHERWISE NOTED. DRIVEWAY CURB TO BE DISCONTINUOUS AT SIDEWALK AND TAPERED BACK 450mm MINIMUM WHERE SIDEWALK CONTIGUES THROUGH THE ENTRANCE AS PER OPSD-350.01.
- APPROPRIATE CONSTRUCTION DETAILS SHOULD BE PROVIDED FOR RETAINING WALLS HIGHER THAN 1.0m. DETAILS SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER UPON APPROVAL. HANDRAIL IS REQUIRED WHEN HEIGHT EXCEEDS 0.60m AND SHALL BE AS PER OPSD-980.101.
- ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED.
- ALL CONCRETE TOE WALLS SHALL BE AS PER OPSD 3120.100 TYPE 1
- ALL DEAD END BARRIAGES SHALL BE AS PER OPSD-912.532.
- ALL TEMPORARY STEEL BEAM GUIDE RAILS SHALL BE AS PER OPSD-912.532
- ALL SECTIONAL PRE-CAST CONCRETE CURBING AS PER OPSD-603.02.
- PERIMETER SUBDRAINS SHOULD BE PROVIDED AROUND PARKING AREAS AND ALONG DRIVEWAYS.



STORM SEWERS

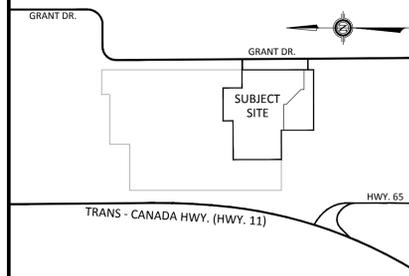
- ALL STORM SEWERS 450mm AND SMALLER TO BE PVC SDR 35 IN ACCORDANCE WITH CSA-B182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS UNLESS OTHERWISE NOTED. 525mm AND LARGER TO BE CONCRETE IN ACCORDANCE WITH CSA A257.2, CLASS 650 OR LATEST REVISIONS. UNLESS OTHERWISE NOTED. ROOF TOP STORM LEADS 150mm AND SMALLER TO BE PVC SDR 28.
- ULTRA RIBBED PVC PIPE SHALL NOT BE USED, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
- ALL CATCH BASIN LEADS TO BE A MINIMUM OF 300mm PVC SDR 35 IN ACCORDANCE WITH CSA-B182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS, UNLESS OTHERWISE NOTED.
- BEDDING AND COVER FOR PVC SEWERS (FLEXIBLE PIPE) AS PER OPSD 802.010, GRANULAR "A" COMPACTED TO 100% SPD.
- BEDDING AND COVER FOR CONCRETE SEWERS (RIGID PIPE) AS PER OPSD 802.030, CLASS B, GRANULAR "A", COMPACTED TO 100% SPD, UNLESS OTHERWISE SPECIFIED.
- ALL STORM SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 1.0%
- THE CONTRACTOR IS TO CAP ALL STORM SERVICES 2.0 METRES AWAY FROM THE PROPOSED BUILDING LINES UNLESS OTHERWISE NOTED.
- CULVERT THICKNESS SHALL BE 1.6m MINIMUM WITH LENGTHS IN STANDARD INCREMENTS OF 3, 6, AND 7 METRES.
- STORM MANHOLES SHALL BE AS PER OPSD-701.010, 701.011, 701.012, 701.013 AS SPECIFIED, BENCHING TO SPRINGLINE OF PIPE AS PER OPSD-701.021, FRAME & COVER AS PER OPSD-401.01, (TYPE A CLOSED COVER)
- ALL CATCH BASIN MANHOLES AS PER OPSD 701.010, FRAME AND GRATE AS PER OPSD 400.02.
- ALL MANHOLE AND CATCH BASIN ADJUSTMENTS SHALL BE AS PER OPSD-704.010, MAXIMUM OF THREE (3) UNITS AND 300mm HIGH, WHERE EXCEED CAST-IN-PLACE OR PRE-CAST RISER SECTIONS SHALL BE PROVIDED.
- ALL SAFETY GRATES AS PER OPSD 404.020 FOR MANHOLES > 5.0m DEPTH.
- EXISTING STORM MANHOLE(S) TO BE RE-BENCHED AS REQUIRED, AS PER OPSD-701.021.
- ALL CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD 705.010, INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
- ALL DOUBLE CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD-705.020, INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
- ALL DITCH INLET CATCH BASINS SHALL BE AS PER OPSD-705.030, WITH RIP-RAP TREATMENT AS PER OPSD-810.02, WITH GEOTEXTILE (MIRAFI P-140N).
- ALL CATCH BASIN CONNECTIONS SHALL BE AS PER OPSD-708.01 (RIGID PIPE) AND OPSD-708.03 (FLEXIBLE PIPE).
- ALL CATCH BASINS CONSTRUCTED IN FILL AREAS TO BE SUPPORTED IN 14M% CONCRETE.
- AT ALL CATCH BASIN & CATCH BASIN MANHOLE SAG POINTS INCLUDE FOUR (4) 4.0m LONG, 100mm PVC SUBDRAINS WITH FILTER CLOTH, CAP ONE END AND CONNECT THE OTHER TO THE CATCH BASIN OR CATCH BASIN MANHOLE.
- ALL SEWER SERVICE CONNECTIONS FOR RIGID PIPE SHALL BE AS PER OPSD-1006.01.
- ALL SEWER SERVICE CONNECTIONS FOR FLEXIBLE PIPE SHALL BE AS PER OPSD-1006.02.
- ALL CONCRETE OUTLETS AS PER OPSD 605.030 WITH ASPHALT SPILLWAY AND RIP-RAP.
- ALL RIP-RAP TREATMENT FOR SEWER AND CULVERT OUTLETS SHALL BE AS PER OPSD-810.01, TYPE "B" WITH GEOTEXTILE (MIRAFI P-140N).

STORMCEPTOR

- THE CONTRACTOR SHALL CONTACT THE MANUFACTURER FOR INSTALLATION REQUIREMENTS AND PROCEDURES FOR ALL PROPOSED STORMCEPTORS.
- AN ENGINEER REPRESENTING THE MANUFACTURER AND/OR THE ENGINEER FOR THE PROJECT SHALL BE CONTACTED BY THE CONTRACTOR 48 HRS. PRIOR TO INSTALLATION TO WITNESS AS-BUILT CONDITIONS BEFORE PROCEEDING WITH BACKFILLING.
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION FROM THE MANUFACTURER TO THIS ENGINEER UPON COMPLETION OF THE INSTALLATION OF ALL STORMCEPTORS.
- OIL/GRIT SEPARATORS SHALL BE CLEANED AND MAINTAINED A MINIMUM OF TWICE A YEAR AND OIL SHALL BE REMOVED IF LEVELS GREATER THAN 2.5cm ARE REACHED.

GRADING

- THE GRADING PLAN IS TO BE READ WITH THE SITE SERVICES DRAWING AND THE SITE PLAN. FOR BUILDING DETAILS REFER TO THE LATEST REVISION OF THE SITE PLAN AS PER THE ARCHITECT.
- CONTRACTOR TO RESTORE ALL DISTURBED AREAS (I.E. PUBLIC R.O.W., ADJACENT LANDS) WHICH HAVE BEEN DISTURBED DURING CONSTRUCTION TO PREVIOUS OR BETTER CONDITION.
- ALL DRIVEWAY AND GRADING MATERIAL AND CONSTRUCTION METHODS MUST CONFORM TO CURRENT TOWN STANDARDS AND SPECIFICATIONS.
- ALL FILL WITHIN THE SITE TO BE COMPACTED TO A MIN. OF 100% STD. PROCTOR DENSITY. THE SUITABILITY OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A RECOGNIZED SOILS CONSULTANT TO THE DIRECTOR OF ENGINEERING PRIOR TO INSTALLATION OF ANY ROAD BASE MATERIALS.
- LANDSCAPE SHALL NOT ENCROACH ON BOULEVARD NOR SHALL BOULEVARD GRADES BE ALTERED.
- SILT FENCE(S) TO BE INSTALLED AND MAINTAINED TO PREVENT SILT FLOWING ONTO ADJACENT LANDS. SILTATION CONTROL METHODS SUCH AS ENVIROFENCE OR APPROVED EQUAL, SHALL BE ERRECTED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL BE MAINTAINED.
- ANY CHANGES IN GRADES OR CATCH BASINS REQUIRE THE APPROVAL OF THE ODAN/DETECH GROUP INC.
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CITY.
- ALL LANDSCAPING TO BE INSTALLED AS SOON AS POSSIBLE OR PRIOR TO THE END OF THE FIRST GROWING SEASON. LANDSCAPING TO BE MAINTAINED UNTIL IT IS ESTABLISHED.
- ALL CONNECTIONS WITH PAVED PORTIONS OF EXISTING ROADS TO BE BACKFILLED WITH GRANULAR "A" MATERIAL OR LATEST CITY SPECIFICATIONS AND COMPACTED TO 100% SPD.
- CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE CITY.
- ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED.
- PAVEMENT GRADE (MIN. 0.5%, MAX. 5%).
- DRAINAGE SWALES WITH GRADES (MIN. 2%, MAX. 5%).
- SLOPES IN LANDSCAPE AREAS AND ON BERMS SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL.
- THE PARKING AREAS AND DRIVEWAY HAVE BEEN DESIGNED ACCORDING TO A FROST SUSCEPTIBILITY FACTOR OF 5. THIS FACTOR IS TO BE VERIFIED BY A SOILS CONSULTANT.



KEY PLAN
Scale : N.T.S. **SUBJECT LANDS**

NOTE :
THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECT/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.
ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
THIS DRAWING IS NOT TO BE SCALED. CONTRACTOR TO USE DIGITAL FILES FOR LAYOUT PROVIDED BY ENGINEER.
THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.
THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...
EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY EXP SERVICES INC.

BENCH MARK:

| CONTROL TABLE | UTM_ZONE | UTM_ZONE | UTM_ZONE | UTM_ZONE |
|---------------|--------------|---------------|----------|----------|
| 170 | 600018.4450m | 5265200.8440m | 207.941m | IB |
| 171 | 600024.3430m | 5264935.8390m | 203.181m | IB |
| 172 | 601371.0820m | 5264120.9540m | 194.370m | HCM 352 |

BEARING NOTE:
BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE WEST LIMIT OF GRANT DRIVE AS SHOWN ON PLAN 54R-409B HAVING A BEARING OF N01750'W.

METRIC NOTE:
THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...
DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

| NO. | REVISIONS | DATE | BY |
|-----|-------------------------------------|-------------|------|
| 4 | ISSUED FOR SITE PLAN & MTO APPROVAL | NOV 22/2016 | M.H. |
| 3 | ISSUED FOR MTO REVIEW & APPROVAL | NOV 2/2016 | M.H. |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JUL 14/2016 | C.M. |
| 1 | ISSUED FOR REVIEW | JUN 15/2016 | Z.Z. |

SCALE : 0 5 10 20 30

NOTES & DETAILS

CLIENT : **CANADIAN TIRE REAL ESTATE LTD.**
2180 YONGE STREET
TORONTO, ONTARIO

PROJECT : **RETAIL STORE AND SERVICE CENTRE #088**
HIGHWAY #11
NEW LISKEARD, ONTARIO

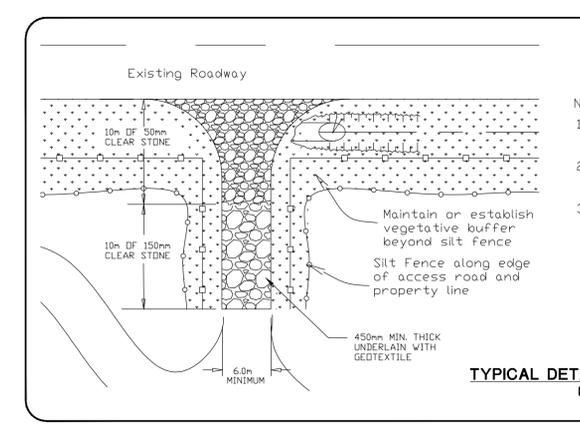
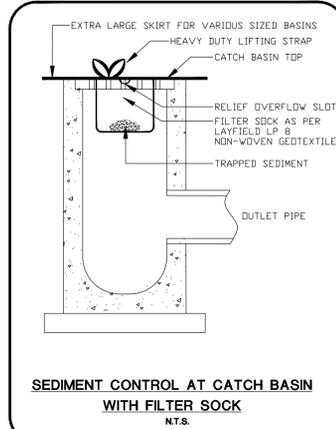
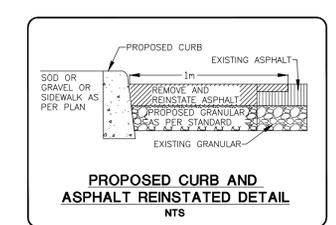
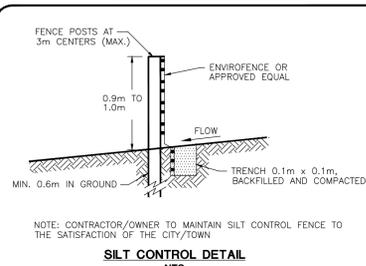
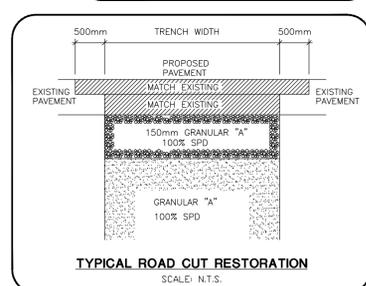
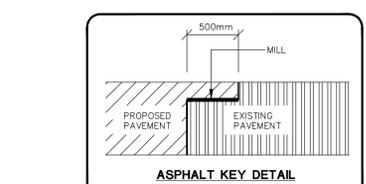
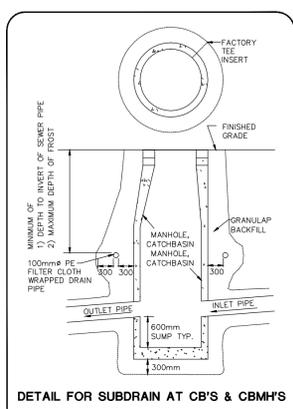
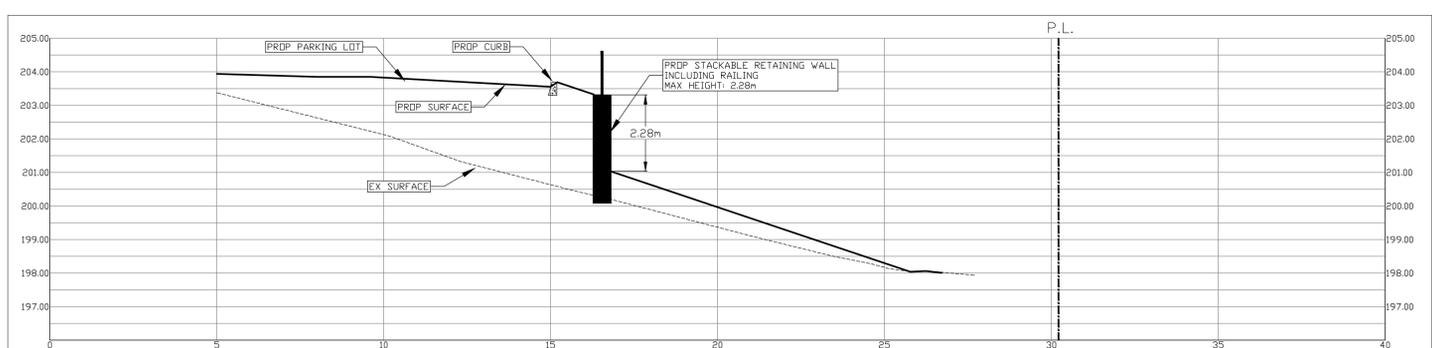
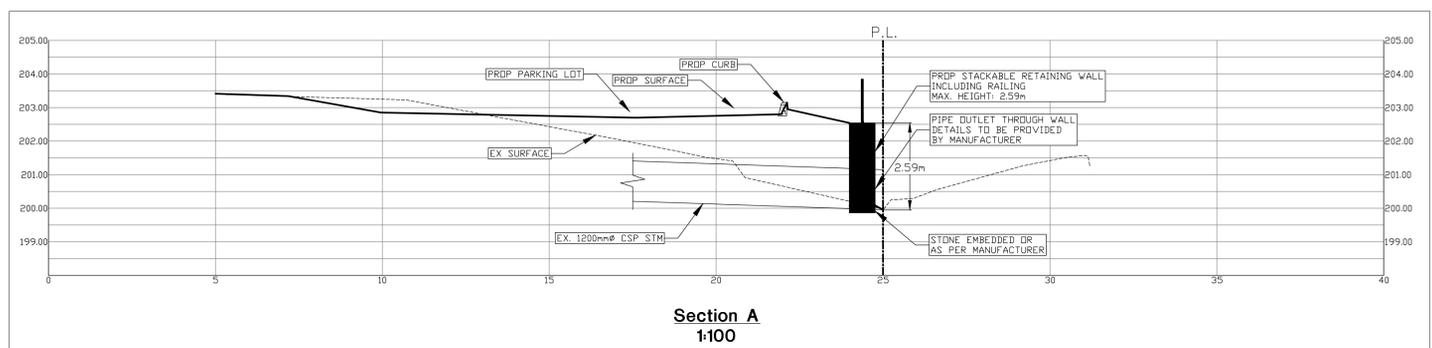
ODAN-DETECH CONSULTING ENGINEERS

The Odan/Detech Group Inc. P: (855) 632-3811 F: (855) 632-3363
8230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 8K2

| SCALE : | PROJ. NO.: | DATE STARTED: | DESIGN BY: |
|--------------|------------|---------------|-----------------------|
| 1:300 | 14229 | JUN 2016 | J.K. |
| 14229-2D.DWG | | | DRAWN BY: Z.Z. |
| | | | CHECKED BY: D.C.S. |
| | | | APPROVED BY: J.K. |
| | | | DRWG. NO.: |

REGISTERED PROFESSIONAL ENGINEER
I. KRPAN
NOV 22/16
PROVINCE OF ONTARIO
ENGINEER

2 OF 2



- NOTES:**
- Purpose of Construction Mat is to minimize transportation of sediment onto roadways.
 - Construction mat is to be installed as the first step in the site alteration process.
 - Construction mats are required where paved roads are within 300 m of the site.

Subject: Lease Agreement – Haileybury
Food Bank

Report No.: CS-018-2016
Agenda Date: December 20, 2016

Attachments

Appendix 01: Lease Agreement

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. CS-018-2016;
2. That Council authorizes staff to proceed with converting the lunchroom area in the building for use by the Haileybury Food Bank; and
3. That Council directs staff to prepare the necessary By-law to enter into a new Five (5) Year Lease Agreement with the Haileybury Food Bank for operations at 500 Broadway Street effective January 1, 2017, at a rate of \$1/year for consideration at the December 20, 2016 Regular Council meeting.

Background

Since 2008, the Haileybury Food Bank has been leasing space in the former Public Works Administration Office at 500 Broadway Street in Haileybury. The current lease agreement expires on December 31, 2016.

At the December 6, 2016 Regular Council meeting, a request and report from the Haileybury Food Bank was received and referred to the Director of Corporate Services (A).

The Haileybury Food Bank has requested a Five (5) year term for their lease, and if possible, use of additional space in the building.

Analysis

The Haileybury Food Bank, a volunteer driven organization, continues to provide numerous households in our community food. As outlined in the report received by Council, the number of households they serve continues to increase.

Recently, the Manager of Physical Assets and Director of Corporate Services (A) met on site with the volunteers from the Food Bank to discuss their current set up and what they are looking for with the additional space.

Currently, Building Maintenance Staff utilize a part of the building for a lunchroom and

washroom; however, with minor renovations, staff can utilize the lunchroom and washroom in the Building Maintenance Shop located across the parking lot.

In early 2017, Building Maintenance staff will proceed with vacating the space that is currently being shared. This will permit full use of the building to the Haileybury Food Bank for their operations. The City will continue to pay heat and hydro for the building.

The Food Bank volunteers have offered to complete the renovation work that may be required to make the space suitable for their needs; however, have requested that the City purchase the supplies, such as paint and accessories.

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

Staff is estimating the cost of supplies required for the Food Bank to be approximately \$400. This cost would be covered under the Building Maintenance budget.

Alternatives

No alternatives were considered in the preparation of this report.

Submission

Prepared by:

Reviewed and submitted for
Council's consideration by:

"Original signed by"

"Original signed by"

Kelly Conlin
Director of Corporate Services (A)

Christopher W. Oslund
City Manager

The Corporation of the City of Temiskaming Shores

By-law No. 2016-000

Being a by-law to authorize the entering into a lease agreement with the Haileybury Food Bank for rental space at 500 Broadway Street

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas Council considered Administrative Report No. CS-018-2016 at the December 20, 2016 Regular Council meeting and directs staff to prepare the necessary by-law to enter into a new Five (5) Year Lease Agreement with the Haileybury Food Bank for operations at 500 Broadway Street effective January 1, 2017, at a rate of \$1.00/year for consideration at the December 20, 2016 Regular Council meeting;

Now therefore the Council of The Corporation of the City of Temiskaming Shores enacts as follows:

1. That the Mayor and Clerk be authorized to execute an agreement with the Haileybury Food Bank for rental space at 500 Broadway Street, a copy of which is attached hereto as Schedule "A" and forms part of this by-law.
2. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantical or descriptive nature to the by-law and schedule, after its passage, where such modifications or corrections do not alter the intent of the by-law or its associated schedules.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen



Schedule "A" to

By-law No. 2016-000

Lease Agreement between

The Corporation of the City of Temiskaming Shores

and

Haileybury Food Bank

for rental space at 500 Broadway Street

This agreement made in duplicate this 20th day of December, 2016.

Between:

The Corporation of the City of Temiskaming Shores
(herein after referred to as the "City")

And:

The Haileybury Food Bank
(herein after referred to as "The Food Bank")

Witnesses that in consideration of the covenants and provisos herein contained, the City hereby permits the Food Bank to occupy and use the entire building known as the former Haileybury Public Works Administration Office situated at 500 Broadway Street in the City of Temiskaming Shores, District of Timiskaming for a term commencing on the 1st day of January, 2017 and ending on the 31st day of December, 2021.

Whereas the City is the owner of the property commonly known as the former Haileybury Public Works Administration Office;

And whereas the Food Bank is an unincorporated association of persons dedicated to providing food bank services;

And whereas the City and the Food Bank wish to provide for the operation of a food bank at 500 Broadway Street.

Now therefore, in consideration of the sum of \$1.00/year due on the 1st of May, and other good and valuable consideration paid by the Food Bank to the City, the parties hereto do hereby agree as follows:

Section One – Food Bank’s Covenants:

The Food Bank covenants with the City as follows:

1. **Improvements** - The Food Bank shall be entitled to improve the facility from time to time provided such improvements are set out in detail to the City prior to commencement of construction of same, and approval of Council is obtained prior to commencement of construction. All proposals to the City for improvements shall set out the costs to be incurred and the means by which the Food Bank shall pay for same. All improvements, once installed or constructed at the facility shall become the property of the City.
2. **Equipment** - The equipment and fixtures which are owned by the City and which are situated at 500 Broadway Street shall not be removed without the prior written consent of the City.

3. **Cleanliness** - The Food Bank shall maintain the facility in a clean and orderly condition.
4. **Use of Building** – not to permit the Building to be used for any purpose other than to deliver food bank services.
5. **Insurance** – The Food Bank shall provide the City proof of insurance.
6. **Right of Renewal** – The Food Bank shall be required to give written notice of its intention to renew the agreement at least (90) days prior to the termination of this agreement.
7. **Utilities**– The Food Bank shall be responsible for telephone and internet services.

Section Two – City’s Covenants

The City covenants with the Food Bank as follows:

1. **Utilities** – The City shall provide heat and hydro to the said facility;
2. **Snow Removal and maintenance** – The City shall be responsible for clearing of snow in the parking area to allow the entry by clients of the Food Bank and volunteers as per the City’s regular winter maintenance schedule.

Section Three - Notices

1. **Notice to Terminate** – either party may withdraw or terminate from this agreement by providing at least 90 days notice in the appropriate form.
2. **General** – All notices given pursuant to this agreement are sufficiently given if mailed, prepaid and registered, in the case of the City, addressed as follows:

City of Temiskaming Shores
P.O. Box 2050
Haileybury, Ontario
P0J 1K0

Haileybury Food Bank
P.O. Box 353
Haileybury, Ontario
P0J 1K0

Unless either party gives notice to the other of a change of address by registered mail. The date of receipt of any notice is deemed to be seven days after mailing.

3. **Default** - In the event that either party believes that the other is in default of its obligation under the terms of this agreement, it shall be obliged to give to the other party 30 days notice of the alleged default. The defaulting party shall have the said 30 days to remedy the default, failing which, this

Subject: Annual Review of Health and
Safety Policy (2017)

Report No.: CS-019-2016
Agenda Date: December 20, 2016

Attachments

Appendix 01: Joint Health and Safety Policy and Program

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. CS-019-2016;
2. That Council confirms it has reviewed the City of Temiskaming Shores Health and Safety Policy and Guidelines for the Structure and Function of the Joint Health and Safety Committees in accordance with the Occupational Health and Safety Act; and
3. That Council acknowledges that the TSJHSC will continue to operate under the requirements of the Occupational Health and Safety Act.

Background

In accordance with the Occupational Health and Safety Act, an employer must prepare and review at least annually, a written occupational health and safety policy and develop and maintain a program to implement that policy. The policy and program must be posted in the workplace.

Analysis

The City of Temiskaming Shores' Health and Safety Policy and Program were adopted in 2004 through By-law No. 2004-034. By-law No. 2004-034 has been amended several times since adoption with the last amendment being By-law No. 2015-228 on December 1, 2015. The current policy and program are attached as Appendix 01.

There are no recommended amendments to the current policy and program and in order for the Municipality to remain in compliance with the Occupational Health and Safety Act, the Policy and Program must be reviewed at least annually.

The City will continue to operate with multiple committees and under the requirements of the Occupational Health and Safety Act.

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

Alternatives

No alternatives were considered.

Submission

Prepared by:

Reviewed and submitted for
Council's consideration by:

"Original signed by"

"Original signed by"

Kelly Conlin
Director of Corporate Services (A)

Christopher W. Oslund
City Manager

The Corporation of the City of Temiskaming Shores

By-law No. 2015-228

Being a by-law to amend By-law No. 2004-034, as amended being a by-law for the adoption of a Health and Safety Policy and Guidelines for the Structure and Function of the Joint Health and Safety Committees

And whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

and whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas the Council of The Corporation of the City of Temiskaming Shores adopted By-law No. 2004-034 adopting a Health and Safety Policy and a Guideline for Structure and Function of a Joint Health and Safety Committee;

And whereas in order to comply with the Occupational Health and Safety Act the Council of The Corporation of the City of Temiskaming Shores must review and adopt a Health and Safety Policy and Guidelines for the Structure and Function of the Joint Health and Safety Committees for the City of Temiskaming Shores on a yearly basis;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That Schedules "A" being the Health and Safety Policy and Schedule "B" being the Guidelines for the Structure and Function of the Joint Health and Safety Committees to By-law No. 2004-034 as amended, be removed and replaced by Schedule "A" - Health and Safety Policy and Schedule "B" – Guidelines for the Structure and Function of the Joint Health and Safety Committees, attached hereto and forming part of this by-law;
2. That By-law No. 2013-008 amending By-law No. 2004-034, as amended, is hereby repealed;
3. That this by-law shall come into force and effect upon its passing;
4. That the Clerk of the City of Temiskaming Shores is hereby authorized to make minor modifications or corrections of a grammatical or typographical nature to the

By-law and schedule, after the passage of this By-law, where such modifications or corrections do not alter the intent of the by-law or its associated schedule.

Read a first, second and third time and finally passed this 1st day of December, 2015.



Mayor – Carman Kidd



Clerk – David B. Treen



Health and Safety Policy

The Council of The City of Temiskaming Shores is committed to protecting its employees, property and general public from harm and loss in the workplace. And while this policy statement is a requirement of the Occupation Health and Safety Act it does not lessen their commitment and dedication to a safe working environment.

All employees, whatever their position, are encouraged to exercise their legal responsibility to report any hazard/substandard condition immediately, so that corrective action may be taken.

Supervisors will be held accountable for the health and safety of workers under their supervision. Supervisors are responsible to ensure that machinery and equipment are safe and that employees under their supervision comply with established safe work practices and procedures and receive adequate training in their specific work tasks in compliance with Health and Safety regulations.

Every worker must protect his/her own health and safety by observing safe work practices and procedures, reporting unsafe work conditions and be willing to get the training necessary to perform their duties. Workers are, by having safe work ethics, the main contributors towards their own safety and that of their fellow workers.

The Council of The City of Temiskaming Shores through the forming of a Health and Safety Committee has established health and safety policies and guidelines. Having all parties committed to health and safety is in the best interest of everyone.

Commitment to health and safety shall form an integral part of this organization from Council, City Manager and Workers through to the newly hired employee.



**GUIDELINES FOR THE
STRUCTURE AND FUNCTION OF THE
JOINT HEALTH AND SAFETY COMMITTEES**

AS AGREED UPON BETWEEN

EMPLOYER

AND

WORKER

December 1, 2015

**CITY OF TEMISKAMING SHORES
JOINT HEALTH AND SAFETY COMMITTEES
2016**

PREAMBLE

1. It is a requirement of the Occupational Health and Safety Act to establish a policy which encourages the active participation of all employees in the prevention of accidents and the promotion of health and safety in the workplace.
2. Through joint education programs, joint investigations of situations and joint resolution of situations, the workplace will become safer and healthier for all employees.
3. The City of Temiskaming Shores and its employees have established Joint Health and Safety Committees under the Occupational Health and Safety Act and have reached an understanding as to the guidelines for the composition, practice and procedure thereof.
4. The parties acknowledge that a Joint Health and Safety Program can only be successful where everyone in the workplace is committed to these responsibilities. Therefore, the parties undertake to co-operate in ensuring that these guidelines and the full intent of the Occupational Health and Safety Act will be carried out by their respective organizations.
5. The parties hereto adopt these guidelines in good faith and agree to promote and assist the Joint Health and Safety Committees and its members by providing such information, training and assistance as may reasonably be required for the purpose of carrying out their responsibilities.

FOR THE EMPLOYER

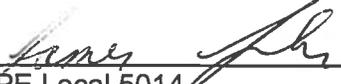


City Manager

FOR THE WORKERS



Health & Safety Committee
Secretary



CUPE Local 5014
President

1. STRUCTURE OF COMMITTEE

- 1.1 A TSJHS Committee will be formed at a workplace at which twenty or more workers are regularly employed and will consist of at least two persons where at least half the members of a committee shall be workers employed at the workplace who do not exercise managerial functions.
- 1.2 The TSJHS Committees shall endeavor to meet on a monthly basis, but not less than quarterly, as decided upon by the Committee members. The co-chairpersons may call special meetings when deemed necessary.
- 1.3 There shall be two (2) co-chairpersons, one (1) from the employer and one (1) from the workers; who shall alternate the chair at meetings.
- 1.4 A co-chairperson may, with the consent and approval of his/her counterpart, invite any additional person(s) to attend the meeting to provide additional information and comment, but they shall not participate in the regular business of the meeting.

2. FUNCTIONS OF JHSC

- 2.1 To attain the spirit of the Occupational Health and Safety Act, the functions of the TSJHS Committees shall be:
 - (a) To identify, evaluate and make recommendations to resolve matters pertaining to the health and safety in the workplace to appropriate senior management.
 - (b) To encourage education and training programs in order that all employees are knowledgeable in their rights, restrictions, responsibilities and duties under the Occupational Health and Safety Act.
 - (c) The TSJHS Committees will address matters related to Designated Substance Regulations and WHMIS where applicable.
 - (d) To deal with any health and safety matter that the TSJHS Committees deem appropriate.

Inspections

- 2.2 A minimum of two (2) employees, at least one being certified, as appointed by the TSJHS Committees, shall perform workplace inspections.
- 2.3 All health and safety concerns raised during the physical inspection will be recorded and prioritized on workplace inspection forms.

- 2.4 Workplace and follow-up inspections upon completion shall be distributed to the appropriate Division Head, for his/her review and comment, to the TSJHS Committees and to the City Manager within two (2) days. The appropriate Division Head will inform the TSJHS Committees of the status of the outstanding items by the next TSJHS Committees meeting.

Recommendations of the JHSC

- 2.5 The employer or his designate shall respond within twenty-one (21) days with regard to written or minuted TSJHS Committees recommendations. The written response shall indicate the employer's assessment of the TSJHS Committees recommendation and specify what action will, or will not (with explanations) be taken. Any proposed action by the employer shall include details of who will be responsible for such action and a proposed time frame.

Accidents and Accompaniment

- 2.6 The TSJHS Committees will designate two (2) members; at least one (1) being certified, to investigate all serious workplace accidents, and incidents that have the potential for a serious accident. The inspection team will be responsible for overseeing that the requirements prescribed in the O.H.S.A. are met.
- 2.7 The TSJHS Committees will designate two (2) members; at least one (1) being certified, to investigate work refusals, the City Manager and the Ministry of Labour will be informed in writing, the name(s) of the worker(s) so designated.
- 2.8 A TSJHS Committees member who represents workers shall be consulted concerning proposed workplace testing strategies related to industrial hygiene. A member of the TSJHS Committees shall be entitled to be present during such testing.

3. MINUTES OF MEETINGS

- 3.1 The TSJHS Committees will designate a secretary for the meetings, to take minutes and be responsible for having the minutes typed, circulated and filed within one (1) calendar week of the meeting, or as the TSJHS Committees may from time to time instruct. Minutes of the meeting will be reviewed and edited where necessary, by the co-chairpersons, then signed and circulated to all TSJHS Committees members, Department Heads and a copy forwarded to the City Manager. Agenda items will be identified by a reference number, and be readily available in a proper filing system.

4. QUORUM

- 4.1 The TSJHS Committees shall have a quorum of two (2) members present in order to conduct business. One co-chairperson must be present in order to conduct business. If a co-chairperson is absent, the other co-chairperson will chair the meeting. The number of employer members shall not be greater than the number of worker members.

5. PAYMENT FOR ATTENDANCE AT MEETINGS

- 5.1 As per the Collective Agreement between the City of Temiskaming Shores and the CUPE Local 5014.

6. MEETING AGENDA

- 6.1 The co-chairpersons will prepare an agenda and forward a copy of the agenda to all TSJHS Committees members at least two days in advance of the meeting.
- 6.2 The TSJHS Committees may accept any item as proper for discussion and resolution pertaining to health and safety. All items raised from the agenda in meetings will be dealt with on the basis of consensus rather than by voting. Formal motions will not be used.
- 6.3 All items are resolved or not will be reported in the minutes. Unresolved items will be minuted and placed on the agenda for the next meeting.

7. GENERAL

- 7.1 All employees will be encouraged to discuss their problems with their immediate supervisor before bringing it to the attention of the TSJHS Committees.
- 7.2 TSJHS Committees members will thoroughly investigate all complaints to get all the facts and will exchange these facts when searching for a resolution to the problem. All problem resolutions will be reported in the minutes.
- 7.3 Medical or trade secret information will be kept confidential by all TSJHS Committees members.
- 7.4 Any amendments, deletions or additions to these Guidelines must have the consensus of the total TSJHS Committees and shall be set out in writing and attached as an Appendix to these Guidelines and approved by Administration and/or Municipal Council.

- 7.5 **Please Note:** These guidelines provide a framework for an effective functioning TSJHS Committees. References can be made to the Occupational Health and Safety Act and its guidebook. Employer must prepare and review at least annually a written Occupational Health and Safety Policy, and must develop and maintain a program to implement that policy (Section 25(2)(j)). This should be accomplished in consultation with the TSJHS Committees.

Subject: Emergency Management Program -
Annual Status Report

Report No.: PPP-014-2016
Agenda Date: December 20, 2016

Attachments

Appendix 01: Annual Statement of Completion

Appendix 02: Annual Municipal Maintenance Checklist

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. PPP-014-2016; and
2. That the Annual Emergency Management Program Statement of Completion form be signed by the Head of Council and submitted along with the Annual Municipal Maintenance Checklist by the Community Emergency Management Coordinator to the Office of the Fire Marshal and Emergency Management (OFMEM) confirming the City of Temiskaming Shores 2016 Emergency Management Program maintenance requirements.

Background

The purpose of this report is to outline the remaining legislative requirements of the municipality under the Emergency Management and Civil Protection Act, and present the necessary resolutions and statement of completion required to complete the annual requirements of the Emergency Management Program.

Analysis

The Province of Ontario requires the implementation of mandatory emergency management programs for all Provincial ministries and municipalities. The elements of the emergency management program are outlined in the Emergency Management and Civil Protection Act in general and specified by OFMEM.

The standards set by OFMEM, in accordance with recommended international best practices, require each community to maintain the requirements of the Emergency Management Program. For the purposes of this report, the following outcomes are being presented to Council:

- The Annual Emergency Management Program Statement of Completion; and
- The Municipal Emergency Management Program – Annual Municipal Maintenance Checklist

The OFFEM has development policies/guidelines for achieving and maintaining the emergency management program. The analysis of this report is structured based on those policies/guidelines. In addition the OFMEM has developed an Emergency Management Program – Annual Maintenance Checklist that outlines the date that each requirement was completed and confirmed with OFMEM.

This report will provide to Council the remaining items as noted above, to complete our maintenance requirements for 2016, and also to provide to Council the Statement of Completion for Head of Council's signature along with the Annual Municipal Maintenance Checklist. Once the Statement of Completion and the Maintenance Checklist are submitted to OFMEM, the City of Temiskaming Shores will have completed all the necessary requirements required under the Emergency Management and Civil Protection Act for 2016.

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

Financial implications to date have been with program resources and expenditures associated with the dissemination of public information.

Staffing implications associated with the proposed agreement are limited to normal administrative functions and duties.

Alternatives

Alternatives are not being presented at this time, as legislation requires the adoption and maintenance of an Emergency Management Program.

Submission

Prepared by:

Reviewed and submitted for
Council's consideration by:

"Original signed by"

"Original signed by"

Timothy H. Uttley
Fire Chief

Christopher W. Oslund
City Manager

Emergency Management Program Annual Statement of Completion 2016



Municipality: City of Temiskaming Shores

Verification:

- Please attach your completed "Municipal Annual Maintenance Checklist" and have officials sign below as indicated.

We, the undersigned, declare that The Corporation of the City of Temiskaming Shores (municipality) has completed all of the necessary requirements of the Emergency Management and Civil Protection Act RSO 1990 and Ontario Regulation 380/04.

December 20, 2016

Community Emergency
Management Coordinator

Date

Head of Council

Date

OFMEM Use Only:

Data verified by: _____

Date: _____

Head Office receipt: _____

Date: _____

ANNUAL MUNICIPAL MAINTENANCE CHECKLIST 2016

NAME OF COMMUNITY: City of Temiskaming Shores

Date submitted: December 21, 2016

Please submit all requested documentation below to the Office of the Fire Marshal and Emergency Management (OFMEM) by email at OFMEM-FAS-AA@ontario.ca or via mail to the following address:

Director, Emergency Management
Office of the Fire Marshal and Emergency Management
25 Morton Shulman Avenue, 5th floor
Toronto ON M3M 0B1

The following information is required by the OFMEM to document compliance.

| | | |
|---|--|--|
| <p>CEMC DESIGNATION AND TRAINING Please provide:</p> <p>1. Names of the primary and alternate CEMC's as well as their email and 24/7 phone number</p> <p>2. Date of completion for required training (optional for alternates), including:</p> <p style="margin-left: 20px;">a. EM 200 (Basic Emergency Management)</p> <p style="margin-left: 20px;">b. EM 300 (CEMC Course)</p> <p style="margin-left: 20px;">c. EM 240 (Note Taking Course)</p> <p style="margin-left: 20px;">d. IMS 100 (Introduction to IMS)</p> <p style="margin-left: 20px;">e. IMS 200 (Basic IMS)</p> <p>See O. Reg. 380/04 Part II Section 10 paras 1 – 4 and Fire Marshal & Chief, Emergency Management Guidance: 2015-01-08 (O. Reg 380/04 Training Requirements)</p> | Primary CEMC | Name: Timothy Uttley Email: tuttley@temiskamingshores.ca Phone: (705) 672-2733 ext. 4701 |
| | Date designated by municipality Bylaw/Resolution number if applicable. | Date November 14, 2005 By-law No. 2005-118 |
| | Trained? | Yes No Date (if yes) |
| | EM 200 | <input checked="" type="checkbox"/> <input type="checkbox"/> 9/8/2010 |
| | EM 300 | <input checked="" type="checkbox"/> <input type="checkbox"/> 4/1/2003 |
| | EM 240 | <input checked="" type="checkbox"/> <input type="checkbox"/> 6/24/2015 |
| | IMS 100 | <input checked="" type="checkbox"/> <input type="checkbox"/> 9/8/2010 |
| | IMS 200 | <input checked="" type="checkbox"/> <input type="checkbox"/> 9/10/2010 |
| | 1 st Alternate | Name: Shelly Zubycyk Email: szubycyk@temiskamingshores.ca Phone: (705) 672-3363 |
| | Trained? | Yes No Date (if yes) |
| EM 200 | <input checked="" type="checkbox"/> <input type="checkbox"/> 2014 | |
| EM 300 | <input type="checkbox"/> <input checked="" type="checkbox"/> _____ | |
| EM 240 | <input checked="" type="checkbox"/> <input type="checkbox"/> 11/2/2015 | |
| IMS 100 | <input checked="" type="checkbox"/> <input type="checkbox"/> 06/2015 | |
| IMS 200 | <input checked="" type="checkbox"/> <input type="checkbox"/> 10/14/2015 | |
| 2 nd Alternate | Name: Kelly Conlin Email: kconlin@temiskamingshores.ca Phone: (705) 672-3363 | |
| Trained? | Yes No Date (if yes) | |
| EM 200 | <input checked="" type="checkbox"/> <input type="checkbox"/> 09/20/2016 | |
| EM 300 | <input checked="" type="checkbox"/> <input type="checkbox"/> 09/22/2016 | |
| EM 240 | <input checked="" type="checkbox"/> <input type="checkbox"/> 11/02/2016 | |
| IMS 100 | <input checked="" type="checkbox"/> <input type="checkbox"/> 10/09/2015 | |
| IMS 200 | <input checked="" type="checkbox"/> <input type="checkbox"/> 110/15/2015 | |

The following information is required by the OFMEM to document compliance.

| | | |
|---|--|---|
| EMERGENCY MANAGEMENT PROGRAM COMMITTEE | | |
| Please provide: 1. List(or attach a list) of committee members names and positions, 2. Has Chair been appointed by Council? 3. Does Committee membership meet the requirements of Sentences 11.(2) and (3)? (CEMC and Senior Municipal Official) 4. The dates on which the committee met, and 5. Has the committee submitted a report to council? See O. Reg. 380/04 Part II Section 11 | Names and positions of committee members | Sent 11/28/2016 |
| | Has Chair been appointed by Council? | Yes No Date (if yes) <input checked="" type="checkbox"/> <input type="checkbox"/> 11/15/2011 (TOR) |
| | Membership requirements met? | Yes No Date (if yes) <input checked="" type="checkbox"/> <input type="checkbox"/> All members of the committee appointed by Council on various dates. |
| | Dates of Meetings | May 25, 2016 August 17, 2016 December 8, 2016 |
| | Report to Council? Or minutes sent to Council? | Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> (Minutes to Council) If yes, attach copy of report/minutes. |
| PROGRAM BY-LAW | | |
| Please provide: 1. Date the current by-law was passed and by-law number (the municipality may have one bylaw adopting both the Emergency Plan and Program together or they may have two separate bylaws), and 2. If the by-law has been amended or replaced, please provide a copy of the new version to OFMEM See EMCPA 2.1 (1) | Date and Number | By-law 2006-040, April 24, 2006 |
| | If by-law has been amended or replaced; has a copy been provided to OFMEM? | Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> 28/11/2016 |
| HAZARD IDENTIFICATION AND RISK ASSESSMENT (HIRA) | | |
| Please confirm: 1. The date on which the HIRA was reviewed by the Program Committee and 2. If the HIRA has been updated or amended, please provide a copy to OFMEM See EMCPA 2.1 (3 – 8 inclusive) | On what date was the HIRA reviewed by Program Committee? | Review Date Reviewer August 17, 2016 EMPC _____ _____ |
| | If HIRA was amended or updated, has a copy been provided to OFMEM? | Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> 28/11/2016 |

The following information is required by the OFMEM to document compliance.

| | | |
|--|--|---|
| EMERGENCY RESPONSE PLAN | | |
| <p>Please provide:</p> <ol style="list-style-type: none"> Date the current by-law was passed and by-law number (the municipality may have one bylaw adopting both the Emergency Plan and Program together or they may have two separate bylaws), Confirmation that the plan assigns responsibilities to municipal employees for the implementation of the plan, Confirmation that the plan contains notification procedures, Confirmation that the plan governs the provision of necessary services during an emergency, Confirmation that the plan governs the procedures for an emergency response, The date that the plan was reviewed by Program Committee, and If amended, submit a copy of the revised plan, and a copy of the current by-law to OFMEM <p>See EMCPA Section 3 all and EMCPA Section 14 all Also O. Reg. 380/04 Part II Section 15</p> | What is the number and date of approval of Plan Bylaw? | <p>Number Date</p> <p>2016-175 01/11/2016</p> |
| | Does the plan assign responsibilities to municipal employees for the implementation of the plan? | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> |
| | Does the plan contain notification procedures? | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> |
| | Does the plan govern the provision of necessary services during an emergency? | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> |
| | Does the plan govern the procedures for an emergency response? | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> |
| | Date that plan was reviewed. | <p>Date</p> <p>August 17, 2016</p> |
| | If plan was amended, has a copy of the new approved plan and by-law been forwarded to OFMEM? | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>28/11/2016</p> |
| | See EMCPA Section 3 all and EMCPA Section 14 all Also O. Reg. 380/04 Part II Section 15 | |
| EMERGENCY OPERATIONS CENTRE (EOC) | | |
| <p>Please provide:</p> <ol style="list-style-type: none"> The location/address and contact information (telephone, facsimile, email) of the designated EOC, and alternate locations, and Confirmation that the EOC has appropriate communications equipment <p>See O. Reg. 380/04 Part II Section 13.(1) and (2) and CEMC Handbook</p> | Location/address of EOC and alternate locations(s) | <p>Primary – 325 Farr Drive, Haileybury (705) 672-3363</p> <p>Alternate – 181 Drive-In Theatre Rd., New Liskeard (705) 647-8298</p> |
| | Does the EOC have appropriate communications equipment? | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>Confirmed: July 25, 2008</p> |

| The following information is required by the OFMEM to document compliance. | | |
|--|--|---|
| CRITICAL INFRASTRUCTURE (CI) LIST Please provide: <ol style="list-style-type: none"> The date on which the CI list was reviewed by the Program Committee, and If the CI list has been amended, a copy of the revised CI list. See EMCPA Section 2.1 (3) | Date that CI list was reviewed. | August 17, 2016 |
| | Who reviewed the CI list? | EMPC |
| | If CI list has been amended, has a copy been provided to OFMEM and on what date? | Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> Date: 28/11/2016 |
| MECG ANNUAL TRAINING Please provide: <ol style="list-style-type: none"> Date of training, Type of training conducted, and List of attendees See EMCPA Section 2.1 (2) (b) Also EMCPA Section 3.5 Also O. Reg. 380/04 Part II Section 12 (3) Also Fire Marshal & Chief, Emergency Management Guidance: 2015-01-08 (O. Reg 380/04 Training Requirements). If Note Taking and Continuity of Operations training was not done in 2015 it must be done in 2016. | Date(s) of Training | January 8, 2016 |
| | Description of training (must last at least 4 hours) | Essentials of Municipal Fire Protection & Emergency Management |
| | List of attendees, names and positions | See attached list. |
| MECG ANNUAL EXERCISE Please provide: <ol style="list-style-type: none"> Date of the exercise, Type of exercise conducted, Aim of the exercise, List of participants, (names and positions), Findings of evaluators, and Corrective Actions proposed based on findings of the evaluators. See EMCPA Section 3(5) Also O. Reg. 380/04 Part II Section 12(6) and CEMC Handbook | Date of Exercise | 01/12/2016 |
| | Type of Exercise | Tabletop |
| | Aim of exercise | To prepare municipal officials and other designated persons to work as members of an Municipal Emergency Control Group (MECG) or as support staff within their Community's Emergency Operations Centre (EOC). |
| | List of participants | See Attached |
| | Findings | Exercise went very well. Require work on Business Continuity Planning. MECG functions very well. |
| | Corrective Actions proposed | To initiate discussions on Business Continuity planning and IMS framework within emergency plan. |
| | | |

| | | |
|---|---|--|
| <p>EMERGENCY INFORMATION OFFICER (EIO) Please provide:</p> <ol style="list-style-type: none"> 1. The name of the Emergency Information Officer designated by Council. <p>See O. Reg. Part II Section 14 all</p> | <p>Name of EIO</p> | <p>Dave Treen – Municipal Clerk (705) 672-3363</p> |
| <p>PUBLIC EDUCATION Please provide:</p> <ol style="list-style-type: none"> 1. A description of the Public Education activities conducted by the municipality, and 2. Copies of any Public Information materials distributed or utilized. <p>See EMCPA 2.1(2) (c)</p> | <p>Brief description of Public Education Program</p> | <p>Range of activities held during EP Week including a day long information booth at a City facility. Emergency Preparedness information also provided throughout the week on local radio, and daily messaging on social media.</p> <p>Copies of Information material available.</p> |
| <p>ANNUAL REVIEW Please provide:</p> <ol style="list-style-type: none"> 1. Date of Annual Review, and 2. A signed original copy of the “Emergency Management Program Statement of Completion” form and “Annual Municipal Maintenance Checklist”. <p>See O. Reg. 380/04 Part II Section 11(6)</p> | <p>Date of Annual Program review by Program Committee</p> | <p>November 16, 2016</p> |
| | <p>Date Annual Forms submitted to OFMEM</p> | <p>December 21, 2016</p> |

Memo

To: Mayor and Council
From: Douglas Walsh, Director of Public Works
Date: December 20, 2016
Subject: Land Use Agreement - Sirizzotti
Attachments: **Appendix 01** – Site Sketch
Appendix 02 – Draft Agreement – City of Temiskaming Shores / Michele Sirizzoti
– Use of Sunnyside Road East

Mayor and Council:

The City of Temiskaming Shores has received a request from Mr. Sirizzotti regarding seasonal use of a portion of Sunnyside Road east, near Lake Temiskaming for the purpose of parking and accessing his property in close proximity to the shore of the lake near the Edgewater Motel. Staff met with Mr. Sirizzotti and his Agent on August 31, 2016 to discuss the terms of and determine the viability and liability associated with his request.

