



COUNTY OF
LAMBTON

LAMBTON COUNTY
WASTE MANAGEMENT MASTER PLAN

VOLUME 3

**PUBLIC AND AGENCY
CONSULTATION APPENDICES**

PART II - APPENDIX 3D

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

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**LAMBTON COUNTY WASTE MANAGEMENT MASTER PLAN
PUBLIC AND AGENCY CONSULTATION**

**APPENDIX 3D
EXPANDED PUBLIC AND AGENCY CONSULTATION
PROGRAM MATERIALS**

**M.M. DILLON LIMITED
FEBRUARY 1995**

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-1

**MUNICIPAL COUNCILLORS WORKSHOP
NOVEMBER 1989**



COUNTY OF LAMBTON

HWY. #21 BOX 3000

WYOMING — ONTARIO

NON 1T0
RECEIVED

NOV 9 1989

H. WAYNE KLOSKE, A.M.C.T.
CLERK ADMINISTRATOR

DON R. BRUDER, A.M.C.T.
TREASURER

TEL.: (519) 845-3303
FAX.: (519) 845-3160

November 6, 1989

M.M. DILLON LTD.
TORONTO OFFICE

Reeve Bryson and Village of Wyoming Council
Box 250
Wyoming, Ontario
NON 1T0

Dear Reeve Bryson and Members of Council:

Re: Sarnia/Lambton Waste Management Master Plan

I am writing on behalf of the Sarnia/Lambton Waste Management Master Plan Steering Committee. This letter invites you and your council to a Master Plan presentation for municipal councillors followed by two public information centres. Your Council's assistance is also requested to establish a Public Advisory Committee.

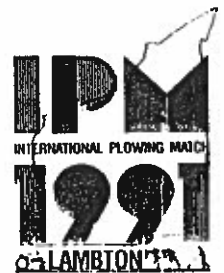
The City of Sarnia and the County of Lambton are preparing a Waste Management Master Plan. M. M. Dillon Limited has been retained by the City and the County to assist in the preparation of the Plan.

The central aim of the Waste Management Master Plan is to define the best system for the long-term management of wastes within the County.

The Master Plan is being prepared in accordance with the requirements of the Environmental Assessment Act and the Ministry of the Environment's guidelines for Waste Management Master Plans.

The results of previous Master Plan work have been documented in three reports: a Stage 1 Report (a description of the existing waste management system and future requirements), a Stage 2A Report (identification of feasible waste management alternatives) and a Stage 2B Report (evaluation of these alternatives).

.../2



The final Master Plan document is now in preparation. The final Master Plan will provide a summary and update to the work completed for the previous three stages. It will also present the results of the Stage 3 studies.

The final Master Plan will present recommendations on the following:

- * Waste reduction strategies;
- * Municipal recycling programs;
- * A materials recovery facility;
- * Site selection for new landfill capacity;
- * Waste management administration.

The transition of waste management responsibilities to the County mandated by Bill 35 will be addressed in the Plan.

Public involvement is important to the development of the final Master Plan. We invite the participation of you and your council members in the following:

1. Municipal Councillors' Presentation

The Steering Committee will present highlights of the Master Plan to all City of Sarnia and Lambton County local municipal councillors on Monday, 20 November 1989, at 1:00 p.m. at the Lambton County Administration Building. The presentation will consist of a review of the work which has been completed to date including recommendations for waste reduction/recycling programs and the process leading to identification of potential sites for new landfill capacity.

2. Public Information Centres

Public information centres are scheduled for 20 November 1989, in Wyoming and 21 November 1989 at Sarnia City Hall. A notice describing the information centres is enclosed.

3. Public Advisory Committee

The Steering Committee seeks to establish a Public Advisory Committee to assist in development of the final Master Plan and its implementation. The Committee will be chosen from a list of nominees consisting of interested ratepayers from the City, the Town of Clearwater, the County's other local municipalities, and representatives of industry and environmental groups. The Committee's duties will include participation in meetings and two workshops. The workshops will focus on a review of recommended Master Plan components, the identification of concerns and issues and the selection of sites for new or expanded waste management facilities.

The first meeting of the Public Advisory Committee will be held in late November or early December. At this meeting, the Committee will help determine its Terms of Reference and elect a Chairman.

Please submit, at your earliest convenience, the name of a rate-payer who would be willing to sit on the committee and is active and/or interested in waste management issues. Please forward this person's name to:

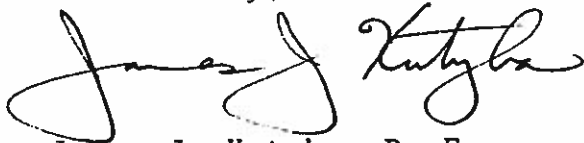
Janet M. Smolders, M.C.I.P.
Senior Planner
M.M. Dillon Limited
495 Richmond Street
Box 426, Station B
London, Ontario
N6A 4W7

Telephone: (519) 438-6192

The Waste Management Master Plan Steering Committee will select from all nominees a representative Public Advisory Committee for this important project.

Thank you for your assistance. If you require further information, please contact Janet Smolders or the undersigned.

Yours truly,



James J. Kutyba, P. Eng.
Director, Waste Management
County of Lambton

JJK:lh

c.c. A. Wright
M.O.E. Staff - W.M.M.P.
Catherine Fletcher

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

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The results of previous Master Plan work have been documented in three separate reports:

- o Stage 1 Report - description of existing waste management system and future requirements
- o Stage 2A Report - identification of feasible waste management alternatives
- o Stage 2B Report - evaluation of these alternatives

The final Master Plan document is now in preparation. The document will present recommendations on the following:

- o Waste reduction strategies
- o Municipal recycling programs
- o Materials recovery facility
- o Site selection for new landfill capacity
- o Waste management administration

INFORMATION CENTRES

You are invited to attend an Information Centre to review the work which has been completed to date on the Master Plan. The Information Centres will be informal walk-in sessions. Representatives of the County of Lambton, the City of Sarnia and M.M. Dillon will be available to explain the Master Plan and to answer questions. These sessions will be held on:

MONDAY 20 NOVEMBER 1989
3.00 - 9.00 pm

or

TUESDAY 21 NOVEMBER 1989
2.00 - 8.00 pm

LAMBTON COUNTY ADMINISTRATION BLDG
789 BROADWAY STREET
WYOMING, ONTARIO

SARNIA CITY HALL
255 N. CHRISTINA STREET
SARNIA, ONTARIO

For further information, please contact:

Jim Kutyba, P.Eng.
Lambton County Waste
Management Engineer
Box 3000
Wyoming, Ontario N0N 1T0
Tel: (519) 845-3303

or

Janet Smolders, MCIP
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7
Tel: (519) 438-6192

SAME LETTER TO:

F9928-14
27 October 1989

Mayor Bradley and City of Sarnia Council
Box 3018
Sarnia, Ontario
N7T 7N2

Mayor Mason and Town of Clearwater Council
2109 London Road
CLEARWATER, Ontario
N7T 7H2

Reeve Douglas and Village of Alvinston Council
Box 28
ALVINSTON, Ontario
NON 1A0

Reeve Evans and Village of Arkona Council
Box 95
ARKONA, Ontario
NOM 1B0

Reeve McLean and Township of Brooke Council
R. R. 7
ALVINSTON, Ontario
NON 1A0

Reeve Thomas and Township of Bosanquet Council
Box 269
THEDFORD, Ontario
NOM 2N0

Reeve Langstaff and Township of Dawn Council
R. R. 4
DRESDEN, Ontario
NOP 1M0

Warden O'Neill and Township of Enniskillen Council
R. R. 1
PETROLIA, Ontario
NON 1R0

Reeve Bilton and Township of Euphemia Council
R. R. 2
BOTHWELL, Ontario
NOP 1C0

Mayor Minielly and Town of Forest Council
Box 610
FOREST, Ontario
NON 1J0

Reeve Bob Sharen and Village of Grand Bend Council
Box 340
GRAND BEND, Ontario
NOM 1T0

Reeve Nisbet and Township of Moore Council
Box 40
BRIGDEN, Ontario
NON 1B0

Reeve Byers and Village of Oil Springs Council
Box 22
OIL SPRINGS, Ontario
NON 1P0

Mayor Beaubien and Town of Petrolia Council
Box 1270
PETROLIA, Ontario
NON 1R0

Reeve Boyd and Village of Point Edward Council
36 St. Clair Street
POINT EDWARD, Ontario
N7V 4G8

Reeve Kerrigan and Township of Plympton Council
Box 400
WYOMING, Ontario
NON 1T0

Reeve Dedecker and Township of Sombra Council
Box 40
SOMBRA, Ontario
NOP 2H0

Reeve Jamieson and Village of Thedford Council
Box 189
THEDFORD, Ontario
NOM 2N0

Reeve McPherson and Township of Warwick Council
R. R. 8
WATFORD, Ontario
NOM 2S0

Reeve Carpeneto and Village of Watford Council
295 Main Street
WATFORD, Ontario
NOM 2S0

Reeve Bryson and Village of Wyoming Council
Box 250
WYOMING, Ontario
NON 1T0

SARNIA/LAMBTON WASTE MANAGEMENT
MASTER PLAN

MUNICIPAL COUNCILLORS' WORKSHOP
20 NOVEMBER, 1989, 1:00 P.M.

RECORD OF ATTENDANCE

NAME	TITLE	MUNICIPALITY
Pat Davidson	Deputy Reeve	Wyoming
Field Allison	Councillor	Wyoming
James Thompson	Deputy Clerk	Wyoming
John Lovison	City Manager	Sarna
John Phynell	Councillor	Bosanguet
Frank McPherson	SUPERVISOR SANITATION	Bosanguet
James Ferguson	MAYOR	Wekahia
Ross O'Hara	Councillor	Petrolia
Marlene Fiddick	Councillor	Petrolia
Ray Whitman	Club	Moore
Don Moore	Alderman	Sarnia
Shelley Lusk	Clerk-Administrative	Petrolia
Gene Barry	Works Commissioner	Petrolia
John Chan	COUNCILLOR	PETROLIA
Roy Owens	Councillor	Petrolia
Fred Van Buren	LI	Warwick
Jack McPherson	Reeve	Warwick
Bob Youngman	Councillor	Warwick
Doug Harkworth	WR	Warwick
Ellen Hingilly	Councillor	Warwick
Arnold Goble	"	Moore Sup
Mary Stacey	"	Moore
Stak Campbell	"	Moore
TERRY BURKEL	ALDERMAN	SARNIA, ONT.
JANE MARSH	DEP-REEVE	MOORE
HON SNOW	REEVE	PETROLIA
Janet Langstaff	Club	Moore Sup.
Robert Langstaff	Reeve	Moore Sup.
Keith Hunter	Deputy Reeve	Moore Sup.
Dick Buzin	Councillor	Moore Sup.
Bruce Phair	Tupperville	Moore Sup.
Paul Thibault	Councillor	Thibault
Rich [unclear]	CKCO T.	SARNIA
Al [unclear]	MAYOR COUNCILLOR	MOORE
Ross McLean	REEVE	Brook Sup
John B. [unclear]	MAYOR	SARNIA
ELIZABETH TENAHOUE	RR #1	CANADIAN NONIZO
Steve [unclear]	Road Manager	County
Carolynne R. Griffith	Councillor	Brook

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

SUMMARY OF MUNICIPAL COUNCILLORS' WORKSHOP
20 November 1989, 1:00 to 3:00 p.m.

A workshop was held with representatives of the County's local municipalities and the City of Sarnia at the Lambton County Administration Building in Wyoming. The purpose of the workshop was to review the work completed to date on the Master Plan, with municipal representatives, before it is presented to the public. The Public Information Centres were held later that day on 20 November in Wyoming and the next day (21 November) in Sarnia. The following people attended the workshop:

Representatives of the Sarnia/Lambton Waste Management Master Plan Steering Committee

Ron Snow, Co-Chairman, Reeve of Petrolia
Don Poore, Co-Chairman, City of Sarnia Alderman
Mayor Mike Bradley, City of Sarnia
Terry Burrell, Alderman, City of Sarnia
Charles Nisbet, Reeve, Moore Township
John Robertson, City Manager
Jim Kutyba, County of Lambton Waste Management Engineer

Representatives of Local Municipalities and the City of Sarnia and Staff

Pat Davidson, Deputy Reeve, Wyoming
Keith Allison, Councillor, Wyoming
Jean Stewardson, Deputy Clerk, Wyoming
John Russell, Councillor, Bosanquet
Frank Turner, Sanitation Supervisor, Bosanquet
Marcel Beaubien, Mayor, Petrolia
Ross O'Hara, Councillor, Petrolia
Maxine Fiddiers, Councillor, Petrolia
Ron Whitman, Clerk, Moore Township
Brad Loosley, Clerk-Administrator, Petrolia
Clive Barry, Works Commissioner, Petrolia
John Phair, Councillor, Petrolia
Roy Ayers, Councillor, Petrolia
Frank Van Bree, Councillor, Warwick
Jack McPherson, Reeve, Warwick
Bob Vaughan, Councillor, Warwick
Doug Hollingsworth, Deputy Reeve, Warwick
Eldon Minielly, Councillor, Warwick
Arnold Pole, Councillor, Moore Township
Marg Stacey, Councillor, Moore Township
Stan Campbell, Councillor, Moore Township
Jane Marsh, Deputy Reeve, Moore Township
Janet Langstaff, Clerk, Dawn Township
Robert Langstaff, Reeve, Dawn Township
Keith Houston, Deputy Reeve, Dawn Township
Dick Butler, Councillor, Dawn Township
Bruce Phair, Councillor, Dawn Township
Rose Wilcocks, Councillor, Thedford
Alan Brandon, Moore Township Waste Management Committee
Ross McLean, Reeve, Brooke Township
Elizabeth Tenhoeve, Deputy-Reeve, Plympton Township
Steven Porquar, Road Manager, Lambton County
Carolynne Griffith, Councillor, Brooke Township

Local Media

Rick Smith, CKCO TV, Kitchener

Representatives of M. M. Dillon Limited

Jim Balfour, Project Manager
Catherine Fletcher, Senior Environmental Planner
Janet Smolders, Senior Planner
Marilyn Harrold, Project Engineer
Don McKinnon, Environmental Planner

PRESENTATION BY CONSULTANT

M. M. Dillon Limited is preparing the Master Plan on behalf of the County of Lambton and the City of Sarnia. Jim Balfour, Dillon's Project Manager, summarized the work completed to date and the remaining work on the Master Plan. He invited the attendants to ask questions during his presentation.

Mr. Balfour explained that the Master Plan has been underway since 1985. For at least a year, the Plan was on hold, pending the outcome of the Lambton County restructuring. Three recent changes have affected the direction and nature of the Master Plan. The first is Bill 35 (the Act to restructure the County) which makes waste management a County responsibility. Another recent change is the capacity of the eight existing landfill sites. For example, the City of Sarnia's landfill site is quickly nearing its capacity. Finally, the third change involves the Master Plan as it relates to the Environmental Assessment Act. Most new waste management facilities, including landfill sites, require a hearing pursuant to the Environmental Assessment Act. As a result, the Master Plan has to be suitable as an Environmental Assessment document.

The Master Plan will consist of a long-term strategy to the Year 2011, for the whole area. The implementation of the Plan will begin in 1991, the year that Lambton County assumes its new responsibilities. An important component of the Plan will be how the County will administrate its waste management function.

Mr. Balfour explained the Province's "3R's" policy. The Ministry of the Environment (MOE) has new targets for minimizing the amount of waste which goes to landfill sites. By 1992, MOE requires that all municipalities reduce their waste stream to landfills by 25%. By the Year 2000, the waste stream should be reduced by 50%. There are three methods (the 3R's) to reduce wastes:

- the blue box and curbside recycling. There are a number of municipalities involved in the Bluewater Recycling Program which began last year. Next year, Sarnia, Clearwater and Point Edward are going to start recycling programs;
- composting. Many people are familiar with and use this technology. Dillon has estimated that a large portion of the waste stream can be composted. It can be done on an individual basis or, as is currently being investigated by the City of Sarnia, as mass composting;
- mass materials/recovery facility. This involves separating mixed wastes into reusables, recyclables or material which can be composted. The residual goes to landfills. This is the technology of the future.

In order for a municipality to obtain a landfill approval from the MOE, the municipality must show how it is trying to meet MOE's targets for reducing the waste stream. MOE's targets are based partly on the public's demands that the amount of landfilling be reduced.

Mr. Balfour explained that Dillon's work to date shows that there are some deficiencies in current landfill capacity. These remaining capacities depend, of course, on the effectiveness of the municipalities' waste reduction measures. The City of Sarnia's landfill site is quickly nearing its capacity. Dillon has been hired by the City and

the County to apply for an interim expansion of the site. The interim expansion will allow continued use of the Sarnia site until such time as the Master Plan can be implemented.

Mr. Balfour stated that there are three alternatives for dealing with the deficiency in landfill capacity. These are: use the existing Laidlaw or Petrolia landfill sites or find a new landfill site in the County. Dillon is currently looking at the advantages and disadvantages of these alternatives. A new landfill would meet the highest standards and the tests of the Environmental Assessment Board and the public. Mr. Balfour explained that Dillon has begun a site search for a new landfill site. The search is based on constraint mapping which eliminates areas which are technically unsuitable for landfill.

To date, Dillon has identified a study area for the landfill site search which includes Sarnia, Clearwater, Moore, Plympton and part of Enniskillen. The study area is based on the County's "waste centroid" (the area within which most of the wastes are generated) and travel times to this centroid. Dillon has identified candidate areas for a new landfill, based on several technical criteria. Mr. Balfour emphasized that Dillon's work is technical and it is now up to the community to decide, for example, the importance of agricultural land versus forests, the importance of hydrogeological suitability versus proximity to houses, etc. To make these choices, the Master Plan Steering Committee is establishing a Public Advisory Committee (PAC). The PAC will help the Steering Committee make these choices during the landfill site selection process. The Steering Committee is asking for volunteers to sit on the PAC.

Mr. Balfour stated that the study cannot proceed further without a PAC. Dillon has identified technically suitable areas for landfill. These sites will then be compared, based on several criteria. The PAC will help choose the criteria and decide which ones are the most important. The Master Plan, as a result, will be based on "shared decisions" between the County, its local municipalities, the City and the public. The Steering Committee will establish the PAC by the beginning of December.

