
“TIRM” Consultation Package

Section 2- Respondents who have qualified through the REOI stage

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For your Information

**Description of Responses from Qualified Respondents
Category 1
Proven Waste Diversion Capacity**

RESPONDENT	TECHNOLOGY TYPE
<p>Agra Monenco</p> <ul style="list-style-type: none"> • Wright Environmental • Montenay • Energy Power Resources <p>Respondent Contact: Dave Moniot, Manager, Bus. Dev. Agra Monenco 2010 Winston Park Drive Oakville, Ontario L6H 6A3 Phone: (905) 403-5014 Fax: (905) 829-1470</p>	<p><i>Compost (Source Separated Organics)</i> Construction of new facility (at a site already established by Agra Monenco) using the Wright Environmental Management Inc., modular, in-vessel compost technology. AGRA will provide a source separated organics facility to process 150 tonnes per day of feedstock with expansion to 400 tonnes per day.</p>
<p>All Treat Farms</p> <p>Respondent Contact: Wayne Byrd, Controller All Treat Farms Ltd. 7963 Wellington Road 109 R. R. # 4 Arthur, Ontario NOG 1A0 Phone: (800) 265-7612 Fax: (800) 277-7534</p>	<p><i>Compost (Yard Waste)</i> Use existing licensed facility in Arthur, Ontario to process and compost all of Toronto's yard waste (leaves, brush, garden waste & Christmas trees). Yard waste would be weighed, shredded & mixed with other raw materials, then placed in windrows or a PAWS (Passive Aerated Windrow System) pile.</p>
<p>HUWS</p> <p>Respondent Contact: Claude Boucher, President Huws Corporation RR #1 Palgrave, Ontario L0N 1P0 Phone: (519) 942-1008 Fax: (519) 942-1060</p>	<p><i>Compost (Mixed Waste)</i> Construction of a new facility capable of processing 100,000 tonnes per year of mixed waste on lands available in Toronto. Uses Herhof-Waste treatment system with the Herhof Biocell Technology for composting in air and liquid tight modular units.</p>

<p>Rail Cycle North</p> <ul style="list-style-type: none">• Miller Waste Systems• Notre Development• Canadian Waste Services• CN Railway• Ontario Northland• Gas Recovery Systems <p>Respondent Contact: Nigel G. H. Guilford, V.P. Rail Cycle North 1275 North Service Road West, #707 Oakville, Ontario L6M 3G4 Phone: (905) 825-8040 Fax: (905) 825-5603</p>	<p><i>Compost (Mixed Waste &/ Source Separated Organics)</i></p> <p>Construction of new facilities (one or several) to process in the range of 50,000 to 300,000 tonnes per year of mixed waste and/or source separated organics. Use Toronto area lands, Miller's land in Pickering and other sites. The technology for processing of mixed waste and composting of organic materials is the Ebara Wide Bed Technology. Three components of composting system of mixing/loading, active composting, and curing and storage. Separate processing and storage for mixed waste organics and source separated organics.</p>
<p>State Group Ltd.</p> <ul style="list-style-type: none">• Groupe Conporec Inc.• Roche Groupe Conseil <p>Respondent Contact: Claude Marmen, V.P. Groupe Conporec Inc. 3125 Joseph Simard Street Tracy, Quebec J3P 5N3 Phone: (450) 746-9996 Fax: (450) 746-7587</p>	<p><i>Compost (Mixed Waste & Some Source Separated Organics)</i></p> <p>Construction of a new facility capable of processing 88,000 tonnes per year of MSW and 9,000 tonnes per year of liquid waste. In-vessel composting technology using bioreactor for accelerated fermentation and agitated - forced air with primary and secondary refining plus curing and storage.</p>
<p>Stinnes Enerco</p> <p>Respondent Contact: Georad Tibbo, President Stinnes Enerco Sheridan Science & Technology Park 2800 Speakman Drive Mississauga, Ontario L5K 2R7 Phone: (905) 403-3981 Fax: (905) 855-8270</p>	<p><i>Compost (Source Separated Organics)</i></p> <p>Construction of a new facility for source separated organics diversion capable of processing 50,000 to 300,000 tonnes per year using System 251 Modular In-vessel Composting System. Three stage process of intensive in-vessel biological breakdown followed by curing and then stabilization.</p>

