New Nouveau Brunswick

APPROVAL TO OPERATE

I-7856

Pursuant to paragraph 8(1) of the *Water Quality Regulation - Clean Environment Act*, and paragraph 5 (3) (a) of the *Air Quality Regulation - Clean Air Act*, this Approval to Operate is hereby issued to:

Fundy Region Solid Waste Commission

for the operation of the

Crane Mountain Landfill

Description of Source:	**A regional sanitary landfill with leachate collection and disposal.**
Source Classification:	**Fees for Industrial Approvals Regulation - Clean Water Act** **Class 4** **Air Quality Regulation** **Class 4**
Parcel Identifier:	**55087001, 55087027, 55086987, 55087019, 55043301, 55043293, 55160352**
Mailing Address:	**P.O. Box 3032** **Grand Bay-Westfield, NB E5K 4V3**
Conditions of Approval:	**See attached Schedule (s)"A" and "B" of this Approval**
Supersedes Approval:	**I-5524**
Valid From:	**January 01, 2012**
Valid To:	**December 31, 2015**

Recommended by: _____
Community Planning & Environmental Protection Division

Issued by: _____ DEC 22 2011
for Minister of Environment — Date

SCHEDULE "A"

A. DESCRIPTION AND LOCATION OF SOURCE

The Fundy Region Solid Waste Commission operates a regional solid waste management and disposal facility that is commonly referred to as the Crane Mountain Landfill. The Landfill is located in Saint John near Grand Bay-Westfield and serves the residents of Saint John county and the western portions of Kings and Queens county. The Commission operates a construction and demolition debris disposal site, a household hazardous waste depot, a compost facility, material recovery facility, a landfill gas collection system, and a flare/electric generation system at the Landfill. A designated area on site is also utilized for the temporary storage of metal, tires, wood, white goods and other such salvageable/recyclable materials.

As a result of the operation of the regional solid waste management and disposal facility, there exist *potential* environmental impacts from: 1) the generation of leachate in the landfill containment cells and the construction and demolition debris disposal site; 2) spillage, mishandling or release of leachate, a petroleum product or other material; 3) the operation of the household hazardous waste depot; 4) failure or accidental discharge from the leachate treatment pond or collection system; 5) site run-off or suspended solids discharge from the sedimentation pond(s); 6) fugitive dust emissions from truck traffic and other on-site activities; and 7) elevated odour and/or noise emissions.

The operation of the regional solid waste management and disposal facility by the Fundy Region Solid Waste Commission, located in the City of Saint John, County of Saint John, and the Province of New Brunswick and identified by Parcel Identifier (PID) numbers 55087001, 55087027, 55087019, 55043301, 55086987, 55160352 & 55043293 is hereby approved **subject to the following:**

B. DEFINITIONS

1. **"Approval Holder"** means Fundy Region Solid Waste Commission.

2. **"Department"** means the New Brunswick Department of Environment.

3. **"Minister"** means the Minister of the Department and includes any person designated to act on the Minister's behalf.

4. **"Director"** means the Director of the Impact Management Branch of the Department of Environment and includes any person designated to act on the Director's behalf.

5. **"Facility"** means the property, leachate collection and treatment systems, buildings, equipment and any other activities involved with the operation of the regional solid waste management and disposal facility by the Fundy Region Solid Waste Commission at PID numbers 55087001, 55087027, 55086987, 55087019, 55043301, 55160352 & 55043293.

6. **"containment cell"** means the area at the Facility approved in writing by the Department for the disposal of solid waste.

7. **"watercourse"** means the full width and length, including the beds, banks, sides and shoreline, or any part of a river, creek, stream, spring, brook, lake, pond, reservoir, canal, ditch or other natural or artificial channel open to the atmosphere, the primary function of which is the conveyance or containment of water whether the flow be continuous or not.

8. **"friable asbestos"** means waste material containing asbestos fibre or asbestos dust in a concentration greater than 1% by weight that is **not** tightly bound within a solid matrix such that it is easily crumbled by the hands.

9. **"petroleum product"** means a mixture of hydrocarbons, or their by-products, of any kind and in any form, including airplane fuel, asphalt, bunker "C" oil, crude oil, diesel fuel, engine oil, fuel oil, gasoline, kerosene, lubricants, mineral spirits, naphtha, petroleum based solvents regardless of specific gravity, transformer oil and waste petroleum products and excluding propane and paint.

10. **"biomedical waste"** means,
    a) any part of the human body, including tissues and bodily fluids, but excluding fluids, extracted teeth, hair, nail clippings and the like, that are not infectious,
    b) any part of the carcass of an animal infected with a communicable disease or suspected by a licensed veterinary practitioner to be infected with a communicable disease,
    c) non-anatomical waste infected with communicable disease,
    d) a mixture of a waste referred to in clause (a), (b) or (c) and any other waste or material; or
    e) a waste derived from a waste referred to in clause (a), (b) or (c), unless the waste that is derived from the waste referred to in clause (a), (b) or (c) is produced in accordance with a certificate of approval that states that, in the opinion of the Director, the waste that is produced in accordance with the certificate of approval does not have characteristics similar to the characteristics of waste referred to in clause (a), (b) or (c

11. **"hazardous waste"** means any waste material intended for disposal or recycling, that is identified as a hazardous waste or hazardous recyclable material by the federal *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations*, and/or is included in Class 1 and/or Class 7 of the federal *Transportation of Dangerous Goods Regulations*. This definition excludes any waste(s) for which the Director of the Approvals Branch has issued a written exemption.

