

OCT 13 2012  
2

Our File Number: 94400-30-BED-2008-065580-A01

Mr. Barry Nickerson P.Eng  
Halifax Regional Municipality  
40 Alderney Dr., Suite 102  
PO Box 1749  
Halifax, Nova Scotia  
B3J 3A5

Dear Mr. Nickerson:

**RE: Approval to Operate - Otter Lake Site - Approval No. 2008-065580-A01**

Enclosed please find amended operating Approval # 2008-065580-A01, to operate the Otter Lake Solid Waste Management Facility which includes the newly constructed Cell 6.

Amendments to the reporting requirements have been included in this amended approval. In general, the reporting is now on an annual basis with immediate reporting of limit exceedances. Section 21 of the approval has also been amended to require an operations review by the Technical Steering Committee at the request of the Administrator. Please read the approval in its entirety to ensure that you are familiar with all of the amendments.

Strict adherence to the attached terms and conditions is imperative in order to validate this Approval

Despite the issuance of this Approval, the Approval Holder is still responsible for obtaining any other authorization which may be required to carry out the activity, including those which may be necessary under provincial, federal or municipal law.

Should you have any questions, please contact Frank MacNeil P.Eng at 424-2290 or the Central Regional Office in Bedford at 424-7773.

Yours truly,

Original Signed  
Steve Westhaver  
District Manager

cc. S. Robertson



## APPROVAL

Province of Nova Scotia  
*Environment Act, S.N.S. 1994-95, c.1*

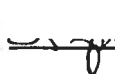
APPROVAL HOLDER: Halifax Regional Municipality

APPROVAL NO: 2008-065580-A01

EXPIRY DATE: July 2, 2022

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Operation of a municipal solid waste landfill including the Front End Processing (FEP), the Waste Stabilization Facility (WSF) and the Residuals Disposal Facility (RDF) at or near 600 Otter Lake Drive, Halifax Regional Municipality, in the Province of Nova Scotia.

Administrator  Original Signed

Effective Date October 18, 2012

# **TERMS AND CONDITIONS**

## **Nova Scotia Environment**

**Approval Holder:** Halifax Regional Municipality  
**Activity:** Approval to operate a municipal solid waste landfill including Front End Processing, Waste Stabilization Facility and Residuals Disposal Facility  
**Site:** 600 Otter Lake Drive, Halifax Regional Municipality  
**Approval No:** 2008-065580-A01  
**File No:** 94400-30-BED-065580-A01  
**Map Series:** 11D/12  
**Grid Reference:** E441500 N4940500

### **Reference Documents:**

- a) Halifax Regional Municipality Front End Processing and Waste Stabilization Facility - Construction Application Support Document - dated August 1997, including all attached annexes and supporting drawings.
- b) Operations Plan for the Front End Processing(FEP) and Waste Stabilization Facility (WSF) dated April 17, 2000 as submitted by Halifax Regional Municipality and as may be revised from time to time.
- c) Operations Plan for the Residuals Disposal Facility (RDF) dated August 2012 as submitted by Halifax Regional Municipality and as may be revised from time to time.
- d) Halifax Regional Municipality - Cell 2 - Application dated June 28, 1999, including all attached annexes and supporting drawings.
- e) Halifax Regional Municipality Front End Processing Expansion - Application dated January 24, 2000, including all attached annexes and supporting drawings.
- f) Halifax Regional Municipality - Application for approval of Cell 3 construction, dated May 11, 2001, including all attachments.

- g) Halifax Regional Municipality - Application for approval of Cell 4 construction, dated February 3, 2005, including all attachments.
- h) Halifax Regional Municipality - Application for approval of Cell 4 operation, dated May 11, 2006, including all attachments.
- i) Halifax Regional Municipality - Application for approval of Cell 5 operation, dated 2008/10/12, including all attachments.
- j) Letter from Dillon Consulting to Mirror Nova Scotia, dated December 17, 2008, signed by Mick Williams P.Eng. stating that Cell 5 is completed and ready to receive waste.
- k) Halifax Regional Municipality - Application for amendment of approval to operation to include Cell 6, dated August 24, 2012, including all attachments.
- l) Letter from Dillon Consulting to Mirror Nova Scotia, dated September 21, 2012, signed by Christopher Shortall P.Eng. stating that Cell 6 is completed and ready to receive waste.

