December 3, 2014

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: Awarding Engineering Design & Project Management Services to Change Out Dewatering Equipment at the Sewage Treatment Plant (STP)

Background Information:

Under the existing Operation and Maintenance agreement with OCWA the cost of loading and transporting biosolids (9% solids) from the STP to Hammonds sod farm was included in the contract price. However both OCWA and the Town were fully aware that eventually the ability to continue to spread biosolids at Hammond's sod farm would come to an end. This issue is a capital expenditure in accordance with the existing O & M agreement. The Town would be responsible for the cost for all capital expenditures associated with replacing the existing dewatering system in order to achieve an 18% total solid (TS) concentration. The 18% TS biosolids can be transported directly to the landfill site to be used as "cover material". During the summer of 2014, OCWA through a "request for proposal" process tried to secure the services of a company to haul and utilized the biosolids from the STP. There were no successful companies indicating a willingness to enter into an agreement with OCWA. OCWA continue to negotiate with the existing hauler, Hammond Landscaping Ltd, however the additional regulatory requirements and capital investment deterred Hammonds from entering into an agreement with OCWA. Find attached the letter dated September 26, 2014 from Hammond Landscaping Ltd. to OCWA. This letter clearly indicates the sod farm operations will be shut down around the end of October 2014 once the ground is frozen.

As a result of Hammond's action, the Town became involved in the process where the Town, MOE and OCWA start the process on how to handle the biosolids in the short term until proper dewatering equipment (long-term) capable of achieving 18% TS concentration could be installed at the STP. In the short term, on November 7, 2014 the MOE issued Provincial Officer's Order 7011-9QDQKC to the Town allowing the 9% liquid biosolids to be transported and temporary store at the Town's landfill site property. The Town constructed a containment pond at the landfill site to store or hold approximately one year amount of 9% liquid biosolids.

In the long term, the existing dewatering equipment (gravity belt) in the head works building will have to be replaced with new dewatering equipment to achieve an 18% TS concentration in order that the biosolids could be transported directly to the landfill site to be used as "cover material". It is somewhat

optimistic to complete the entire dewatering equipment change out project by mid-October of 2015.

As a result the Town obtained proposals from both OCWA and Associated Engineering as both firms have a greater understanding of the existing STP operations and layout. OCWA has operated the STP for the last 6 years. In the past Associated Engineering has complete engineering work for the Town such as the recent change out of the grit removal equipment back in 2009 and the Optimization study of the STP in 2008. As a result administration did not follow the "request for proposal" process outlining in the procurement policy in order to accelerate the change out of dewatering equipment project to meet the timeline outlined in the MOE issued Provincial Officer's Order 7011-9QDQKC.

With the present Council in a lame duck position, the earliest date for the new Council to be in a position to award the engineering design & project management services for this project would be at the December 15th, 2014 Council meeting.

Please find both proposals for your review. Administration doesn't want to install the new dewatering equipment without an on-site trail (pilot) test of the proposed equipment using the aerobically digested sludge frim the Fort Frances STP to confirm that the 18% TS can be achieved. Also one must confirm that the existing polymer and polymer feed system used with the existing gravity belt thickening dewatering system is capable and/or compatible with the new dewatering equipment. The main reason for this requirement is that not all STP sludge have the same characteristics. When the sludge passes through the dewatering equipment the 18% TS minimum may not be achieved. There is a possibility of installed new dewatering equipment that doesn't achieve this objective. Why take the chance.

The O & F Executive committee recommends the following be approved:

1. That the engineering design & project management services for the change out of the dewatering equipment at the STP be awarded to Associated Engineering at an estimated cost of $139,809 (HST extra) in accordance with their attached proposal dated November 28, 2014
2. That the replacement of the dewatering equipment at the STP be included in the 2015 capital budget with an estimated amount of $ 800,000. The exact amount will be refined once additional information comes available i.e. selection of new dewatering equipment to be installed.
3. That the Mayor and Clerk be authorized to execute the contract documents on behalf of the Corporation of the Town of Fort Frances.

Respectfully submitted,
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Operations & Facilities Manager

Council approval of this report will ensure the following:

1) That the engineering design & project management services for the change out of the dewatering equipment at the STP be awarded to Associated Engineering at an estimated cost of $139,809 (HST extra) in accordance with their attached proposal dated November 28, 2014.

2) That the replacement of the dewatering equipment at the STP be included in the 2015 capital budget with an estimated amount of $800,000. The exact amount will be refined once additional information comes available i.e. section of new dewatering equipment to be installed.

3) That the Mayor and Clerk be authorized to execute the contract document on behalf of the Corporation of the Town of Fort Frances.

Hammond Landscaping Ltd.
PO Box 727, Stn Main
Fort Frances, ON. P9A 3N1
Tel: (807) 274-5639 / Fax: (807) 274-3881
E-mail: hamland@sympatico.ca

September 26, 2014

OCWA
Jennifer Lalla
Corp. Materials Mgmt. Analyst
Email: JLalla@ocwa.com

Dear Ms. Lalla

Further to our conversation on September 3, 2014 regarding purchase orders:

As you are aware, our Certificate of Approval to haul and land spread biosolids will expire on December 31, 2014. We have been instructed by the Ontario Ministry of the Environment (OMOE) to cease land application at freeze up this year as the Nutrient Management Act does not allow for the spreading of biosolids on frozen ground. Therefore, we will only be able to spread the sludge at our site until late October or early November at the latest. This letter is intended in part to serve as notification of our intention to cease receiving biosolids on October 31, 2014.

Looking ahead, the impediments to continuing the current program of hauling and disposal are threefold:

1. The Liquid Non-Agricultural Source Material (NASM) Standards have changed greatly since the original implementation of the Nutrient Management Act and the agricultural recipient is obligated to: i) secure a certified NASM Planner to prepare a Nutrient Management and/or Non-Agriculture Source Materials Strategy/Plan; ii) obtain operator Certification and Training; and iii) to develop odour and runoff management plans, among other requirements.

2. The lagoons at our site will no longer be eligible for approval to store Fort Frances sewage treatment plant sludge. In order to continue to receive biosolids in the winter, an entirely new system of lagoons would need to be engineered and constructed in compliance with OMFRA's specifications. These would need to be earthen or concrete/steel nutrient storage facilities that meet the same requirements as for manure (including runoff control and secondary containment). The facilities must be designed by an engineer in accordance with Ont. Regulation 267/03

3. The renewal of our existing Certificates of Approval is no longer an option as of the October 31, 2011 amendments to the EPA and OWRA. The Director no longer issues C of A's or provisional C of A's under these acts. The new instrument of approval - the Environmental Compliance Approval (ECA) – represents a far more involved and potentially expensive application process.