12. **"sludge"** means a solid, semi-solid or liquid residue having less then 15% solids generated during the treatment of municipal and/or industrial wastewater, or generated as a result of other processes.

13. **"liquid waste"** means bulk liquids in a volume greater then 20 litres.

14. **"liquid oily waste"** means any waste containing free flowing petroleum products.

15. **"petroleum contaminated soil"** means soil that contains petroleum products at quantities determined, to the satisfaction of the Department, to be above the level indicated in the most recent version of the RBCA Tier I Risk-Based Screening Level (RBSL) Guidelines for Soil: Commercial, Non-potable, Coarse-grained for Modified TPH (Gas + Diesel#2 + #6 Oil). The current level is 450 mg/kg (ppm).

16. **"C&D debris"** means

    a) concrete, brick and untreated wood,
    b) siding, ceiling tile, gyproc, insulation,
    c) asbestos that is not friable asbestos,
    d) solid roofing materials such as asphalt shingles,
    e) glass from doors and windows,
    f) metal, wood, fibreglass and durable plastic structural materials from the demolition of a building,
    g) wiring and incandescent light fixtures that do not contain fluorescent tubing/lighting,
    h) toilets, bathtubs, wash basins, and plumbing fixtures,
    i) floor coverings attached to a building during demolition,
    j) broken and aged asphalt, or
    k) any mixture of (a) thru (j)

    that has been obtained during the construction, renovation or demolition of a building or structure. Debris or other materials obtained from commercial, industrial and manufacturing sources is not acceptable. Debris: i) from a building that has or may have manufactured, contained, transferred or distributed contaminated or hazardous (such as a pesticide storage warehouse) products; or ii) that contains PCB's (polychlorinated biphenyls), or iii) that contains lead paint of a known concentration greater then 1000ppm (parts per million) or that has been deemed leachable toxic (exceeds 5 mg/L) or contains lead paint that is flaking/chipping/peeling is not considered C&D debris for the purpose of this Approval.

17. **"C&D Site"** means the portion of the Facility approved by the Department for the disposal of C&D debris.

18. **"disposal cell"** means the area at the C&D Site approved by the Department for the disposal of C&D debris.

19. **"sorting area"** means a location at the C&D Site, if approved in writing by the Director, where loads of C&D debris may be dumped and sorted. Unapproved materials may temporarily be stored here.

20. **"household hazardous waste"** means, for the purposes of this approval, hazardous waste that is generated in New Brunswick households.

21. **"hazardous waste collection and transportation network"** means a company that is approved by or acceptable to the Department to collect and transport hazardous waste.

22. **"landfill gas control and collection system"** is the system used to capture and flare landfill gas from the containment cells. The system consists of the collection wells, piping, flare and skid mount blower.

C. EMERGENCY REPORTING

23. The Approval Holder, operator or any person in charge of the Facility **shall immediately** notify the Department where:

a) there has been, or is likely to be, a release of a contaminant or contaminants, such as leachate, wastewater, petroleum products, hazardous materials, or gaseous material, from the Facility which is of such magnitude or duration that there is a concern for the health or safety of the public, or there could be an impact to the environment.

Notification Procedure

Verbal notification should immediately be made to the **Region 4 (Saint John) Office by calling (506) 658-2558**. If contact cannot be made for any reason the problem should immediately be reported to the **Canadian Coast Guard at 1-800-565-1633**. At this time the problem that occurred, its resulting impact and what was done to minimize the impact should be clearly expressed.

Within 24 hours of the original notification, a copy of an "Incident Report" shall be faxed to the Region 4 (Saint John) Office at (506) 658-3046. The "Incident Report" shall clearly detail as much information about the incident that is available. As a minimum the faxed report should include: details of the problem, its resulting impact and what was done to minimize the impact.

Within five (5) working days from the original notification, a faxed "Detailed Emergency Report" shall be sent to the Region 4 (Saint John) Office and also to Central Office in Fredericton at (506) 453-2390. The "Detailed Emergency Report" shall describe in detail the problem that occurred, why the problem occurred, what the environmental impact was, what was done to minimize the impact, and what measures have been taken to prevent a re-occurrence of the problem.

D. GENERAL INFORMATION

24. The issuance of this Approval does not relieve the Approval Holder from the responsibility of complying with other applicable federal, provincial or municipal legislation and/or bylaws.

25. A copy of this Approval to Operate should be maintained on-site or in the office of the Approval Holder.

26. The Approval Holder shall immediately notify the Department in writing of any change in the legal name or address of the Facility.

27. Any operating problems or other matters that could cause the Facility to be in non-compliance with this Approval should be reported to the Department immediately.

E. TERMS AND CONDITIONS

GENERAL CONDITIONS

28. **Prior to September 30, 2015**, the Approval Holder shall submit a written application to the Department for a renewal of this Approval on a form provided by the Minister. The application shall include documentation supporting any proposed changes to the terms and conditions of this Approval.

29. In the event of Facility closure, the Approval Holder shall, in addition to any requirements under the *Environmental Impact Assessment Regulation 87-83* filed under the *Clean Environment Act*, prepare plans and an engineering closure proposal with ongoing monitoring, landfill gas and leachate management and complete site rehabilitation if appropriate. The plan shall also include other information as requested in writing by the Minister. The plans shall be submitted to the Director for review and approval **at least six (6) months** before the planned closure date. The plans must be prepared or approved by a person who is a member of the Association of Professional Engineers and Geoscientists of the Province of New Brunswick.