<p>Stone & Webster Canada Ltd.</p> <ul style="list-style-type: none">• Canada Composting <p>Respondent Contact: Bruce A. Welch, Ind. Bus. Mgr. Stone & Webster Canada Ltd. 2300 Yonge Street Toronto, Ontario M4P 2W6 Phone: (416) 932-4400 Fax: (416) 482-2865</p>	<p><i>Anaerobic Digestion (Mixed Waste)</i> Construction of facilities in Newmarket and Toronto. C of A exists for Newmarket and Toronto approvals are expected in 1999) to handle 300,000 tonnes per year of waste. Use BTA-process combining waste separation techniques with advanced anaerobic digestion. Anaerobic digestion used to process the organic fraction of MSW to produce high quality compost and biogas.</p>
<p>SUBBOR</p> <ul style="list-style-type: none">• Eastern Power• Super Blue Box Recycling <p>Respondent Contact: Gregory M. Vogt, President Eastern Power Ltd. & Super Blue Box Recycling 304 The East Mall, # 100 Toronto, Ontario M9B 6E2 Phone: (416) 234-1301 Fax: (416) 234-8336</p>	<p><i>Anaerobic Digestion (Mixed Waste)</i> Capable of providing mixed waste diversion in the range of 100,000 to 300,000 tonnes per year. Uses three stage process: conventional materials recovery; enhanced multi-stage anaerobic digestion including thermal treatment (producing methane-rich biogas, peat and inert fill); and production of electric power and co-generation energy from biogas.</p>

**Description of Responses from Qualified Respondents
Category 2
Proven Waste Disposal Capacity**

RESPONDENT	TECHNOLOGY TYPE AND SITE LOCATION
<p>Agra Resource Management</p> <ul style="list-style-type: none"> • Agra Birwelco • Montenay • Energy Power Resources <p>Respondent Contact: Harry Olivier, Vice President, Agra Birwelco Ltd., 1 Yonge Street, Toronto, Ontario, Canada L6H 6A3 Phone: (416) 861-0294 Fax.: (416) 861-1319</p>	<p><i>Conventional Sanitary Landfill Technology and Waste to Energy facility</i></p> <p>Proposes transport by tractor trailer and management of approximately 750,000 tonnes per annum of municipal solid waste at new EFW facility in Innisfil Township, Simcoe County.</p> <p>Two adjacent sites (water and property) proposed for new waste to energy facility for long-term disposal and energy recovery.</p> <p>Short-term proposal involves disposal at one or two landfill sites located in Michigan, USA.</p> <p>Michigan sites licensed to receive ash from EFW facility.</p>
<p>Browning -Ferris Industries</p> <p>Respondent Contact: George Paturalski, Vice President, Browning-Ferris Industries Ltd. 10599 West Five Mile Road Northville, Michigan, 48167 USA Phone: (248) 349-3215 Fax: (248) 349-5634</p>	<p><i>Conventional Sanitary Landfill Technology and Waste to Energy Facility (Mass Burn Combustion Technology)</i></p> <p>Proposes to manage maximum of 1.2 million tonnes, utilizing a combination of the following:</p> <ul style="list-style-type: none"> - Ref-Fuel Niagara Resource Recovery Plant in Niagara Falls, NY, USA - Ridge Landfill Site in Blenheim, Kent County, Ontario identified for landfilling - Eight operating landfills identified in Michigan, Ohio and New York State
<p>Essex-Windsor Solid Waste Authority</p> <p>Respondent Contact: Todd R. Pepper, General Manager, Essex-Windsor Solid Waste Authority, 360 Fairview Avenue West, Essex, Ontario, Canada M8M 1Y6 Phone: (519) 776-6441, ext. 225 Fax: (519) 776-6370</p>	<p><i>Conventional Sanitary Landfill Technology</i></p> <p>Proposes to manage approximately 100,000 tonnes per year ESWA site designed to accept 320,000 tonnes per year Received 170,000 tonnes per year in 97/98 from Essex-Windsor area.</p> <p>Site located in Town of Essex, Ontario.</p>

<p>Green Lane Landfill</p> <p>Respondent Contact: Bob McCaig, President, Green Lane Landfill, P.O. Box 790, Lambeth Station, London, Ontario, Canada L6P 1R7 Phone: (519) 652-9284 Fax: (519) 652-9447</p>	<p><i>Conventional Sanitary Landfill Technology</i> Proposes to manage approximately 200,000 tonnes per year. Long-term capacity available in Ontario landfill site (Green Lane). Site located in Elgin County, Ontario.</p>
<p>Rail Cycle North</p> <ul style="list-style-type: none"> • Canadian Waste Services • Notre Development Corporation • Miller Waste • CNR • Ontario Northland • Acres Recovery Systems <p>Respondent Contact: Nigel G.H. Guilford, Vice President, Rail Cycle North, 1275 North Service Road West, #707 Oakville, Ontario, Canada L6M 3G4 Phone: (905) 825-8040 Fax: (905) 825-5603</p>	<p><i>Conventional Sanitary Landfill Technology, Rail Haul, Waste Transfer, Waste Diversion and Energy Recovery</i> Proposes to transport by road and rail and manage up to 30 million tonnes of municipal solid waste over a 20 year period. Site identified as the Adams Mine Landfill in Boston Township, District of Temiskaming (10 km south-east of Kirkland Lake). Proposes to transport waste to 5 privately owned transfer stations (in Mississauga, Pickering, Markham and Whitby) plus municipally-owned facilities. Intermodal facility located in City of Vaughan, York Region-McMillan Yard. Methane gas recovery uses fuel to power electric generators.</p>
<p>Ref-Fuel Canada</p> <p>Respondent Contact: Derek Veenhof, Ref-Fuel Canada Ltd., 100 Energy Boulevard @ 56th Street, Niagara Falls, N.Y. 14304, USA Phone: (716) 278-8508 Fax: (716) 284-2961</p>	<p><i>Waste to Energy (Mass Burn Facility)</i> Proposes to manage 400,000 tonnes per year of waste at an existing EFW facility, The Ref-Fuel Niagara Resource Recovery Facility in Niagara Falls, NY., USA. Operating 2000 tonne per day facility in Niagara Falls, N.Y.</p>