Currently, Mr. Sirizzotti is the owner of the small island that is visible from the shoreline located in the bay adjacent to Lakeshore Road and to the east of the Edgewater Motel. The property is accessible by water only and during periods of high water levels a small watercraft is required. The owner and/or his family members use the property during the summer months for short periods of time and have often used adjacent shoreline property for parking purposes. Recently, Mr. Sirizzotti has found it difficult to access the property with his small watercraft as he is required to now launch it from the boat launches in either New Liskeard or Haileybury and paddle to the location.

Through his local Agent, Mr. Sirizzotti has identified a much more convenient location to launch the boat that would not inconvenience others or their activities.

The location identified is along the shoreline within an un-opened and un-maintained easement to the east of the travelled portion of Sunnyside Road East. This area is approximately 33 feet in width and provides access to an adjacent property's septic holding tank which is maintained annually, late in the fall. Mr. Sirizzotti's request is for permission to create a parking area (load of gravel and no tree removal) that will accommodate his boat when not in use and his vehicle while visiting the area.

Mr. Sirizzotti, his Agent and City staff have met with the adjacent property owner and I believe have addressed any concerns that they may have had.

Appendix 01 illustrates the area in question and **Appendix 02** outlines the proposed Easement Agreement between Mr. Sirizzotti and the City.

Prepared by:

Reviewed and submitted for
Council's consideration by:

“Original signed by”

“Original signed by”

G. Douglas Walsh
Director of Public Works

Christopher W. Oslund
City Manager

Appendix 01
027-2016-PW
December 20, 2016



**The Corporation of the City of Temiskaming Shores
By-law No. 2016-000**

**Being a by-law to authorize an Agreement with
Michele and Jamie Sirizzotti to permit the use of
municipal land (Portion of Sunnyside Road)**

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues; and

Whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act; and

Whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public; and

Whereas Council considered Memo No. 027-2016-PW at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into an Agreement with Michele and Jamie Sirizzotti for the use of municipal lands and that the said by-law be presented for consideration at the December 20, 2016 Regular Council meeting.

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That the Mayor and Clerk be authorized to execute an agreement with Michele and Jamie Sirizzotti for the use of municipal land (portion of Sunnyside Drive), a copy of which is attached hereto as Schedule "A" and forms part of this by-law.
2. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantically or descriptive nature or kind to the by-law and schedule as may be deemed necessary after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen



Schedule "A" to

By-law No. 2016-000

Agreement between

The Corporation of the City of Temiskaming Shores

and

Michele and Jamie Sirizzotti

Land Use Agreement – Sunnyside Road

This agreement, made this 20th day of December, 2016.

Between:

The Corporation of the City of Temiskaming Shores
(Hereinafter referred to as the "the City")

And:

Mr. Michele Sirizzotti and Mr. Jamie Sirizzotti
(Hereinafter referred to as "the Benefactor")

Whereas the City is the owner of real property legally described as Sunnyside Road;
and

Whereas the Benefactor owns an island legally described as follows:

Bucke Township, Concession 6 South Part of Lot 9 BKN; RP 54R2202 Parts 1 & 2;
Parcel 20930 SST; known as 643310 Sunnyside Road (Roll No. 5418 030 011 08201);
and

Whereas the Benefactor wishes to use a portion of the unopened Sunnyside Road
allowance for the purpose of accessing his property and temporarily parking his vehicle.

Now therefore, in consideration of the mutual covenants and promises herein
contained, the Parties agree as follows:

1. The Benefactor shall have the right to use a portion of the unopened Sunnyside Road allowance (outlined in hatch-mark on Appendix 1 attached hereto and forming part of this agreement) for the purpose of accessing his property, vehicle parking and boat launching.
2. The Benefactor shall have no right to use the Lands for any other purpose than access and parking and shall commit no act on the Lands which would constitute a nuisance to any other person.
3. The Benefactor shall be responsible for any and all costs associated with required upgrades to permit parking. Such work to be approved by the Director of Public Works for the City of Temiskaming Shores prior to any work commencing.
4. The Benefactor shall be responsible for any and all maintenance costs associated with the lands.
5. The Benefactor shall permit the owners of 643333 Sunnyside Road reasonable access for the purpose of maintaining their septic tank.
6. Should the Lands be required for municipal purposes, the City reserves the right to terminate this agreement by providing the Benefactor with reasonable notice.

Signed and Sealed in)
the presence of)

Jamie Sirizzotti

Jamie Sirizzotti

Witness

Print Name: _____

Municipal Seal)

**Corporation of the City of
Temiskaming Shores**

Mayor – Carman Kidd

Clerk – David B. Treen

Subject: Accessibility Upgrades – Automated
Doors at Riverside Place

Report No.: PW-049-2016
Agenda Date: December 20, 2016

Attachments

- Appendix 01:** Opening Results
Appendix 02: Pronor Construction Quote
Appendix 03: Pronor additional Quote
Appendix 04: Draft Agreement

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. PW-049-2016; and
2. That Council directs staff to prepare the necessary by-law and agreement with Pronor Construction Limited for accessibility upgrades at Riverside Place at an upset limit of \$63,124 plus applicable taxes for consideration at the December 20, 2016 Regular Council meeting.

Background

At the October 6, 2016 Building Maintenance Committee meeting Recommendation No. BM-2016-032 was carried and reads as follows:

The Building Maintenance Committee hereby recommends that Riverside place is the preferred location to allocate the farmers market funding. The Committee further recommends that an Ad hoc Committee be established consisting of members from the recreation department, building maintenance department and farmers market to develop a plan of action.

Following the meeting of the Ad Hoc committee it was decided that PW-RFQ-008-2016 be released for the accessibility upgrades, which would then give the Committee an idea of the remaining funds available for upgrades to the Riverside Place for Farmer's Market.

Analysis

Four (4) submissions were received in response to the Request for Quotation PW-RFQ-008-2016 that had been circulated to known contractors and posted on the City's web site prior to the closing date of December 6, 2016 at 2:00 p.m.

These proposals were reviewed and evaluated in accordance to the requirements of the RFP and the deliverables to be provided by the successful service contractor. **Appendix 01 – Opening Results** summarizes the results of the response received as follows:

| Vendor | Price – Quoted (HST Excluded) |
|-----------------------------|----------------------------------|
| Pronor Construction Limited | \$50,465.00 |
| Pronor Construction Limited | \$12,659.00** |
| G. Belanger Construction | \$53,555.00 |
| Hearn Construction | \$78,200.00 |
| Norwin Contracting | \$85,300.00 |

*Proposed additional work. See Analysis and Financial / Staffing Implications for further detail.

Pronor Construction Limited submitted an initial quotation of \$50,465.00 plus applicable taxes (**Appendix 02**) and was well within the proposed budget for the work included in the Request for Quotation.

Additionally, Pronor Construction was requested to provide a quotation for additional work which included the installation of an automatic opener to the exterior door on the north side of the facility, in order to meet the requirements of accessibility to the building, as well as upgrades to the countertops in both the Men’s and Women’s washrooms. It is important to note that the extra work was requested by the Manager of Physical Assets as they were not part of the original engineered drawings which were done in 2013. The quotation for the additional work is estimated to be \$12,659.00 plus applicable taxes as outlined in **Appendix 03**. This includes the replacement of the faucets as described in the quotation.

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

The funds for this project will be taken from the \$350,000 set aside from the Waterfront funding project. The balance of the funds will be used at Riverside Place for upgrades for the Farmer’s Market vendors.

Alternatives

No alternatives were considered.

Submission

| | | |
|---|--|--|
| Prepared by: | Reviewed and approved by: | Reviewed and submitted for Council’s consideration by: |
| “Original signed by” | “Original signed by” | “Original signed by” |
| _____ Mitch Lafreniere Manager of Physical Assets | _____ G. Douglas Walsh, CET Director of Public Works | _____ Christopher W. Oslund City Manager |

Document Title: **PW-RFQ-008-2016**

Opening Date: **December 6, 2016**

Inquiry Contact: **Mitch Lafreniere**

Opening Time: **2:00 pm**

Description: **Accessibility Upgrades – Riverside Place**

Form of Proposal

Bidder: **PRONOR CONSTRUCTION LTD**, Bidder: **NORWIN CONTRACTING**

| | |
|----------------------------|--|
| Supply & Install of Doors: | \$50,465. |
| HST: | 6,560. ⁴⁵ |
| Total: | 57,025. ⁴⁵ |
| Hrly Rates identified: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N |

| | |
|----------------------------|--|
| Supply & Install of Doors: | 85,300. |
| HST: | 11,089. ⁰⁰ |
| Total: | 96,389. ⁰⁰ |
| Hrly Rate identified: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N |

Bidder: **HEARN CONSTRUCTION**

| | |
|----------------------------|--|
| Supply & Install of Doors: | 78,200. ⁰⁰ |
| HST: | 10,166. ⁰⁰ |
| Total: | 88,366. ⁰⁰ |
| Hrly Rates identified: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N |

Bidder:

| | |
|----------------------------|---|
| Supply & Install of Doors: | |
| HST: | |
| Total: | |
| Hrly Rate identified: | <input type="checkbox"/> Y <input type="checkbox"/> N |

Bidder: **G. BELANGER CONSTRUCTION**

| | |
|----------------------------|--|
| Supply & Install of Doors: | 53,555. ⁰⁰ |
| HST: | 6,962. ¹⁵ |
| Total: | 60,517. ¹⁵ |
| Hrly Rates identified: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N |

Bidder:

| | |
|----------------------------|---|
| Supply & Install of Doors: | |
| HST: | |
| Total: | |
| Hrly Rate identified: | <input type="checkbox"/> Y <input type="checkbox"/> N |

Comment : Submissions will be reviewed for errors, omissions and accuracy by municipal staff prior to any awarding. Subsequently bidders will be informed of the results.

In Attendance:

| Print Name | Representing |
|-------------------|---------------------|
| Mitch Lafreniere | City of T.S. |
| Garry Wadge | CITY |
| GERARD FOSTER | PRONOR CONSTRUCTION |
| TAMMIE CALDWELL | CITY OF T. SHORES |
| DAVE TREEN | " " |
| LINDA MCKNIGHT | " " |

Signature


Garry Wadge


Linda McKnight

Respondent Information Form

RESPONDENTS must complete this form and include with the Proposal Submission
Please ensure all information is legible.

| | | |
|-----|--------------------------------------|---|
| 1. | Respondent's Main Contact Individual | GERALD FOSTER |
| 2. | Address | PRONOR CONSTRUCTION LIMITED 176 LAKESHORE DR. SUITE 1 NORTH BAY ON, PIA 2A8 |
| 3. | Office Phone # | (705) 472-9999 |
| 4. | Toll Free # | N/A |
| 5. | Cellular # | (705) 358-2184 |
| 6. | Pager # | N/A |
| 7. | Fax # | (705) 494-7410 |
| 8. | e-mail address | gerald.foster@pronor.ca |
| 9. | Website | N/A |
| 10. | Tax Account # | 81939 2188 R10001 |
| 11. | Manufacturer ISO Certified? | YES <input type="radio"/> NO <input checked="" type="radio"/> |

Acknowledgement To Receipt Of Addenda

This will acknowledge receipt of the following addenda and, that the pricing quoted includes the provision set out in such addendum(s)

| <u>ADDENDUM #</u> | <u>DATE RECEIVED</u> |
|-------------------|----------------------|
| # _____ | _____ |
| # _____ | _____ |
| # _____ | _____ |

Check here if NO Addenda received.

PRONOR CONSTRUCTION LIMITED
RESPONDENT

SIGNATURE

06-DEC-16
DATE

To the City of Temiskaming Shores, hereafter called the "Owner ":

I/WE PROTOR CONSTRUCTION LIMITED the undersigned declare:

1. THAT I/WE have carefully examined the locality and site of the proposed Works, as well as all the Contract Document (Health & Safety Regulations) relating thereto, prepared, submitted and rendered available by the Owner , by and on behalf of the Municipality and hereby acknowledge the same to be part and parcel of any Contract to be let for the Work therein described or defined.
2. THAT no Person(s), Firm or Corporation other than the one whose signature(s) of whose proper officers and the seal is or are attached below has any interest in this Bid or in the Contract proposed to be taken.
3. THAT this Bid is made without any connections, knowledge, comparison of figures or arrangements with any other company, firm or person making a Bid for the same Work and is in all respects fair and without collusion or fraud.
4. I/WE represent that no member of Council, and no officer or employee of the Owner, is, or has become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise howsoever in or on the performance of the said contract, or in the supplies, Work or business in connection with the said contract, or in any portion of the profits thereof, or of any supplies to be used therein, or in any monies to be derived there from.
5. THAT the several matters stated in the said Bid are in all respects true accurate and complete.
6. THAT I/WE do hereby Bid and offer to enter into a Contract to do all the Work and to provide all of the labour and to furnish, deliver, place and erect all materials mentioned and described or implied therein including in every case freight, duty, currency exchange, H.S.T. in effect on the date of the acceptance of Bid, and all other charges on the provisions therein set forth and to accept in full payment therefore, in accordance with the prices and terms set forth in the Bid herein.
7. THAT additions or alterations to or deductions from the said contract, if any, shall be made in accordance with the prices stated in Provisional Items of the Schedule of Unit prices in strict conformity with the requirements of the Contract and all unused monies in Provisional Items shall be deducted from the final cost of the Work and any quantities exceeding those shown shall be added.
8. THAT this Bid is irrevocable and open to acceptance until the formal Contract is executed by the Awarded Bidder for the said Work or Sixty (60) Working Days, and prices for as long as stated elsewhere in the document, whichever event first occurs and that the Owner may at any time within that period without notice, accept this Bid whether any other Bid has been previously accepted or not.
9. THAT if I/WE withdraw this Bid before the formal Contract is executed by the Awarded Bidder for the said Work or Sixty (60) Working Days, whichever event first occurs, the amount of the Bid deposit accompanying this Bid shall be forfeited to the Owner.
10. THAT the Awarding of the Contract by the Owner is based on this submission, which shall be an acceptance of this Bid.
11. THAT if the Bid is accepted, I/WE agree to furnish all documentation, security and certifications as required by the Contract document and to execute the agreement in triplicate within Seven (7) Working Days after notification of Award. If I/WE fail to do so, the Owner may retain the money deposited by us, to the use of the Owner and to accept the next lowest or any Bid or to advertise for new Bids, or to carry out completion of the Works in any other way they deem best and I/WE also agree to pay to the Owner the difference between this Bid and any greater sum which the Owner may expend or incur by reason of such default or failure or by reason of such action as aforesaid on their part, including the cost of any advertisement for new Bids, and shall indemnify and save harmless the Owner and their

officers from all loss, damage, cost, charges and expense which they may suffer or be put to by reason of any such default or failure on my/our part.

12. THAT I/WE agree to save the Owner, its agents, or employees, harmless from liability of any kind for the use of any composition, secret process, invention, article or appliance furnished or used in the performance of the Contract of which the Bidder is not the patentee, assignee, or licensee.
13. THAT I/WE propose to engage the sub-contractors and obtain materials and equipment from the Bidders and manufacturers listed in the schedules on the following pages headed "Schedule of Sub-contractors" and "Schedule of Bidders and Manufacturers" (unless all sub-contractors, Bidders and manufacturers are legibly and properly named, the Bid may be declared informal).
14. I/WE agree to adhere to all Occupational Health and Safety standards and requirements as set out within the Occupational Health and Safety and the Safety Standards Sections of the Bid document.
15. I/WE acknowledge that we shall perform all Work in accordance with the Occupational Health and Safety Act and all its associated regulations. We have a written Occupational Health and Safety policy which is reviewed, maintained and implemented in accordance with the Occupational Health and Safety Act and all its associated regulations.

16. THE TOTAL BID PRICE (EXCLUDING APPLICABLE TAXES):

FIFTY THOUSAND FOUR HUNDRED AND SIXTY FIVE
DOLLARS (\$ 50,465.⁰⁰)
in lawful money of Canada.

17. The Bidder hereby accepts and agrees that the Addendum/Addenda referred to in these bid documents form part and parcel of the said contract. All Addendum/Addenda should be issued to the Contractor before twenty-four (24) hours of Closing Time. It is the responsibility of the Contractor to have received all Addendum/Addenda that have been issued by the Owner or Owner's Representative. Please check with the owner via e-mail mlafreniere@temiskamingshore.ca prior to submitting your bid submission for the number of addendum's released

18. The Bidder hereby agrees to commence the work by January 9th, 2017 and to complete all work by February 28th, 2017. Liquidated damages shall be paid for time past this period.

The undersigned affirms that he/she is duly authorized to execute this Bid.

BIDDER'S SIGNATURE AND SEAL: [Signature]
(I have authority to bind the company)

POSITION: PRESIDENT

WITNESS: _____
(If not under seal)

POSITION: _____

(If Corporate Seal is not available, documentation should be witnessed)

DATED AT THE CITY OF TEMISKAMING SHORES
(City/Town)

THIS 6TH DAY OF DECEMBER 20 16.

Items and Unit Prices

Price complete, including supply and installation of replacement roofing, site preparation, all labour, equipment, machinery, tools and parts used, all work as described herein, site clean-up, removal from site of all packaging and rubbish, warranties, guarantees and all other costs:

The Bid amount shall include all costs incurred, excluding HST.

| DESCRIPTION | TOTAL PRICE |
|--|--------------|
| Supply & Installation of accessible upgrades At Riverside Place | \$ 50,465.00 |
| HST | \$ 6,560.45 |
| Total Project Value | \$ 57,025.45 |

Note: owner reserves the right, at its sole discretion to accept or refuse any of the above unit pricing without affecting other unit prices.

GRAND TOTAL \$ 57,025.45

Provisional Items

The Bidder hereby Bids and offers to enter into the Contract referred to and to supply and do all or any part of the Work, which is set out or called for in this Bid, at the unit prices, and/or lump sums, hereinafter stated. The Bid amount shall include all costs incurred, excluding HST.

| Description | Unit | Price |
|------------------------------|----------|-----------------|
| Hourly rate for Supervisor | per hour | \$ <u>65.00</u> |
| Hourly rate for Laborer | per hour | \$ <u>42.00</u> |
| Hourly rate for Tradesperson | per hour | \$ <u>60.00</u> |

List Sub-Contractors

State OWN FORCES if a sub-Contractor is not required for any of the trades listed; otherwise name Work and sub-Contractor proposed to be used.

The Owner reserves the right to approve all proposed Sub-Contractors and where the Owner objects to the use of any proposed Sub-Contractor, the Bidder shall use another sub-Contract Bidder acceptable to the Owner. Any proposed changes to the approved list of Sub-Contractors subsequent to Contract Award shall be subject to the approval of the Owner.

The Awarded Bidder may be required to produce schedule of references for all or any proposed Sub-Contractors.

The Awarded Bidder shall only use those Sub-Contractors approved by the Owner and shall be held fully responsible to the Owner for the acts and omissions of its sub-Contractors.

| Type of Work | Sub-Contractors | Contact Name and Number |
|---------------------------------|-----------------------------------|---------------------------------|
| DEMOLITION | OWN FORCES | |
| PATCHING | OWN FORCES | |
| DOORS + HARDWARE | NORTHLAND GLASS AND METAL LIMITED | DAVID POLLARD (705) 472-0661 |
| FLOOR PATCHING | OWN FORCES | |
| PAINTING | OWN FORCES | |
| WASHROOM PARTS + ACCESSORIES | OWN FORCES | |
| MECHANICAL | COMPLETE PLUMBING | MAT RYAN (705) 358-7567 |
| ELECTRICAL | EARL WILSON ELECTRICAL LTD. | BOBBY WILSON (705) 471-4097 |
| | | |

List References

State OTHER OWNER S WHICH HAVE BEEN SUPPLIED/SERVICED by the Bidder within the last five (5) years for projects of a scope and nature similar to the project described in this Call for Bids. The Awarded Bidder may be required to produce schedule of written references upon request.

| Description of Work | Contact Name and Number |
|--|---|
| GREAT NORTHERN FAMILY HEALTH TEAM BUILDING | BRYAN BERTRAND, EBHWA ARCHITECTURE INC. (705) 497-4766 |
| EMS AMBULANCE BUILDING | BRYAN BERTRAND, EBHWA ARCHITECTURE INC. (705) 497-4766 |
| MR. GAS (MATRAWA) | BILLES BURTON, OWNER (613) 824-6777 |
| FORMER TWEEDSMuir SCHOOL BATHROOM RENOVATION | CHRISTIAN FORSTH, MALLENE GORAN N.B. (205) 497-4111 |
| | |
| | |
| | |
| | |
| | |
| | |

Add additional sheets if required

City of Temiskaming Shores
PW-RFQ-008-2016
Accessibility Upgrades RSP

Non Collusion Affidavit

I/ We GERALD FOSTER the undersigned am fully informed respecting the preparation and contents of the attached quotation and of all pertinent circumstances respecting such bid.

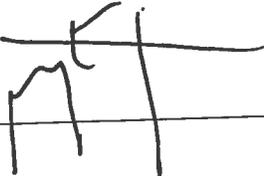
Such bid is genuine and is not a collusive or sham bid.

Neither the bidder nor any of its officers, partners, owners, agents, representatives, employees or parties of interest, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other Bidder, firm or person to submit a collective or sham bid in connection with the work for which the attached bid has been submitted nor has it in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix the price or prices in the attached bid or of any other Bidder, or to fix any overhead, profit or cost element of the bid price or the price of any bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Temiskaming Shores or any person interested in the proposed bid.

The price or prices quoted in the attached bid are fair and proper and not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

The bid, quotation or proposal of any person, company, corporation or organization that does attempt to influence the outcome of any City purchasing or disposal process will be disqualified, and the person, company, corporation or organization may be subject to exclusion or suspension.

Signed



Company Name

PRETOR CONSTRUCTION LIMITED

Title

PRESIDENT



City of Temiskaming Shores

Accessibility Upgrades RSP
PW-RFQ-008-2016

PW-RFQ-008-2016

City of Temiskaming Shores
PW-RFQ-008-2016
Accessibility Upgrades RSP

Conflict of Interest Declaration

Please check appropriate response:

- I/we hereby confirm that there is not nor was there any actual or perceived conflict of interest in our quotation submission or performing/providing the Goods/Services required by the Agreement.
- The following is a list of situations, each of which may be a conflict of interest, or appears as potentially a conflict of interest in our Company's quotation submission or the contractual obligations under the Agreement.

List Situations:

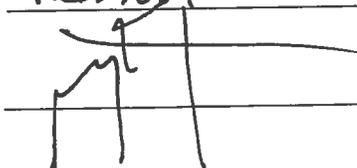
In making this quotation submission, our Company has / has no *(strike out inapplicable portion)* knowledge of or the ability to avail ourselves of confidential information of the City (other than confidential information which may have been disclosed by the City in the normal course of the quotation process) and the confidential information was relevant to the Work/Services, their pricing or quotation evaluation process.

Dated at NORTH BAY, ON this 6th day of DECEMBER, 2016.

FIRM NAME: PRETOR CONSTRUCTION LIMITED

BIDDER'S AUTHORIZED OFFICIAL: GERALD FOSTER

TITLE: PRESIDENT

SIGNATURE: 

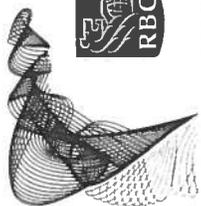
Clearance Certificate / Certificat de décharge

| Contractor Legal / Trade Name / Appellation commerciale ou raison sociale de l'entrepreneur | Contractor Address / Adresse de l'entrepreneur | Contractor Classification Unit and Description / Unité de classification de l'entrepreneur et description | Principal Legal / Trade Name / Appellation commerciale ou raison sociale de l'entrepreneur principal | Principal Address / Adresse de l'entrepreneur principal | Clearance Certificate Number / Numéro du certificat de décharge | Validity period (dd- mmm-yyyy) / Période de validité (jj/mm/aaaa) |
|--|--|--|--|--|---|--|
| PRONOR CONSTRUCTION LIMITED / PRONOR CONSTRUCTION | 222 MCINTYRE ST WEST SUITE 324, NORTH BAY, ON, P1B2Y8, CA | 4021-099: Industrial, Commercial, and Institutional Construction | THE CORPORATION OF THE CITY OF TEMISKAMING SHORES / PARENT ACCOUNT | PO BOX 2050, HAILEYBURY, ON, P0J1K0, CA | E200000B0VK3 | 06-Dec-2016 to 19- Feb-2017 |

57175880 4-516

DATE 20161206
Y/A MM DJJ

\$6,000.00



Royal Bank of Canada
Banque Royale du Canada
925 STOCKDALE RD - MAIN FLR
NORTH BAY, ON

PAY TO THE ORDER OF / PAYEZ A L'ORDRE DE
City of Temiskaming Shores

AMOUNT \$6,000.00

AUTHORIZED SIGNATURE REQUIRED FOR AMOUNTS OVER \$5,000.00 CANADIAN / SIGNATURE AUTORISEE REQUISE POUR UN MONTANT EXCEDANT 5,000.00 \$ CANADIENS

CANADIAN DOLLARS CANADIENS

RE/OBJET Bid Deposit

PURCHASER NAME PRONOR CONSTRUCTION LIMITEE

PURCHASER ADDRESS 176 Lakeshore Dr. Suite 1

NORTH BAY, ON P1A 2A8

NOM DE L'ACHETEUR

ADRESSE DE L'ACHETEUR

AUTHORIZED SIGNATURE / SIGNATURE AUTORISEE
[Signature]

COUNTERSIGNED / CONTRESIGNE
[Signature]

⑈ 57175880⑈ :03452⑈003⑈ 099⑈013⑈5⑈



QUOTE NUMBER: 2016-009
DATE: December 9, 2016

City of Temiskaming Shores
325 Farr Drive
P.O. Box 2050
Haileybury, Ontario
P0J 1K0

Attention: Mitch Lafreniere, Manager of Physical Assets

RE: Riverside Place Accessibility Upgrades – Additional Pricing

| ITEM | DESCRIPTION | AMOUNT |
|--------------------------|---|---------------------|
| 1. | Supply and Install One Door Operator on Back Door (Riverside of Building) <ul style="list-style-type: none"> o Supply and install 1 Horton 7100 automatic Door operator activated by 2 push buttons. o Run EMT conduit and wire to the closest panel location. | \$ 4,483.00 |
| 2. | Supply and Install New Vanities and Sinks in Men’s and Women’s Washrooms <ul style="list-style-type: none"> o Remove and dispose of existing vanities, sinks, and taps o Supply and install new post formed laminate vanities o Supply and install 4 Gerber Maxwell model #12-834 ADA compliant counter sinks. o Supply and Install 4 - Zurn model #Z-81000-XL single lever ADA compliant single lever lav faucets. o Supply and Install 4 - Zurn model #ZW-3870-XLT mixing valve. *Each complete with 1-1/4" chrome plated p-trap, open grid offset strainer, stops & flex risers. *For Zurn model Z-6915-XL ADA compliant sensor battery operated faucets add \$1,180.00 for all 4 faucets (extra pricing option) | \$ 6,996.00 |
| TOTAL (HST EXTRA) | | \$ 11,479.00 |

Qualifications:

1. Pricing is based on the work being awarded and performed concurrently with the base tender work.

Thank you for the opportunity to quote this work.

Yours truly,

Pronor Construction Limited

Gerald Foster
President

Pronor Construction Limited

176 Lakeshore Drive, Suite #1, North Bay, ON P1A 2A8
Tel: (705) 472-9999 Fax: (705) 494-7410

The Corporation of the City of Temiskaming Shores

By-law No. 2016-000

**Being a by-law to enter into an agreement with
Pronor Construction Limited for the Accessibility
Upgrades at Riverside Place**

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to responds to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas Council considered Administrative Report No. PW-049-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into an agreement with Pronor Construction Limited for accessible upgrades at Riverside Place at an upset limit of \$63,124.00 plus applicable taxes for consideration at the December 23, 2016 Regular Council meeting;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That Council authorizes the entering into an agreement with Pronor Construction Limited for supply and installation of accessible upgrades at Riverside Place at an upset limit of \$63,124.00 plus applicable taxes, a copy of which is attached hereto as Schedule "A" and forms part of this by-law;
2. That the Clerk of the City of Temiskaming Shores is hereby authorized to make minor modifications or corrections of a grammatical or typographical nature to the by-law and schedule, after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law or its associated schedule.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk - David B. Treen



Schedule "A" to

By-law 2016-000

Agreement between

The Corporation of the City of Temiskaming Shores

and

Pronor Construction Limited

for accessible upgrades at the Riverside Place

This agreement made in duplicate this 20th day of December, 2016.

Between:

The Corporation of the City of Temiskaming Shores
(hereinafter called “the Owner”)

and

Pronor Construction Limited
(hereinafter called “the Contractor”)

Witnesseth:

That the Owner and the Contractor shall undertake and agree as follows:

Article I:

The Contractor will:

- a) Provide all material and perform all work described in the Contract Documents entitled:

**Corporation of the City of Temiskaming Shores
Accessible Upgrades – Riverside Place
Request for Proposal No. PW-RFQ-008-2016**

- b) Do and fulfill everything indicated by this Agreement and in the Contract Documents, attached hereto as Appendix 01 – Submission Quotation and Appendix 02 – Additional Pricing, forming part of this agreement;
- c) Complete, as certified by the City, all the work by **February 24th, 2017.**

Article II:

The Owner will:

- a) Pay the Contractor in lawful money of Canada for the material and services aforesaid Sixty-Three Thousand, One Hundred and Twenty-four Dollars and Zero Cents (\$63,124.00) plus applicable taxes subject to additions and deductions as provided in the Contract Documents.
- b) Make payment on account thereof upon delivery and completion of the said work and receipt of invoice, in accordance with the City of Temiskaming Shores Purchasing Policy, and with terms of Net 30 days after receiving such invoice.

Article IV:

All communications in writing between the parties, or between them and the Engineer shall be deemed to have been received by the addressee if delivered to the individual or to a member of the firm or to an officer of the Owner for whom they are intended or if sent by hand, Canada Post, courier, facsimile or by another electronic communication where, during or after the transmission of the communication, no indication or notice of a failure or suspension of transmission has been communicated to the sender. For deliveries by courier or by hand, delivery shall be deemed to have been received on the date of delivery; by Canada Post, 5 days after the date on which it was mailed. A communication sent by facsimile or by electronic communication with no indication of failure or suspension of delivery, shall be deemed to have been received at the opening of business on the next day, unless the next day is not a working day for the recipient, in which case it shall be deemed to have been received on the next working day of the recipient at the opening of business.

The Contractor:

Pronor Construction Limited
176 Lakeshore Drive
Suite 1
North Bay, Ontario
P1A 2A8

Attention: Gerald Foster

The Owner:

City of Temiskaming Shores
P.O. Box 2050
325 Farr Drive
Haileybury, Ontario
P0J 1K0

Attention: Mitch Lafreniere

In witness whereof the parties have executed this Agreement the day and year first above written.

Signed and Sealed in)
the presence of)

Contractor’s Seal)
(if applicable))

Municipal Seal)

Pronor Construction Limited

President – Gerald Foster

Witness - Signature

Print Name: _____

**Corporation of the City of
Temiskaming Shores**

Mayor – Carman Kidd

Clerk – David B. Treen



Appendix 01 to
Schedule "A" to

By-law No. 2016-000

Submission Quotation



Appendix 02 to
Schedule "A" to

By-law No. 2016-000

Additional Pricing

Subject: Tender Award – Transit Buses

Report No.:

PW-050-2016

Agenda Date:

December 20, 2016

Attachments

Appendix 01: Opening Results

Appendix 02: Girardin Ontario Inc. Quote

Appendix 03: Draft Agreement

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report No. PW-050-2016;
2. That Council directs staff to prepare the necessary by-law and agreement with Girardin Ontario Inc. for the purchase of two (2) new low floor 30' Transit Buses at an upset limit of \$854,624 plus applicable taxes for consideration at the December 20, 2016 Regular Council meeting; and
3. That Council directs the Treasurer to proceed with an application to the Ontario Infrastructure & Lands Corporation (OILC) to borrow the unfunded portion of the project estimated at \$611,710.

Background

Two of the current buses utilized to operate the Temiskaming Transit have several documented mechanical issues. The issues with the buses are primarily due to the size and greatly impact the regular operation and reliability of the transit system. The Temiskaming Transit has had to utilize the school buses on numerous occasions because these two small cutaway buses are frequently out of service.

The Transit Committee, as well as Council's for both the City of Temiskaming Shores and the Town of Cobalt have agreed to a fleet replacement plan. As part of this plan, two (2) new low floor conventional transit buses have been approved as part of the 2017 budget process.

The Temiskaming Transit has seen a 50% increase in ridership with the extension of transit services on evenings and weekends. The transit service is projected to have over 138,000 riders this year.

Analysis

These proposals were reviewed and evaluated in accordance to the requirements of the RFP and the deliverables to be provided by the successful bidder. **Appendix 01 – Opening Results** summarizes the results of the response received as follows:

| Vendor | Price – Quoted (HST Excl.) |
|----------------------|----------------------------|
| Grande West 35' | \$395,000.00 |
| Girardin Ontario 30' | \$415,587.00 |
| Girardin Ontario 35' | \$463,849.00 |
| City View 35' | \$464,225.60 |

Financial / Staffing Implications

This item has been approved in the current budget: Yes No N/A

This item is within the approved budget amount: Yes No N/A

The additional costs of \$11,725 per bus plus HST is for extended warranty for Engine and Transmission components.

Temiskaming Transit is eligible for Public Transit Infrastructure Funding in the amount of \$257,955 to assist with the purchase of these buses. The remaining costs would be financed in accordance with the Transit Replacement Plan.

Girardin Ontario have indicated that the buses can be delivered within 8-12 weeks. The Committee hopes to have the buses in operation by early April, 2017 which will assist in reducing maintenance costs and ensure reliability of the system.

Alternatives

No alternatives were considered.

Submission

Prepared by:

Reviewed and submitted for
Council's consideration by:

“Original signed by”

“Original signed by”

Mitch Lafreniere
Manager of Physical
Assets

Christopher W. Oslund
City Manager

Document Title: **PW-RFP-014-2016**

Opening Date: **December 6, 2016**

Inquiry Contact: **Mitch Lafreniere**

Opening Time: **2:00 pm**

Description: **Supply and Delivery of New Transit Buses**

Form of Proposal

This is a Request for Proposal with no formal proposal form to be completed; each bidder submits a price along with specific information based on their proposal. Proposals are evaluated based on a pre-determined set of evaluation criteria.

Bidder: **GRANDE WEST**

| | |
|----------------------------|---------|
| Transit Unit – each (L.S.) | 395,000 |
| HST: | 57,350 |
| Sub-Total: | 446,350 |
| Total (x2 units): | |

Notes:

Bidder:

| | |
|----------------------------|--|
| Transit Unit – each (L.S.) | |
| HST: | |
| Sub-Total: | |
| Total (x2 units): | |

Notes:

Bidder: **GIRARDIN**

| | |
|----------------------------|------------------------|
| Transit Unit – each (L.S.) | 415,587. |
| HST: | 54,026. ³¹ |
| Sub-Total: | 469,613. ³¹ |
| Total (x2 units): | |

Notes:

Bidder:

| | |
|----------------------------|--|
| Transit Unit – each (L.S.) | |
| HST: | |
| Sub-Total: | |
| Total (x2 units): | |

Notes:

Bidder: **CITY VIEW**

| | |
|----------------------------|------------------------|
| Transit Unit – each (L.S.) | 464,225. ⁶⁰ |
| HST: | |
| Sub-Total: | 524,574. ⁹³ |
| Total (x2 units): | |

Notes:

Bidder:

| | |
|----------------------------|--|
| Transit Unit – each (L.S.) | |
| HST: | |
| Sub-Total: | |
| Total (x2 units): | |

Notes:

Comment: Since this is a Request for Proposal all submissions are required to be evaluated based on the pre-determined evaluation criteria. Therefore submissions will be reviewed for errors, omissions, accuracy and other criteria by municipal staff prior to any awarding. Subsequently bidders will be informed of the results.

In Attendance:

Print Name
 Dave Walsh
 Mitch Lafreniere
 DAVE TREEN
 LINDA MCKNIGHT

Representing
 T. SHORES
 " "
 " "
 " "

Signature


GIRARDIN

BLUE BIRD



NEW FLYER

QUOTATION FOR LOW-FLOOR DIESEL TRANSIT BUSES

SECTION 1

Contents:

| Title | Submission Requirements |
|--------|--|
| Price: | Your quoted price for proposed buses is: (CAD) MD30 - \$415,587 per bus* (stock units) This price includes delivery, warranty, PDI and publications as outlined in this proposal. |

* Please note this pricing will be held for 30 days from the date of the submission of the quote to Temiskaming Shores.

OPTIONAL:

- New Flyer Connect Hardware: \$658.67 CAD per bus + applicable taxes
- Annual Connect service fee: \$1014.00 CAD per bus + applicable taxes

INCLUDES;

- The Girardin/New Flyer training organization is represented by the New Flyer after-sales service group, a division of New Flyer Industries. As a leader in manufacturing urban buses in Canada and United States, we have access to the best resources in design, engineering, power train technology and electrical systems. Our price includes a full technical orientation and PDI.
- Luminator Destination Signs, Front, Side, and Controller.

Subject: Internal Audit and
Management Review - DWQMS

Report No.: PW-051-2016
Agenda Date: December 20, 2016

Attachments

Appendix 01: Internal Audit 2016

Appendix 02: Management Review Minutes 2016

Appendix 03: Audit Report – SAI Global

Recommendations

It is recommended:

1. That Council for the City of Temiskaming Shores acknowledges receipt of Administrative Report PW-051-2016;
2. That Council acknowledges completion of the Internal Audit and Management Review (2016) in accordance to Section 12 *Communications* of the Operational Plan as well as receipt of the off-site Audit Report done by SAI Global; and
3. That Council directs staff to make the necessary changes within the Drinking Water Quality Management Standard (DWQMS) in accordance with the results of these audits.

Background

Justice Dennis O'Connor, in Part Two of the Report of the Walkerton Inquiry, recommended the adoption of quality management for municipal drinking water systems. It was also recommended that a quality management standard specifically designed for drinking water systems be developed and implemented in Ontario, thus leading to the creation of the Drinking Water Quality Management Standard (DWQMS).

The adoption of quality management systems is not new to the drinking water community in Ontario; however the requirement to implement the DWQMS is now mandated through the Safe Drinking Water Act, 2002 (SDWA).

In 2012 the City obtained the services of SAI Global, an accreditation agency, to perform a mandatory third-party external on-site audit of the drinking water Quality Management System (QMS) to ensure conformity with the Drinking Water Quality Management Standard (DWQMS) requirements. The results of the external audit enabled the City to obtain a **Full Scope – Entire DWQMS License**. The third-party on-site audit is required every three years with off-site audits required for those years in between.

Internal Audit Water Distribution Systems

| | | | |
|-------------------------|--|--|--|
| Water Systems: | New Liskeard | Dymond | Haileybury |
| Assoc. DWWP: | 218 - 203 | 218 - 201 | 212 - 202 |
| Date of Internal Audit: | November 24, 2016 | | Date of Report: November 28, 2016 |
| Auditor(s): | Doug Walsh, Director of Public Works; Robert Beaudoin, Environmental Superintendent; Darrell Phaneuf, Operator; Richard Nichols, Operator; Kevin Twiner, Operator; Steve Burnett, Technical & Environmental Compliance Coordinator. | | |
| Documents Viewed: | Operational Plan & Associated Appendices, Applicable Municipal Licences, Applicable Municipal Permits; Applicable Permits to Take Water; | | |
| Accreditation Option: | <input type="checkbox"/> Limited Scope – Partial DWQMS | <input type="checkbox"/> Limited Scope – Entire DWQMS | <input checked="" type="checkbox"/> Full Scope – Entire DWQMS |

Purpose:

This checklist is to be used to document and summarize the objective evidence and findings gathered during the course of the internal QMS audit conducted as per the QMS Procedure for Internal QMS Audits.

Audit Objectives:

The objectives of this internal QMS audit are:

- To evaluate the conformance of the City's QMS to the requirements of the Drinking Water Quality Management Standard (DWQMS),
- To identify and correct nonconformities with the systems documented QMS, and
- To assess the effectiveness of the QMS and ensure that it is continually improving with each cycle.

Scope:

This protocol has been designed to encompass all the requirements of the DWQMS. All activities within the scope of the QMS implemented for the system (as documented in the Operational Plan) are auditable.

Note to Auditor(s):

Prior to commencing an internal QMS audit, the auditor(s) must review Appendix 18 – Internal Audit Procedure contained within the *Drinking Water Quality Management System Manual – Operational Plan*.

Additional information/guidance with respect to auditing each of the 21 DWQMS elements has been provided herein.

Audit:

The meeting commenced with a refresher on the five (5) major components, Drinking Water Works Permit, Permit to Take Water, approved Operational Plan, approved Financial Plan and accredited Operating Authority for the acquisition of a Municipal Licence.

The associated Drinking Water Works Permits, Water Works Permit, Municipal Permits, Permit to Take Water were reviewed with the objective of ensuring participants were aware of municipal and operating authority obligations.

It was outlined that AECOM submitted the Financial Plan and was considered and adopted by Council in September of 2012.

It was outlined that Temiskaming Shores holds a Full Scope – Entire DWQMS Licence.

The previous internal audit that was held in November of 2015 was reviewed and discussed.

The majority of the audit focused on the Operational Plan and associated Policies, Procedures and resulting records.

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 1. Quality Management System | | | |
| PLAN The Operational Plan shall document a QMS that meets the requirements of this standard. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall establish and maintain the QMS in accordance with the requirements of this Standard and the policies and procedures documented in the Operational Plan. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: | | | |
| None | | | |

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 2. Quality Management System Policy | | | |
| PLAN The Operational Plan shall document a QMS Policy that provides the foundation for the QMS, and: | | | |
| a) Is appropriate for the size and type of the subject system; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) Includes a commitment to the maintenance and continual improvement of the QMS; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) Includes a commitment to the consumer to provide safe drinking water; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) Includes a commitment to comply with applicable legislation and regulations, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| e) Is in a form that provides for ready communication to all Operating Authority personnel, the Owner and the public. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

| | | | |
|--|-------------------------------------|--------------------------|--|
| DO The Operating Authority shall establish and maintain a QMS that is consistent with the Policy. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: None | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 3. Commitment and Endorsement PLAN The Operational Plan shall contain a written endorsement of its contents by Top Management and the Owner. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO Top Management shall provide evidence of its commitment to an effective QMS by: | | | |
| a) Ensuring that a QMS is in place that meets the requirements of this Standard; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) Ensuring that the Operating Authority is aware of all applicable legislative and regulatory requirements; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) Communicating the QMS according to the procedure for communications, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) Determining, obtaining or providing the resources needed to maintain and continually improve the QMS. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: None. | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|---|
| 4. Quality Management System Representative PLAN The Operational Plan shall identify a QMS representative. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO Top Management shall appoint, and authorize a QMS representative who, irrespective of other responsibilities, shall: | | | |
| a) Administer the QMS by ensuring that processes and procedures needed for the QMS are established and maintained; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) Report to Top Management on the performance of the QMS and any need for improvement; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) Ensure that current versions of documents required by the QMS are being used at all times; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) Ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Legislative requirements are refreshed when operators take course examinations. |
| e) Promote awareness of the QMS throughout the Operating Authority. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: | | | |

Internal Audit Water Distribution Systems

Operators and Management have been made aware of the new Watermain Disinfection Procedures set out by the MOECC through discussion and accredited courses.

