Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Alfred Hub
2015 Lajoie Street, Box 252
Lefaivre, Ontario K0B 1J0
Tel: (613)679-4631 / Fax: (613) 679-4735

March 30, 2001

Mr. Brian R. Ward
Regional Director
Ministry of Environment
Eastern Region
133 Dalton Avenue, Box 820
Kingston, On K7L 4X6

RE: Fournier Wastewater Works
2000 Annual Report

Dear Mr. Ward:

The following information is being submitted in accordance with Conditions 5.2 of the Certificate of Approval (C of A) No. 3-0436-99-006 for the Fournier Wastewater Works located in Nation Township.

System Description

The Fournier Wastewater Works (the facility) comprises a sanitary sewer system, 2 sewage pumping stations and a sewage treatment and disposal system consisting of a recirculating sand filter, a sand filer recirculating system and a subsurface disposal system. The facility is rated at an average daily flow of 97,600 L/d to serve 100 dwellings. (refer to Appendix I: C of A 3-0436-99-006).

2000 Annual Report

Although construction of the facility was completed and commissioning of the system initiated in September 2000, various deficiencies and process adjustments have resulted in a delay in completing the commissioning. Commissioning is expected to be completed by March 21, 2001 (refer to Appendix II: March 30, 2001 letter from Neil Levac and Associates Ltd.).

As required under Condition 3.1(c) of the C of A, the Owner (Nation Township) retained the services of Golder Associates Ltd. to complete a groundwater monitoring program prior to the start-up of the works to determine background pollutant concentrations. This work was performed on August 10, September 13, October 05, November 10 and December 11, 2000 and a report issued on March 21, 2001 (refer to Appendix III: 2000 Groundwater Monitoring Program).

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

If you have any questions with the above information please contact me at this office.

Yours truly,

Jacques Breen
Operations Manger
Alfred Hub

Attachment: Appendix I: C of A No. 3-0436-99-006
Appendix II: March 30, 2001 letter from Neil Levac and Associates Ltd.
Appendix III: 2000 Groundwater Monitoring Program (not included as discussed)

c.c.: Ms. Mary McCuaig, Nation Township
Mr. Joe Rybak, OCWA
Ms. Josee Vallee, Neil Levac and Associates
Dan White Compliance Advisor OCWA Eastern Area

Appendix I

C of A No. 3-0436-99-006

Ontario

Ministry of the Environment

Ministère de l'Environnement

FOURNIER
CERTIFICATE OF APPROV.
SEWAC
NUMBER 3-0436-99-0(

Nation Municipality
958, Road 500 West, R.R. 3
Casselman, Ontario
K0A 1M0

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

Sanitary sewers, sewage pumping stations, a sewage treatment and disposal system to be constructed to serve one hundred (100) dwellings located on part of Lot 1, Concession XIII, Village of Fournier in the Municipality of Nation (former Township of South Plantagenet) consisting of a recirculation sand filter, a sand filter recirculating system and a subsurface disposal system, rated at an average daily flow of 97,600 L/d, as follows:

SANITARY SEWERS

STREET	FROM	TO
County Road 10	Approx. 500 m W. of County Road 15	Approx. 195 m E. of St. Joseph Street
St. Joseph Street	County Road 10	Approx. 90 m N. of County Road 10
Union Street	Park Street	Approx. 125 m S. of Park Street
Park Street	Union Street	Park Street
County Road 15	County Road 10	Approx. 105 m N. of Park Street
Easement, approx. 105 m N. of Park Street	County Road 15	Approx. 85 m W. of County Road 15

SEWAGE PUMPING STATIONS

- a 2.4 mm diameter by 6 m deep underground Sewage Pumping Station A constructed on the south side of County Road 10 approximately 65 m west of St. Joseph Street consisting of two (one duty and one stand-by)

submersible pumps, each pump having a rated capacity of 1.27 L/s at a TDH of 11.0 m with a 1.2 kW electrical drive with a 100 mm diameter forcemain to discharge sewage to a manhole located at the intersection of County Road 10 and County Road 15;