<p>Republic Services of Canada</p> <p>Respondent Contact: Bob Webb, Republic Services of Canada, Inc. 14 Pirie Drive, Dundas, Ontario, Canada L9N 6X5 Phone: (905) 628-9825 Fax: (905) 628-8709</p>	<p><i>Conventional Sanitary Landfill Technology</i></p> <p>Disposal capacity available to satisfy entire long-term need (i.e. to satisfy more than 77 million tonnes capacity).</p> <p>Involves proposed management of 2 million tonnes per year of municipal solid waste at two existing, licensed landfills in Wayne County and Genesee County, Michigan, USA.</p>
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**Description of Responses from Qualified Respondents
Category 3
New and Emerging Technologies**

RESPONDENT	TECHNOLOGY TYPE
<p>Brightstar Synfuels Co.</p> <p>Respondent Contact: Ron Menville, V.P. - Bus. Dev. Brightstar Synfuels Co. 1010 Lamar Street, # 810 Houston, Texas 77002 U. S. A. Phone: (713) 655-0232 Fax: (713) 655-0208</p>	<p>Construction of a Solid Waste Energy Recovery Facility (SWERF) within the GTA.</p> <p>Process minimum of 50,000 tonnes per year of MSW and up to 150,000 tonnes per year, the latter including 50,000 tons/yr of other (non Toronto) waste to generate 15 MW of electricity.</p> <p>Component 1 is a waste processing facility to process unsorted (curb-side sorted) waste in a sterilizing autoclave utilizing steam, followed by mechanical separation steps (i.e. trommel, eddy current and magnetic separators).</p> <p>Component 2 is a Brightstar Biomass Gasifier utilizing steam reforming, thermo-chemical gasification process to convert organic material into synthetic gas to be used in reformer combustion system and reciprocating engines.</p> <p>Component 3 is modularized automated reciprocating engines which uses syngas from Gasifier to generate electricity.</p>
<p>HUWS</p> <p>Respondent Contact: Claude Boucher, President Huws Corporation RR #1 Palgrave, Ontario L0N 1P0 Phone: (519) 942-1008 Fax: (519) 942-1060</p>	<p>Construction of a new facility to process 100,000 tonnes per year of mixed waste to produce Refuse Derived Fuel (RDF).</p> <p>Utilizes Herhof Biocell that is a modular unit. It is an air and liquid tight composting technology for intensive decomposition.</p> <p>Uses a process-controlled air supply that is adjusted to biological requirements with single layered closed biofilters.</p> <p>Produces "Stabilate" refuse derived fuel which comes from processing mixed residual waste using a modified composting process in the Herhof Biocell.</p> <p>Propose to improve RDF end product handling and storage characteristics and marketability by using Entropic Pyrolytic Conversion Process which causes end product (Stabilate) to look like coal.</p>