30. In the event of closure of the C&D Site at the Facility, the Approval Holder shall ensure that a Closure Plan is prepared and submitted to the Director for review and approval **at least three (3) months** before the planned closure date. The plans must be prepared or approved by a person who is a member of the Association of Professional Engineers and Geoscientists of the Province of New Brunswick and include, but not necessarily be limited to, updated site plans and an engineering proposal for the site rehabilitation, monitoring, leachate treatment if appropriate and closure.

31. The Approval Holder shall ensure that any item received at the Facility containing ozone-depleting substances, including but not limited to those utilized for refrigeration and/or air conditioning, are decommissioned according to the *Ozone Depleting Substances Regulation 97-132* filed under the *Clean Air Act*.

32. The Approval Holder shall ensure that waste, including C&D debris and friable asbestos, that originates from outside of New Brunswick is not accepted at the Facility unless specifically approved by the Minister following an evaluation under the *Environmental Impact Assessment Regulation.*

33. The Approval Holder shall ensure that an Environmental Management Plan (EMP) is in place at the Facility. The EMP should include detailed emergency, contingency response and clean-up procedures for potential spillage, release or mishandling of leachate, a petroleum product, or other dangerous materials at the Facility. The EMP should also include details on how the Facility will respond to emergency situations that may arise such as forest fires, restricted access to the Facility (traffic accidents or other blockade for example), failure of the leachate treatment and sedimentation ponds or leachate collection systems or other events that would interrupt normal operation of the Facility.

    Facility personnel should be appropriately trained to perform emergency and contingency response procedures as described in the EMP.

34. The Approval Holder shall ensure that all the commitments made in the letter dated November 10, 2010, titled "Reference: CMEI Action Plan 2009" are adhered to and completed in the timeframes specified in the letter.

OPERATING CONDITIONS

35. The Approval Holder shall ensure that the Facility is not used for the disposal of the materials listed below unless otherwise approved in writing by the Director.

    - petroleum contaminated soil,
    - liquid wastes (with the exception of septage from the Facility sewage system),
    - sludge (with the exception of sludge from the Facility leachate treatment system),
    - liquid oily wastes,
    - hazardous wastes,
    - biomedical waste or
    - any mixture of the above

36. The Approval Holder shall ensure that any solid waste disposed of at the Facility is done so in the containment cells at the Facility unless otherwise approved in writing by the Director. It is recommended that the waste be regularly and uniformly compacted.

37. The Approval Holder shall ensure that the minimum 25-year breakthrough requirement for the containment cells at the Facility is maintained.

38. The Approval Holder shall ensure that all exposed waste in the containment cells of the Facility is covered with a minimum of 150 mm of clean soil (or an alternate daily cover that has been pre-approved by the Department), as a minimum, at the end of each operating day.

39. The Approval Holder shall provide supervision when any material is being disposed of at the Facility, including the C&D Site. No disposal at the Facility, including the C&D Site, is permitted otherwise.

40. The Approval Holder shall ensure that the incoming waste at the Facility is routinely scrutinized to ensure that unacceptable waste is not received at the Facility.

41. The Approval Holder shall ensure that the household hazardous waste depot at the Facility is operated in accordance with an operating manual approved by the Department.

42. The Approval Holder shall ensure that a buffer strip of native softwood trees is maintained around the Facility in accordance with the Environmental Impact Assessment Study.

43. The Approval Holder shall ensure that a Pest Management Program is in place at the Facility that is in compliance with "Pest Control at NB Landfill Sites and Transfer Stations", attached as Schedule "B".

CONSTRUCTION

44. The Approval Holder shall ensure that the necessary engineering documentation is submitted to the Director, and approved in writing by the Department, prior to the construction, modification or expansion of 1) additional solid waste disposal cells, 2) landfill gas management systems; 3) sludge handling facilities, 4) leachate collection and treatment systems, 5) facilities for processing recyclables or managing organics, 6) storage of waste including household hazardous waste, 7) special waste disposal cells/locations or any other pertinent construction activity at the Facility.

45. The Approval Holder shall ensure that final cover applied to the containment cells at the Facility shall be a minimum of 300 mm granular layer, 600 mm low permeability clayey till @ 1×10^{-7} cm/sec hydraulic conductivity, 150 mm granular protection layer, 150 mm growing medium and vegetative cover and shall be sloped a minimum of 2% to promote precipitation runoff from the disposal cell. All holes, cave-ins and faults shall be filled in or repaired, as required, until the final cover has been properly stabilized. All side slopes shall be designed to ensure proper slope stability and full containment of leachate. As a minimum, a side slope of less than 4 horizontal to 1 vertical should be utilized.

If approved in writing by the Director, an alternative final cover plan may be used.

46. The Approval Holder shall ensure that a Quality Assurance and Quality Control (QA/QC) report is submitted to the Department upon completion of the installation of final cover on a containment cell or cells at the Facility. The report must be prepared or approved by a person who is a member of the Association of Professional Engineers and Geoscientists of the Province of New Brunswick or is licensed to practise as a professional engineer pursuant to the *Engineering Profession Act* and include as a minimum:

- commentary that confirms that all construction activities and testing associated with the installation of final cover were supervised by a qualified independent third party and that the final cover meets the Department's requirements as detailed in the previous condition;
- all test parameters, the number of tests and locations;
- copies of any inspection and testing reports;
- a summary of any problems or deficiencies encountered and how they were corrected; and
- other information as requested by the Department.