**1. Definitions:**

- a) "Act" means the *Environment Act* S.N.S. 1994-1995, c.1 and includes all regulations made pursuant to the Act.
- b) "Administrator" means, for the purposes of this Approval, the regional manager of the Central Region Office of the Nova Scotia Environment or the regional manager's designate.
- c) "Department" means the Central Region, Bedford Office, of Nova Scotia Environment located at the following address:

Nova Scotia Environment  
Environmental Monitoring and Compliance Division  
Central Region, Bedford Office,  
Suite 115, 30 Damascus Road,  
Bedford, Nova Scotia, B4A 0C1.

Phone: (902) 424-7773  
Fax: (902) 424-0597

- d) "Facility" means the Front End Processing (FEP) as expanded in 1999/2000, the Waste Stabilization Facility (WSF) and Cell 1, Cell 2, Cell 3, Cell 4, Cell 5 and Cell 6 of the Residuals Disposal Facility (RDF) and all associated auxiliaries including the biofilter, scales, scale house, maintenance and

administration building, public drop off areas, leachate collection and storage tank(s), sedimentation ponds, soil borrow area, etc.

- e) "Grab sample" means an individual sample collected in less than 30 minutes and which is representative of the substance sampled.
- f) "Manual" means the Operations Plan for the Front End Processing(FEP) and Waste Stabilization Facility (WSF) dated April 17, 2000 as submitted by Halifax Regional Municipality and as may be revised from time to time.
- g) "Minister" means the Minister of Nova Scotia Environment.
- h) "Plan" means the Operations Plan for the Residuals Disposal Facility (RDF) dated August, 2012 as submitted by Halifax Regional Municipality and as may be revised from time to time.

## **2. Scope of Approval**

- a) This Approval (the "Approval") relates to Halifax Regional Municipality (the "Approval Holder") and their application and supporting documentation, as listed in the reference documents above, to operate the Facility, situated at or near Otter Lake, Halifax Regional Municipality (the "Site").
- b) This Approval is restricted to the operation of the Facility as defined in clause 1d).
- c) This Approval replaces previous Approval number 2008-065580-R01

## **3. General**

- a) The Approval Holder shall construct, operate and reclaim its Facility in accordance with provisions of the:
  - i) *Environment Act* S.N.S. 1994-1995, c.1, as amended from time to time;
  - ii) Regulations, as amended from time to time, pursuant to the above Act;
- b) The Facility shall be operated in accordance with the Manual, the Plan, the reference documents and the terms and conditions of this Approval. In the case of a discrepancy between the contents of the Manual, the Plan or the reference documents and this Approval, the terms and conditions contained in this Approval shall prevail.

- c) The Approval Holder is responsible for ensuring that they operate the Facility on lands which they own or have a lease or written agreement with the landowner or occupier. The Approval Holder shall be responsible for ensuring that the Department has, at all times, a copy of the most recent lease or written agreement with the landowner or occupier. Breach of this condition may result in cancellation or suspension of the Approval.
- d) Any changes in the Manual or Plan must be authorized, in writing, by the Department.
- e) The Minister or Administrator may modify, amend or add conditions to this Approval at anytime pursuant to Section 58 of the Act.
- f) This Approval is not transferable without the consent of the Minister or Administrator.
- g) (i) If the Minister or Administrator determines that there has been non-compliance with any or all of the terms and conditions contained in this Approval, the Minister or Administrator may cancel or suspend the Approval pursuant to subsections 58(2)(b) and 58(4) of the Act, until such time as the Minister or Administrator is satisfied that all terms and conditions have been met.  
  
(ii) Despite a cancellation or suspension of this Approval, the Approval Holder remains subject to the penalty provisions of the Act and regulations.
- h) The Approval Holder shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.
- i) Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analysed, by qualified personnel, in accordance with recognized industry standards and procedures.
- j) The Approval Holder shall ensure that this Approval, or a copy, is kept on Site at all times and that personnel directly involved in the Facility operation are made fully aware of the terms and conditions which pertain to this Approval.
- k) The Approval Holder shall immediately notify the Department of any incidents of non-compliance with this Approval.
- l) The Approval Holder shall submit any monitoring results or reports required by this Approval to the Department.