- a 2.4 mm diameter by 6 m deep underground Sewage Pumping Station B constructed approximately 85 m west of County Road 15 and approximately 105 m north of Park Street consisting of two (one duty and one stand-by) submersible pumps, each pump having a rated capacity of 4.33 L/s at a TDH of 11.0 m with a 3.7 kW electrical drive with a 100 mm diameter forcemain to discharge sewage to the septic tanks described below;

- three (3) portable stand-by engine driven generators with a minimum continuous rating of 40 kW (electrical) per generator, provided and located in the municipal garage for the Nation Municipality to provide emergency power necessary to operate Sewage Pumping Stations A and B and septic system pumps and controls during power outage;

SEWAGE TREATMENT AND DISPOSAL SYSTEM

- four (4) ~~86,400~~ Change To 10 litre pre-cast concrete septic tanks, installed in series approximately 155 m west of Sewage Pumping Station B with septic tank effluent discharging to a biological sand filter recirculation tank described below, each septic tank equipped with an activated carbon filter at the vent and two (2) biotube effluent filters installed at the outlet of the fourth septic tank;

- a biological sand filter recirculating system installed immediately west of the fourth septic tank, consisting of a 86,400 litre pre-cast concrete tank, four (4) sets of two (2) alternating dosing pumps with four (4) distributing valve assemblies, four (4) sand filter return pumps with a recirculating valve assembly, and associated recirculating timer and flow control units for dosing septic tank effluent to the recirculation sand filter and recirculating sand filter effluent back to the recirculation tank, each dosing pump having a rated capacity of 1.9 L/s at a TDH of 18.9 m with a 0.37 kW electric drive with a 50 mm diameter forcemain to dose septic tank effluent onto the recirculation sand filter, each return pump having a rated capacity of 1.9 L/s at a TDH of 18.9 m with a 0.37 kW electric drive with a forcemain to return sand filter effluent to the recirculation tank;

- a 28.8 m by 21.0 m recirculation biological sand filter having a hydraulic loading of 6.8 L/m²/hr, constructed approximately 3.5 m south of the recirculation tank consisting of 600 mm deep sand media of effective size of 1 to 3 mm and uniformity coefficient of less than 2.(in four (4) cells of six (6) zones, each cell having twelve (12) 25 mm diameter distribution pressure pipes of 21 m long connected to the distributing valve assembly at the front end of the sand filter and two (2) 100 mm diameter of perforated drain pipes at the bottom of the sand filter, each distribution pipe having thirty-five (35) 3.2 mm diameter orifices facing upward spaced at 600 mm interval and covered by orifice shields, installed on the sand filter surface, a pumping chamber located in the middle of each cell and connected the two perforated filter drain pipes to return the recirculation sand filter effluent to the recirculation tank;

- a 6,000 litre, pre-cast concrete leaching bed dosing chamber installed approximately 1 m north of the recirculation tank and equipped with two (2) sets of two (2) alternating submersible pumps, each pump having a rated capacity of 2.0 L/s at a TDH of 27.3 m with a 0.75 kW electric drive, including a distribution valve assembly per pump set, liquid level and pump timer controls together with 50 mm diameter forcemains to dose recirculation sand filter effluent through the distribution boxes to a subsurface disposal system;

- ten (10) 30 m long by 14.4 m wide raised absorption trench type leaching beds of imported sand with 9 min/cm percolation rate, constructed approximately 6 m north of leaching bed pumping chamber including imported mantle of 9 min/cm percolation rate extending 15 m north from the leaching bed and, each leaching bed consisting of ten (10) 100 mm diameter perforated pipes of 30 m long at 1.6 m interval together with header pipes from the distribution box;

together with piping and associated appurtenances all in accordance with communal septic system design report, final plans and specifications prepared by Neil A. Levac Engineering Ltd., Consulting Engineers.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL

1.1 "certificate" means this entire certificate of approval document, issued in accordance with Section 53 of the *Ontario Water Resources Act*, and includes any schedules;

1.2 "Director" means any Ministry employee appointed by the Minister pursuant to section 5 of the *Ontario Water Resources Act*;

1.3 "Ministry" means the Ontario Ministry of the Environment;

1.4 "Regional Director" means the Regional Director of the Eastern Region of the Ministry;

1.5 "District Manager" means the District Manager of the Kingston District Office of the Ministry's Eastern Region;

1.6 "Owner" means the Nation Municipality;

1.7 "Operating Authority" means the Owner or the designated agent of the Owner who is qualified to operate the works.

1.8 "works" means the sewage works described in the Owner's application, this certificate and in the supporting documentation referred to herein, to the extent approved by this certificate;

1.9 "grab sample" means an individual sample of at least 1000 millilitres collected in the appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;

1.10 "average daily flow" means the cumulative total sewage flow to the sewage works during a particular calendar year divided by the number of days within that year during which sewage was flowing to the sewage works;

1.11 "$CBOD_5$" means five day carbonaceous biochemical oxygen demand measured in an unfiltered sample;

1.12 "quarterly sampling" means sampling conducted on any such day within each consecutive three-month period that the time interval between consecutive quarterly sampling events is not less than 45 days.

2. PERFORMANCE

2.1 The Owner shall ensure that the flow of sewage into the sewage system does not exceed the average daily flow of 97,600 L/d over a period of one (1) calendar year.

3. MONITORING AND RECORDING

3.1 The Owner shall ensure that the following monitoring program is carried out upon commencement of operation of the works:

(a) Average daily flow of effluent being disposed of through the subsurface disposal system shall be measured or estimated, and recorded.

(b) Samples of raw sewage and effluent ahead of the subsurface disposal system shall be collected at locations satisfactory to the District Manager and analyzed for at least the following parameters at the indicated minimum frequencies:

Raw Sewage Parameter	Type of Sample	Minimum Frequency
BOD_5	grab	quarterly
Suspended Solids	grab	quarterly
Total Phosphorus	grab	quarterly
Total Kjeldahl Nitrogen	grab	quarterly

Effluent to Subsurface Disposal System Parameter	Type of Sample	Minimum Frequency
$CBOD_5$	grab	monthly
Suspended Solids	grab	monthly
Total Phosphorus	grab	monthly
Total Kjeldahl Nitrogen	grab	monthly
(Ammonia + Ammonium) Nitrogen	grab	monthly

Nitrate- Nitrogen	grab	monthly
Nitrite-Nitrogen	grab	monthly
Alkalinity	grab	monthly
E. coli	grab	monthly

(c) The Owner shall carry out the monitoring program for groundwater in accordance with the letter of April 7, 1999 (Re: Fournier Communal Septic System, Additional Treatment-Contingency Plan) appended in APPENDIX A and shall analyze for at least the following parameters at the indicated minimum frequencies:

Ground Water Parameter	Type of Sample	Minimum Frequency
(Ammonia + Ammonium) Nitrogen	grab	monthly
Nitrate-Nitrogen	grab	monthly
Nitrite-Nitrogen	grab	monthly
Total Kjeldahl Nitrogen	grab	monthly
pH	grab	monthly
Temperature	grab	monthly
E. coli	grab	monthly
Dissolved Organic Carbon	Grab	monthly
Anions		

NOTE: Prior to the start-up of operation of the works, groundwater samples shall be collected and analyzed to determine background concentrations of the above parameters at the locations established for regular monitoring.

(d) The sampling and analyses required by clause (b) and (c) above shall be performed in accordance with the Ministry's publication "Protocol for the Sampling and Analysis of Industrial - Municipal Wastewater", Ministry of Environment and Energy, August 1994; or as described in "Standard Methods for Examination of Water and Wastewater", 19th Edition, 1995, as amended from time to time by more recently published editions.