The QA/QC report should be forwarded to the Department no later then 3 months upon completion of the final cover.

47. The Approval Holder shall ensure that all future containment cells at the Facility are designed such that the installed leachate piping can be inspected in the future by video or an alternate method approved in writting by the Director, to ensure that the leachate piping is in proper working condition.

48. The Approval Holder shall ensure that, prior to decommissioning any monitoring wells at the Facility, a decommissioning plan and schedule is submitted to the Director and approved in writing by the Department.

49. The Approval Holder shall ensure that the high volume air quality sampling station at the Facility is maintained in proper working condition for measuring total suspended particulate (TSP) matter for use if required in subsequent Approvals to Construct.

LEACHATE AND SURFACE WATER

50. The Approval Holder shall ensure that no leachate (including treated leachate) or water that has come in contact with solid waste, is released from the Facility to the environment or to the Facility's surface water drainage system including the sedimentation ponds.

51. The Approval Holder shall ensure that all leachate and all water at the Facility that has come in contact with solid waste is directed to the Facility's leachate collection system.

52. The Approval Holder shall ensure that the leachate levels in the disposal cells at the Facility are monitored and recorded Monday thru Friday. If precipitation is scheduled on Saturday and/or Sunday, or if the leachate levels in the disposal cells are high, then monitoring on Saturday and Sunday is also required.

53. The Approval Holder shall ensure that any leachate taken from the Facility to the Lancaster Wastewater Treatment Facility is treated to a level that is acceptable to the City of Saint John.

54. The Approval Holder shall ensure that surface water at the Facility that has not been in contact with leachate or solid waste is directed to the sedimentation pond(s). Clean surface water that has a total suspended solids (TSS) value of 25mg/l or less may be diverted from the sedimentation pond(s) if approved in writing by the Department. Water from empty disposal cells that has not been in contact with leachate or solid waste should bypass the leachate collection system and be directed to the surface water drainage system at the Facility.

55. The Approval Holder shall ensure that the drainage ditches at the Facility are maintained to ensure they remain free flowing at all times.

56. The Approval Holder shall ensure that there is a continuous, permeable layer of gravel surrounding the waste at the Facility from the top of the upper side slopes through the top of the berm area to the leachate collection system. Particular care must be exercised at the top of berm area so that the final cover will properly intersect the top of berm.

57. The Approval Holder shall ensure that the leachate collection piping at the Facility is properly maintained to ensure they remain free flowing.

58. **Prior to October 15, 2013**, and at least once every two years thereafter, the Approval Holder shall ensure that the leachate collection piping at the Facility is inspected by video or other method pre-approved in writing by the Director, to ensure the leachate collection system is in proper working condition.

WASTE DISPOSAL

59. The Approval Holder shall ensure that hot loads arriving at the Facility containing ashes or other materials that could potentially cause a fire in the containment cells are temporarily stored in a separate secure location until the risk of fire has been eliminated. The material shall then be disposed of in the containment cells (or a designated area that has been approved in writing by the Director) at the Facility.

60. The Approval Holder shall ensure that any friable asbestos accepted at the Facility for disposal has been wetted, placed in securely tied, double bagged 6 mil polyethylene bags or securely tied single 6 mil polyethylene bag that has been placed in a drum or cardboard box with all seams securely taped and each bag, cardboard box and/or drum is clearly labelled "WASTE ASBESTOS UN2590" or "DECHETS D'AMIANTE UN2590" and there are no punctures in the containers (if they are punctured, the contents must be wetted and repackaged prior to land filling) and they are placed at a dedicated location within the containment cells and are immediately covered with a minimum of 300 mm of clean cover material, or 1000 mm of municipal solid waste. Asbestos should be accepted at the Facility by appointment only, and not disposed during windy conditions.

61. The Approval Holder shall ensure that there is a sufficient quantity of wetting agent on-site when asbestos is being handled and disposed at the Facility.

62. The Approval Holder shall ensure that any unloading of friable asbestos at the Facility is done by the driver (or assistant) and that they or any personnel at the Facility who handle the asbestos are wearing the proper respirators and clothing during the unloading and disposal of the asbestos waste. Appropriate facility staff must supervise the unloading and covering of the asbestos waste.

63. The Approval Holder shall ensure that an "Asbestos Disposal Record" is maintained. The Record shall include, but not necessarily be limited to, the disposal date, volume of asbestos waste, origin of the shipment, contractor delivering the asbestos waste and a detailed plan of the disposal location at the Facility.

HOUSEHOLD HAZARDOUS WASTE

64. The Approval Holder shall ensure that the household hazardous waste depot at the Facility is operated in accordance with the most recent edition of the household hazardous waste Operations Manual that has been approved in writing by the Department.

65. The Approval Holder shall ensure that only household hazardous waste that is generated in New Brunswick is received and stored in the household hazardous waste depot at the Facility. All household hazardous waste received by the Facility is to be stored in the household hazardous waste depot.

66. The Approval Holder shall ensure that all household hazardous waste being stored in the household hazardous waste depot at the Facility is collected by a hazardous waste collection and transportation network. No household hazardous waste is to be stored at the Facility for more than one year.