- m) All monitoring results shall be provided in the required annual report.
- n) Any request for renewal or extension of this Approval is to be made in writing at least ninety (90) days prior to the Approval expiry.
- o) The Approval Holder shall designate in writing, to the Department, a contact for this Approval.
- p) Pursuant to Section 60 of the *Act*, the Approval Holder shall submit to the Administrator any new and relevant information respecting any adverse effect that actually results, or may potentially result, from any activity to which the Approval relates and that comes to the attention of the Approval Holder after the issuance of the Approval.
- q) The Approval Holder shall maintain a communication link to the local community primarily through a Community Monitoring Committee. A list of current members as well as any revisions or changes to the membership of the committee shall be forwarded to the Department on an annual basis.
- r) The Approval Holder shall ensure that legible signage is posted at the entrance to the Facility that includes but is not limited to information pertaining to the days and hours of operation, the list of acceptable/unacceptable waste, and emergency contact numbers.
- s) The Approval Holder shall ensure that all staff are properly trained to carry out the routine functions in a safe and effective manner. The training certification is to be maintained on Site for review as requested by the Department.
- t) The Approval Holder shall notify the Department prior to any proposed extensions or modifications of the Facility, including the active area, process changes or waste disposal practices which are not granted under this Approval. An amendment to this Approval will be required before implementing any change.
- u) The Facility shall have adequate security to prevent illegal dumping and vandalism.
- v) Unless written approval is received otherwise from the Administrator, all samples required by this Approval shall be analysed by a laboratory that meets the requirements of the Department's "Policy on Acceptable Certification of Laboratories" as amended from time to time.
- w) This Approval provides for the operation at the existing Site only. Any change in location requires further Approval from Nova Scotia Environment.

#### 4. Material Handling

- a) The Approval Holder shall accept, sort, process, and dispose of at the Facility, only municipal solid waste as defined under the *Solid Waste-Resource Management Regulations*.
- b) Special waste as outlined in Section 2.2.2, page 4 of the Manual shall be reported in writing to the Department. The Approval Holder shall obtain written approval from the Department prior to disposal of any special waste.
- c) (i) All municipal solid waste will be processed through the Front End Processor (FEP) building unless written authorization for alternate procedures is obtained from the Administrator.

(ii) Notwithstanding section (i) above, the following material may go directly to the Residual Disposal Facility (RDF) subject to the conditions specified:

##### (1) Inert Material

- i) Inert material such as wood, gypsum board, furniture, construction debris, etc., that has been separated from other wastes in the public drop off area, or loads with only inert material as confirmed by inspection prior to transfer to the Residual Disposal Facility.
- ii) Any inert material that may produce a leachate must be stored until it is tested to confirm compliance with the "Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids in Landfills" as amended from time to time. Records of such testing must be submitted to the Department with the annual report.

##### (2) Sharps Encountered/Distributed in Mixed Waste Loads in the Front End Processing Facility

- i) All sharps will be separated, to the extent possible, from other wastes in the Front End Processing Facility receiving area and only that material necessary for the separation of the sharps is to go directly to the Residual Disposal Facility.

##### (3) Contaminated Soils/Solids

- i) All contaminated soils/solids are tested to confirm compliance with the "Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Soils in Landfills", as amended from time to time, prior to disposal in the Residual Disposal Facility.



- ii) Records of such testing as well as the generator of the material, the location of the source and the quantity involved must be submitted to the Department with the annual report.

(4) Soiled Diapers/Sanitary Napkins

- i) Dedicated loads of soiled diapers and/or sanitary napkins.
  - ii) Soiled diapers and/or sanitary napkins separated, to the extent possible, from other wastes in the Front End Processing Facility receiving area. Only that material necessary for the separation of the diapers/napkins is to go directly to the Residual Disposal Facility.
- d) The Approval Holder shall not store material in the Front End Processor building for more than 48 hours.
- e) (i) Materials encountered during the FEP sorting process which are banned under the *Solid Waste - Resource Management Regulations* shall be removed from the waste stream and directed to an appropriate facility.
- (ii) Notwithstanding section (i) above, the following material may go to the Waste Stabilization Facility (WSF) subject to the conditions specified:

(1) Dead Animals Encountered in the Front End Processing Facility

- i) Animals under 25 kilograms in weight.
- f) Dangerous goods and waste dangerous goods, including household hazardous wastes encountered during the FEP sorting process, shall be removed from the waste stream and directed to an appropriate facility.
- g) Stockpiles of recyclable materials shall be minimized on Site; in no case will materials be stored on Site for a period in excess of 30 days without the approval of the Administrator.
- h) All putrescible organic feedstock must be incorporated into the WSF within 48 hours of being delivered to the WSF portion of the Facility.
- i) The Approval Holder shall operate the WSF portion of the Facility in a manner as outlined in the Manual, which stabilizes putrescible organic materials and destroys pathogens.
- j) The only feedstocks which are permitted to be stored on the Site and outside the Facility buildings are bulking agents used in the stabilization process such as untreated wood, wood chips, bark, sawdust, straw, hay mulch, etc.