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|-------------------|
| 5. Document and Records Control | | | |
| PLAN | | | |
| The Operational Plan shall document a procedure for document and records control that describes how: | | | |
| a) Documents required by the QMS are: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ kept current, legible and readily identifiable; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ retrievable; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ stored, protected, retained and disposed of, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) records required by the QMS are: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ kept legible, and readily identifiable; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ retrievable; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ stored, protected, retained and disposed of. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | | | |
| The Operating Authority shall implement and conform to the procedure for document and records control and shall ensure that the QMS documentation for the subject system includes: | | | |
| a) the Operational Plan and its associated policies and procedures; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) documents and records determined by the Operating Authority as being needed to ensure the effective planning, operation and control of its operations, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Need Modification |
| c) the results of internal and external audits and management reviews. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: | | | |
| Document modifications are necessary due to the new MOECC Watermain Disinfection Procedures | | | |

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 6. Drinking Water System | | | |
| PLAN | | | |
| The Operational Plan shall document, as applicable: | | | |
| a) For the subject system: | | | |
| ➤ a description of the system including all treatment processes and distribution system components; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ the name of the Owner and Operating Authority; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ a process flow chart; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ a description of the water source, including: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ general characteristics of the raw water supply, | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

| | | | |
|---|-------------------------------------|--------------------------|-----------------------|
| ➤ common event-driven fluctuations and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ any resulting operational challenges and threats. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| ➤ a description of any critical upstream or downstream process relied upon to ensure the provision of safe drinking water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) If the subject system is an operational subsystem, a summary description of the municipal residential drinking-water system it is a part of | <input type="checkbox"/> | <input type="checkbox"/> | NOT APPLICABLE |
| c) If the subject system is connected to one or more other drinking-water systems owned by different owners, a summary description of those systems which: | <input type="checkbox"/> | <input type="checkbox"/> | NOT APPLICABLE |
| ➤ indicates whether the subject system obtains water from or supplies water to those systems, and | <input type="checkbox"/> | <input type="checkbox"/> | NOT APPLICABLE |
| ➤ names the Owner and Operating Authority of those systems. | <input type="checkbox"/> | <input type="checkbox"/> | NOT APPLICABLE |
| DO The Operating Authority shall ensure that the description of the drinking-water system is kept current. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: The description of the water systems were reviewed and recommended for modification based on comments from Operational personnel and Capital improvements done in 2015/16. The associated distribution maps were reviewed in detail with modifications recommended due to a major Capital Project which linked Dymond distribution with New Liskeard. | | | |

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 7. Risk Assessment PLAN The Operational Plan shall document a risk assessment process that: | | | |
| a) identifies potential hazardous events and associated hazards; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) assesses the risks associated with the occurrence of hazardous events; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) ranks the hazardous events according to the associated risk; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) identifies control measures to address the potential hazards and hazardous events; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| e) identifies a critical control point; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| f) identifies a method of verify at least once a year, the currency of the information and the validity of the assumptions used in the risk assessment; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| g) ensures that a risk assessment is conducted at least once every thirty-six months, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| h) considers the reliability and redundancy of equipment. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

| | | | |
|--|--|--|--|
| The Operating Authority shall perform a risk assessment consistent with the documented process. | | | |
| Additional Comments: The Risk Assessment process was reviewed in detail providing a greater understanding to all those auditing as to how risks had been assessed. | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 8. Risk Assessment Outcomes | | | |
| PLAN | | | |
| The Operational Plan shall document: | | | |
| a) the identified potential hazardous events and associated hazards; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) the assessed risks associated with the occurrence of hazardous events; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) the ranked hazardous events; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) the identified control measures to address the potential hazards and hazardous events; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| e) the identified critical control points and their respective critical control limits; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| f) procedures and/or processes to monitor the critical control limits; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| g) procedures to respond to deviations from the critical control limits, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| h) procedures for reporting and recording deviations from the critical control limits. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | | | |
| The Operating Authority shall implement and conform to the procedures. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: The Risk Assessments for the water distribution systems were reviewed and verified with respect to the currency of the information. As a group, discussions were held with respect to identifying any other potential risks that should be incorporated. No additional risks were identified. | | | |

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 9. Organizational Structure, Roles, Responsibilities and Authorities | | | |
| PLAN | | | |
| The Operational Plan shall: | | | |
| a) describe the organizational structure of the Operating Authority including respective roles, responsibilities and authorities; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) delineate corporate oversight roles, responsibilities and authorities in the case where the Operating Authority operates multiple subject systems; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) identify the person, persons or group of people within the management structure of the organization responsible for undertaking the Management | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

| | | | |
|---|-------------------------------------|--------------------------|--|
| Review. | | | |
| d) Identify the person, persons or group of people, having Top Management responsibilities required by this Standard, along with their responsibilities, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| e) Identify the Owner of the subject system. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall keep current the description of the organizational structure including respective roles, responsibilities and authorities, and shall communicate this information to Operating Authority personnel and the Owner. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: None | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 10. Competencies PLAN The Operational Plan shall document: | | | |
| a) competencies required for personnel performing duties directly affecting drinking water quality; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) activities to develop and maintain competencies for personnel performing duties directly affecting drinking water quality, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) activities to ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall undertake activities to: | | | |
| a) meet and maintain competencies for personnel directly affecting drinking water quality and shall maintain records of these activities, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water, and shall maintain records of these activities. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: None | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 11. Personnel Coverage PLAN The Operational Plan shall document a procedure to ensure that sufficient personnel meeting identified competencies are available for duties that directly affect drinking water quality. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall implement and conform to the procedure. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: | | | |

Internal Audit Water Distribution Systems

None

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 12. Communications | | | |
| PLAN | | | |
| The Operational Plan shall document a procedure for communications that describes how the relevant aspects of the QMS are communicated between Top Management and: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| a) the Owner; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) Operating Authority personnel; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) suppliers, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) the public | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | | | |
| The Operating Authority shall implement and conform to the procedure. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: | | | |
| In regards to customer complaints, improvements to communication between the City and OCWA are on-going. | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 13. Essential Supplies and Services | | | |
| PLAN | | | |
| The Operational Plan shall: | | | |
| a) identify all supplies and services essential for the delivery of safe drinking water and shall state, for each supply or service, the means to ensure it procurement, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) include a procedure by which the Operating Authority ensures the quality of essential supplies and services, in as much as they may affect drinking water quality. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | | | |
| The Operating Authority shall implement the procedure. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: | | | |
| None. | | | |

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 14. Review and Provision of Infrastructure | | | |
| PLAN | | | |
| The Operational Plan shall document a procedure for the annual review of the adequacy of the infrastructure necessary to operate and maintain the subject system. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | | | |
| The Operating Authority shall implement and conform to the procedure and communicate the findings of the review to the Owner. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

Additional Comments:

Periodic (approx. monthly) consultation meetings are held between the municipality and the Ontario Clean Water Agency (OCWA) through which all water and wastewater facilities are reviewed and discussed with respect to any operational issues. This process allows for good communication between the City and OCWA as well as assists in identifying any potential deficiencies.

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 15. Infrastructure Maintenance, Rehabilitation and Renewal PLAN The Operational Plan shall document a summary of the Operating Authority's infrastructure maintenance, rehabilitation and renewal programs for the subject system. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall: | | | |
| a) keep the summary current; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) communicate the programs to the Owner, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) monitor the effectiveness of the maintenance program. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Additional Comments:

The general process for establishment of an annual Capital Budget was presented to the Audit Team. It was felt that the current process works well. In addition, Council has now adopted the City's Asset Management Plan which prioritizes infrastructure improvement areas. This process was discussed.

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 16. Sampling, Testing and Monitoring The Operational Plan shall document: | | | |
| a) a sampling, testing and monitoring procedure for process control and finished drinking water quality including requirements for sampling, testing and monitoring at the conditions most challenging to the subject system; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) a description of any relevant sampling, testing or monitoring activities that take place upstream of the subject system, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) a procedure that describes how sampling, testing and monitoring results are recorded and shared between the Operating Authority and the Owner, where applicable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall implement and conform to the procedures. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: None | | | |

| DWQMS Requirement | Yes | No | Comments |
|-------------------|-----|----|----------|
|-------------------|-----|----|----------|

Internal Audit Water Distribution Systems

| | | | |
|---|-------------------------------------|-------------------------------------|---|
| 17. Measurement and Recording Equipment Calibration and Maintenance | | | |
| PLAN The Operational Plan shall document a procedure for the calibration and maintenance of measurement and recording equipment. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall implement and conform to the procedure. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | PRV's within Haileybury Distribution System are not calibrated nor maintained on a regular basis. |
| Additional Comments: It is recommended that manuals for the Pressure Reducing Valves (PRV) within the Haileybury Water Distribution System be provided to operational staff and that recommended calibrations and maintenance requirements be implemented and recorded. It was noted that manuals for the PVR's are potentially not available and that an outside contractor would be necessary to perform the required calibrations and maintenance. A procedure for maintenance of the PRV's was discussed. OCWA will be approached for assistance in the maintenance. | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 18. Emergency Management | | | |
| PLAN The Operational Plan shall document a procedure to maintain a state of emergency preparedness that includes: | | | |
| a) a list of potential emergency situations or service interruptions; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) process for emergency response and recovery; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) emergency response training and testing requirements; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) Owner and Operating Authority responsibilities during emergency situations; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| e) Reference to municipal emergency planning measures as appropriate, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| f) An emergency communication protocol and up-to-date list of emergency contacts. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall implement and conform to the procedure. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: None | | | |

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 19. Internal Audits | | | |
| PLAN The Operational Plan shall document a procedure for internal audits that: | | | |
| a) evaluates conformity of the QMS with the requirements of this Standard; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

| | | | |
|--|-------------------------------------|--------------------------|--|
| b) identifies internal audit criteria, frequency, scope, methodology and record-keeping requirements; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) considers previous internal and external audit results, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) describes how QMS corrective actions are identified and initiated. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO The Operating Authority shall implement and conform to the procedure and shall ensure that internal audits are conducted at least once every twelve months. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Additional Comments: It was recommended that formal training be provided to the Operators in preparation for writing exams to move forward to the next level of certification. | | | |

| DWQMS Requirement | Yes | No | Comments |
|--|-------------------------------------|--------------------------|----------|
| 20. Management Review | | | |
| PLAN | | | |
| The Operational Plan shall document a procedure for management review that evaluates the continuing suitability, adequacy and effectiveness of the QMS and that includes consideration of: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| a) incidents of regulatory non-compliance; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) incidents of adverse drinking-water tests; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) deviations from critical control point limits and response actions; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) the efficiency of the risk assessment process; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| e) internal and third-party audit results; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| f) results of emergency response testing; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| g) operational performance; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| h) raw water supply and drinking water quality trends; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| i) follow-up on action items from previous management reviews; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) the status of management action items identified between reviews; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| k) changes that could affect the QMS; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| l) consumer feedback; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| m) the resources needed to maintain the QMS; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| n) the results of the infrastructure review; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| o) Operational Plan currency, content and updates, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| p) staff suggestions. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| DO | | | |
| Top Management shall implement and conform to the procedure and shall: | | | |
| a) ensure that a management review is conducted at | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Internal Audit Water Distribution Systems

| | | | |
|---|-------------------------------------|--------------------------|--|
| least once every twelve months; | | | |
| b) consider the results of the management review and identify deficiencies and action items to address the deficiencies; | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) provide a record of any decisions and action items related to the management review including the personnel responsible for delivering the action items and the proposed timelines for their implementation, and | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| d) report the results of the management review, the identified deficiencies, decisions and action items to the Owner. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Additional Comments:

After the internal audit in 2015, the Management Review Meeting was held and an Administrative Report was presented to Council.

| DWQMS Requirement | Yes | No | Comments |
|---|-------------------------------------|--------------------------|----------|
| 21. Continual Improvement DO The Operating Authority shall strive to continually improve the effectiveness of its QMS through the use of correction actions. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Additional Comments:

Although Operators have had limited exposure to the Municipal Licencing Program they are strongly in support of its foundations and appear willing to accept the changes required to adapt to the program.

Audit Sign-off

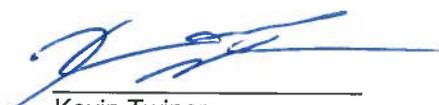

 G. Douglas Walsh, CET
 Director of Public Works
 Auditor


 Robert Beaudoin
 Environmental Superintendent
 Auditor


 Richard Nichol
 System Operator
 Auditor


 Steve Burnett
 Technical and Environmental
 Compliance Coordinator
 Auditor


 Darrell Phansuf
 System Operator
 Auditor


 Kevin Twiner
 System Operator
 Auditor

Participants:

Carmen Kidd, Mayor

Doug Jelly, Councillor

G. Douglas Walsh, Director of Public Works

Steve Burnett, Technical & Environmental Compliance Coordinator

Distribution: **All Participants** Prepared by: **Steve Burnett**

1. OPENING OF MEETING

The meeting opened at 2:30 pm.

2. INCIDENTS OF REGULATORY NON-COMPLIANCE

The Technical and Environmental Compliance Coordinator maintains a log of MOECC compliance issues. The compliance issues were reviewed. It was noted that the majority of the non-compliance issues can be resolved with the adoption of a Water Works By-law.

2.1. TS-012/TS-027/TS-134/TS-146 - Inspection and cleaning of reservoirs

It was noted that the inspection robot has been purchased. Staff will arrange a training session for the unit.

2.2. TS-028/TS-095/TS-145 – By-law to prohibit cross connections

Council adopted Water Works System Use - By-law No. 2016-083 in May of 2016 which addresses this issue.

2.3. TS-031/TS-083/TS-097 – Limit access to fire hydrants

Council adopted Water Works System Use - By-law No. 2016-083 in May of 2016 which addresses this issue.

2.4. TS-082/TS-094/TS-105/TS-145 – Backflow Prevention –local industries

Council adopted Water Works System Use - By-law No. 2016-083 in May of 2016 which addresses this issue.

2.5. TS-088/TS-102 – Promotion of Water Conservation

MOECC recommends that the municipality promote water conservation (i.e. lawn watering, leak detection, water efficient fixtures, etc.). The City and OCWA continually promote water conservation through local media as well as trade shows. It was also noted that a by-law to restrict the use of water is in place.

2.6. TS-117 – Poor Chlorine Residuals - MOECC Pilot Project – Long dead end looping

Through an application process with the MOECC, relief was granted in maintaining chlorine residual at Manitoulin Transport pending the installation and continued maintenance of a UV system. The installation of the system is nearing completion.

2.7. TS-135 – Water Loss Audit – Leak Detection Program

MOECC recommends that the municipality undertake a water loss audit for the New Liskeard water system. It was noted that a program could potentially be put into place in the in conjunction with the hydrant flushing program.

2.8. TS-154 – Raw Water Trending – Dymond System

The linking project to connect the New Liskeard water distribution system with the Dymond water distribution system is now complete. All equipment relating to the raw water wells have been removed with full decommissioning of the wells to be completed in 2017.

3. INCIDENTS OF ADVERSE DRINKING WATER TESTS

All adverse water quality incidents since the last management review were discussed.

4. DEVIATIONS FROM CRITICAL CONTROL POINT LIMITS AND RESPONSE ACTIONS

No incidents for the distribution system noted.

5. EFFECTIVENESS OF RISK ASSESSMENT PROCESS

The process for risk assessment seems to be working effectively. It was noted that the utilization of specific forms could be improved.

6. INTERNAL AND THIRD PARTY AUDIT RESULTS

On November 24th, 2016, the required internal audit was performed by key staff members.

The associated Drinking Water Works Permits, Water Works Permit, Municipal Permits, Permit to Take Water were reviewed by the auditors with the objective of ensuring awareness of municipal and operating authority obligations.

Additional specific results of the internal audit are as follows:

- a) **QMS:** The Operational Plan documents a QMS that meets the requirements of the DWQMS.
- b) **Policy:** The Operating Authority establishes and maintains a QMS that is consistent with the Policy.
- c) **Commitment and Endorsement:** The city continues to provided commitment and endorsement to the DWQMS with respect to training, staffing, and support.
- d) **QMS Rep:** Further awareness is required with respect to legislative requirements.
- e) **Document and Records Control:** The Operational Plan is available on the hard drive accessible via the Toughbook located in the service van.
- f) **System Description:** Description of the water systems were reviewed with modifications being made based on comments for Operational personnel as well as the completion of the NL/Dym linking project. The associated distribution

maps had also been reviewed in detail with some modifications recommended as a result of the completion of the linking project.

- g) **Risk Assessment:** The Risk Assessment process was reviewed in detail providing a greater understanding to all those auditing as to how risks are assessed.
- h) **Risk Assessment Outcomes:** The Risk Assessments for the three (3) distribution systems were reviewed and verified with respect to the currency of the information. Auditors discussed how potential risks are identified and no additional risks had been identified.
- i) **Roles and Responsibilities:** The Roles and Responsibilities are up to date and current.
- j) **Competencies:** All required training is being provided; staff are licensed according to system classifications.
- k) **Personnel Coverage:** No modifications to the Operational Plan were necessary.
- l) **Communications:** It was noted that in regards to customer complaints, better communication between City staff and OCWA is necessary.
- m) **Essential Supplies:** The Essential Supplies list was deemed adequate.
- n) **Infrastructure Review:** It was noted that Periodic (approx. monthly) consultation meetings are held between municipal and OCWA staff at which time all water and wastewater facilities are reviewed and discussed with respect to any operational issues. This process allows for good communication between the City and OCWA as well as assists in identifying any potential deficiencies.
- o) **Infrastructure Maintenance:** The audit described the general process for establishment of an annual Capital Budget. The Audit Team is of the opinion that the current process works well. It was noted that if any additions are made to the water systems, the MOECC requires a Form 1 to be filled out and retained for 10 years.
- p) **Sampling:** OCWA provides distribution sampling as stated in the Operational Plan. The testing of ph and temperature were added to this section of the Operational Plan.
- q) **Equipment Calibration:** It is recommended that manuals for the Pressure Reducing Valves (PRV) within the Haileybury Water Distribution System be provided to operational staff and that recommended calibrations and maintenance requirements be implemented and recorded. It was noted that manuals for the PVR's are potentially not available and that an outside contractor would be necessary to perform the required calibrations and maintenance. Staff will investigate utilizing OCWA to perform the maintenance and calibration of the PRV's.
- r) **Emergency Management:** No modifications were necessary in this section of the Operational Plan.
- s) **Internal Audit:** The audit was completed on November 24th, 2016.
- t) **Management Review:** The Management Review was completed on December 8th, 2016.
- u) **Continual Improvement:** Plans will be implemented to ensure continual improvement to the DWQMS.

7. RESULTS OF EMERGENCY RESPONSE TESTING

A review of the current New Liskeard water model was done during the internal audit. Within the review, a major fire was simulated showing the effects on the system as a result of the completion of the NL/Dym linking project.

8. OPERATIONAL PERFORMANCE

All three (3) distribution systems are operating well.

9. RAW WATER SUPPLY AND DRINKING WATER QUALITY TRENDS

Raw water is not directly related to the distribution systems, but rather through the agreement for maintenance and operation of the treatment facilities by the Ontario Clean Water Agency. OCWA consults regularly with the City and any current raw water issues are dealt with in a coordinated effort. It was noted that a new 5 year agreement has been signed with OCWA.

10. ACTION ITEMS – PREVIOUS MANAGEMENT REVIEWS

Administrative Report PW-001-2016 was submitted to Council at the Regular Council Meeting held on January 19th, 2016.

11. STATUS OF ACTION ITEMS BETWEEN MANAGEMENT REVIEWS

Council accepted recommendations from Administrative Report PW-001-2016.

12. CHANGES AFFECTING QUALITY MANAGEMENT SYSTEM

The Quality Management System will be modified if operational changes occur, procedures change, or as MOECC policy or guidelines change.

13. CONSUMER FEEDBACK

Consumer concerns relating to pressure along Raymond were discussed. It was noted that the pressure in this area is within normal operating range however adjustments to optimize may be performed.

14. RESOURCES REQUIRED FOR QUALITY MANAGEMENT SYSTEM

There is sufficient staffing, training and resources required to maintain and improve the QMS.

15. INFRASTRUCTURE REVIEW

The review of infrastructure is done continuously throughout the year as well as during budgeting for capital projects.

16. OPERATIONAL PLAN, CURRENCY, CONTENT AND UPDATES

The Plan has been updated as a result of the external and internal audits. The changes will be presented to Council for endorsement through an Administrative Report.

17. STAFF SUGGESTIONS

Staff suggestions are obtained throughout the year with many being implemented. Staff is encouraged to continue to bring suggestions forward to the appropriate personnel.

**ACCREDITATION PROGRAM FOR OPERATING AUTHORITIES
ON-SITE VERIFICATION AUDIT REPORT – 2016**

FILE #: 1632679-01

**City of Temiskaming Shores
OAP-218**

Operating Authority for:

Temiskaming Shores

12 Month Surveillance Audit

Prepared by: Tim Moher

Date: May 27, 2016

Audit Objectives

The objective of the audit was to determine whether the drinking water Quality Management System (QMS) of the subject system conforms to the requirements of the Ontario Ministry of the Environment's (MOE) Drinking Water Quality Management Standard (DWQMS) at all of the locations noted in the Applicant Profile Form (AP 602). It was also intended to gather the information necessary for SAI Global to assess whether accreditation can be offered to the operating authority.

Audit Scope

The facilities and processes associated with the operating authority's QMS were objectively evaluated to obtain audit evidence and to determine a) whether the quality management activities and related results conform with DWQMS requirements, and b) if they have been effectively implemented.

Audit Criteria:

- The Drinking Water Quality Management Standard
- Current QMS manuals, procedures and records implemented by the Operating Authority
- SAI Global Accreditation Program Handbook

Auditor:

Tim Moher

Audit Report Distribution List:

The Audit Report is distributed as follows:

- Operating Authority
- Owner
- Ministry of the Environment Director

Confidentiality and Documentation Requirements

The SAI Global stores their records and reports to ensure their preservation and confidentiality. Unless required by law, the SAI Global will not disclose audit records to a third party without prior written consent of the applicant. The only exception will be that the SAI Global will provide audit and corrective action reports to the Ontario Ministry of the Environment. For more information, please refer to the SAI Global Accreditation Program Handbook.

PART A. MANAGEMENT SUMMARY

This was an off-site system verification audit of the City of Temiskaming Shores conformance with the requirements of DWQMS: Oct. 2006.

The overall effectiveness of the City of Temiskaming Shores Quality Management System is considered:

- Effective**
 Not effective

No non-conformities were identified during this assessment, as noted in Part D of this report.

The audit objectives have been accomplished within the audit scope in accordance with the audit plan and the time allocation.

Notes

Copies of this report distributed outside the organization must include all pages.

As part of the SAI Global Terms, it is necessary for you to notify the SAI Global of any changes to your Quality Management System that you believe are significant enough to risk non-conformity with DWQMS: Oct. 2006. For more information, please refer to the SAI Global Accreditation Program Handbook.

PART B. GENERAL INFORMATION

Operating Authority:

Legal name and address

City of Temiskaming Shores OAP-218

Address

Public Works Department P.O. Box 2050; 325 Farr Drive Haileybury Ontario

Applicant representative

Mr. G. Walsh

Title

Director of Public Works

Telephone

705-672-3363 Ext. 4126

Fax

705-672-2911

E-mail

dwalsh@temiskamingshores.ca

Owner:

Legal name and address

same as above, or:

Applicant representative

G. Walsh

Title

Director of Public Works

Telephone

705-672-3363 Ext. 4126

Fax

705-672-2911

E-mail

dwalsh@temiskamingshores.ca

Accreditation Option: Full Scope - Entire DWQMS

Population Serviced: 9,500

This audit report covers the subject systems listed:

Dymond, Halleybury and New Liskeard Drinking Water System

PART C. SUMMARY OF FINDINGS

| SUMMARY OF FINDINGS | | | | | | | |
|---|--|-----------|----------------------|---|---|--------------|---|
| OPERATING AUTHORITY City of Temiskaming Shores OAP-218 | | | | | | 1632679-01 | |
| ACCREDITATION CYCLE: 12 Month Surveillance Audit | | | | | | | |
| AUDIT TYPE <input checked="" type="checkbox"/> Systems <input type="checkbox"/> On-Site Verification | | | AUDITOR Tim Moher | | | May 27, 2016 | |
| SUBJECT SYSTEM(S) AUDITED ① Dymond, Halleybury and New Liskeard Drinking Water System | | | | | | | |
| REQUIREMENT ↓ | SYSTEM → | ① | ② | ③ | ④ | ⑤ | ⑥ |
| 1. Quality Management System | | C | | | | | |
| 2. Quality Management System Policy | | C | | | | | |
| 3. Commitment and Endorsement | | C | | | | | |
| 4. Quality Management System Representative | | C | | | | | |
| 5. Document and Records Control | | C | | | | | |
| 6. Drinking-Water System | | C | | | | | |
| 7. Risk Assessment | | C | | | | | |
| 8. Risk Assessment Outcomes | | C | | | | | |
| 9. Organizational Structure, Roles, Responsibilities and Authorities | | C | | | | | |
| 10. Competencies | | C | | | | | |
| 11. Personnel Coverage | | C | | | | | |
| 12. Communications | | OFI# 1 | | | | | |
| 13. Essential Supplies and Services | | C | | | | | |
| 14. Review and Provision of Infrastructure | | C | | | | | |
| 15. Infrastructure Maintenance, Rehabilitation & Renewal | | C | | | | | |
| 16. Sampling, Testing and Monitoring | | C | | | | | |
| 17. Measurement & Recording Equipment Calibration and Maintenance | | C | | | | | |
| 18. Emergency Management | | C | | | | | |
| 19. Internal Audits | | C | | | | | |
| 20. Management Review | | C | | | | | |
| 21. Continual Improvement | | C | | | | | |
| Mj | Major non-conformity. The auditor has determined one of the following: (a) a required element of the DWQMS has not been incorporated into a QMS; (b) a systemic problem with a QMS is evidenced by two or more minor non-conformities; or (c) a minor non-conformity identified in a corrective action request has not been remedied. | | | | | | |
| Mn | Minor non-conformity. In the opinion of the auditor, part of a required element of the DWQMS has not been incorporated satisfactorily into a QMS. | | | | | | |
| OFI | Opportunity for improvement. Conforms to the requirement, but there is an opportunity for improvement. | | | | | | |
| C | Conforms to requirement. | | | | | | |
| | Not applicable to this audit. | | | | | | |
| * | Additional comment added by auditor in the body of the report. | | | | | | |

PART D. FINDINGS/COMMENTS

| | | |
|--------------------------|----|---|
| DWQMS Reference: | 1 | Quality Management System |
| <i>Client Reference:</i> | 1. | Quality Management System, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 2 | Quality Management System Policy |
| <i>Client Reference:</i> | 2. | Quality Management System Policy, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 3 | Commitment and Endorsement |
| <i>Client Reference:</i> | 3. | Commitment and Endorsement, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | <i>Last signed in November 2015.</i> |
| DWQMS Reference: | 4 | Quality Management System Representative |
| <i>Client Reference:</i> | 4. | QMS Representative, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | <i>The Director of Public Works has been identified and appointed as the Top Management representative for the Quality Management System.</i> |
| DWQMS Reference: | 5 | Document and Record Control |
| <i>Client Reference:</i> | | 0112, Rev 0 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 6 | Drinking Water System |
| <i>Client Reference:</i> | | System Overview, Description of the Drinking Water System, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 7 | Risk Assessment |
| <i>Client Reference:</i> | | 0111, Rev 0 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 8 | Risk Assessment Outcomes |
| <i>Client Reference:</i> | | 0111-F, Nov 6, 2015 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |

| | | |
|--------------------------|--------|--|
| DWQMS Reference: | 9 | Organizational Structure, Roles, Responsibility and Authorities |
| <i>Client Reference:</i> | | 9. Organizational Structure, Roles, Responsibilities and Authorities, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 10 | Competencies |
| <i>Client Reference:</i> | | 10. Competencies, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 11 | Personnel Coverage |
| <i>Client Reference:</i> | | Appendix 20, Rev 3 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 12 | Communications |
| <i>Client Reference:</i> | | 12. Communications, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 13 | Essential Supplies and Services |
| <i>Client Reference:</i> | | 0115, Rev 0, Appendix 17, Rev 3 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | OFI#1: | <i>Last done in Jan 2014. Consider an annual review to ensure contact information is up to date.</i> |
| DWQMS Reference: | 14 | Review and Provision of Infrastructure |
| <i>Client Reference:</i> | | 14. Review and Provision of Infrastructure, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 15 | Infrastructure Maintenance, Rehabilitation and Renewal |
| <i>Client Reference:</i> | | 15. Infrastructure Maintenance, Rehabilitation and Renewal, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |
| DWQMS Reference: | 16 | Sampling, Testing and Monitoring |
| <i>Client Reference:</i> | | 16. Sampling, Testing and Monitoring, Rev 7 |
| <i>Results:</i> | | Conforms. |
| <i>Details:</i> | | |

DWQMS Reference: 17 Measurement and Recording Equipment Calibration and Maintenance
Client Reference: 17. Measurement and Recording Equipment Calibration and Maintenance, Rev 7
Results: Conforms.
Details:

DWQMS Reference: 18 Emergency Management
Client Reference: 18. Emergency Management, Rev 7
Results: Conforms.
Details: *The last emergency response test was a full system simulation shutdown in New Liskeard in September 2015.*

DWQMS Reference: 19 Internal Audits
Client Reference: 0113, Rev 0
Results: Conforms.
Details: *The last internal audit was November 6, 2015.*

DWQMS Reference: 20 Management Review
Client Reference: 20. Management Review, Rev 7
Results: Conforms.
Details: *Last met on November 24, 2015.*

DWQMS Reference: 21 Continual Improvement
Client Reference: 21. Continual Improvement, Rev 7
Results: Conforms.
Details:

PART E.

RECOMMENDATION – Systems Audit

The auditor recommends the following:

- Offer of accreditation
- Offer of accreditation after response to corrective action requests has been deemed acceptable to the SAI Global
- On-site verification audit after response to corrective action requests has been deemed acceptable by the SAI Global
- On-site verification audit as next step in the accreditation process
- On-site verification of corrective action requests
- Maintenance of existing accreditation
- Complete re-assessment

Final comments:



E-signature of Auditor

The Corporation of the City of Temiskaming Shores

By-law No. 2016-181

Being a by-law to authorize an Agreement with Michele and Jamie Sirizzotti to permit the use of municipal land (Portion of Sunnyside Road)

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues; and

Whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act; and

Whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public; and

Whereas Council considered Memo No. 027-2016-PW at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into an Agreement with Michele and Jamie Sirizzotti for the use of municipal lands and that the said by-law be presented for consideration at the December 20, 2016 Regular Council meeting.

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That the Mayor and Clerk be authorized to execute an agreement with Michele and Jamie Sirizzotti for the use of municipal land (portion of Sunnyside Drive), a copy of which is attached hereto as Schedule "A" and forms part of this by-law.
2. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantically or descriptive nature or kind to the by-law and schedule as may be deemed necessary after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen



Schedule "A" to

By-law No. 2016-181

Agreement between

The Corporation of the City of Temiskaming Shores

and

Michele and Jamie Sirizzotti

Land Use Agreement – Sunnyside Road

This agreement, made this 20th day of December, 2016.

Between:

The Corporation of the City of Temiskaming Shores
(Hereinafter referred to as the "the City")

And:

Mr. Michele Sirizzotti and Mr. Jamie Sirizzotti
(Hereinafter referred to as "the Benefactor")

Whereas the City is the owner of real property legally described as Sunnyside Road;
and

Whereas the Benefactor owns an island legally described as follows:

Bucke Township, Concession 6 South Part of Lot 9 BKN; RP 54R2202 Parts 1 & 2;
Parcel 20930 SST; known as 643310 Sunnyside Road (Roll No. 5418 030 011 08201);
and

Whereas the Benefactor wishes to use a portion of the unopened Sunnyside Road
allowance for the purpose of accessing his property and temporarily parking his vehicle.

Now therefore, in consideration of the mutual covenants and promises herein
contained, the Parties agree as follows:

1. The Benefactor shall have the right to use a portion of the unopened Sunnyside Road allowance (outlined in hatch-mark on Appendix 1 attached hereto and forming part of this agreement) for the purpose of accessing his property, vehicle parking and boat launching.
2. The Benefactor shall have no right to use the Lands for any other purpose than access and parking and shall commit no act on the Lands which would constitute a nuisance to any other person.
3. The Benefactor shall be responsible for any and all costs associated with required upgrades to permit parking. Such work to be approved by the Director of Public Works for the City of Temiskaming Shores prior to any work commencing.
4. The Benefactor shall be responsible for any and all maintenance costs associated with the lands.
5. The Benefactor shall permit the owners of 643333 Sunnyside Road reasonable access for the purpose of maintaining their septic tank.
6. Should the Lands be required for municipal purposes, the City reserves the right to terminate this agreement by providing the Benefactor with reasonable notice.

Signed and Sealed in)
the presence of)

Jamie Sirizzotti

Jamie Sirizzotti

Witness

Print Name: _____

Municipal Seal)

**Corporation of the City of
Temiskaming Shores**

Mayor – Carman Kidd

Clerk – David B. Treen

Appendix 01
December 20, 2016



The Corporation of the City of Temiskaming Shores

By-law No. 2016-183

**Being a by-law to authorize the entering into a
lease agreement with the Haileybury Food Bank
for rental space at 500 Broadway Street**

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas Council considered Administrative Report No. CS-018-2016 at the December 20, 2016 Regular Council meeting and directs staff to prepare the necessary by-law to enter into a new Five (5) Year Lease Agreement with the Haileybury Food Bank for operations at 500 Broadway Street effective January 1, 2017, at a rate of \$1.00/year for consideration at the December 20, 2016 Regular Council meeting;

Now therefore the Council of The Corporation of the City of Temiskaming Shores enacts as follows:

1. That the Mayor and Clerk be authorized to execute an agreement with the Haileybury Food Bank for rental space at 500 Broadway Street, a copy of which is attached hereto as Schedule "A" and forms part of this by-law.
2. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantical or descriptive nature to the by-law and schedule, after its passage, where such modifications or corrections do not alter the intent of the by-law or its associated schedules.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen



Schedule "A" to

By-law No. 2016-183

Lease Agreement between

The Corporation of the City of Temiskaming Shores

and

Haileybury Food Bank

for rental space at 500 Broadway Street

This agreement made in duplicate this 20th day of December, 2016.

Between:

The Corporation of the City of Temiskaming Shores
(herein after referred to as the "City")

And:

The Haileybury Food Bank
(herein after referred to as "The Food Bank")

Witnesses that in consideration of the covenants and provisos herein contained, the City hereby permits the Food Bank to occupy and use a portion of certain lands known as the former Haileybury Public Works Administration Office, 500 Broadway Street, situated in the City of Temiskaming Shores, District of Timiskaming, as indicated on attached Appendix 01 to this agreement for a term commencing on the **1st day of January, 2017 and ending on the 31st day of December, 2021.**

Whereas the City is the owner of the property commonly known as the former Haileybury Public Works Administration Office;

And whereas the Food Bank is an unincorporated association of persons dedicated to providing food bank services;

And whereas the City and the Food Bank wish to provide for the operation of a food bank at 500 Broadway Street;

Now therefore, in consideration of the sum of \$1.00/year due on the 1st of May, and other good and valuable consideration paid by the Food Bank to the City, the parties hereto do hereby agree as follows:

Section One – Food Bank's Covenants:

The Food Bank covenants with the City as follows:

1. **Improvements** - The Food Bank shall be entitled to improve the facility from time to time provided such improvements are set out in detail to the City prior to commencement of construction of same, and approval of Council is obtained prior to commencement of construction. All proposals to the City for improvements shall set out the costs to be incurred and the means by which the Food Bank shall pay for same. All improvements, once installed or constructed at the facility shall become the property of the City.

2. **Equipment** - The equipment and fixtures which are owned by the City and which are situated at 500 Broadway Street shall not be removed without the prior written consent of the City.
3. **Cleanliness** - The Food Bank shall maintain the facility in a clean and orderly condition.
4. **Use of Building** – not to permit the Building to be used for any purpose other than to deliver food bank services.
5. **Insurance** – The Food Bank shall provide the City proof of insurance.
6. **Right of Renewal** – The Food Bank shall be required to give written notice of its intention to renew the agreement at least (90) days prior to the termination of this agreement.
7. **Utilities**– The Food Bank shall be responsible for telephone and internet services.

Section Two – City’s Covenants

The City covenants with the Food Bank as follows:

1. **Utilities** – The City shall provide heat and hydro to the said facility;
2. **Snow Removal and maintenance** – The City shall be responsible for clearing of snow in the parking area to allow the entry by clients of the Food Bank and volunteers as per the City’s regular winter maintenance schedule.

Section Three - Notices

1. **Notice to Terminate** – either party may withdraw or terminate from this agreement by providing at least 90 days notice in the appropriate form.
2. **General** – All notices given pursuant to this agreement are sufficiently given if mailed, prepaid and registered, in the case of the City, addressed as follows:

City of Temiskaming Shores
P.O. Box 2050
Haileybury, Ontario
P0J 1K0

Haileybury Food Bank
P.O. Box 353
Haileybury, Ontario
P0J 1K0

Unless either party gives notice to the other of a change of address by registered mail. The date of receipt of any notice is deemed to be seven days after mailing.

The Corporation of the City of Temiskaming Shores

By-law No. 2016-184

Being a by-law to authorize the Execution of a Site Plan Control Agreement with Canadian Tire Properties Inc. 997431 Highway 11 North - Roll No. 54-18-020-002-069.04

And whereas Section 41 of the Planning Act, R.S.O. 1990 c.P.13, as amended, enables the Municipality to establish a Site Plan Control Area;

And whereas the Council of the Corporation of the City of Temiskaming Shores passed By-law No. 2014-133 designating certain areas within the Township of Dymond as Site Plan Control Areas;

And whereas Council considered Administrative Report No. CGP-026-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into a Site Plan Control Agreement with Canadian Tire Real Estate Limited and provide provisional approval (1st and 2nd reading) for consideration at the December 20, 2016 Regular Council meeting;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. The Mayor and Clerk are hereby authorized to enter into a Site Plan Control Agreement with Canadian Tire Properties Inc. for 997431 Highway 11 North, a copy of which is attached hereto as Schedule "A" and forming part of this by-law.
2. That a Notice of Agreement be registered at the Land Titles Office in Haileybury to register Schedule "A" to this by-law.
3. That this by-law takes effect on the day of its final passing.
4. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantically or descriptive nature or kind to the by-law and schedule as may be deemed necessary after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law.

Read a first and second time this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen

Read a third time and finally passed this _____ day of _____, 2017.

Mayor – Carman Kidd

Clerk – David B. Treen

Site Plan Control Agreement
(Canadian Tire Properties Inc.)

This Agreement, made in triplicate, this ____ day of _____, 20____.

Between:

The Corporation of the City of Temiskaming Shores
325 Farr Drive, P.O. Box 2050, Haileybury, ON P0J 1K0
(hereinafter called the “**City**”)

And:

Canadian Tire Properties Inc.
2180 Yonge Street, Toronto, ON M4P 2V8
(hereinafter called the “**Owner**”)

Whereas the City of Temiskaming Shores enacted Site Plan Control Area By-law No. 2013-143 pursuant to the provisions of Section 41 of the *Planning Act*, R.S.O. 1990, c. P.13, as amended (the “**Act**”);

And Whereas the City has adopted By-law No. 2009-054 being a By-law to adopt a policy with respect to Site Plan Control Assurances;

And Whereas by an application dated on or about July 25, 2016, the Owner applied to the City for site plan approval in respect of its development described in Schedule “A”;

Now Therefore in consideration of the mutual covenants contained herein, the parties covenant and agree as follows:

Conditions for Site Plan Control Agreement

This Agreement shall apply to the Lands, and to the development and redevelopment of the Lands.

The Owner covenants and agrees:

1. That no development or redevelopment will proceed on the Lands except in accordance with the Plans approved by the City pursuant to Section 41 of the Planning Act R.S.O. 1990, c.P.13, and more specifically identified in Appendix 1 to 5 inclusive attached hereto (collectively, the “**Plans**”);
2. That the proposed buildings, structures and other works shown on the Plans with respect to the Lands shall be completed in conformity with the Plans;
3. To carry out all works in such a manner as to prevent erosion of earth, debris and other material from being washed or carried in any manner onto any road or road allowance whether opened or unopened or onto the property of any other person or persons;

4. To provide and construct all stormwater management works and drainage of the Lands to the satisfaction of the City and the Ministry of Transportation (the “MTO”) acting reasonably, as shown on the Plans; and further agrees to maintain same to the satisfaction of the City and the MTO;
5. To provide such pavement markings, sidewalks, paving, curb cuts, and to landscape the Lands as shown on the Plans and further agrees to maintain same to the satisfaction of the City;
6. That prior to the work commencing, arrangements for the necessary permits and approvals must be made with the MTO and the City’s Public Works Department and Building Department;
7. That all required work on the property in respect to municipal water and sanitary sewer must be carried out in accordance with City specifications, by a contractor approved by the City, at the expense of the Owner;
8. That in the event work is carried out on the water and sewer services the Owner’s engineer shall conduct testing of water and sanitary sewer services and confirm in writing to the Director of Public Works that testing has been completed to the satisfaction of the City;
9. That upon completion of installation and construction of all of the services, works and facilities, the Owner shall supply the City with a certificate from the Owner’s engineer verifying that the services, works and facilities were installed and constructed in accordance with the approved plans and specifications.
10. That all entrances, exits and fire routes within the parking areas shall, at all times, be kept clean and clear of snow or debris to the satisfaction of the City acting reasonably, failing which the City shall notify the Owner in writing by registered mail and allow the Owner two (2) business days from receipt of the written notice to perform the required work. If the Owner does not complete the required work within two (2) business days the City shall have the right to enter upon the parking areas, undertake the clearing and removal of snow or debris on all entrances, exits and fire routes and recover from the Owner all reasonable costs, by action or in like manner as municipal taxes (post project completion) as provided as taxes that are overdue and payable.
11. That all conditions as set out in this agreement and as shown on the Plans inclusive, shall be completed within one year of the issuance of an Occupancy Permit. That all work shown on the Plans that is legislated by Ontario Building Code shall be completed prior to the issuance of an Occupancy Permit.
12. That all conditions as set out in the agreement and as shown on the Plans inclusive, shall be completed within two (2) years of the issuance of any building permit. All work shown on the Plans that is legislated by the Ontario Building Code shall be completed prior to the issuance of an Occupancy Permit.
13. That prior to receiving a building permit, the Owner will deposit with the City, the sum of \$49,470.08 in Canadian Dollars by way of a certified cheque, cash or an irrevocable Letter

of Credit to ensure the satisfactory performance of all work to be done on the subject lands, to ensure fulfilment of all terms and conditions of this Agreement.

- (a) The Letter of Credit must be arranged such that draws may be made by the City, if necessary, in accordance with the terms and conditions of this Agreement.
 - (b) Upon completion of all works and services required by this Agreement to the satisfaction of the City acting reasonably, the City shall return any deposit to the then owner of the property.
 - (c) Should the owner fail to comply with the terms and conditions of this agreement the City may undertake the required work. Should the owner fail to pay the City forthwith upon demand, the City shall apply all or such portion of the deposit as may be required towards the cost.
 - (i) Should the cost exceed the amount of the deposit, the City will invoice the Owner for the additional amount.
14. That the Owner will indemnify the City and each of its officers, servants, and agents from all loss, damages, costs, expenses, claims, demands, actions, suits or other proceedings of every nature and kind arising from or in consequence of the execution, non-execution or imperfect execution of any of the work hereinbefore mentioned to be performed by the Owner or its contractors, officers, servants or agents or of the supply or non-supply of material therefore to be supplied by the Owner or its contractors, officers, servants or agents, provided such loss, damages, costs, expenses, claims, demands, actions, suits or other proceedings arise by reason of negligence on the part of the Owner or its contractors, officers, servants or agents.
15. That the Owner shall not hold the City responsible for any and all costs related to the provision of revised site plans.
16. That the Owner consents to the registration of this Agreement against the Lands by way of “Notice of Agreement” and understands that the said Notice of Agreement shall remain on title to the Lands in perpetuity or until mutual consent of the Owner and the City to remove the Notice of Agreement from title.
17. That the Owner understands and agrees that it shall be responsible for all fees incurred in the registration of this Agreement against the title to the Lands and for all registration fees incurred in the registration of any subsequent amendment or deletion of the Agreement from title and for any approvals or consents required to register this Agreement.
18. The Owner shall arrange for and shall be responsible for all fees incurred in the registration of postponements of all debentures, charges, mortgages, or other similar documents registered prior to the registration of this Agreement.
19. That the Owner understands and agrees that any modifications to the site, additional structures, building additions and/or new buildings on the Lands shall require an amendment to this Agreement, if deemed by the City to be of a magnitude to warrant such an amendment.

20. The following Appendices are attached to this agreement:

Appendix 1 – **Project: Highway #11 New Liskeard, Ontario; Drawing: Site Plan;**
Drawing No. **A1-T**; issued for Review **2016-10-12**

Appendix 2 – **Project: Highway #11 New Liskeard, Ontario; Drawing: Code Analysis;**
Project Date: **2016-10-12**; Drawing No.; **A1-T.1**; issued for Review **2016-10-12**

Appendix 3 – Drawing: **Site Servicing & Grading Plan; 14229-1E**; Coordinated with
Architect Plan Dec 6/2016

Appendix 4 – Drawing: **Notes & Details; 14229-2E**; Coordinated with **Architect Plan Dec 6/2016**

Appendix 5 – Proposed Parking Lot and Retail Expansion Temiskaming Shores (New Liskeard), Ontario – **Stormwater Management Report** Project No. **14229**
Applicant: **Canadian Tire Reit**; Prepared by: **The Odan/Detech Group Inc. November 22, 2016**

This Agreement shall be binding upon the parties hereto and their respective successors and assigns.

In Witness Whereof the parties hereto have hereunto placed their respective hands and seals to these presents.

Remainder of Page left blank intentionally

In witness whereof the parties have executed this Agreement the day and year first above written.

Signed and Sealed in)
the presence of)

Company Seal)
(if applicable))

Municipal Seal)

Canadian Tire Properties Inc.

Signature

Print Name: _____

Title: _____

Signature of Witness

Print Name: _____

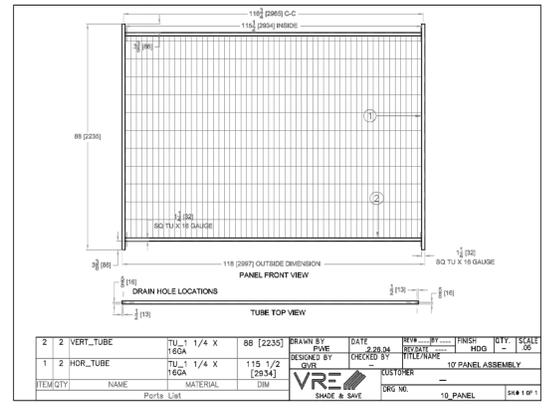
Title: _____

**Corporation of the City of
Temiskaming Shores**

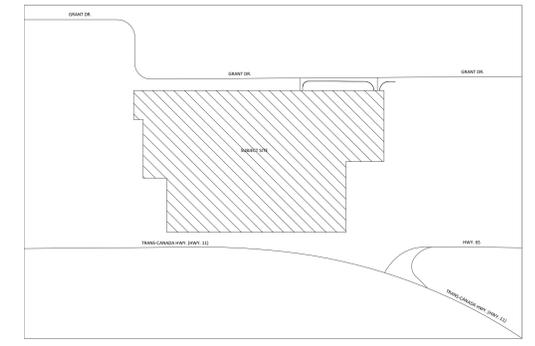
Mayor – Carman Kidd

Clerk – David B. Treen

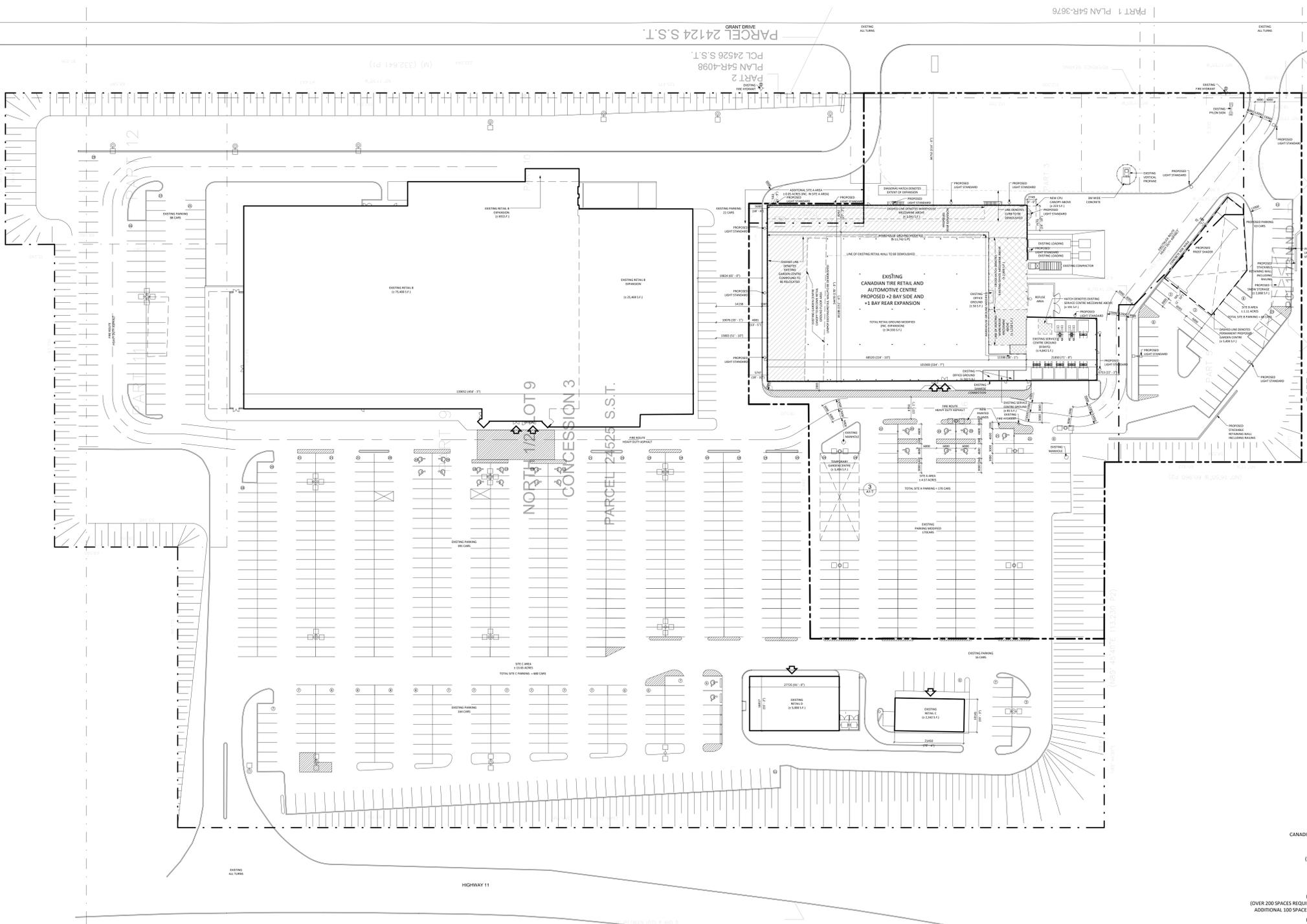
This drawing is an approved set of plans. It is the property of Turner Fleischer Architects Inc. and shall not be used for any other project without the written consent of Turner Fleischer Architects Inc. The drawings are to be used for the construction of the project only. Turner Fleischer Architects Inc. is not responsible for any errors or omissions in the drawings. The drawings are to be used for the construction of the project only. Turner Fleischer Architects Inc. is not responsible for any errors or omissions in the drawings. The drawings are to be used for the construction of the project only.