67. The Approval Holder shall ensure that household hazardous waste at the Facility shall only be received, sorted, stored, and transferred from the Facility.

68. The Approval Holder shall ensure that all household hazardous waste stored in the household hazardous waste depot is:

a) secured in sealed and chemically resistant containers;
b) away from high traffic areas and protected from vehicle impacts;
c) away from electrical panels;
d) in a containment area that has secondary containment adequate to contain 110 % of the total volume contained with in the containment area;
e) in a containment area that is designed to prevent contact between incompatible chemicals; and
f) in a containment area designed to prevent the release or discharge of chemicals to the environment as a result of a spill or other upset condition.

69. **Within 15 days of the end of each month**, the Approval Holder shall submit a monthly report to the Director that includes:
a) a summary report of all household hazardous waste stored in the household hazardous waste depot for the previous month using a form acceptable to the Department, and
b) a summary report of all spills that have occurred in association with the operation of the household hazardous waste program. This summary shall identify the material spilled, the approximate volume spilled, the date of the spill, the containment methods employed, and the steps taken to prevent a future recurrence of the spill. This does not relieve the Approval Holder of compliance with the Emergency Reporting section of this Approval.

CONSTRUCTION AND DEMOLITION DEBRIS

70. The Approval Holder shall ensure that only C&D debris is disposed of in the C&D Site's disposal cell. Any material at the C&D Site that is not located in a designated sorting area is considered disposed.

71. The Approval Holder shall ensure that all loads of C&D debris that are brought to the C&D Site have been properly scrutinized before they are disposed. If previously approved in writing by the Director, a designated sorting area may be used to scrutinize loads of C&D debris brought to the C&D Site.

72. The Approval Holder shall ensure that any unapproved materials brought to the C&D Site, including those in a designated sorting area, are either immediately placed in a temporary storage area and removed daily from the C&D Site and properly disposed. If the unapproved material is hazardous or may cause immediate impacts to the environment then it shall be immediately removed from the C&D Site and properly disposed of.

73. The Approval Holder shall provide on-site supervision when C&D debris is being disposed of at the C&D Site. No disposal at the C&D Site is permitted otherwise.

74. The Approval Holder shall ensure that clean/uncontaminated cover material at least 150 mm deep is applied to all exposed C&D debris at the C&D Site at least once per week.

75. The Approval Holder shall ensure that any final cover applied at the C&D Site is sloped in such a manner to ensure positive drainage and prevent standing or pooling of water on the surface.

76. The Approval Holder shall ensure that the area between the property line of the Facility and the C&D Site disposal cell is maintained with a treed or bermed buffer zone.

77. The Approval Holder shall ensure that the C&D Site is designed and operated such that surface water is prevented from entering the C&D debris disposal cell. No C&D debris shall be disposed of in free standing water.

78. The Approval Holder shall ensure that a minimum of 1.5 metres of overburden is maintained between the C&D debris and the bedrock and seasonal high groundwater.

79. The Approval Holder shall ensure that the C&D debris disposed of at the C&D Site is regularly compacted to minimize voids. Compaction with a dozer or equivalent is recommended.

80. The Approval Holder shall ensure that the side slopes of the disposal area of the C&D Site are properly stabilized (using riprap or a vegetative layer as part of the cover system for example) and maintained to limit erosion.

81. The Approval Holder shall ensure that a 50 metre treed or bermed buffer zone is maintained on the southern, northern and western boundaries of the C&D Site. It is understood at this time that the entire approved area for the C&D Site may be clearcut as part of a scientific evaluation of woodlot procedures. Ensure that the clearcut area is not grubbed if the scientific evaluation proceeds.

SITE MANAGEMENT

82. The Approval Holder shall ensure that areas of the containment cells at the Facility that will be inactive for at least three months are covered with a 300 mm intermediate cover layer, graded to promote drainage and minimize erosion and infiltration. Any leachate or any water that has, or could, come in contact with waste in the containment cells must be directed to the leachate collection system.

83. The Approval Holder shall ensure that white goods, scrap metals, electronics, propane tanks/canisters, wood, tires and any other materials being salvaged at the Facility are stored in a secured area separate from the main waste disposal area.

84. The Approval Holder shall ensure that debris and litter at the Facility is controlled. Adequate barriers and/or fencing shall be utilized to confine debris and litter to the immediate disposal area. Any debris or litter found along the access roads or otherwise not contained in the disposal cells shall be routinely collected and disposed in an appropriate location.

85. The Approval Holder shall ensure that unauthorized access to and scavenging at the Facility is controlled.

86. The Approval Holder shall ensure that the visibility buffer that has been established on the south and west borders of the Facility is maintained at a height of at least 6 meters.

87. The Approval Holder shall ensure that a buffer strip of native softwood trees is maintained around the Facility to help reduce visibility of the landfill in accordance with the Environmental Impact Assessment.

LANDFILL GAS MANAGEMENT

88. The Approval Holder shall ensure that any landfill gas that is not utilized by the electric generator should be sent to the landfill gas flare.

89. The Approval Holder shall ensure that a continuous temperature monitor is fully functional and in operation at all times when the landfill gas flare is in use. The temperature shall be recorded once every hour.

An electronic record of the temperature results shall be maintained for a minimum of two years and shall be made available to an inspector upon request.

90. The Approval Holder shall ensure that the landfill gas control and collection system is properly operated and maintained.