- k) All bulking agents such as chipped wood, bark and sawdust, etc. which are stored outside the Facility buildings shall remain covered from the weather elements by tarpaulins or equivalent while in storage.
- l) The stabilized product from the WSF must be disposed of in the RDF. The stabilized material shall not be used for any other purpose without prior written approval from the Administrator.
- m) Testing of the quality of the stabilized product from the WSF portion of the Facility will be as requested by the Department.
- n) The material placed in the RDF shall be covered on a daily basis.
- o) The Approval Holder shall use natural soil, rock, processed construction and demolition debris mix, or plastic tarps/sheeting as a regular daily cover material for the RDF.
- p) Processed construction and demolition debris mix used for daily cover shall be subject to the following:
  - (i) inert material only, such as wood, gypsum board, furniture, concrete, brick, mortar, etc., have been utilized in the manufacture of the processed construction and demolition debris mix.
  - (ii) The processed construction and demolition debris mix is tested to confirm compliance with the leachate requirements in attachment C of the "Nova Scotia Environment Guidelines for Disposal of Contaminated Solids in Landfills", as amended from time to time, prior to utilization in the RDF.
  - (iii) The testing specified in ii) above must be conducted on each 500 tonnes of material supplied to the Facility.
  - (iv) Records of such testing as well as the quantity of material received and utilized as daily cover must be submitted to the Department with the annual report.
  - (v) The processed construction and demolition debris mix must be stored so that any runoff from the storage area is directed to the sedimentation ponds located on Site.
- q) The use of any other material as daily cover will require the written approval of the Department.
- r) The open burning of material on the Site is prohibited.

## 5. Dangerous Goods Management

- a) The storage and handling of dangerous goods shall meet the requirements of the *Dangerous Goods Management Regulations*. The date of removal of these materials from the municipal solid waste shall be clearly labeled on the storage containers.
- b) Storage of waste dangerous goods, on Site, shall not exceed fourteen (14) days without approval of the Administrator.
- c) The disposal of dangerous goods and waste dangerous goods shall be in a manner approved by the Department.
- d) The transportation of dangerous goods and waste dangerous goods shall meet the requirements of the *Transportation of Dangerous Goods (Canada) Regulations*, including packaging, labeling and manifesting. It is the responsibility of the Approval Holder to ensure compliance with this regulation.
- e) The handling/processing of the household hazardous waste/waste dangerous goods must take place in the designated areas. The areas must be clearly marked.
- f) The Approval Holder shall provide adequate security to prevent unrestricted access to the storage/processing areas.
- g) Only personnel trained in the handling of waste dangerous goods shall be utilized for the handling/processing of the household hazardous waste/waste dangerous goods.
- h) The area(s) being utilized for the handling/processing of household hazardous waste/waste dangerous goods shall be lined with an impermeable surface prior to the commencement of operations. All material handling/processing shall take place on the lined area.
- i) Household hazardous waste/waste dangerous goods awaiting processing shall be stored in an area which has an appropriate impermeable surface. The area shall be bermed to control spillage/leakage and the collection of water.
- j) The handling/processing shall not take place during inclement weather unless the processing area is covered and surface runoff is directed away from the area. Any water which accumulates on the impermeable surface shall be collected, and treated as waste dangerous goods if contaminated or leachate if uncontaminated.

- k) Any preparation of household hazardous waste/waste dangerous goods that may be required must take place in an area which is lined and bermed as above.
- l) Portable secondary containment units shall be employed during the handling/processing of the household hazardous waste/waste dangerous goods.
- m) All liners shall be protected from physical damage such as cuts, abrasions, etc. Liners shall be inspected periodically and repaired or replaced as required.
- n) The Approval Holder shall not mix or dilute the household hazardous waste/waste dangerous goods with uncontaminated material(s).
- o) Contaminated material from the processing of the household hazardous waste, such as contaminated disposable coveralls, gloves, boots, etc, shall be collected and treated as waste dangerous goods.
- p) Drums used to store (temporary storage) household hazardous waste/waste dangerous goods shall be located on pallets and in such a manner to enable inspection from all sides, and shall be protected from the elements/weather.
- q) Any liquid or solid material resulting from a spill or release is to be collected, and treated as waste dangerous goods, placed in the appropriate drum and stored or disposed of as appropriate.
- r) All drums shall be clearly labelled as to the type of material being stored.