3.2 Following review of any of the analytical results required by Condition 3.1 or any of the reports required by Condition 5.2 of this certificate, the District Manager may alter the frequencies and locations of sampling and parameters for analysis required by Condition 3.1 if he/she considers it necessary for proper assessment of the

operation of the sewage system and its impact on the environment or if he/she is requested to do so by the Owner and considers it acceptable by the evidence of information submitted in support of the request.

4. OPERATION AND MAINTENANCE

4.1 The Owner shall use best effort to operate the sewage treatment works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent ahead of the subsurface disposal system:

Effluent Parameters to Subsurface Disposal System	Concentration
$CBOD_5$	10 mg/L
Suspended Solids	10 mg/L
Nitrate-Nitrogen	20 mg/L

4.2 Based on the operational objectives stipulated above in Condition 4.1, the Owner shall prepare an operation and maintenance manual within six (6) months of introducing sewage to the sewage works and keep it up to date. Upon request, the Owner shall make the manual available for inspection by the Ministry personnel and furnish a copy to the Ministry.

4.3 The Owner shall prepare and make available for inspection by Ministry personnel upon request, a complete set of drawings within one (1) year of substantial completion of the sewage works. The drawings shall show the sewage works as constructed at that time.

4.4 A complete set of the record drawings, incorporating any amendments made from time to time, shall be kept by the Owner at the site of the sewage works for as long as the sewage works are kept in operation.

5. REPORTING

5.1 One week prior to the start up of the operation of the works, the Owner shall notify the District Manager (in writing) of the pending start up date.

5.2 The Owner shall prepare, and upon request, submit to the District Manager annual performance reports for the sewage works. The first such report shall cover the period from the commencement of operation of the sewage works to the end of the calendar year and shall be prepared within the following ninety (90) calendar days. Each subsequent annual report shall be prepared within ninety (90) calendar days following the completion of the calendar year being reported upon. The reports shall contain the following information in a format acceptable to the District Manager:

(a) a tabulation and interpretation of all monitoring and analytical results obtained during the reporting period, including sampling/monitoring locations and dates;

(b) a tabulation and interpretation of daily volumes of effluent disposed of through the subsurface disposal system during the reporting period;

(c) a record of system maintenance undertaken during the reporting period; and

(d) an account of any environmental and operating problems encountered at the site and the mitigative measures taken during the reporting period.

6. CONTINGENCY PLANS

6.1 The Owner shall undertake a Contingency Plan in accordance with the letter of April 7, 1999 (Re: Fournier Communal Septic System, Additional Treatment - Contingency Plan) appended in APPENDIX A to provide additional treatments according to a time schedule as stated in the letter to improve the quality of the recirculation sand filter effluent before being discharged to the subsurface disposal system if the nitrate concentrations exceed the predetermined trigger levels at the designated monitoring locations as outlined in the above-noted letter;

6.2 The Owner shall undertake a Contingency Plan in accordance with the letter of March 8, 1999 (Re: Surface Water Impact - Fournier Communal Septic System, Part of Lot 1, Concession XIII, Former Township of South Plantagenet, Ontario) appended in APPENDIX A to develop a monitoring plan for the municipal drain (receiver) and possible contingency options in consultation with the Regional Director if the surface water

parameter concentrations exceed the predetermined trigger levels at the designated monitoring locations as outlined in the above-noted letter.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition No. 1 is included to define terms used in the Certificate.

2. Condition No. 2 is included to ensure that the flow of sewage to the sewage system is within the approved treatment capacity of the works.

3. Condition No. 3 relating to monitoring and recording the quality and quantity of treated effluent discharged to the subsurface disposal system, and the quality of the groundwater and surface water are required to enable the Owner to evaluate the performance of the works and to ensure that it is operated and maintained at a level which is consistent with the design objectives and other requirements of this certificate.

4. Condition No. 4 is included to ensure that the works will be operated and maintained in a manner enabling compliance with the terms and conditions of this certificate, such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented.

5. Condition No. 5 is included to ensure that all pertinent information is available for the evaluation of the performance of the sewage works.