3 WIRE MESH GARDEN CENTRE FENCE DETAIL
 A1-T N.T.S.



2 KEY PLAN
 A1-T N.T.S.



| | EXISTING CANADIAN TIRE | | | EXISTING CANADIAN TIRE + 2 BAY SIDE + 1 BAY REAR EXPANSION | | | NET GAIN / LOSS | |
|---|------------------------|-------------|-------------|--|-------------|-------------|-----------------|-------------|
| | IMPERIAL (SF) | METRIC (SM) | RATIO / NO. | IMPERIAL (SF) | METRIC (SM) | RATIO / NO. | IMPERIAL (SF) | METRIC (SM) |
| 1. RETAIL - GROUND | 21,791 | 2,024 | | 34,593 | 3,214 | | +12,802 | +1,190 |
| 2. RETAIL TOTAL | 21,791 | 2,024 | 64% | 34,593 | 3,214 | 68% | +12,802 | +1,190 |
| 3. WAREHOUSE - GROUND FLOOR | 7,449 | 692 | | 11,742 | 1,091 | | +4,293 | +399 |
| 4. WAREHOUSE - MEZZANINE | 4,641 | 431 | | 4,579 | 425 | | -62 | -6 |
| 5. WAREHOUSE TOTAL | 12,090 | 1,123 | 36% | 16,321 | 1,516 | 32% | +4,231 | +393 |
| 6. SERVICE - GROUND | 4,928 | 458 | | 4,928 | 458 | | - | - |
| 7. SERVICE - MEZZANINE | 191 | 18 | | 191 | 18 | | - | - |
| 8. SERVICE TOTAL | 5,119 | 476 | 8 BAYS | 5,119 | 476 | 8 BAYS | - | - |
| 9. OFFICE - GROUND | 298 | 28 | | 298 | 28 | | - | - |
| 10. OFFICE - MEZZANINE | 2,849 | 265 | | 2,849 | 265 | | - | - |
| 11. OFFICE TOTAL | 3,147 | 293 | | 3,147 | 293 | | - | - |
| 12. GARDEN CENTRE - CANOPY | 2,782 | 258 | | - | - | | -2,782 | -258 |
| 13. CANADIAN TIRE - GROUND FLOOR (3+3+6+9+12) | 37,248 | 3,460 | | 51,561 | 4,791 | | +14,313 | +1,331 |
| 14. GARDEN CENTRE - GARDEN CENTRE - CANOPY | 5,666 | 526 | | 8,898 | 827 | | +3,232 | +301 |
| 15. GARDEN CENTRE - CANOPY | 2,782 | 258 | | - | - | | -2,782 | -258 |
| 16. GARDEN TOTAL (13+14) | 8,448 | 784 | | 8,898 | 827 | | +450 | +43 |
| 17. GROSS FLOOR AREA (12+5+8+11+12) | 44,929 | 4,174 | | 59,180 | 5,499 | | +14,251 | +1,325 |
| 18. TOTAL SITE AREA | ± 19.33 ACRES | ± 7.82 HA | | ± 19.33 ACRES | ± 7.82 HA | | | |
| 19. CANADIAN TIRE SITE AREA | ± 4.57 ACRES | ± 1.85 HA | | ± 4.57 ACRES | ± 1.85 HA | | | |
| 20. SITE B AREA | ± 1.11 ACRES | ± 0.45 HA | | ± 1.11 ACRES | ± 0.45 HA | | | |
| 21. SITE C AREA | ± 13.65 ACRES | ± 5.52 HA | | ± 13.65 ACRES | ± 5.52 HA | | | |
| 22. COVERAGE (13/28) (TOTAL SITE AREA) | ± 4.42 % | | | ± 6.12 % | | | | |

| | EXISTING GFA | | PROPOSED GFA | | NET GAIN / LOSS | |
|---|---------------|-----------|---------------|-----------|-----------------|--------|
| | SQ. FT. | SQ. M. | SQ. FT. | SQ. M. | SQ. FT. | SQ. M. |
| 23. CANADIAN TIRE GROSS FLOOR AREA | 44,929 | 4,174 | 59,180 | 5,499 | +14,251 | +1,325 |
| 24. EXISTING RETAIL B | 75,400 | 7,005 | 75,400 | 7,005 | - | - |
| 25. EXISTING RETAIL B EXPANSION | 26,160 | 2,430 | 26,160 | 2,430 | - | - |
| 26. EXISTING RETAIL C | 2,342 | 218 | 2,342 | 218 | - | - |
| 27. EXISTING RETAIL D | 5,000 | 465 | 5,000 | 465 | - | - |
| 28. GFA TOTAL (24+25+26+27) | 153,831 | 14,292 | 168,082 | 15,617 | +14,251 | +1,325 |
| 29. TOTAL GROUND FLOOR (13+24+25+26+27) | 146,150 | 13,578 | 160,463 | 14,909 | +14,313 | +1,331 |
| 30. ENTIRE SITE AREA | ± 19.33 ACRES | ± 7.82 HA | ± 19.33 ACRES | ± 7.82 HA | | |
| 31. COVERAGE (29/30) | ± 17.34 % | | ± 19.04 % | | | |

| | EXISTING GFA | | PROPOSED GFA | | NET GAIN / LOSS | |
|---|--------------|---------------|--------------|---------------|-----------------|--------|
| | SQ. FT. | SQ. M. | SQ. FT. | SQ. M. | SQ. FT. | SQ. M. |
| CANADIAN TIRE RETAIL (1/50 SM OF GROSS FLOOR AREA) | 41 CARS | 2,024 | 65 CARS | 3,214 | | |
| CANADIAN TIRE WAREHOUSE (1/50 SM OF GROSS FLOOR AREA) | 23 CARS | 1,123 | 31 CARS | 1,516 | | |
| CANADIAN TIRE SERVICE CENTRE (1/50 SM OF GROSS FLOOR AREA) | 10 CARS | 476 | 10 CARS | 476 | | |
| CANADIAN TIRE OFFICE (1/50 SM OF GROSS FLOOR AREA) | 6 CARS | 293 | 6 CARS | 293 | | |
| CANADIAN TIRE GARDEN CENTRE CANOPY (1/50 SM OF GROSS FLOOR AREA) | 6 CARS | 258 | - | - | | |
| RETAIL B & C & D (1/50 SM OF GROSS FLOOR AREA) | 203 CARS | 10,118 | 203 CARS | 10,118 | | |
| TOTAL PARKING REQUIRED | 289 CARS | 14,292 | 315 CARS | 15,617 | | |
| BARRIER-FREE PARKING REQUIRED (OVER 200 SPACES REQUIRES 6 BARRIER FREE SPACES, EACH ADDITIONAL 100 SPACES REQUIRE 1 BARRIER FREE SPACE) | 12 CARS | | 12 CARS | | | |
| BARRIER-FREE PARKING PROVIDED | 19 CARS | | 21 CARS | | | |
| TOTAL PARKING PROVIDED (N.L.C. GARDEN CENTRE) | 855 CARS | 5.99 / 100 SM | 896 CARS | 5.74 / 100 SM | | |
| TOTAL PARKING PROVIDED (INC. GARDEN CENTRE) | 855 CARS | 5.99 / 100 SM | 878 CARS | 5.62 / 100 SM | | |

1 SITE PLAN
 A1-T 1 : 500

| NO. | DATE | ISSUED FOR REVIEW | BY |
|-----|------------|-------------------|----|
| 11 | 2016-10-12 | ISSUED FOR REVIEW | MB |
| 10 | 2016-10-04 | ISSUED FOR REVIEW | MB |
| 9 | 2016-09-15 | ISSUED FOR REVIEW | MB |
| 8 | 2016-08-26 | ISSUED FOR REVIEW | MB |
| 7 | 2016-07-22 | ISSUED FOR REVIEW | MB |
| 6 | 2016-07-22 | ISSUED FOR REVIEW | MB |
| 5 | 2016-06-21 | ISSUED FOR REVIEW | MB |
| 4 | 2016-06-08 | ISSUED FOR REVIEW | MB |
| 3 | 2016-05-10 | ISSUED FOR REVIEW | MB |
| 2 | 2016-02-02 | ISSUED FOR REVIEW | MB |
| 1 | 2016-02-02 | ISSUED FOR REVIEW | MB |
| 7 | DATE | DESCRIPTION | BY |

NEW LEXKARD
 STORE No. OGB

PROJECT: **HIGHWAY #11**
 NEW LEXKARD, ONTARIO

DRAWING: **SITE PLAN**

PROJECT NO: 14.098
 PROJECT DATE: 2016-10-12
 DRAWN BY: MB
 CHECKED BY: JP
 SCALE: As Indicated

DRAWING NO: **A1-T**

This drawing is an integral part of a project. It is the property of Turner Fleischer Architects Inc. The drawings are not to be used for any other project without the written consent of Turner Fleischer Architects Inc. The drawings are not to be used for any other project without the written consent of Turner Fleischer Architects Inc. The drawings are not to be used for any other project without the written consent of Turner Fleischer Architects Inc. The drawings are not to be used for any other project without the written consent of Turner Fleischer Architects Inc.

| Item | Ontario Building Code Data Matrix | OBC Reference |
|------|--|--|
| 1 | Project Description - Existing Canadian Tire Renovation - Proposed Side and Rear Expansions. <input type="checkbox"/> New <input checked="" type="checkbox"/> Addition <input checked="" type="checkbox"/> Alteration <input type="checkbox"/> Change of Use | <input checked="" type="checkbox"/> Part 3 <input type="checkbox"/> Part 9 <input type="checkbox"/> Part 11 |
| 2 | Major Occupancy(s) Group E - "Mercantile" | 3.2.1.1(i) |
| 3 | Building Area (sq. m) Existing 3,460 New 1,331 Total 4,791 | 1.4.1.2(A) |
| 4 | Gross Area (sq. m) Existing 4,174 New 1,325 Total 5,499 | 1.4.1.2(A) |
| 5 | Number of Storeys Above grade 2 Below grade 0 | 1.4.1.2(A) & 3.2.1.1 |
| 6 | Number of Streets/Access Routes 2 | 3.2.2.10 & 3.2.5 |
| 7 | Building Classification Group E (Sprinklered) | 3.2.2.60 |
| 8 | Sprinkler System Proposed <input checked="" type="checkbox"/> Entire Building <input type="checkbox"/> Basement only <input type="checkbox"/> In lieu of roof rating <input type="checkbox"/> Not required | 3.2.2.60 |
| 10 | Standpipe required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3.2.9.1 |
| 11 | Fire Alarm Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 3.2.4 |
| 12 | Water Service/Supply is Adequate <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 3.2.5.7 |
| 13 | High Building <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 3.2.6 |
| 14 | Permitted Construction Actual Construction <input type="checkbox"/> Combustible <input checked="" type="checkbox"/> Non-combustible <input type="checkbox"/> Both <input type="checkbox"/> Combustible <input checked="" type="checkbox"/> Non-combustible <input type="checkbox"/> Both | 3.2.2.60 |
| 15 | Mezzanine(s) Area (sq. m) 708 | 3.2.1.1(i)(8) |
| 16 | Occupant load based on Main Floor (Public) Occupancy: N/A Load: 891.5 Persons Mezzanine (Staff) Occupancy: N/A Load: 48.5 Persons | 3.1.17 |
| 17 | Barrier-free Design <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain) | 3.8 |
| 18 | Hazardous Substances <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3.3.1.2 & 3.3.1.20 |
| 19 | Required Fire Resistance Rating (FRR) Horizontal Assemblies FRR (Hours) Roof N/A Hours Mezzanine 0 Hours FRR of Supporting Members Floors N/A Hours Roof N/A Hours Mezzanine 0 Hours | Listed Design No. or Description (SG-2) 3.2.2.60 & 3.2.1.4 3.2.2.60(i)(b) Listed Design No. or Description (SG-2) 3.2.2.60(i)(g) |
| 20 | Spatial Separation - Construction of Exterior Walls Wall Area of EBF (sq.m) L/D (m) or H/L H/L Permitted Max % of Openings Proposed % of Openings FRR (hours) Listed Design or Description Comb. Constr. Non-Comb. Constr. Cladding Required Actual Constr. | 3.2.3 |

| ADDITIONAL CODE REQUIREMENTS/CALCULATIONS: | | | | |
|--|--------------------|---------------|---|-------------------------|
| Occupant Load: | | | | |
| FLOOR SPACE | Area of EBF (sq.m) | Area (sq.ft) | Occupant load factor (SQFT/Per person) Table 3.1.17.1 | Occupant load (persons) |
| GROUND FLOOR LEVEL (CANADIAN TIRE): | | | | |
| Retail | 3,214 | 34,593 | 3.7 | 809 |
| Warehouse | 1,091 | 11,742 | Staff Only | 8 Max. |
| Service Centre | 458 | 4,928 | Staff Only | 11.5 Max. |
| Office | 28 | 298 | 9.3 | 3 |
| Cumulative Area: | 4,791 | 51,561 | | 891.5 |
| TOTAL OCCUPANT LOAD GROUND FLOOR | | | | |
| | | | | 891.5 |
| MEZZANINE LEVEL (CANADIAN TIRE): | | | | |
| Warehouse Mezzanine | 425 | 4,570 | Staff Only | 8 Max. |
| Service Centre Mezzanine | 18 | 191 | Staff Only | 11.5 Max. |
| Office Mezzanine | 265 | 2,849 | 9.3 | 29 |
| Cumulative Area: | 708 | 7,619 | | 940 |
| TOTAL OCCUPANT LOAD (CANADIAN TIRE) | | | | |
| | | | | 940 |
| TOTAL BUILDING AREA | 4,791 | 51,561 | | |
| TOTAL GROSS AREA | 5,499 | 59,180 | | |

FIRE PROTECTION:
 a) OBC 3.2.1.6, 3.2.2.60, 3.4.2.2
 *Building is permitted to be constructed of combustible or non-combustible construction in conformance with OBC. This building is constructed of non-combustible materials and materials in conformance with Section 3.1.5 of the Ontario Building Code.
 b) Building is to be sprinklered. Sprinkler contractor to submit engineered stamped drawings to the local municipality prior to commencement of work.
 c) Second level meets provisions of OBC Section 3.2.1.1(i) and classified as a Mezzanine.
 i) Mezzanine is not required to terminate at a vertical fire separation.
 ii) Mezzanine is constructed of non-combustible construction (no fire-resistance rating required) in conformance with OBC 3.2.2.60

TRAVEL DISTANCE:
 a) Existing on Ground floor comply with OBC Clause 3.4.2.5(i). Exits shall be placed at maximum 45m (147'-8") distance from all occupied spaces.
 b) Existing for the Second Level (Mezzanine) comply with OBC Clause 3.4.2.5(i)(c). Max. travel distance 45m (147'-8") design conforms to this requirement.

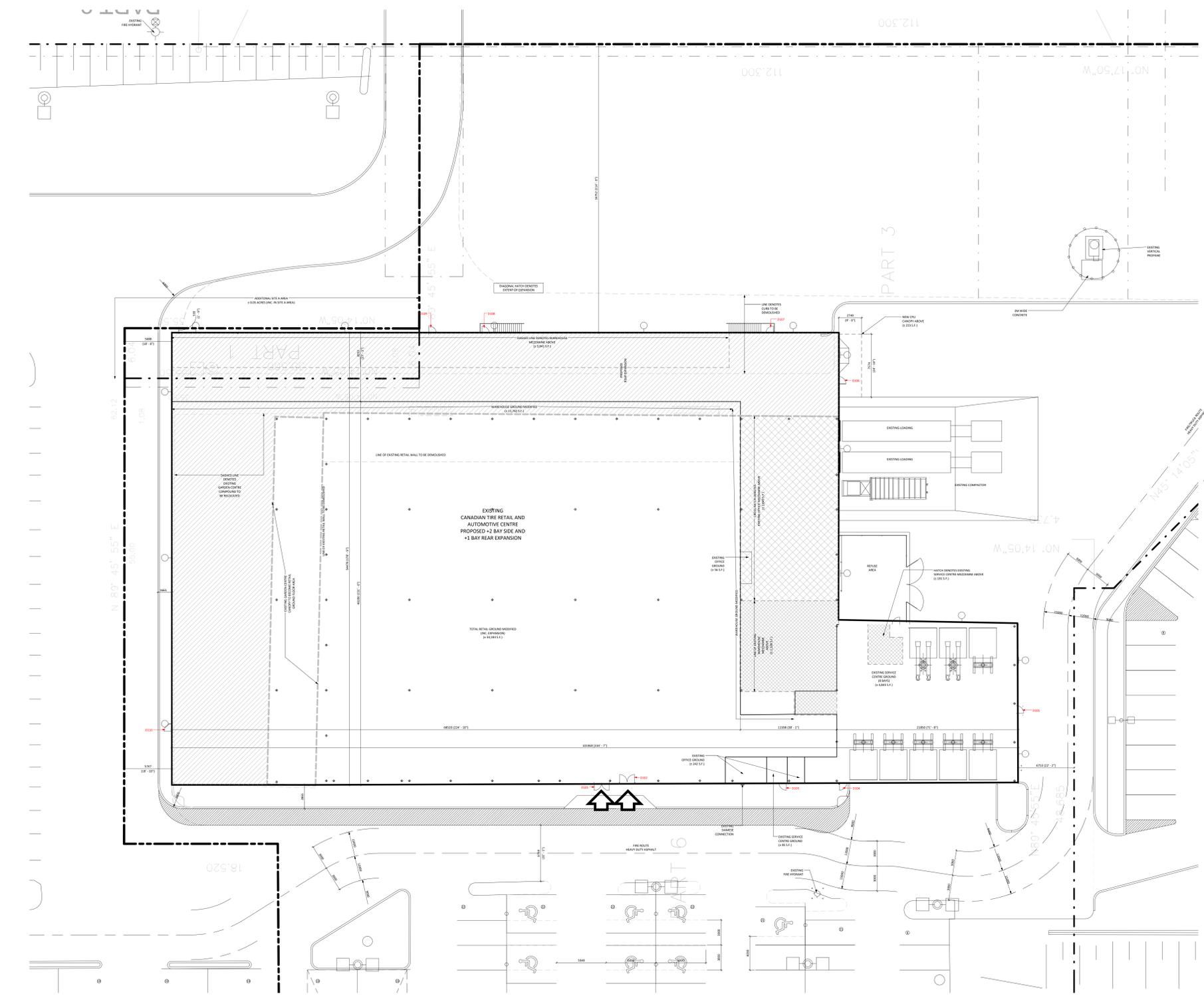
| EXIT CAPACITY: | | | | |
|----------------|------------------|--------------------|---|---------------|
| DOOR | LOCATION | OPENING WIDTH (mm) | EXIT WIDTH FACTOR (mm/pp) Without Stairs: 0.1 mm/pp (OBC 3.4.3.21)(a) With Stairs: 9.2mm/pp (OBC 3.4.3.21)(b) | EXIT CAPACITY |
| D101 | Vestibule | 1,800 | 6.1 | 295 |
| D102 | Vestibule | 1,800 | 6.1 | 295 |
| D103 | Service Ground | 900 | 6.1 | 147 |
| D104 | Service Ground | 900 | 6.1 | 147 |
| D105 | Service Ground | 900 | 6.1 | 147 |
| D106 | Warehouse Ground | 900 | 6.1 | 149 |
| D107 | Warehouse Mezz. | 900 | 9.2 | 97 |
| D108 | Warehouse Mezz. | 900 | 9.2 | 97 |
| D109 | Warehouse Ground | 900 | 6.1 | 147 |
| D110 | Retail Ground | 900 | 6.1 | 147 |

Total Exit Capacity **1668**
 Note: Exit figures with provided can accommodate a possible occupant of 1668 people.
 Estimated maximum occupant load is 940.

Mezzanine Floor Exiting:
 a) OBC 3.4.3.21(i)(c) "With Stairs" (Factor: 9.2 mm per person)

WASHROOM CALCULATIONS (CANADIAN TIRE):
 (OBC 3.7.4.8)
Fixtures Required:
 a) Males: 1 per 300 470/300 = 2
 b) Females: 1 per 150 470/150 = 4
Fixtures Provided:
 a) Males: 4 water closets; 3 urinal(s)
 b) Females: 5 water closets

Notes:
 1) Mezzanine floor staff area washrooms are provided primarily for staff use but are accessible to public.



1 SITE PLAN - CODE ANALYSIS
 A1-T-1 1 : 200

| NO. | DATE | ISSUED FOR REVIEW | BY |
|-----|------------|-------------------|----|
| 11 | 2016-10-12 | ISSUED FOR REVIEW | MB |
| 10 | 2016-10-04 | ISSUED FOR REVIEW | AA |
| 9 | 2016-09-15 | ISSUED FOR REVIEW | MB |
| 8 | 2016-08-26 | ISSUED FOR REVIEW | MB |
| 7 | 2016-07-22 | ISSUED FOR REVIEW | MB |
| 6 | 2016-07-21 | ISSUED FOR REVIEW | MB |
| 5 | 2016-06-23 | ISSUED FOR REVIEW | MB |
| 4 | 2016-06-08 | ISSUED FOR REVIEW | MB |
| 3 | 2016-05-10 | ISSUED FOR REVIEW | MB |
| 2 | 2016-03-02 | ISSUED FOR REVIEW | MB |
| 1 | 2016-02-26 | ISSUED FOR REVIEW | MB |
| 7 | DATE | DESCRIPTION | BY |



PROJECT
HIGHWAY #11
 NEW LISKEARD, ONTARIO

DRAWING NO.
CODE ANALYSIS

| PROJECT NO. | FILE PATH |
|--------------|--------------|
| 14-098 | |
| PROJECT DATE | 2016-10-12 |
| DRAWN BY | MB |
| CHECKED BY | JP |
| SCALE | As Indicated |

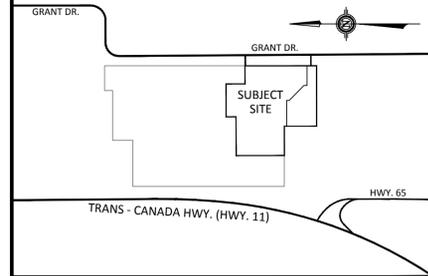
DRAWING NO.
A1-T-1

GRANT DRIVE



SERVICING AND GRADING LEGEND:

- DENOTES EXISTING STORM MANHOLE
- DENOTES PROPOSED STORM MANHOLE
- DENOTES EXISTING CATCH BASIN
- DENOTES PROPOSED CATCH BASIN
- DENOTES EXISTING STORM MANHOLE WITH W/ SEDIMENT SACK
- DENOTES EXISTING CATCH BASIN WITH SEDIMENT SACK
- DENOTES EXISTING STORM SEWER
- DENOTES PROPOSED STORM SEWER
- DENOTES EXISTING SANITARY MANHOLE
- DENOTES PROPOSED SANITARY MANHOLE
- DENOTES EXISTING SANITARY SEWER
- DENOTES PROPOSED SANITARY SEWER
- DENOTES EXISTING HYDRANT
- DENOTES PROPOSED HYDRANT
- DENOTES EXISTING WATER VALVE & BOX
- DENOTES EXISTING WATER MAIN
- DENOTES PROPOSED WATER MAIN
- DENOTES EXISTING INLET CONTROL DEVICE (ICD)
- DENOTES PROPOSED ELEVATION
- DENOTES PROPOSED TOP OF CURB ELEVATION
- DENOTES PROPOSED GUTTER LINE ELEVATION
- DENOTES PROPOSED TOP ELEVATION OF SLOPE
- DENOTES PROPOSED EDGE ELEVATION OF PAVEMENT
- DENOTES PROPOSED HIGH POINT
- DENOTES PROPOSED LOW POINT
- DENOTES PROPOSED SWALE INVERT ELEVATION
- DENOTES PROPOSED ELEVATION BY OTHERS
- DENOTES PROPOSED ELEVATION BY OTHERS TO BE CHANGED
- DENOTES PROPOSED FLOW ARROW AND SLOPE
- DENOTES PROPOSED EMERGENCY OVERLAND FLOW
- DENOTES PROPOSED SLOPE (3:1 OR HIGHER)
- DENOTES EXISTING CONTOUR
- DENOTES PROPOSED SURFACE PONDING AREA
- DENOTES PROPOSED LIMIT OF CONSTRUCTION
- DENOTES PROPOSED SILT FENCE
- DENOTES EXISTING CURB TO BE REMOVED
- DENOTES EXTENT OF MAX. PONDING (0.30m) 100 YEAR STORM
- DENOTES CROSS-SECTION REFERENCE
- DENOTES DRAWING NUMBER



KEY PLAN

Scale : N.T.S.

NOTE :
 THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
 THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECTS/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.
 ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
 THIS DRAWING IS NOT TO BE SCALED. CONTRACTOR TO USE DIGITAL FILES FOR LAYOUT PROVIDED BY ENGINEER.
 THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.
 THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO, THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC..
 EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY EXP SERVICES INC.

BENCH MARK:

| CONTROL TABLE | | | |
|---------------------|--------------|---------------|------------------|
| UTM ZONE 17, NAD 83 | | | |
| 170 | 600018.4450m | 5265200.8440m | 207.941m IB |
| 171 | 600024.3430m | 5264935.8390m | 203.181m IB |
| 172 | 601371.0820m | 5264120.9540m | 194.370m HCM 352 |

BEARING NOTE:

BEARINGS ARE ASTROMONIC AND ARE REFERRED TO THE WEST LIMIT OF GRANT DRIVE AS SHOWN ON PLAN 54R-409B HAVING A BEARING OF N017°50'W.

METRIC NOTE:

DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

| NO. | REVISIONS | DATE | BY |
|-----|-------------------------------------|-------------|------|
| 5 | COORDINATED WITH ARCHITECT PLAN | DEC 6/2016 | Z.Z. |
| 4 | ISSUED FOR SITE PLAN & MTO APPROVAL | NOV 22/2016 | M.H. |
| 3 | ISSUED FOR MTO REVIEW & APPROVAL | NOV 2/2016 | M.H. |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JUL 14/2016 | C.M. |
| 1 | ISSUED FOR REVIEW | JUN 15/2016 | Z.Z. |



SITE SERVICING & GRADING PLAN

CLIENT : CANADIAN TIRE REAL ESTATE LTD.

2180 YONGE STREET
TORONTO, ONTARIO

PROJECT : RETAIL STORE AND SERVICE CENTRE #088
HIGHWAY #11
NEW LISKEARD, ONTARIO



The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
5230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 8K2

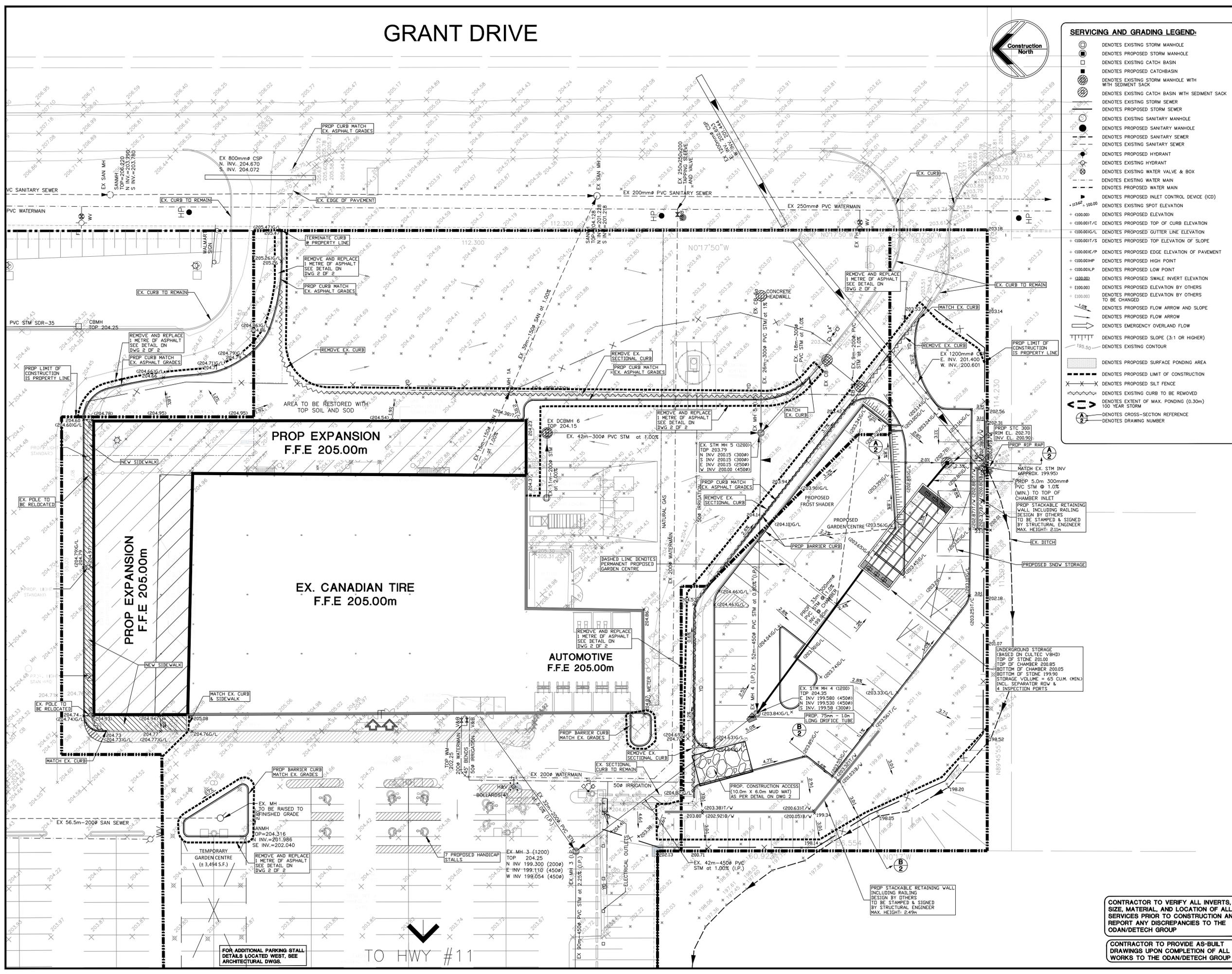
| SCALE : | PROJ. NO.: | DATE STARTED: | DESIGN BY: |
|---------|------------|---------------|------------|
| 1:300 | 14229 | JUN 2016 | J.K. |

| DRAWN BY: | CHECKED BY: | APPROVED BY: | DRWG. NO.: |
|-----------|-------------|--------------|------------|
| Z.Z. | D.C.S. | J.K. | 1 OF 2 |

REGISTERED PROFESSIONAL ENGINEER
I. KRPAN
DEC 6/16
PROVINC OF ONTARIO
ENGINEER

CONTRACTOR TO VERIFY ALL INVERTS, SIZE, MATERIAL, AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ODAN/DETECH GROUP

CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF ALL WORKS TO THE ODAN/DETECH GROUP



FOR ADDITIONAL PARKING STALL DETAILS LOCATED WEST, SEE ARCHITECTURAL DWGS.

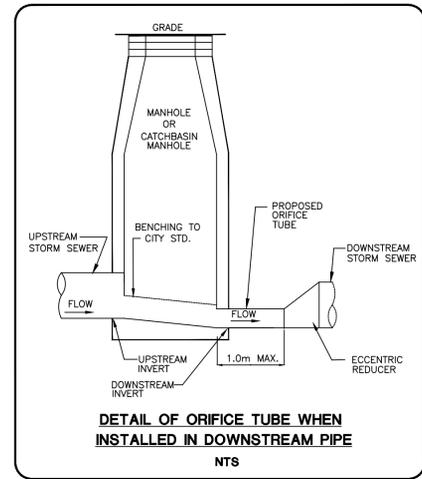
TO HWY #11

GENERAL NOTES

- DRAWINGS ARE NOT TO BE SCALED.
- DO NOT SITE BUILDINGS WITH THIS DRAWING.
- ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
- UNLESS OTHERWISE NOTED ON THE DRAWINGS THE STANDARD TOWN, REGION/COUNTY, MTO AND OPSD AND OSS ARE TO CONSTITUTE PART OF THIS CONTRACT AND SITE PLAN DRAWINGS.
- REFER TO TOWN STANDARDS AND SPECIFICATIONS FOR LIST OF APPROVED MANUFACTURERS AND MATERIALS.
- EXISTING STRUCTURES ARE NOT TO BE DISTURBED, NOR ENCROACHMENT ON ADJACENT PROPERTIES UNLESS INSTRUCTED BY THE ENGINEER.
- THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING AND PAYING FOR, BUT NOT LIMITED TO THE FOLLOWING PERMITS, ROAD CUTS, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC. ALL RESTORATION AS PER TOWN STANDARDS.
- PRIOR TO CONSTRUCTION, THE ENGINEER IS TO BE NOTIFIED BY THE OWNER AND THE CONTRACTOR AS TO THE EXTENT OF THE CONSTRUCTION LIMITS THEY PROPOSE. THE TOWN IS TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE SITE PLAN, LANDSCAPE PLAN, SITE ELECTRICAL PLANS, AND ANY OTHER PLANS OR DRAWINGS WHICH DEPICT WORKS THAT ARE PROPOSED FOR THIS SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR THE TOWN AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO.
- THE CONTRACTOR SHALL ENDEAVOR TO PREVENT MUD TRACKING ONTO EXISTING RIGHT-OF-WAYS AND SHALL PROVIDE FOR CLEANUP AT HIS OWN EXPENSE AS DIRECTED BY THE TOWN. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTROL DUST ON THE PROJECT AND HE SHALL PROVIDE AT HIS OWN EXPENSE, CONTROLLING MEASURES AS DIRECTED BY THE TOWN.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES TO BE VERIFIED IN THE FIELD.
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
- BLASTING WILL NOT BE ALLOWED UNLESS AUTHORIZED BY THE TOWN.
- ANY UTILITY RELOCATIONS DUE TO THIS DEVELOPMENT TO BE UNDERTAKEN AT THE EXPENSE OF THE OWNER/DEVELOPER.
- ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
- DRIVEWAYS SHALL BE SETBACK A MINIMUM CLEARANCE OF 1.0 m. FROM ALL ABOVEGROUND SERVICES OR OTHER OBSTRUCTIONS.
- ALL CONSTRUCTION WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE TOWN. LOCATION SHALL BE AS PER THE TOWN.
- MINIMUM CLEARANCE OF 1.0m FROM ALL ABOVE GROUND SERVICES AND UTILITIES.
- OUTSIDE LIGHTING TO BE DIRECTED DOWNWARD AS WELL AS INWARD AND DESIGNED TO MAINTAIN ZERO CUTOFF LIGHT DISTRIBUTION AT THE PROPERTY LINE.
- ALL WORKS WITHIN TOWN RIGHT-OF-WAY TO BE PERFORMED BY TOWN FORCES OR AN APPROVED CONTRACTOR AS PER TOWN ACCEPTANCE, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
- ALL EXISTING SEWERS ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION INCLUDING SEWER INVERTS, MATERIAL TYPE, AND SIZE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- ALL RELOCATION, RECONSTRUCTION AND RESTORATION TO BE PERFORMED TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.

CURBING/SIDEWALKS/ASPHALT

- ALL PROPOSED INTERNAL CURBING TO BE BARRIER TYPE AS PER ARCHITECT DETAIL. ALL TOPS OF CURBS TO BE 150mm ABOVE PROPOSED GUTTER LINE, UNLESS OTHERWISE NOTED.
- PROPOSED CURB AND GUTTER ON TRAVELED ROADWAY AS PER CURRENT TOWN STD.
- ALL REQUIRED CURB CUTTING AT ENTRANCE AND CURB DEPRESSIONS AT SIDEWALK CROSSINGS SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWN AND AS PER TOWN DRAWING.
- CURB CUTS WITHIN THE PUBLIC R.O.W. TO BE PERFORMED TO THE SATISFACTION OF THE TOWN.
- ALL PROPOSED ROAD CUTS TO BE PERFORMED AND RESTORED TO THE SATISFACTION OF THE TOWN, AND IN ACCORDANCE WITH TOWN STANDARDS & SPECIFICATIONS.
- CONCRETE SIDEWALK WITHIN PUBLIC R.O.W. AS PER OPSD-310.010 AND OPSD-310.020 (ADJACENT TO CURB). ALL RAMPS SHALL BE AS PER OPSD-310.031. ALL SIDEWALKS SHALL BE 50MPa WITH 7% AIR. ALL CONCRETE SIDEWALKS TO BE MINIMUM 150mm THICK AT RESIDENTIAL DRIVEWAYS AND 200mm THICK THROUGH COMMERCIAL/INDUSTRIAL ENTRANCES HAVE 150mm GRANULAR 'A' BASE, COMPACTED TO 100% SPD.
- ALL CONCRETE CURB FROM EXISTING ROAD CURB TO STREET LINE SHALL BE AS PER TOWN STD. ALL CONCRETE CURB HEIGHTS SHALL BE 150mm UNLESS OTHERWISE NOTED. DRIVEWAY CURB TO BE DISCONTINUOUS AT SIDEWALK AND TAPERED BACK 450mm MINIMUM WHERE SIDEWALK CONTIGUES THROUGH THE ENTRANCE AS PER OPSD-350.01.
- APPROPRIATE CONSTRUCTION DETAILS SHOULD BE PROVIDED FOR RETAINING WALLS HIGHER THAN 1.0m. DETAILS SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER UPON APPROVAL. HANDRAIL IS REQUIRED WHEN HEIGHT EXCEEDS 0.60m AND SHALL BE AS PER OPSD-980.101.
- ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED
- ALL CONCRETE TOE WALLS SHALL BE AS PER OPSD 3120.100 TYPE 1
- ALL DEAD END BARRIAGES SHALL BE AS PER OPSD-912.532.
- ALL TEMPORARY STEEL BEAM GUIDE RAILS SHALL BE AS PER OPSD-912.532
- ALL SECTIONAL PRE-CAST CONCRETE CURBING AS PER OPSD-603.02.
- PERIMETER SUBDRAINS SHOULD BE PROVIDED AROUND PARKING AREAS AND ALONG DRIVEWAYS.



STORM SEWERS

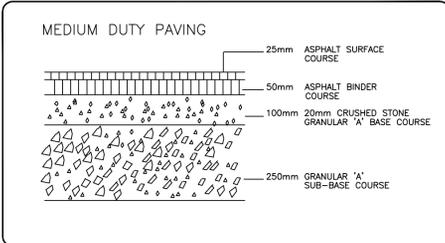
- ALL STORM SEWERS 450mm ϕ AND SMALLER TO BE PVC SDR 35 IN ACCORDANCE WITH CSA-8182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS UNLESS OTHERWISE NOTED. 525mm ϕ AND LARGER TO BE CONCRETE IN ACCORDANCE WITH CSA A257.2, CLASS 650 OR LATEST REVISIONS. UNLESS OTHERWISE NOTED. ROOF TOP STORM LEADS 150mm ϕ AND SMALLER TO BE PVC SDR 28.
- ULTRA RIBBED PVC PIPE SHALL NOT BE USED, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.
- ALL CATCH BASIN LEADS TO BE A MINIMUM OF 300mm ϕ PVC SDR 35 IN ACCORDANCE WITH CSA-8182.2, ASTM D-2779 AND ASTM D-3034 OR LATEST REVISIONS, UNLESS OTHERWISE NOTED.
- BEDDING AND COVER FOR PVC SEWERS (FLEXIBLE PIPE) AS PER OPSD 802.010, GRANULAR "A" COMPACTED TO 100% SPD.
- BEDDING AND COVER FOR CONCRETE SEWERS (RIGID PIPE) AS PER OPSD 802.030, CLASS B, GRANULAR 'A', COMPACTED TO 100% SPD. UNLESS OTHERWISE SPECIFIED.
- ALL STORM SERVICES TO BUILDINGS SHALL BE AT A MINIMUM SLOPE OF 1:0%
- THE CONTRACTOR IS TO CAP ALL STORM SERVICES 2.0 METRES AWAY FROM THE PROPOSED BUILDING LINES UNLESS OTHERWISE NOTED.
- CULVERT THICKNESS SHALL BE 1.6mm MINIMUM WITH LENGTHS IN STANDARD INCREMENTS OF 3, 6, AND 7 METRES.
- STORM MANHOLES SHALL BE AS PER OPSD-701.010, 701.011, 701.012, 701.013 AS SPECIFIED, BENCHING TO SPRINGLINE OF PIPE AS PER OPSD-701.021, FRAME & COVER AS PER OPSD-401.01, (TYPE A CLOSED COVER)
- ALL CATCH BASIN MANHOLES AS PER OPSD 701.010. FRAME AND GRATE AS PER OPSD 400.02.
- ALL MANHOLE AND CATCH BASIN ADJUSTMENTS SHALL BE AS PER OPSD-704.010. MAXIMUM OF THREE (3) UNITS AND 300mm HIGH, WHERE EXCEED CAST-IN-PLACE OR PRE-CAST RISER SECTIONS SHALL BE PROVIDED.
- ALL SAFETY GRATES AS PER OPSD 404.020 FOR MANHOLES > 5.0m DEPTH.
- EXISTING STORM MANHOLE(S) TO BE RE-BENCHED AS REQUIRED, AS PER OPSD-701.021.
- ALL CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD 705.010. INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
- ALL DOUBLE CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSD-705.020. INCLUDE GOSS TRAP IF REQUIRED BY TOWN. ALL CATCH BASIN FRAMES AND COVERS AS PER OPSD 400.02.
- ALL DITCH INLET CATCH BASINS SHALL BE AS PER OPSD-705.030, WITH RIP-RAP TREATMENT AS PER OPSD-810.02, WITH GEOTEXTILE (MIRAF P-140N).
- ALL CATCH BASIN CONNECTIONS SHALL BE AS PER OPSD-708.01 (RIGID PIPE) AND OPSD-708.03 (FLEXIBLE PIPE).
- ALL CATCH BASINS CONSTRUCTED IN FILL AREAS TO BE SUPPORTED IN 14MPa CONCRETE.
- AT ALL CATCH BASIN & CATCH BASIN MANHOLE SAG POINTS INCLUDE FOUR (4) 4.0m LONG, 100mm ϕ PVC SUBDRAINS WITH FILTER CLOTH, CAP ONE END AND CONNECT THE OTHER TO THE CATCH BASIN OR CATCH BASIN MANHOLE.
- ALL SEWER SERVICE CONNECTIONS FOR RIGID PIPE SHALL BE AS PER OPSD-1006.01.
- ALL SEWER SERVICE CONNECTIONS FOR FLEXIBLE PIPE SHALL BE AS PER OPSD-1006.02.
- ALL CONCRETE OUTLETS AS PER OPSD 605.030 WITH ASPHALT SPILLWAY AND RIP-RAP.
- ALL RIP-RAP TREATMENT FOR SEWER AND CULVERT OUTLETS SHALL BE AS PER OPSD-810.01, TYPE "B" WITH GEOTEXTILE (MIRAF P-140N).

STORMCEPTOR

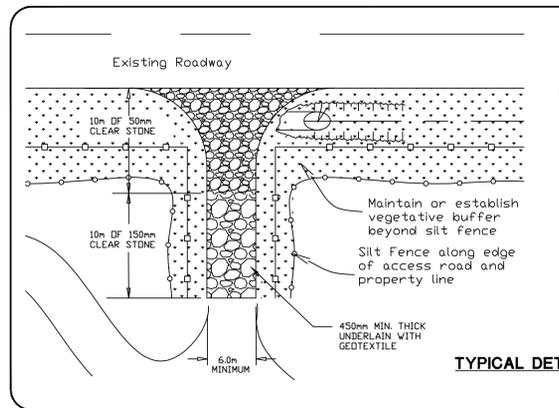
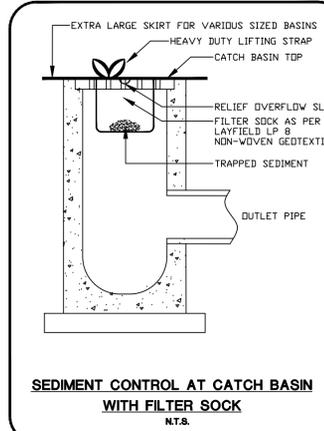
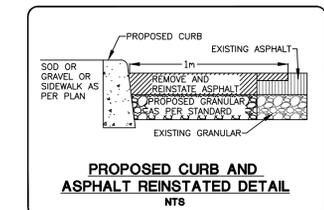
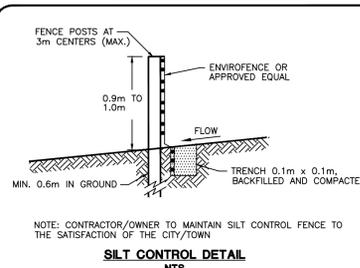
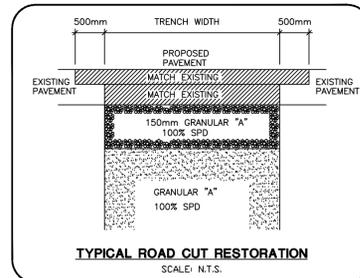
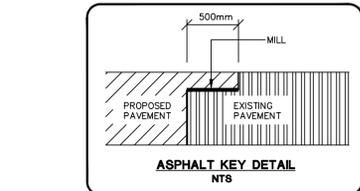
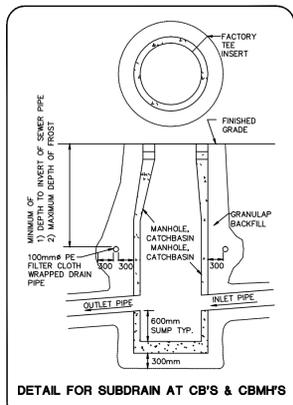
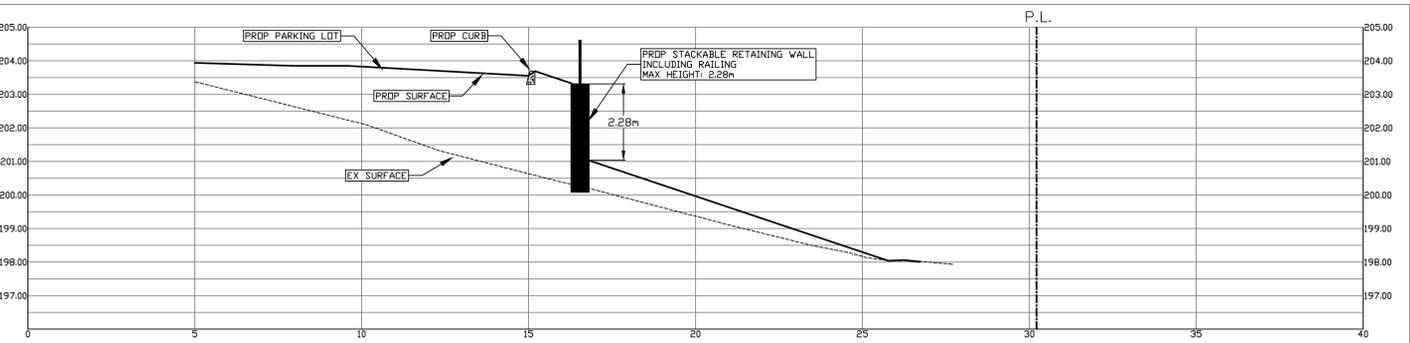
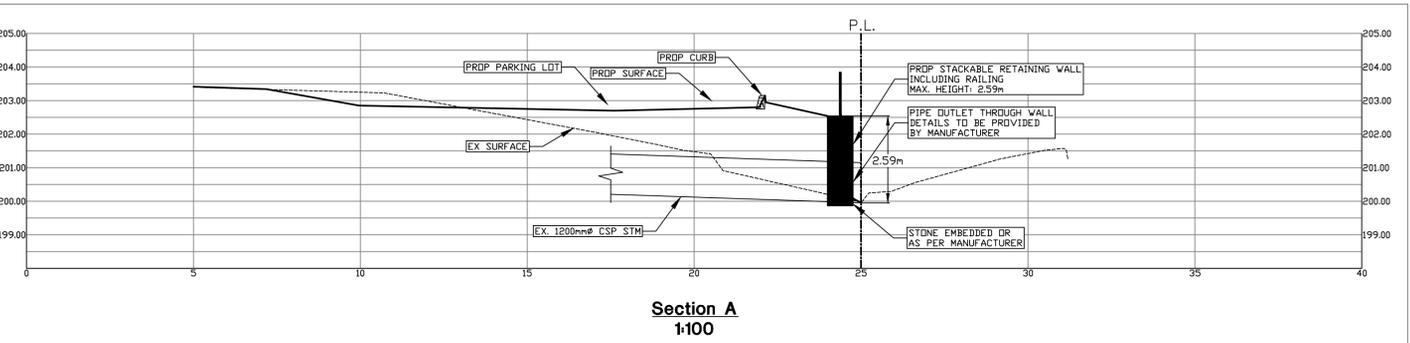
- THE CONTRACTOR SHALL CONTACT THE MANUFACTURER FOR INSTALLATION REQUIREMENTS AND PROCEDURES FOR ALL PROPOSED STORMCEPTORS.
- AN ENGINEER REPRESENTING THE MANUFACTURER AND/OR THE ENGINEER FOR THE PROJECT SHALL BE CONTACTED BY THE CONTRACTOR 48 HRS. PRIOR TO INSTALLATION TO WITNESS AS-BUILT CONDITIONS BEFORE PROCEEDING WITH BACKFILLING.
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION FROM THE MANUFACTURER TO THIS ENGINEER UPON COMPLETION OF THE INSTALLATION OF ALL STORMCEPTORS.
- OIL/GRIT SEPARATORS SHALL BE CLEANED AND MAINTAINED A MINIMUM OF TWICE A YEAR AND OIL SHALL BE REMOVED IF LEVELS GREATER THAN 2.5cm ARE REACHED.