## **6. Asbestos Waste Management**

- a) Asbestos waste handling/disposal/processing/storage is not included in this Approval, except as required for its removal from the waste stream in the FEP.
- b) Temporary storage of asbestos on Site shall be in a manner which is approved by the Department.
- c) The disposal of any asbestos waste shall be at an asbestos disposal facility that has been approved by the Department.

## **7. Sewage Sludge**

- a) Sewage sludge handling/disposal/processing/storage is not included in this Approval.

**8. Ozone Depleting Substance**

- a) The handling, treatment and disposal of ozone depleting substances will adhere to the *Ozone Layer Protection Regulations*.

**9. Used Oil**

- a) Used oil handling/disposal/processing/storage is not included in this Approval, except as required for its removal from the waste stream in the FEP and its handling/temporary storage in the household hazardous waste processing area.

**10. Air Emissions**

- a) The Approval Holder shall ensure that air emissions from the Facility do not contribute to a non-compliance with the maximum permissible ground level concentrations specified in Schedule "A" (attached) of the *Air Quality Regulations*.
- b) Where the Approval Holder is contributing to non-compliance with the Schedule "A" concentrations, the Approval Holder shall be required to implement a corrective action plan which may include ambient air monitoring, air modeling or risk assessment studies.
- c) Numerical or quantitative limits on odour shall be established at the discretion of the Department if odour impacts beyond the property boundaries are deemed to be excessive.
- d) The Approval Holder shall have standard procedures to address odour complaints associated with the Facility which would include:
  - (i) Immediately investigate the cause of the complaint and undertake immediate and appropriate action, if necessary, to correct the problem.
  - (ii) The Approval Holder shall record all odour complaints and document the date, time, name, address and telephone number of the individual lodging the complaint. The record shall also state any cause of the odour and the action taken to correct the problem.
  - (iii) The wind direction, wind speed, temperature, humidity and other atmospheric conditions at the time of the occurrence which resulted in a complaint should be recorded.
  - (iv) Records referenced in condition 10(d)(ii)&(iii) shall be made available to the Department upon request.

- e) The Approval Holder shall be required to reduce or cease operation if odour generation is deemed excessive by the Department and cannot be controlled by the odour control mechanisms.
- f) The WSF portion of the Facility, including the receiving, active stabilization and finished product areas shall be vented to a biofilter and maintained under negative pressure as specified in the approved design while feedstocks are in the WSF Facility and during active stabilization.
- g) The Approval Holder shall monitor and record the following biofilter performance parameters on a weekly basis:
  - (i) pressure on all ventilation/aeration lines discharging to the biofilter, via pressure gauge or amperage draw on fans, as appropriate,
  - (ii) temperature of each section of biofilter medium servicing each ventilation/aeration line,
  - (iii) moisture content of each section of biofilter medium servicing each ventilation/aeration line,
  - (iv) pH of each section of biofilter medium servicing each ventilation/aeration line.
  - (v) any other tests that the Department may deem necessary.
- h) Records of biofilter performance shall be made available to the Department upon request.

**11. Particulate Emissions (Dust)**

- a) Particulate emissions shall not exceed the following limits at or beyond the Site property boundaries:

(i) Annual Geometric Mean	70 $\mu\text{g}/\text{m}^3$
(ii) Daily Average (24 hr.)	120 $\mu\text{g}/\text{m}^3$
- b) The use of used oil as a dust suppressant is strictly prohibited. The generation of dust from the Site shall be suppressed by the application of water sprays, Tembec Dust Suppressant, or the application of other suitable dust suppressants approved by the Department.
- c) Monitoring of particulate emissions shall be conducted at the request of the Department. The location of the monitoring station(s) for particulate will be established by a qualified person retained by the Approval Holder and submitted to the Department for approval, this may include point(s) beyond the property boundary of the Site.

- d) When requested, suspended particulate matter shall be measured by the EPA standard; EPA/625/R-96/010a; Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM<sub>10</sub>. Using High Volume (HV) Sampler.

## **12. Sound Levels**

- a) Sound levels measured at the property boundaries shall not exceed the following equivalent sound levels (Leq):
  - Leq     65 dBA 0700-1900 hours (Days)
  - 60 dBA 1900-2300 hours (Evenings)
  - 55 dBA 2300-0700 hours (Nights, Sundays & Statutory Holidays)
- b) Monitoring of sound levels shall be conducted at the request of the Department. The location of the monitoring station(s) for sound will be established by a qualified person retained by the Approval Holder and submitted to the Department for approval, this may include point(s) beyond the property boundary of the Site.