91. The Approval Holder shall ensure that when the flare of the landfill gas control and collection system is operated with a minimum gas residence time of 0.75 seconds at a minimum temperature of 875 degrees Celsius to maximize the destruction efficiency.

92. The Approval Holder shall notify the Department if the continuous temperature monitor is taken out of service for maintenance or repair while the landfill gas flare is in operation. During the maintenance or repair the temperature shall be manually monitored and recorded on a schedule approved in writing by the Department.

EMISSIONS AND DISCHARGES

93. The Approval Holder shall ensure that no leachate is discharged from the Facility to the environment.

94. The Approval Holder shall ensure that any discharge from the Facility, including the sedimentation pond, to a watercourse has a total suspended solids (TSS) value of 25 mg/l or less.

95. The Approval Holder shall ensure that there is no open burning conducted at the Facility, including the C&D Site.

96. The Approval Holder shall ensure that both odour and noise emissions released from the Facility are controlled to prevent impacts to off-site receptors. In the event that odour or noise emission impacts do occur, the Department may require the Approval Holder to develop, submit and implement a Control Plan that mitigates the impacts such that they no longer cause a nuisance to off-site receptors. The Control Plan shall be submitted to the Director for review and approval prior to implementation.

97. The Approval Holder shall ensure that fugitive dust emissions generated from truck traffic or other activities at the Facility are controlled by the use of water. Written permission from the Department must first be obtained if calcium chloride or other chemical compounds are to be used for dust control. The use of a petroleum product for dust control is **prohibited.**

TESTING AND MONITORING

98. The Approval Holder shall ensure that the groundwater monitoring wells at the Facility are sampled at seasonal intervals that provide an accurate representation of groundwater quality at the Facility. The existing network of groundwater monitoring wells at the Facility is as follows:

Well Nest	Shallow Till	Deep Till	Shallow Bedrock	Mid Bedrock	Deep Bedrock
MW31	-	-	MW31-S	MW31-U	MW31-L
MW32	-	-	MW32-U	MW32-L	-
MW33	MW33-S	-	MW33-U	-	-
MW34	MW34-S	-	MW34-U	-	-
MW35	MW35-S1	MW35-S2	MW35-L	-	-
MW36	MW36-S	-	MW36-U	-	MW36-L
MW37	MW37-S	-	-	-	-
MW38	MW38-S	-	MW38-U	MW38-L	-
MW39	MW39-S	-	-	-	-
MW40	MW40-S	-	MW40-U	-	-
MW41	MW41-S	-	MW41-U	MW41-L	-
MW42	MW42-S	-	MW42-U	-	MW42-L
MW43	MW43-S	-	MW43-U	-	-
MW44	MW44-S	-	MW44-U	-	-
MW45	-	-	MW45-U	-	MW45-L

MW46	-	-	MW46-U	-	MW46-L
MW47	MW47-S	-	MW47-U	-	MW47-L
MW48	MW48-S	-	MW48-U	-	MW48-L
MW49	MW49-S	-	MW49-U	MW49-L	-
MW50	MW50-S	-	MW50-U	-	MW50-L
MW51	MW51-S1	MW51-S2	-	-	MW51-D
MW52	MW52-S	-	-	MW52-D	-
MW53	-	-	-	MW53-D	-
MW54	MW54-S	-	MW54-U	-	-

99. The Approval Holder shall ensure that any new groundwater monitoring wells, underdrains, leak detection systems or other sampling points at the Facility are sampled and analyzed as directed by the Department in writing.

100. The Approval Holder shall ensure that all ground and surface water samples required to be obtained for the Facility are obtained by a qualified technician and, unless otherwise approved in writing by the Director, analyzed by a laboratory that is, as a minimum, a member in good standing of the Canadian Association for Laboratory Accreditation (CALA) Proficiency Testing Program for Environmental Laboratories.

For the purpose of this Approval, "GENERAL CHEMISTRY" shall include the following analyses:

Ammonia	Alkalinity (as $CaCO_3$)	Calcium
Chemical Oxygen Demand	Chloride	Colour
Copper	Hardness (as $CaCO_3$)	Iron
Nitrate-Nitrite (as N)	Magnesium	Manganese
o-Phosphate (as P)	Phenols	Potassium
r-Silica (as SiO_2)	Sodium	Sulphur (Sulphate & Sulphide)
Total Suspended Solids	Total Organic Carbon	Turbidity
Total Kjeldahl Nitrogen (TKN)	Zinc	

with the associated calculated parameters: Bicarbonate, Carbonate, Hydroxide, Cation Sum, Anion Sum, % difference, Theoretical conductance, Saturation pH (5°C) and Langelier Index (5°C).

and "TRACE METALS" shall include the following analyses:

Aluminum	Antimony	Arsenic	Barium
Beryllium	Bismuth	Boron	Cadmium
Calcium	Chromium	Cobalt	Copper
Iron	Lead	Magnesium	Manganese
Mercury (CVAAS)		Molybdenum	Nickel Potassium
Selenium	Silver	Sodium	Strontium
Thallium	Tin	Uranium	Vanadium

Zinc

and "BTEX/TPH" shall be analysed in accordance with the Atlantic RBCA Tier 1 Guidelines for Laboratories and shall include the following parameters:

Benzene	C6-C10 Hydrocarbons
Toluene	>C10-C21 Hydrocarbons
Ethylbenzene	>C21-<C32 Hydrocarbons
Xylene	Modified TPH (Tier 1)

% Rec. iso-butylbenzene-Volatile
% Rec. iso-butylbenzene-Extractable
% Rec. n-dotriacontane-Extractable

101. The Approval Holder shall ensure that the following field parameters are obtained during each sampling event at the Facility:

Conductivity	Dissolved Oxygen	pH
Temperature	ground water elevations (referenced to geodetic datum)	

102. The Approval Holder shall ensure that prior to obtaining a ground water sample from a monitoring well at the Facility, a minimum of one well volume and a maximum of three well volumes be purged from that monitoring well.