We apologize if any of this is redundant as we are of the understanding that the OMOE and/or Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has acquainted OCWA and/or the Town of Fort Frances of many these changes. As you can well appreciate, a small business such as ours has limited interest in - or resources to - pursue any of these options as they would require significant effort and investment. We are not averse to a continued role in the handling of local biosolids and are receptive to explore alternate strategies that the owners or operators might propose. Nevertheless, given the new regulatory climate and the scale of our operation, in the absence of some new strategy, we must exclude our company from continuing as is.

Sincerely,

AH/tm

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

Provincial Officer's Order

Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA)
Ontario Water Resources Act, R.S.O. 1990, c. O.40 (OWRA)
Pesticides Act, R.S.O. 1990, c. P.11 (PA)
Safe Drinking Water Act, 2002, S.O. 2002, c.32 (SDWA)
Nutrient Management Act, 2002, S.O. 2002, c.4 (NMA)

Order Number
7011-9QDQKC

Incident Report No.
0703-9QDKL3

To: The Corporation of the Town of Fort Frances
320 Portage Ave
Fort Frances, Ontario, P9A 3P9
Canada

Site: Northeast 1/4 of Section 25 Alberton Twp
Alberton, District of Rainy River

Work Ordered

Pursuant to my authority under EPA Section 157.1, I order you to do the following:
Item No. 1 **Compliance Date** 2014/11/28 (YYYY/MM/DD)

By November 28, 2014, construct an area suitable for the receipt of liquid sewage plant biosolids at the Fort Frances Waste Disposal Site.

Pursuant to my authority under EPA Section 157.1, I order you to do the following:
Item No. 2 **Compliance Date** 2014/12/05 (YYYY/MM/DD)

By December 5, 2014, submit to the undersigned a site plan of the Fort Frances Waste Disposal Site outlining the location of the waste fill area and location of the constructed liquid sewage plant biosolids disposal area and any other waste segregation area that may exist at the site.

Pursuant to my authority under EPA Section 157.1, I order you to do the following:
Item No. 3 **Compliance Date** 2014/11/28 (YYYY/MM/DD)

By November 28, 2014, obtain the services of a contractor capable of safely hauling liquid sewage plant biosolids from the Fort Frances Sewage Plant to the Fort Frances Waste Disposal Site.

Pursuant to my authority under EPA Section 157.1, I order you to do the following:
Item No. 4 **Compliance Date** 2014/12/05

(YYYY/MM/DD)

By December 5, 2014, submit to the undersigned correspondence with the name of the company or individual who will be hauling sewage plant biosolids from the Fort Frances Sewage Plant to the Fort Frances Waste Disposal Site.

Pursuant to my authority under OWRA Section 16.1, I order you to do the following:

Item No. 5 **Compliance Date** 2014/12/12 (YYYY/MM/DD)

By December 12, 2014, obtain the services of a qualified person to design a system of sewage plant biosolids dewatering in order to render the sewage biosolids into a solid form capable of passing the Ontario Regulation 347 slump test and being managed as solid non-hazardous waste.

Pursuant to my authority under OWRA Section 16.1, I order you to do the following:

Item No. 6 **Compliance Date** 2014/12/19 (YYYY/MM/DD)

By December 19, 2014, submit to the undersigned correspondence with the name of the qualified person who will be designing the sewage plant biosolids dewatering system described in work item no. 5.

Pursuant to my authority under OWRA Section 16.1, I order you to do the following:

Item No. 7 **Compliance Date** 2015/03/01 (YYYY/MM/DD)

By March 1, 2015, the Town of Fort Frances shall submit a completed application to amend Environmental Compliance Approval 3-0049-96-006 to authorize the installation of sewage plant biosolids dewatering equipment. The application is to be submitted to the Director of the Environmental Approvals Access and Service Integration Branch and a copy of the application provided to the undersigned.

Pursuant to my authority under OWRA Section 16.1, I order you to do the following:

Item No. 8 **Compliance Date** 2015/10/30 (YYYY/MM/DD)

Within 90 days of receipt of authorization to install sewage plant biosolids dewatering equipment complete the installation and cease hauling liquid sewage biosolids to the Fort Frances Waste Disposal Site.

Pursuant to my authority under OWRA Section 16.1, I order you to do the following:

Item No. 9 **Compliance Date** 2015/11/06 (YYYY/MM/DD)

Within one week of the installation of the sewage plant biosolids dewatering equipment, provide written confirmation to the undersigned that the installation of the sewage plant biosolids dewatering equipment required by work item no. 8 has been completed.

Pursuant to my authority under EPA Section 157.1, I order you to do the following:

Item No. 10 **Compliance Date** 2015/03/31 (YYYY/MM/DD)

By March 31, 2015, submit to the undersigned, a written plan detailing the steps and schedule for the decommissioning of the liquid sewage plant biosolids disposal area. The intent of the plan is to return the disposal area to a dry state and prevent the formation of a stagnant pond.

A. While this Order is in effect, a copy or copies of this order shall be posted in a conspicuous place at the Fort Frances Sewage Treatment Plant and at the Fort Frances Waste Disposal Site.

B. While this Order is in effect, report in writing, to the District or Area office, any significant changes in Fort Frances operations management and of operation, emission, ownership, tenancy or other legal status of the facility or operation.

C. Unless otherwise specified, all requirements of this Order are effective upon service of this Order.

This Order is being issued for the reasons set out in the annexed Provincial Officers Report which forms part of this Order.

Issued at Fort Frances this 7th day of November, 2014.

Ray Boivin
Badge No: 493
Kenora Area Office
Tel: (807) 468-2728

REQUEST FOR REVIEW

You may request that this Order be reviewed by a Director.

Your request must be made (i) in writing (or if made orally, with written confirmation) and (ii) served on the Director at the address below within seven (7) calendar days after being served with a copy of this Order.

In the written request or written confirmation of an oral request, you must include:

(a) the portions of the Order in respect of which the review is requested;
(b) any submissions that you wish the Director to consider; and
(c) an address for service to be used by the Director.

In response to your request for review, the Director may confirm, alter or revoke this Order and will serve you with a copy of the Director's decision or Order.

A request for review does not automatically stay this Order. If you wish to have the Director stay the Order you must also include this in your request and the Order is not stayed unless the Director makes an order granting a stay.