## **13. Liquid Effluent (Leachate)**

- a) The Approval Holder shall submit for approval to the Department, a yearly update on the long term management plan to deal with the leachate produced at the Facility during the operating life of the facility and the post closure phase of the operation. This update must be submitted on or before December 1 of each year.
- b) All contaminated process wastewater/leachate shall be collected for reuse and/or treatment.
- c) The Approval Holder shall minimize the volume of contaminated process wastewater/leachate discharged from the Facility by recycling treated or untreated wastewater back to the WSF stabilization process and biofilter.
- d) Equipment which has been in contact with the municipal solid waste or stabilized product must be washed inside the buildings or in the RDF and the drainage collected and treated as leachate.
- e) All drainage and liquid waste from the WSF building area is to be directed to the leachate holding tank.

- f) All water which comes in contact with the waste in the RDF shall be considered leachate and will be collected and stored in the leachate storage tank for eventual treatment.
- g) All contaminated process wastewater/leachate collected at the Facility shall be transported to a Halifax Regional Municipality treatment facility which has received approval from the Department for the treatment of leachate generated at the Site. This Approval is null and void should a suitable leachate treatment facility not be available.
- h) The quantity of leachate generated at the Site and transported off site for treatment shall be measured and recorded.
- i) Unless approved otherwise under section 21 of this Approval, monitoring for the quality of the leachate shall be conducted at the frequency and for the parameter groups indicated in Table E-3 "Other Environmental Quality Monitoring" of the Plan. A listing of the individual parameters included in each group is included in Table E-4 "Analytical Parameter List" of the Plan.
- j) The holding tank at the maintenance building is to be inspected regularly. The liquid from the holding tank shall be disposed of through the services of a licenced used oil collector. The Department shall be advised of the collector and final treatment for this liquid.
- k) The Approval Holder shall maintain no more than 300 mm head on the RDF liner system. The liner is only to be used to store leachate in emergency cases. The Approval Holder shall inform the Department in advance of operating conditions which may require the liner system in the RDF to be used for storage capacity.
- l) The Approval Holder shall conduct a visual inspection every two (2) years of the RDF leachate collection system using a remote video camera or another method approved by the Department. The findings shall form part of the annual report for the year of inspection.

#### **14. Vector/Litter Control**

- a) The Approval Holder shall provide effective means of vector control (birds, insects, rodents, etc.). If vector control measures employed by the Approval Holder are deemed to be inadequate by the Department, additional control measures or changes to the operation of the Facility may be requested for implementation.



- b) The Approval Holder shall inspect the Site as part of the daily operating sequence, maintain good housekeeping practice and take appropriate action to reduce vector and litter problems.
- c) The use of pesticides must comply with the *Pesticide Regulations*.

**15. Spills or Releases**

- a) All spills or releases shall be reported in accordance with the *Act* (Part VI) and the *Emergency Spill Regulations*.
- b) Spills or releases shall be cleaned up immediately in accordance with the *Act*.
- c) A quantity of spill/release response material is to be maintained on Site at all times.

**16. Erosion and Sediment Control**

- a) Areas of the RDF that will not be used in the next six months must be covered with an intermediate soil cover and be stabilized to prevent erosion.
- b) Until the intermediate cover is established, the Approval Holder shall inspect the daily cover periodically to ensure that the thickness, slopes and surfaces are maintained to minimize erosion.
- c) Erosion and sediment control measures are to be installed as required, such that watercourses or water resources adjacent to and downstream of the Site are protected from siltation. It is recommended to follow control measures as outlined in the "Erosion and Sedimentation Control Handbook for Construction Sites, 1988". The Act prohibits release of a material that may cause an adverse effect.
- d) Any water containing sediment shall be directed to the sedimentation ponds and treated to meet the criteria outlined in section 17 prior to discharge.
- e) All areas exposed during operation of the Site shall be stabilized immediately.
- f) All erosion and sedimentation control measures shall be monitored daily and maintained as necessary.