6. Condition No. 6 is included to ensure that the quality of the treated sewage discharged from the sewage works will produce nitrate levels in the groundwater to meet the Reasonable Use requirements at the downgradient property boundary.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

[redacted]

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the sewage works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary,
Environmental Appeal Board,
2300 Yonge Street, 12th Floor,
P.O. Box 2382,
Toronto, Ontario.
M4P 1E4

AND

The Director,
Section 53, *Ontario Water Resources Act*,
Ministry of the Environment,
250 Davisville Avenue, 3rd Floor,
Toronto, Ontario.
M4S 1H2

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 11th *day of* June, 1999.

M. Dhalla, P.Eng.,
Director,
Section 53,
Ontario Water Resources Act.

GL/tm

c:-Ms. M. McCuaig, Clerk, Nation Municipality
-District Manager, MOE Kingston District Office
-Neil A. Levan Engineering Ltd.

APPENDIX A

1) April 7, 1999 letter "Re: Fournier Communal Septic System, Additional Treatment - Contingency Plan" addressed to Mrs. Vicki Mitchell of Ministry of the Environment by Louis LeMay, P. Eng. of Neil A. Levac Engineering Ltd.

2) March 8, 1999 letter "Re: Surface Water Impact - Fournier Communal Septic System, Part of Lot 1, Concession XIII, Former Township of Sout Plantagenet, Ontario" addressed to Mrs. Vicki Mitchell of Ministry of the Environment by Louis LeMay, P. Eng. of Neil A. Levac Engineering Ltd.

NEIL A. LEVAC ENGINEERING LTD / LTÉE
consulting engineers / ingénieurs conseils

Our File Ref: S9510

April 7, 1999

Ministry of the Environment
133 Dalton Avenue
P.O. Box 820
Kingston, Ontario K7L 4X6

- rec'd April 8/99
- circ'd to Bob Holland April 8/99

Attention: **Mrs. Vicki Mitchell**
Environmental Assessment Evaluator
Environmental Approvals and Plan Review
Technical Support Section, Eastern Region

RE: **Fournier Communal Septic System**
Additional Treatment – Contingency Plan

Dear Ms. Mitchell:

Further to your fax dated March 30, 1999, we are providing the following comments concerning the proposed groundwater triggers and a revised version of the Contingency Plan reiterating the reason for the contingency measure of adding PAC.

In the Contingency Plan, we have proposed a trigger of 3.7 mg/L nitrate at monitoring well MW99-8 located on the north side of the municipal drain. It was stated that the proposed trigger is not acceptable because it provides no time for the construction/addition of an upflow bio-filter and the associated "lag time" for the system to become effective at denitrifying wastewater to 10 mg/L nitrate.

Based on grain size analysis performed on samples taken at the site, the silt deposit is considered to have a medium to low permeability and the estimated hydraulic conductivity of the deposit is in the order of 10^{-4} cm/s. Therefore, once the trigger level is met at monitoring well MW99-8, which is about 120 m from the property boundary, an estimated delay of about 1380 days (or 3.8 years) is expected before the contamination plume reaches the property boundary. The proposed Contingency Plan allows for a one (1) year delay period to monitor the effectiveness of the first phase of the contingency. If we allow an estimated maximum of nine (9) months for the design and construct of the upflow bio-filter, a total delay of 1.75 years would past before implementing the second phase of the contingency. There is at least two (2) years left to ensure that the powdered activated carbon (PAC) is installed and operational.

We believe that the proposed trigger level of 3.7 mg/L nitrate is adequate to implement both phases of the contingency and that sufficient time delay is provided to insure that the sewage system upgrades are installed and operational.

E-mail: levaceng@istar.ca
D:\Documents\FILES95\S9510\contingencies MOE 99-4-7.doc
1-2884 rue Laporte Street, Rockland, Ontario, K4K 1M6 Fax (613) 446-1427 Tel (613) 446-7777
178 rue Main Street, Hawkesbury, Ontario, K6A 1A3 Tel (613) 632-4623
170 rue Broadway Street, Gatineau, Québec, J8P 3V3 Tel (819) 663-7194

Revised version of the Contingency Plan.