DEEMED CONFIRMATION OF THIS ORDER

If you do not receive oral or written notice of the Director's decision on your request for review within (7) calendar days of receipt of your request, and the Director has not stayed the Order, this Order shall be deemed to be confirmed by order of the Director and deemed to be served upon you.

In the case of a deemed confirmation, you may require a hearing before the Environmental Review Tribunal (Tribunal), if, within fifteen (15) calendar days from the deemed date of service of the Director's order, you serve written notice of your appeal on the Tribunal and the Director. Your notice must state:

(a) the portion(s) of the Order in respect of which the hearing is required; and
(b) the grounds on which you intend to rely at the hearing.

Except with leave of the Tribunal, you are not entitled to appeal a portion of the Order or to rely on a ground that is not stated in the notice requiring the hearing. Unless stayed by the Tribunal, the Order remains in effect from the date of service.

Written notice requiring a hearing can be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
Email: ERTTribunalsecretary@ontario.ca

and

Director
Ministry of the Environment and Climate Change
Thunder Bay District Office
331-435 James St S
Thunder Bay ON P7E 6S7
Fax: (807) 475-1754
Tel: (807)475-1205

Further information on the Tribunal and requirements for an appeal can be obtained directly from the Tribunal by:

Tel: (416) 212-6349 or 1-866-448-2248
TTY 1-800-855-1155 via Bell Relay

Fax: (416) 314-4506
Web: www.ert.gov.on.ca

FOR YOUR INFORMATION

The following is for your information:

Service of the documentation referred to above can be made personally, by mail, by fax, by commercial courier or by email in accordance with the legislation under which the Order is made and any corresponding Service Regulation . Further information can be obtained from e- Laws at www.e-laws.gov.on.ca. Please note that choosing service by mail does not extend any of the above mentioned timelines.

Unless stayed, this Order is effective from the date of service. Non-compliance with the requirements of this Order constitutes an offence.

The requirements of this Order are minimum requirements only and do not relieve you from complying with the following:

(a) any applicable federal legislation,
(b) any applicable provincial legislation or requirements that are not addressed in this Order, and
(c) any applicable municipal law.

The requirements of this Order are severable. If any requirement of this Order or the application of any requirement to any circumstances is held invalid, the application of such requirement to other circumstances and the remainder of the Order are not affected.

Further orders may be issued in accordance with the legislation as circumstances require.

The procedures and other information provided above are intended as a guide. The legislation and/or regulations should be consulted for additional details and accurate reference.

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

Provincial Officer's Report

Order Number
7011-9QDQKC

The Corporation of the Town of Fort Frances
320 Portage Ave
Fort Frances, Ontario, P9A 3P9
Canada

Site
Fort Frances Waste Disposal Site
Northeast 1/4 of Section 25 Alberton Twp
Alberton, District of Rainy River

Observations

1. Currently the Town of Fort Frances disposes of sewage biosolids from the Fort Frances Sewage Treatment Plant (3-0049-96-006) by allowing Hammond Landscaping Ltd. (110000258-01) to haul the biosolids to an organic soil conditioning site known as the Frog Creek Road Sod Farm (S-7048-32).

2. The approval for the Frog Creek Road Sod Farm (S-7048-32) expires on December 31, 2014.

3. Due to recent changes in the Nutrient Management Act and Regulation 267/03, approval for the application of non-agricultural source materials to agricultural land is now under the jurisdiction of the Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

4. Hammond Landscaping Ltd. has indicated in correspondence, dated September 26, 2014 (Hammond to Lalla (OCWA)), that due to changes in the regulatory requirements they would not be able to continue to haul and spread sewage biosolids effective early November.

5. Section 52.3(1) of Ontario Regulation 267/03 prohibits the application of sewage biosolids when soil is snow covered or frozen.

6. On September 30, 2014, the Town of Fort Frances indicated during a telephone conversation with the undersigned that they were caught by surprise regarding Hammond Landscaping's

decision to no longer provide sewage biosolids hauling and spreading services.

7. On October 1, 2014, the Ministry of the Environment and Climate Change (MOECC) was copied on an e-mail from OMAFRA to the Town of Fort Frances indicating that OMAFRA is involved with the approval of sites for the agricultural use of non-agricultural source materials such as sewage biosolids and that they cannot extend existing approvals issue by the MOECC or relax any regulations (regarding nutrient management) that may be in place.

8. On October 21, 2014, the MOECC received an action plan from the Town of Fort Frances. The Town proposes to transport sewage biosolids to the Fort Frances Waste Disposal Site. A containment pond will be constructed on the landfill site property to store liquid sewage biosolids. The Town will retain a consultant to determine the most economical means of dewatering sewage biosolids at the sewage plant so that they can be disposed of as solid non-hazardous waste. It is anticipated that liquid sewage biosolids will need to be transported, and disposed of, at the Fort Frances Waste Diposal Site for a period of six to eight months.

9. The Fort Frances Waste Disposal Site is approved under Environmental Compliance Approval (formerly Certificate of Approval) A610301 issued on April 1, 1980. The site is approved to receive domestic and commercial wastes.

10. Currently, liquid sewage biosolids from the Fort Frances Sewage Treatment Plant are transported to the Frog Creek Road Sod Farm. This practice is slated for termination in the near future. This has left the Town of Fort Frances in a difficult situation trying to work out alternatives for managing sewage plant biosolids. The purpose of this order is to support the temporary management of sewage biosolids by authorizing their disposal at the Fort Frances Waste Disposal Site and by ensuring that the Town of Fort Frances vigorously pursues other methods of biosolids disposal and any required approvals.

11. This preventive measures order is being issued under section 157.1(1) of the Environmental Protection Act in that I reasonably believe that the requirements specified in the order are necessary to give the Town of Fort Frances a temporary method for the disposal of sewage biosolids thereby removing the biosolids from the Fort Frances Sewage Treatment Plant and preventing their discharge into the Rainy River.

12. This preventive measures order is being issued under section 16.1(1) of the Ontario Water Resources Act in that I reasonably believe that it is in the public interest that the Town of Fort Frances implement a process to dewater sewage plant biosolids so that they can be managed as solid non-hazardous waste.

13. This order is being issued to assist the Town of Fort Frances with an emergency situation regarding the management of sewage biosolids. The Town of Fort Frances is required to take all reasonable steps to ensure that the temporary disposal of liquid sewage biosolids at the Fort Frances Waste Disposal Site does not cause an adverse effect. Any adverse effect resulting from the activities contained in this order are the sole responsibility of the Town of Fort Frances.