**17. Surface Water Discharge**

- a) The Approval Holder shall sample for the parameters and at the frequency indicated to ensure the liquid effluent levels in Table 1 for discharge from the Site are met:

<b>Table 1</b>			
<b>Surface Water Effluent Discharge Limits</b>			
<b>Parameters</b>	<b>Maximum in a Grab Sample</b>	<b>Monthly Arithmetic Mean</b>	<b>Monitoring Frequency</b>
Total Suspended Solids	50 mg/l	25 mg/l	weekly/discharge event
pH	5 - 9	5 - 9	weekly/discharge event

- b) The monitoring station(s) for the surface water monitoring in clause (a) shall be the discharge from the sedimentation ponds and the discharge from the drainage ditch near the entrance to the FEP.
- c) Non-compliance of the effluent discharge limits noted in Table 1 shall be immediately reported to the Department.
- d) In addition, unless approved otherwise under section 21 of this Approval, the Approval Holder shall monitor surface water at the locations, frequency and for the parameter groups indicated in Table E-2 "Surface Water Monitoring Stations" of the Plan. A listing of the individual parameters included in each group is included in Table E-4 "Analytical Parameter List" of the Plan.
- e) Grubbings and excavated material from the daily cover borrow area shall be stored or disposed of in a manner that will not result in sedimentation of adjacent and downstream watercourses or water resources.
- f) All surface waters from the borrow area shall be directed to the sedimentation ponds.
- g) (i) The following materials may be utilized as a flocculent on the storm water control system subject to the conditions specified:

(1) Klairaid CDP1335C and Sternpac

- i) On a semi-annual basis, when the above flocculant (s) is being utilized, the stormwater shall be tested for fish toxicity utilizing the 96-Hour Acute Toxicity of Effluent to Rainbow Trout Reference Method EPS-1/RM/13. The test is to be conducted on undiluted water.
  - ii) Records of such testing must be submitted to the Department with the annual report.
- (ii) The use of other material as chemical flocculants must be approved by the Department prior to their use.
- h) The Department reserves the right to modify the monitoring locations, parameters and frequency, and to require remedial measures depending on the information obtained.

**18. Groundwater**

- a) Unless approved otherwise under section 21 of this Approval, the Approval Holder shall monitor and sample groundwater at the locations, frequency and for the parameter groups indicated in Table E-1 "Groundwater Monitoring Wells" of the Plan. A listing of the individual parameters included in each group is included in Table E-4 "Analytical Parameter List" of the Plan.
- b) Unless approved otherwise under section 21 of this Approval, the drainage system under the RDF liner system shall be included in the groundwater monitoring as indicated in Table E-1 of the Plan.
- c) Unless approved otherwise under section 21 of this Approval, the water chemistry of any liquids accumulated in the RDF leak detection layer is to be monitored at the frequency and for the parameters indicated in Table E-3 "Other Environmental Quality Monitoring" of the Plan.
- d) The Department reserves the right to modify the monitoring locations, parameters and frequency, and to require remedial measures depending on the information obtained.

**19. Sediment Sampling**

- a) Unless approved otherwise under section 21 of this Approval, The Approval Holder shall sample the river/watercourse sediments, at the location, frequency

and for the parameter groups indicated in Table E-2 "Surface Water Monitoring Stations" of the Plan. A listing of the individual parameters included in each group is included in Table E-4 "Analytical Parameter List" of the Plan.

- b) The Department reserves the right to modify the monitoring locations, parameters, and frequency depending on the information obtained.

**20. Borrow Area Reclamation**

- a) The soil borrow area of the Site shall be progressively reclaimed and rehabilitated by grading, contouring, and revegetating disturbed land.

**21. Technical Steering Committee/Monitoring Program**

- a) A Technical Steering Committee comprised of representatives from the regulatory agencies, the design consultant, the operator, and the Approval Holder shall be established and maintained for the duration of the Approval.
- b) At the request of the Administrator, the Technical Steering Committee shall review the operations of the Facility and shall recommend to the Administrator any changes required to the monitoring program for the Facility.
- c) The Administrator shall approve, reject or modify the yearly monitoring program recommended by the Technical Steering Committee.
- d) The Approval Holder is responsible for implementing, on an annual basis, the monitoring program as approved by the Administrator. Any existing approved monitoring program is to remain in effect until a revised program is approved.