GRADING

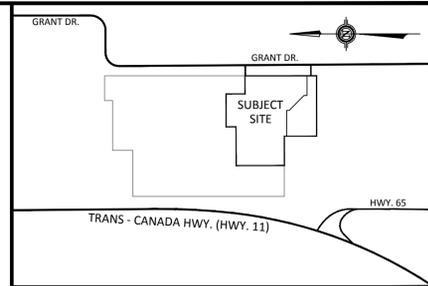
- THE GRADING PLAN IS TO BE READ WITH THE SITE SERVICES DRAWING AND THE SITE PLAN. FOR BUILDING DETAILS REFER TO THE LATEST REVISION OF THE SITE PLAN AS PER THE ARCHITECT.
- CONTRACTOR TO RESTORE ALL DISTURBED AREAS (I.E. PUBLIC R.O.W., ADJACENT LANDS) WHICH HAVE BEEN DISTURBED DURING CONSTRUCTION TO PREVIOUS OR BETTER CONDITION.
- ALL DRIVEWAY AND GRADING MATERIAL AND CONSTRUCTION METHODS MUST CONFORM TO CURRENT TOWN STANDARDS AND SPECIFICATIONS.
- ALL FILL WITHIN THE SITE TO BE COMPACTED TO A MIN. OF 100% STD. PROCTOR DENSITY. THE SUITABILITY OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A RECOGNIZED SOILS CONSULTANT TO THE DIRECTOR OF ENGINEERING PRIOR TO INSTALLATION OF ANY ROAD BASE MATERIALS.
- LANDSCAPE SHALL NOT ENCROACH ON BOULEVARD NOR SHALL BOULEVARD GRADES BE ALTERED.
- SILT FENCE(S) TO BE INSTALLED AND MAINTAINED TO PREVENT SILT FLOWING ONTO ADJACENT LANDS. SILTATION CONTROL METHODS SUCH AS ENVIROFENCE OR APPROVED EQUAL, SHALL BE ERRECTED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL BE MAINTAINED.
- ANY CHANGES IN GRADES OR CATCH BASINS REQUIRE THE APPROVAL OF THE ODAN/DETECH GROUP INC.
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CITY.
- ALL LANDSCAPING TO BE INSTALLED AS SOON AS POSSIBLE OR PRIOR TO THE END OF THE FIRST GROWING SEASON. LANDSCAPING TO BE MAINTAINED UNTIL IT IS ESTABLISHED.
- ALL CONNECTIONS WITH PAVED PORTIONS OF EXISTING ROADS TO BE BACKFILLED WITH GRANULAR 'A' MATERIAL OR LATEST CITY SPECIFICATIONS AND COMPACTED TO 100 % SPD.
- CONSTRUCTION ACCESS SHALL BE CONSTRUCTED WITH A MIN. OF 450mm THICK CRUSHED STONE BASE FROM MUNICIPAL CURB OR EDGE OF PAVEMENT TO THE PROPERTY LINE TO THE SATISFACTION OF THE CITY.
- ALL CURBS ARE TO BE 150mm ABOVE THE PROPOSED GUTTER LINE (G/L) UNLESS NOTED
- PAVEMENT GRADE (MIN. 0.5%, MAX. 5%).
- DRAINAGE SWALES WITH GRADES (MIN. 2%, MAX. 5%).
- SLOPES IN LANDSCAPE AREAS AND ON BERMS SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL.
- THE PARKING AREAS AND DRIVEWAY HAVE BEEN DESIGNED ACCORDING TO A FROST SUSCEPTIBILITY FACTOR OF 5. THIS FACTOR IS TO BE VERIFIED BY A SOILS CONSULTANT.



NOTE: THE MEDIUM DUTY PAVING COMPOSITE WAS OBTAINED FROM THE ORIGINAL ENGINEERING DRAWINGS DONE BY BRONTE ENGINEERING LTD. FOR THE EXISTING CANADIAN TIRE



- NOTES:
- Purpose of Construction Mat is to minimize transportation of sediment onto roadways.
 - Construction mat is to be installed as the first step in the site alteration process.
 - Construction mats are required where paved roads are within 300 m of the site.



KEY PLAN
Scale : N.T.S.

NOTE :
THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND UNDERGROUND AND ABOVE GROUND UTILITIES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING THE WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
THE CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE ARCHITECT/ENGINEERS BEFORE PROCEEDING WITH THE WORKS.
ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE ENGINEER WHICH MUST BE RETURNED AT THE COMPLETION OF WORK.
THIS DRAWING IS NOT TO BE SCALED. CONTRACTOR TO USE DIGITAL FILES FOR LAYOUT PROVIDED BY ENGINEER.
THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDINGS.
THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S CONTRACTOR FROM OBTAINING, BUT NOT LIMITED TO THE FOLLOWING PERMITS: ROAD CUT, SEWER PERMITS, RELOCATION OF SERVICES, ENCROACHMENT AGREEMENTS, APPROACH APPROVAL PERMITS, ETC...
EXISTING TOPOGRAPHICAL INFORMATION SUPPLIED BY EXP SERVICES INC.

BENCH MARK:

| CONTROL TABLE | UTM_ZONE | UTM_ZONE_17_NAD_83 |
|---------------|--------------|--------------------------------|
| 170 | 600018.4450m | 5265200.8440m 207.941m IB |
| 171 | 600024.3430m | 5264935.8390m 203.181m IB |
| 172 | 601371.0820m | 5264120.9540m 194.370m HCM 352 |

BEARING NOTE:
BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE WEST LIMIT OF GRANT DRIVE AS SHOWN ON PLAN 54R-409B HAVING A BEARING OF N07750'W.

METRIC NOTE:
DISTANCES AND ELEVATIONS ON THIS PLAN ARE TYPICALLY SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

| NO. | REVISIONS | DATE | BY |
|-----|-------------------------------------|-------------|------|
| 5 | COORDINATED WITH ARCHITECT PLAN | DEC 6/2016 | Z.Z. |
| 4 | ISSUED FOR SITE PLAN & MTO APPROVAL | NOV 22/2016 | M.H. |
| 3 | ISSUED FOR MTO REVIEW & APPROVAL | NOV 2/2016 | M.H. |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JUL 14/2016 | C.M. |
| 1 | ISSUED FOR REVIEW | JUN 15/2016 | Z.Z. |

SCALE : 0 5 10 20 30

NOTES & DETAILS

CLIENT : **CANADIAN TIRE REAL ESTATE LTD.**
2180 YONGE STREET
TORONTO, ONTARIO

PROJECT : **RETAIL STORE AND SERVICE CENTRE #088**
HIGHWAY #11
NEW LISKEARD, ONTARIO

ODAN-DETECH CONSULTING ENGINEERS

The Odan/Detech Group Inc. P: (905) 632-3811 F: (905) 632-3363
8230 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO, L7L 8K2

| SCALE : | PROJ. NO.: | DATE STARTED: | DESIGN BY: |
|--------------|------------|---------------|-----------------------|
| 1:300 | 14229 | JUN 2016 | J.K. |
| 14229-2E.DWG | | | DRAWN BY: Z.Z. |
| | | | CHECKED BY: D.C.S. |
| | | | APPROVED BY: J.K. |
| | | | DRWG. NO.: |

REGISTERED PROFESSIONAL ENGINEER
I. KRPAN
DEC 6/16
PROVINCE OF ONTARIO
ENGINEER



The Odan/Detech Group Inc.
P: (905) 632-3811
F: (905) 632-3363
5230, SOUTH SERVICE ROAD, UNIT 107
BURLINGTON, ONTARIO, L7L 5K2
www.odandetech.com

**PROPOSED PARKING LOT AND RETAIL EXPANSION
TEMISKAMING SHORES (NEW LISKEARD), ONTARIO**

PROJECT No.: 14229

**STORMWATER MANAGEMENT
REPORT**

APPLICANT:

CANADIAN TIRE REIT

Prepared By:

THE ODAN/DETECH GROUP INC.

NOVEMBER 22 2016

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APPENDIX A

Aerial Bird Eye View

Site Plan

Google Street View Images Surrounding Development

APPENDIX B

Figure 1 - Storm Tributary Area Plan – Pre Development Existing Conditions

Figure 2 - Storm Tributary Area Plan –Post Development Conditions

Stage-Storage-Discharge Table

Visual OTTYMO Model (2 – 100 Year) (Existing and Proposed Development)

STC 300i Brief

APPENDIX C

Engineering Plans

Topographic Survey

1.0 BACKGROUND

The property under study is a Canadian Tire store which is a 2.31 ha site located at 997431 Highway #11 in New Liskeard, Ontario. A portion of this site is currently undeveloped, approximately 0.45ha. of the 2.31 ha. Site area. It is proposed to expand the existing store, add parking. The Garden Centre is to be relocated to the new parking lot as per the Architect plans prepared by Turner Fleischer Architects Inc., refer to Appendix A.

The purpose of this letter is to summarize the proposed stormwater management (SWM) strategies that will be implemented to meet the requirements of the City of Temiskaming Shores (New Liskeard) and the Ministry of Transportation.

For the purposes of this report only the area of expansion and new parking lot area will be reviewed for Stormwater Management water quantity and water quality controls.

2.0 SCOPE OF WORKpage

THE ODAN/DETECH GROUP INC. was retained by the Applicant Canadian Tire REIT to review the site, collect data, evaluate the site for the proposed land use and present the findings in a Storm Water Management Report.

This report will evaluate the serviceability of the site with respect to stormwater services and also evaluate the stormwater management (SWM) strategies that will be implemented to provide the required servicing.

For detailed topography of the existing site conditions refer to the latest topographic survey Appendix C.

This report was prepared in general conformance with MTO requirements and references the following documents in support of this report.

Drainage Management - Overview

<http://www.mto.gov.on.ca/english/publications/drainage/index.shtml>

Quick Reference Guide for Identifying MTO SWM Requirements

<http://www.mto.gov.on.ca/english/publications/drainage/stormwater/section2.shtml>

Providing Stormwater Management Controls (RE: Parking Lot or Rooftop Storage)

<http://www.mto.gov.on.ca/english/publications/drainage/stormwater/section8.shtml#controls>

3.0 STORMWATER MANAGEMENT

Stormwater management for the site will assess post development to predevelopment design storms. The design storms from the 2 to 100 year storms will be reviewed. Visual OTTHYMO will be used to determine the predevelopment allowable flows and post development controlled flows and volumes.

3.1 Existing Site Conditions

The existing site consists of the existing Canadian Tire store with an existing Garden Centre to the north of the building, along with related parking. The site generally slopes from north to southwest. Ultimately draining to the east side ditch located on Hwy. 11. This drainage ditch continues south to the intersection of Hwy 11 and Hwy 65 continuing to drain south to an existing culvert which crosses Hwy 11. Refer to Figures in Appendix A for additional information regarding the drainage areas. Stormwater drains towards existing catch basins on site which drain to an existing 675mm storm sewer outlet on Highway #11. Some of these catch basins are located outside of the Canadian Tire property limits.

The pre-development allowable flows were based on the following:

Design storm data for the site was taken from the MTO IDF Curve Lookup. These IDF Equation were used within OTTYMO to determine pre and post development flows.

3.2 Allowable Flows

Modelling for predevelopment flows was established using Visual OTTHYMO. For drainage areas with significant imperviousness the calculation of effective rainfall in Visual OTTHYMO is accomplished using the "Standhyd" method. This method is used in urban watersheds to simulate runoff by combining two parallel standard unit hydrographs resulting from the effective rainfall intensity over the pervious and impervious surfaces. For pervious surfaces, losses are calculated using the SCS modified CN method.

For existing predevelopment Tributary Areas refer to Figure 1 in Appendix A. Table 1 below shows the results from the predevelopment OTTHYMO Model. These flows will be used to determine the allowable flows and storage for the post development model.

| TABLE 1 – Pre Development Peak Flows of Site | |
|---|--|
| Storm Event | Pre-development Peak Flow (L/sec) |
| 2 Year Design Storm | 310 |
| 5 Year Design Storm | 434 |
| 10 Year Design Storm | 518 |
| 25 Year Design Storm | 619 |
| 50 Year Design Storm | 703 |
| 100 Year Design Storm | 779 |

The above flows will be used to establish the post development allowable flows.

3.3 Post Development Flows

It is propose to expand the existing Canadian Tire along with a new parking lot. Canadian Tire is relocating their Garden Centre to the new parking lot to the south and expanding the retail store into the existing location of the current Garden Centre and to the east of the existing store into existing asphalt. The retail expansion will be replacing existing asphalt and canopies. The new parking lot will be replacing a grassed area.

The allowable post development peak flows for the proposed site will meet the pre development peak flows where achievable under site conditions and site constraints. Only the Canadian Tire site areas will be analyzed for SWM purposes. There are multiple property's located within the existing Mall area which connect to the same storm sewer system. These areas are not part of this development and its expansion areas and have not been included in this assessment. Refer to Appendix A Figure 2 for post development tributary areas.

As noted above Visual OTTHYMO was used to model the predevelopment site conditions. Post development site conditions will be modelled using the same method. Table 2 shows the results from the post development OTTHYMO Model. These models along with their inputs and outputs can be found in Appendix A.

To match the post-development flows to the pre-development flows, storage controls are required. The retail expansion roof will not have rooftop controls as these are not permitted by the MTO. It is proposed to use a 75mm diameter Orifice Tube device buried underground for 1m downstream of EX MH 4 to control the post-development flows from the proposed new parking lot. Underground storage will be provided upstream of this control device. As the head (m) acting on the device determines the discharge rate underground storage will be utilized to minimize the head acting on the system therefore reducing the flows to match the existing allowable flows on various storm events. These storage areas are modelled in OTTHYMO. Details on these storage areas and the orifice tube device can be found in Appendix B. It was determined that 75m³ of combined

underground pipe and arched chamber storage will be required for the 100-year storm runoff from the site. The total pre-development flows and post-development flows from the site are shown in Table 1.

| Storm Event | Predevelopment Peak Flow (L/sec) | Post Development Peak Flow (L/sec) |
|-----------------------|---|---|
| 2 Year Design Storm | 310 | 315 |
| 5 Year Design Storm | 434 | 436 |
| 10 Year Design Storm | 518 | 517 |
| 25 Year Design Storm | 619 | 614 |
| 50 Year Design Storm | 703 | 696 |
| 100 Year Design Storm | 779 | 768 |

Due to site constraints (invert elevations) and the storage-storage-discharge characteristics of a 75mm diameter orifice device the 2 and 5 year post development flows are marginally higher than the predevelopment allowable flows. The additional flow is minor being an additional 5 l/sec on the 2 year storm and an additional 2 l/sec on the 5 year storm. The increase is less than 2% on both of these storms. It is not recommended that an orifice device be reduced to less than 75mm due to the increased risk of blockage.

Table 2 above demonstrates that the post-development flows are close to pre-development allowable flows and within allowable tolerances.

3.4 Water Quality

As required the proposed rooftop addition and proposed parking lot area must achieve water quality. The proposed development includes a rooftop expansion and a new asphalt parking area. These areas will be reviewed for water quality. The remaining portion of the site will remain unchanged as per existing site conditions.

Rooftop water is considered clean and provides a TSS removal of 80%, therefore no further assessment of the proposed rooftop addition is required for water quality.

Asphalt areas must be treated prior to entering into the existing storm sewer system. In order to achieve the required water quality requirement it is proposed to treat the new parking area with an

oil/grit separator. To address water quality within the new parking area it is proposed to provide a Stormceptor STC 300i (Inlet) Oil/Grit Separator.

The entire site ultimately drains to a ditch on the east side of HWY #11 through storm pipes or overland through a swale. This ditch travels south along HWY #11 and ultimately drains to a creek nearby.

The retail expansion will be replacing asphalt and concrete pavers changing the TSS removal rate from 0% to 90% since roofs have an inherent TSS removal rate of 90%. This is a significant improvement to this area of the site.

The parking lot is replacing a grassed hill which changes the TSS removal rate from 80% to 0% because of the vehicular traffic that will be present. An oil-grit separator (Stormceptor 300i) will be installed at the inlet in the parking lot achieving a TSS removal rate of 93%. Refer to Appendix B for detailed design calculations. This will further treat oils entering into the downstream system from this parking area include the downstream underground storage system.

Stormceptor Sizing:

| TABLE 3 – Stormceptor Sizing | | | |
|-------------------------------------|--------------------------|--------------------------------|-------------------------------|
| Location | Stormceptor Model | Annual Flow Capture (%) | Annual TSS Removal (%) |
| Prop. Oil/Grit MH 1 | <i>300i</i> | 95 | 93 |

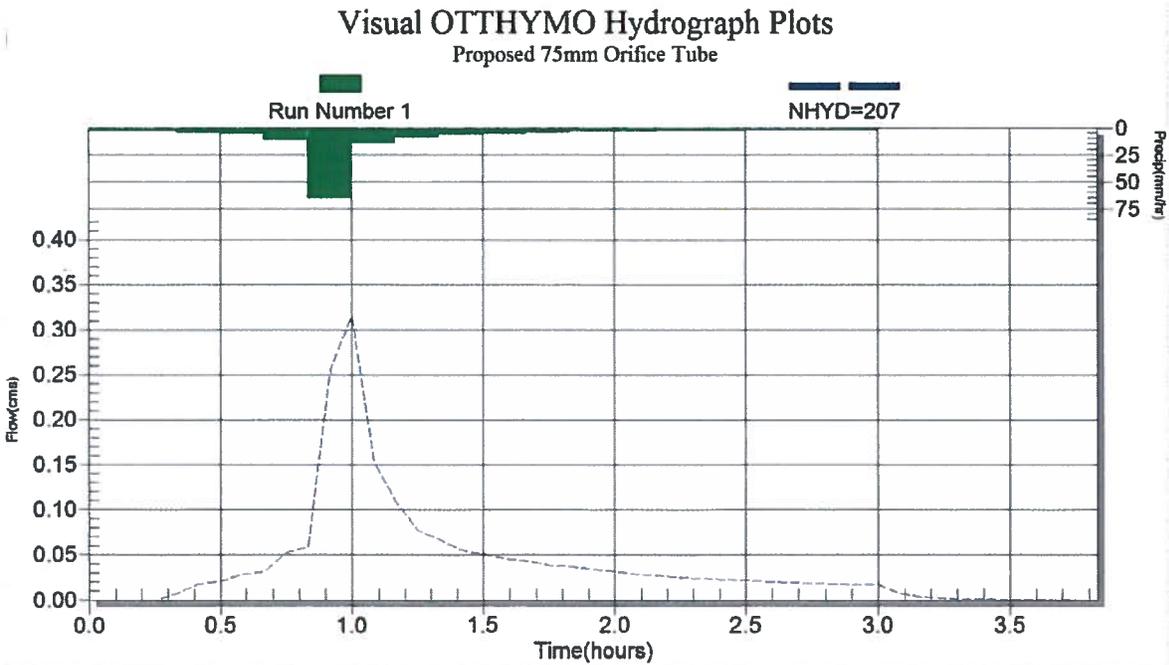
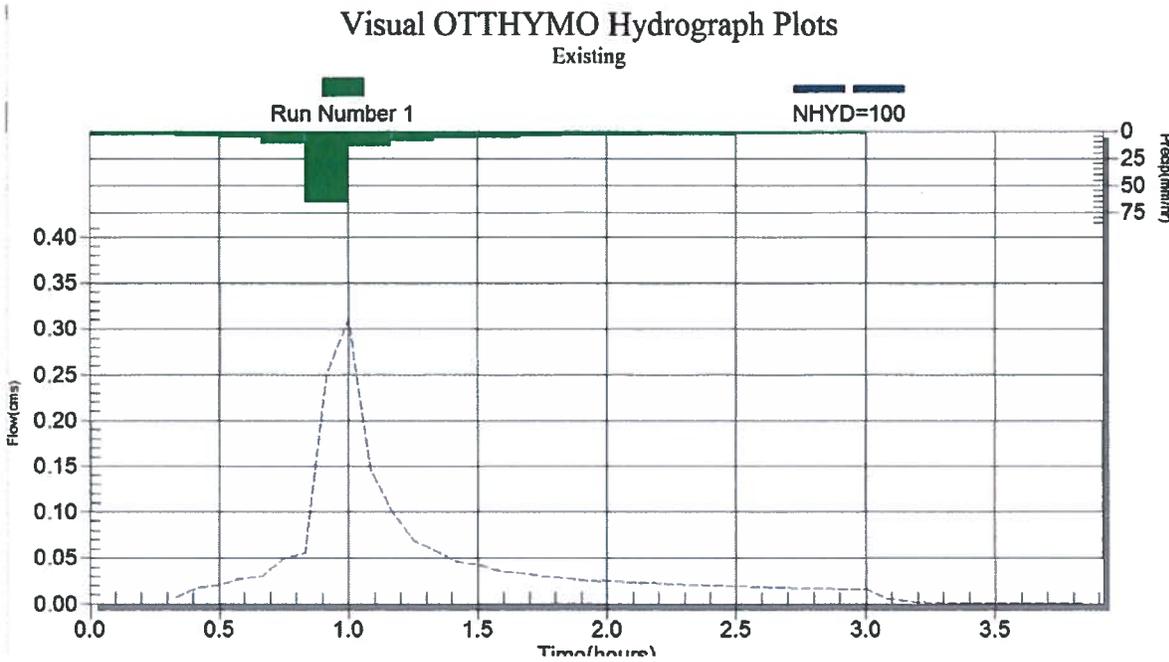
The proposed expansion and additional parking lot will not adversely impact the downstream system. Further TSS removal will occurring within the downstream ditch. Though this is offsite it will help further improve the water quality downstream.

3.5 Overland Flow Route

The majority of overland flow from the Canadian Tire site will be directed to the ditch on the west and south side of the site. This maintains existing site conditions and current overland flow route.

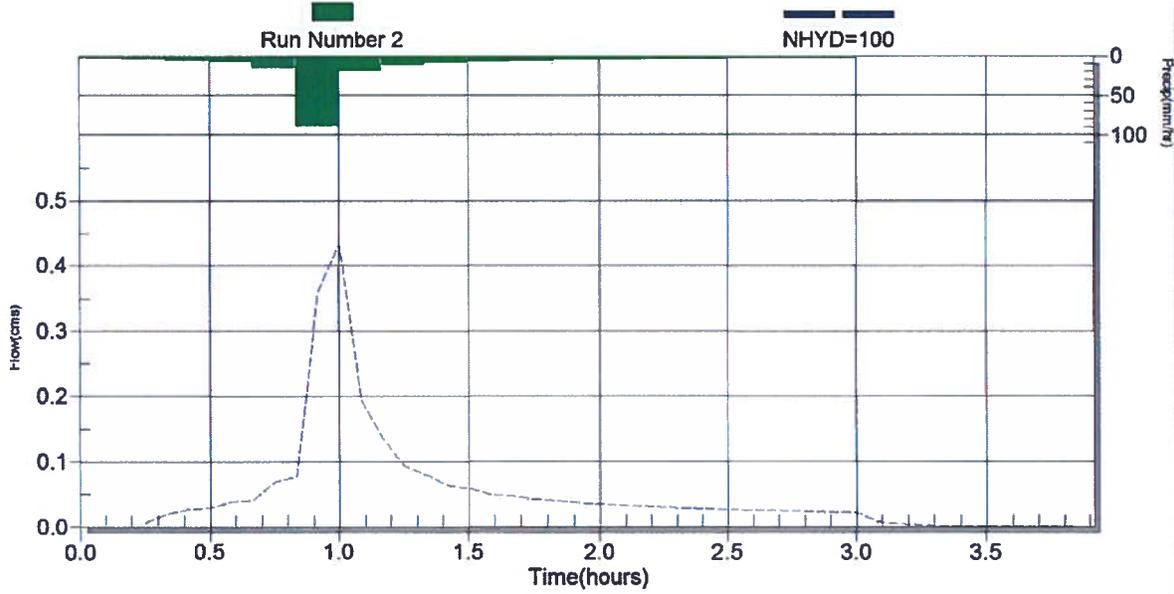
3.6 Hydrograph Plot Comparison

2 Year Pre to Post Hydrographs

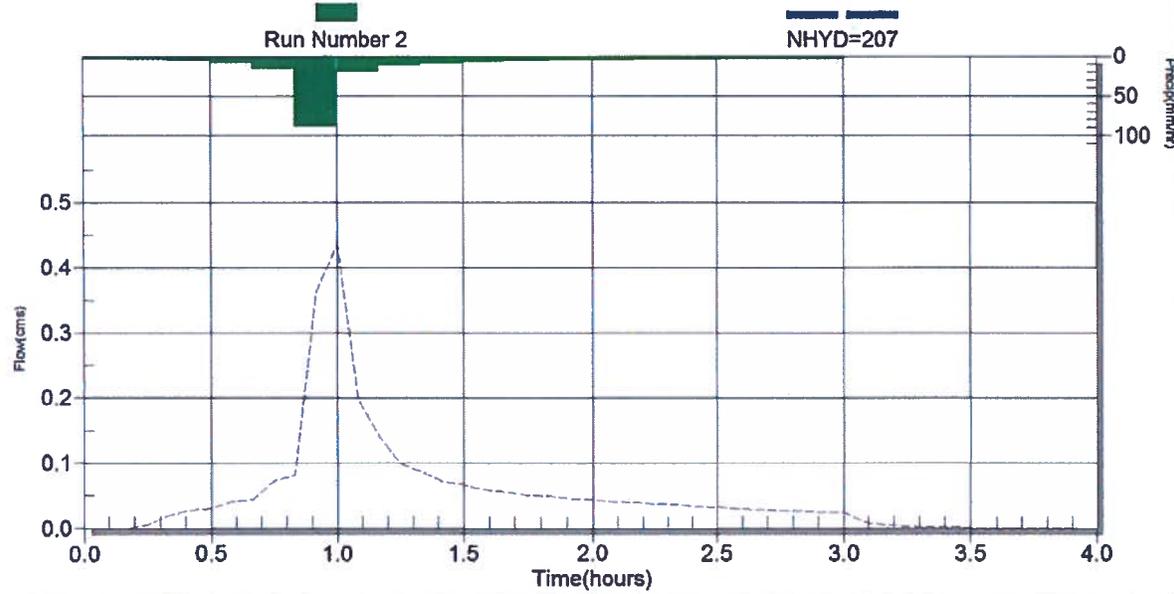


5 Year Pre to Post Hydrographs

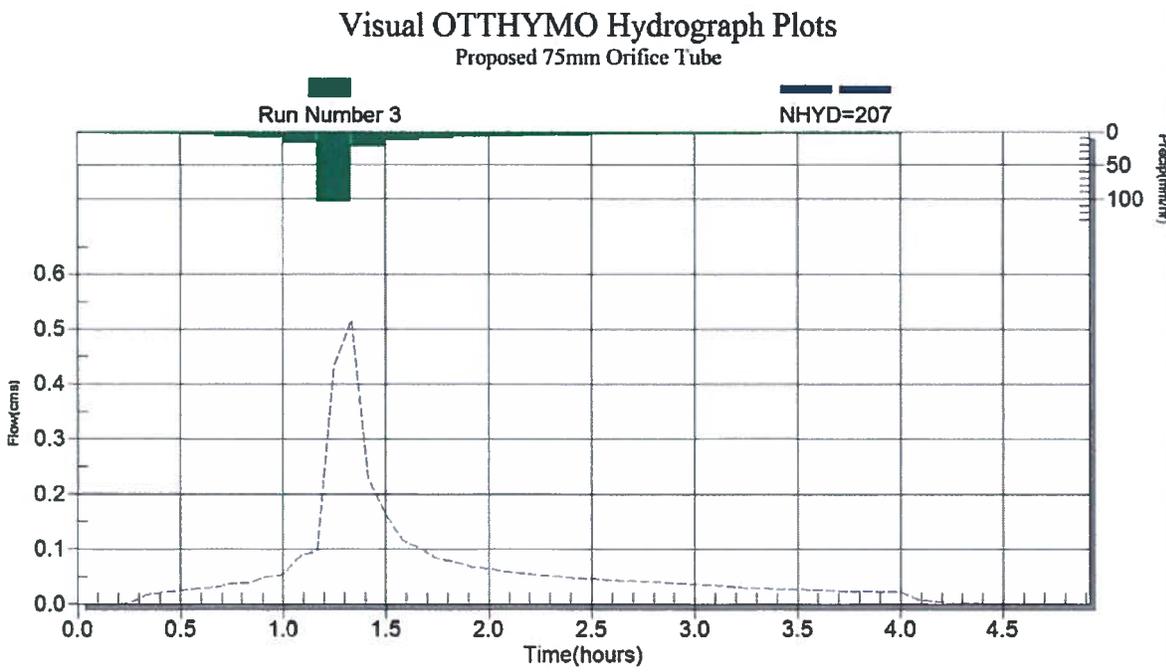
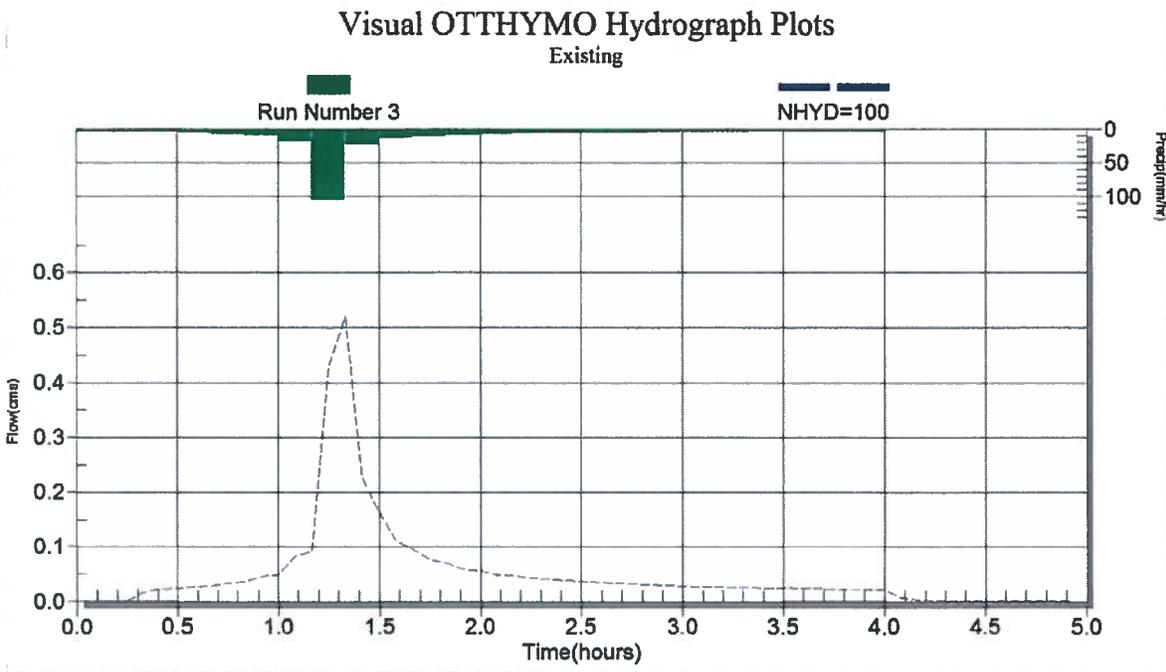
Visual OTTHYMO Hydrograph Plots Existing



Visual OTTHYMO Hydrograph Plots Proposed 75mm Orifice Tube

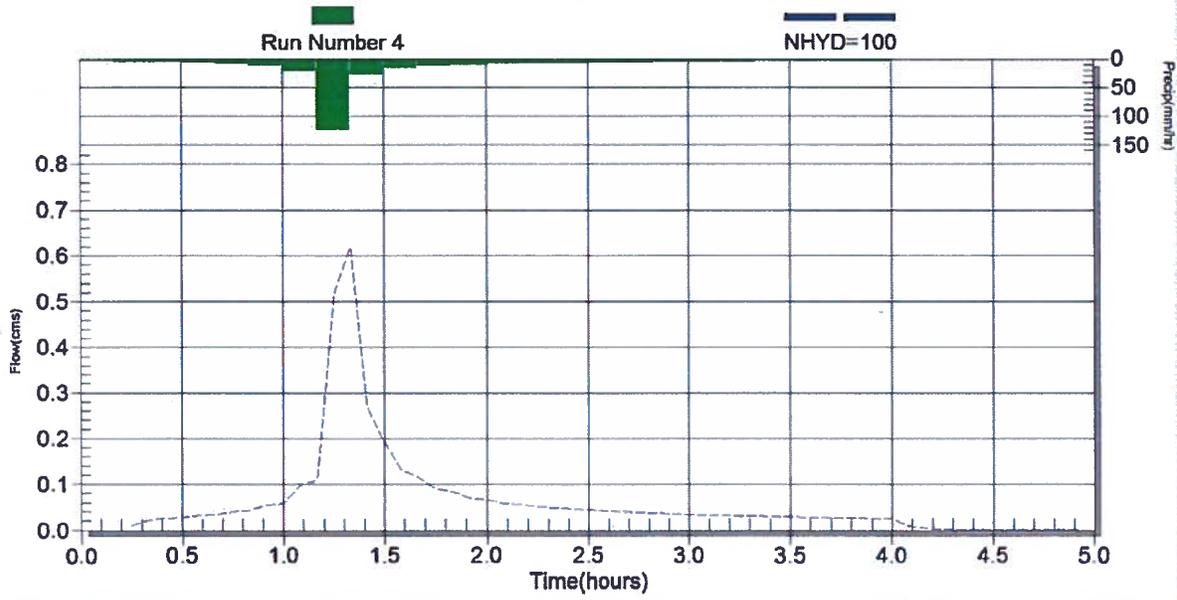


10 Year Pre to Post Hydrographs

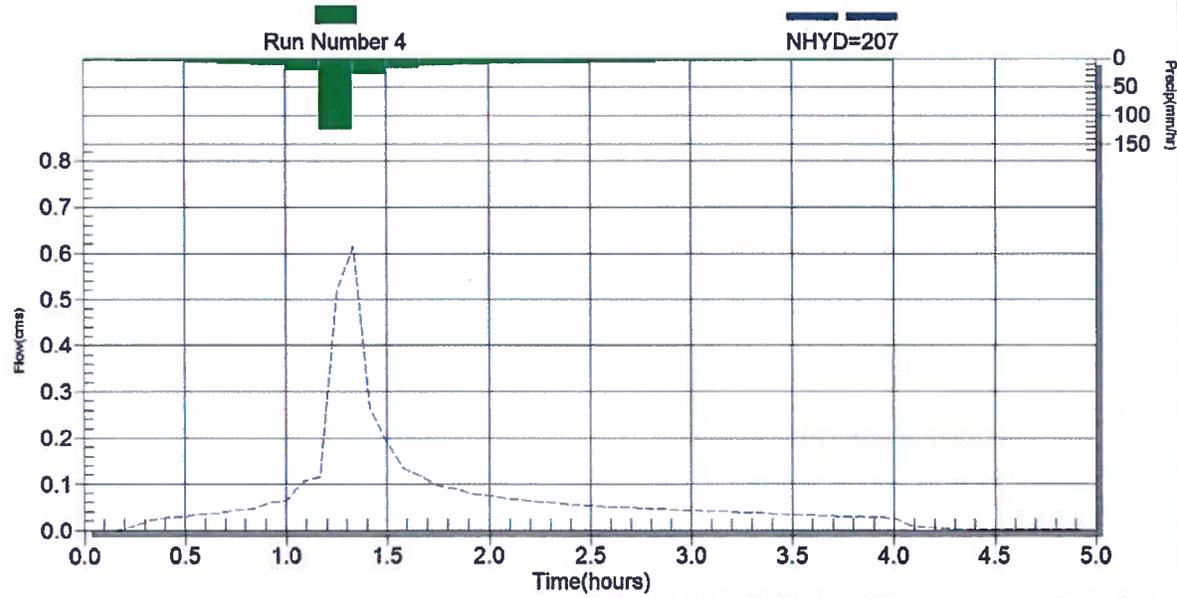


25 Year Pre to Post Hydrographs

Visual OTTHYMO Hydrograph Plots
Existing



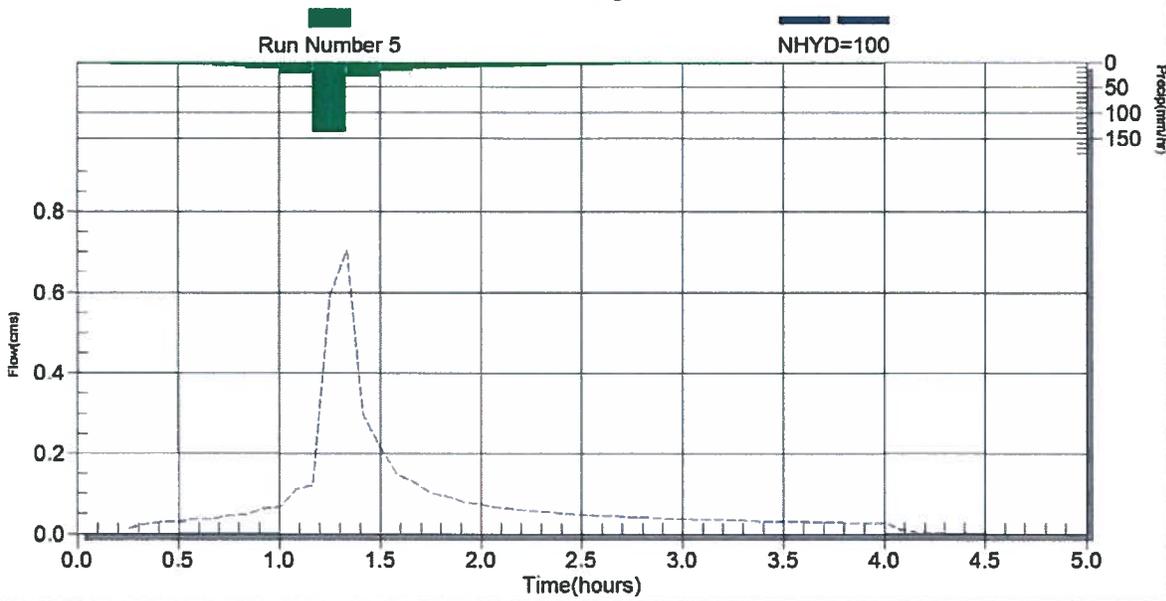
Visual OTTHYMO Hydrograph Plots
Proposed 75mm Orifice Tube



50 Year Pre to Post Hydrographs

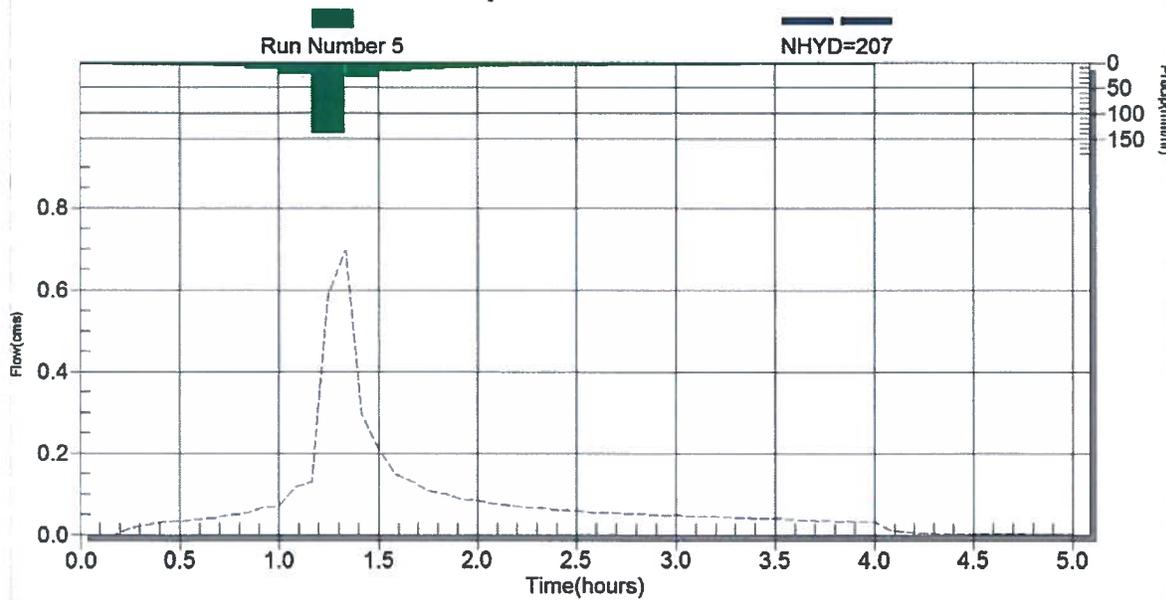
Visual OTTHYMO Hydrograph Plots

Existing

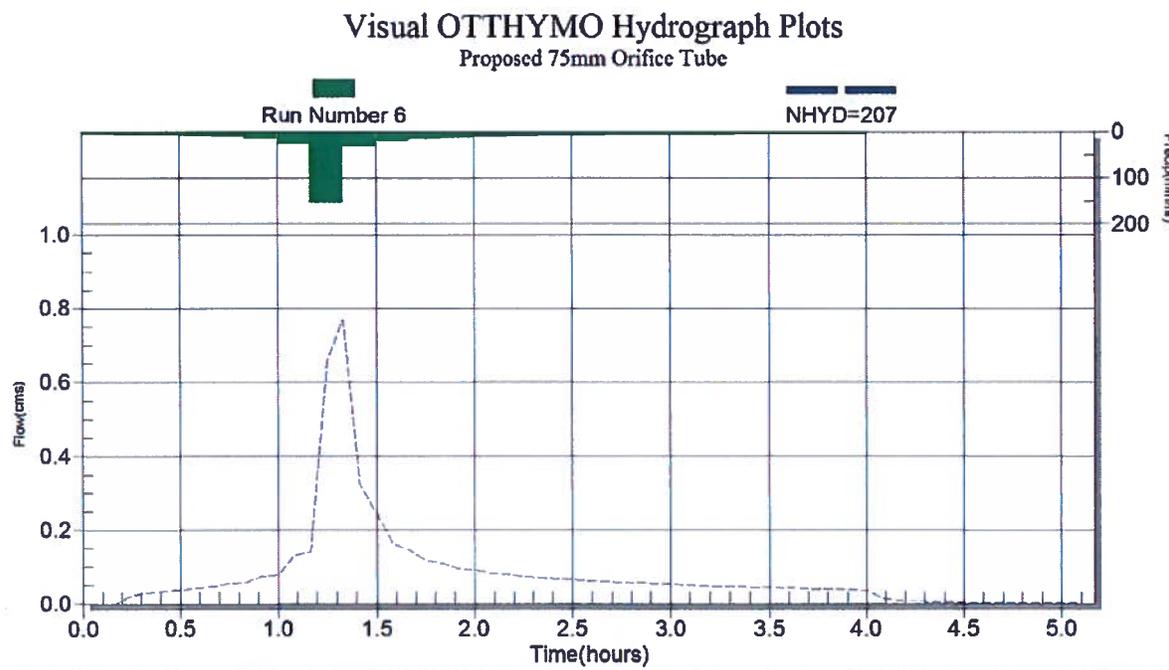
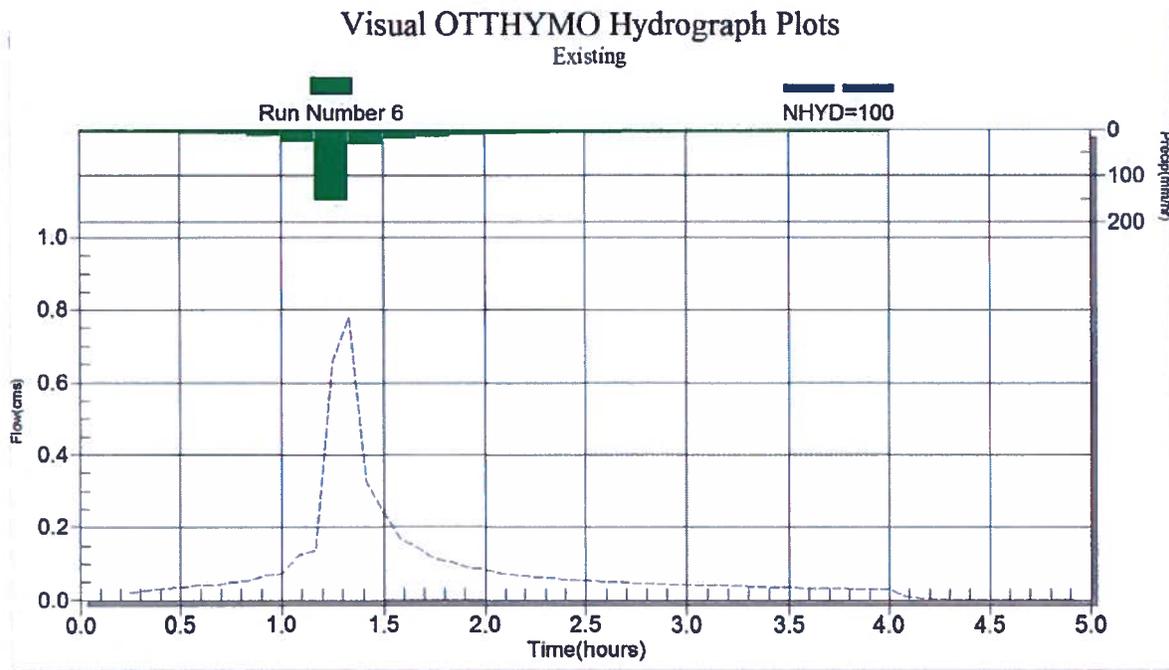


Visual OTTHYMO Hydrograph Plots

Proposed 75mm Orifice Tube



100 Year Pre to Post Hydrographs



4.0 CONCLUSIONS

Conclusion

Under proposed development site conditions the flows from the retail expansion and the new parking lot will be controlled by the proposed underground storage to flow rates that are with tolerances to the allowable flow rates.