Mr. Balfour invited questions from the people who attended. Councillor John Russell, of the Township of Bosanquet, asked if the County could offer financial rewards to those municipalities which significantly reduce their wastes to landfills. Mr. Balfour stated that the Master Plan may not be that specific, but it will look at the division of waste management responsibilities between the County and the local municipalities. Mr. Balfour also mentioned that, in order for the municipalities to meet MOE's waste reduction targets, it will be necessary for the Provincial and Federal governments to pass new legislation, particularly for packaging.

Alderman Poore thanked everyone for attending and asked for their continued participation. Everyone was then invited to look at the displays and discuss the project with the Steering Committee members and Dillon staff.

This summary was prepared by Janet Smolders, of M. M. Dillon Limited, who should be advised of any errors and/or omissions.

M. M. DILLON LIMITED
CONSULTING ENGINEERS AND PLANNERS
LONDON ONTARIO

23 November 1989

DISTRIBUTION:

County's local municipalities
City of Sarnia
Waste Management Master Plan Steering Committee
Attn: Jim Kutyba, P.Eng.
Malcolm Boyd, Director, Lambton County Planning and Development
Department
Andy Wright, McLellan, Wright
Charles Hostovsky, MOE, EA Branch
Hans Moijj, MOE, Waste Management Branch
John Luyt, MOE, Sarnia District
JRB, CJF, MH, DMCK (Toronto), JMS, GK/LDM/KRN/File F9928-14

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-2

**NEWSPAPER AD FOR NOVEMBER 1989
INFORMATION CENTRES**



SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

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- Municipal recycling programs
- Waste management administration

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MONDAY 20 NOVEMBER 1989

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**LAMBTON COUNTY ADMINISTRATION
BLDG. 789 BROADWAY STREET
WYOMING, ONTARIO**

TUESDAY 21 NOVEMBER 1989

2:00 - 8:00 pm

**SARNIA CITY HALL
255 N. CHRISTINA STREET
SARNIA, ONTARIO**

For further information, please contact:

Jim Kutyba, P. Eng.
Lambton County Waste
Management Engineer
Box 3000
Wyoming, Ontario N0N 1T0
Tel: (519) 845-3303

Janet Smolders, MCIP
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7
Tel: (519) 438-6192

Nov. 14/89
Nov. 8/89

SARNIA OBSERVER

SARNIA GAZETTE
Nov. 8 & 15/89.

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

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Monday 20 November 1989

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3:00 - 9:00 p.m.

or

Tuesday 21 November 1989
2:00 - 8:00 p.m.

**Lambton County
Administration Building
789 Broadway Street,
Wyoming, Ontario**

**Sarnia City Hall
255 N. Christina Street,
Sarnia, Ontario**

For further information, please contact:

**Jim Kutyba, P. Eng.
Lambton County Waste
Management Engineer
Box 3000
Wyoming, Ontario N0N 1T0
Tel: (519) 845-3303**

**Janet Smolders, MCIP
M.M. Dillon Limited
Box 426, Station B
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**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-3

NOVEMBER 1989 NEWSLETTER



LAMBTON COUNTY
WASTE MANAGEMENT MASTER PLAN
NEWSLETTER



Waste Management

"THE CHALLENGE"

The management of waste is an issue that affects everyone living or working in Lambton County. Like many areas across Ontario and throughout Canada, the production of waste has risen as population, industrial development and our consumer lifestyle have increased. It is estimated that each Canadian produces approximately 2.2 lbs. of garbage per day.

In 1988, the residents of Lambton County produced approximately 100 000 tonnes of solid non-hazardous garbage. This figure does not include liquid industrial, hazardous waste, or waste imported from other regions.

Waste management is an issue we cannot afford to ignore. The production and ineffective

management of wastes is costly, financially and environmentally. Although the production of some waste is inevitable, it is important for everyone, both individually and collectively, to find ways to first of all reduce waste and then effectively manage what remains.

THE WASTE MANAGEMENT MASTER PLAN

The City of Sarnia and the County of Lambton are preparing a Waste Management Master Plan. The central aim of the Master Plan is to define the best system for the long term management of wastes within the county. The Master Plan is being prepared according to the requirements of the Environmental Assessment Act and the Ministry of the Environment guidelines for waste management master plans.

The development of the Master Plan has included:

- an examination of existing waste management practices and facilities;
- the determination of future waste management needs;
- the identification of a "long list" of possible ways to manage future wastes;

- the evaluation of waste management options.

The final Master Plan will present recommendations on the following:

- Waste Reduction Strategies;
- Municipal recycling programs;
- Materials Recovery facility;
- Site selection for new land-fill capacity; and
- Waste management administration.

MINIMIZING OUR GARBAGE: THE 3R'S

The first priority in any waste management master plan is to find ways to reduce the waste we produce. At home, we can minimize our garbage by recycling cans, bottles and newspapers; reusing bags, plastic containers, clothes and other materials; using a garden compost box for kitchen scraps, garden materials and leaves; and by minimizing use of "throw-aways". As consumers, we can purchase food in reusable cloth shopping bags rather than plastic ones; buy fresh foods

with no packaging, where possible avoid products with excess packaging, and buy "environmentally friendly products".

The actions of individual householders and consumers are very important, but significant waste reduction efforts must be made by industrial and commercial generators as well. At work, industrial, commercial and government employers need to inventory the type and amount of waste produced in industrial processes, "on the floor", and in offices, and identify

ways to reduce the wastes produced.

In the spring of 1989, the Minister of the Environment announced objectives to reduce the amount of waste going to disposal facilities such as incinerators or landfills. By maximizing the 3R's (reduction, reuse and recycling) communities across Ontario are required to reduce waste disposal rates by 25% by 1992 and by 50% by the year 2000.

BLUE BOX PROGRAM

Local "blue box" programs are one way to promote the "3R's" of waste management and reduce the amount of waste requiring disposal. In September 1989, blue box recycling programs were initiated in the Towns of Grand Bend, Alvinston, Watford, Thedford, Forest, and Arkona and in the Townships of Warwick and Bosanquet.

Blue box programs will begin January 1, 1990 in the City of Sarnia, Village of Point Edward, Moore Township and possibly the Town of Clearwater. Further extension of blue box programs to other areas of the County is recommended.

COMPOSTING

Composting allows the transformation of "waste" materials into productive soil. Leaves, lawn and garden cuttings, food scraps and other kitchen wastes can be composted rather than thrown away.

Each individual household is capable of composting up to 36% of their wastes. Households would be supplied with a specially designed barrel in which to place compostable wastes. After a period of time allowing for the decomposition of the waste, the compost can then be used as a mulching agent and/or soil additive for the home and garden.

The City of Sarnia is currently planning a mass leaf collection and composting program. The Master Plan will recommend the gradual extension of the program to include:

- curbside collection of lawn and garden materials; and
- collection of kitchen and food wastes.

MATERIALS RECOVERY FACILITY

A Materials Recovery Facility (MRF) is used to separate mixed waste materials into reusable, recyclable, compostable and residual components. Wastes are collected and transported to the facility where mass processing occurs. Recyclable materials, such as glass, tin, aluminium, newsprint, and plastics are separated and sent to appropriate markets. Compostable materials are sent to a composting facility. Residual wastes are then transported to a disposal facility such as a landfill.

The Master Plan will recommend the eventual incorporation of an MRF into the long-term waste management system for the County. This type of facility would significantly reduce (by up to 60%) the amount of waste requiring disposal and thereby reduce the need for facilities such as landfills.

SARNIA LANDFILL INTERIM EXPANSION

The existing Sarnia Landfill Site is expected to reach full capacity by mid to late 1990.

The approval and development of long-term disposal facilities under the Master Plan will not be complete until approximately 1995.

To meet the needs of waste disposal in the Sarnia area from 1990 to 1995, the City of Sarnia and the County of Lambton plan to apply for a short-term expansion of the Sarnia landfill site.

This interim expansion request is to allow an additional 5 years capacity (maximum) on the current Ministry of the Environment Certificate of Approval for waste disposal.

A full environmental study is still being carried out to assess the impacts which may result from the interim expansion and to develop measures to reduce these impacts.

Approval for the short-term landfill expansion will be sought through:

- an application for an Environmental Assessment Act exemption;
- an application for approval under the Environmental Protection Act; and
- application for approval under the Planning Act and other relevant legislation.

The studies and approval applications for the Sarnia Landfill Expansion are being carried out separately but in coordination with the activities for the Waste Management Master plan.

LANDFILL SITE SELECTION

Even in the most progressive and effective waste management system, some residual wastes will require disposal. Therefore, some landfill capacity will be needed.

There are currently eight municipal landfills in operation within Lambton County. Some of these are environmentally unsuitable and recommended for closure; others are almost full. It has been determined that some new landfill capacity will likely be required during the Master Plan's 20 year planning period.

This new landfill capacity may be obtained either by opening a new landfill site or by extending an existing landfill.

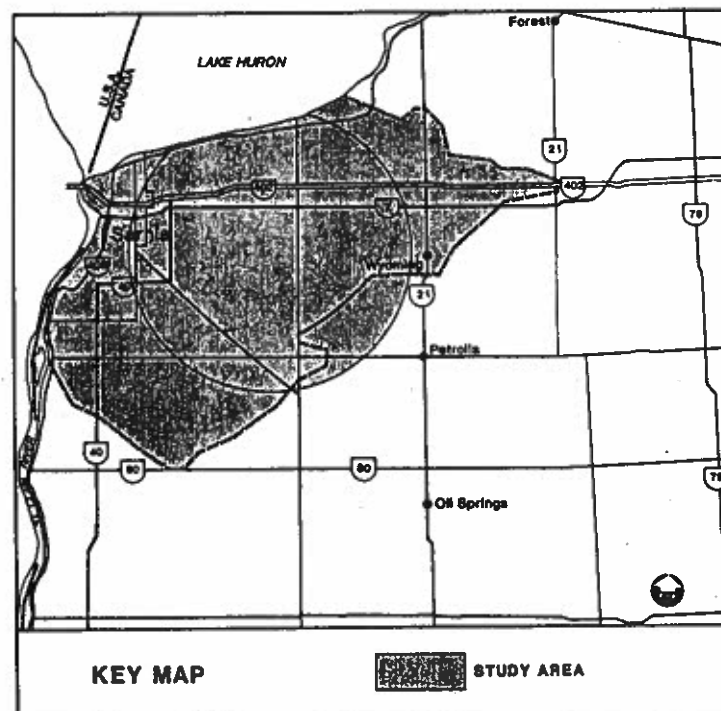
The location for new landfill capacity is being determined through a process called constraint mapping. Areas considered unsuitable or less suitable for a landfill are eliminated. The remaining areas are considered landfill siting areas.

The search for new landfill capacity centres on an area which includes the City of Sarnia, Town of Clearwater and parts of Moore Township, Plympton Township, and Enniskillen Township. This area represents the centre point of waste generation within the County and includes the major waste generation source: The City of Sarnia. (see map)

The Master Plan will provide recommendations on the areas identified as suitable for new landfill capacity based on studies of potential hydrogeologic, natural environment, community and land use impacts. The final selection of the landfill location will be made by the Steering Committee in consultation with members of the Public Advisory Committee, municipal councils and affected residents.

Details of the landfill site selection process will be presented at the Information Centres to be held November 20 and 21, 1989. (see further details about the Information Centres on following page)

STUDY AREA LOCATION MAP



PUBLIC ADVISORY COMMITTEE

The Steering Committee is to establish a Public Advisory Committee (PAC) to assist in development and implementation of the Master Plan. The PAC is to consist of a selection of interested ratepayers from the City, The Town of Clearwater, other local municipalities, and representatives of industry and environmental groups.

The PAC will review recommended Master Plan components, help to identify concerns and issues and assist in the selection of sites for new or expanded waste management facilities.

INFORMATION CENTRES

You are invited to attend an Information Centre to review the work which has been completed to date on the Master Plan. The Information Centres will be informal walk-in sessions.

Representatives of the County of Lambton, the City of Sarnia and M.M. Dillon will be available to explain the Master Plan and to answer questions. These sessions will be held on the following dates:

**MON. 20 NOVEMBER 1989
3.00 - 9.00 PM**

**TUE. 21 NOVEMBER 1989
2.00 - 8.00 PM**

**LAMBTON COUNTY
ADMINISTRATION BLDG
789 BROADWAY ST.
WYOMING, ONT.**

**SARNIA CITY HALL
255 N. CHRISTINA ST.
SARNIA, ONT.**

For further information, please contact:

Jim Kutyba, P.Eng.
Lambton County Waste
Management Engineer
Wyoming, Ontario
N0N 1T0
Tel: (519) 845-3303

Janet Smolders, MCIP
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7
Tel: (519) 438-6192

or

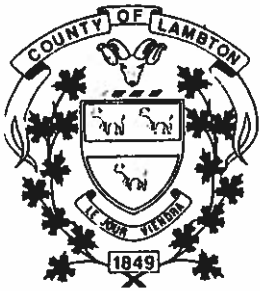
NOTES

Lined area for notes.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-4

**LETTERS OF INVITATION TO NOVEMBER 1989
PUBLIC INFORMATION CENTRES**



COUNTY OF LAMBTON

HWY. #21 BOX 3000

WYOMING — ONTARIO

NON ITO
RECEIVED

NOV 9 1989

M.M. DILLON LTD.
TORONTO OFFICE

H. WAYNE KLOSKE, A.M.C.T.
CLERK ADMINISTRATOR

DON R. BRUDER, A.M.C.T.
TREASURER

TEL.: (519) 845-3303
FAX.: (519) 845-3160

November 6, 1989

Reeve Bryson and Village of Wyoming Council
Box 250
Wyoming, Ontario
NON ITO

Dear Reeve Bryson and Members of Council:

Re: Sarnia/Lambton Waste Management Master Plan

I am writing on behalf of the Sarnia/Lambton Waste Management Master Plan Steering Committee. This letter invites you and your council to a Master Plan presentation for municipal councillors followed by two public information centres. Your Council's assistance is also requested to establish a Public Advisory Committee.

The City of Sarnia and the County of Lambton are preparing a Waste Management Master Plan. M. M. Dillon Limited has been retained by the City and the County to assist in the preparation of the Plan.

The central aim of the Waste Management Master Plan is to define the best system for the long-term management of wastes within the County.

The Master Plan is being prepared in accordance with the requirements of the Environmental Assessment Act and the Ministry of the Environment's guidelines for Waste Management Master Plans.

The results of previous Master Plan work have been documented in three reports: a Stage 1 Report (a description of the existing waste management system and future requirements), a Stage 2A Report (identification of feasible waste management alternatives) and a Stage 2B Report (evaluation of these alternatives).

.../2



The final Master Plan document is now in preparation. The final Master Plan will provide a summary and update to the work completed for the previous three stages. It will also present the results of the Stage 3 studies.

The final Master Plan will present recommendations on the following:

- * Waste reduction strategies;
- * Municipal recycling programs;
- * A materials recovery facility;
- * Site selection for new landfill capacity;
- * Waste management administration.

The transition of waste management responsibilities to the County mandated by Bill 35 will be addressed in the Plan.

Public involvement is important to the development of the final Master Plan. We invite the participation of you and your council members in the following:

1. Municipal Councillors' Presentation

The Steering Committee will present highlights of the Master Plan to all City of Sarnia and Lambton County local municipal councillors on Monday, 20 November 1989, at 1:00 p.m. at the Lambton County Administration Building. The presentation will consist of a review of the work which has been completed to date including recommendations for waste reduction/recycling programs and the process leading to identification of potential sites for new landfill capacity.

2. Public Information Centres

Public information centres are scheduled for 20 November 1989, in Wyoming and 21 November 1989 at Sarnia City Hall. A notice describing the information centres is enclosed.

3. Public Advisory Committee

The Steering Committee seeks to establish a Public Advisory Committee to assist in development of the final Master Plan and its implementation. The Committee will be chosen from a list of nominees consisting of interested ratepayers from the City, the Town of Clearwater, the County's other local municipalities, and representatives of industry and environmental groups. The Committee's duties will include participation in meetings and two workshops. The workshops will focus on a review of recommended Master Plan components, the identification of concerns and issues and the selection of sites for new or expanded waste management facilities.

The first meeting of the Public Advisory Committee will be held in late November or early December. At this meeting, the Committee will help determine its Terms of Reference and elect a Chairman.

Please submit, at your earliest convenience, the name of a rate-payer who would be willing to sit on the committee and is active and/or interested in waste management issues. Please forward this person's name to:

Janet M. Smolders, M.C.I.P.
Senior Planner
M.M. Dillon Limited
495 Richmond Street
Box 426, Station B
London, Ontario
N6A 4W7

Telephone: (519) 438-6192

The Waste Management Master Plan Steering Committee will select from all nominees a representative Public Advisory Committee for this important project.

Thank you for your assistance. If you require further information, please contact Janet Smolders or the undersigned.