CONTINGENCY PLAN

The purpose of the Contingency Plan is to ensure that the proposed wastewater treatment system will meet the Reasonable Use requirements (Guideline B7) at all times. As part of the Contingency Plan a compliance monitoring program will be implemented with predetermined triggers that will activate contingency measures to upgrade the treatment process and improve the quality of the wastewater being discharged before exceeding the Reasonable Use requirements at the downgradient property.

Compliance Monitoring

As part of the phasing-in of the proposed sewage disposal system, it is recommended to monitor the groundwater quality through the installation of eight (8) new monitors. Five (5) monitors will be installed to assess the performance of the treatment system, two (2) monitors will be installed up gradient of the system to establish a baseline and one (1) monitor will be installed on the north side of the Nicholas Municipal Drain to serve as a compliance monitor to prompt contingency measures.

Monitor MW99-1 will be located in or near the disposal area installed into the silt aquifer. MW99-2 and MW99-3 will be located 25 metres downgradient from the disposal area and MW99-4 and MW99-5 will be located 100 metres downgradient from the disposal area. Monitors MW99-6 and MW99-7 will be located near the south property boundary up-gradient of the sewage system and MW99-8 will be located on the north side of the municipal drain. Refer to attached drawing S9510-03 for proposed location of monitors.

The screened portions of these monitors will be in the upper four metres of the saturated silt. The monitors will be sampled on a monthly basis for pH, nitrate, nitrite, TKN, organic nitrogen, ammonia, DOC and anions. Monitors MW99-4 and MW99-5 will also be tested for total phosphorus, total ammonia (with the ionized component calculated) and temperature for potential surface water impact.

Trigger Levels

The proposed monitoring network will be used to verify the predictions made in *Groundwater Impact Assessment* report. The use of MW99-4 and MW99-5 at a distance of 100 metres from the beds will provide sufficient warning of possible non-compliance. MW99-8 located on the north side of the municipal drain will be used as a non-compliance trigger.

E-mail: levaceng@istar.ca
D:\Documents\FILES95\S9510\contingencies MCE 99-4-7.doc
1-2884 rue Laporte Street, Rockland, Ontario, K4K 1M6
Fax (613) 446-1427 Tel (613) 446-7777
178 rue Main Street, Hawkesbury, Ontario, K6A 1A3
Tel (613) 632-4583
170 rue Broadway Street, Gatineau, Québec, J8P 3V3
Tel (819) 663-7194

In order to meet the Reasonable Use criteria at the downgradient property boundary, the nitrate concentration at monitoring well MW99-8 should not exceed 3.7 mg/L nitrate, based on zero background nitrate. If the concentration in MW99-8 does not exceed 3.7 mg/L, sufficient treatment is being realised. If this concentration is exceeded and coherent with concentrations measured in MW99-4 and MW99-5 for two consecutive test periods, the first phase of the contingency measures will be implemented.

The nitrate trigger level to implement the second phase of the contingency measures remains the same as for the first phase at 3.7 mg/L nitrate at monitoring well MW99-8. This is the theoretical maximum nitrate concentration allowed at MW99-8 in order to meet the Reasonable Use criteria at the property boundary based on infiltration dilution calculations only. The intent is that once additional treatment is implement and time is allowed for the groundwater quality to stabilize, the nitrate levels should be less then 3.7 mg/L.

Contingency Measures

Should the trigger level in monitoring well MW99-8 be reached, it is recommended to construction an anaerobic upflow bio-filter downstream for the RSF units. The upflow bio-filter would be designed to have a hydraulic retention time of 48 hours. Effluent discharging from the upflow bio-filter will reduce nitrate concentrations by a minimum of 50%, resulting in nitrate levels of less then 10 mg/L.