103. The Approval Holder shall ensure that all field testing equipment is calibrated before and after each sampling event conducted at the Facility.

104. The Approval Holder shall ensure that groundwater samples to be submitted for analysis of TRACE METALS are field filtered using 0.45 µm in-line waterra filter or equivalent. All other samples should be unfiltered.

105. The Approval Holder shall ensure that the leachate surge pond, leachate holding pond and disposal cell underdrains at the Facility are sampled on at least 5 different occasions each calendar year and analyzed for GENERAL CHEMISTRY, TRACE METALS and BTEX/TPH.

106. The Approval Holder shall ensure that the leachate discharged from the containment cells at the Facility (MH#1) is sampled monthly and analyzed for the following parameters:

Alkalinity	Ammonia	Barium	Boron
BOD_5	Cadmium	COD	Chromium
Calcium	Chloride	Copper	Cyanide
Iron	Magnesium	Manganese	Lead
Mercury	Nitrite-Nitrate	Nickel	Phenols
Sodium	Sulphate	TSS/TDS	Total Organic Carbon (TOC)
TKN	Total Phosphate	Zinc	

and BTEX/TPH

107. The Approval Holder shall ensure that the groundwater monitoring well nests MW31 thru MW50 are sampled during the Spring and Fall seasons of each calendar year for GENERAL CHEMISTRY, TRACE METALS and BTEX/TPH.

108. The Approval Holder shall ensure that the groundwater monitoring well nests MW51 thru MW54 are sampled in the Spring, Summer and Fall months and analyzed for GENERAL CHEMISTRY, TRACE METALS & BTEX/TPH.

109. The Approval Holder shall ensure that the groundwater monitoring wells MW33U, MW34S, MW34U, MW35S2, MW35L, MW38U, MW41S and MW41U are sampled on at least five different occasions between February and November of each year and analyzed for GENERAL CHEMISTRY.

110. The Approval Holder shall ensure that the surface water sampling stations SW1, SW2, SW3, SW4, SW5, SW6 and the sedimentation pond discharge shall be sampled in the Spring and Fall seasons of each year and analyzed for GENERAL CHEMISTRY, TRACE METALS, BTEX/TPH, TKN, BOD_5 and TSS/TDS.

The sedimentation pond discharge shall be sampled near the mid-point of a discharge event.

111. The Approval Holder shall ensure that the results of all sampling and analysis conducted at the Facility are kept on file in both a hardcopy and electronic version.

112. The Approval Holder shall ensure that in September or October of each year the domestic wells chosen for the Domestic Well Monitoring Program are sampled and analyzed for the following parameters:

Ammonia	Alkalinity (as $CaCO_3$)	Calcium
Chloride	Copper	Iron
Nitrate-Nitrite (as N)	Magnesium	Manganese
o-Phosphate (as P)	Potassium	pH
r-Silica (as SiO_2)	Sodium	Sulphate
Total Disolved Solids	Total Organic Carbon	Turbidity
Zinc	Conductivity	Temperature

with the associated calculated parameters: Bicarbonate, Carbonate, Hydroxide, Cation Sum, Anion Sum, % difference, Theoretical conductance, Hardness (as $CaCO_3$), Ion Sum, Saturation pH (5°C) and Langelier Index (5°C).

113. The Approval Holder shall ensure that for each discharge of water from the sedimentation pond at the Facility a sample is obtained at the mid-point of the discharge event and analyzed for Total Suspended Solids (TSS).

114. The Approval Holder shall ensure that all monitoring samples required under this approval are obtained by a qualified technician and, unless otherwise Approved, analyzed by a laboratory that is accredited by the Canadian Association for Laboratory Accreditation (CALA) and having completed the CALA Proficiency Testing Program for the requested parameters.

REPORTING

115. On or before **May 31, August 31 & November 30 of each calendar year**, the Approval Holder shall ensure that an environmental monitoring report is submitted to the Director. It is understood that the May report will include monitoring from January to March, the August report will include monitoring from April to June and the November report will include monitoring from July to September. The 4th quarter report for monitoring of October to December will be included with the Annual Environmental Report. The reports must be prepared or approved by a person who is a member of the Association of Professional Engineers and Geoscientists of the Province of New Brunswick or is licensed to practise as a professional engineer pursuant to the *Engineering Profession Act* and include, as a minimum, a copy of the analysis, a comparison of the analysis with previous analytical results from the Facility, and commentary indicating whether their is an indication of any immediate, or potential threat or impact to the environment, ground or any surface waters. If an impact has occurred or is suspected the report must include a proposal for further investigation and/or remediation.