Yours truly,



James J. Kutumba, P. Eng.
Director, Waste Management
County of Lambton

JJK:lh

c.c. A. Wright
M.O.E. Staff - W.M.M.P.
Catherine Fletcher

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

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The results of previous Master Plan work have been documented in three separate reports:

- o Stage 1 Report - description of existing waste management system and future requirements
- o Stage 2A Report - identification of feasible waste management alternatives
- o Stage 2B Report - evaluation of these alternatives

The final Master Plan document is now in preparation. The document will present recommendations on the following:

- o Waste reduction strategies
- o Municipal recycling programs
- o Materials recovery facility
- o Site selection for new landfill capacity
- o Waste management administration

INFORMATION CENTRES

You are invited to attend an Information Centre to review the work which has been completed to date on the Master Plan. The Information Centres will be informal walk-in sessions. Representatives of the County of Lambton, the City of Sarnia and M.M. Dillon will be available to explain the Master Plan and to answer questions. These sessions will be held on:

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or **TUESDAY 21 NOVEMBER 1989**
2.00 - 8.00 pm

LAMBTON COUNTY ADMINISTRATION BLDG
789 BROADWAY STREET
WYOMING, ONTARIO

SARNIA CITY HALL
255 N. CHRISTINA STREET
SARNIA, ONTARIO

For further information, please contact:

Jim Kutyba, P.Eng.
Lambton County Waste
Management Engineer
Box 3000

or

Janet Smolders, MCIP
M.M. Dillon Limited
Box 426, Station B
London, Ontario

SAME LETTER TO:

F9928-14
27 October 1989

Mayor Bradley and City of Sarnia Council
Box 3018
Sarnia, Ontario
N7T 7N2

Mayor Mason and Town of Clearwater Council
2109 London Road
CLEARWATER, Ontario
N7T 7H2

Reeve Douglas and Village of Alvinston Council
Box 28
ALVINSTON, Ontario
NON 1A0

Reeve Evans and Village of Arkona Council
Box 95
ARKONA, Ontario
NOM 1B0

Reeve McLean and Township of Brooke Council
R. R. 7
ALVINSTON, Ontario
NON 1A0

Reeve Thomas and Township of Bosanquet Council
Box 269
THEDFORD, Ontario
NOM 2N0

Reeve Langstaff and Township of Dawn Council
R. R. 4
DRESDEN, Ontario
NOP 1M0

Warden O'Neill and Township of Enniskillen Council
R. R. 1
PETROLIA, Ontario
NON 1R0

Reeve Bilton and Township of Euphemia Council
R. R. 2
BOTHWELL, Ontario
NOP 1C0

Mayor Minielly and Town of Forest Council
Box 610
FOREST, Ontario
NON 1J0

Reeve Bob Sharen and Village of Grand Bend Council
Box 340
GRAND BEND, Ontario
NOM 1T0

Reeve Nisbet and Township of Moore Council
Box 40
BRIGDEN, Ontario
NON 1B0

Reeve Byers and Village of Oil Springs Council
Box 22
OIL SPRINGS, Ontario
NON 1P0

Mayor Beaubien and Town of Petrolia Council
Box 1270
PETROLIA, Ontario
NON 1R0

Reeve Boyd and Village of Point Edward Council
36 St. Clair Street
POINT EDWARD, Ontario
N7V 4G8

Reeve Kerrigan and Township of Plympton Council
Box 400
WYOMING, Ontario
NON 1T0

Reeve Dedecker and Township of Sombra Council
Box 40
SOMBRA, Ontario
NOP 2H0

Reeve Jamieson and Village of Thedford Council
Box 189
THEDFORD, Ontario
NOM 2N0

Reeve McPherson and Township of Warwick Council
R. R. 8
WATFORD, Ontario
NOM 2S0

Reeve Carpeneto and Village of Watford Council
295 Main Street
WATFORD, Ontario
NOM 2S0

Reeve Bryson and Village of Wyoming Council
Box 250
WYOMING, Ontario
N0N 1T0

PROJECT
FILE

F
79928-14
OUR FILE
YOUR FILE

9 November 1989

Ministry of Agriculture & Food
9 Gladstone Avenue
ST. THOMAS, Ontario
N5R 2L3

Attn: Mr. Jim Miller
Land Use Specialist

RECEIVED
NOV 14 1989
M.M. DILLON LTD.
TORONTO OFFICE

Sarnia/Lambton Waste
Management Master Plan

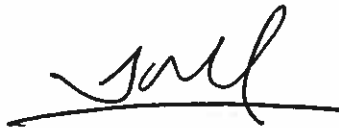
Dear Sirs:

The final Sarnia/Lambton Waste Management Master Plan document is currently being prepared. The City of Sarnia and the County of Lambton have scheduled Information Centres to present the work which has been completed to date.

Representatives of your agency or group are invited to attend an Information Centre. The attached notice summarizes the existing status of the Master Plan and the locations, dates and times of the Information Centres. If you have any questions or would like further information, please call the writer or Jim Kutyba, Director, County of Lambton Waste Management Department.

Yours truly,

M. M. DILLON LIMITED



Janet M. Smolders, MCIP for
J. R. Balfour, P.Eng., MCIP
Project Manager

JMS:gdr

cc: Jim Kutyba
Andy Wright
Hans Moijj, MOE, Waste Management Branch
Chuck Hostovsky, MOE, EA Branch

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789 BROADWAY STREET
WYOMING, ONTARIO

SARNIA CITY HALL
255 N. CHRISTINA STREET
SARNIA, ONTARIO

For further information, please contact:

Jim Kutyba, P.Eng.
Lambton County Waste
Management Engineer
Box 3000
Wyoming, Ontario N0N 1T0
Tel: (519) 845-3303

or

Janet Smolders, MCIP
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7
Tel: (519) 438-6192

Same letter to:

FEDERAL AND PROVINCIAL MINISTRIES AND AGENCIES:

Ministry of Agriculture & Food
Lambton County Office
P.O. Box 730
PETROLIA, Ontario
NON 1R0

Attn: Mr. Bryan D. Boyle
Agricultural Representative

Ministry of the Attorney General
Crown Law Office, Civil
720 Bay Street, 8th Floor
TORONTO, Ontario
M5C 1C5

Attn: Mr. T. C. Marshall
Director

Ministry of Culture & Communications
Heritage Branch
2nd Floor
77 Bloor Street West
TORONTO, Ontario
M7A 2R9

Attn: Mr. R. Montgomery
Director

Ministry of Correctional Services
Industrial Programming
2001 Eglinton Avenue East
SCARBOROUGH, Ontario
M1L 4P1

Attn: Mr. D. W. King
Co-ordinator, Industrial Programs

Ministry of Education
Policy Analysis and Research Branch
15th Floor, Mowat Block
900 Bay Street
TORONTO, Ontario
M7A 1L2

Attn: Mr. H. Noble, Director

Ministry of Energy
Energy Research & Development Section
10th Floor
56 Wellesley Street West
TORONTO, Ontario
M7A 2B7

Attn: Mr. Richard Fry
Program Supervisor

Ministry of the Environment
985 Adelaide Street South
LONDON, Ontario
N6E 1V3

Attn: Mr. D. A. McTavish
Director, Southwestern Region

Ministry of the Environment
Sarnia District Office
Suite 109
265 Front Street North
SARNIA, Ontario
N7T 7X1

Attn: Mr. Dan Gaudenzi

Ministry of the Environment
Environmental Approvals Branch
250 Davisville Avenue
TORONTO, Ontario
M4S 1H2

Attn: Mr. John Bray
Director

Waste Management Branch
Municipal Waste Management Unit
40 St. Clair Avenue West, 5th Floor
TORONTO, Ontario
M4W 1M2

Attn: Mr. Joe Petoia
Supervisor

Ministry of the Environment
Waste Sites and Systems Approvals Unit
135 St. Clair Avenue West
8th Floor
TORONTO, Ontario
M4V 1P5

Attn: Mr. Paul S. Isles
Supervisor

Ministry of Government Services
Realty Group
12th Floor, Ferguson Block
77 Wellesley Street West
TORONTO, Ontario
M7A 1N3

Ministry of Health
Public Health Branch
15 Overlea Boulevard
5th Floor
TORONTO, Ontario
M4H 1A9

Attn: Dr. R. Schabas
Director

Ministry of Municipal Affairs
Office of Local Planning Policy
13th Floor, 777 Bay Street
TORONTO, Ontario
M5G 2E5

Attn: Mr. Gerry Fitzpatrick
Policy Co-ordinator

Ministry of the Solicitor General
Office of the Fire Marshall
3rd Floor
7 Overlea Boulevard
TORONTO, Ontario
M6N 4X2

Attn: Mr. Roy Philipe
Deputy Fire Marshall

Ministry of Tourism and Recreation
10th Floor, 77 Bloor Street West
TORONTO, Ontario
M7A 2R9

Attn: Ms. Ruth Cornish
Director

Ministry of the Solicitor General
Administration Division
25 Grosvenor Street, 11th Floor
TORONTO, Ontario
M7A 1Y6

Attn: Mr. Lorne Edwards
Exec. Director

Ministry of Transportation
Highbury Engineering Division
Main Floor, East Building
1201 Wilson Avenue
DOWNSVIEW, Ontario
M3M 1J8

Attn: Mr. E. J. McCabe
Exec. Director

Ministry of Labour
Standards and Programs Branch
9th Floor, 400 University Avenue
TORONTO, Ontario
M7A 1T7

Attn: Mr. A. D. Heath
Director

Ministry of Natural Resources
Chatham District
Kent County Municipal Building
435 Grande Avenue West
CHATHAM, Ontario
N7M 5L8

Attn: Mr. John Monck
Planner

Ministry of Transportation
Southwestern Region
P.O. Box 5338
LONDON, Ontario
N6A 5H2

Attn: Mr. A. McConnell, Manager
Engineering and Right-of-Way

Environment Canada
Environmental Protection Service
Regional Screening & Co-ordinating
Committee
25 St. Clair Avenue East, 7th Floor
TORONTO, Ontario
M4T 1M2

Attn: Mr. Simon Llewellyn

Transport Canada
Airports Directorate
Real Estate and Commercial Development
4900 Yonge Street, Suite 300
WILLOWDALE, Ontario
M2N 6A5

Attn: Mr. B. Farrow

Department of Indian & Northern
Affairs Canada
457 Richmond Street, 2nd Floor
LONDON, Ontario
N6A 4Y4

Attn: Mr. B. Milner
District Manager

Ontario Hydro - H8A1
700 University Avenue
TORONTO, Ontario
M5G 1X6

Attn: Mr. R. A. Brown, Director
Design and Development Division
Transmission

LOCAL AGENCIES

Ausable Bayfield Conservation Authority
P.O. Box 459
EXETER, Ontario
NOM 1S0

Attn: Miss Heather Manders

St. Clair Region Conservation Authority
205 Mill Pond Crescent
STRATHROY, Ontario
N7G 3P9

St. Clair Parkway Commission
P.O. Box 700
CORUNNA, Ontario
NON 1G0

Attn: Mr. David E. Cram
Planning & Development Supervisor

The Lambton Health Unit
333 George Street
SARNIA, Ontario
N7T 4P5

Lambton District Health Council
265 Front Street North, Suite 108
SARNIA, Ontario
N7T 7X1

Sarnia/Lambton Economic
Development Commission
155 Front Street North
SARNIA, Ontario
N7T 7T9

Lambton Industrial Society
265 Front Street North
SARNIA, Ontario
N7T 7J7

LOCAL INTEREST GROUPS AND INDIAN BANDS

Lambton Federation of Agriculture
c/o Mrs. Lois Wakefield
Secretary-Treasurer
WYOMING, Ontario
N0N 1T0

Ontario Federation of Agriculture
491 Eglinton Avenue West
Suite 500
TORONTO, Ontario
M5N 3A2

Lambton Wildlife Inc.
124 Queen Street
SARNIA, Ontario
N7T 7J7

Sarnia Chamber of Commerce
224 North Vidal Street
SARNIA, Ontario
N7T 2T7

Lambton Historical Society
c/o Mrs. Eric Steward
728 Grove Avenue
SARNIA, Ontario
N7V 2Y1

Chemical Valley Emergency
Control Organization
c/o Polysar
201 Front Street North
SARNIA, Ontario
N7T 7T9

Sarnia Heritage Committee
c/o Harry Verdun
308 North Vidal Street
SARNIA, Ontario
N7T 5Y6

Clearwater Local Architectural
Conservation Advisory Committee
c/o Ross Laur
877 Exmouth Street
SARNIA, Ontario
N7T 5R3

Bluewater Anglers, Hunting,
Shooting Club
c/o Mr. Paul Heckley
R.R. #2
CAMLACHIE, Ontario
NON 1E0

Bluewater Clean
P.O. Box 788
CORUNNA, Ontario
NON 1G0

Chippewa Indian Band Council
(Sarnia Res.)
978 Tashmoo Avenue
SARNIA, Ontario
N7T 7H5

Kettle Point Indian Band Council
53 Indian Lane
R.R. #2
FOREST, Ontario
NON 1J0

Walpole Island Indian
Band Council
WALPOLE ISLAND, Ontario
NOP 2H0

Lambton Anti-Pollution Association
c/o Ms. Sherry Morrison
R.R. #1
MOORETOWN, Ontario
NON 1N0

Union Gas Ltd.
50 Keil Drive North
CHATHAM, Ontario
N7L 3V9

Federation of Ontario Naturalists
355 Lesmill Road
DON MILLS, Ontario
M3B 2W8

Mr. Gary Ponech
Local Chairman
Ducks Unlimited
194 Winslow Crescent
BRIGHTS GROVE, Ontario
N0N 1C0

Mr. P. J. Stokes
Architectural Conservancy of Ontario
191 College Street
TORONTO, Ontario
M5T 1P7

Ms. P. Heppes
Canadian Nature Federation
Suite 203
75 Albert Street
OTTAWA, Ontario
K1P 6G1

Mr. H. Clare, Treasurer
Conservation Council of Ontario
Suite 202
74 Victoria Street
TORONTO, Ontario
M5C 2A5

Mr. R. L. Renwick
Provisional Manager
Ducks Unlimited
Unit 10
240 Bayview Drive
BARRIE, Ontario
L4N 4Y8

Mr. G. T. Glazier, Director
Nature Conservancy of Canada
2200 Yonge Street
Suite 1704
TORONTO, Ontario
M4S 2E7

INTERESTED MEMBERS OF PUBLIC AND
MEMBERS OF FEDERAL AND PROVINCIAL PARLIAMENTS

Mr. Brian Allaert
R.R. #2
DRESDEN, Ontario
NOP 1M0

Norman and Lillian Harkins
1919 Confederation Street
SARNIA, Ontario

Doris McCormick
R.R. #5
WATFORD, Ontario
NOM 2S0

Marshall Kern
1375 Robin Lane
SARNIA, Ontario
N7V 3E6

Robert L. Warwick
P.O. Box 440
WALLACEBURG, Ontario
N8A 4X1

Mr. Dave Smith, M.P.P.
121 N.W.
Queen's Park
TORONTO, Ontario
M7A 1A2

Mr. Andy Brandt, M.P.P.
155 North Front Street
SARNIA, Ontario
N7T 5S2

Mr. Ken James, M.P.
House of Commons
OTTAWA, Ontario
K1A 0A7

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-5

**NOVEMBER 1989 INFORMATION CENTRE
DISPLAY BOARDS**



WELCOME

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

INTRODUCTION

In 1985 the County of Lambton and City of Sarnia began preparation of a Waste Management Master Plan. The central aim of the Waste Management Master Plan is to define the best system for the long-term management of wastes within the County from 1991 to 2011.

The results of previous Master Plan work have been documented in three separate reports:

- Stage 1 Report – description of existing waste management system and future requirements**
- Stage 2A Report – identification of feasible waste management alternatives**
- Stage 2B Report – evaluation of these alternatives**

The final Master Plan document is now in preparation. The final Master Plan will present a review and update of the work for Stages 1, 2A and 2B. The final Master Plan will also present the results of the Stage 3 work now in progress.

The Master Plan will present recommendations on the following:

- Waste Reduction Strategies**
- Municipal Recycling Programs**
- Materials Recovery Facility**
- Site Selection for New Landfill Capacity**
- Waste Management Administration**

REQUIREMENTS FOR WASTE MANAGEMENT MASTER PLANS

The Sarnia/Lambton Waste Management Master Plan is being prepared in accordance with the Ontario Ministry of the Environment's guidelines for Waste Management Planning and the Ontario Environmental Assessment Act.

The Ministry of the Environment guidelines outline the work that must be done in preparing a Waste Management Master Plan. The work is divided into five planning stages which are outlined below:

STAGE 1: Data Collection

The work for Stage 1 includes:

- the collection of general background information;**
- the assessment and description of the current waste management system;**
- the prediction of future waste management system requirements;**
- the identification of evaluation criteria.**

STAGE 2A: Identification of Candidate Areas/Markets

The Stage 2A work involves the identification of preferred areas ("candidate areas") and markets for waste management activities. The candidate areas and markets are evaluated to identify comparative advantages and disadvantages of each.

At the end of Stage 2A preliminary recommendations are made about the possible activities and facilities for a future waste management system.

STAGE 2B: Analysis of Alternatives

The work for Stage 2B includes:

- **the development and assessment of the possible components of the future waste management system;**
- **the evaluation of the alternatives (alternative facilities/sites/technologies) according to natural, social, cultural, technical, economic, financial, and land use planning perspectives.**

STAGE 3: Master Plan Formulation

In Stage 3, the final Master Plan is formulated which identifies:

- **the preferred system for waste management;**
- **how the waste management system will be implemented.**

Comments, information and advice from the public and government review agencies are incorporated into the development and documentation of the Master Plan.

MINIMIZING OUR GARBAGE: THE 3Rs

The first priority in any Waste Management Master Plan is to define ways to reduce the waste we produce. At home, we can minimize our garbage by recycling cans, bottles and newspapers; reusing bags, plastic containers, clothes and other materials; using a garden compost box for kitchen scraps, garden materials and leaves; and by minimizing use of "throw-a-ways". As consumers, we can purchase food in reusable cloth shopping bags rather than plastic ones; buy fresh foods with no packaging; where possible, avoid products with excess packaging; and buy "environmentally friendly products".

The actions of individual householders and consumers are very important, but significant waste reduction efforts must be made by industrial and commercial generators as well. Industrial, commercial and government employers need to inventory the type and amount of waste produced in industrial processes, "on the floor", and in offices, and identify ways to reduce the wastes produced.

In the spring of 1989, the Minister of the Environment announced objectives to reduce the amount of waste going to disposal facilities such as incinerators or landfills. By maximizing the 3Rs (reduction, reuse and recycling) communities across Ontario are required to reduce waste disposal rates by 25% by 1992 and by 50% by the year 2000.

BLUE BOX PROGRAMS

Local "blue box" recycling programs are one way to promote the "3Rs" of waste management and reduce the amount of waste requiring disposal. In September 1989, blue box recycling programs were initiated in the Villages of Grand Bend, Alvinston, Watford, Thedford, Arkona, the Town of Forest, and in the Townships of Warwick and Bosanquet.

Blue box programs will begin January 1, 1990, in the City of Sarnia, Village of Point Edward and Moore Township and possibly the Town of Clearwater. Further extension of blue box programs in other areas of the County will be recommended in the Master Plan.

COMPOSTING

Composting allows the transformation of "waste" materials into productive soil. Leaves, lawn and garden cuttings, food scraps and other kitchen wastes can be composted rather than thrown away.

Each individual household is capable of composting up to 36% of their wastes. The Master Plan will recommend that individual households be supplied with a specially designed barrel in which to place compostable wastes. After a period of time allowing for decomposition of the waste, the compost can be used as a mulching agent and/or soil additive for the home and garden.