A six (6) month adjustment period should be allowed for the anaerobic upflow bio-filter to develop effective treatment. Also during this six (6) month period, it is expected that the groundwater quality will have been able to stabilize under the new treatment process and that monitoring results at MW99-8 should be representative of the performance of the system.

After the six (6) month adjustment period, an additional six (6) month period should be allowed to accurately evaluate the performance of the upgraded treatment process. During this time, it is expected that nitrate concentration at monitoring well MW99-8 will return to less then 3.7 mg/L.

If the nitrate concentration does not return to less then 3.7 mg/L, a supplemental carbon source will be added to the anaerobic upflow bio-filter to improve denitrification to less then 6 mg/L nitrate prior to disposal.

E-mail: levaceng@istar.ca
D:\Documents\FILES95\S9510\contingencies MCE 99-4-7.doc
1-2884 rue Laporte Street, Rockland, Ontario, K4K 1M6
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178 rue Main Street, Hawkesbury, Ontario, K6A 1A3
Tel (613) 632-4683
170 rue Broadway Street, Gatineau, Québec, J8P 3V3
Tel (819) 663-7194

.rust that the information provided meets with your requirements. Should you have any .stions or comments, please do not hesitate to contact the undersigned.

Yours truly,
Neil A Levac Engineering Ltd.

Louis LeMay, P.Eng.

E-mail: levaceng@istar.ca
1-2884 rue Laporte Street, Rockland, Ontario, K4K 1M8
178 rue Main Street, Hawkesbury, Ontario, K6A 1A3
170 rue Broadway Street, Gatineau, Québec, J8P 3V3

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Tel (819) 663-7184

NEIL A. LEVAC ENGINEERING LTD / LTÉE
consulting engineers / ingénieurs conseils

Our File Ref: S9510

March 8, 1999

Ministry of the Environment
133 Dalton Avenue
P.O. Box 820
Kingston, Ontario K7L 4X6

Attention: Mrs. Vicki Mitchell
Environmental Assessment Evaluator
Environmental Approvals and Plan Review
Technical Support Section, Eastern Region

RE: Surface Water Impact - Fournier Communal Septic System
Part Lot 1, Concession XIII
Former Township of South Plantagenet, Ontario

Dear Mrs. Mitchell:

Further to comments from Mr. Conrad de Barros, Surface Water Evaluator, on our letter of January 28, 1999, we are providing a revised copy of our drawing and the following comments.

The disposal fields are geometrically arranged to maximize dilution by spreading the contamination plume as wide as possible. This approach reduces the impact of the sewage disposal system by spreading the pollutants over a wider area.

The revised drawing was modified to indicate the location of the diversion swales or ditches at a minimum distance of 20 metres from the disposal fields. The drawing also indicates all existing ditches to be filled with native material (silt) to match the properties of the surrounding soil. The distance for backfilling the existing ditches has been increased to 60 metres downgradient from the disposal field.

Additional parameters will be included as part of the monitoring program to monitor possible surface water impact. The monitoring wells MW99-4 and MW99-5 will be sampled for pH, nitrate, nitrite, TKN, organic nitrogen, ammonia, DOC, anions, total phosphorus, total ammonia (with the ionized component calculated) and temperature. A proposed trigger for possible surface water impact at monitoring MW99-4 and MW99-5 would be 1800 µg/L for total ammonia (at 10°C & pH 8) and 5 mg/L for total phosphorous.

We trust that this meets with your requirements, should you have any questions or comments, please do not hesitate to contact the undersigned.

Yours truly,
Neil A Levac Engineering Ltd.

Louis LeMay, P.Eng.