Based on our analysis of the expansion of The Canadian Tire and the site will provides adequate storm water controls for the receiving downstream system.

Respectfully Submitted;
The Odan/Detech Group Inc.



John Krpan, M.S.C.E., P.Eng.

Mark Harris, Dipl. Tech.

APPENDIX A

Birdseye Aerial View



Hwy. 11 and Hwy. 65 Intersection

ON-65 - Google Maps

<https://www.google.ca/maps/@47.5293645,-79.6744299,3a,75y,4.15h,78.63t/data=!3m1!1e1!1s...>

Google Maps ON-65



Transferring images to disk
Sun May 14 2016

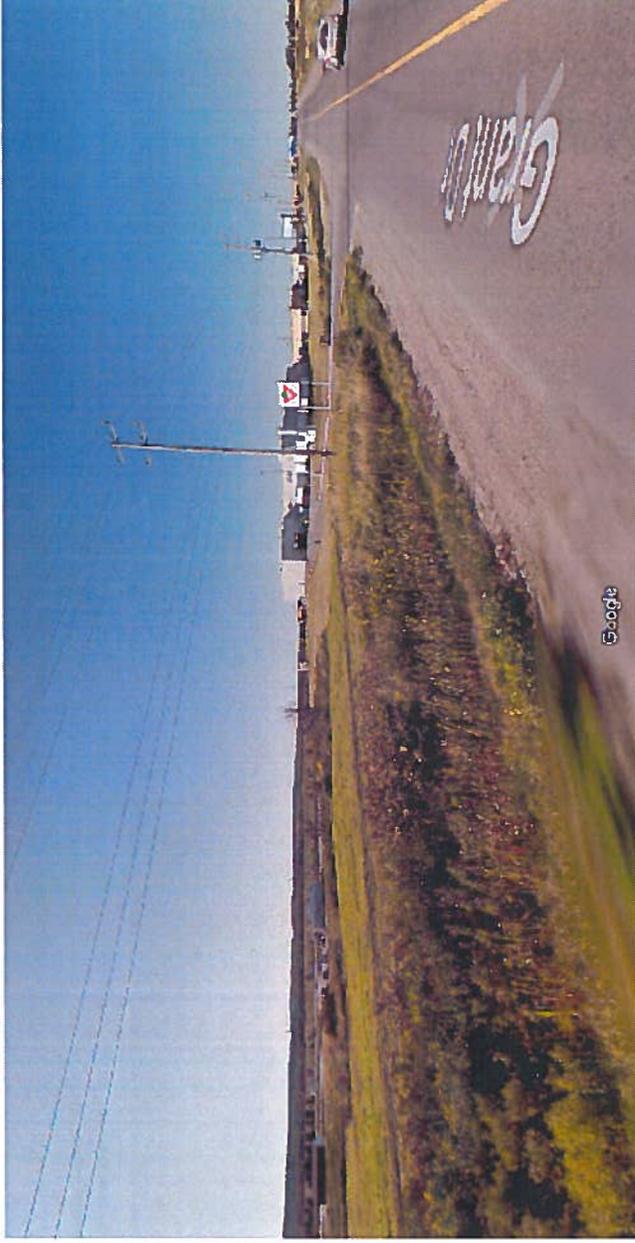
Image rights: Map data © 2016 Google

Grant Drive Facing North – CTC Rear Entrance Driveway-

Grant Dr - Google Maps

<https://www.google.ca/maps/@47.5298623,-79.6708951,3a,75y,310.29h,87.46t/data=!3m6!1e...>

Google Maps Grant Dr



Topography of Ontario, Canada
© 2016 Google

Grant Drive Facing South – CTC Rear Entrance Driveway-

Grant Dr - Google Maps

<https://www.google.ca/maps/@47.5298623,-79.6708951,3a,75y,172.98h,88.99t/data=!3m6!1e...>

Google Maps Grant Dr

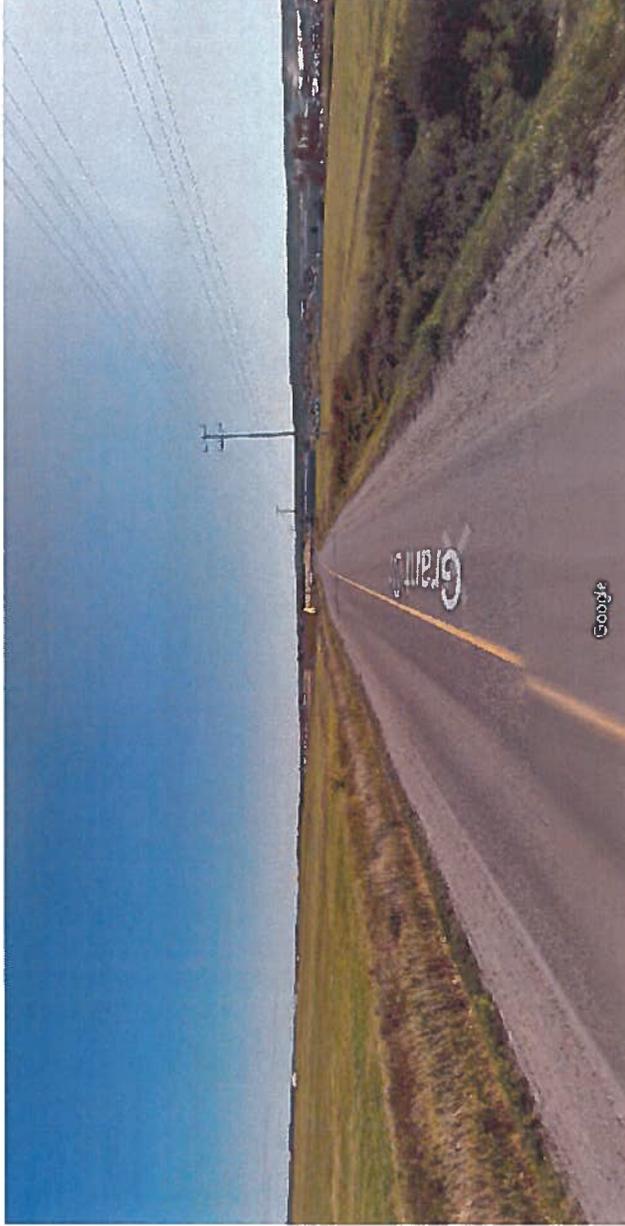


Image captured by Google Maps

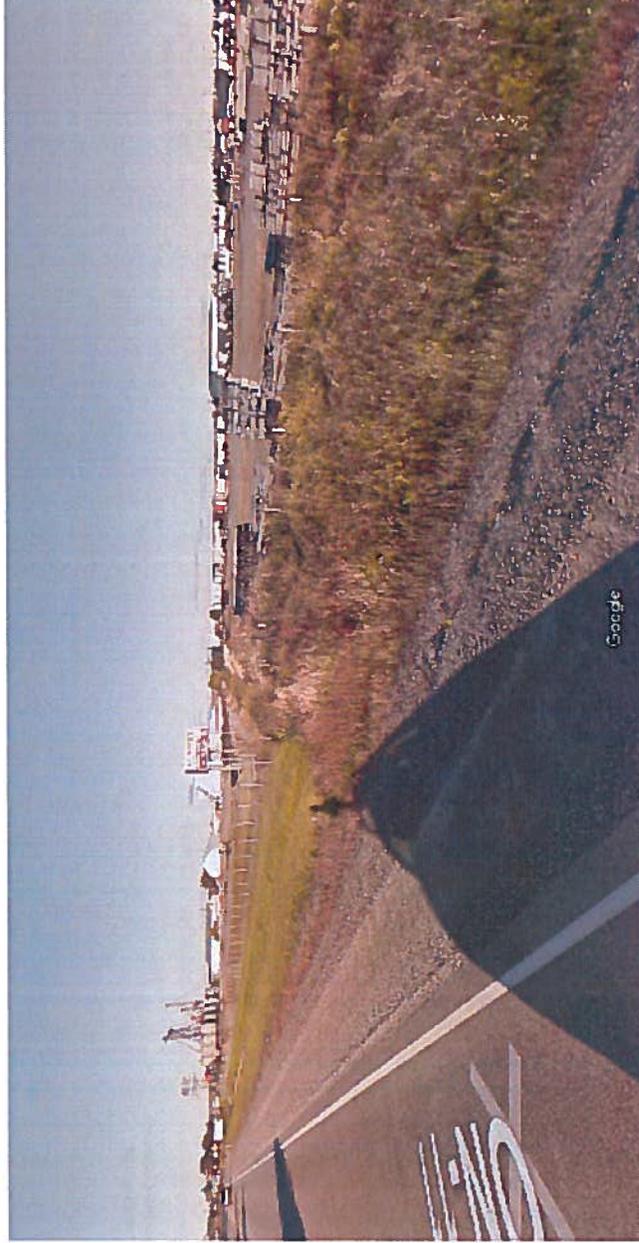
Topography Consultants Group
Grant Drive - Sept 2016

Hwy. 11 – Culver Crossing Facing East -

950907 ON-11 - Google Maps

<https://www.google.ca/maps/place/Terrakumming+Shores,+ON/@47.5252023,-79.6808013,60...>

Google Maps 950907 ON-11



Terakumming Shores, Ontario
Street View - Sep 2016

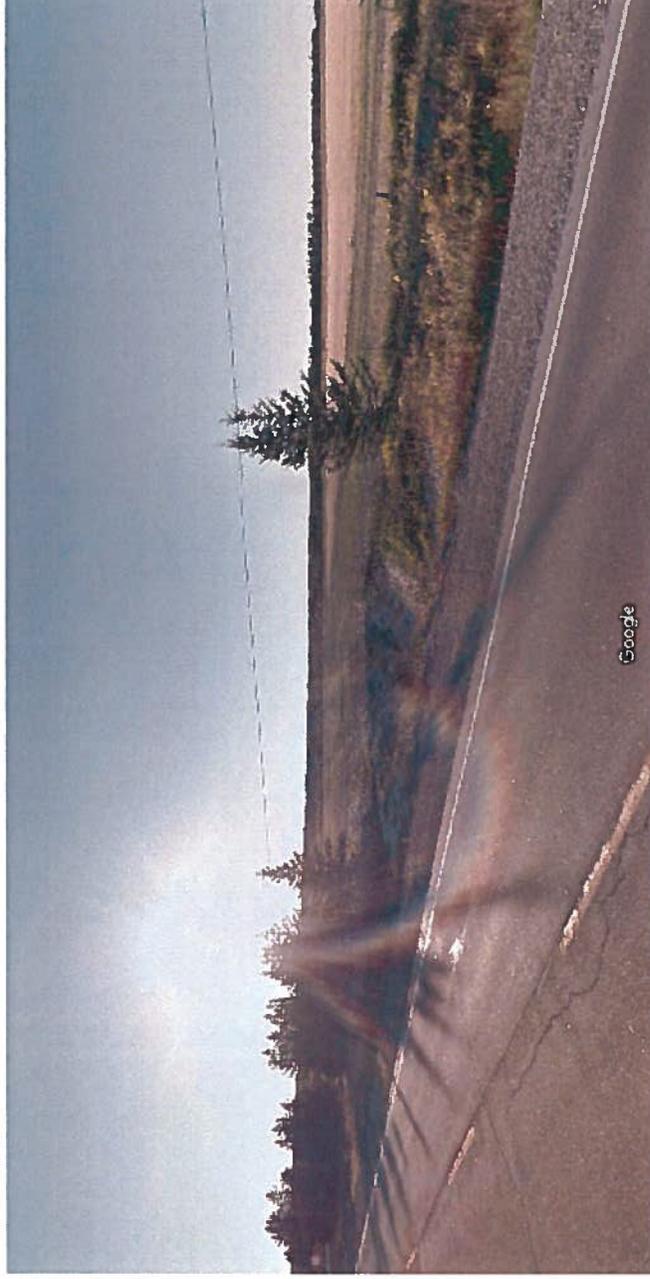
Image captured Sep 2016 © 2016 Google

Hwy. 11 – Culvert Crossing Facing West -

950907 ON-11 - Google Maps

<https://www.google.ca/maps/place/Temiskaming+Stores,+ON/@47.5252023,-79.6808013,60...>

Google Maps 180°07 ON-11



Temiskaming Stores, Ontario
© 2016 Google

APPENDIX B

GRANT DRIVE

KEY PLAN
TRANS: CANADA HWY (HWY 11)

SUBJECT LANDS
AREA # 1, 2

NOTE:
THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ODAN-DETECH CONSULTING ENGINEERS. NO PART OF THESE PLANS OR SPECIFICATIONS ARE TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ODAN-DETECH CONSULTING ENGINEERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

BEARING NOTE:
ALL BEARINGS ARE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE SPECIFIED.

NOTE:
ALL DIMENSIONS ARE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE SPECIFIED.

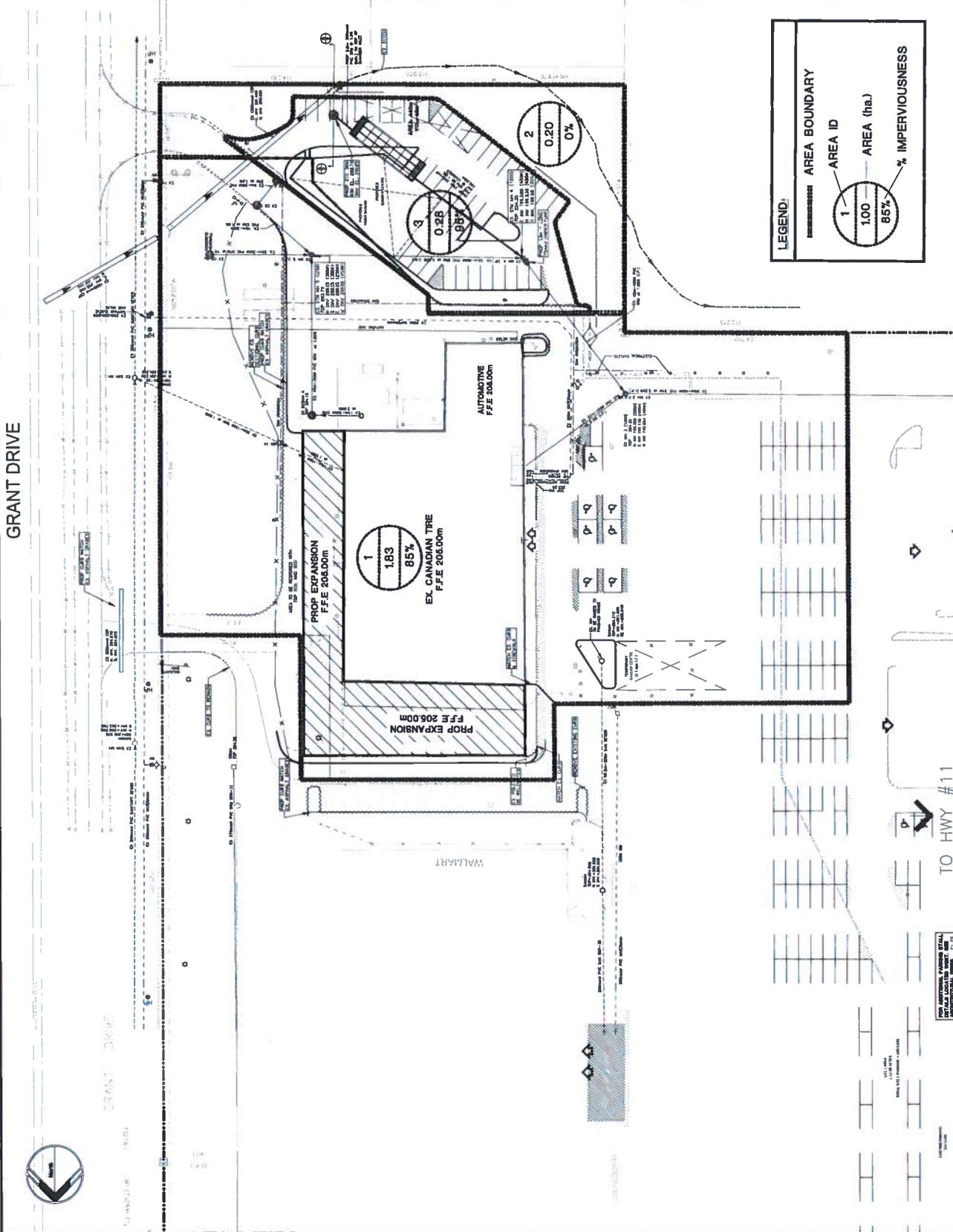
SCALE:
1:400

DATE:
NOV 2016

PROJECT:
CANADIAN TIRE REAL ESTATE LTD.
3800 YONGE STREET
TORONTO, ONTARIO

CLIENT:
CANADIAN TIRE REAL ESTATE LTD.

PROJECT:
RETAIL STORE AND SERVICE CENTRE 4008
HIGHWAY #11
NEW LINDEN, ONTARIO



LEGEND:

- AREA BOUNDARY
- AREA ID
- AREA (tha.)
- % IMPERVIOUSNESS

1 1.83 85%

2 0.28 85%

3 0.20 0%

FIG. 2
ENGINEER

ODAN-DETECH CONSULTING ENGINEERS

14229 HWY 11, UNIT 10, NEW LINDEN, ONTARIO L3Y 9K7

SCALE: 1:400

DATE: NOV 2016

PROJECT: CANADIAN TIRE REAL ESTATE LTD.

CLIENT: CANADIAN TIRE REAL ESTATE LTD.

PROJECT: RETAIL STORE AND SERVICE CENTRE 4008 HIGHWAY #11 NEW LINDEN, ONTARIO

TO HWY #11

FOR APPROVAL, FURNISH ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

STAGE-STORAGE-DISCHARGE TABLE

| SWM INFORMATION FOR ORIFICE CONTROLLED STORM TRIBUTARY AREAS | | | | | |
|---|---------------|----------|--|--------------------------|---------------|
| Tributary Area No. | 2 | | Tributary Area | 0.27 ha | |
| INLET CONTROL DEVICE (ICD) INFORMATION | | | STORM WATER STORAGE INFORMATION | | |
| Location of ICD | EX STM MH 4 | | Surface Ponding Area | 0 m ² | |
| Type of ICD | Tube | | Surface Pond Depth | 0.00 m | |
| Rim Elevation | 202.85 m | | Underground Pipe Storage | 10.1 m ³ | |
| Orifice Invert Elevation | 199.53 m | | | | |
| Orifice Size | 75.00 mm | | | | |
| Orifice Coefficient | 0.82 | | | | |
| STAGE/DISCHARGE/VOLUME RELATIONSHIP | | | | | |
| Stage Description | Elevation (m) | Head (m) | Discharge (m ³ /s) | Volume (m ³) | Volume (ha·m) |
| Orifice | 199.53 | 0.00 | 0.0000 | 0.0 | 0.00000 |
| Bottom of Chamber | 199.90 | 0.33 | 0.0093 | 10.1 | 0.00101 |
| Top of Stone | 200.05 | 0.48 | 0.0112 | 15.6 | 0.00156 |
| U/G Storage | 200.21 | 0.64 | 0.0128 | 27.1 | 0.00271 |
| U/G Storage | 200.41 | 0.84 | 0.0147 | 42.1 | 0.00421 |
| U/G Storage | 200.64 | 1.07 | 0.0166 | 57.1 | 0.00571 |
| Top of Chamber | 200.87 | 1.30 | 0.0183 | 68.1 | 0.00681 |
| Top of Stone | 201.17 | 1.60 | 0.0203 | 73.1 | 0.00731 |
| CB Rim | 202.85 | 3.28 | 0.0291 | 73.1 | 0.00731 |
| 1st stage | 202.90 | 3.33 | 0.0293 | 73.1 | 0.00731 |
| 2nd stage | 202.95 | 3.38 | 0.0295 | 73.1 | 0.00731 |
| 3rd stage | 203.00 | 3.43 | 0.0297 | 73.1 | 0.00731 |
| 4th stage | 203.05 | 3.48 | 0.0299 | 73.1 | 0.00731 |
| 5th stage | 203.15 | 3.58 | 0.0304 | 73.1 | 0.00731 |

CULTEC DESIGN PARAMETERS

CULTEC Recharger VBHD Stormwater System Calculations

| | |
|--|---|
| PREPARED FOR: | PROJECT INFORMATION: |
| CALCULATED BY: Cultec, Inc. 878 Federal Rd. Brookfield, CT 06804 203.775.4415 203.775.1467 | DATE: 11/2/16 |

System Information

Proposed bed layout of Rows x No. of Units per Row

Storage required: CF 0 m³
 Stone Base: inches 152.4 mm
 Stone Above: inches 152.4 mm
 Chamber Spacing: units
 No. of H/V F-110x4 Feed Connectors: units
 Stone Porosity: %
 Stone Border Width: feet 0.3048 m

Assumptions

| Model Name | Chamber Height | Design Unit Height | Chamber Width | Chamber Spacing | Design Unit Width | Chamber Volume per Linear Foot | Design Unit Volume | Installed Chamber Length |
|--|----------------|--------------------|---------------|-----------------|-------------------|--------------------------------|--------------------|--------------------------|
| | inches | feet | inches | inches | feet | cu. ft./ft. | cu. ft./ft. | feet |
| Recharger [®] VBHD Intermediate | English 32 | 3.667 | 60 | 6 | 5.5 | 8.679 | 13.274 | 7,500 |
| | Metric 813 | 1.118 | 1524 | 152 | 1.68 | 0.806 | 1.233 | 2,286 |
| Recharger [®] VBHD Starter | English 32 | 3.667 | 60 | 6 | 5.5 | 8.679 | 13.274 | 4,583 |
| | Metric 813 | 1.118 | 1524 | 152 | 1.68 | 0.806 | 1.233 | 1,387 |
| Recharger [®] VBHD End | English 32 | 3.667 | 60 | 6 | 5.5 | 8.679 | 13.274 | 4,583 |
| | Metric 813 | 1.118 | 1524 | 152 | 1.68 | 0.806 | 1.233 | 1,387 |
| H/V F-110x4 Feed Connectors | English 18 | n/a | 27.5 | n/a | n/a | 1.968 | n/a | 0,500 |
| | Metric 457 | n/a | 699.5 | n/a | n/a | 0.187 | n/a | 0,152 |

Storage Provided within CULTEC Recharger VBHD Stormwater Chambers and H/V F-110x4 Feed Connectors Internal Manhole System (not including stone)

| | | | | | |
|--|----------|-------|---|----------------|----------------------------|
| Number of Recharger VB HD Intermediate by design | 16 pcs x | 7.5 | = | 120.00 feet | 36.58 m |
| Number of Recharger VB HD Starters by design | 4 pcs x | 4.583 | = | 18.33 feet | 5.588 m |
| Number of Recharger VB HD Ends by design | 4 pcs x | 4.583 | = | 18.33 feet | 5.588 m |
| Number of H/V F-110x4 Feed Connectors | 0 pcs x | 0.500 | = | 0.00 feet | 0 m |
| Total footage of VB chambers | | | = | 156.67 feet | 47.75 m |
| Total footage of H/V F-110x4 Feed Connectors | | | = | 0.00 feet | 0.00 m |
| Storage provided within VB chambers | | | = | 1359.71 CF | 38.51 m ³ |
| Storage within H/V F-110x4 Feed Connectors | | | = | 0.00 CF | 0.00 m ³ |
| Total Storage within CULTEC Recharger VBHD chambers and feed connectors | | | = | 1360 CF | 38.51 m³ |

Storage Provided within CULTEC Stormwater System (including stone)

| | | |
|---|----------------|----------------------------|
| Effective bed depth (not including additional cover) | 3.67 feet | 1.12 m |
| Total Area | 967.42 sq. ft. | 89.87 m ² |
| Volume of Effective Excavation (not including additional cover) | 3547.19 CF | 100.46 m ³ |
| Min. Installed Depth (including min. cover) | 4.67 feet | 1.42 m |
| Perimeter of Bed | 129.33 feet | 39.42 m |
| Total Area, Excavation (including min. cover) | 4835 CF | 137.85 m ³ |
| Total Storage within CULTEC Recharger VB chambers and feed connectors | 1360 CF | 38.51 m ³ |
| Total Stone Required | 2187 CF | 61.95 m ³ |
| | 81 CY | |
| | 113 tons | |
| Storage provided within stone | 874.99 CF | 24.78 m ³ |
| Total Storage within CULTEC Stormwater System | 2235 CF | 63.30 m³ |

Req. storage attached.

CULTEC MATERIALS LIST

| Model | Quantity | Unit of Measure | Quantity | Unit of Measure |
|---|----------|-----------------|----------|-----------------|
| Recharger VB HD Starter Heavy Duty | 4 | pcs | | |
| Recharger VB HD Intermediate Heavy Duty | 16 | pcs | | |
| Recharger VB HD End Heavy Duty | 4 | pcs | | |
| H/V F-110x4 Feed Connectors | 0 | pcs | | |
| CULTEC No. 410 Filter Fabric 7.5' W x 300' L (2.29 m W x 91.44 m L) | 2 | rolls | | |
| CULTEC No. 200 Polyethylene Liner | 0 | feet | 0 | m |
| Total Stone | 113 | tons | 62 | cubic meters |
| Volume of Excavation | 167 | cubic yards | 128 | cubic meters |

CULTEC Recharger VBHD Stormwater System design
 This calculation program is for information purposes only and should not take the place of a comprehensive engineering design.
 System calculations do not include materials required structural pipe materials.
 The successful application and use of this software is dependent on the application of skilled engineering judgment to be used by the user and/or their consultant.
 The user or their consultants must contact input values suitable to describe their specific engineering situation.
 The software presented in this calculator is subject to the copyright of the manufacturer, application, and approved by a qualified engineer who must assume full responsibility for verifying that all input is appropriate and correct.
 Any reprint or reproduction of this software program or data without written permission of the manufacturer is prohibited for any particular purpose not expressed or intended.
 CULTEC Inc. or any of its affiliates shall not be held liable for any special, incidental, consequential, indirect or other similar damages resulting from the use of this software.
 Use of this program constitutes acceptance of this liability agreement by the user.
 Requiring the bed layout may affect initial storage provided.
 Contact CULTEC Technical Assistance at 800-458-8822 or 203-775-4415 for further assistance.
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 Last updated: 05/2016



CULTEC System

The following information is based on a CULTEC Recharger V8 Stormwater System with these parameters:

- 40 stone void (%)
- 4 number of rows
- 967.42 sq. ft. area
- 156.67 ft. of chambers
- 0 ft. of feed connectors (exposed)
- 89.87 m² area
- 47.75 m of chambers
- 0.00 m of feed connectors (exposed)

The system includes the following components:

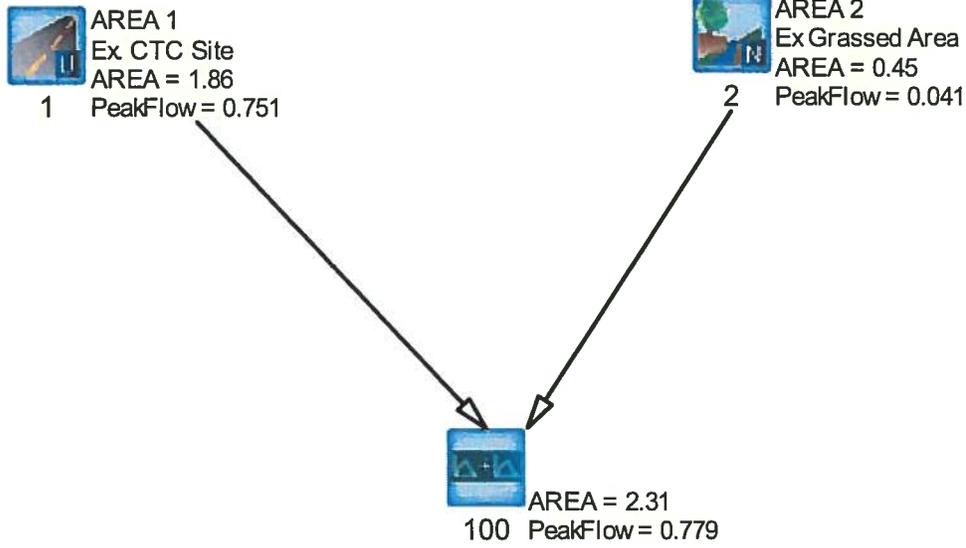
- 4 pcs of Recharger V8SHD Starter Units
- 4 pcs of Recharger V8SHD End Units
- 16 pcs of Recharger V8IHD Intermediate Units
- 0 pcs of HMLVF-110x4 Feed Connectors

INCREMENTAL STORAGE FOR CULTEC RECHARGER V8HD SYSTEM

| TOP OF SYSTEM | Elevation | | | | Chamber Volume | | HMLVF-110x4 Feed Connector Volume | | Stone Volume | | Cumulative Storage Volume | | Total Cumulative Storage Volume | |
|------------------|----------------------|------|--------|-----------------|-----------------|-----------------|-----------------------------------|-----------------|-----------------|-----------------|---------------------------|-----------------|---------------------------------|----------------|
| | Cumulative Elevation | | | | per inch | per 25.4 mm | per inch | per 25.4 mm | per inch | per 25.4 mm | per inch | per 25.4 mm | per inch | per 25.4 mm |
| | Inches | mm | Inches | mm | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ |
| STONE ABOVE | 44 | 1118 | 6 | 152 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2234.70 | 63.21 |
| | 43 | 1092 | 5 | 127 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2202.46 | 62.37 |
| | 42 | 1067 | 4 | 102 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2170.21 | 61.46 |
| | 41 | 1041 | 3 | 76 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2137.96 | 60.51 |
| | 40 | 1016 | 2 | 51 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2105.71 | 59.61 |
| | 39 | 991 | 1 | 25 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 2073.47 | 58.71 |
| CHAMBER HEIGHT | 38 | 965 | 32 | 813 | 0.94 | 0.03 | | | 31.87 | 0.90 | 32.81 | 0.93 | 2041.22 | 57.81 |
| | 37 | 940 | 31 | 787 | 4.23 | 0.12 | | | 30.56 | 0.87 | 34.79 | 0.99 | 2008.41 | 56.84 |
| | 36 | 914 | 30 | 762 | 6.27 | 0.18 | | | 25.74 | 0.84 | 36.01 | 1.02 | 1973.62 | 55.85 |
| | 35 | 889 | 29 | 737 | 13.16 | 0.37 | | | 26.98 | 0.76 | 40.14 | 1.14 | 1937.62 | 54.87 |
| | 34 | 864 | 28 | 711 | 20.21 | 0.57 | | | 24.16 | 0.68 | 44.37 | 1.26 | 1897.47 | 53.74 |
| | 33 | 838 | 27 | 686 | 24.91 | 0.71 | | | 22.28 | 0.63 | 47.19 | 1.34 | 1853.10 | 52.41 |
| | 32 | 813 | 26 | 660 | 28.67 | 0.81 | | | 20.78 | 0.59 | 49.45 | 1.40 | 1805.91 | 51.14 |
| | 31 | 787 | 25 | 635 | 31.96 | 0.91 | | | 19.46 | 0.55 | 51.42 | 1.46 | 1756.46 | 49.74 |
| | 30 | 762 | 24 | 610 | 34.78 | 0.98 | | | 18.34 | 0.52 | 53.12 | 1.50 | 1705.03 | 48.25 |
| | 29 | 737 | 23 | 584 | 37.29 | 1.06 | | | 17.33 | 0.49 | 54.62 | 1.55 | 1651.92 | 46.76 |
| | 28 | 711 | 22 | 559 | 39.48 | 1.12 | | | 16.46 | 0.47 | 55.94 | 1.58 | 1597.30 | 45.24 |
| | 27 | 686 | 21 | 533 | 41.52 | 1.18 | | | 15.64 | 0.44 | 57.16 | 1.62 | 1541.37 | 43.61 |
| | 26 | 660 | 20 | 508 | 43.40 | 1.23 | | | 14.89 | 0.42 | 58.29 | 1.65 | 1484.21 | 42.01 |
| | 25 | 635 | 19 | 483 | 44.96 | 1.27 | | | 14.26 | 0.40 | 59.23 | 1.68 | 1425.92 | 40.31 |
| | 24 | 610 | 18 | 457 | 46.69 | 1.32 | 0.00 | 0.00 | 13.57 | 0.38 | 60.26 | 1.71 | 1366.70 | 38.74 |
| | 23 | 584 | 17 | 432 | 48.10 | 1.36 | 0.00 | 0.00 | 13.01 | 0.37 | 61.11 | 1.73 | 1306.44 | 37.00 |
| | 22 | 559 | 16 | 406 | 49.35 | 1.40 | 0.00 | 0.00 | 12.51 | 0.35 | 61.86 | 1.75 | 1245.33 | 35.27 |
| | 21 | 533 | 15 | 381 | 50.60 | 1.43 | 0.00 | 0.00 | 12.01 | 0.34 | 62.61 | 1.77 | 1183.48 | 33.55 |
| | 20 | 508 | 14 | 356 | 51.54 | 1.46 | 0.00 | 0.00 | 11.63 | 0.33 | 63.17 | 1.79 | 1120.87 | 31.74 |
| | 19 | 483 | 13 | 330 | 52.64 | 1.49 | 0.00 | 0.00 | 11.19 | 0.32 | 63.83 | 1.81 | 1057.69 | 29.91 |
| | 18 | 457 | 12 | 305 | 53.89 | 1.53 | 0.00 | 0.00 | 10.69 | 0.30 | 64.58 | 1.83 | 993.85 | 28.11 |
| | 17 | 432 | 11 | 279 | 54.83 | 1.55 | 0.00 | 0.00 | 10.31 | 0.29 | 65.15 | 1.84 | 929.28 | 26.32 |
| | 16 | 406 | 10 | 254 | 55.15 | 1.56 | 0.00 | 0.00 | 10.19 | 0.29 | 65.34 | 1.85 | 864.13 | 24.41 |
| | 15 | 381 | 9 | 229 | 57.50 | 1.63 | 0.00 | 0.00 | 9.25 | 0.28 | 66.75 | 1.89 | 798.80 | 22.61 |
| | 14 | 356 | 8 | 203 | 57.81 | 1.64 | 0.00 | 0.00 | 9.12 | 0.26 | 66.93 | 1.90 | 732.05 | 20.71 |
| | 13 | 330 | 7 | 178 | 57.97 | 1.64 | 0.00 | 0.00 | 9.06 | 0.26 | 67.03 | 1.90 | 665.12 | 18.84 |
| | 12 | 305 | 6 | 152 | 58.12 | 1.65 | 0.00 | 0.00 | 9.00 | 0.25 | 67.12 | 1.90 | 598.09 | 16.94 |
| | 11 | 279 | 5 | 127 | 58.28 | 1.65 | 0.00 | 0.00 | 8.94 | 0.25 | 67.22 | 1.90 | 530.97 | 15.04 |
| | 10 | 254 | 4 | 102 | 58.28 | 1.65 | 0.00 | 0.00 | 8.94 | 0.25 | 67.22 | 1.90 | 463.75 | 13.11 |
| | 9 | 229 | 3 | 76 | 58.44 | 1.65 | 0.00 | 0.00 | 8.87 | 0.25 | 67.31 | 1.91 | 396.54 | 11.21 |
| | 8 | 203 | 2 | 51 | 58.75 | 1.66 | 0.00 | 0.00 | 8.75 | 0.25 | 67.50 | 1.91 | 329.23 | 9.32 |
| | 7 | 178 | 1 | 25 | 60.00 | 1.70 | 0.00 | 0.00 | 8.25 | 0.23 | 68.25 | 1.93 | 261.73 | 7.41 |
| STONE BASE | 6 | 152 | 6 | 152 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 193.48 | 5.48 |
| | 5 | 127 | 5 | 127 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 161.24 | 4.57 |
| | 4 | 102 | 4 | 102 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 128.99 | 3.65 |
| | 3 | 76 | 3 | 76 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 96.74 | 2.74 |
| | 2 | 51 | 2 | 51 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 64.49 | 1.83 |
| | 1 | 25 | 1 | 25 | | | | | 32.25 | 0.91 | 32.25 | 0.91 | 32.25 | 0.91 |
| 0 | 0 | 0 | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| BOTTOM OF SYSTEM | | | | | Chamber Volume | | HMLVF-110x4 Feed Connector Volume | | Stone Volume | | Cumulative Storage Volume | | Total Cumulative Storage Volume | |
| | | | | 1359.71 | 38.51 | 0.00 | 0.00 | 874.99 | 24.78 | 2234.70 | 63.29 | 2234.70 | 63.21 | |
| | | | | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | ft ³ | m ³ | |

VISUAL OTTHYMO MODEL – PRE-DEVELOPMENT

100 YEAR SHOWN



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V V I SSSSS U U A L
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
V V I SSSSS UUUU A A LLLL
OOO TTTT TTTT H H Y Y M M OOO
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 2.3.3\voind.dat
 Output filename: G:\14229\OTTHYMO\FREAND-2\Existing.out
 Summary filename: G:\14229\OTTHYMO\FREAND-2\Existing.sum

DATE: 11/1/2016 TIME: 5:07:51 PM

USER:

COMMENTS:

 ** SIMULATION NUMBER: 1 **

```

-----
| CHICAGO STORM | IDF curve parameters: A= 319.000
| Ptotal= 26.71 mm | B= .000
| | C= .689
-----
used in: INTENSITY = A / (t + B)^C

Duration of storm = 3.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33

```

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 3.22 | 1.00 | 65.28 | 1.83 | 4.96 | 2.67 | 3.11 |
| .33 | 3.78 | 1.17 | 14.35 | 2.00 | 4.39 | 2.83 | 2.91 |
| .50 | 4.67 | 1.33 | 9.11 | 2.17 | 3.96 | 3.00 | 2.75 |
| .67 | 6.36 | 1.50 | 6.98 | 2.33 | 3.62 | | |
| .83 | 11.73 | 1.67 | 5.76 | 2.50 | 3.34 | | |

```

-----
| CALIB |
| NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
| | U.H. Tp (hrs)= .20
-----

```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.22 | .833 | 11.73 | 1.583 | 5.76 | 2.33 | 3.62 |
| .167 | 3.22 | .917 | 65.28 | 1.667 | 5.76 | 2.42 | 3.34 |
| .250 | 3.78 | 1.000 | 65.28 | 1.750 | 4.96 | 2.50 | 3.34 |
| .333 | 3.78 | 1.083 | 14.35 | 1.833 | 4.96 | 2.58 | 3.11 |
| .417 | 4.67 | 1.167 | 14.35 | 1.917 | 4.39 | 2.67 | 3.11 |
| .500 | 4.67 | 1.250 | 9.11 | 2.000 | 4.39 | 2.75 | 2.91 |
| .583 | 6.36 | 1.333 | 9.11 | 2.083 | 3.96 | 2.83 | 2.91 |
| .667 | 6.36 | 1.417 | 6.98 | 2.167 | 3.96 | 2.92 | 2.75 |
| .750 | 11.73 | 1.500 | 6.98 | 2.250 | 3.62 | 3.00 | 2.75 |

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .007 (i)
 TIME TO PEAK (hrs) = 1.167
 RUNOFF VOLUME (mm) = 5.522
 TOTAL RAINFALL (mm) = 26.714
 RUNOFF COEFFICIENT = .207

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| CALIB |
| STANDHYD (0001) | Area (ha)= 1.86
|ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00
-----

```

IMPERVIOUS PERVIOUS (i)

```

Surface Area (ha)= 1.58 .28
Dep. Storage (mm)= 1.00 1.00
Average Slope (%)= 1.00 2.00
Length (m)= 111.40 40.00
Mannings n = .013 .250

Max.Eff.Inten.(mm/hr)= 65.28 61.50
over (min)= 5.00 10.00
Storage Coeff. (min)= 3.23 (ii) 7.41 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= .27 .13

PEAK FLOW (cms)= .28 .03 *TOTALS* .306 (iii)
TIME TO PEAK (hrs)= 1.00 1.08 1.00
RUNOFF VOLUME (mm)= 25.71 23.38 25.36
TOTAL RAINFALL (mm)= 26.71 26.71 26.71
RUNOFF COEFFICIENT = .96 .88 .95

```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CH* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| ADD HYD (0100) |
| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
| (ha) (cms) (hrs) (mm)
-----
ID1= 1 (0002): .45 .007 1.17 5.52
+ ID2= 2 (0001): 1.86 .306 1.00 25.36
-----
ID = 3 (0100): 2.31 .310 1.00 21.50
-----

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 2 **

```

-----
| CHICAGO STORM | IDF curve parameters: A= 438.700
| Ptotal= 35.98 mm | B= .000
| | C= .693
-----
used in: INTENSITY = A / (t + B)^C

Duration of storm = 3.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33

```

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.29 | 1.00 | 88.95 | 1.83 | 6.62 | 2.67 | 4.14 |
| .33 | 5.04 | 1.17 | 19.27 | 2.00 | 5.85 | 2.83 | 3.88 |
| .50 | 6.23 | 1.33 | 12.20 | 2.17 | 5.27 | 3.00 | 3.65 |
| .67 | 8.50 | 1.50 | 9.32 | 2.33 | 4.82 | | |
| .83 | 15.72 | 1.67 | 7.69 | 2.50 | 4.44 | | |

```

-----
| CALIB |
| NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
| | U.H. Tp (hrs)= .20
-----

```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.29 | .833 | 15.72 | 1.583 | 7.69 | 2.33 | 4.82 |
| .167 | 4.29 | .917 | 88.95 | 1.667 | 7.69 | 2.42 | 4.44 |
| .250 | 5.04 | 1.000 | 88.95 | 1.750 | 6.62 | 2.50 | 4.44 |
| .333 | 5.04 | 1.083 | 19.27 | 1.833 | 6.62 | 2.58 | 4.14 |
| .417 | 6.23 | 1.167 | 19.27 | 1.917 | 5.85 | 2.67 | 4.14 |
| .500 | 6.23 | 1.250 | 12.20 | 2.000 | 5.85 | 2.75 | 3.88 |
| .583 | 8.50 | 1.333 | 12.20 | 2.083 | 5.27 | 2.83 | 3.88 |
| .667 | 8.50 | 1.417 | 9.32 | 2.167 | 5.27 | 2.92 | 3.65 |
| .750 | 15.72 | 1.500 | 9.32 | 2.250 | 4.82 | 3.00 | 3.65 |

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .013 (i)
 TIME TO PEAK (hrs) = 1.167
 RUNOFF VOLUME (mm) = 10.139
 TOTAL RAINFALL (mm) = 35.982
 RUNOFF COEFFICIENT = .282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
| CALIB |
-----

```

| STANHYD (0001) | Area (ha)= 1.86
 | ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

RUNOFF COEFFICIENT = .349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| | IMPERVIOUS | PERVIOUS (i) |
|------------------------|------------|--------------|
| Surface Area (ha)= | 1.58 | .28 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 111.40 | 40.00 |
| Mannings n = | .013 | .250 |
| Max.Eff.Inten.(mm/hr)= | 88.95 | 85.85 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min)= | 2.86 (ii) | 6.55 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 10.00 |
| Unit Hyd. peak (cms)= | .28 | .14 |
| PEAK FLOW (cms)= | .38 | .05 |
| TIME TO PEAK (hrs)= | 1.00 | 1.08 |
| RUNOFF VOLUME (mm)= | 34.98 | 32.59 |
| TOTAL RAINFALL (mm)= | 35.98 | 35.98 |
| RUNOFF COEFFICIENT = | .97 | .91 |

| | IMPERVIOUS | PERVIOUS (i) |
|------------------------|------------|--------------|
| Surface Area (ha)= | 1.58 | .28 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 111.40 | 40.00 |
| Mannings n = | .013 | .250 |
| Max.Eff.Inten.(mm/hr)= | 104.39 | 102.10 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min)= | 2.68 (ii) | 6.15 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 10.00 |
| Unit Hyd. peak (cms)= | .29 | .15 |

TOTALS
 .426 (iii)
 1.00
 34.62
 35.98
 .96

TOTALS
 .45 .06 .505 (iii)
 1.33 1.33 1.33
 44.99 42.56 44.63
 45.99 45.99 45.99
 .98 .93 .97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.
 (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0100) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0002): | .45 | .013 | 1.17 | 10.14 |
| + ID2= 2 (0001): | 1.86 | .426 | 1.00 | 34.62 |
| ID = 3 (0100): | 2.31 | .434 | 1.00 | 29.85 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0100) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0002): | .45 | .020 | 1.50 | 16.05 |
| + ID2= 2 (0001): | 1.86 | .505 | 1.33 | 44.63 |
| ID = 3 (0100): | 2.31 | .518 | 1.33 | 39.06 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CHICAGO STORM | IDF curve parameters: A= 516.000
 | Ptotal= 45.99 mm | B= .000
 C= .694

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 3.93 | 1.17 | 18.38 | 2.17 | 7.73 | 3.17 | 4.52 |
| .33 | 4.39 | 1.33 | 104.39 | 2.33 | 6.83 | 3.33 | 4.26 |
| .50 | 5.00 | 1.50 | 22.53 | 2.50 | 6.15 | 3.50 | 4.03 |
| .67 | 5.88 | 1.67 | 14.25 | 2.67 | 5.62 | 3.67 | 3.83 |
| .83 | 7.27 | 1.83 | 10.89 | 2.83 | 5.19 | 3.83 | 3.65 |
| 1.00 | 9.93 | 2.00 | 8.98 | 3.00 | 4.83 | 4.00 | 3.50 |

| CHICAGO STORM | IDF curve parameters: A= 608.500
 | Ptotal= 54.24 mm | B= .000
 C= .694

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.63 | 1.17 | 21.67 | 2.17 | 9.11 | 3.17 | 5.33 |
| .33 | 5.17 | 1.33 | 123.10 | 2.33 | 8.06 | 3.33 | 5.02 |
| .50 | 5.90 | 1.50 | 26.56 | 2.50 | 7.26 | 3.50 | 4.75 |
| .67 | 6.93 | 1.67 | 16.81 | 2.67 | 6.63 | 3.67 | 4.52 |
| .83 | 8.58 | 1.83 | 12.84 | 2.83 | 6.11 | 3.83 | 4.31 |
| 1.00 | 11.71 | 2.00 | 10.59 | 3.00 | 5.69 | 4.00 | 4.12 |

| CALIB |
 | NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

| CALIB |
 | NASHYD (0002) | Area (ha)= .45 Curve Number (CN)= 80.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.93 | 1.083 | 18.38 | 2.083 | 7.73 | 3.08 | 4.52 |
| .167 | 3.93 | 1.167 | 18.38 | 2.167 | 7.73 | 3.17 | 4.52 |
| .250 | 4.39 | 1.250 | 104.39 | 2.250 | 6.83 | 3.25 | 4.26 |
| .333 | 4.39 | 1.333 | 104.39 | 2.333 | 6.83 | 3.33 | 4.26 |
| .417 | 5.00 | 1.417 | 22.53 | 2.417 | 6.15 | 3.42 | 4.03 |
| .500 | 5.00 | 1.500 | 22.53 | 2.500 | 6.15 | 3.50 | 4.03 |
| .583 | 5.88 | 1.583 | 14.25 | 2.583 | 5.62 | 3.58 | 3.83 |
| .667 | 5.88 | 1.667 | 14.25 | 2.667 | 5.62 | 3.67 | 3.83 |
| .750 | 7.27 | 1.750 | 10.89 | 2.750 | 5.19 | 3.75 | 3.65 |
| .833 | 7.27 | 1.833 | 10.89 | 2.833 | 5.19 | 3.83 | 3.65 |
| .917 | 9.93 | 1.917 | 8.98 | 2.917 | 4.83 | 3.92 | 3.50 |
| 1.000 | 9.93 | 2.000 | 8.98 | 3.000 | 4.83 | 4.00 | 3.50 |