In addition to a county-wide household composting program, mass composting programs may be initiated. The City of Sarnia is currently planning a mass leaf collection and composting program. The Master Plan will recommend the gradual extension of the program to include:

- curbside collection of lawn and garden materials; and**
- collection of kitchen and food wastes.**

MATERIALS RECOVERY FACILITY

The Master Plan will recommend the development of a Materials Recovery Facility to help maximize waste reduction, reuse and recycling. This type of facility would significantly reduce (by up to 60%) the amount of waste requiring disposal and reduce the need for facilities such as landfills.

The Materials Recovery Facility will be used to sort and separate mixed waste materials.

The mixed wastes will be collected and transported to the facility where they are separated into:

- Reusable and recyclable materials (e.g. glass, tin, aluminium, newsprint, plastics) which are sent to appropriate markets;**
- Compostable materials which are sent to a composting facility;**
- Residual wastes which are transported to a disposal facility such as a landfill.**

LANDFILL SITE SELECTION

There are currently eight municipal landfills operating in Lambton County. Some of these have been identified as being environmentally unsuitable and are recommended for closure; others are almost full. It has been determined that some new landfill capacity will likely be required during the Master Plan's 20 year planning period.

This new landfill capacity may be obtained either by opening a new landfill site or by expanding an environmentally acceptable landfill.

The proposed process to help determine the location of new landfill capacity is called constraint mapping. Constraint mapping involves the systematic elimination of lands considered unsuitable or less suitable for a landfill. The remaining lands are called landfill siting areas and are carried forward in the landfill site selection process for further study.

The proposed study area includes the City of Sarnia, Town of Clearwater and parts of Moore Township, Plympton Township, and Enniskillen Township. This area represents the centre point of waste generation within the County and includes the major waste generation source: The City of Sarnia (see Map A: the map of the Study Area).

The Master Plan will provide recommendations on potential sites identified as suitable for new landfill capacity based on studies of potential hydrogeologic, natural environment, community and land use impacts as well as size and cost considerations. Decisions regarding the landfill site selection process and final landfill location will be made by the Master Plan Steering Committee in consultation with members of the Public Advisory Committee, municipal councils and affected residents.

LANDFILL SITE SELECTION PUBLIC WORKSHOPS

The Master Plan Steering Committee plans to hold a Landfill Site Selection Public Workshop. The purpose of the workshop is to provide the opportunity for the public to have input to the proposed landfill site selection process. Workshop participants will:

- **review the proposed study area for landfill site selection;**
- **provide comments and suggestions regarding the site selection process and criteria;**
- **review the proposed criteria for landfill site selection.**

If you are interested in attending the Landfill Site Selection Public Workshop please fill in a registration form below.

PROPOSED LANDFILL SITE SELECTION PROCESS

The proposed landfill site selection process includes the following:

1. STUDY AREA IDENTIFICATION

The proposed study area was identified based on:

- **a preliminary assessment of landfill location potential across the County;**
- **the identification of the centre point of waste generation for the County (the "waste centroid");**
- **the determination of the area within 20 minutes haulage time from the major waste generation source: Sarnia**

(Please refer to Map A: the map of the Study Area)

2. IDENTIFICATION OF CANDIDATE AREAS FOR LANDFILL

This step would involve the elimination of lands within the study area considered unsuitable or less suitable for a landfill.

The proposed criteria to identify unsuitable or less suitable lands are:

- **areas with high potential for ground water contamination;**
- **areas within 1000 metres of one or more residences;**
- **culturally unique areas;**
- **built-up areas (e.g. commercial/industrial subdivisions, residential areas);**

Candidate areas less than 40 ha or with less than 40 ha of unconstrained area are considered too small for a landfill facility and consequently will not be carried ahead in the site selection process.

3. LANDFILL SITE IDENTIFICATION

In this step, each of the candidate areas will be analyzed in detail to further eliminate lands within the candidate areas which are determined to be less suitable.

Proposed criteria to be used in this refinement of candidate areas include:

- Areas within 500 m of major existing watercourses and within 200 m of other permanent watercourses;**
- Environmentally Sensitive Areas and Areas of Natural and Scientific Interest, including areas within 500 m of these;**
- Areas containing at least 50% Class 1 agricultural soils;**
- Areas producing specialty crops (fruits and vegetables);**
- High quality forests and Management Agreement Areas;**
- Major Recreational Areas;**
- Areas within 1000 m of committed future residential development;**
- Existing oil and gas wells;**
- Existing utility corridors (e.g. pipelines, rail lines, hydro lines);**
- Controlled access provincial highways (e.g. Hwy. 402) including 100 m right of way;**
- Regional and local roads; and**
- Areas with less than 40 ha of unconstrained land for a landfill facility.**

The remaining lands within each candidate area will be considered to be more suitable for a landfill. These remaining lands are called "siting areas".

Site size requirements, property boundary information and field investigations would be used to identify potential landfill sites within the siting areas.

4. COMPARATIVE EVALUATION OF POTENTIAL LANDFILL SITES

The proposed criteria to assess and compare the potential landfill sites identified in Step 3 are:

- **overburden type and thickness based on water well data;**
- **proximity to water wells;**
- **location of site with respect to watershed;**
- **presence of visual buffers;**
- **location of site with respect to Sarnia Airport;**
- **distance from "400" series highways and access route characteristics;**
- **number of land owners for candidate site;**
- **official plan designations;**
- **number of residences/farms within 1.5 km of the site;**
- **distance of site from Sarnia;**
- **life expectancy of landfill;**
- **availability of services;**
- **cost of land acquisition;**
- **requirement of engineering devices;**
- **potential to expand to increase capacity;**
- **efficiency of land use;**
- **ease of development of landfill;**
- **ease of road access.**
- **agricultural use;**
- **forest and wildlife habitat quality; and**
- **distance to significant natural features.**

The proposed comparative evaluation will outline the advantages and disadvantages of the sites to assist in the identification of a preferred site or sites for landfill development.

The final selection of the landfill location will be made by the Master Plan Steering Committee in consultation with members of the Public Advisory Committee, municipal councils and affected residents.

**ESTIMATE OF WASTE REQUIRING DISPOSAL
1 JANUARY 1989 - 1 JANUARY 2011
(TONNES)**

<u>LANDFILL</u>	<u>ESTIMATED QUANTITY OF WASTE REQUIRING DISPOSAL - NO DIVERSION (TONNES)</u>	<u>ESTIMATED QUANTITY OF WASTE REQUIRING DISPOSAL - WITH DIVERSION (TONNES)*</u>
BROOKE TOWNSHIP	12 930	8 170
DAWN TOWNSHIP	10 400	6 600
GRAND BEND	36 440	22 130
MOORE TOWNSHIP	228 540	139 740
PETROLIA	385 860	234 170
SARNIA	1 555 860	959 060
SOMBRA	41 120	25 420
LAIDLAW	371 410	223 500
EUPHEMIA	<u>10 020</u>	<u>6 260</u>
	2 652 580	1 625 050

* BASED ON 25% DIVERSION IN 1992 INCREASING INCREMENTALLY TO 50% IN THE YEAR 2000 AND REMAINING AT 50% UNTIL THE END OF THE STUDY PERIOD.

DISPOSAL CAPACITY FOR PLANNING PERIOD

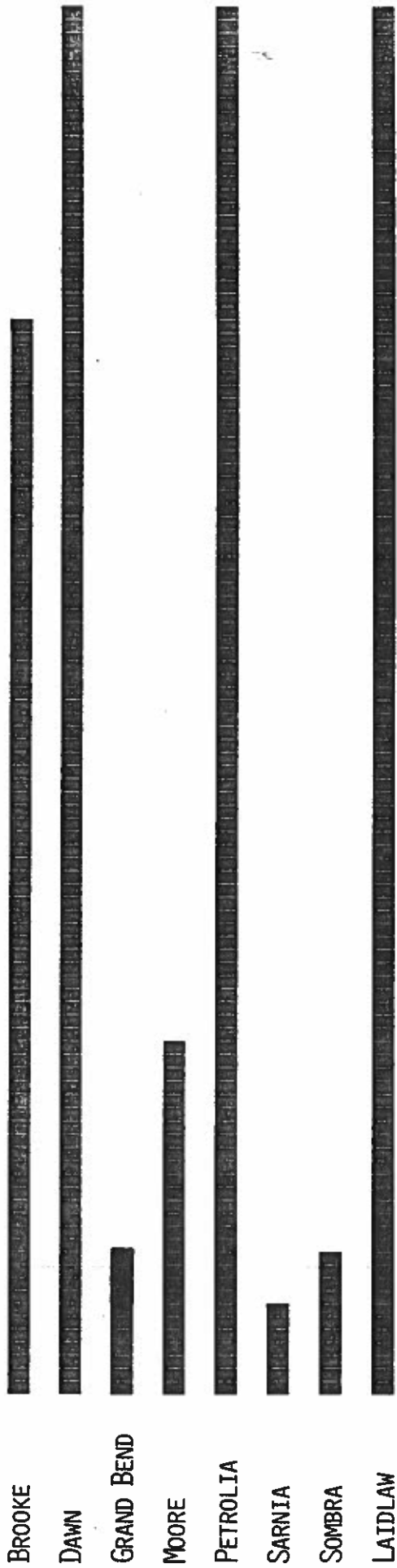
FROM 1 JANUARY 1989 TO 1 JANUARY 2011

LANDFILL	ESTIMATED REQUIRED DISPOSAL CAPACITY - NO DIVERSION (TONNES)	ESTIMATED REQUIRED DISPOSAL CAPACITY - WITH DIVERSION ¹ (TONNES)	ESTIMATED AVAILABLE DISPOSAL CAPACITY (TONNES)	SURPLUS/(DEFICIT) CAPACITY - NO DIVERSION (TONNES)	SURPLUS/(DEFICIT) CAPACITY - WITH DIVERSION (TONNES)
BROOKE TOWNSHIP	12 930	8 170	10 280	(2 650)	2 110
DAWN TOWNSHIP	10 400	6 600	53 740	43 340	47 140
GRAND BEND	36 440	22 130	-2	(36 440)	(22 130)
MOORE TOWNSHIP	228 540	139 740	63 050	(165 490)	(76 690)
PETROLIA	385 860	123 170	563 540	177 680	329 370
SARNIA	1 555 860	959 060	128 000	(1 427 860)	(831 060)
SOMBRA	41 120	25 420	-2	(41 120)	(25 420)
LAIDLAW	371 410	223 500	1 357 533	-4	-4
EUPHEMIA	<u>10 020</u>	<u>6 260</u>	<u>-3</u>	<u>(10 020)</u>	<u>(6 260)</u>
	2 652 580	1 625 050	2 176 143	(1 462 560)	(582 940)

1. BASED ON 25% DIVERSION IN 1992 INCREASING INCREMENTALLY TO 50% IN THE YEAR 2000 AND REMAINING AT 50% UNTIL THE END OF THE STUDY PERIOD.
2. LANDFILL STILL BEING USED BUT RECOMMENDED FOR CLOSURE.
3. WASTE IS CURRENTLY EXPORTED, THEREFORE NO CAPACITY IN TOWNSHIP.
4. PRIVATE LANDFILL, DUE TO PRESENT CAPACITY RESTRICTIONS ON CERTIFICATE OF APPROVAL CAPACITY CONSIDERED AVAILABLE ONLY FOR THOSE WASTES CURRENTLY BEING ACCEPTED.

ESTIMATED REMAINING SITE LIFE - NO DIVERSION

89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10



PUBLIC ADVISORY COMMITTEE

The Steering Committee is to establish a Public Advisory Committee (PAC) to assist in development and implementation of the Master Plan. The PAC is to consist of a selection of interested ratepayers from the City, The Town of Clearwater, other local municipalities, and representatives of industry and environmental groups.

The PAC will review recommended Master Plan components, help to identify concerns and issues and assist in the selection of sites for new or expanded waste management facilities.

If you or the group you represent wish to nominate someone for the Public Advisory Committee, please contact:

**Jim Kutyba, P.Eng.
Director, Waste Management
County of Lambton
Wyoming, Ontario
N0N 1T0
Tel: (519) 845-3303**

or

**Janet Smolders, M.C.I.P.
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7
Tel: (519) 438-6192**

The Waste Management Master Plan Steering Committee will select from all nominees a representative Public Advisory Committee.

**Lambton County Waste Management Master Plan
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SCHEDULE 3D-6

**COMMENTS FROM
NOVEMBER 1989 INFORMATION CENTRES**

**SARNIA/LAMBTON WMMP
PUBLIC OPEN HOUSE COMMENTS
(November 20-21, 1989)**

Comments	No. of People Addressing Comment
<ul style="list-style-type: none"> • Recycling <ul style="list-style-type: none"> • include separation of hazardous chemical household wastes • implement Blue Box in Lambton • implement composting 	6
<ul style="list-style-type: none"> • Drinking water/leachate contamination a problem 	5
<ul style="list-style-type: none"> • Municipalities outside of Lambton should be restricted from using landfill (e.g. Toronto, US, etc.) 	3
<ul style="list-style-type: none"> • Landfill site should be more than 1 km away from any developed area 	1
<ul style="list-style-type: none"> • Hazardous industrial wastes should not be transported across national boundaries 	1
<ul style="list-style-type: none"> • Set up "store" for returning still useful items back to users (producers) 	1
<ul style="list-style-type: none"> • Excessive publications produced re: Sarnia/Lambton landfill are a great waste 	1
<ul style="list-style-type: none"> • Expected open house to have more information, i.e. advantages/disadvantages of alternative waste management possibilities for Lambton 	1
<ul style="list-style-type: none"> • Select a site with heavy clay, non-productive soil 	1
<ul style="list-style-type: none"> • Tests, approvals and landfill operations to be recorded by qualified persons at various intervals such that reports can be cross-examined with other reports. 	1

**Lambton County Waste Management Master Plan
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SCHEDULE 3D-7

**PAC MEMBERS
(As of July 1993)**

July 2, 1993 (revised)

A - Appointed
AA - Alternate

PAC MEMBERS

<u>MUNICIPALITY</u>	<u>COMMITTEE MEMBER</u>	<u>VENDOR #</u>	<u>PHONE #</u>	<u>KM</u>
Alvinston	Allan McNeill R. R. #2 Alvinston, Ontario N0N 1A0		847-5327	
Arkona				
Bosanquet	Mary Ellen Anderson (AA) - Mrs. R. R. #3 Thedford, Ontario N0M 2N0	11158	296-4628 (H) 296-4459 (W)	109.02
Bosanquet	Frank Turner (A) P. O. Box 115 Thedford, Ontario N0M 2N0	33166	296-4245 (H) 296-4242 (W)	92.0
Brooke	Carolynne Griffith (A) - Mrs. R. R. #7 Alvinston, Ontario N0N 1R0	17144	844-2818 (H) 844-2018 (W)	40.0
Brooke	Ann Lehrbass (AA) - Mrs. R. R. #4 Alvinston, Ontario N0N 1A0	23193		
Enniskillen	Anne Jarvis (A) - Mrs. R. R. #1 Petrolia, Ontario N0N 1R0	21010	882-1774	24.4
Euphemia	Owen Dobbyn (A) R. R. #1 Inwood, Ontario N0N 1K0	14180	695-2947	80.0
Forest	Tom Stewart (A) 34 Broadway Street Forest, Ontario N0N 1J0	32330	786-5078 (H) 867-2813	53.0
Grand Bend	Dave Best (A) R. R. #2 Grand Bend, Ontario N0M 1T0	12273	238-8006 (H) 238-5475 (FAX)	120.0

<u>MUNICIPALITY</u>	<u>COMMITTEE MEMBER</u>	<u>VENDOR #</u>	<u>PHONE #</u>	<u>KM</u>
Moore	Liz Clarke - Ms. R. R. #1 Courtright, Ontario N0N 1H0		867-2774 (H) 542-7763 (W)	
Moore	Ian MacRae (A) Box 222 Brigden, Ontario N0N 1B0	24215	864-4035	64.0
Moore	Wellington, Joe (AA) R. R. #1 Corunna, Ontario N0N 1G0	36209	862-2395 (H)	
Oil Springs				
Petrolia	Shirley Durance (A) - Mrs. 4119 Victoria Avenue Petrolia, Ontario N0N 1R0	14181	882-1949 (H) 882-3010 (Ans.m/c) 862-2911 (W) ext. 2430 (7a.m.-4p.m.)	15.0
Point Edward	Judy Shelley (A) - Mrs. 107 Monk Street Point Edward, Ontario N7V 1M9		344-7155 (H)	
Plympton	Muriel Wright (A) - Mrs. R. R. #1 Camlachie, Ontario N0N 1E0	36200	899-2345	24.0
Sarnia	John Kowalyshyn 1039 BelAire Drive Sarnia, Ontario N7S 3H4	22086	332-2002 (W) 542-4887 (H)	53.0
Sarnia	Brenda Lorenz - Ms. 570 Devonshire Road Sarnia, Ontario N7V 2P6	23194	336-5967 (H)	60.0
Sarnia	Bob Killey 793 Elizabeth Ave Sarnia, Ontario N7S 2V5	22064	337-7390	50.0
Sombra				

<u>MUNICIPALITY</u>	<u>COMMITTEE MEMBER</u>	<u>VENDOR #</u>	<u>PHONE #</u>	<u>KM</u>
Thedford	Rose Wilcocks (A) - Mrs. P. O. Box 198 Thedford, Ontario N0M 2N0	36210	296-4807 (H)	96.0
Watford	Rhonda Hustler (A) - Ms. P. O. Box 672 Watford, Ontario N0M 2S0	18191	876-2537 (H)	57.0
Warwick	Ron Huctwith (A) R. R. #8 Watford, Ontario N0M 2S0	18190	828-3651	77.0
Wyoming	Margaret Hendra (A) - Ms. 488 Huron Street Wyoming, Ontario N0N 1T0		845-3597 (H)	

**Lambton County Waste Management Master Plan
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SCHEDULE 3D-8

**SITE SELECTION WORKSHOP NO. 1
INFORMATION KIT AND MEETING NOTES
APRIL 1990**

INFORMATION KIT

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN LANDFILL SITING PROCESS WORKSHOP