**22. Operating Records and Annual Report**

- a) The Approval Holder shall maintain a report of all Facility operations, including quality, type, source of waste received; quantity and type of recyclables removed; quantity of waste processed in the Waste Stabilization Facility; quantity of residual material disposed of in the RDF; and complete records of inspections, maintenance, repairs and any incidents of emergency response. The report shall be continually updated in such a way that the information including monitoring and sampling results, can immediately be sent to the Department upon request.
- b) An annual monitoring report shall be submitted to the Department by April 30<sup>th</sup> of each year and shall include but not be limited to the following information:

- (i) Quantity of leachate generated.
  - (ii) Details of any upsets or spills at the facility.
  - (iii) Any registered complaints and measures taken to resolve the complaints.
  - (iv) Summary of the material received at the FEP in tonnes for the previous month and the general breakdown of the source of this material.
  - (v) Summary of the material processed in the WSF in tonnes for the year.
  - (vi) Summary of the material disposed of in the RDF in tonnes and the general breakdown of the type of material.
  - (vii) Summary of contaminated soils/solids disposed of in the RDF, including the compliance testing, quantity, the generator, and the location of source of the material.
  - (viii) Summary of construction and demolition debris mix used as daily cover on the RDF, including the compliance testing, quantity received and quantity used.
  - (ix) Any changes in procedure.
  - (x) Any other information deemed necessary by the Department.
- c) The Approval Holder must submit on an annual basis to the Department no later than April 30<sup>th</sup> of each year, a report summarizing the surface water (see Section 17) , groundwater, gas monitoring and sediment sampling conducted on the Site for the previous year at the required frequencies.
- i) The section of the annual report on the results of groundwater monitoring shall include a hydrogeological assessment with an analysis and commentary on the water levels, groundwater flow directions and hydraulic gradients, and water quality trends. The data shall be analysed, relative to all previous monitoring data since baseline sampling, for significant trends. The report shall include written analysis and graphical presentation of any significant trends. The report shall include mapping in plan and cross section of leachate- impacted groundwater plumes (if any). The section of the annual report on the results of groundwater monitoring shall include recommendations on additional monitoring or remedial action which should be considered to ensure protection of potential human or ecological receptors from any leachate-impacted groundwater plume, including surface water.

- ii) The section of the annual report on the results of surface water monitoring shall include analysis, relative to all previous monitoring data since baseline sampling, for significant water quality trends. The report shall include written analysis and graphical presentation of any significant trends or anomalous results which could be related to landfill operations. The report shall include recommendations on any remedial action which should be considered to ensure protection of surface water.
- iii) The annual report shall include comments from the Approval Holder summarizing the list of recommendations in the Annual Report and reporting whether each recommendation was accepted, what action has been taken, or justification of why the recommendation has not been accepted.
- d) The Approval Holder must submit on an annual basis to the Department by April 30<sup>th</sup> of each year, an Annual Report summarizing the activities on the Site for the previous year. The report shall include those items outlined in the Manual, section 6.4, and the Plan, section 12.0, and any other items required by this Approval or that the Department may deem necessary.
- e) Any operational difficulties with potential environmental implications and noncompliance with the terms and conditions of the approval shall be immediately reported to the Department. The nature of the operational difficulty as well as the mitigation measures taken shall be included in the yearly report.

### **23. Closure Program**

- a) The Approval Holder shall submit a detailed closure plan to the Department for approval at least ninety (90) days prior to the scheduled closure date of each component of the Facility. This closure plan shall include but is not limited to the following items:
  - (i) Constructing and maintaining a capping system;
  - (ii) Constructing and maintaining a surface water management system;
  - (iii) Maintaining the Site leachate management system;
  - (iv) Maintaining the Site approved post closure groundwater and surface water monitoring programs.
  - (v) Decommissioning/removal of buildings and auxiliaries.

**SCHEDULE "A"****MAXIMUM PERMISSIBLE GROUND LEVEL CONCENTRATIONS**

CONTAMINANT	AVERAGING PERIOD	MAXIMUM PERMISSIBLE GROUND LEVEL CONCENTRATION	
		ug/m <sup>3</sup>	pphm
Carbon Monoxide (CO)	1 hour	34 600	3000
	8 hours	12 700	1100
Hydrogen Sulphide (H <sub>2</sub> S)	1 hour	42	3
	24 hours	8	0.6
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour	400	21
	annual	100	5
Ozone (O <sub>3</sub> )	1 hour	160	8.2
Sulphur Dioxide (SO <sub>2</sub> )	1 hour	900	34
	24 hours	300	11
	annual	60	2
Total Suspended Particulate (TSP)	24 hours	120	-
	annual	70*	-

- \* - geometric mean  
 ug/m<sup>3</sup> - micrograms per cubic metre  
 pphm - parts per hundred million