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.63 | 1.083 | 21.67 | 2.083 | 9.11 | 3.08 | 5.33 |
| .167 | 4.63 | 1.167 | 21.67 | 2.167 | 9.11 | 3.17 | 5.33 |
| .250 | 5.17 | 1.250 | 123.10 | 2.250 | 8.06 | 3.25 | 5.02 |
| .333 | 5.17 | 1.333 | 123.10 | 2.333 | 8.06 | 3.33 | 5.02 |
| .417 | 5.90 | 1.417 | 26.56 | 2.417 | 7.26 | 3.42 | 4.75 |
| .500 | 5.90 | 1.500 | 26.56 | 2.500 | 7.26 | 3.50 | 4.75 |
| .583 | 6.93 | 1.583 | 16.81 | 2.583 | 6.63 | 3.58 | 4.52 |
| .667 | 6.93 | 1.667 | 16.81 | 2.667 | 6.63 | 3.67 | 4.52 |
| .750 | 8.58 | 1.750 | 12.84 | 2.750 | 6.11 | 3.75 | 4.31 |
| .833 | 8.58 | 1.833 | 12.84 | 2.833 | 6.11 | 3.83 | 4.31 |
| .917 | 11.71 | 1.917 | 10.59 | 2.917 | 5.69 | 3.92 | 4.12 |

Unit Hyd Qpeak (cms)= .086
 PEAK FLOW (cms)= .020 (i)
 TIME TO PEAK (hrs)= 1.500
 RUNOFF VOLUME (mm)= 16.050
 TOTAL RAINFALL (mm)= 45.992

1.000 11.71 | 2.000 10.59 | 3.000 5.69 | 4.00 4.12

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .028 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 21.462
 TOTAL RAINFALL (mm) = 54.237
 RUNOFF COEFFICIENT = .396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 | CALIB |
 | STANDHYD (0001) | Area (ha) = 1.86
 | ID= 1 DT= 5.0 min | Total Imp (%) = 85.00 Dir. Conn. (%) = 85.00

| | IMPERVIOUS | PERVIOUS (i) |
|------------------------|------------|--------------|
| Surface Area (ha) | 1.58 | .28 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 111.40 | 40.00 |
| Mannings n | .013 | .250 |
| Max.Eff.Inten. (mm/hr) | 123.10 | 121.10 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min) | 2.51 (ii) | 5.75 (ii) |
| Unit Hyd. Tpeak (min) | 5.00 | 10.00 |
| Unit Hyd. peak (cms) | .29 | .15 |

PEAK FLOW (cms) = .53 .07 .600 (iii)
 TIME TO PEAK (hrs) = 1.33 1.33 1.33
 RUNOFF VOLUME (mm) = 53.24 50.79 52.87
 TOTAL RAINFALL (mm) = 54.24 54.24 54.24
 RUNOFF COEFFICIENT = .98 .94 .97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 | ADD HYD (0100) |
 | 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)

| | | | | |
|------------------|------|------|------|-------|
| ID1= 1 (0002): | .45 | .028 | 1.50 | 21.46 |
| + ID2= 2 (0001): | 1.86 | .600 | 1.33 | 52.87 |
| ----- | | | | |
| ID = 3 (0100): | 2.31 | .619 | 1.33 | 46.75 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 5 **

 | CHICAGO STORM | IDF curve parameters: A= 690.600
 | Ptotal= 60.55 mm | B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.12 | 1.17 | 24.14 | 2.17 | 10.11 | 3.17 | 5.90 |
| .33 | 5.72 | 1.33 | 138.75 | 2.33 | 8.93 | 3.33 | 5.56 |
| .50 | 6.53 | 1.50 | 29.60 | 2.50 | 8.04 | 3.50 | 5.26 |
| .67 | 7.68 | 1.67 | 18.69 | 2.67 | 7.34 | 3.67 | 5.00 |
| .83 | 9.51 | 1.83 | 14.27 | 2.83 | 6.77 | 3.83 | 4.77 |
| 1.00 | 13.00 | 2.00 | 11.76 | 3.00 | 6.30 | 4.00 | 4.56 |

 | CALIB |
 | NASHYD (0002) | Area (ha) = .45 Curve Number (CN) = 80.0
 | ID= 1 DT= 5.0 min | Ia (mm) = 5.00 # of Linear Res. (N) = 3.00
 U.H. Tp(hrs) = .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.12 | 1.083 | 24.14 | 2.083 | 10.11 | 3.08 | 5.90 |
| .167 | 5.12 | 1.167 | 24.14 | 2.167 | 10.11 | 3.17 | 5.90 |
| .250 | 5.72 | 1.250 | 138.75 | 2.250 | 8.93 | 3.25 | 5.56 |

.333 5.72 | 1.333 138.75 | 2.333 8.93 | 3.33 5.56
 .417 6.53 | 1.417 29.60 | 2.417 8.04 | 3.42 5.26
 .500 6.53 | 1.500 29.60 | 2.500 8.04 | 3.50 5.26
 .583 7.68 | 1.583 18.69 | 2.583 7.34 | 3.58 5.00
 .667 7.68 | 1.667 18.69 | 2.667 7.34 | 3.67 5.00
 .750 9.51 | 1.750 14.27 | 2.750 6.77 | 3.75 4.77
 .833 9.51 | 1.833 14.27 | 2.833 6.77 | 3.83 4.77
 .917 13.00 | 1.917 11.76 | 2.917 6.30 | 3.92 4.56
 1.000 13.00 | 2.000 11.76 | 3.000 6.30 | 4.00 4.56

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .034 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 25.870
 TOTAL RAINFALL (mm) = 60.551
 RUNOFF COEFFICIENT = .427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 | CALIB |
 | STANDHYD (0001) | Area (ha) = 1.86
 | ID= 1 DT= 5.0 min | Total Imp (%) = 85.00 Dir. Conn. (%) = 85.00

| | IMPERVIOUS | PERVIOUS (i) |
|------------------------|------------|--------------|
| Surface Area (ha) | 1.58 | .28 |
| Dep. Storage (mm) | 1.00 | 1.00 |
| Average Slope (%) | 1.00 | 2.00 |
| Length (m) | 111.40 | 40.00 |
| Mannings n | .013 | .250 |
| Max.Eff.Inten. (mm/hr) | 138.75 | 136.90 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min) | 2.39 (ii) | 5.48 (ii) |
| Unit Hyd. Tpeak (min) | 5.00 | 10.00 |
| Unit Hyd. peak (cms) | .30 | .16 |

PEAK FLOW (cms) = .60 .08 .680 (iii)
 TIME TO PEAK (hrs) = 1.33 1.33 1.33
 RUNOFF VOLUME (mm) = 59.55 57.09 59.18
 TOTAL RAINFALL (mm) = 60.55 60.55 60.55
 RUNOFF COEFFICIENT = .98 .94 .98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 | ADD HYD (0100) |
 | 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)

| | | | | |
|------------------|------|------|------|-------|
| ID1= 1 (0002): | .45 | .034 | 1.50 | 25.87 |
| + ID2= 2 (0001): | 1.86 | .600 | 1.33 | 59.18 |
| ----- | | | | |
| ID = 3 (0100): | 2.31 | .703 | 1.33 | 52.69 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 6 **

 | CHICAGO STORM | IDF curve parameters: A= 760.000
 | Ptotal= 66.64 mm | B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.64 | 1.17 | 26.56 | 2.17 | 11.13 | 3.17 | 6.49 |
| .33 | 6.30 | 1.33 | 152.69 | 2.33 | 9.83 | 3.33 | 6.12 |
| .50 | 7.18 | 1.50 | 32.58 | 2.50 | 8.85 | 3.50 | 5.79 |
| .67 | 8.46 | 1.67 | 20.57 | 2.67 | 8.08 | 3.67 | 5.50 |
| .83 | 10.47 | 1.83 | 15.70 | 2.83 | 7.45 | 3.83 | 5.24 |
| 1.00 | 14.31 | 2.00 | 12.94 | 3.00 | 6.93 | 4.00 | 5.02 |

 | CALIB |
 | NASHYD (0002) | Area (ha) = .45 Curve Number (CN) = 80.0
 | ID= 1 DT= 5.0 min | Ia (mm) = 5.00 # of Linear Res. (N) = 3.00
 U.H. Tp(hrs) = .20

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.64 | 1.083 | 26.56 | 2.083 | 11.13 | 3.08 | 6.49 |
| .167 | 5.64 | 1.167 | 26.56 | 2.167 | 11.13 | 3.17 | 6.49 |
| .250 | 6.30 | 1.250 | 152.69 | 2.250 | 9.83 | 3.25 | 6.12 |
| .333 | 6.30 | 1.333 | 152.69 | 2.333 | 9.83 | 3.33 | 6.12 |
| .417 | 7.18 | 1.417 | 32.58 | 2.417 | 8.85 | 3.42 | 5.79 |
| .500 | 7.18 | 1.500 | 32.58 | 2.500 | 8.85 | 3.50 | 5.79 |
| .583 | 8.46 | 1.583 | 20.57 | 2.583 | 8.08 | 3.58 | 5.50 |
| .667 | 8.46 | 1.667 | 20.57 | 2.667 | 8.08 | 3.67 | 5.50 |
| .750 | 10.47 | 1.750 | 15.70 | 2.750 | 7.45 | 3.75 | 5.24 |
| .833 | 10.47 | 1.833 | 15.70 | 2.833 | 7.45 | 3.83 | 5.24 |
| .917 | 14.31 | 1.917 | 12.94 | 2.917 | 6.93 | 3.92 | 5.02 |
| 1.000 | 14.31 | 2.000 | 12.94 | 3.000 | 6.93 | 4.00 | 5.02 |

Unit Hyd Qpeak (cms) = .086

PEAK FLOW (cms) = .041 (i)

TIME TO PEAK (hrs) = 1.500

RUNOFF VOLUME (mm) = 30.300

TOTAL RAINFALL (mm) = 66.636

RUNOFF COEFFICIENT = .455

(1) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | Area (ha) | Total Imp (%) | Dir. Conn. (%) |
|-------------------|-----------|---------------|----------------|
| STANDHYD (0001) | 1.86 | 85.00 | 85.00 |
| ID= 1 DT= 5.0 min | | | |

| | IMPERVIOUS | PERVIOUS (i) | |
|-----------------------|------------|--------------|------------|
| Surface Area (ha) | 1.58 | .28 | |
| Dep. Storage (mm) | 1.00 | 1.00 | |
| Average Slope (%) | 1.00 | 2.00 | |
| Length (m) | 111.40 | 40.00 | |
| Mannings n | .013 | .250 | |
| Max.Eff.Inten.(mm/hr) | 152.69 | 150.99 | |
| over (min) | 5.00 | 10.00 | |
| Storage Coeff. (min) | 2.30 (ii) | 5.28 (ii) | |
| Unit Hyd. Tpeak (min) | 5.00 | 10.00 | |
| Unit Hyd. peak (cms) | .30 | .16 | |
| | | *TOTALS* | |
| PEAK FLOW (cms) | .66 | .09 | .751 (iii) |
| TIME TO PEAK (hrs) | 1.33 | 1.33 | 1.33 |
| RUNOFF VOLUME (mm) | 65.64 | 63.17 | 65.26 |
| TOTAL RAINFALL (mm) | 66.64 | 66.64 | 66.64 |
| RUNOFF COEFFICIENT | .98 | .95 | .98 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
 CN* = 99.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
 THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

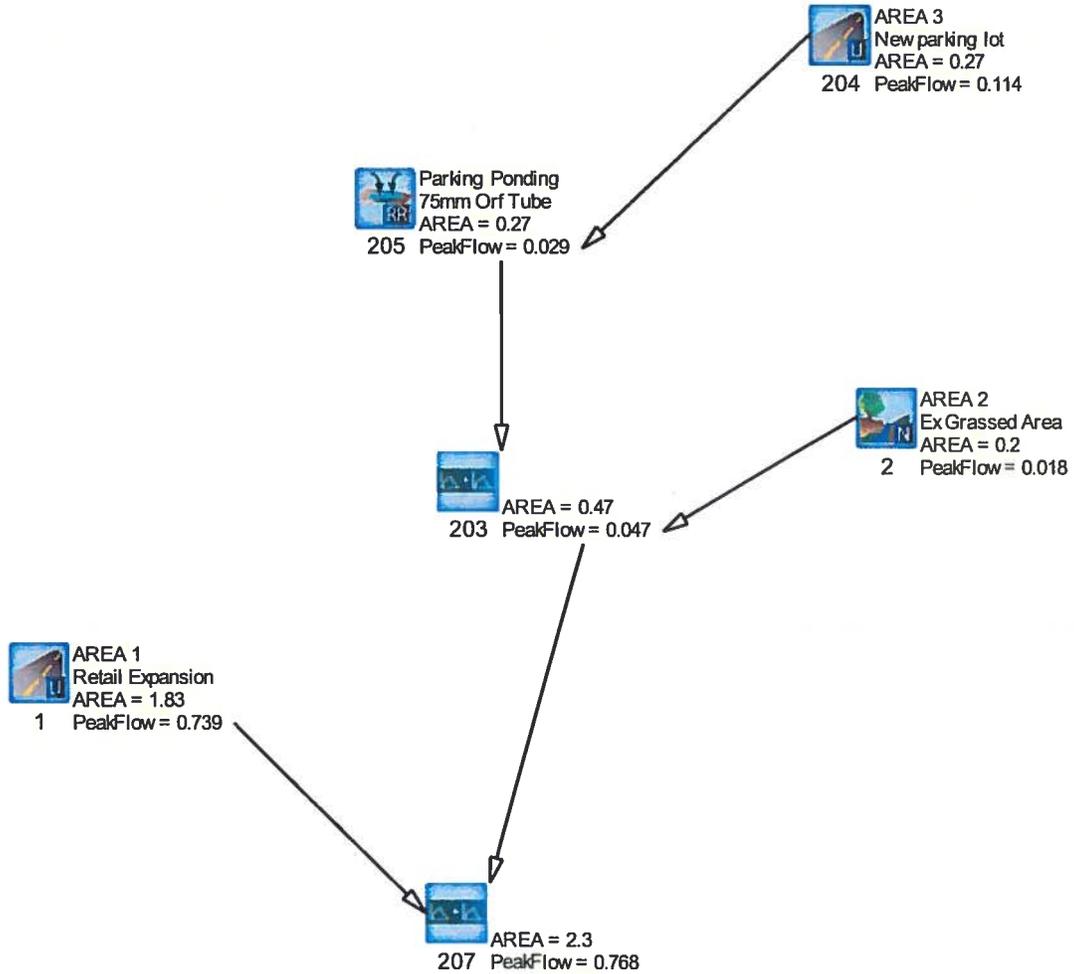
| ADD HYD (0100) | AREA | QPEAK | TPEAK | R.V. |
|------------------|------|-------|-------|-------|
| 1 + 2 = 3 | (ha) | (cms) | (hrs) | (mm) |
| ID1= 1 (0002): | .45 | .041 | 1.50 | 30.30 |
| + ID2= 2 (0001): | 1.86 | .751 | 1.33 | 65.26 |
| ID = 3 (0100): | 2.31 | .779 | 1.33 | 58.45 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

VISUAL OTTHYMO MODEL – POST-DEVELOPMENT

100 YEAR SHOWN



| 1 + 2 = 3 | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|--------------|----------------|----------------|--------------|
| ID1= 1 (0001): | 1.83 | .302 | 1.00 | 25.36 |
| + ID2= 2 (0203): | .47 | .016 | 1.17 | 16.93 |
| ----- | | | | |
| ID = 3 (0207): | 2.30 | .315 | 1.00 | 23.64 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 2 **

CHICAGO STORM | IDF curve parameters: A= 438.700
 Ptotal= 35.98 mm | B= .000
 C= .693

used in: INTENSITY = A / (t + B)^C
 Duration of storm = 3.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.29 | 1.00 | 88.95 | 1.83 | 6.62 | 2.67 | 4.14 |
| .33 | 5.04 | 1.17 | 19.27 | 2.00 | 5.85 | 2.83 | 3.88 |
| .50 | 6.23 | 1.33 | 12.20 | 2.17 | 5.27 | 3.00 | 3.65 |
| .67 | 8.50 | 1.50 | 9.32 | 2.33 | 4.82 | | |
| .83 | 15.72 | 1.67 | 7.69 | 2.50 | 4.44 | | |

CALIB |
 STANDHYD (0001) |
 ID= 1 DT= 5.0 min |

Area (ha)= 1.83
 Total Imp (%)= 85.00 Dir. Conn. (%)= 85.00

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | 1.56 | .27 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 110.50 | 40.00 |
| Mannings n = | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.29 | .833 | 15.72 | 1.583 | 7.69 | 2.33 | 4.82 |
| .167 | 4.29 | .917 | 88.95 | 1.667 | 7.69 | 2.42 | 4.44 |
| .250 | 5.04 | 1.000 | 88.95 | 1.750 | 6.62 | 2.50 | 4.44 |
| .333 | 5.04 | 1.083 | 19.27 | 1.833 | 6.62 | 2.58 | 4.14 |
| .417 | 6.23 | 1.167 | 19.27 | 1.917 | 5.85 | 2.67 | 4.14 |
| .500 | 6.23 | 1.250 | 12.20 | 2.000 | 5.85 | 2.75 | 3.88 |
| .583 | 8.50 | 1.333 | 12.20 | 2.083 | 5.27 | 2.83 | 3.88 |
| .667 | 8.50 | 1.417 | 9.32 | 2.167 | 5.27 | 2.92 | 3.65 |
| .750 | 15.72 | 1.500 | 9.32 | 2.250 | 4.82 | 3.00 | 3.65 |

| | | |
|-------------------------|-----------|-----------|
| Max.Eff.Inten. (mm/hr)= | 88.95 | 85.85 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min)= | 2.84 (ii) | 6.54 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 10.00 |
| Unit Hyd. peak (cms)= | .28 | .14 |
| *TOTALS* | | |
| PEAK FLOW (cms)= | .37 | .05 |
| TIME TO PEAK (hrs)= | 1.00 | 1.08 |
| RUNOFF VOLUME (mm)= | 34.98 | 32.59 |
| TOTAL RAINFALL (mm)= | 35.98 | 35.98 |
| RUNOFF COEFFICIENT = | .97 | .91 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |
 STANDHYD (0204) |
 ID= 1 DT= 5.0 min |

Area (ha)= .27
 Total Imp (%)= 90.00 Dir. Conn. (%)= 90.00

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | .24 | .03 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 42.40 | 40.00 |
| Mannings n = | .013 | .250 |

| | | |
|-------------------------|-----------|-----------|
| Max.Eff.Inten. (mm/hr)= | 88.95 | 85.85 |
| over (min) | 5.00 | 5.00 |
| Storage Coeff. (min)= | 1.60 (ii) | 4.67 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 5.00 |
| Unit Hyd. peak (cms)= | .32 | .22 |

| | | | |
|----------------------|-------|-------|------------|
| PEAK FLOW (cms)= | .06 | .01 | .066 (iii) |
| TIME TO PEAK (hrs)= | 1.00 | 1.00 | 1.00 |
| RUNOFF VOLUME (mm)= | 34.98 | 32.59 | 34.74 |
| TOTAL RAINFALL (mm)= | 35.98 | 35.98 | 35.98 |
| RUNOFF COEFFICIENT = | .97 | .91 | .97 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |
 NASHYD (0002) |
 ID= 1 DT= 5.0 min |

Area (ha)= .20 Curve Number (CN)= 80.0
 Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
 U.H. Tp (hrs)= .20

Unit Hyd Qpeak (cms)= .038

| | |
|----------------------|----------|
| PEAK FLOW (cms)= | .006 (i) |
| TIME TO PEAK (hrs)= | 1.167 |
| RUNOFF VOLUME (mm)= | 10.138 |
| TOTAL RAINFALL (mm)= | 35.983 |
| RUNOFF COEFFICIENT = | .282 |

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205) |
 IN= 2---> OUT= 1 |
 DT= 5.0 min |

| OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|---------------|-----------------|---------------|-----------------|
| .0000 | .0000 | .0203 | .0073 |
| .0093 | .0010 | .0291 | .0073 |
| .0112 | .0016 | .0293 | .0073 |
| .0128 | .0027 | .0295 | .0073 |
| .0147 | .0042 | .0297 | .0073 |
| .0166 | .0057 | .0299 | .0073 |
| .0183 | .0068 | .0304 | .0073 |

| INFLOW : ID= 2 (0204) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|--|-----------|-------------|-------------|-----------|
| | .270 | .066 | 1.00 | 34.74 |
| OUTFLOW: ID= 1 (0205) | .270 | .014 | 1.17 | 34.67 |
| PEAK FLOW REDUCTION (Qout/Qin) (%) = 21.95 | | | | |
| TIME SHIFT OF PEAK FLOW (min) = 10.00 | | | | |
| MAXIMUM STORAGE USED (ha.m.) = .0040 | | | | |

ADD HYD (0203) |
 1 + 2 = 3 |

| 1 + 2 = 3 | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|--------------|----------------|----------------|--------------|
| ID1= 1 (0205): | .27 | .014 | 1.17 | 34.67 |
| + ID2= 2 (0002): | .20 | .006 | 1.17 | 10.14 |
| ----- | | | | |
| ID = 3 (0203): | .47 | .020 | 1.17 | 24.23 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0207) |
 1 + 2 = 3 |

| 1 + 2 = 3 | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|--------------|----------------|----------------|--------------|
| ID1= 1 (0001): | 1.83 | .419 | 1.00 | 34.62 |
| + ID2= 2 (0203): | .47 | .020 | 1.17 | 24.23 |
| ----- | | | | |
| ID = 3 (0207): | 2.30 | .436 | 1.00 | 32.50 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 ** SIMULATION NUMBER: 3 **

CHICAGO STORM | IDF curve parameters: A= 516.000
 Ptotal= 45.99 mm | B= .000
 C= .694

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|-------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |

| | | | | | | | |
|------|------|------|--------|------|------|------|------|
| .17 | 3.93 | 1.17 | 18.38 | 2.17 | 7.73 | 3.17 | 4.52 |
| .33 | 4.39 | 1.33 | 104.39 | 2.33 | 6.83 | 3.33 | 4.26 |
| .50 | 5.00 | 1.50 | 22.53 | 2.50 | 6.15 | 3.50 | 4.03 |
| .67 | 5.88 | 1.67 | 14.25 | 2.67 | 5.62 | 3.67 | 3.83 |
| .83 | 7.27 | 1.83 | 10.89 | 2.83 | 5.19 | 3.83 | 3.65 |
| 1.00 | 9.93 | 2.00 | 8.98 | 3.00 | 4.83 | 4.00 | 3.50 |

Unit Hyd Qpeak (cms) = .038
 PEAK FLOW (cms) = .009 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 16.048
 TOTAL RAINFALL (mm) = 45.992
 RUNOFF COEFFICIENT = .349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 STANDHYD (0001) Area (ha) = 1.83
 ID= 1 DT= 5.0 min Total Imp(%) = 85.00 Dir. Conn.(%) = 85.00

| IMPERVIOUS | | PERVIOUS (i) | |
|-------------------|----------|--------------|-------|
| Surface Area (ha) | = 1.56 | | .27 |
| Dep. Storage (mm) | = 1.00 | | 1.00 |
| Average Slope (%) | = 1.00 | | 2.00 |
| Length (m) | = 110.50 | | 40.00 |
| Mannings n | = .013 | | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

--- TRANSFORMED HYETOGRAPH ---

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 3.93 | 1.083 | 18.38 | 2.083 | 7.73 | 3.08 | 4.52 |
| .167 | 3.93 | 1.167 | 18.38 | 2.167 | 7.73 | 3.17 | 4.52 |
| .250 | 4.39 | 1.250 | 104.39 | 2.250 | 6.83 | 3.25 | 4.26 |
| .333 | 4.39 | 1.333 | 104.39 | 2.333 | 6.83 | 3.33 | 4.26 |
| .417 | 5.00 | 1.417 | 22.53 | 2.417 | 6.15 | 3.42 | 4.03 |
| .500 | 5.00 | 1.500 | 22.53 | 2.500 | 6.15 | 3.50 | 4.03 |
| .583 | 5.88 | 1.583 | 14.25 | 2.583 | 5.62 | 3.58 | 3.83 |
| .667 | 5.88 | 1.667 | 14.25 | 2.667 | 5.62 | 3.67 | 3.83 |
| .750 | 7.27 | 1.750 | 10.89 | 2.750 | 5.19 | 3.75 | 3.65 |
| .833 | 7.27 | 1.833 | 10.89 | 2.833 | 5.19 | 3.83 | 3.65 |
| .917 | 9.93 | 1.917 | 8.98 | 2.917 | 4.83 | 3.92 | 3.50 |
| 1.000 | 9.93 | 2.000 | 8.98 | 3.000 | 4.83 | 4.00 | 3.50 |

| | | |
|------------------------|-----------|-----------|
| Max.Eff.Inten.(mm/hr)= | 104.39 | 102.10 |
| over (min) | 5.00 | 10.00 |
| Storage Coeff. (min)= | 2.67 (ii) | 6.13 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 10.00 |
| Unit Hyd. peak (cms)= | .29 | .15 |

| | | | |
|----------------------|-------|-------|------------|
| PEAK FLOW (cms)= | .44 | .05 | .497 (iii) |
| TIME TO PEAK (hrs)= | 1.33 | 1.33 | 1.33 |
| RUNOFF VOLUME (mm)= | 44.99 | 42.56 | 44.63 |
| TOTAL RAINFALL (mm)= | 45.99 | 45.99 | 45.99 |
| RUNOFF COEFFICIENT = | .98 | .93 | .97 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 STANDHYD (0204) Area (ha) = .27
 ID= 1 DT= 5.0 min Total Imp(%) = 90.00 Dir. Conn.(%) = 90.00

| IMPERVIOUS | | PERVIOUS (i) | |
|-------------------|---------|--------------|-------|
| Surface Area (ha) | = .24 | | .03 |
| Dep. Storage (mm) | = 1.00 | | 1.00 |
| Average Slope (%) | = 1.00 | | 2.00 |
| Length (m) | = 42.40 | | 40.00 |
| Mannings n | = .013 | | .250 |

| | | |
|------------------------|-----------|-----------|
| Max.Eff.Inten.(mm/hr)= | 104.39 | 102.10 |
| over (min) | 5.00 | 5.00 |
| Storage Coeff. (min)= | 1.50 (ii) | 4.38 (ii) |
| Unit Hyd. Tpeak (min)= | 5.00 | 5.00 |
| Unit Hyd. peak (cms)= | .33 | .23 |

| | | | |
|----------------------|-------|-------|------------|
| PEAK FLOW (cms)= | .07 | .01 | .077 (iii) |
| TIME TO PEAK (hrs)= | 1.33 | 1.33 | 1.33 |
| RUNOFF VOLUME (mm)= | 44.99 | 42.56 | 44.74 |
| TOTAL RAINFALL (mm)= | 45.99 | 45.99 | 45.99 |
| RUNOFF COEFFICIENT = | .98 | .93 | .97 |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 NASHYD (0002) Area (ha) = .20 Curve Number (CN) = 80.0
 ID= 1 DT= 5.0 min Ia (mm) = 5.00 # of Linear Res. (N) = 3.00
 U.H. Tp(hrs) = .20

RESERVOIR (0205)
 IN= 2----> OUT= 1
 DT= 5.0 min

| OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|---------------|-----------------|---------------|-----------------|
| .0000 | .0000 | .0203 | .0073 |
| .0093 | .0010 | .0291 | .0073 |
| .0112 | .0016 | .0293 | .0073 |
| .0128 | .0027 | .0295 | .0073 |
| .0147 | .0042 | .0297 | .0073 |
| .0166 | .0057 | .0299 | .0073 |
| .0183 | .0068 | .0304 | .0073 |

| AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) | |
|-----------------------|-------------|-------------|-----------|-------|
| INFLOW : ID= 2 (0204) | .270 | .077 | 1.33 | 44.74 |
| OUTFLOW: ID= 1 (0205) | .270 | .016 | 1.50 | 44.67 |

PEAK FLOW REDUCTION [Qout/Qin](%) = 20.12
 TIME SHIFT OF PEAK FLOW (min) = 10.00
 MAXIMUM STORAGE USED (ha.m.) = .0049

ADD HYD (0203)
 1 + 2 = 3

| ID | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0205): | .27 | .016 | 1.50 | 44.67 |
| + ID2= 2 (0002): | .20 | .009 | 1.50 | 16.05 |
| ----- | | | | |
| ID = 3 (0203): | .47 | .025 | 1.50 | 32.49 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0207)
 1 + 2 = 3

| ID | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0001): | 1.83 | .497 | 1.33 | 44.63 |
| + ID2= 2 (0203): | .47 | .025 | 1.50 | 32.49 |
| ----- | | | | |
| ID = 3 (0207): | 2.30 | .517 | 1.33 | 42.15 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 SIMULATION NUMBER: 4

CHICAGO STORM IDf curve parameters: A= 608.500
 Ptotal= 54.24 mm B= .000
 C= .694
 used in: INTENSITY = A / (t + B)^C
 Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 4.63 | 1.17 | 21.67 | 2.17 | 9.11 | 3.17 | 5.33 |
| .33 | 5.17 | 1.33 | 123.10 | 2.33 | 8.06 | 3.33 | 5.02 |
| .50 | 5.90 | 1.50 | 26.56 | 2.50 | 7.26 | 3.50 | 4.75 |
| .67 | 6.93 | 1.67 | 16.81 | 2.67 | 6.63 | 3.67 | 4.52 |
| .83 | 8.58 | 1.83 | 12.84 | 2.83 | 6.11 | 3.83 | 4.31 |
| 1.00 | 11.71 | 2.00 | 10.59 | 3.00 | 5.69 | 4.00 | 4.12 |

CALIB
 STANDHYD (0001) Area (ha) = 1.83
 ID= 1 DT= 5.0 min Total Imp(%) = 85.00 Dir. Conn.(%) = 85.00

| IMPERVIOUS | | PERVIOUS (i) | |
|-------------------|----------|--------------|-------|
| Surface Area (ha) | = 1.56 | | .27 |
| Dep. Storage (mm) | = 1.00 | | 1.00 |
| Average Slope (%) | = 1.00 | | 2.00 |
| Length (m) | = 110.50 | | 40.00 |
| Mannings n | = .013 | | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

----- TRANSFORMED HYETOGRAPH -----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|-------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 4.63 | 1.083 | 21.67 | 2.083 | 9.11 | 3.08 | 5.33 |
| .167 | 4.63 | 1.167 | 21.67 | 2.167 | 9.11 | 3.17 | 5.33 |
| .250 | 5.17 | 1.250 | 23.10 | 2.250 | 8.06 | 3.25 | 5.02 |
| .333 | 5.17 | 1.333 | 23.10 | 2.333 | 8.06 | 3.33 | 5.02 |
| .417 | 5.90 | 1.417 | 26.56 | 2.417 | 7.26 | 3.42 | 4.75 |
| .500 | 5.90 | 1.500 | 26.56 | 2.500 | 7.26 | 3.50 | 4.75 |
| .583 | 6.93 | 1.583 | 16.81 | 2.583 | 6.63 | 3.58 | 4.52 |
| .667 | 6.93 | 1.667 | 16.81 | 2.667 | 6.63 | 3.67 | 4.52 |
| .750 | 8.58 | 1.750 | 12.84 | 2.750 | 6.11 | 3.75 | 4.31 |
| .833 | 8.58 | 1.833 | 12.84 | 2.833 | 6.11 | 3.83 | 4.31 |
| .917 | 11.71 | 1.917 | 10.59 | 2.917 | 5.69 | 3.92 | 4.12 |
| 1.000 | 11.71 | 2.000 | 10.59 | 3.000 | 5.69 | 4.00 | 4.12 |

Max.Eff.Inten.(mm/hr)= 123.10 121.10
over (min) = 5.00 10.00
Storage Coeff. (min)= 2.50 (ii) 5.74 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= .29 .15

PEAK FLOW (cms)= .52 .07
TIME TO PEAK (hrs)= 1.33 1.33
RUNOFF VOLUME (mm)= 53.24 50.79
TOTAL RAINFALL (mm)= 54.24 54.24
RUNOFF COEFFICIENT = .98 .94

TOTALS
.591 (iii)

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0204) | Area (ha)= .27
| ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | .24 | .03 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 42.40 | 40.00 |
| Mannings n = | .013 | .250 |

Max.Eff.Inten.(mm/hr)= 123.10 121.10
over (min) = 5.00 5.00
Storage Coeff. (min)= 1.40 (ii) 4.10 (ii)
Unit Hyd. Tpeak (min)= 5.00 5.00
Unit Hyd. peak (cms)= .33 .24

PEAK FLOW (cms)= .08 .01
TIME TO PEAK (hrs)= 1.33 1.33
RUNOFF VOLUME (mm)= 53.24 50.79
TOTAL RAINFALL (mm)= 54.24 54.24
RUNOFF COEFFICIENT = .98 .94

TOTALS
.091 (iii)

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| HASHYD (0802) | Area (ha)= .20 Curve Number (CN)= 80.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp(hrs)= .20

Unit Hyd Qpeak (cms) = .038

PEAK FLOW (cms) = .012 (i)
TIME TO PEAK (hrs) = 1.500
RUNOFF VOLUME (mm) = 21.461
TOTAL RAINFALL (mm) = 54.237
RUNOFF COEFFICIENT = .396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0205) |
| IN= 2--> OUT= 1 |
| DT= 5.0 min |

| OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|---------------|-----------------|---------------|-----------------|
| .0000 | .0000 | .0293 | .0073 |
| .0093 | .0010 | .0291 | .0073 |
| .0112 | .0016 | .0293 | .0073 |
| .0128 | .0027 | .0295 | .0073 |
| .0147 | .0042 | .0297 | .0073 |
| .0166 | .0057 | .0299 | .0073 |

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|-----------------------|-----------|-------------|-------------|-----------|
| INFLOW : ID= 2 (0204) | .270 | .091 | 1.33 | 52.99 |
| OUTFLOW: ID= 1 (0205) | .270 | .017 | 1.50 | 52.91 |

PEAK FLOW REDUCTION (Qout/Qin) (%) = 18.56
TIME SHIFT OF PEAK FLOW (min) = 10.00
MAXIMUM STORAGE USED (ha.m.) = .0060

| ADD HYD (0203) |
| 1 + 2 = 3 |

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0205): | .27 | .017 | 1.50 | 52.91 |
| + ID2= 2 (0002): | .20 | .012 | 1.50 | 21.46 |
| ID = 3 (0203): | .47 | .029 | 1.50 | 39.53 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0207) |
| 1 + 2 = 3 |

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|-----------|-------------|-------------|-----------|
| ID1= 1 (0001): | 1.83 | .591 | 1.33 | 52.87 |
| + ID2= 2 (0203): | .47 | .029 | 1.50 | 39.53 |
| ID = 3 (0207): | 2.30 | .614 | 1.33 | 50.14 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 5 **

| CHICAGO STORM | IDF curve parameters: A= 690.600
| Ptotal= 60.55 mm | B= .000
C= .697
used in: INTENSITY = A / (t + B)^C
Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|------|-------|------|--------|------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .17 | 5.12 | 1.17 | 24.14 | 2.17 | 10.11 | 3.17 | 5.90 |
| .33 | 5.72 | 1.33 | 138.75 | 2.33 | 8.93 | 3.33 | 5.56 |
| .50 | 6.53 | 1.50 | 29.60 | 2.50 | 8.04 | 3.50 | 5.26 |
| .67 | 7.68 | 1.67 | 18.69 | 2.67 | 7.34 | 3.67 | 5.00 |
| .83 | 9.51 | 1.83 | 14.27 | 2.83 | 6.77 | 3.83 | 4.77 |
| 1.00 | 13.00 | 2.00 | 11.76 | 3.00 | 6.30 | 4.00 | 4.56 |

| CALIB |
| STANDHYD (0001) | Area (ha)= 1.83
| ID= 1 DT= 5.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

| | IMPERVIOUS | PERVIOUS (i) |
|--------------------|------------|--------------|
| Surface Area (ha)= | 1.56 | .27 |
| Dep. Storage (mm)= | 1.00 | 1.00 |
| Average Slope (%)= | 1.00 | 2.00 |
| Length (m)= | 110.50 | 40.00 |
| Mannings n = | .013 | .250 |

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

----- TRANSFORMED HYETOGRAPH -----

| TIME | RAIN | TIME | RAIN | TIME | RAIN | TIME | RAIN |
|-------|-------|-------|--------|-------|-------|------|-------|
| hrs | mm/hr | hrs | mm/hr | hrs | mm/hr | hrs | mm/hr |
| .083 | 5.12 | 1.083 | 24.14 | 2.083 | 10.11 | 3.08 | 5.90 |
| .167 | 5.12 | 1.167 | 24.14 | 2.167 | 10.11 | 3.17 | 5.90 |
| .250 | 5.72 | 1.250 | 138.75 | 2.250 | 8.93 | 3.25 | 5.56 |
| .333 | 5.72 | 1.333 | 138.75 | 2.333 | 8.93 | 3.33 | 5.56 |
| .417 | 6.53 | 1.417 | 29.60 | 2.417 | 8.04 | 3.42 | 5.26 |
| .500 | 6.53 | 1.500 | 29.60 | 2.500 | 8.04 | 3.50 | 5.26 |
| .583 | 7.68 | 1.583 | 18.69 | 2.583 | 7.34 | 3.58 | 5.00 |
| .667 | 7.68 | 1.667 | 18.69 | 2.667 | 7.34 | 3.67 | 5.00 |
| .750 | 9.51 | 1.750 | 14.27 | 2.750 | 6.77 | 3.75 | 4.77 |
| .833 | 9.51 | 1.833 | 14.27 | 2.833 | 6.77 | 3.83 | 4.77 |
| .917 | 13.00 | 1.917 | 11.76 | 2.917 | 6.30 | 3.92 | 4.56 |
| 1.000 | 13.00 | 2.000 | 11.76 | 3.000 | 6.30 | 4.00 | 4.56 |

Max.Eff.Inten.(mm/hr)= 138.75 136.90
over (min) = 5.00 10.00
Storage Coeff. (min)= 2.38 (ii) 5.47 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= .30 .16

TOTALS
 PEAK FLOW (cms) = .59 .08 .669 (iii)
 TIME TO PEAK (hrs) = 1.33 1.33 1.33
 RUNOFF VOLUME (mm) = 59.55 57.09 59.18
 TOTAL RAINFALL (mm) = 60.55 60.55 60.55
 RUNOFF COEFFICIENT = .98 .94 .98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 STANDHYD (0204) | Area (ha) = .27
 ID= 1 DT= 5.0 min | Total Imp(%) = 90.00 Dir. Conn.(%) = 90.00

IMPERVIOUS PERVIOUS (i)
 Surface Area (ha) = .24 .03
 Dep. Storage (mm) = 1.00 1.00
 Average Slope (%) = 1.00 2.00
 Length (m) = 42.40 40.00
 Mannings n = .013 .250

Max.Eff.Inten.(mm/hr) = 138.75 136.90
 over (min) = 5.00 5.00
 Storage Coeff. (min) = 1.34 (ii) 3.91 (ii)
 Unit Hyd. Tpeak (min) = 5.00 5.00
 Unit Hyd. peak (cms) = .33 .25

TOTALS
 PEAK FLOW (cms) = .09 .01 .103 (iii)
 TIME TO PEAK (hrs) = 1.33 1.33 1.33
 RUNOFF VOLUME (mm) = 59.55 57.09 59.30
 TOTAL RAINFALL (mm) = 60.55 60.55 60.55
 RUNOFF COEFFICIENT = .98 .94 .98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 NASHYD (0002) | Area (ha) = .20 Curve Number (CN) = 80.0
 ID= 1 DT= 5.0 min | Ia (mm) = 5.00 % of Linear Res.(N) = 3.00
 U.H. Tp(hrs) = .20

Unit Hyd Qpeak (cms) = .038

PEAK FLOW (cms) = .015 (i)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 25.869
 TOTAL RAINFALL (mm) = 60.551
 RUNOFF COEFFICIENT = .427

- (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205) |
 IN= 2--> OUT= 1 |
 DT= 5.0 min |

| OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|---------------|-----------------|---------------|-----------------|
| .0000 | .0000 | .0203 | .0073 |
| .0093 | .0010 | .0291 | .0073 |
| .0112 | .0016 | .0293 | .0073 |
| .0128 | .0027 | .0295 | .0073 |
| .0147 | .0042 | .0297 | .0073 |
| .0166 | .0057 | .0299 | .0073 |
| .0183 | .0068 | .0304 | .0073 |

| AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|-----------------------|-------------|-------------|-----------|
| INFLOW : ID= 2 (0204) | .270 | .103 | 1.33 |
| OUTFLOW: ID= 1 (0205) | .270 | .018 | 1.58 |

PEAK FLOW REDUCTION [Qout/Qin](%) = 17.80
 TIME SHIFT OF PEAK FLOW (min) = 15.00
 MAXIMUM STORAGE USED (ha.m.) = .0069

ADD HYD (0203) |
 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)
 ID1= 1 (0205): .27 .018 1.58 59.23
 + ID2= 2 (0002): .20 .015 1.50 25.87
 ID = 3 (0203): .47 .034 1.50 45.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0207) |
 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)
 ID1= 1 (0001): 1.83 .669 1.33 59.18
 + ID2= 2 (0203): .47 .034 1.50 45.03
 ID = 3 (0207): 2.30 .696 1.33 56.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 6 **

CHICAGO STORM | IDF curve parameters: A= 760.000
 Ptotal= 66.64 mm | B= .000
 C= .697
 used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
 Storm time step = 10.00 min
 Time to peak ratio = .33

| TIME hrs | RAIN mm/hr |
|----------|------------|----------|------------|----------|------------|----------|------------|
| .17 | 5.64 | 1.17 | 26.56 | 2.17 | 11.13 | 3.17 | 6.49 |
| .33 | 6.30 | 1.33 | 152.69 | 2.33 | 9.83 | 3.33 | 6.12 |
| .50 | 7.18 | 1.50 | 32.58 | 2.50 | 8.85 | 3.50 | 5.79 |
| .67 | 8.46 | 1.67 | 20.57 | 2.67 | 8.08 | 3.67 | 5.50 |
| .83 | 10.47 | 1.83 | 15.70 | 2.83 | 7.45 | 3.83 | 5.24 |
| 1.00 | 14.31 | 2.00 | 12.94 | 3.00 | 6.93 | 4.00 | 5.02 |

CALIB
 STANDHYD (0001) | Area (ha) = 1.83
 ID= 1 DT= 5.0 min | Total Imp(%) = 85.00 Dir. Conn.(%) = 85.00

IMPERVIOUS PERVIOUS (i)
 Surface Area (ha) = 1.56 .27
 Dep. Storage (mm) = 1.00 1.00
 Average Slope (%) = 1.00 2.00
 Length (m) = 110.50 40.00
 Mannings n = .013 .250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

| TIME hrs | RAIN mm/hr |
|----------|------------|----------|------------|----------|------------|----------|------------|
| .083 | 5.64 | 1.083 | 26.56 | 2.083 | 11.13 | 3.08 | 6.49 |
| .167 | 5.64 | 1.167 | 26.56 | 2.167 | 11.13 | 3.17 | 6.49 |
| .250 | 6.30 | 1.250 | 152.69 | 2.250 | 9.83 | 3.25 | 6.12 |
| .333 | 6.30 | 1.333 | 152.69 | 2.333 | 9.83 | 3.33 | 6.12 |
| .417 | 7.18 | 1.417 | 32.58 | 2.417 | 8.85 | 3.42 | 5.79 |
| .500 | 7.18 | 1.500 | 32.58 | 2.500 | 8.85 | 3.50 | 5.79 |
| .583 | 8.46 | 1.583 | 20.57 | 2.583 | 8.08 | 3.58 | 5.50 |
| .667 | 8.46 | 1.667 | 20.57 | 2.667 | 8.08 | 3.67 | 5.50 |
| .750 | 10.47 | 1.750 | 15.70 | 2.750 | 7.45 | 3.75 | 5.24 |
| .833 | 10.47 | 1.833 | 15.70 | 2.833 | 7.45 | 3.83 | 5.24 |
| .917 | 14.31 | 1.917 | 12.94 | 2.917 | 6.93 | 3.92 | 5.02 |
| 1.000 | 14.31 | 2.000 | 12.94 | 3.000 | 6.93 | 4.00 | 5.02 |

Max.Eff.Inten.(mm/hr) = 152.69 150.99
 over (min) = 5.00 10.00
 Storage Coeff. (min) = 2.29 (ii) 5.27 (ii)
 Unit Hyd. Tpeak (min) = 5.00 10.00
 Unit Hyd. peak (cms) = .30 .16

TOTALS
 PEAK FLOW (cms) = .65 .09 .739 (iii)
 TIME TO PEAK (hrs) = 1.33 1.33 1.33
 RUNOFF VOLUME (mm) = 65.64 63.17 65.26
 TOTAL RAINFALL (mm) = 66.64 66.64 66.64
 RUNOFF COEFFICIENT = .98 .95 .98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
 STANDHYD (0204) | Area (ha) = .27
 ID= 1 DT= 5.0 min | Total Imp(%) = 90.00 Dir. Conn.(%) = 90.00

IMPERVIOUS PERVIOUS (i)

Surface Area (ha) = .24 .03
 Dep. Storage (mm) = 1.00 1.00
 Average Slope (%) = 1.00 2.00
 Length (m) = 42.40 40.00
 Mannings n = .013 .250
 Max.Eff.Inten.(mm/hr) = 152.69 150.99
 over (min) = 5.00 5.00
 Storage Coeff. (min) = 1.29 (ii) 3.76 (ii)
 Unit Hyd. Tpeak (min) = 5.00 5.00
 Unit Hyd. peak (cms) = .33 .25
 PEAK FLOW (cms) = .10 .01 .114 (iii)
 TIME TO PEAK (hrs) = 1.33 1.33 1.33
 RUNOFF VOLUME (mm) = 65.64 63.17 65.38
 TOTAL RAINFALL (mm) = 66.64 66.64 66.64
 RUNOFF COEFFICIENT = .98 .95 .98

| | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|---|--------------|----------------|----------------|--------------|
| INFLOW : ID= 2 (0204) | .270 | .114 | 1.33 | 65.38 |
| OUTFLOW: ID= 1 (0205) | .270 | .029 | 1.50 | 65.32 |
| PEAK FLOW REDUCTION [Qout/Qin] (%) = 25.14 TIME SHIFT OF PEAK FLOW (min) = 10.00 MAXIMUM STORAGE USED (ha.m.) = .0074 | | | | |

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0203) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|--------------|----------------|----------------|--------------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0205): | .27 | .029 | 1.50 | 65.32 |
| + ID2= 2 (0002): | .20 | .018 | 1.50 | 30.30 |
| ID = 3 (0203): | .47 | .047 | 1.50 | 50.42 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB | Area (ha) | Curve Number (CN) |
|-------------------|---------------------|-----------------------------|
| NASHYD (0002) | .20 | 80.0 |
| ID= 1 DT= 5.0 min | Ia (mm) = 5.00 | # of Linear Res. (N) = 3.00 |
| | U.H. Tp (hrs) = .20 | |

Unit Hyd Qpeak (cms) = .038

PEAK FLOW (cms) = .018 (1)
 TIME TO PEAK (hrs) = 1.500
 RUNOFF VOLUME (mm) = 30.298
 TOTAL RAINFALL (mm) = 66.636
 RUNOFF COEFFICIENT = .455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0207) | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) |
|------------------|--------------|----------------|----------------|--------------|
| 1 + 2 = 3 | | | | |
| ID1= 1 (0001): | 1.83 | .739 | 1.33 | 65.26 |
| + ID2= 2 (0203): | .47 | .047 | 1.50 | 50.42 |
| ID = 3 (0207): | 2.30 | .768 | 1.33 | 62.23 |

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (0205) | IN= 2 | OUT= 1 | DT= 5.0 min | OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.) |
|------------------|-------|--------|-------------|---------------|-----------------|---------------|-----------------|
| | | | | | | | |

FINISH



Stormceptor Design Summary
PCSWMM for Stormceptor

Project Information

| | |
|----------------|-----------------------|
| Date | 8/7/2016 |
| Project Name | CTC - New Liskeard |
| Project Number | 14229 |
| Location | Prop. CB 1 (STC 300i) |

Rainfall

| | |
|------------------|--------------|
| Name | NORTH BAY A |
| State | ON |
| ID | 5700 |
| Years of Records | 1984 to 2003 |
| Latitude | 46°22'N |
| Longitude | 79°25'W |

Designer Information

| | |
|---------|----------------------------|
| Company | The Odan/Detech Group Inc. |
| Contact | N/A |

Notes

| |
|-----|
| N/A |
|-----|

Water Quality Objective

| | |
|-------------------|----|
| TSS Removal (%) | 80 |
| Runoff Volume (%) | 90 |

Drainage Area

| | |
|--------------------|------|
| Total Area (ha) | 0.27 |
| Imperviousness (%) | 90 |

Upstream Storage

| Storage (ha-m) | Discharge (L/s) |
|-----------------|-----------------|
| 0.000 | 00.000 |
| 0.003 | 00.021 |
| 0.003 | 00.022 |
| 0.003 | 00.022 |
| Partial Listing | |

The Stormceptor System model STC 300 achieves the water quality objective removing 93% TSS for a Fine (organics, silts and sand) particle size distribution and 95% runoff volume.