April 7, 1990

Lambton College Sarnia



SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

LANDFILL SITING PROCESS WORKSHOP

Lambton College, April 7, 1990

DRAFT WORKSHOP AGENDA

9:00-9:30 Registration

9:30-10:30 Workshop Introduction

Task 1

10:30-11:30 Small Group Discussions

11:30-12:00 Presentation to Large Group (10 minutes per group)

12:00-1:00 LUNCH (provided)

Tasks 2 and 3

1:00-3:15 Small Group Discussion

3:15-4:00 Presentations to Large Group (15 minutes per group)

4:00-5:00 Open Discussion

**5:00-5:15 Closing Remarks and
Distribution of Comment Forms**

INFORMATION KIT

This Information Kit includes:

A. MAP OF LAMBTON COLLEGE

B. DRAFT WORKSHOP AGENDA

C. WORKSHOP TASKS

D. TASKS

1. Task 1: Task Description
Proposed Constraints
Worksheet

2. Task 2: Task Description
Proposed Constraints
Worksheet

3. Task 3: Task Description
Proposed Constraints
Worksheet

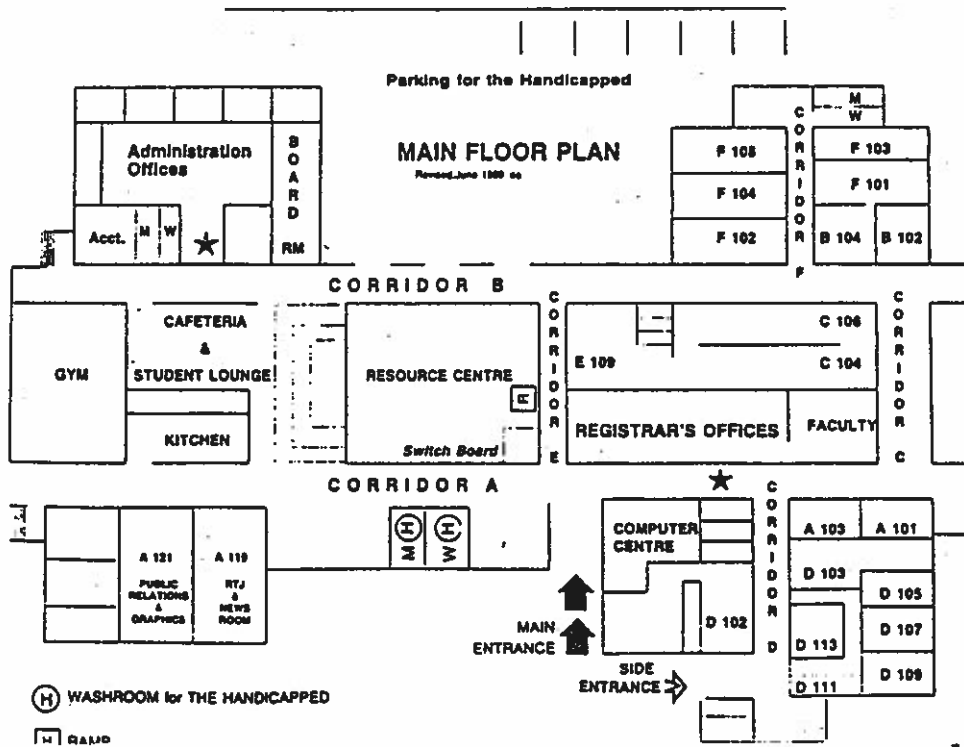
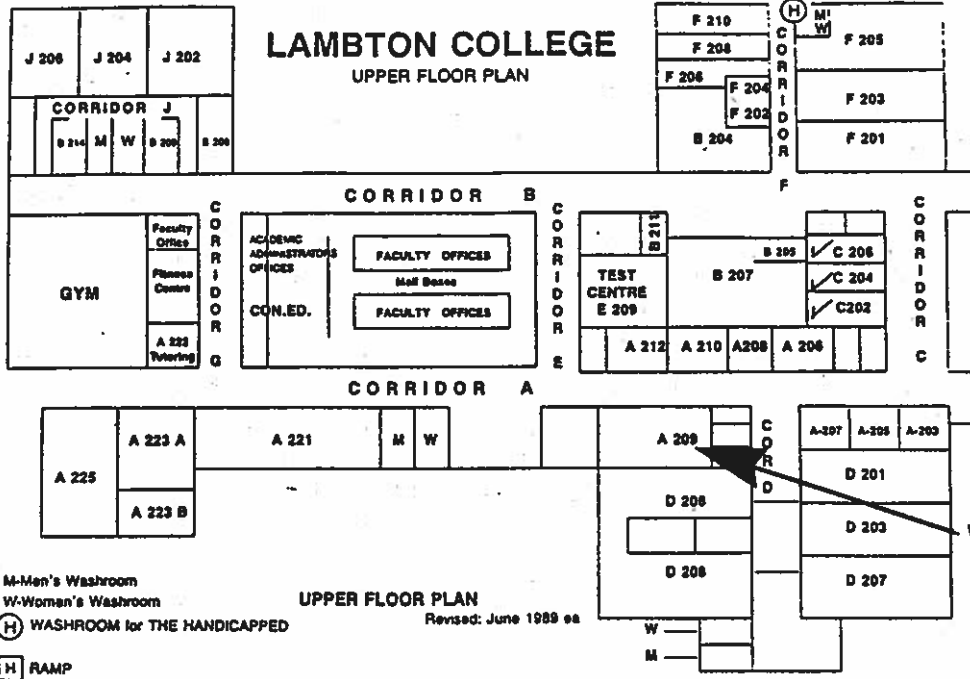
E. FACT SHEETS

1. Ontario Waste Management Master Plan Program

2. Sarnia/Lambton's Waste Management Master Plan

3. Public Participation and Workshops

If any portion of this Kit is missing, please call Don McKinnon (M.M. Dillon Limited) collect at (416) 229-4646.



WORKSHOP TASKS

This is the first of two workshops being held to develop a decision-making process to select a site for Lambton County's long-term landfill facility.

The site is being selected by applying a series of progressively more restrictive constraints to eliminate more areas of Lambton County from consideration. This is called a *constraint mapping* process.

The steps in this process are:

1. define the study area;
2. eliminate clearly unsuitable parts from the study area, leaving large candidate zones;
3. apply further constraints to the candidate zones, leaving potential sites;
4. compare and evaluate potential sites;
5. arrive at one or more preferred sites.

At this first workshop, we hope to agree on a way to fulfill the first three steps:

TASK 1: Define the study area.

TASK 2: List and rank constraints to siting a landfill within the study area.

TASK 3: List and rank constraints to siting a landfill within each candidate zone.

TASK 1: DEFINE THE STUDY AREA

Task Description

The first task is to review and refine the rationale used to define that portion of Lambton County that will be the focus of the constraint mapping process. This portion is called the *study area*.

In a small group of 10-15 people you will:

- a) review the rationale for the proposed study area;
- b) refine the definition of the study area as agreed upon by your group;
- c) select someone to present your group's comments to the other workshop participants.

TASK 1: DEFINE THE STUDY AREA

Proposed Constraints

The criteria that have been defined by Dillon and may be used to define the study area are as follows:

a) Soils

Reviewing the soils of the County: excellent clay soils are found throughout the County, and thus very little of the County can be eliminated from a hydrogeological perspective.

b) Population Distribution

Reviewing the distribution of population throughout the County so that all areas within 1 km of residences were constrained: there is a relatively equal distribution of areas more than 1 km from a residence, thus no part of the County can be considered to be preferable in terms of population distribution.

c) Theoretical Centre of Waste Generation

Finding the area that generates the most waste: although the landfill is to serve the whole County, not all parts of the County will produce equal volumes of waste. A theoretical centre of waste generation or *waste centroid* was located, and identifies the most efficient location for a landfill. This resulted in a waste centroid approximately 10 km east of the City of Sarnia. A 10 km radius was used to define the outer boundaries of this waste centroid, as it was likely to include a sufficient number of candidate zones.

TASK 1: DEFINE THE STUDY AREA

d) Accessibility

Since Sarnia produces 70% of the County's waste, the travel time from three major exit points within the City were calculated. A travel time of 20 minutes was selected as a reasonable time for waste trucks to travel from Sarnia to the landfill. The outer boundary of this 20 minute travel zone included all of the 10 km radius around the waste centroid and exceeded it to the northeast and southwest.

The resulting study area boundary was defined by the outer boundaries of the last two criteria: the 10 km radius around the theoretical centre of waste generation and the 20 minute travel time from Sarnia.

TASK 1: DEFINE THE STUDY AREA

WORKSHEET

Order of
Importance

Proposed Constraints

Comments/Questions

- Soils

Eliminate all areas with soils not suitable for a landfill facility.

- Population Distribution

Eliminate all areas within 1 km of a residence.

- Theoretical Centre of Waste Generation

Eliminate areas over 10 km away from theoretical centre of waste generation.

- Accessibility

Eliminate all areas over 20 minutes drive from source of 70% of waste.

Any additional criteria?

TASK 2: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL WITHIN THE STUDY AREA

Task Description

The second task is to list and rank those characteristics that would make parts of the study area inappropriate for a landfill facility (The remaining zones are called *candidate zones*.)

In a small group of 10-15 people you will:

- a) review the list of potential constraints compiled by M.M. Dillon Limited from work on similar landfill site selection studies;
- b) eliminate or refine those constraints your group feels are not appropriate;
- c) add those constraints your group feels are appropriate;
- d) rank the constraints on your group's revised list in order of importance;
- e) select someone to present your group's list of ranked constraints to the other workshop participants.

**TASK 2: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL
WITHIN THE STUDY AREA**

Proposed Constraints

- a) areas with high potential for ground water contamination;
- b) areas within 1000 m of one or more residences;
- c) culturally unique areas;
- d) built-up areas (e.g. commercial/industrial subdivisions, residential areas);
- e) candidate zones of less than 40 ha (considered too small for a landfill facility).

**TASK 2: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL
WITHIN THE STUDY AREA**

WORKSHEET

Order of
Importance

Proposed Constraints

Comments/Questions

- Areas with high potential for ground water contamination.
- Areas within 1000 m of one or more residences.
- Culturally unique areas.
- Built-up areas (e.g. commercial/industrial subdivision, residential areas).

Any additional criteria?

TASK 3: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL WITHIN CANDIDATE ZONES

Task Description

The third task will be to list and rank those characteristics that would make parts of each candidate zone unsuitable for a landfill facility. (The remaining portions of each zone are called *potential sites* or *candidate sites*.)

In a small group of 10-15 people you will:

- a) review the list of potential constraints compiled by M.M. Dillon Limited from work on similar landfill site selection studies;
- b) eliminate those constraints your group feels are not appropriate;
- c) add those constraints your group feels are appropriate;
- d) rank the constraints on your group's revised list in order of importance;
- e) select someone to present your group's list of ranked constraints to the other workshop participants.

PLEASE NOTE:

The process in Task 3 will be similar to that used in Task 2 to identify candidate zones, although a more detailed level of analysis is involved. A systematic application of the constraints arrived at in Task 3 will result in a short list of potential sites. The next step (to be reviewed at the next Workshop) will be to comparatively evaluate those potential sites in order to identify one or more preferred sites.

TASK 3: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL WITHIN CANDIDATE ZONES

Proposed Constraints

- areas within 500 m of Areas of Natural and Scientific Interest (ANSI) and wetlands of Provincial or Regional significance as classified by the Ministry of Natural Resources.
- areas within 500 m of Environmentally Sensitive Areas (ESA) as identified by the University of Waterloo Study Team for the Lambton County Planning Department or in local municipal plans.
- areas within 500 m of Special Areas (areas with strong potential for ESA status) identified in the Appendix of Background Report No. 13 to the Lambton County Official Plan and located outside industrial use designations.
- areas within 500 m of major watercourses (e.g. Bear Creek) or within 200 m of other watercourses shown on 1:50,000 topographic maps.
- areas containing soils of predominantly Class 1 for common field crops or well suited for specialty crops, with potential for 500 m buffer if such areas are larger than 2 km².
- special Areas identified in the Appendix of Background Report No. 13 to the Lambton County Official Plan and located within future industrial use designations, with 100 m buffer.
- areas more than 2 km from lands designated for industrial or waste disposal uses.
- properties owned by residents living on or near the property.
- properties worked by owners, i.e. not rented.

**TASK 3: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL WITHIN
CANDIDATE ZONES**

Potential Constraints (cont'd)

- areas outside lands designated for industrial or waste disposal uses.
- high quality forests and Management Agreement Areas.
- major recreational areas.
- areas within 1000 m of committed future residential development.
- existing oil and gas wells.
- existing roads and utility corridors (e.g. pipelines, rail lines, hydro lines).

**TASK 3: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL WITHIN
CANDIDATE ZONES**

WORKSHEET

**Order of
Importance**

Proposed Constraints

Comments/Questions

- areas within 500 m of Areas of Natural and Scientific Interest (ANSI) and wetlands of Provincial or Regional significance as classified by the Ministry of Natural Resources.
- areas within 500 m of Environmentally Sensitive Areas (ESA) as identified by the University of Waterloo Study Team for the Lambton County Planning Department or in local municipal plans.
- areas within 500 m of Special Areas (areas with strong potential for ESA status) identified in the Appendix of Background Report No. 13 to the Lambton County Official Plan and located outside industrial use designations.
- areas within 500 m of major watercourses (e.g. Bear Creek) or within 200 m of other watercourses shown on 1:50,000 topographic maps.
- areas containing soils of predominantly Class 1 for common field crops or well suited for specialty crops. Potential for 500 m buffer if such areas are larger than 2 km²?

TASK 3: LIST AND RANK CONSTRAINTS TO SITING A LANDFILL WITHIN CANDIDATE ZONES

WORKSHEET
(continued)

Order of Importance

Proposed Constraints

Comments/Questions

- special Areas identified in the Appendix of Background Report No. 13 to the Lambton County Official Plan and located within future industrial use designations, with 100 m buffer.
- areas more than 2 km from lands designated for industrial or waste disposal uses.
- properties owned by residents living on or near the property.
- properties worked by owners, i.e. not rented.
- areas outside lands designated for industrial or waste disposal uses.
- high quality forests and Management Agreement Areas.
- major recreational areas.
- areas within 1000 m of committed future residential development.
- existing oil and gas wells.
- existing roads and utility corridors (e.g. pipelines, rail lines, hydro lines).

Any other criteria?

ONTARIO'S WASTE MANAGEMENT MASTER PLAN PROGRAM

Waste management is a challenge facing municipalities across Ontario today. In Lambton County, as in other regions across Ontario, the production of waste has risen as population, industrial development and our consumer lifestyle have increased.

It is estimated that each Canadian produces approximately 1 kg or 2.2 lbs. of garbage per day. In 1988, the residents of Lambton County produced approximately 100 000 tonnes of solid non-hazardous garbage. This figure does not include liquid industrial, hazardous waste, or waste imported from other regions.

Effective municipal waste management requires comprehensive long-term planning. The Ontario Waste Management Master Plan (WMMP) Program was initiated by the Ministry of the Environment to assist municipalities in developing long-term plans for managing these wastes.

Each WMMP includes the following steps:

- a review of the existing waste management system and its adequacy;
- an estimation of future waste management needs;
- identification of several waste management alternatives;
- a recommendation of a preferred waste management plan (usually recommending a combination of several approaches such as landfill, incineration, recycling);
- a strategy for implementing the recommended system.

The Province of Ontario requires that input from municipal governments, relevant government agencies and especially the public, be actively sought and incorporated throughout the development of the WMMP.

SARNIA/LAMBTON'S WASTE MANAGEMENT MASTER PLAN (WMMP)

In 1985, the County of Lambton and the City of Sarnia began preparation of a Waste Management Master Plan (WMMP) and hired M.M. Dillon Limited to assist in its preparation. Representatives from the Ontario Ministry of the Environment are also assisting in the preparation of the plan.

The goal of the Sarnia/Lambton WMMP is to define the best system for the long-term management of wastes generated from within the County from 1991-2011.

The work completed to date has been included:

- a review of how Lambton County presently handles their waste and an estimate of future requirements;
- identification of a range of alternative methods to handle waste (e.g. recycling, incineration, landfilling);
- an evaluation of the possible application of those alternative methods in Lambton County.

In this last step, it was determined that Lambton County would require a new long-term landfill site regardless of what other methods of waste reduction, recycling, reuse or waste treatment were adopted.

The next step, which is the purpose of this April 7 workshop, is to begin identifying possible sites for new landfill capacity in Lambton County.

PUBLIC CONSULTATION

Although public consultation is not a legal requirement for Waste Management Master Plans (WMMP), the Ontario Ministry of the Environment strongly advises consultation with the public throughout WMMP development.

In particular, the Ontario Ministry of the Environment advises that the public be consulted on:

- the decision-making process
- adequacy of the database;
- alternatives to evaluate;
- methods for evaluating the alternatives;
- predicted environmental effects;
- proposed mitigation measures;
- evaluation of alternatives and proposed decisions.

Public Advisory Committee

In order to provide an ongoing forum for public involvement, a Public Advisory Committee (PAC) has been set up. The PAC serves in an advisory capacity to the study. Members have been sought from the community and includes representatives from interest groups, municipalities and citizens-at-large.

Steering Committee

This committee is made up of elected officials from across the County. This committee directs the progress of the WMMP.

**SARNIA LAMBTON WASTE MANAGEMENT MASTER PLAN
LANDFILL SITING PROCESS WORKSHOP
APRIL 7, 1990**

LAMBTON COLLEGE, SARNIA

Attendees: Please see attached list

The following were facilitators for the workshop:

J. Kutyba	-	County of Lambton
C. Fletcher	-	M.M. Dillon
D. McKinnon	-	M.M. Dillon
L. Fedec	-	M.M. Dillon
M. Harrold	-	M.M. Dillon

C. Fletcher opened the workshop by introducing the individuals who will lead the discussions. She then explained that the purpose of the workshop was to develop a decision-making process to select a site for Lambton County's long-term waste management needs. The goal of the workshop was to develop siting criteria to be used as the basis for any siting decision.

C. Fletcher explained that it is most appropriate for members of the affected public (rather than the consultants) to select and weigh siting criteria. The landfill is to be located in their County to serve their needs and therefore it has to be up to the Workshop participants to determine how and where the site will be located. She explained that the purpose of today's workshop is to discuss the landfill siting process.