Offence(s)

Suspected Violation(s)/Offence(s):

Act - Regulation - Section,
Description
{General Offence}

Ray Boivin
Provincial Officer
Badge Number: 493
Date: 2014/11/07
District Office: Kenora Area Office

Associated Engineering | GLOBAL PERSPECTIVES. LOCAL FOCUS

Associated Engineering (Ont.) Ltd.
Suite 800, 304 The East Mall
Toronto, Ontario, Canada M9B 6E2

TEL: 416.622.9502
FAX: 416.622.6395
www.ae.ca

November 28, 2014
File: TOR_P_2014.650

Doug Brown, P.Eng.
Operations & Facilities Manager
Town of Fort Frances
320 Portage Avenue
Fort Frances, ON

Re: FORT FRANCES WASTEWATER TREATMENT PLANT DEWATERING UPGRADE ENGINEERING SERVICES FEE LETTER

Dear Mr. Brown:

Based on our discussion on October 28, 2014 it was understood that the Town would like to have the current biosolids dewatering system at the Fort Frances WWTP replaced with a new dewatering system that will produce a minimum of 18% biosolids cake so that this cake can be disposed at the local landfill. It was requested that this system be in operation by October 2015. In addition, it was requested that the secondary clarifier chain replacement be completed under this work program.

We believe that one of the keys to successful implementation of the sludge dewatering system would be to complete site trials at the Fort Frances WWTP. Currently, the plant uses aerobic digestion to stabilize the biosolids. Aerobically digested sludges have a wider performance response to dewatering, so it is possible that at one facility you may get 20% solids cake and at other facilities with the same dewatering equipment perhaps you are only able to achieve 15% solids cake. Accordingly, AE strongly recommends that site trials with at least two vendors be completed using the sludge at Fort Frances WWTP to confirm that the 18% solids cake can be achieved. These site tests will also help to confirm if the polymer currently being used at the plant is suitable. In addition, these test will determine the polymer dosages required for the dewatering system, which will allow us to confirm if the existing polymer feed system is adequate or requires replacement.

However, if site trials are completed the vendors will likely want to be compensated for the effort to bring their trailer mounted units to the site and complete the testing. We have not included this cost in our proposal.

The following workplan provides an outline of the activities that would need to be completed to ensure successful implementation of a new dewatering system, including professionally prepared deliverables, well documented process (technical memos, design reports, meeting minutes, construction paperwork, etc.) and experienced construction administration staff.

Phase 1 – Dewatering System Selection

a) Review background Information:
   a) Review the dewatering technical memo prepared by OCWA.
   b) Revisit the Process Optimization report prepared by Associated Engineering in 2009, and update biosolids portion of the report based on latest plant data.

c) Review existing drawings to confirm space available within existing building envelope for installation of new systems.
d) Prepare a list of candidate technologies for dewatering of aerobic sludges to achieve a minimum of 18% solids cake.
e) Identify a minimum of two technologies that should have site pilot testing to confirm ability to achieve a minimum 18% solids cake.
f) Work with Town and OCWA to determine location for pilot units, access point to feed sludge to pilot units, access points for utilities (water, drain, power).

b) Coordinate a maximum of two vendors to complete site trials.
c) Oversee site trials by vendors, including AE attendance at the Fort Frances WWTP.
d) Review vendor reports.
e) Compile background and pilot testing information into Technical Memo #1 – Dewatering System Selection, including conceptual layout(s), suitability of existing polymer system, comparison of operation and maintenance costs, spare parts required, list common operating issues with each system, and provide recommendation for which dewatering system to implement.
f) Review TM#1 with Town and confirm selection (via conference call).

Deliverable: TM#1 Dewatering System Options Review and Selection

Phase 2 -Detailed Design

a) Prepare preliminary design information.
b) Prepare pre-purchase tender documents for both dewatering system and conveyor system. Once the dewatering system is recommended it will be important to determine how to transfer the sludge cake to a storage bin that can easily be removed for disposal. There will likely be a need to elevate the dewatering system and there may be a requirement for a conveyor system to convey the cake to the storage bin located in an accessible location for removal.
c) Review Meeting with Town (via conference call).
d) Finalize Pre-purchase Documents.
e) Provide tender assistance during the Pre-purchase Tender Period (3 weeks).
f) Review tender submissions and provide recommendation to Town.
g) Work with Town to award pre-purchase to successful vendors and set up progress payments as per tender documents.
h) Acquire shop drawings from vendor and complete review (assume only one submission will be reviewed).
i) Complete detailed design of the dewatering system, including demolition plans, conveyor system, chemical system, secondary clarifier chain replacement, access platforms, electrical upgrades and I&C upgrades. It is important to note that the engineering fee presented in this proposal letter is based on the dewatering system being constructed within the existing building envelope and that

existing HVAC and odour control is adequate. If building expansion is required, then AE and Town will need to negotiate an additional fee to address the additional structural, architectural and building mechanical (i.e., HVAC and odour control) requirements, acquisition of a building permit and impact on contract administration activities.

j) Town and OCWA will have to confirm alternative disposal plan for the aerobically digested during the construction phase and have the approved plan in place prior to construction.
k) 60% Design Review meeting with Town (AE meet in Fort Frances with Town and OCWA staff).
l) 100% Design Review Meeting with Town (conference call).
m) Prepare and submit Environmental Compliance Approval amendment to the MOE (assume 12 weeks).
n) Complete preparation of tender documents.

Deliverables:

a) Pre-purchase Documents for Dewatering System and Conveyor
b) Recommendation Letter for Selection of Dewatering and Conveyor Equipment
c) 60% Detailed Design Package (drawings and specifications)
d) Tender Package, including front end documents, 100% Detailed Design drawings and specifications.

Phase 3 – Construction

a) Provide support during Tender Period.
b) Prepare review of bids submitted and provide recommendation for award.
c) Complete a pre-construction meeting (AE in Fort Frances).
d) Complete intermittent construction meetings (assume 4 during construction).
e) AE staff attend start-up and commissioning (4 days) and ensure that operator training is completed.
f) Provide support remotely during construction (novation agreement with Contractor to transfer the pre-purchased equipment to the contract, shop drawings, progress payments, request for information, etc.) and review progress on a daily basis with OCWA operations. As in previous work, OCWA will observe contractor progress, take daily photos and discuss issues with AE, but AE will provide instructions or feedback to Contractor.