Stormceptor Sizing Summary

| Stormceptor Model | TSS Removal | Runoff Volume |
|-------------------|-------------|---------------|
| | % | % |
| STC 300 | 93 | 95 |
| STC 750 | 94 | 99 |
| STC 1000 | 94 | 99 |
| STC 1500 | 94 | 99 |
| STC 2000 | 95 | 100 |
| STC 3000 | 95 | 100 |
| STC 4000 | 96 | 100 |
| STC 5000 | 96 | 100 |
| STC 6000 | 97 | 100 |
| STC 8000 | 98 | 100 |
| STC 10000 | 98 | 100 |
| STC 14000 | 98 | 100 |



Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

| Fine (organics, silts and sand) | | | | | | | |
|---------------------------------|-------------------|------------------|--------------------------|---------------------|-------------------|------------------|--------------------------|
| Particle Size µm | Distribution % | Specific Gravity | Settling Velocity m/s | Particle Size µm | Distribution % | Specific Gravity | Settling Velocity m/s |
| 20 | 20 | 1.3 | 0.0004 | | | | |
| 60 | 20 | 1.8 | 0.0016 | | | | |
| 150 | 20 | 2.2 | 0.0108 | | | | |
| 400 | 20 | 2.65 | 0.0647 | | | | |
| 2000 | 20 | 2.65 | 0.2870 | | | | |

Stormceptor Design Notes

- Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor version 1.0
- Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal.
- Only the STC 300 is adaptable to function with a catch basin inlet and/or inline pipes.
- Only the Stormceptor models STC 750 to STC 8000 may accommodate multiple inlet pipes.
- Inlet and outlet invert elevation differences are as follows:

| Inlet and Outlet Pipe Invert Elevations Differences | | | |
|---|---------|---------------------|-----------------------|
| Inlet Pipe Configuration | STC 300 | STC 750 to STC 6000 | STC 9000 to STC 14000 |
| Single Inlet pipe | 75 mm | 25 mm | 75 mm |
| Multiple inlet pipes | 75 mm | 75 mm | Only one inlet pipe. |
- Design estimates are based on stable site conditions only, after construction is completed.
- Design estimates assume that the storm drain is not submerged during zero flows. For submerged applications, please contact your local Stormceptor representative.
- Design estimates may be modified for specific spills controls. Please contact your local Stormceptor representative for further assistance.
- For pricing inquiries or assistance, please contact Imbrum Systems Inc., 1-800-565-4801.

APPENDIX C

The Corporation of the City of Temiskaming Shores
By-law No. 2016-185
Being a by-law to amend By-law No. 2013-052 being a
by-law to regulate Construction, Demolition, Change of
Use, Inspections, Permits and associated Fees

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10.(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas under Section 10.(2) 6 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that a municipality may pass by-laws with respect to matters of health, safety and well-being of persons;

And whereas Section 7.(1) of *the Building Code Act, 1992, S.O. 1992, Chapter 23*, as amended provides that a *Council* may pass by-laws and make regulations, applicable to the matters for which and in the area in which the municipality has jurisdiction for the enforcement of this Act;

And whereas Section 7.(8.1) of *the Building Code Act, 1992, S.O. 1992, Chapter 23*, as amended provides that Section 398 of the Municipal Act, 2001, S.O. 2001, c. 25 applies, with necessary modifications, to fees established by a municipality under clause 7.(1)(c) of *the Building Code Act*;

And whereas Section 398.(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended provides that fees and charges imposed by a municipality on a person constitute a debt of the person to the municipality;

And whereas Section 398.(2) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the treasurer of a municipality may add fees and charges imposed by the municipality to the tax roll;

And whereas Council adopted By-law No. 2013-052 being a by-law to regulate Construction, Demolition, Change of Use, Inspections, Permits and associated Fees (Building By-law) on May 21, 2013;

And whereas Council considered Administrative Report No. CGP-025-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare

the necessary by-law to amend By-law No. 2013-052 to modify and impose Building Permit Application fees;

Now therefore the Council of The Corporation of the City of Temiskaming Shores enacts the following as a by-law:

1. That Council hereby amends By-law No. 2013-052 by deleting Section **8.2 Fees – Cost of Evaluation** of Schedule “A”.
2. That Council hereby amends By-law No. 2013-052 by deleting Section **8.5 Fees – Cost of Evaluation - Dispute** of Schedule “A”.
3. That Council hereby amends By-law No. 2013-052 by deleting **Appendix 01 – Classes of Permits and Permit Fees** and replacing it with Schedule “A” – **Building Permit Fees Structure**, a copy of which is attached hereto and forming part of this by-law.
4. That Council hereby amends By-law No. 2013-052 by deleting Section **8.5 Fees – Cost of Evaluation - Dispute** of Schedule “A”.
5. That is by-law is effective as of January 1, 2017.
6. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantical or descriptive nature or kind to the by-law and schedule as may be deemed necessary after the passage of this by-law where such modifications or corrections do not alter the intent of the by-law.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen

**Appendix 01
 Building Permit Fees Structure**

The fees payable by the applicant or authorized agent for a construction, demolition, change of use, conditional permit or inspection fees shall be as follows:

Permit fees shall be **\$8.50 per thousand** based on a value of contract price. If there is no contract price in a written agreement, the permit fee will be calculated by Building Department as follows:

| | |
|---|------------------|
| Residential | \$1.25 per sq ft |
| Residential Retrofit | \$0.75 per sq ft |
| Residential Accessory Building | \$0.60 per sq ft |
| Residential Deck | \$0.45 per sq ft |
| Seasonal Building no interior finish (insulation, sheeting, etc.) | \$0.75 per sq ft |
| Commercial/Industrial/Assembly/Institutional | \$2.25 per sq ft |
| Commercial/Industrial/Assembly/Institutional Retrofit | \$1.25 per sq ft |
| Commercial/Industrial/Assembly/Institutional Cold Storage | \$0.75 per sq ft |

Alterations

Flat Fee

Res / Comm

| | |
|--|---------------|
| Interior Renovations | \$150 / \$250 |
| New foundations | \$250 / \$400 |
| Foundation repairs | \$100 / \$175 |
| New roof (structural changes) | \$225 / \$375 |
| New doors and windows (structural changes) | \$85 / \$150 |
| Deck Repairs | \$85 / N/A |
| Plumbing modification (additions or relocations) | \$85 / \$150 |
| Fire alarm system | \$100 / \$200 |
| Wood Fired Appliance (no WETT cert) | \$85 / \$150 |
| Rooftop Solar | \$200 / \$350 |

Agricultural

Rate per sq ft

| | |
|-----------------------------|----------------|
| Farm buildings / additions | \$0.50 |
| Prefabricated storage silos | \$150 Flat Fee |
| Pole barn / coverall | \$0.40 |
| Restoration | \$0.25 |

Demolitions:

Flat Fee

| | |
|--|-------|
| Residential | \$ 85 |
| Agricultural | \$ 85 |
| Commercial/Industrial/Assembly/Institutional | \$150 |

Other:

Flat Fee

| | |
|--|--------------------|
| Change of use permit | \$85 |
| Change of use if construction is required | \$85 + fee formula |
| Permit renewal/dormant file | \$85 |
| Moving permit (relocation of structure over 108 sq ft to or from a property) | \$150 |
| Inspection request by owner/re-inspection | \$50 each visit |
| Administrative charge | \$50 |
| Accessible Upgrade | \$50 |
| Revisions | \$60 |
| Orders | \$200 |

Notes:

There shall be an administration charge equal to one and a half times the above calculated fees, applied to all construction that begins prior to the issuance of a permit;

No permit shall be less than \$85.00;

Fees will be rounded to the nearest dollar;

Conditional and partial permits will be calculated at the regular rate for the complete project.

The Corporation of the City of Temiskaming Shores

By-law No. 2016-186

**Being a by-law to enter into an agreement with
Pronor Construction Limited for the Accessibility
Upgrades at Riverside Place**

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to responds to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas Council considered Administrative Report No. PW-049-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into an agreement with Pronor Construction Limited for accessible upgrades at Riverside Place at an upset limit of \$63,124.00 plus applicable taxes for consideration at the December 23, 2016 Regular Council meeting;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That Council authorizes the entering into an agreement with Pronor Construction Limited for supply and installation of accessible upgrades at Riverside Place at an upset limit of \$63,124.00 plus applicable taxes, a copy of which is attached hereto as Schedule "A" and forms part of this by-law;
2. That the Clerk of the City of Temiskaming Shores is hereby authorized to make minor modifications or corrections of a grammatical or typographical nature to the by-law and schedule, after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law or its associated schedule.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk - David B. Treen



Schedule "A" to

By-law 2016-186

Agreement between

The Corporation of the City of Temiskaming Shores

and

Pronor Construction Limited

for accessible upgrades at the Riverside Place

This agreement made in duplicate this 20th day of December, 2016.

Between:

The Corporation of the City of Temiskaming Shores
(hereinafter called "the Owner")

and

Pronor Construction Limited
(hereinafter called "the Contractor")

Witnesseth:

That the Owner and the Contractor shall undertake and agree as follows:

Article I:

The Contractor will:

- a) Provide all material and perform all work described in the Contract Documents entitled:

**Corporation of the City of Temiskaming Shores
Accessible Upgrades – Riverside Place
Request for Proposal No. PW-RFQ-008-2016**

- b) Do and fulfill everything indicated by this Agreement and in the Contract Documents, attached hereto as Appendix 01 – Submission Quotation and Appendix 02 – Additional Pricing, forming part of this agreement;
- c) Complete, as certified by the City, all the work by **February 24th, 2017.**

Article II:

The Owner will:

- a) Pay the Contractor in lawful money of Canada for the material and services aforesaid **Sixty-Three Thousand, One Hundred and Twenty-four Dollars and Zero Cents (\$63,124.00) plus applicable taxes** subject to additions and deductions as provided in the Contract Documents.
- b) Make payment on account thereof upon delivery and completion of the said work and receipt of invoice, in accordance with the City of Temiskaming Shores Purchasing Policy, and with terms of Net 30 days after receiving such invoice.

Article IV:

All communications in writing between the parties, or between them and the Engineer shall be deemed to have been received by the addressee if delivered to the individual or to a member of the firm or to an officer of the Owner for whom they are intended or if sent by hand, Canada Post, courier, facsimile or by another electronic communication where, during or after the transmission of the communication, no indication or notice of a failure or suspension of transmission has been communicated to the sender. For deliveries by courier or by hand, delivery shall be deemed to have been received on the date of delivery; by Canada Post, 5 days after the date on which it was mailed. A communication sent by facsimile or by electronic communication with no indication of failure or suspension of delivery, shall be deemed to have been received at the opening of business on the next day, unless the next day is not a working day for the recipient, in which case it shall be deemed to have been received on the next working day of the recipient at the opening of business.

The Contractor:

The Owner:

Pronor Construction Limited
176 Lakeshore Drive
Suite 1
North Bay, Ontario
P1A 2A8

City of Temiskaming Shores
P.O. Box 2050
325 Farr Drive
Haileybury, Ontario
P0J 1K0

Attention: Gerald Foster

Attention: Mitch Lafreniere

In witness whereof the parties have executed this Agreement the day and year first above written.

Signed and Sealed in)
the presence of)

Contractor's Seal)
(if applicable))

Municipal Seal)

Pronor Construction Limited

President – Gerald Foster

Witness - Signature
Print Name: _____

**Corporation of the City of
Temiskaming Shores**

Mayor – Carman Kidd

Clerk – David B. Treen



Appendix 01 to
Schedule "A" to

By-law No. 2016-186

Submission Quotation

Respondent Information Form

RESPONDENTS must complete this form and include with the Proposal Submission
Please ensure all information is legible.

| | | |
|-----|--------------------------------------|--|
| 1. | Respondent's Main Contact Individual | GERALD FOSTER |
| 2. | Address | PRONOR CONSTRUCTION LIMITED 176 LAKEHORE DR. SUITE 1 NORTH BAY ON, PIA ZAG |
| 3. | Office Phone # | (705) 472-9999 |
| 4. | Toll Free # | N/A |
| 5. | Cellular # | (705) 358-2184 |
| 6. | Pager # | N/A |
| 7. | Fax # | (705) 494-7410 |
| 8. | e-mail address | gerald.foster@pronor.ca |
| 9. | Website | N/A |
| 10. | Tax Account # | 81939 2188 R50001 |
| 11. | Manufacturer ISO Certified? | YES <input type="radio"/> NO <input checked="" type="radio"/> |

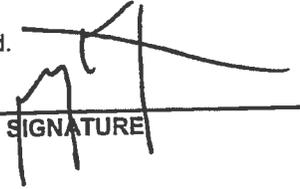
Acknowledgement To Receipt Of Addenda

This will acknowledge receipt of the following addenda and, that the pricing quoted includes the provision set out in such addendum(s)

| <u>ADDENDUM #</u> | <u>DATE RECEIVED</u> |
|-------------------|----------------------|
| # _____ | _____ |
| # _____ | _____ |
| # _____ | _____ |

Check here if NO Addenda received.

PRONOR CONSTRUCTION LIMITED
RESPONDENT


SIGNATURE

06-DEC-16
DATE

To the City of Temiskaming Shores, hereafter called the "Owner ":

I/WE PROCOR CONSTRUCTION LIMITED the undersigned declare:

1. THAT I/WE have carefully examined the locality and site of the proposed Works, as well as all the Contract Document (Health & Safety Regulations) relating thereto, prepared, submitted and rendered available by the Owner , by and on behalf of the Municipality and hereby acknowledge the same to be part and parcel of any Contract to be let for the Work therein described or defined.
2. THAT no Person(s), Firm or Corporation other than the one whose signature(s) of whose proper officers and the seal is or are attached below has any interest in this Bid or in the Contract proposed to be taken.
3. THAT this Bid is made without any connections, knowledge, comparison of figures or arrangements with any other company, firm or person making a Bid for the same Work and is in all respects fair and without collusion or fraud.
4. I/WE represent that no member of Council, and no officer or employee of the Owner, is, or has become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise howsoever in or on the performance of the said contract, or in the supplies, Work or business in connection with the said contract, or in any portion of the profits thereof, or of any supplies to be used therein, or in any monies to be derived there from.
5. THAT the several matters stated in the said Bid are in all respects true accurate and complete.
6. THAT I/WE do hereby Bid and offer to enter into a Contract to do all the Work and to provide all of the labour and to furnish, deliver, place and erect all materials mentioned and described or implied therein including in every case freight, duty, currency exchange, H.S.T. in effect on the date of the acceptance of Bid, and all other charges on the provisions therein set forth and to accept in full payment therefore, in accordance with the prices and terms set forth in the Bid herein.
7. THAT additions or alterations to or deductions from the said contract, if any, shall be made in accordance with the prices stated in Provisional Items of the Schedule of Unit prices in strict conformity with the requirements of the Contract and all unused monies in Provisional Items shall be deducted from the final cost of the Work and any quantities exceeding those shown shall be added.
8. THAT this Bid is irrevocable and open to acceptance until the formal Contract is executed by the Awarded Bidder for the said Work or Sixty (60) Working Days, and prices for as long as stated elsewhere in the document, whichever event first occurs and that the Owner may at any time within that period without notice, accept this Bid whether any other Bid has been previously accepted or not.
9. THAT if I/WE withdraw this Bid before the formal Contract is executed by the Awarded Bidder for the said Work or Sixty (60) Working Days, whichever event first occurs, the amount of the Bid deposit accompanying this Bid shall be forfeited to the Owner.
10. THAT the Awarding of the Contract by the Owner is based on this submission, which shall be an acceptance of this Bid.
11. THAT if the Bid is accepted, I/WE agree to furnish all documentation, security and certifications as required by the Contract document and to execute the agreement in triplicate within Seven (7) Working Days after notification of Award. If I/WE fail to do so, the Owner may retain the money deposited by us, to the use of the Owner and to accept the next lowest or any Bid or to advertise for new Bids, or to carry out completion of the Works in any other way they deem best and I/WE also agree to pay to the Owner the difference between this Bid and any greater sum which the Owner may expend or incur by reason of such default or failure or by reason of such action as aforesaid on their part, including the cost of any advertisement for new Bids, and shall indemnify and save harmless the Owner and their

officers from all loss, damage, cost, charges and expense which they may suffer or be put to by reason of any such default or failure on my/our part.

12. THAT IWE agree to save the Owner, its agents, or employees, harmless from liability of any kind for the use of any composition, secret process, invention, article or appliance furnished or used in the performance of the Contract of which the Bidder is not the patentee, assignee, or licensee.
13. THAT IWE propose to engage the sub-contractors and obtain materials and equipment from the Bidders and manufacturers listed in the schedules on the following pages headed "Schedule of Sub-contractors" and "Schedule of Bidders and Manufacturers" (unless all sub-contractors, Bidders and manufacturers are legibly and properly named, the Bid may be declared informal).
14. IWE agree to adhere to all Occupational Health and Safety standards and requirements as set out within the Occupational Health and Safety and the Safety Standards Sections of the Bid document.
15. IWE acknowledge that we shall perform all Work in accordance with the Occupational Health and Safety Act and all its associated regulations. We have a written Occupational Health and Safety policy which is reviewed, maintained and implemented in accordance with the Occupational Health and Safety Act and all its associated regulations.

16. THE TOTAL BID PRICE (EXCLUDING APPLICABLE TAXES):

FIFTY THOUSAND FOUR HUNDRED AND SIXTY FIVE
DOLLARS (\$ 50,465.⁰⁰)
in lawful money of Canada.

17. The Bidder hereby accepts and agrees that the Addendum/Addenda referred to in these bid documents form part and parcel of the said contract. All Addendum/Addenda should be issued to the Contractor before twenty-four (24) hours of Closing Time. It is the responsibility of the Contractor to have received all Addendum/Addenda that have been issued by the Owner or Owner's Representative. Please check with the owner via e-mail mlafreniere@temiskamingshore.ca prior to submitting your bid submission for the number of addendum's released
18. The Bidder hereby agrees to commence the work by January 9th, 2017 and to complete all work by February 28th, 2017. Liquidated damages shall be paid for time past this period.

The undersigned affirms that he/she is duly authorized to execute this Bid.

BIDDER'S SIGNATURE AND SEAL: [Signature]
(I have authority to bind the company)

POSITION: PRESIDENT

WITNESS: _____
(If not under seal)

POSITION: _____

(If Corporate Seal is not available, documentation should be witnessed)

DATED AT THE CITY OF TEMISKAMING SHORES
(City/Town)

THIS 6TH DAY OF DECEMBER 20 16.

Items and Unit Prices

Price complete, including supply and installation of replacement roofing, site preparation, all labour, equipment, machinery, tools and parts used, all work as described herein, site clean-up, removal from site of all packaging and rubbish, warranties, guarantees and all other costs:

The Bid amount shall include all costs incurred, excluding HST.

| DESCRIPTION | TOTAL PRICE |
|--|--------------|
| Supply & Installation of accessible upgrades At Riverside Place | \$ 50,465.00 |
| HST | \$ 6,560.45 |
| Total Project Value | \$ 57,025.45 |

Note: owner reserves the right, at its sole discretion to accept or refuse any of the above unit pricing without affecting other unit prices.

GRAND TOTAL \$ 57,025.45

Provisional Items

The Bidder hereby Bids and offers to enter into the Contract referred to and to supply and do all or any part of the Work, which is set out or called for in this Bid, at the unit prices, and/or lump sums, hereinafter stated. The Bid amount shall include all costs incurred, excluding HST.

| Description | Unit | Price |
|------------------------------|----------|-----------------|
| Hourly rate for Supervisor | per hour | \$ <u>65.00</u> |
| Hourly rate for Laborer | per hour | \$ <u>42.00</u> |
| Hourly rate for Tradesperson | per hour | \$ <u>60.00</u> |

List Sub-Contractors

State OWN FORCES if a sub-Contractor is not required for any of the trades listed; otherwise name Work and sub-Contractor proposed to be used.

The Owner reserves the right to approve all proposed Sub-Contractors and where the Owner objects to the use of any proposed Sub-Contractor, the Bidder shall use another sub-Contract Bidder acceptable to the Owner. Any proposed changes to the approved list of Sub-Contractors subsequent to Contract Award shall be subject to the approval of the Owner.

The Awarded Bidder may be required to produce schedule of references for all or any proposed Sub-Contractors.

The Awarded Bidder shall only use those Sub-Contractors approved by the Owner and shall be held fully responsible to the Owner for the acts and omissions of its sub-Contractors.

| Type of Work | Sub-Contractors | Contact Name and Number |
|---------------------------------|-----------------------------------|---------------------------------|
| DEMOLITION | OWN FORCES | |
| PATCHING | OWN FORCES | |
| DOORS + HARDWARE | NORTHLAND GLASS AND METAL LIMITED | DAVID POLLARD (705) 472-0661 |
| FLOOR PATCHING | OWN FORCES | |
| PAINTING | OWN FORCES | |
| WASHROOM PARTS + ACCESSORIES | OWN FORCES | |
| MECHANICAL | COMPLETE PLUMBING | MAT RYAN (705) 358-7567 |
| ELECTRICAL | EARL WILSON ELECTRICAL LTD. | BOBBY WILSON (705) 471-4097 |
| | | |

List References

State OTHER OWNER S WHICH HAVE BEEN SUPPLIED/SERVICED by the Bidder within the last five (5) years for projects of a scope and nature similar to the project described in this Call for Bids. The Awarded Bidder may be required to produce schedule of written references upon request.

| Description of Work | Contact Name and Number |
|--|---|
| GREAT NORTHERN FAMILY HEALTH-TEAM BUILDING | BRUCE BERTRAND, EBH ARCHITECTURE INC. (705) 497-4766 |
| EMS AMBULANCE BUILDING | BRUCE BERTRAND, EBH ARCHITECTURE INC. (705) 497-4766 |
| MR. GAS (MATHAWA) | GILLES BURNON, OUSIER (613) 824-6777 |
| FORMER TWEEDSMuir SCHOOL BATHROOM RENOVATION | CHRISTIAN FORST, MALLETTE GORHAM N.B. (705) 497-4111 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Add additional sheets if required

City of Temiskaming Shores
PW-RFQ-008-2016
Accessibility Upgrades RSP

Non Collusion Affidavit

I/ We GERALD FOSTER the undersigned am fully informed respecting the preparation and contents of the attached quotation and of all pertinent circumstances respecting such bid.

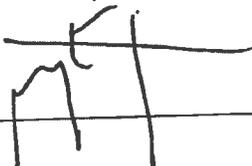
Such bid is genuine and is not a collusive or sham bid.

Neither the bidder nor any of its officers, partners, owners, agents, representatives, employees or parties of interest, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other Bidder, firm or person to submit a collective or sham bid in connection with the work for which the attached bid has been submitted nor has it in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix the price or prices in the attached bid or of any other Bidder, or to fix any overhead, profit or cost element of the bid price or the price of any bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Temiskaming Shores or any person interested in the proposed bid.

The price or prices quoted in the attached bid are fair and proper and not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

The bid, quotation or proposal of any person, company, corporation or organization that does attempt to influence the outcome of any City purchasing or disposal process will be disqualified, and the person, company, corporation or organization may be subject to exclusion or suspension.

Signed



Company Name

PRIOR CONSTRUCTION LIMITED

Title

PRESIDENT

PW-RFQ-008-2016

City of Temiskaming Shores
PW-RFQ-008-2016
Accessibility Upgrades RSP

Conflict of Interest Declaration

Please check appropriate response:

- I/we hereby confirm that there is not nor was there any actual or perceived conflict of interest in our quotation submission or performing/providing the Goods/Services required by the Agreement.
- The following is a list of situations, each of which may be a conflict of interest, or appears as potentially a conflict of interest in our Company's quotation submission or the contractual obligations under the Agreement.

List Situations:

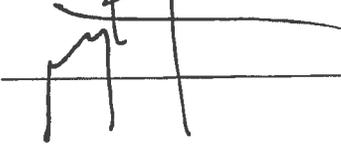
In making this quotation submission, our Company has / has no *(strike out inapplicable portion)* knowledge of or the ability to avail ourselves of confidential information of the City (other than confidential information which may have been disclosed by the City in the normal course of the quotation process) and the confidential information was relevant to the Work/Services, their pricing or quotation evaluation process.

Dated at NORTH BAY, ON this 6th day of DECEMBER, 2016.

FIRM NAME: PRETOR CONSTRUCTION LIMITED

BIDDER'S AUTHORIZED OFFICIAL: GERALD FOSTER

TITLE: PRESIDENT

SIGNATURE: 

Clearance Certificate / Certificat de décharge

| Contractor Legal / Trade Name / Appellation commerciale ou raison sociale de l'entrepreneur | Contractor Address / Adresse de l'entrepreneur | Contractor Classification Unit and Description / Unité de classification de l'entrepreneur et description | Principal Legal / Trade Name / Appellation commerciale ou raison sociale de l'entrepreneur principal | Principal Address / Adresse de l'entrepreneur principal | Clearance Certificate Number / Numéro du certificat de décharge | Validity period (dd- mmm-yyyy) / Période de validité (jj/mm/aaaa) |
|--|--|--|--|--|---|--|
| PRONOR CONSTRUCTION LIMITED / PRONOR CONSTRUCTION | 222 MCINTYRE ST WEST SUITE 324, NORTH BAY, ON, P1B2Y8, CA | 4021-099: Industrial, Commercial, and Institutional Construction | THE CORPORATION OF THE CITY OF TEMISKAMING SHORES / PARENT ACCOUNT | PO BOX 2050, HAILEYBURY, ON, P0J1K0, CA | E200000B0VK3 | 06-Dec-2016 to 19- Feb-2017 |

5717588U 4-516

DATE 20161206

Y/A M/M D/J

\$6,000.00



Royal Bank of Canada
Banque Royale du Canada
925 STOCKDALE RD - MAIN FLR
NORTH BAY, ON

PAY TO THE ORDER OF / PAYEZ A L'ORDRE DE City of Temiskaming Shores

~~EXACTLY~~ \$6,000.00

AUTHORIZED SIGNATURE REQUIRED FOR AMOUNTS OVER \$5,000.00 CANADIAN / SIGNATURE AUTORISEE REQUISE POUR UN MONTANT EXCEDANT 5,000.00 \$ CANADIENS

RECOBJET Bid Deposit

PURCHASER NAME / NOM DE L'ACHETEUR PROOK CONSTRUCTION LIMITED

PURCHASER ADDRESS / ADRESSE DE L'ACHETEUR 116 LAPELLE RD., SUITE 1

NORTH BAY, ON P1A 2A8

AUTHORIZED SIGNATURE / SIGNATURE AUTORISEE

[Signature]

COUNTERSIGNED / CONTRESIGNE

[Signature]

CANADIAN DOLLARS CANADIENS

⑈ 57175880⑈ ⑆03452⑈003⑆ 099⑈013⑈5⑈



Appendix 02 to
Schedule "A" to

By-law No. 2016-186

Additional Pricing

PRONOR CONSTRUCTION

QUOTE NUMBER: 2016-009
DATE: December 9, 2016

City of Temiskaming Shores
325 Farr Drive
P.O. Box 2050
Haileybury, Ontario
P0J 1K0

Attention: Mitch Lafreniere, Manager of Physical Assets

RE: Riverside Place Accessibility Upgrades – Additional Pricing

| ITEM | DESCRIPTION | AMOUNT |
|--------------------------|---|---------------------|
| 1. | Supply and Install One Door Operator on Back Door (Riverside of Building) <ul style="list-style-type: none">o Supply and install 1 Horton 7100 automatic Door operator activated by 2 push buttons.o Run EMT conduit and wire to the closest panel location. | \$ 4,483.00 |
| 2. | Supply and Install New Vanities and Sinks in Men's and Women's Washrooms <ul style="list-style-type: none">o Remove and dispose of existing vanities, sinks, and tapso Supply and install new post formed laminate vanitieso Supply and install 4 Gerber Maxwell model #12-834 ADA compliant counter sinks.o Supply and Install 4 - Zurn model #Z-81000-XL single lever ADA compliant single lever lav faucets.o Supply and Install 4 - Zurn model #ZW-3870-XLT mixing valve. *Each complete with 1-1/4" chrome plated p-trap, open grid offset strainer, stops & flex risers. *For Zurn model Z-6915-XL ADA compliant sensor battery operated faucets add \$1,180.00 for all 4 faucets (extra pricing option) | \$ 6,996.00 |
| TOTAL (HST EXTRA) | | \$ 11,479.00 |

Qualifications:

1. Pricing is based on the work being awarded and performed concurrently with the base tender work.

Thank you for the opportunity to quote this work.

Yours truly,

Pronor Construction Limited

Gerald Foster
President

Pronor Construction Limited

176 Lakeshore Drive, Suite #1, North Bay, ON P1A 2A8
Tel: (705) 472-9999 Fax: (705) 494-7410

The Corporation of the City of Temiskaming Shores
By-law No. 2016-187
Being a by-law to authorize a Purchase Agreement with
Girardin Ontario Inc. for two (2) 30 foot low floor Accessible
Transit Buses for the Temiskaming Transit Committee

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas Council considered Administrative Report No. PW-050-2016 at the December 20, 2016 Regular Council meeting and directed staff to prepare the necessary by-law to enter into an agreement with Girardin Ontario Inc. for the purchase of two (2) 30 foot low floor Accessible Transit Buses;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That Council authorizes the entering into Agreements of Purchase and Sale between Girardin Ontario Inc. as the Vendor and the City of Temiskaming Shores as Purchaser, in the form annexed hereto as Schedules "A", forming part of this by-law;
2. That Council agrees to purchase two (2) 30 foot low floor Accessible Transit Buses from Girardin Ontario Inc. as follows:
 - Two (2) 30 foot low floor Accessible Transit Buses at an upset limit of **\$415,587.00** per bus plus applicable taxes; and
 - Extended Warranty at an upset limit of **\$11,725.00** plus applicable taxes.
3. That the Mayor and Clerk be hereby authorized and directed to execute the Offers of Purchase and Sales annexed hereto as Schedules "A" to this by-law and any and all other documentation necessary to complete the transaction.
4. That the Clerk of the City of Temiskaming Shores is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantically or descriptive nature or kind to the by-law and

schedule as may be deemed necessary after the passage of this by-law, where such modifications or corrections do not alter the intent of the by-law.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen



Schedule "A" to

By-law No. 2016-187

Purchase Agreement between

The Corporation of the City of Temiskaming Shores

and

Girardin Ontario Inc.

for two (2) 30 foot low floor Accessible Transit Buses

This agreement made in duplicate this 20th day of May 2016.

Between:

The Corporation of the City of Temiskaming Shores
(hereinafter called "the Purchaser")

and

Girardin Ontario Inc.
(hereinafter called "the Vendor")

Witnesseth:

That the Purchaser and the Vendor shall undertake and agree as follows:

Article I:

The Vendor will:

- a) Provide two (2) 30 foot low floor urban Accessible Transit Buses in accordance to the Quotation, a copy of which is attached hereto as Appendix 01 and forming part of this agreement;
- b) Provide two (2) 30 foot low floor urban Accessible Transit Buses as specified in Girardin Ontario Inc. submission related to PW-RFP-014-2016 Supply and Delivery of New Transit Buses; and
- c) Supply and deliver, as certified by the Manager, the two (2) urban transit buses by **April 15th, 2017**

Article II:

The Purchaser will:

- a) Pay the Vendor in lawful money of Canada for the two urban transit buses and specialized equipment aforesaid Eight Hundred and Fifty-Four Thousand, Six Hundred and Twenty-Four Dollars and Zero Cents (\$854,624.00) plus applicable taxes subject to additions and deductions as provided in the Quotation.
- b) Make payment on account thereof upon delivery and completion of the said work and receipt of invoice, in accordance with the City of Temiskaming Shores Purchasing Policy, and with terms of Net 30 days after receiving such invoice.

Article III:

All communications in writing between the parties, or between them and the Engineer shall be deemed to have been received by the addressee if delivered to the individual or to a member of the firm or to an officer of the Owner for whom they are intended or if sent by hand, Canada Post, courier, facsimile or by another electronic communication

where, during or after the transmission of the communication, no indication or notice of a failure or suspension of transmission has been communicated to the sender. For deliveries by courier or by hand, delivery shall be deemed to have been received on the date of delivery; by Canada Post, 5 days after the date on which it was mailed. A communication sent by facsimile or by electronic communication with no indication of failure or suspension of delivery, shall be deemed to have been received at the opening of business on the next day, unless the next day is not a working day for the recipient, in which case it shall be deemed to have been received on the next working day of the recipient at the opening of business.

The Vendor:

Girardin Ontario Inc.
22 Airport Road
Brantford, Ontario
N3T 5R7

Attn.: Michael Burton, Sales Manager

The Purchaser:

City of Temiskaming Shores
P.O. Box 2050 – 325 Farr Drive
Haileybury, Ontario
P0J 1K0

Attn.: Mitch Lafreniere, Mngr Physical
Assets

In witness whereof the parties have executed this Agreement the day and year first above written.

Signed and Sealed in)
the presence of)

Contractor's Seal)

Girardin Ontario Inc.

Sales Manager – Michael Burton

Witness - Signature

Name: _____

Municipal Seal)

**Corporation of the City of
Temiskaming Shores**

Mayor – Carman Kidd

Clerk – David B. Treen



Appendix 01 to
Schedule "A" to

By-law No. 2016-187

Quotation

GIRARDIN

BLUE BIRD



NEW FLYER

QUOTATION FOR LOW-FLOOR DIESEL TRANSIT BUSES

SECTION 1

Contents:

| Title | Submission Requirements |
|--------|--|
| Price: | Your quoted price for proposed buses is: (CAD) MD30 - \$415,587 per bus* (stock units) This price includes delivery, warranty, PDI and publications as outlined in this proposal. |

* Please note this pricing will be held for 30 days from the date of the submission of the quote to Temiskaming Shores.

OPTIONAL:

- New Flyer Connect Hardware: \$658.67 CAD per bus + applicable taxes
- Annual Connect service fee: \$1014.00 CAD per bus + applicable taxes

INCLUDES;

- The Girardin/New Flyer training organization is represented by the New Flyer after-sales service group, a division of New Flyer Industries. As a leader in manufacturing urban buses in Canada and United States, we have access to the best resources in design, engineering, power train technology and electrical systems. Our price includes a full technical orientation and PDI.
- Luminator Destination Signs, Front, Side, and Controller.

The Corporation of the City of Temiskaming Shores

By-law No. 2016-188

A by-law to authorize certain new capital works of The Corporation of the City of Temiskaming Shores (the “municipality”); to authorize the submission of an application to Ontario Infrastructure and Lands Corporation (“OILC”) for financing such capital works; to authorize temporary borrowing from OILC to meet expenditures in connection with such works; and to authorize long term borrowing for such works through the issue of debentures to OILC

Whereas the *Municipal Act, 2001* (Ontario), as amended, (the “**Act**”) provides that a municipal power shall be exercised by by-law unless the municipality is specifically authorized to do otherwise;

And whereas it is now deemed to be expedient to authorize for the purposes of the Municipality the new capital work(s) described in column (2) of Schedule “A” (individually a “**Capital Work**”, collectively the “**Capital Works**”, as the case may be) attached hereto and forming part of this By-law (“**Schedule “A”**”) in the amount of the respective estimated expenditure set out in column (3) of Schedule “A”, subject in each case to approval by OILC of the financing for such Capital Work(s) that will be requested by the Municipality in the Application as hereinafter defined;

And whereas in accordance with section 4 of Ontario Regulation 403/02 (the “**Regulation**”), the Council of the Municipality had its Treasurer calculate an updated limit in respect of its most recent annual debt and financial obligation limit received from the Ministry of Municipal Affairs and Housing (as so updated, the “**Updated Limit**”), and, on the basis of the authorized estimated expenditure for the Capital Work or each Capital Work, as the case may be, as set out in column (3) of Schedule “A” (the “**Authorized Expenditure**” for any such Capital Work), the Treasurer calculated the estimated annual amount payable in respect of the Capital Work or each Capital Work, as the case may be, (collectively the “**Estimated Annual Amount Payable**”) and determined that the Estimated Annual Amount Payable does not cause the Municipality to exceed the Updated Limit, and accordingly the approval of the Ontario Municipal Board pursuant to the Regulation, is not required before any such Capital Work is authorized by the Council of the Municipality;

And Whereas subsection 405(1) of the Act provides, amongst other things, that a municipality may authorize temporary borrowing to meet expenditures made in connection with a work to be financed in whole or in part by the issue of debentures if, the municipality is an upper-tier municipality, a lower-tier municipality in a county or a single-tier municipality and it has approved the issue of debentures for the work;

And whereas subsection 401(1) of the Act provides that a municipality may incur a debt for municipal purposes, whether by borrowing money or in any other way, and may issue debentures and prescribed financial instruments and enter prescribed financial agreements for or in relation to the debt;

And whereas the Act also provides that a municipality shall authorize long term borrowing by the issue of debentures or through another municipality under section 403 or 404 of the Act;

And whereas OILC has invited Ontario municipalities desirous of obtaining temporary and long term debt financing in order to meet capital expenditures incurred on or after January 1, 2004 in connection with eligible capital works to make application to OILC for such financing by completing and submitting an application on the form provided by OILC;

And whereas the Municipality has completed and submitted an application to OILC (the "**Application**") to request financing for the Capital Work(s) by way of long term borrowing through the issue of debentures to OILC and by way of temporary borrowing from OILC pending the issue of such debentures;

And whereas OILC has accepted and has approved the Application;

Now therefore the Council of The Corporation of the City of Temiskaming Shores enacts as follows:

1. The Council of the Municipality hereby confirms, ratifies and approves the execution by the Treasurer of the Application and the submission by such authorized official of the Application, duly executed by such authorized official, to OILC for the financing of the Capital Work(s) in the maximum aggregate principal amount of \$617,045 substantially in the form of Schedule "B" hereto and forming part of this By-law, with such changes thereon as such authorized official may hereafter approve, such execution and delivery to be conclusive evidence of such approval.
2.
 - (a) The undertaking of the Capital Work or of each Capital Work, as the case may be, in the amount of the respective estimated Authorized Expenditure set out in column (3) of Schedule "A" is hereby approved and authorized;
 - (b) any one or more of the Mayor and the Treasurer are hereby authorized to conclude contracts on behalf of the Municipality for the undertaking of the Capital Work or of each Capital Work, as the case may be, in accordance with the Municipality's usual protocol;
 - (c) where applicable, the Engineer of the Municipality will forthwith make such plans, profiles and specifications and furnish such information as in the opinion of the Engineer are necessary for the undertaking of the Capital Work or of each Capital Work, as the case may be; and
 - (d) where applicable, the undertaking of the Capital Work or of each Capital Work, as the case may be, shall be carried on and executed under the superintendence and according to the direction and orders of such Engineer.
3. The Mayor and the Treasurer are hereby authorized to negotiate and enter into, execute and deliver for and on behalf of the Municipality a financing agreement (a "**Financing Agreement**") with OILC that provides for temporary and long term

borrowing from OILC in respect of the Capital Work(s) on such terms and conditions as such authorized officials may approve, such execution and delivery to be conclusive evidence of such approval.

4. The Mayor and/or the Treasurer are hereby authorized, pending the substantial completion the Capital Work or each Capital Work, as the case may be, or as otherwise agreed with OILC, to make temporary borrowings pursuant to section 405 of the Act in respect of the Capital Work or of each Capital Work, as the case may be, on the terms and conditions provided in the Financing Agreement and on such other terms and conditions as such authorized officials may agree, and to sign such evidence of indebtedness as OILC may require (the “**Note**”) and to deliver the Note to OILC, such execution and delivery to be conclusive evidence of such agreement; and the Treasurer is authorized to sign such certifications as OILC may require in connection with such borrowings in respect of the Capital Work(s); provided that the amount of borrowings allocated to the Capital Work or to each Capital Work, as the case may be, does not exceed the Authorized Expenditure for such Capital Work and does not exceed the related loan amount set out in column (4) of Schedule “A” in respect of such Capital Work.
5. Subject to the terms and conditions of the Financing Agreement and such other terms and conditions as OILC may otherwise require, the Mayor and the Treasurer are hereby authorized to long term borrow for the Capital Work(s) and to issue debentures to OILC on the terms and conditions provided in the Financing Agreement and on such other terms and conditions as such authorized officials may agree (the “**Debentures**”); provided that the principal amount of the Debentures issued in respect of the Capital Work or of each Capital Work, as the case may be, does not exceed the Authorized Expenditure for such Capital Work and does not exceed the related loan amount set out in column (4) of Schedule “A” in respect of such Capital Work.
6. In accordance with the provisions of section 25 of the *Ontario Infrastructure and Lands Corporation Act, 2011*, as amended from time to time hereafter, as security for the payment by the Municipality of the indebtedness of the Municipality to OILC under the Note and/or the Debentures, as the case may be (the “**Obligations**”), the Municipality is hereby authorized to agree in writing with OILC that the Minister of Finance is entitled, without notice to the Municipality, to deduct from money appropriated by the Legislative Assembly of Ontario for payment to the Municipality, amounts not exceeding the amounts that the Municipality fails to pay OILC on account of the Obligations and to pay such amounts to OILC from the Consolidated Revenue Fund.
7. For the purposes of meeting the Obligations, the Municipality shall provide for raising in each year as part of the general levy, the amounts of principal and interest payable in each year under the Note and/or any outstanding Debenture, to the extent that the amounts have not been provided for by any other available source including other taxes or fees or charges imposed on persons or property by a by-law of any municipality.
8. (a) The Mayor and/or the Treasurer are hereby authorized to execute and deliver the Note, the Mayor and the Treasurer are hereby authorized to enter into, execute and deliver the Financing Agreement, and to issue the

Debentures, one or more of the Clerk and the Treasurer are hereby authorized to generally do all things and to execute all other documents and papers in the name of the Municipality in order to perform the Obligations of the Municipality under the Financing Agreement and to execute and deliver the Note and to issue the Debentures, and the Treasurer is authorized to affix the Municipality's municipal seal to any such documents and papers.

- (b) The money realized in respect of the Note and the Debentures, including any premium, and any earnings derived from the investment of that money, after providing for the expenses related to the execution and delivery of the Note and to the issue of the Debentures, if any, shall be apportioned and applied to the respective Capital Work and to no other purpose except as permitted by the Act.

9. This By-law takes effect on the day of passing.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen

Schedule "A"
to By-Law Number 2016-188
(New Capital Work(s))

| (1) | (2) | (3) | (4) |
|--------------------------------|---|----------------------------------|--------------------|
| <u>Capital Work Number</u> | <u>Description of Capital Work</u> | <u>Estimated Expenditure</u> | <u>Loan Amount</u> |
| 1 | 2 new 30' Low Floor Accessible Buses | \$875,000 | \$617,045 |

Schedule “B”

to By-law No. 2016-188

Please insert the OILC Application into Schedule “B”

Webloans Loan Application PDF

FA Number

Application for

Projects

| ID | SIT Project ID | Project Name | Construction/Purchase Start | Construction/Purchase End | Project Cost | OILC Loan Amount |
|-----|----------------|-----------------------|-----------------------------|---------------------------|--------------|------------------|
| 152 | 1 | New Transit Buses (2) | 12-21-2016 | 02-24-2017 | \$875,000.00 | 617,045.00 |

Details of Project New Transit Buses (2)

Project Category

Project Name

Construction/Purchase Start

Construction/Purchase End

Energy Conservation

Project Address 1

Project Address 2

City / Town

Province

Postal Code

Description

Comments and/or Special Requests

Project Life Span (Years)

Project Financial Information

Project Cost (A)

Other Project Funding / Financing (B):

| Description | Timing | Amount |
|------------------------------------|----------|--------------|
| Public Transit Infrastructure Fund | Expected | \$257,955.00 |

Other Project Funding/Financing Total (B)

OILC Loan Amount (A-B)

Only include long-term borrowing in this section. If you anticipate that you will require short-term financing during the construction phase of the project, the information will be gathered as part of the Financing Agreement.

| Required Date | Amount | Term | Type |
|---|---|---------------------------------|-------------------------------------|
| <input type="text" value="2017-03-01"/> | <input type="text" value="\$617,045.00"/> | <input type="text" value="10"/> | <input type="text" value="Serial"/> |

Debt and Re-payments Summary

Has there been any new/undisclosed debt acquired since last FIR was submitted?

Yes No

Please describe any re-financing plans for any existing "interest only" debt, if applicable.

Non Re-payments of Loans or Debenture

In the last 10 years, has the borrower ever failed to make a loan payment or debenture repayment on time to any lender, including the Provincial Government?

If yes, please provide details.

OILC Loan Repayment Information

Please indicate the source(s) of revenue you plan to use to repay the OILC Loan

| | | |
|---------------------|--------------------------------------|---------------------------------------|
| Taxation | <input type="text" value="0.00"/> | |
| User Fees | <input type="text" value="0.00"/> | |
| Service Charges | <input type="text" value="0.00"/> | |
| Development Charges | <input type="text" value="0.00"/> | |
| Connection Fees | <input type="text" value="0.00"/> | |
| Repayment Subsidies | <input type="text" value="0.00"/> | |
| Other | <input type="text" value="100.00"/> | Municipal Reserves/Provincial Gas Tax |
| Total | <input type="text" value="100.00%"/> | |

Documentation and Acknowledgements

Please ensure all required documents are submitted with the signed application. OILC requires originals as noted below to be mailed or couriered. Also, please retain a copy of all documents submitted to OILC for your records.

To obtain templates for documents see listed below.

- Loan Application Signature Page signed and dated by the appropriate individual (original to be submitted)
- Certificate and sealed copy of OILC template By-Law authorizing project borrowing and applying for a loan (original with seal)
- Certificate of Treasurer Regarding Litigation using the OILC template (original, signed & sealed)
- Updated Certified Annual Repayment Limit Calculation (original)

I acknowledge and agree that all of the above referenced documents must be submitted in the form required by OILC and understand that the application will not be processed until such documents have been fully completed and received by Infrastructure Ontario.

Please note: OILC retains the right to request and review any additional information or documents at its discretion.

Confidential Information

OILC is an institution to which the Freedom of Information and Protection of Privacy Act (Ontario) applies. Information and supporting documents submitted by the Borrower to process the loan application will be kept secure and confidential, subject to any applicable laws or rules of a court or tribunal having jurisdiction.

The Corporation of the City of Temiskaming Shores

By-law No. 2016-189

**Being a by-law to confirm certain proceedings of Council of
The Corporation of the City of Temiskaming Shores for its
Regular meeting held on December 20, 2016**

Whereas under Section 8 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, the powers of a municipality shall be interpreted broadly to enable it to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

And whereas under Section 9 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And whereas under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25, as amended, a single-tier municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

And whereas it is the desire of the Council of The Corporation of the City of Temiskaming Shores to confirm proceedings and By-laws;

Now therefore the Council of The Corporation of the City of Temiskaming Shores hereby enacts the following as a by-law:

1. That the actions of the Council at its Regular meeting held on **December 20, 2016** with respect to each recommendation, by-law and resolution and other action passed and taken or direction given by Council at its said meeting, is, except where the prior approval of the Ontario Municipal Board is required, hereby adopted, ratified and confirmed.
2. That the Mayor, or in his absence the presiding officer of Council, and the proper officials of the municipality are hereby authorized and directed to do all things necessary to give effect to the said action or to obtain approvals where required, and except where otherwise provided, the Mayor, or in his absence the presiding officer, and the Clerk are hereby directed to execute all documents required by statute to be executed by them, as may be necessary in that behalf and to affix the corporate seal of the municipality to all such documents.

Read a first, second and third time and finally passed this 20th day of December, 2016.

Mayor – Carman Kidd

Clerk – David B. Treen