C. Fletcher provided general background information on the Waste Management Master Plan (WMMP). The central aim of the WMMP is to define the best system for the long-term management of wastes within the County from 1991-2011. The objectives of the planning process are to:

- review the existing waste management system and assess its adequacy;
- identify future waste management needs;
- identify and evaluate a series of waste management alternatives;
- assess and evaluate the preferred waste management alternatives;
- obtain and incorporate input from the municipalities, the public and government agencies through the planning process;
- recommend a preferred waste management system; and
- develop an implementation strategy for transition to the recommended system.

C. Fletcher outlined the proposed Workshop tasks.

- Task 1 - Define the study area
- Task 2 - List and rank constraints to siting a landfill within the study area.
- Task 3 - List and rank constraints to siting a landfill within each candidate area.

The workshop attendees were then divided into three groups in which they were to identify a study area and list and rank constraints to siting a landfill within the study area.

C. Beckwith - questioned why the title of the study was the Sarnia-Lambton Waste Management Master Plan. Including Sarnia separately would seem to single Sarnia out.

T. McNaughton - felt that the landfill study area should be based on environmental criteria to find a "safe" site. He also questioned the value of weighing criteria rather than just listing them as absolute criteria.

H. Van Klavern - if the group ranks factors how important will these rankings be? Will these ranking be changed by someone else further down the line?

E. Dubevc - is concerned that M.M. Dillon is saying that in general Lambton County has deep clays. He would like M.M. Dillon to outline exactly what a landfill is. He is concerned that the group will make important decisions without knowing what the implications of a landfill are. He is also concerned that Dillon appears to have already defined sites. He would like to have the constraint mapping process explained to him.

C. Beckwith - the group has a large knowledge gap with respect to constraint mapping and the specifics of what a landfill is. There is also the simple question of what and who this Master Plan is for.

E. Debevc - is concerned that the group may be moving too fast. For example they don't know what a suitable soil is for landfilling.

P. Westfall - indicated that there is no documentation of what the effects of a landfill are. Perhaps case studies can be used to illustrate what the effects are. The positive aspects associated with a landfill should be investigated. Some of these positive aspects may be:

- Upgrading of services in the area (i.e. roads);
- make the landfill aesthetically pleasing by planting trees;
- create a recreational area;
- compensation to local residents while landfilling is occurring;
- provide economic benefits like increasing the tax base;

- provide local job opportunities by giving local companies a preferred right to bid on operating the landfill;
- turn the landfill into a long term economic benefit for the local community such as a tree farm or a methane gas cogeneration plant;
- blend the landfill in with the natural environment such as the water treatment plant on the St. Clair river;
- if the positive aspects of a landfill are sold it may be easier to site a landfill.

P. Mathur - felt that they should be concerned with the existing landfills and what we are going to do with them once they are closed. How are they going to deal with the existing landfills in the long term.

F. Young - the old landfills were not properly planned or developed and are hazardous. What are they going to do with them.

B. Killey - wondered if waste reduction activities would be taken into account in sizing a landfill. The landfill should be sized at 25% of the total waste quantities for the County. He was also concerned that residents would not have input into the Master Plan report. He feels that any recommendations in the report must be very strongly worded.

P. Mathur - the County should have severe penalties for residents/industries/commercial establishments that do not abide by waste reduction targets. One example of limiting disposal is by only allowing residents to dispose of one garbage bag per week.

M. Wright - we have to make extremely strong waste reduction recommendations. If the County aims for 70% waste diversion, 20% may be achieved.

M. Kern - The following steps must be taken in order to get back to the agenda:

- the group requires a sense of political will and timing of the process;
- a better understanding of waste characteristics is required;
- a better understanding of what the completed landfill will be is required. For example what will it look like when it is closed.
- the group should also understand that any decisions made today are open to full review. Everyone will be given an opportunity to speak against any of the decisions made. He also wondered if there was any interest for an additional workshop on waste characteristics.

F. Young - was concerned by the lack of politicians at the work shop. They may not go through the same though process that the group will go through in these workshops. He feels that it is important that each understand the others way of thinking.

M. Wright - suggested that perhaps after a couple of work shops the politicians could be invited to attend.

T. Bell - questioned how long it will take for the long term site to be ready. She is concerned that all of the money being spent at the existing Sarnia landfill means that it will be expanded for longer than the 5 year interim expansion period. She would like to see the new landfill in place by 1991 so the Sarnia landfill expansion is not required.

The following are summaries of the small group discussions as presented to the larger group:

GROUP 1 - Summary of comments given by Marshall Kern.

- The group felt that the study area should be the entire County.
- The following were identified as possible constraints:
 - Economic - of secondary importance
 - Proximity to Provincial Highways
 - Environmental
 - protection of surface water quality;
 - preference to Class 3 or lower agricultural soils;
 - assess the level of agricultural use;
 - future zoning and development;
 - 1000 acre parcel of land to accommodate MRF, composting facility and a landfill that will last way beyond the 20 year study period. Portions could be kept in agricultural use until required;
 - the site should be very visible as a constant reminder of the garbage we generate;
 - dispose of the garbage in a manner that materials can be reclaimed in the future;
 - allow for multiple types of landfills for the various waste types;
 - current number of residences are of secondary importance since it gives no indication of future growth;
 - existing landfills should be used for composting facilities.

GROUP 2 - Summary of comments given by Clive Beckwith

- They have yet to come to a consensus on what the study area should be. Some of their ideas are:
 - maintain the high quality agricultural land;
 - a 1 km radius around households in industrial areas is not necessary. A landfill should be viewed as an industrial use. A house located in an industrially zoned area is already impacted and a landfill would not significantly increase these impacts;
 - the set backs from homes used, should be the same as for heavy industry standards;
 - a one kilometer separation from homes would only apply in agricultural and rural areas;
 - the proposed waste centroid is too limiting.

GROUP 3 - Summary of comments given by Peter Westfall

- They did not come to a consensus on what the study area should be. Some of the areas they discussed are as follows:
 - they discussed using soil classification as a constraint;
 - they felt they required more information before Class 1 lands were excluded because they may rule out areas of Class 1 land that aren't being farmed;
 - they discussed population distribution and felt that the people creating the waste should be near it;
 - environmental constraints versus taking people off of their land should be examined;
 - the waste centroid and 20 minute travel time zone are too limiting;
 - if a MRF is built then the waste quantities requiring disposal will be reduced and therefore the travel time could be increased to include areas with poorer agricultural soils;
 - a site located away from the waste centroid would serve as an incentive to reduce wastes;
 - perhaps the County should have a number of landfill sites.

A general discussion of the study area and siting factors ensued.

M. Kern - questions the rationale behind the waste centroid

B. Killey - asked for background on how M.M. Dillon selected the waste centroid concept for a study area over other considerations.

M. Kern - suggested that individual centroids be developed based on thresholds of economic feasibility for transfer stations and MRFs. The landfill centroid could then be based on these individual centroids. This analysis will show whether we need one or more facilities and their locations.

P. Westfall - the group seems to agree that the landfill will be in the general area of the waste centroid but that the waste centroid concept is too restrictive. The group needs a clear understanding of the whole system (i.e. number of transfer stations/MRFs) before they can site the landfill.

F. Young - stated that the centroid is based on economics alone. Additional cost due to further travel distances may not be as significant as compared to the impact on the environment.

P. Westfall - wanted to know if anyone had any objections of starting with: the study area as the bounds of the "study area" map (i.e. Moore, Enniskillen, Plympton Townships and Sarnia/Clearwater); and staying within Class 3 lands within this boundary. Watersheds should also be taken into account.

F. Young - suggested that we should concentrate on the areas with the watershed divide because they are the highest points of land. He feels that these areas will have less of an impact on waterways. He also agreed with using Class 3 land.

The general consensus of the group was to scrap the idea of a waste centroid and start with Class 3+ farm land on clay based soils as an opportunity for landfill siting. As well additional information should be used to further constrain study area such as: ESAs, and Accessibility to provincial highways. Industrially zoned land may be considered an opportunity and the use of 1 km buffer around each residence is questionable.

The following information will be provided by M.M. Dillon on 19/04/90: A base map showing Sarnia/Clearwater and Moore, Enniskillen and Plympton Townships; an overlay showing Class 3+ agricultural land on clay based soils; an overlay showing ESAs; an overlay showing provincial highways; an overlay showing industrial designated areas; an overlay showing the surface water divides, an overlay showing areas greater than 1 km from all residences; and an overlay showing all areas greater than 0.5 km from all residences.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-9

**SITE SELECTION WORKSHOP NO. 2
INFORMATION KIT AND MEETING NOTES
SEPTEMBER 1990**

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN
LANDFILL SITING PROCESS WORKSHOP #2
SEPTEMBER 13, 1990

- | | |
|--------------|--|
| 7:00 - 8:00 | <ul style="list-style-type: none">• Introduction• Overview of the Constraint Mapping Process• Goals of Site Selection Process• Summary of Past Work• Purpose of Tonight's Workshop |
| 8:00 - 9:00 | <ul style="list-style-type: none">• Small Group Discussions - Criteria to Constrain Large Candidate Areas |
| 9:00 - 9:45 | <ul style="list-style-type: none">• Open Group Discussion on Criteria to Constrain Candidate Areas |
| 9:45 - 10:00 | <ul style="list-style-type: none">• Closing Remarks• Future Workshops |

Goals of Site Selection Process

The guiding principles of the site selection process must be established. Commonly used goals in past landfill siting exercises include:

- to minimize risk to human health;
- to minimize impacts to the natural environment;
- to minimize cost; and
- to maximize service.

We should now take the time to review these goals, judge their acceptability and rank their relative importance.

Study Area

- initially defined as entire Lambton County;
- preliminary hydrogeologic review of the entire County revealed that with the exception of a few isolated areas, the County has suitable hydrogeologic conditions for a landfill facility (i.e. deep clays);
- similar population density throughout the County.
- further defined by constraining all Class 1-2 agricultural lands;
- remaining "study area" was defined as Class 3+ agricultural land;

**TABLE 1
CANDIDATE AREA IDENTIFICATION CRITERIA**

FACTOR GROUPING/ FACTOR/INDICATOR	DEFINITION	RATIONALE	COMMENTS/RANKING
IMPACTS			
Natural Environment and Resources			
Potential for displacement and disruption of natural features			
<ul style="list-style-type: none"> • Areas with endangered species and their habitat 	<ul style="list-style-type: none"> • Endangered species are, by virtue of their low population size and restricted distribution, threatened with immediate extinction in Ontario. 	<ul style="list-style-type: none"> • The Endangered Species Act prohibits anyone from wilfully destroying, injuring or interfering with an endangered species or its habitat. 	
<ul style="list-style-type: none"> • Areas of Natural and Scientific Interest (ANSI's) (provincial/ regional significance), with 500 m buffer 	<ul style="list-style-type: none"> • ANSI's are defined by MNR as areas of land and water containing significant natural landscapes or features. Significance is determined according to the presence of values related to protection, natural heritage appreciation, scientific study or education. 	<ul style="list-style-type: none"> • Areas of Natural and Scientific Interest which have been deemed by MNR to be of provincial or regional significance would be inappropriate for a landfill due to their recognized special environmental status. MOE Policy No. 070701 "Guidelines for Land Use on or Near Landfills or Dumps" indicates that most impacts would be felt within 500 m of a landfill. Therefore, a 500 m buffer around sensitive areas is considered reasonable. 	
<ul style="list-style-type: none"> • Class 1-3 wetlands (provincial/ regional significance), with 500 m buffer 	<ul style="list-style-type: none"> • Wetlands classified by the Provincial Evaluation System as Class 1, 2 or 3 are identified to be of provincial or regional significance. 	<ul style="list-style-type: none"> • Wetlands of recognized high significance would be inappropriate for landfill siting. 	
<ul style="list-style-type: none"> • Environmentally Sensitive Area (ESA) identified by the University of Waterloo Study Team for the Lambton County Planning Department or in local municipal plans, with 500 m buffer. 	<ul style="list-style-type: none"> • Environmentally Sensitive Areas are identified as the finest examples of ecosystems or landforms and the range of habitats with their associated species existing in the region. 	<ul style="list-style-type: none"> • ESA's are identified as worthy for preservation as examples of what constitutes the area's natural heritage. 	

**TABLE 1
CANDIDATE AREA IDENTIFICATION CRITERIA**

FACTOR GROUPING/ FACTOR/INDICATOR	DEFINITION	RATIONALE	COMMENTS/RANKING
<ul style="list-style-type: none"> Special areas (areas with strong potential for ESA status) identified in the Appendix of Background Report No. 13 to the Lambton County Official Plan and located outside industrial use designations, with 500 m buffer. 	<ul style="list-style-type: none"> This indicator identifies the presence of special areas with strong potential for ESA status which are located outside lands designated for industrial use. 	<ul style="list-style-type: none"> Areas with strong potential for ESA status would not be suitable for a landfill. 	
<ul style="list-style-type: none"> Areas within 500 m of major streams with significant/rare fish species. 	<ul style="list-style-type: none"> This indicator identifies the presence of significant/rare fish species and their habitat. 	<ul style="list-style-type: none"> Significant/rare fish species habitats are environmentally significant and would be inappropriate for a landfill. MOE Policy No. 070701 states that most impacts are felt within 500 m of landfills. Therefore, a 500 m buffer is considered reasonable. 	
SOCIAL/CULTURAL ENVIRONMENT			
Disruption of existing residences.			
<ul style="list-style-type: none"> Areas within 500 m of residences. 	<ul style="list-style-type: none"> This indicator addresses the presence of residences. 	<ul style="list-style-type: none"> MOE Policy No. 070701, "Guidelines for Land Use on or Near Landfills or Dumps" indicates that residential development would be inappropriate within 500 m of a landfill. The majority of nuisance effects would be felt within this distance. Therefore, 500 m is the separation distance used in landfill siting. 	
Any other criteria?			

**TABLE 2
PROPOSED LANDFILL SITE IDENTIFICATION CRITERIA**

FACTOR GROUPING/ FACTOR/INDICATOR	DEFINITION	RATIONALE	COMMENTS/RANKING
IMPACT			
Natural Environment and Resources			
Displacement of natural features.			
<ul style="list-style-type: none"> Displacement of high quality forests and Management Agreement Areas on site. 	<ul style="list-style-type: none"> This indicator addresses the presence of high quality forests and Management Agreement Areas. 	<ul style="list-style-type: none"> High quality forests and Management Agreement Areas are inappropriate for a landfill. 	
Displacement of existing oil and gas well.			
<ul style="list-style-type: none"> Presence of oil and gas wells. 	<ul style="list-style-type: none"> This indicator addresses the presence of oil and gas wells and the displacement of resources due to landfill siting. 	<ul style="list-style-type: none"> The protection of oil and gas resources has high priority in landfill siting. As well abandoned wells may provide a conduit for leachate if improperly capped. 	
Surface Water			
<ul style="list-style-type: none"> Flood plains and related hazard lands. 	<ul style="list-style-type: none"> Flood plains are areas adjoining a watercourse which have been water. In some areas, fill lines may be established to regulate the placing or dumping of fill. 	<ul style="list-style-type: none"> The Flood Plain Planning Policy Statement indicates that regard must be made for flood plain management problems. Lands susceptible to flooding are considered to be a potential risk to human safety and related environmental impact would occur if the flood waters were contaminated. Fill regulations are established to control flooding or pollution. 	

**TABLE 2
PROPOSED LANDFILL SITE IDENTIFICATION CRITERIA**

FACTOR GROUPING/ FACTOR/INDICATOR	DEFINITION	RATIONALE	COMMENTS/RANKING
<p>Potential for contamination of surface water.</p> <ul style="list-style-type: none"> • Areas within 200 m of minor streams with common fish species. 	<ul style="list-style-type: none"> • This indicator addresses the presence of streams and allows for a 200 m buffer from landfill operation. 	<ul style="list-style-type: none"> • The protection of surface water has high priority in landfill siting. A 200 m buffer will provide protection against leachate contamination. 	
SOCIO-ECONOMIC ENVIRONMENT			
<p>Displacement and disruption of existing and future planned (committed) community and recreation features.</p> <ul style="list-style-type: none"> • Areas within 500 m of future committed residential development. 	<ul style="list-style-type: none"> • This indicator addresses the potential for future committed residential development and a buffer zone of 500 m around each residence. 	<ul style="list-style-type: none"> • Avoids or minimizes impacts on future committed residents. MOE Policy No. 070701 "Guidelines for Land Use on or Near Landfills or Dumps" indicates that the majority of nuisance effects would be felt within 500 m of a landfill. 	
<ul style="list-style-type: none"> • Presence of existing and future (committed) planned recreational features. 	<ul style="list-style-type: none"> • This indicator addresses the presence and planned presence of parks or lands with a high natural capability for outdoor recreation within the study area. This includes areas of Class 1-4 in the Canada Land Inventory Land Capability for Recreation as well as Provincial and Municipal Parks. 	<ul style="list-style-type: none"> • Parks and lands with a high natural capability for outdoor recreation have provincial and regional significance. Therefore they are excluded. 	

**TABLE 2
PROPOSED LANDFILL SITE IDENTIFICATION CRITERIA**

FACTOR GROUPING/ FACTOR/INDICATOR	DEFINITION	RATIONALE	COMMENTS/RANKING
Displacement of archaeological features.			
<ul style="list-style-type: none"> • Presence of known archaeological features. 	<ul style="list-style-type: none"> • This indicator addresses the potential displacement of archaeological resources due to facility siting. 	<ul style="list-style-type: none"> • Addresses cultural conditions influencing an individual or a community as required by the EA Act. These areas are excluded. 	
Displacement of heritage features.			
<ul style="list-style-type: none"> • Presence of heritage features. 	<ul style="list-style-type: none"> • This indicator addresses the displacement/disruption effects on heritage features. 	<ul style="list-style-type: none"> • Addresses cultural conditions influencing an individual or a community as required by the EA Act. Therefore heritage features are excluded. 	
Displacement of utilities in the area.			
<ul style="list-style-type: none"> • Presence of utilities in the area. 	<ul style="list-style-type: none"> • This indicator addresses the presence of utilities (e.g. gas pipeline, railway, hydro corridor, etc.) within the area. 	<ul style="list-style-type: none"> • The cost and time of rerouting utilities is unwarranted and would cause other impacts to occur. 	
Any other criteria?			