Deliverables:

a) Recommendation Letter for Contractor
b) Construction Meeting Minutes
c) Contract Administration Paperwork (progress payment recommendation letters, substantial completion letters, etc.)

Phase 3 – Post Construction

a) Record drawings
b) O&M Manual for Dewatering System
c) Contract Administration Activities like warranty items and completion of payments.

Deliverables:

a) Record Drawings
b) O&M Manual

Schedule

We have prepared a proposed schedule for the investigation, design, and construction phases of the work to implement a dewatering system. Based on a review of this scheduling we believe that it might be optimistic to have the dewatering system commissioned by mid-October 2015. All activities will have to occur as planned, without any set-backs in design, equipment delivery, acquiring approvals or unknowns during construction.

Fees

Based on the workplan presented above, we have estimated our lump sum fee for the tasks identified would be $139,809, excluding HST.

We could start work on this assignment within a week of approval of the proposal.

We trust that we have provided a sufficiently detailed workplan with clear deliverables, which will allow an unbiased selection of a dewatering system that will meet the Town's requirements. This will include the delivery of a quality product and the required level of effort to ensure successful implementation. We look forward to reviewing this letter with you soon.

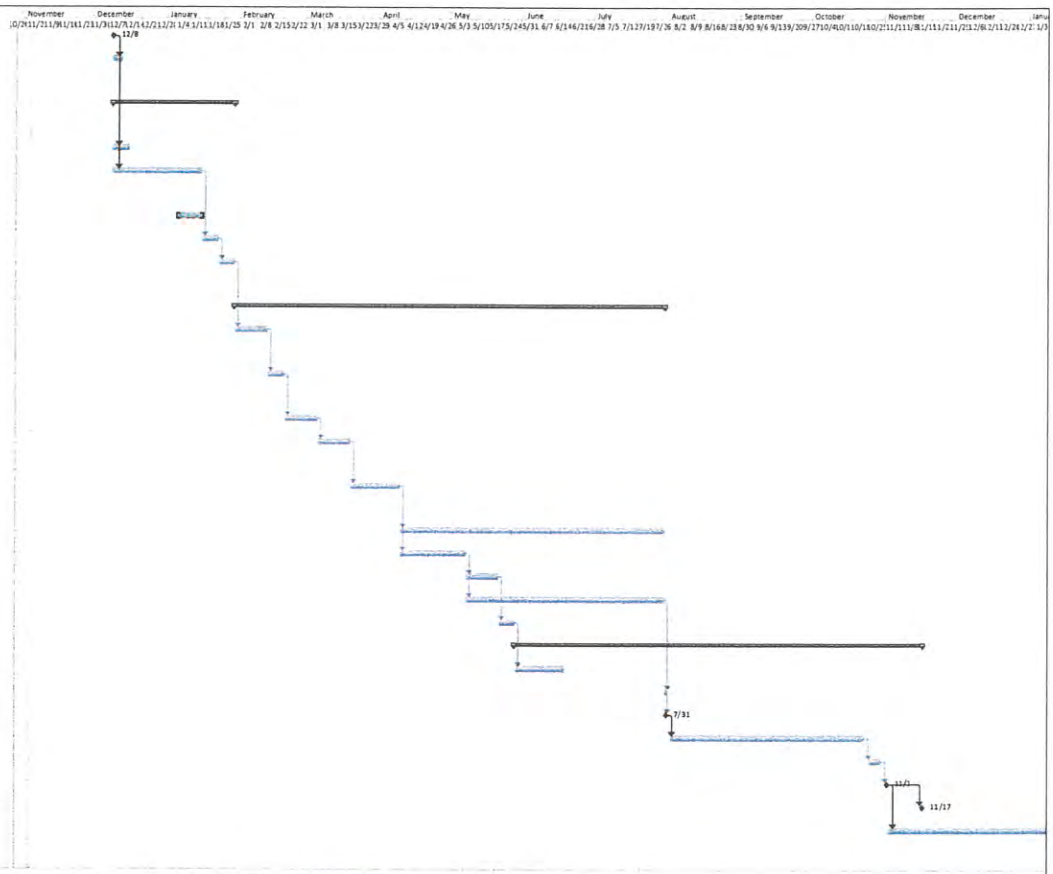
Yours truly,

Paula Steel, P.Eng.
Project Manager

Fred Albanese, P.Eng.
Division Manager

PS/da

ID	Task Name	Duration	Start	Finish	Predecessors
1	Project Awarded	1 day?	Mon 12/8/14	Mon 12/8/14	
2	Project Management Activities (agreements, accounting set-up, etc).	4 days	Tue 12/9/14	Fri 12/12/14	1
3	**Phase 1 - Dewatering Equipment Selection**	**30 days**	**Tue 12/9/14**	**Thu 1/29/15**	
4	Review Background Information	5 days	Tue 12/9/14	Mon 12/15/14	1
5	Coordinate and Complete Site Testing	4 wks	Tue 12/9/14	Thu 1/15/15	1
6	Coordiante 2 Site Visits	2 wks	Mon 1/5/15	Fri 1/16/15	
7	Complete TM#1	1 wk	Fri 1/16/15	Thu 1/22/15	5
8	Review with Town and Confirm Dewatering System	5 days	Fri 1/23/15	Thu 1/29/15	7
9	**Phase 2 - Design**	**130 days**	**Fri 1/30/15**	**Thu 7/30/15**	
10	Preliminary Design & Preparation of Prepurchase Documents	10 days	Fri 1/30/15	Thu 2/12/15	8
11	Review and Finalize Prepurchase Documents	5 days	Fri 2/13/15	Thu 2/19/15	10
12	Prepurchase Tender Period	2 wks	Fri 2/20/15	Thu 3/5/15	11
13	Confirm Equipment System & Prepare Purchase Order	2 wks	Fri 3/6/15	Thu 3/19/15	12
14	Shop Drawing Submission and Review	3 wks	Fri 3/20/15	Thu 4/9/15	13
15	Equipment Delivery	16 wks	Fri 4/10/15	Thu 7/30/15	14
16	Detailed Design	20 days	Fri 4/10/15	Thu 5/7/15	14
17	Design Review Period & Finailization	10 days	Fri 5/8/15	Thu 5/21/15	16
18	ECA Review Period	12 wks	Fri 5/8/15	Thu 7/30/15	16
19	Tender Documents Prepared	5 days	Fri 5/22/15	Thu 5/28/15	17
20	**Phase 3 - Construction**	**123 days?**	**Fri 5/29/15**	**Tue 11/17/15**	
21	Tender Phase	3 wks	Fri 5/29/15	Thu 6/18/15	19
22	Award Contractor	1 day?	Fri 7/31/15	Fri 7/31/15	18
23	Order to Commence	1 day?	Fri 7/31/15	Fri 7/31/15	18
24	Construction Period	3 mons	Mon 8/3/15	Fri 10/23/15	23
25	Commission Dewatering System	5 days	Mon 10/26/15	Fri 10/30/15	24
26	Substantial Completion	1 day?	Mon 11/2/15	Mon 11/2/15	25
27	Total Completion	1 day?	Tue 11/17/15	Tue 11/17/15	26FS+2 wks
28	Phase 4 - Warranty Period	365 days	Tue 11/3/15	Mon 3/27/17	26
29					