116. On or before **February 28 of each year**, the Approval Holder shall ensure that an Annual Environmental Report for the previous calendar year is submitted to the Director. The report must include as a minimum:
    - a copy of the Asbestos Disposal Record;
    - recommendations for any future monitoring, groundwater well installation or other work at the Facility;
    - confirmation that all field testing equipment has been calibrated before and after each sampling event conducted at the Facility;
    - confirmation that each groundwater monitoring well has been appropriately purged prior to obtaining a sample;
    - dates of all sampling conducted at the Facility;
    - dates of each discharge from the sedimentation pond;
    - a copy of the analytical results of the sampling and monitoring data obtained from the Facility for the previous calendar year and a review of those analytical results that is completed by a professional engineer or geoscientist licensed with the Association of Professional Engineers and Geoscientists of New Brunswick that includes as a minimum:
        - comparisons with historical results from the Facility;
        - identification of possible analytical anomalies;

- an evaluation and discussion of the results for the surface water sampling points, groundwater monitoring wells, any cell or leachate pond underdrains/subdrain collection manholes and commentary on whether or not there is evidence of an immediate or potential impact to the environment, ground or surface waters and if so, recommendations for additional investigation, monitoring and remediation to mitigate the impacts;
- confirmation that the containment cells and leachate pond(s) have been operated such that the minimum breakthrough requirements have been maintained; and
- trending graphs for each monitoring well at the Facility and the leachate pond leak detection and cell underdrain manholes for the following indicator parameters showing results vs. time:

  Alkalinity, Ammonia, Barium, Boron, Calcium, Chloride, Conductivity, Iron, Magnesium, pH, Sodium, Sulphate, and Dissolved Organic Carbon.

Note: Trending graphs should be completed on an annual basis but an alternate schedule may be accepted if approved in writing by the Director.

117. In the event the Approval Holder violates any Term or Condition of this Approval the Approval Holder is to immediately report this violation to the Department by calling (506) 453-7945. In the event the violation may cause the health or safety of the general public to be at risk and/or harm to the environment could or has resulted, the Approval Holder shall follow the Emergency Reporting procedures contained in this Approval.

118. In the event the Approval Holder receives a complaint from the public regarding unfavourable environmental impacts associated with the Facility, the Approval Holder is to report this complaint to the Department within one business day of receiving the complaint.

119. **Prior to November 30 of each year,** the Approval Holder shall ensure that each homeowner that has their well sampled as part of the Domestic Well Monitoring Program receives a signed copy of the analysis from the laboratory that did the analysis and a summary sheet that highlights any concerns or potential problems found in the analysis.

120. **Prior to November 30 of each year**, the Approval Holder shall ensure that a Domestic Well Monitoring Program report is submitted to the Department of Health. The report, as a minimum, shall include a signed copy of the analytical results and a summary of each well that has been completed by a qualified person that highlights any concerns or potential problems found.

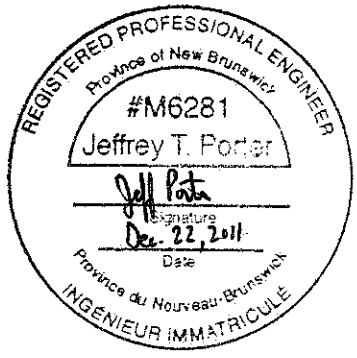
A letter shall also be sent to the Department prior to November 30 of each year indicating that the sampling and analysis has been completed and that 1) a report has been forwarded to the Department of Health and 2) a signed copy of the analysis and summary of the results by a qualified person has been sent to each homeowner participating in the program.

121. **By March 1st of each year,** the Approval Holder shall ensure that a summary report detailing all work that has been completed for the year from the letter dated November 10, 2010, titled "Reference: CMEI Action Plan 2009" is submitted to the Director and the Crane Mountain Enhancement Inc.

The summary report will be reviewed by the Department. This review will assess if the Approval Holder is required to implement any further work related to any of the recommendations. The implementation of this work will be enforced through this approval.

Prepared by: _____
Jeffrey Porter, P.Eng.
Solid Waste Engineer, Remediation and Materials Management

Reviewed by: _____
Mark Boldon
Manager, Remediation and Materials Management



SCHEDULE "B"

PEST CONTROL AT NB LANDFILL SITES AND TRANSFER STATIONS

1. **Terms and Conditions for Rodent Control at NB Landfill Sites and Transfer Stations**

1. All personnel directly involved in the mixing, loading and application of the pesticides for the control of rodents at waste disposal facilities must hold a valid Class F or Class L Pesticide Applicator's Certificate, which must be in their immediate possession.

2. Professional companies hired to conduct this work must hold a valid Provincial Operator's License and Pesticide Use Permit.

3. The treatment area must be posted with an approved sign prior to the treatment.

4 The signs are to be conspicuously posted at all ordinary points of access.

5 The applicator shall ensure that the signs are removed after either the completion of treatment or the expiration of their permit.

6 The sign shall be rectangular in shape with a minimum size of 14 cm x 21 cm, rain resistant with type or letters of sufficient size and clarity to be easily read together with a symbol of a cautionary raised hand inside a symbol of a stop sign. The information on the sign must be bilingual and must contain the words "Attention, Pesticide Application", the name of the pesticide, the Pest Control Product registration number, date of application, name of applicator, operator name or logo and telephone number.

7 Industry approved tamper resistant bait stations must be attempted before using other methods of baiting.

8 The Director of Pesticides Control or any member of the Pesticides Management Unit must approve areas that require alternative baiting methods. They can be contacted at (506) 453-7945.

November 8, 2005