**SARNIA LAMBTON WASTE MANAGEMENT MASTER PLAN
LANDFILL SITING PROCESS WORKSHOP #2**

SEPTEMBER 13, 1990

LAMBTON COUNTY BUILDING, WYOMING

Attendees:	Dick Lam	Ann Lam	Trudy Downie
	Herb Payne	Dorothy Payne	Pat Alexander
	Sheila Gibbons	Lillian Harkins	Ed Debevec
	Scott Sills	Marshall Kern	Ross McLean
	Brenda Lorenz	Hank Plug	Ed Hoskins
	Clive Beckwith	Bob Killey	Franklin Turner
	Arnold Sayer	Murray Hyatt	Muriel Wright
	Florence Wright	Poonam Mathur	Rhonda Hustler
	Owen Dobbyn		

The following were facilitators for the Workshop:

J. Kutyla	-	County of Lambton
C. Fletcher	-	M.M. Dillon Limited
D. McKinnon	-	M.M. Dillon Limited
L. Fedec	-	M.M. Dillon Limited
M. Harrold	-	M.M. Dillon Limited

C. Fletcher opened the workshop by introducing the individuals who will lead the small group discussions. She then explained that this workshop was the second of a series of four. The importance of focusing on the site selection process was stressed. The purpose of the workshop was then outlined - which was to develop criteria to constrain the previously identified candidate areas.

D. McKinnon followed by providing a brief review of the constraint mapping process. It was explained that the process should be conceived as a scoping exercise where the options for siting are constantly being narrowed down.

D. McKinnon then provided an overview or summary of the past completed work (Workshop #1 and the PAC meetings). Previously agreed upon criteria were then reviewed.

Study Area

D. McKinnon explained that due to suitable hydrogeologic conditions and similar population density throughout Lambton County, most of the County was suitable for a landfill. Based on the groups rejection of the "waste centroid" as proposed in the first workshop, it was decided by the workshop group that all class 1 and 2 agricultural lands should be constrained from the study area. The refined study area was thus defined as class 3+ agricultural land on clay based soils.

Identification of Candidate Areas

Candidate area identification criteria as discussed at the first workshop were reviewed. These included:

- Potential for displacement and disruption of natural features:
 - areas with endangered species and their habitat;
 - areas of natural and scientific interest with 500 m buffer;
 - class 1-3 wetlands with 500 m buffer;
 - environmentally sensitive areas with 500 m buffer;
 - areas with strong potential for ESA status with 500 m buffer.
- Areas within 500 m of major streams with significant rare fish species.
- Disruption of existing residences:
 - areas within 500 m of residences.

D. McKinnon indicated that as a result of these criteria, 19 candidate areas were identified as displayed on the large constraint map.

The question was then brought to the group as to whether these past criteria were still acceptable.

Points made by the group include:

- 19 candidate areas were too many to examine
- only consider the areas which fall into the industrial zoned lands since landfills are an industrial type use (this would limit the number of areas to look at and speed up the process)
- the process was proceeding too slow
- industrial zoned areas are an "artificial" designation which could change any time
- options may be reduced too quickly by only examining candidate areas in industrial zoned lands
- too much emphasis is placed on zoning if we only examined areas in industrial designations.

M.M. Dillon staff indicated to the group that they might limit their options too quickly by only examining candidate areas in industrial designated lands. It was suggested that zoning be used later in the comparative evaluation of sites.

After lengthy discussion, the motion was made by Franklin Turner: "that the committee look at the 19 candidate areas". Seconded by Trudy Downey. Majority vote.

The motion was then made by Bob Killey: "to accept the candidate area identification criteria as presented in Table 1.". Seconded by Arnold Sayer. Majority vote.

D. McKinnon then explained that the rest of the workshop was to be conducted through small group discussions.

After approximately 45 minutes of small group discussions, the following are summaries of each group's discussion which were presented to the larger group. Rankings of each of the criteria and revisions to the criteria presented in Table 2 are summarized below:

GROUP 1 - SUMMARY OF GROUP DISCUSSION PRESENTED BY JIM KUTYBA	
	RANKING
• Displacement of high quality forests and management agreement areas	Medium
• Presence of oil and gas wells (include all wells)	High
• Flood plains and related hazard lands (100 year and 200 year storm information needed)	High
• Areas within 200 m of all streams (drains) (all watercourses)	High
• Areas within 500 m of future committed residential development	Low
• Areas within 500 m of existing and future recreational features	Low
• Presence of known archaeological features	Low
• Presence of heritage features	Low
• Presence of utilities (corridors)	High

Additional points made by Group 1 include:

- Lambton Wildlife Inc. maybe able to help identify high quality woodlot areas.
- Lambton County has a by-law protecting woodlots/tree removal.
- Would the site areas include a 500 m buffer?
- Maybe we should also be looking at the areas adjacent to the 49 closed landfill sites in the County for siting a new landfill.

GROUP 2 - SUMMARY OF GROUP DISCUSSION PRESENTED BY MARSHALL KERN	
	RANKING
• Displacement of high quality forests and management agreement areas	Low
• Presence of oil and gas wells (include existing and abandoned wells)	High
• Flood Plains and related hazard lands (at least 10 year storm records)	High
• Areas within 500 m of all streams (drains)	High
• Areas within 500 m of future committed residential development	High
• Presence of existing and future recreational features (and 500 m buffer)	High
• Presence of known archaeological features (and 500 m buffer)	Medium
• Presence of heritage features (and 500 m buffer)	Medium
• Presence of utilities (corridors)	Medium

Group 2 also selected the criteria of cemeteries (including access roads) with a 200 m buffer (medium ranking) and Indian Reserves with a 500 m buffer (high ranking). They also expressed that the 200 m around all streams should be extended to 500 m and that archaeological and heritage features should also have a 500 m buffer.

GROUP 3 - SUMMARY OF GROUP DISCUSSION PRESENTED BY PAT ALEXANDER	
	RANKING
• Displacement of high quality forests and management agreement areas	High
• Presence of oil and gas wells (plus brine disposal wells)	High
• Flood Plains and related hazard lands	High
• Areas within 200 m of all streams (drains)	High
• Areas within 500 m of future committed residential development	Low
• Presence of existing and future recreational features	Low
• Presence of known archaeological features	Low
• Presence of heritage features	Low
• Presence of utilities (corridors)	Medium

Group 3 also indicated that any Native Land Claims in the area should be noted (it was indicated by the group that the only land claim which they were aware of is a 400 acre site outside of Petrolia).

Following the presentations to the large group, a motion by Franklin Turner was made "that the committee meet as often as necessary (i.e. every two weeks)". Seconded by Pat Alexander. Next workshop date set for 4 October 1990.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-10

**SITE SELECTION WORKSHOP NO. 3
INFORMATION KIT AND MEETING NOTES
OCTOBER 1990**

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

SITE SELECTION WORKSHOP #3

**Thursday, October 11, 1990
7:00 p.m. to 10:00 p.m.
Lambton County Building**

AGENDA

6:45 p.m.	- 7:05 p.m.	Registration
7:05	- 7:15	Opening Remarks
7:15	- 7:45	Review of Constraint Maps
		<ul style="list-style-type: none">• Site Size Requirements• Constraining of Site Areas
7:45	- 8:00	Outline of Small Group Sessions
8:00	- 9:15	Small Group Sessions
9:15	- 9:45	Presentation to Large Group
9:45	- 10:00	Closing Remarks

TASK 1: REVIEW OF SITE SELECTION GOALS

Goals represent the aim of the planning activity or end result which the process is trying to achieve. Thus far, in the site selection process, we have incorporated standard goals used in past siting exercises. The following outlines the goals which have been used to date:

- minimize effects of public health and safety
- minimize effects on the natural/social environment
- minimize cost of development.

In small groups you will:

- review these goals
- rank the relative importance of the goals
- determine if the goals are consistent with past siting decisions.

TASK 2: DEFINE THE FACTOR GROUPINGS

The second step of a comparative evaluation exercise is the definition of the factor groupings. Factor groupings are the broad categories of factors which guide the comparative evaluation of alternative sites. The following outlines factor groupings commonly used:

- air quality
- ground water
- surface water
- natural environment and resources
- social/cultural environment
- land use
- economics
- transportation
- cost
- service.

In small groups you will:

- review these factor groupings
- refine the list.

TASK 3: DEFINE AND RANK FACTORS WITHIN THE FACTOR GROUPINGS

The purpose of this step is to define and rank the factors to be used in the comparative evaluation of alternative sites. The following represents a typical list of evaluation factors categorized by goals and factor groupings.

HUMAN HEALTH AND SAFETY

Ground Water

- potential for contamination of ground water.

Surface Water

- potential for contamination of surface water (and downstream flooding/erosion/sedimentation problems).

NATURAL/SOCIAL ENVIRONMENT

Natural Environment and Resources

- displacement of natural features
- potential disruption of natural features
- displacement of agricultural resource lands
- disruption of agricultural resource lands
- displacement of mineral aggregate resources
- displacement of timber agreement resources on site.

Social/Cultural

- potential disruption to residents in site vicinity
- potential disruption to community/recreation features in site vicinity

- potential disruption to residents, businesses and community/recreation features along access routes
- potential effects on school bus routes
- disruption of heritage features
- disruption of properties owned by residents living on or near the property
- land ownership parcels
- displacement of properties worked by owners (i.e. not leased).

LAND USE

- compatibility of existing land use(s) on-site (Official Plan, Zoning By-law)
- compatibility with future designated land use(s) on-site
- compatibility with existing land use(s) in the site vicinity
- compatibility with future designated land use(s) in the site vicinity.

TRANSPORTATION

- ease of access (travel distance, proximity to highway)
- potential for traffic disruption.

COSTS

- transportation haulage costs
- site operating costs
- site capital costs.

In small groups you will:

- define the factor list
- rank factors and indicators (where applicable) on the basis of high, medium and low importance.

Table 3 outlines in detail factors and their associated indicators

RANKING

Ranking of the evaluation factors are to be based on a measure of high, medium or low importance. Factors are to be ranked from an overall perspective. For example, a "high" ranked factor under the Ground water factor grouping is equivalent to a "high" ranked factor under the social/culture factor grouping. The factor which are ranked high will be the most highly valued factors used to differentiate among alternative sites. Lower ranked factors will be used when alternative sites cannot be differentiated on the basis of the highly ranked factors.

FUTURE WORKSHOPS

The next workshop (Workshop #4) will be conducted once detailed site data has been gathered for all sites and comparative evaluations made. This workshop will be used to make trade-offs among the sites and help select the preferred sites.

**TABLE 3
POTENTIAL FACTORS FOR COMPARATIVE
EVALUATION OF LANDFILL SITES**

GOAL/FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<p>Human Health and Safety</p> <p><u>Ground Water</u></p> <ul style="list-style-type: none"> Potential for contamination of ground water 	<ul style="list-style-type: none"> overburden thickness overburden type depth to permeable deposits proximity of wells nature of and depths to local aquifer 		
<p><u>Surface Water</u></p> <ul style="list-style-type: none"> Potential for contamination of surface water and downstream flooding/erosion/sedimentation problems 	<ul style="list-style-type: none"> presence of surface watercourses on site location of flood plains location of surface waterbodies adjacent to site 		
<p><u>Natural/Social Environment</u></p> <p><u>Natural Environment and Resources</u></p> <ul style="list-style-type: none"> Displacement of natural features 	<ul style="list-style-type: none"> area and quality of natural habitat on-site 		
<ul style="list-style-type: none"> Potential disruption of natural features 	<ul style="list-style-type: none"> areas of high quality natural habitat within 200 m of site distance to high order environmentally sensitive features within 2000 m of site 		
<ul style="list-style-type: none"> Displacement of agricultural resource lands 	<ul style="list-style-type: none"> area and type of agricultural use on-site 		

GOAL/FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> Disruption of agricultural resource lands 	<ul style="list-style-type: none"> area and type of current agricultural use within 500 m of site areas of land of Capability Class 1 and Class 2 within 500 m of site distance to large areas designated for non-agricultural urban uses 		
<ul style="list-style-type: none"> Displacement of mineral aggregate resources 	<ul style="list-style-type: none"> area of mineral aggregate resources on-site 		
<ul style="list-style-type: none"> Displacement of timber agreement resources on site 	<ul style="list-style-type: none"> timber management agreements and investments on-site 		
<p><u>Social/Cultural Environment</u></p>			
<ul style="list-style-type: none"> Potential disruption to residents in site vicinity 	<ul style="list-style-type: none"> number of residences within 500-1000 m of the site boundary existing buffers 		
<ul style="list-style-type: none"> Potential disruption to community/recreation in site vicinity features 	<ul style="list-style-type: none"> number and character of community/recreation features within 500 m of the site boundary 		
<ul style="list-style-type: none"> Potential disruption to residents along access route 	<ul style="list-style-type: none"> number of residences along access routes 		
<ul style="list-style-type: none"> Potential disruption to community/recreation features along access routes 	<ul style="list-style-type: none"> number and character of community/recreation features along access routes 		
<ul style="list-style-type: none"> Potential effects on school bus routes 	<ul style="list-style-type: none"> number of student pick-up points within 1000 m of site boundary number of school bus routes and common routes to assumed site access routes 		
<ul style="list-style-type: none"> Disruption of heritage features 	<ul style="list-style-type: none"> number of historically designated properties within 1 km 		
<ul style="list-style-type: none"> Displacement of properties owned by residents living on or near the property 	<ul style="list-style-type: none"> area of property owned by residents living nearby 		

GOAL/FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> Land ownership 	<ul style="list-style-type: none"> number of ownership parcels consumed by the site 		
<ul style="list-style-type: none"> Displacement of properties worked by owners 	<ul style="list-style-type: none"> area (ha) of site worked by owners 		
<u>Land Use</u>			
<ul style="list-style-type: none"> Compatibility of existing land use(s) on site 	<ul style="list-style-type: none"> existing land uses and official plan designations on the site 		
<ul style="list-style-type: none"> Compatibility with future designated land use(s) on site 	<ul style="list-style-type: none"> existing land uses and official plan designations on the site 		
<ul style="list-style-type: none"> Compatibility with existing land use(s) in the site vicinity 	<ul style="list-style-type: none"> existing land uses and official plan designations within 0-500 m and 500-1000 m of the site 		
<ul style="list-style-type: none"> Compatibility with future designated land use(s) in the site vicinity 	<ul style="list-style-type: none"> development activity and/or proposals within 0-500 m and 500-1000 m of the site 		
<u>Economics</u>			
<ul style="list-style-type: none"> Potential disruption to businesses in site vicinity 	<ul style="list-style-type: none"> number and character of businesses within 500-1000 m of site boundaries 		
<u>Transportation</u>			
<ul style="list-style-type: none"> Ease of access 	<ul style="list-style-type: none"> distance to a provincial highway 		
<ul style="list-style-type: none"> Potential for traffic disruption 	<ul style="list-style-type: none"> characteristic of access routes 		
<u>Cost</u>			
<u>Landfill Development/Operation Cost</u>			
<ul style="list-style-type: none"> Transportation haulage cost 	<ul style="list-style-type: none"> distance from the mill 		

GOAL/FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> • Site operating cost 	<ul style="list-style-type: none"> • life expectancy of landfill • availability of services • ease of development of landfill • potential constraints on site capacity 		
<ul style="list-style-type: none"> • Site capital cost 	<ul style="list-style-type: none"> • cost of land acquisition 		

SARNIA - LAMBTON WASTE MANAGEMENT MASTER PLAN

Landfill Siting Process Workshop #3

11 OCTOBER 1990

LAMBTON COUNTY BUILDING, WYOMING

RECEIVED

JAN 16 1991

M.M. DILLON LTD.
TORONTO OFFICE

Attendees:

Trudy Downie
Dorothy Payne
Bob Killey
Franklin Turner
Lillian Harkins
Betty Ross
Hank Plug
Muriel Wright
Fraser Young
Florence Wright

Kyle Harrison
Cathy Lapeir
Jack Wallace
Marshall Kern
Tom McNaughton
Pat Alexander
Clive Beckwith
Rhonda Hustler
Allan McNeill
Bob Wright

Herb Payne
Patricia Nantais
Owen Dobbyn
Brenda Lorenz
Ed Debevc
Sheila Gibbons
Liz Larson
Scott Sills
Murray Hyatt

The following were facilitators for the workshop:

Jim Kutyba	- County of Lambton
Scott Ferguson	- County of Lambton
Catherine Fletcher	- M. M. Dillon Limited
Bohdan Kowalyk	- M. M. Dillon Limited
Don McKinnon	- M. M. Dillon Limited
Marilyn Harrold	- M. M. Dillon Limited

C. Fletcher opened the workshop by introducing the facilitators for the evening. She explained that the main purpose of this workshop was to develop and rank criteria to be used in the comparison of landfill sites. She also stated that the criteria developed to constrain candidate areas at Workshop #2 (13 September 1990) would be reviewed for accuracy as well as the resulting constraint mapping.

D. McKinnon gave a general overview of the steps leading up to the present level of work for any new workshop attendees. He explained that the study area for site selection was based on Class 3 to 7 agricultural land and unclassified eroded lands on clay based soils. However, in industrially designated areas, agricultural classes are not recognized by OMAF. Areas of Class 2 agricultural land had previously been eliminated in the industrially zoned areas. If these lands are included, a few additional siting areas may appear.

A motion was made by Brenda Lorenz: "to include all industrially zoned areas in the study regardless of their agricultural classification". Seconded by Pat Alexander. Majority vote.

Review of Criteria Used to Constrain Candidate Areas

A summary of the ranking of criteria from each of the three groups from Workshop #2 was presented to the group in tabular form. D. McKinnon explained that the criteria ranking did not have to be used since there are a reasonable number of siting areas available even if all of the criteria are applied with the same weight. The ranking of criteria would only have been used if the criteria had eliminated too much land.

The group agreed with the information provided in the summary tables from Workshop #2 on the ranking of criteria. Marshall Kern felt that his group had differentiated between the presence of existing and proposed utilities. However, he did not know what the difference in rankings were. C. Fletcher said she would check on the notes taken at Workshop #2 to see what was said.

Minimum Setback from Streams and Drains

At Workshop #2, one of the small groups recommended a 500 m buffer around all water courses in the study area. The other groups felt that the 200 m buffer was satisfactory. A discussion on the advantages and disadvantages of applying a 500 m buffer ensued. B. Kowalyk discussed with the group the significance of placing a 500 m buffer around all water courses.