Project: Fort Frances Schedule.m
Date: Tue 11/4/14

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

Fee Breakdown

City of Fort Frances - Biosolids Dewatering Upgrade: Design and Construction

No.	Task Description	Paula Steel Project Manager	José Bicudo Process Lead	Ed Salenieks Internal QA/QC	Lizanne Pharrand Process Designer	Owen Van Walleghem Process Engineer	Paul Shi Structural Engineer	Dusan Fill Mechanical Engineer	David Holyer Electrical/I&C Engineer	Kathy Khanna Electrical/I&C Engineer	CAD Support	Administration Support	Total Person hours	Total Fees	Expenses and Disbursements (5%)	Specific Disbursements (Flights, Hotel, Car Rental)	Total Fees and Disbursements	Task Totals
	Hourly Rate ($)	160	180	180	93	113	139	160	160	93	113	75						
1.0	**Project Management**	24											24	$3,832	$192		$4,023	$4,023
2.0	**Phase 1: Dewatering Equipment Review**																	$17,421
2.1	Review Background Information	1	8		16								25	$3,083	$154		$3,237	
2.2	Coordinate and Complete Site Testing		2		8	48						2	60	$6,690	$335	$1,500	$8,525	
2.3	Complete TM#1	1	8	2	16						8	2	37	$4,500	$225		$4,725	
2.4	Review with Town and Confirm Dewatering System	1	2		4								7	$890	$45		$935	
3.0	**Phase 2: Detailed Design**																	$88,284
3.1	Preliminary Design & Preparation of Prepurchase Documents (3 drawings and 2 specifications)		8		32				2		48	2	92	$10,314	$516		$10,830	
3.2	Review and Finalize Prepurchase Documents	2	4	4	40				2	4	12	2	70	$7,667	$383		$8,051	
3.3	Prepurchase Tender Period	1	2		8								11	$1,261	$63		$1,324	
3.4	Confirm Equipment System & Prepare Purchase Order	2	2		8							2	14	$1,571	$79		$1,650	
3.5	Shop Drawing Submission and Review	4			8						4		16	$1,833	$92		$1,925	
3.6	Detailed Design (20 drawings)	16		8	40		8	8	8	40	320	8	456	$51,935	$2,597		$54,531	
3.7	Design Review Meeting (60%) in Fort Frances	20			4								24	$3,564	$178	$800	$4,542	
3.8	Design Review Meeting (100%) Conference Call	2			4								6	$690	$35		$725	
3.9	Design Finalization and Tender Preparation (Town to Print copies)	2			8		1	1	1	2	4	2	21	$2,308	$115		$2,424	
3.10	Prepare ECA and Follow-up	2			20								22	$2,173	$109		$2,282	
4.0	**Phase 3: Construction**																	$21,999
4.1	Tender Phase, plus Tender Submissions Review & Recommendation of Award	2			8		1	1		2	2	2	18	$1,922	$96		$2,018	
4.2	Construction Period, including commissioning and training	8			16	80	8	8	4	8	4	8	144	$16,649	$832	$2,500	$19,981	
5.0	**Phase 4: Post Construction & Warranty**	4			24	8					32	4	72	$7,696	$385		$8,081	$8,081
	LUMP SUM FEE (excluding HST)	92	36	14	264	136	18	18	17	56	434	34	1119	$128,580	$6,429	$4,800	$139,809	$139,809

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

ENGINEERING SERVICES

Sheridan Centre
2225 Erin Mills Parkway
Suite 1200
Mississauga, Ontario
Canada L5K 1T9

TEL: 905-491-3030
FAX: 905-855-3232
www.ocwa.com
Dir Line: 905-491-3070

November 25, 2014

Via E-Mail

Mr. Doug Brown, Manager
Town of Fort Frances
Operations and Facilities Division
320 Portage Avenue
Fort Frances, On P9A 3J9

Dear Mr. Brown:

Re: Town of Fort Frances Water Pollution Control Plant
Proposal for Supply and Installation of Sludge Dewatering Equipment

We are revising our letter proposal in response to yesterday's telephone discussions and the comments that you provided in your e-mail of November 20, 2014. Your requirements were significantly clarified. We trust that this revised letter proposal now meets your requirements.

Understanding the Project

The Town of Fort Frances (Town) is in need of implementing a long term solution for the disposal of sewage sludge. Over the past few years, thickened aerobically digested sludge has been collected and used as fertilizer in a landscaping operation. However, notice has been given that the haulage of liquid sludge has or will soon cease. The most practical solution for the disposal of waste sewage sludge is to significantly dewater the sludge so that it could be utilized as cover material at the municipality's landfill site. However, the Ministry of Environment and Climate Change (MOECC) requires that any dewatered sludge taken to a landfill site must be dewatered such that there is a minimum of 18% dry solids.

One requirement that the Town foresees is the use of a municipally-owned pick-up along with a specialty trailer to transport the dewatered sludge to the landfill site. This is to be considered in any proposed work.

Although there are several methods of dewatering sludges ranging from geo-tubes, belt filter presses, plate and frame presses, centrifuges, etc., the Town has requested that in addition to two such methods (belt filter presses and centrifuges), we should also include in our evaluation, the potential of using the Huber Rotamat Screw Press or the Fournier Rotary Press.

In addition to the above, the Town has requested that we provide specific time lines for the installation of sludge dewatering equipment at the Fort Frances WPCP. This is provided in the next section of this letter proposal.