<p>Lundell Canada Inc.</p> <p>Respondent Contact: Lyle Giffin, President Lundell Canada Inc. P. O. Box 1226 148 Wellington Street Chatham, Ontario N7M 5L8 Phone: (519) 354-7474 Fax: (519) 354-8603</p>	<p>Uses existing Commissioners St. Transfer station and existing stack.</p> <p>Process starts with separation and sorting of 400 tonnes per day of MSW coming into transfer station to remove recyclables and non-flammable or potentially hazardous materials.</p> <p>After sorting, sizing and drying of RDF (combustible material from first step) this alternate fuel is fed into gasification process to convert solid fuel (RDF) into combustible gas.</p> <p>Air pollutants removed with post-reaction air pollution control equipment.</p> <p>Final energy conversion step is filtered and neutralized biogas is oxidized in heat recovery steam generator with energy recovered as steam.</p> <p>High pressure superheated steam goes into condensing turbine which drives electrical generator to generate electricity.</p> <p>Advance Greenhouse System requires CO₂ from boiler for organic plant growth.</p>
<p>Plasma Environmental Technologies Inc.</p> <p>Respondent Contact: Colin Andrews, Vice President Plasma Environmental Technologies Inc. 20 Queen St. West, #1908 Toronto, Ontario M5H 3R3 Phone: (416) 599-9979 Fax: (416) 599-4959</p>	<p>Process mixed waste and/or source separated organic waste and IC&I waste, handle 400,000 tonnes over 5 years (50,000 tonnes per year for 1-2 years and 100,000 tonnes per year for 3-5 years).</p> <p>Construct and operate Plasma-Assisted Advanced Cogeneration System facility (PAACS) to convert waste into electric power (PAACS with Cylco-Mill with conveyor belt and dryer/condenser).</p> <p>Curbside waste delivered to facility with certain metal and glass pieces separated for recycling.</p> <p>Waste is prepared (shredded to 1 cm) and fed into VH combustor to convert waste by combustion with air into hot gas and ash (gas feeds into steam boiler and used by steam turbine to generate electricity).</p> <p>Ash is removed and fed into plasma powered vitrification furnace to convert ash to non-leachable slag for landfill, road building or construction material.</p>

<p>SUBBOR</p> <ul style="list-style-type: none"> • Eastern Power • Super Blue Box Recycling 	<p>Identify capability of providing mixed waste diversion in the range of 100,000 tonnes per year.</p> <p>Uses three stage process:</p> <ul style="list-style-type: none"> – shredding prior to conventional materials recovery; – multi-stage 40-day anaerobic digestion, producing methane-rich biogas, unrestricted use compost as peat and inert fill; and, – production of electric power and digester energy from biogas.
<p>TCR Environmental</p> <p>Respondent Contact: William Hett, President & CEO TCR Environmental Corporation 105 White Street, Box 406 Aylmer West, Ontario N5H 3E8 Phone: (519) 773-7204 Fax: (519) 765-1033</p>	<p>Propose to construct and operate 2 separate processing facilities, each having capacity to handle 42,000 tonnes per year of mixed waste.</p> <p>Uses TCR Total Recycling System for waste placed at curbside that is separated by generator into wet and dry streams.</p> <p>Compost system utilizes channel type in-vessel composting technology. Conventional processing hardware utilized with recyclables removed and marketed, along with marketing of shredded compost product (agricultural, landscaping, etc.).</p>
<p>Thermo Tech Ventures</p> <ul style="list-style-type: none"> • Environmental Wastetechnologies Group (EWG) • Gardner/Arciero Company • Dillon Consulting <p>Respondent Contact: Kevin Simpson, President & CEO Thermo Tech Ventures, Inc. 11 Evans Road Brookline, MA 02445 U. S. A. Phone: (617) 739-0980 Fax: (617) 739-6443</p>	<p>Propose processing a minimum of 200,000 tons/yr with an alternate of up to 550,000 tons of MSW per year in EWG waste recycling facility (to be constructed) and existing Thermo Master Mark II (TMPII) BioConversion plant in Hamilton, Ontario.</p> <p>Processing in EWG's waste separation facility yields 70-80% waste recovery with 20-30% for landfill.</p> <p>75,000 - 150,000 sent to Hamilton BioConversion facility designed with application of aerobic thermophilic fermentation and product drying and pelletizing process (used for food wastes, wastewater, treatment sludge, pulp and paper sludge and animal manure) with output either enriched livestock feed or a nitrogen enhanced fertilizer additive.</p> <p>Process 300,000 tons per year wastewater sludge at Hamilton BioConversion TMPII plant via Gardner/Arciero's mixed sludge/organic composting (150,000 processed in Hamilton BioConversion and remaining 150,000 processed in a sheltered in-vessel aerobic composting operation provided by Gardner/Arciero.</p>

<p>Unisphere Waste Conversion</p> <p>Resident Contact: John Wypich, President Unisphere Waste Conversion Ltd. 84 Avenue Road Toronto, Ontario M5R 2H2 Phone: (416) 966-4555 Fax: (416) 966-4527</p>	<p>Unisphere Waste Processing System claims capable of decomposing 80,000 tonnes per year of mixed waste with expansion capabilities to increase capabilities.</p> <p>Process is thermochemical decomposition (in a rotary retort with oxygen-starved environment) (pyrolysis). Gas and steam developed by process are removed from Retort by induced draft fan that creates vacuum with cyclone separator extracting particles.</p> <p>Emissions to atmosphere after burning, solid inert discharge for final disposition and storage of liquid product oil for disposition and treatment of water.</p>
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Notes:

Only Category 2 respondents were required to identify site(s) associated with their proposal at the REOI stage. These sites may or may not be put forward in their responses to the Request for Proposals.

This information was prepared by City of Toronto staff and consultants working on the TIRM process. Information was taken from the responses to the Request for Expressions of Interest (REOI).