E-mail: levaceng@istar.ca
\\PHILL\CAD FILES\Documents\FILES95\S9510\Fournier Surface Water Impact 2.doc
1-2884 rue Laporte Street, Rockland, Ontario, K4K 1M6 Fax (613) 446-1427 Tel (613) 446-7777
178 rue Main Street, Hawkesbury, Ontario, K6A 1A3 Tel (613) 632-4583
170 rue Broadway Street, Gatineau, Québec, J8P 3V3 Tel (819) 663-7194

Ministry of the Environment / Ministère de l'Environnement

Ontario

AMENDMENT TO CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 3-0436-99-006
Notice No. 1

The Nation Municipality
958 Highway 500 West, R.R. #3
Casselman, Ontario
K0A 1M0

Site Location: County Road 15
The Nation Township, United Counties Of Prescott & Russell

You are hereby notified that I have amended Certificate of Approval No. 3-0436-99-006 issued on June 11, 1999 for sanitary sewers, sewage pumping stations and a sewage treatment facility serving the Village of Fournier, as follows:

SANITARY SEWERS

- Amendments to the sewers on County Road 10; St. Joseph Street; Union Street; Park Street; County Road 15; Easement and Church Street.

SEWAGE PUMPING STATIONS

- Sewage pumping station "A" wet well depth decreased to 3.0 m and pumping capacity of each pump increased to 2.50 L/s;
- Sewage pumping station "B" rated pump capacity changed to 5 L/s at a T.D.H. of 8.0 m with a 1.2 kW electrical drive.

SEWAGE TREATMENT AND DISPOSAL SYSTEM

- Replacement of the four (4) pre-cast concrete septic tanks with eight (8) 45,400 L tanks in series;
- Deletion of activated carbon filters;
- Replacement of the one (1) 86,400 L biological sand filter recirculating tank with two (2) 45,400 L tanks

all in accordance with the application for approval dated July 10, 2000 and "AS BUILT" drawings prepared by Neil A. Levac Engineering Ltd., Consulting Engineers.

This Notice shall constitute part of the approval issued under Certificate of Approval No. 3-0436-99-006 dated June 11, 1999.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Appeal Board
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* **Further information on the Environmental Appeal Board's requirements for an appeal can be obtained directly from the Board at; Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 28th day of August, 2000

Mohamed Dhalla, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

THIS IS A TRUE COPY OF THE ORIGINAL CERTIFICATE MAILED
ON AUG 30
(Signed)

NS/
c: District Manager, MOE Kingston - District
Christian Robichard, Neil A. Levac Engineering Ltd.

Appendix II

March 30, 2001 letter from Neil Levac and Associates Ltd.

NEIL A. LEVAC ENGINEERING LTD / LTEE

Consulting Engineers / Ingénieurs Conseils

VIA FACSIMILE 613-679-4735

Our File: S9510

March 30, 2001

Ontario Clean Water Agency
2015 Lajoie Street
Lefaivre, ON K0B 1J0

Attn: Mr. Jacques Breen, Operations Manager

Object: **Nation Municipality**
Fournier Communal Septic System
Project No. 88-1471-01

Mr. Breen,

Further to our conversation of yesterday, we wish to confirm the following;

The above referenced system has been in commissioning since September 2000. Various deficiencies were identified and corrected through November 2000. However, the recirculating sand filter still requires adjustments to reflect the operating regime of this system. We are presently working in collaboration with the contractor and Onsite Sewage Inc., the equipment supplier, to complete the setup of the system. Weather permitting, we expect the commissioning to be completed within three weeks.

If you have any questions or comments, please contact the undersigned.

Yours truly,
Neil A. Levac Engineering Ltd.

Josée Vallée, B.Eng.

E-mail: neillevac@ejss.com Fax (613) 446-1427
☒ 1-2884, rue Chamberland Street, Rockland, Ontario K4K 1M6 Tel (613) 446-7777
☐ 105-480 rue McGill St., P.O. Box 414, Hawkesbury, Ontario K6A 2S2 Tel (613) 632-3105
☐ 2838 Maple Lane, Dunrobin, Ontario, K0A 1T0 Tel (613) 831-5497
☐ 170, rue Broadway East/est, Gatineau, Quebec, J8P 3V3 Tel (819) 663-1639

Appendix III

2000 Groundwater Monitoring Program