Project Time Lines

We have now been apprised of Provincial Officer's Order No. 7011-9QDQKC as related to the design and construction of new sludge dewatering facilities at the Fort Frances WPCP. We have reviewed the timelines as stipulated in Provincial Officer's Order. Based on the knowledge that had been previously gained with respect to the supply and delivery of at least one centrifuge supplier, we strongly feel that the stipulated time line in the Order can be achieved.

Accordingly, the following summarizes the timelines that we envisage:

i) Mid-December 2014 – OCWA Engineering Services (ES) engaged
ii) January – February, 2015 – OCWA ES reviews various sludge dewatering equipment and makes recommendation(s) to Town.
iii) February 2015 – OCWA ES develops and releases Pre-Purchase Tender Documents for sludge dewatering equipment that includes the rental of temporary dewatering equipment.
iv) March 1, 2015 – Application submitted to amend ECA to include sludge dewatering equipment at Fort Frances WPCP. Note that consultation with MOECC would be required to ensure acceptance of proposed dewatering equipment.
v) February – March, 2015 - Tender submissions received from various equipment suppliers and recommendation made to Town.
vi) March 31, 2015 - Town agrees with recommendation and issues Purchase Order for the equipment supply to selected equipment supplier. Note, delivery of equipment could take up to 4 months with actual delivery taking place by August 1, 2015.
vii) April- May, 2015 – OCWA ES prepares tender documents for installation of dewatering equipment and modifications to primary clarifiers
viii) May 31, 2015 – After review by Town, Tender Documents issued to Bidders.
ix) June, 2015 – bidding period
x) July 1- 15, 2015 – Tenders received by Town, reviewed by OCWA ES and installation contract awarded to successful Bidder (Contractor).
xi) July 15 – 31, 2015 - Contractor on site, sets up temporary dewatering facility
xii) August – September, 2015 - Contractor receives new sludge dewatering equipment, removes obsolete equipment from existing facilities, makes building modifications and installs new sludge dewatering equipment. Other construction activities also carried out.
xiii) September, 2015 - Sludge dewatering equipment is commissioned and training provided to operating staff.
xiv) October, 2015 – OCWA ES, on behalf of the Town, advises the MOECC that new equipment is in place and is in operation.

Project Tasks

It is envisioned that the project, for the provision of suitable dewatering equipment, is a process that will be developed in five basic phases. Each phase can also be considered a decision point and each is described below.

Phase 1 – Pre-design Services

1. We will carry out a comparison between selected belt filter presses, centrifuges, the Huber Rotamat as well as the Fournier with respect to operating and capital costs. We will look at the amount and type of sludge to be handled, firstly on an annual basis and, secondly, on a daily basis, assuming a 5-day operating week, to determine the size of the specific machines. As is known, each machine can produce sludge cake with a varying amount of solids concentrations.

2. Although in many cases it is desirable to carry out pilot studies with any new equipment, the timeline stipulated by the MOECC along with winter conditions precludes us from conducting any pilot studies. As such, it is imperative that the desk top evaluation be as comprehensive as much as is possible given the circumstances. Nonetheless, there is a strong possibility that, with the help of Fort Frances, a pilot study

exploring the potential of the Fournier Rotary Press for sludge dewatering could be carried out. As such, we have included in our budget a provisional sum to allow for a pilot study.

3. We will review the performance and durability of the selected dewatering equipment alternatives. We have good knowledge with a variety of dewatering equipment and have detailed information about some of the products. It is most imperative that any sludge dewatering equipment proposed is capable of achieving a minimum of 18% dry solids

4. We will review the size constraints of the suggested equipment to determine the necessary installation footprint and to ensure that the existing building can physically accommodate the proposed equipment.

5. We will request from each supplier, a list of required spare parts in addition to their recommended maintenance requirements.

6. A report will be prepared and submitted to the Town with our recommendation as to which sludge dewatering equipment should be utilized in Fort Frances. This will be the first decision point.

Phase 2 – Pre-purchase of Equipment

1. Once a decision is made by the Town as to which type of equipment is to be purchased, we will prepare documents for the pre-purchase of the dewatering equipment to be utilized at the Fort Frances Water Pollution Control Plant. It should be noted that the pre-purchase of equipment is proposed because of the long delivery period for the provision of the dewatering equipment by some suppliers.

2. In addition to supplying the requisite parameters for sludge dewatering, we will also specify the requirements for commissioning and operator training.

3. Upon receipt of the proposals from the selected companies, we will review them and follow up with an appropriate recommendation to the Town.

4. Upon receiving instruction from the Town, the company chosen to supply the dewatering equipment will be notified and a subsequent Purchase Order would be issued by the Town.

5. We will prepare an Application for an Amendment to the existing Environmental Compliance Approval to permit the removal of the existing dewatering equipment and the installation of the new sludge dewatering equipment.

Phase 3 – Design of Physical Facilities

1. With the acquisition of the dewatering equipment finalized, a review of the necessary building and piping modifications will be undertaken. Drawings would be prepared that will ensure the proper installation of the equipment.

2. There is a possibility that the building envelope may need to be enlarged to accommodate either the selected equipment and/or a municipal vehicle for dewatered sludge haulage. In addition, there will be a need to ensure that the static and dynamic loads imposed by the selected equipment can be accommodated by the existing structure. A design firm specializing in industrial building design will be retained by the Ontario Clean Water Agency ("OCWA") to ensure that the adequacy of the existing structure for the equipment and ancillary equipment. The firm will also be required to provide the appropriate design drawings and specifications.

3. The design of the expanded and modified facilities will be submitted to the Town for its review and approval.

Phase 4 – Issue of Documents for Tender

1. With the basic design of the facility improvements being approved by the Town, work will start on the production of the tender documents for the installation of the sludge dewatering equipment.

2. In addition to the installation of the sludge dewatering equipment, we will include a section in the tender documents that addresses the upgrades required for the primary clarifiers. As well, there will be a requirement for the installation of temporary sludge dewatering equipment while the new dewatering equipment is being installed.

3. It will also be necessary to include in the tender documents, a requirement that the existing process control be upgraded to accommodate the process controls needed for the new sludge dewatering system.

4. The format of the tender documents, particularly the Form of Tender, General Conditions, etc., will be based on the format used by OCWA and its predecessors for over 50 years.

5. It is proposed that the Town will issue the tender documents for bidding to selected contractors that are known to the Town and OCWA.

6. Tenders will be received by the Town to be subsequently reviewed by OCWA. We will then make our recommendations to the Town with respect to the successful bidder.

Phase 5 – Construction Administration of Upgrades

1. Once the Town awards the construction contract to the Contractor who was the successful bidder, final contract documents will be prepared for signatures by the Town and the Contractor.

2. OCWA proposes to engage an experienced person living in the Fort Frances area as an Inspector of the work. His duties will be to make periodic inspections with respect to the work and report the same to the Project Manager. One such possibility is to use the services of the existing operating personnel at the Pollution Control Plant.

3. All construction activities will be monitored by the Project Manager, who will also issue monthly payment certificates.

4. Upon the completion of the installation, the dewatering equipment will be commissioned by the supplier under the supervision of the Project Manager.

5. Training in the operation of the new sludge dewatering equipment will be provided by the supplier.

6. Following a successful commissioning, the facilities will be turned over to the Town and our operations staff.

Company Profile and Experience

The Ontario Clean Water Agency was established on November 15, 1993 as a Crown Agency to provide water and wastewater services to Ontario municipalities previously serviced by the Ontario Ministry of Environment (MOE).

OCWA's Engineering Services (ES) has extensive experience in project managing water and wastewater projects that stretches back over 50 years through our predecessors, the MOE and the Ontario Water Resources Commission (OWRC). During this period, project management services have been provided to over 250 municipalities across the province. In addition to municipalities, ES also provides project management and

technical services to provincial and federal governments, institutions, and the private sector. As well, OCWA holds a Certificate of Authorization from Professional Engineers of Ontario.

The scope of projects managed by OCWA has included countless complex area schemes such as the $300M York-Durham Sewage System, numerous water and wastewater treatment plants, and basic works including water mains and sewers. In all cases, complete project management services have been provided, taking the projects from the inception stage through to completion and commissioning of the works. In some cases, design activities have complemented the project management activities.

Additional corporate information is available on OCWA's web site at www.ocwa.com.

Proposed Project Personnel

We propose ***Mr. L. Eric Czarnecki, M. Eng, P.Eng.*** to be the Project Manager for this project. Eric is one of our most experienced project managers. He is a civil engineer with almost 50 years of professional experience in the water and wastewater field. His experience ranges from plant operation management to the design and construction management of water and wastewater facilities. He has extensive project management and construction experience with water and wastewater projects including the relatively new technologies such as GE Water's (Zenon's) micro-filtration plants.

Eric started his career with the Ontario Water Resources Commission as an Assistant, then Operations Engineer in Northern and Eastern Ontario. In fact, one of his first assignments as an Assistant Operations Engineer was the Fort Frances Water Pollution Control Plant. Later, he was Manager of Technical Support in the Ministry of Environment's South Western Region. Eric has worked for several consulting engineering firms where he was responsible for the design and project supervision of several wastewater projects. He spent several years in Tanzania overseeing the rehabilitation of a large water treatment facility and two years in Ghana overseeing the construction and commissioning of a water treatment plant serving the city of Accra.

Currently, Eric is project managing the upgrades at the Cornwall Waste Water Treatment Plant. In recent years, he has completed project management assignments on the new Sewage Treatment System Upgrades for the Township of McGarry as well as the solids and liquid capacity upgrades at the Duffin Creek Water Pollution Control Plant. The solids capacity upgrades at Duffin Creek included the refurbishment of two fluidized bed sludge incinerators. Eric has investigated and reported on a number of small water and wastewater systems for public and private companies including facilities operated by Petro-Canada. He has been instrumental in resolving issues by designing improvement to these small facilities.

A number of years ago, Eric designed the upgrades at the Kenora Sewage Treatment Plant which included the design and installation of a combination rotating screen and belt filter press for the dewatering of aerobically digested sludge. He was also the principal designer of plate and frame filter presses that replaced the aging vacuum filters at the Sault Ste Marie East End Water Pollution Control Plant. Several years ago, Eric also reviewed two options of handling the final disposal of aerobically digested sludge at the Fort Frances Sewage Treatment Plant.

As Project Manager for this project, Eric will provide technical input to the design assignment based on his personal experience in operations and the design of sludge handling systems. However, he will be assisted on this assignment by the intermediate and junior engineers specifically identified below.

Dmitry Zolotnitsky, M. Eng., P.Eng. is an Intermediate Engineer who will assist the Project Manager by providing the necessary coordination to the project. Dmitry has over 5 years of municipal engineering experience and he brings strong engineering, project coordination and client services experience to the team. Dmitry joined OCWA in 2013, after working at an engineering consulting firm for 3 years. He possesses a range of engineering skills which come from his education and work background. He has practical experience in project

coordination, process (conceptual, preliminary, and detail) design, equipment sizing, and hydraulic modeling. In particular, he was heavily involved in a recent pilot study of a centrifuge proposed for Smooth Rock Fall, Ontario.

Tomas Ycas, BASc., EIT., has been a project engineer for OCWA's Engineering Services Group since January 2011 and will provide technical support to the project. Since joining OCWA, Tomas has been exposed to a variety of projects throughout Ontario by providing assistance to various water and wastewater treatment plant upgrades at facilities such as the Val Gagne WTP, the Haileybury STP, the Geraldton WTP and the Kagawong WTP. Tomas has prepared site plans, equipment layouts, piping diagrams and P & ID diagrams for a number of projects as required. In addition to his time at OCWA, Tomas has had previous experience as a construction inspector for new developments located throughout the Greater Toronto Area.

Cost Proposal for the Project

We have developed a time task matrix based on the tasks described above. The task costs, excluding HST, are summarized in the following table:

Task	Description	Cost
Phase 1	Pre-Design Services	$10,000
Phase 2	Pre-Selection of Equipment	$7,000
Phase 3	Design of Physical Facilities	$45,000
Phase 4	Issuance of Tender Document	$12,200
Phase 5	Construction Administration of Upgrades	$40,000
	Sub Total	$114,200
Provisional Sum	Allowance for Pilot Study	$10,000
	Total	**$124,200**

Summary of Proposal

In this proposal, we have described the tasks required to provide the Town of Fort Frances with upgraded sludge dewatering facilities at their sewage treatment facility. We have estimated the effort to carry out the evaluation of the various processes including a provisional pilot study and additional design as requested by the Town, the subsequent physical design of the improved facilities and the management of the construction activities at a cost of $124,200 plus HST. We now submit this revised proposal for your consideration.

We trust that this document has clarified the design and management activities that we propose to carry out with respect to this project. Should you have any questions concerning this proposal, please feel free to contact the undersigned.

Yours truly,

Dale Henry

Dale Henry, P. Eng.
Director (A)
Engineering Services

LEC/ec