A motion was made by Rhonda Hustler "to use a minimum setback of 500 m from all streams and drains". Seconded by Clive Beckwith. Majority vote.

It was also decided to identify streams on the basis of 1:50,000 topographic series maps and 1:10,000 Ontario Base Maps.

Application of Criteria Used to Constrain Candidate Areas

D. McKinnon explained how the criteria discussed at Workshop #2 were used to identify potential siting areas as follows:

- the presence of registered existing and abandoned oil and gas wells; it was noted that records for old wells are poor or unavailable. Old wells may only be identifiable once excavation for a landfill begins;
- flood plain mapping: presently there is no flood plain mapping available for the County;
- potential for contamination of surface water: two alternative buffer zones of 200 m and 500 m were mapped around minor water courses;
- high quality forests were mapped;
- future committed residential development: only one committed development was identified and mapped (not all land use information had been obtained prior to the meeting);
- future and existing recreational features: none were identified through field visits;
- presence of known archaeological features: the Ministry of Culture and Communications was contacted. No archaeological sites were identified in any of the candidate areas;
- presence of heritage features: the Ministry of Culture and Communications and LACAC were consulted. No heritage features were identified in the candidate areas;
- presence of utilities: the group indicated that hydro lines along Highway 80 are going to be relocated south of the homes. Union Gas is also proposing to move gas lines presently located on Lot 27, Concession I in Moore Township to Lot 26, Concession XI in Moore Township;
- Indian Reserves: no impact on candidate areas; and
- cemeteries: none were identified near candidate areas.

The group confirmed that all of the criteria in Table 2 was acceptable and that a 500 m buffer would be added to all identified water courses based on existing 1:50,000 topographic maps. The opportunity was then provided for the group to review the constraint maps in detail.

Site Size Requirements

M. Harrold reviewed four sizing scenarios with the group.

- Scenario 1 - landfill only, assuming MOE waste diversion objectives are met requires 31 ha.
- Scenario 2 - landfill only, assuming no diversion requires 48 ha.
- Scenario 3 - landfill (assuming MOE waste diversion objectives are met), MRF and composting facility on same site requires 48 ha.
- Scenario 4 - landfill (assuming no diversion), MRF and composting facility on same site requires 71 ha.

It was noted that there are two questions that must be answered to determine the size of the parcel of land required:

- should the MRF and compost facility be located at the landfill; and
- should the landfill be designed based on 100% of the waste or assuming the MOE waste diversion objectives are met.

Rhonda Hustler outlined the PAC's recommendations with respect to MRF. The PAC wants to emphasize source separation and education and they feel a MRF is not a cost-effective solution. The PAC is interested in a processing facility like Blue Water Recycling. They would like to see the number of materials collected in the Blue Box increased, incentives for people to source separate implemented and to reassess the need for MRF in five years time.

M. Harrold explained that a facility like Blue Water Recycling is considered to be a MRF. A MRF may be a low to high technology facility and may recover materials from a source separation program or a mixed waste stream. A MRF is essential if the MOE objectives are to be met.

The PAC would like to see Blue Water Recycling incorporated into the WMMP.

Discussion continued on the advantages and disadvantages of siting on the basis of the smallest, largest or a range of site size scenarios.

A motion was made by Fraser Young to site for a parcel of land of 71 ha. Seconded by Tom McNaughton. Passed (14 for, 9 opposed and 1 abstention).

Potential Factors for Comparative Evaluation of Landfill Sites

The process of ranking site evaluation criteria was explained to the group by C. Fletcher.

C. Fletcher also asked the group at that time to review the factor groupings within "Task 2". It was explained that these factor groupings should be perceived as subject areas for defining site evaluation criteria. No additions were made by the group.

The group decided to remain in the large group rather than break into smaller groups due to time constraints.

D. McKinnon explained that Table 3 in the handout was a suggested list of potential criteria for comparing sites. The group's purpose was to review Table 3 and confirm or exclude factors and rank them as either of high, medium or low importance.

D. McKinnon explained that each of the factors have indicators and, where appropriate, these indicators would be ranked separately as well.

C. Fletcher reviewed site selection goals with the group. The group ranked the goals of "minimize effects on public health and safety" and "minimize effects on the natural/social environment" as being equally high. The goal of "minimize cost of development" should be of less importance or 'weight' than the first two.

The group felt that they did not have sufficient information at this stage to rank the factors and indicators. All factors/indicators were considered to be equally important on a generic level. It was decided by the group not to rank factors until data for the potential sites has been collected. At that point, the group would then be able to make trade-offs among the sites.

The group was asked if they agreed with the factors and indicators in Table 3 and whether they had any additional factors to add or exclude.

Marshall Kern suggested that the locations of the 49 closed landfills be added as a factor. He also suggested that the indicator "number of student pick-up points within 1,000 m of site boundary" will change over time depending on demographics. It was suggested that this indicator is only a "snap shot" of the present situation.

In reviewing the factor groupings, Ed Debevc asked why there weren't any air quality factors for comparing sites. D. McKinnon explained that at this level of information, the potential for air quality impacts would be the same at all of the potential sites. Potential air quality impacts will be assessed once a specific site has been identified and the potential impacts and mitigation are being evaluated.

MMD will provide a map illustrating the location of potential siting areas upon request only. This information is to remain within the workshop group.

The next meeting will be on 29 November 1990. MMD will provide information on all indicators and factors identified in Table 3 assuming they have all been ranked as high.

C. Fletcher will send an agenda and comparative evaluation tables for Workshop #4 (29 November 1990) to workshop members by 19 November 1990.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-11

**SITE SELECTION WORKSHOP NO. 4
INFORMATION KIT AND MEETING NOTES
NOVEMBER 1990**

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

SITE SELECTION WORKSHOP #4

**Thursday, November 29, 1990
7:00 p.m. to 10:00 p.m.
Lambton County Building**

AGENDA

6:45 p.m.	- 7:05 p.m.	Registration
7:05	- 7:15	Opening Remarks
7:15	- 7:45	Review of Facility Siting Activities <ul style="list-style-type: none">• Additional Siting Areas• Changes to Factors and Indicators• Review of Data Tables
7:45	- 9:00	Ranking of Factor Groups and Factors
9:00	- 10:00	Review of Technical Team's Site Evaluation

RANKING OF FACTOR GROUPS AND FACTORS

The purpose of this step is to rank the factor groups and factors to be used in the comparative evaluation of alternative sites. The following represents a typical list of evaluation factors categorized by factor groupings.

Ground Water

- potential for contamination of ground water.

Surface Water

- potential for contamination of surface water (and downstream flooding/erosion/sedimentation problems).

Natural Ecosystems

- potential removal of natural ecosystems on-site
- potential disruption of natural ecosystems off-site.

Agriculture

- potential removal of agricultural resource lands on-site
- potential disruption of agricultural resource lands off-site.

Other Resources

- potential removal of mineral aggregate resources on-site
- potential removal of timber agreement resources on site.

Social/Cultural

- potential disruption to residents in site vicinity
- potential disruption to community/recreation features in site vicinity
- potential disruption to residents along access routes
- potential disruption to community/recreation features along access routes
- potential effects on school bus routes
- potential disruption of heritage features
- displacement of properties owned by residents living on or near the property
- land ownership parcels
- potential for buffering of landfill effects.

Land Use

- compatibility of existing land use(s) on-site (Official Plan, Zoning By-law)
- compatibility with future designated land use(s) on-site
- compatibility with existing land use(s) in the site vicinity
- compatibility with future designated land use(s) in the site vicinity.

Economics

- potential disruption to businesses in site vicinity

Transportation

- ease of access (travel distance, proximity to highway)
- potential for traffic disruption.

Costs

- transportation haulage costs
- site capital/operating costs.

The workshop group will:

- rank factor groupings and factors (where applicable) on the basis of high, medium and low importance.

Table 1 outlines in detail factors and their associated indicators

Ranking

Ranking of the evaluation factors are to be based on a measure of high, medium or low importance. Factors are to be ranked from an overall perspective. For example, a "high" ranked factor under the Ground water factor grouping is equivalent to a "high" ranked factor under the social/culture factor grouping. The factor which are ranked high will be the most highly valued factors used to differentiate among alternative sites. Lower ranked factors will be used when alternative sites cannot be differentiated on the basis of the highly ranked factors.

**TABLE 1
FACTORS FOR COMPARATIVE
EVALUATION OF LANDFILL SITES**

FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<u>Ground Water</u> • Potential for contamination of ground water	<ul style="list-style-type: none"> • nature of aquifer(s) • depth to basal aquifer • potential yields • availability of municipal supply • number of wells on record within 1 km • number of potential users of ground water for potable water • surficial geology • range in overburden thickness • site stratigraphy 		
<u>Surface Water</u> • Potential for contamination of surface water and downstream flooding/erosion/sedimentation problems	<ul style="list-style-type: none"> • number of downstream users • presence of surface watercourses on site • location of flood plans • location of surface waterbodies adjacent to site • number of water sheds and characteristics 		
<u>Natural Ecosystems</u> • Potential removal of natural ecosystems on site	<ul style="list-style-type: none"> • area and quality of natural ecosystems on site 		

FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> Potential disruption of natural ecosystems off site 	<ul style="list-style-type: none"> areas of high quality natural ecosystems within 200 m site distance to high order environmentally sensitive features within 3000 m of site 		
<u>Agriculture</u> <ul style="list-style-type: none"> Potential removal of agricultural resource lands on site 	<ul style="list-style-type: none"> area of land designated for agricultural use on site area and type of agricultural use on site 		
<ul style="list-style-type: none"> Potential disruption of agricultural resource lands off site 	<ul style="list-style-type: none"> area and type of current agricultural use within 500 m of site distance to large areas designated for non-agricultural urban uses 		
<u>Other Resources</u> <ul style="list-style-type: none"> Potential removal of mineral aggregate resources on site 	<ul style="list-style-type: none"> area of mineral aggregate resources on site 		
<ul style="list-style-type: none"> Potential removal of timber agreement resources on site 	<ul style="list-style-type: none"> area of timber agreements on site 		
<u>Social/Cultural Environment</u> <ul style="list-style-type: none"> Potential disruption to residents in site vicinity 	<ul style="list-style-type: none"> number of residences within 500-1000 m of the site boundary existing buffers 		
<ul style="list-style-type: none"> Potential disruption to community/recreation features in site vicinity 	<ul style="list-style-type: none"> number and character of community/recreation features within 500 m of the site boundary 		
<ul style="list-style-type: none"> Potential disruption to residents along access route 	<ul style="list-style-type: none"> number of residences along access routes 		

FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> Potential disruption to community/recreation features along access route 	<ul style="list-style-type: none"> number and character of community/recreation features along access route 		
<ul style="list-style-type: none"> Potential effects on school bus routes 	<ul style="list-style-type: none"> number of student pick-up points within 1000 m of site boundary number of school bus routes and common routes to assumed site access routes 		
<ul style="list-style-type: none"> Potential disruption to heritage features 	<ul style="list-style-type: none"> number of historically designated properties within 1 km 		
<ul style="list-style-type: none"> Displacement of properties owned by residents living on or near the property 	<ul style="list-style-type: none"> number of properties owned by residents living on or nearby site 		
<ul style="list-style-type: none"> Land ownership 	<ul style="list-style-type: none"> number of ownership parcels consumed by the site 		
<ul style="list-style-type: none"> Potential for buffering of landfill effects 	<ul style="list-style-type: none"> presence and extent of existing buffers 		
<p><u>Land Use</u></p> <ul style="list-style-type: none"> Compatibility with existing land use(s) on site 	<ul style="list-style-type: none"> existing land uses on the site 		
<ul style="list-style-type: none"> Compatibility with future designated land use(s) on site 	<ul style="list-style-type: none"> official plan designations on the site 		
<ul style="list-style-type: none"> Compatibility with existing land use(s) in the site vicinity 	<ul style="list-style-type: none"> existing land uses within 0-500 m existing land uses within 500-1000 m 		

FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> Compatibility with future designated and proposed land use(s) in the site vicinity 	<ul style="list-style-type: none"> Official Plan designations and development activity and/or proposals within 0-500 m of the site Official Plan designations and development activity and/or proposals within 500-1000 m of the site 		
<p><u>Economics</u></p> <ul style="list-style-type: none"> Potential disruption to businesses in site vicinity 	<ul style="list-style-type: none"> number and character of businesses within 500-1000 m of site boundaries 		
<p><u>Transportation</u></p> <ul style="list-style-type: none"> Ease of access 	<ul style="list-style-type: none"> total vehicle kilometres on highway total vehicle kilometres on regional road total vehicle kilometres on local road total vehicle kilometres on new access road total number of through movements (loaded direction) total number of right turns (loaded direction) total number of left turns (loaded direction) 		

FACTOR GROUPING/FACTOR	INDICATORS	COMMENTS	RANKING
<ul style="list-style-type: none"> Potential for traffic disruption 	<ul style="list-style-type: none"> total number of through movements at intersections (loaded direction) total number of right turns (loaded direction) total number of left turns (loaded direction) 		
<u>Landfill Development/Operating Cost</u> <ul style="list-style-type: none"> Site capital/operating cost 	<ul style="list-style-type: none"> distance to and availability of Municipal water and sewers ease of development of landfill availability of cover material total transportation haulage distance from source (vehicle-km) total length along local access road and new access road cost of land acquisition 		

POTENTIAL FACTORS FOR COMPARATIVE EVALUATION OF LANDFILL SITES

GOAL/FACTOR GROUPING/FACTOR/INDICATOR	DATA FOR POTENTIAL SITES									
	A	B	C	D	E	F	G	H	I	
Ground Water Resources										
Local/Regional Aquifer										
nature of local aquifer	Fractured upper part of black shale bedrock or gravel layer above bedrock.	Fractured upper surface of black shale bedrock or gravel layer above bedrock.	Fractured upper surface of black shale bedrock.	Fractured upper part of black shale bedrock.	Fractured upper part of black shale bedrock.	Medium sand and gravel above black shale bedrock.	Medium sand and gravel layer.	Fractured upper part of black shale bedrock or gravel layer above bedrock surface.	Fractured upper part of black shale bedrock or gravel layer above black shale bedrock.	Medium sand and gravel layer 1 m thick above black shale bedrock.
depth to local aquifer	40.8 m to 50.3 m bedrock aquifer (134' to 165') 37.2 to 40.5 m to gravel (122 to 133')	37.8 m to 43.0 m (124' to 134').	41.4 m to 48.3 m (136' to 152').	37.8 m to 41.1 m to north (124' to 135').	37.8 m to 41.1 m (124' to 135').	35.0 m to 47.8 m (115' to 157').	34.7 m to 48.5 m (115' to 152').	43.9 m to 45.7 m (144' to 150').	43.9 m to 45.7 m (144' to 150').	43.3 m.
Local Ground Water Use										
number of wells on record within 1 km	9 wells	2 wells	5 wells	1 wells	4 well	5 wells	2 wells	6 wells	6 wells	4 wells
availability of municipal supply	Area will be serviced by water by end of 1992.	Area will be serviced by water mains by 1991.	Area will be serviced by water mains.		Proposed water main to north by 1991.	Area serviced by water mains.	Area serviced by water mains.	Area serviced by water mains.	Area serviced by water mains.	Area serviced by water main.
number of potential users of ground water for potable water (number of residences within 1 km)	19	15	8	9	15	40	>100	0	0	0
On-Site Hydrogeological Conditions										
surficial geology	100% St. Joseph Ttl - clayey silt ill.	100% St. Joseph Ttl - clayey silt ill.	100% St. Joseph Ttl - clayey silt ill.	100% Glaciolacustrine (deep water) - clay with silt and fine sand.	70% Glaciolacustrine deposits (deep water). 30% St. Joseph Ttl - clayey silt ill.	100% St. Joseph Ttl - clayey silt ill.	100% St. Joseph Ttl - clayey silt ill.	100% Black Shale Ttl - clayey silt to sandy silt ill.	100% Black Shale Ttl - clayey silt to sandy silt ill.	100% Black Shale Ttl - clayey silt to sandy silt ill.
range in overburden thickness	42.7 m north to 50.3 m south (140' to 165').	39.6 m to 41.1 m (130' to 135').	39.6 m south to 45.7 m to north (130' to 150').	46.9 m east to 49.4 m west (154' to 162').	34.6 m northeast to 49.4 m west (130' to 162').	45.7 m south to 51.8 m west (150' to 170').	51.8 m (170).	45.7 m to 48.8 m (150' to 160').	45.7 m to 48.8 m (150' to 160').	43.6 m at southeast corner to 45.7 m east (143' to 150').
site stratigraphy	Well data only.	Well data only.	Well data only.	Well data only.	Well data only.	Well data only.	Well data only.	Well data only.	Well data only.	Well data only.
contaminant travel time to shallowest aquifer	16% longer than Site E.	9%	19%	9%	9%	1%	Shortest.	27% longer than Site E.	25%	

DATA FOR POTENTIAL SITES										
GOAL/FACTOR GROUPING/FACTOR/INDICATOR	A	B	C	D	E	F	G	H	I	
Surface Water										
<ul style="list-style-type: none"> Summary of surface water considerations 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. There are no watercourses flowing through or originating on the site. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. Agricultural drain flows south along east boundary of site. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. There are no watercourses flowing through or originating on the site. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. An agricultural drain flows along the north boundary of the site into main drain which originates approximately 2 concessions to the north of the site. This drain outlets into Clay Creek. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. An agricultural drain flows west along the south boundary of the site. This drain feeds into a main drain which originates approximately 2 concessions to the north of the site. This drain empties into Clay Creek. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. Two tributaries of the Baby Creek originate toward the northwest corner of the site. The upstream drainage areas of these watercourses are very small, but may extend into the site. An agricultural drain flows south along the east boundary of the site into Clay Creek. This drain is fed by a smaller drain from the west in the centre of the site. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourse and/or drains may be used to water livestock. A tributary of the Baby Creek originates within the west half of the site. The upstream drainage area of this watercourse is very small and is contained within the site area. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. There are no watercourses on the site. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. There are no watercourses on the site. 	<ul style="list-style-type: none"> No obvious surface water users in immediate downstream area. Watercourses and/or drains may be used to water livestock. There are no watercourses on the site.
<ul style="list-style-type: none"> location of flood plains 	<ul style="list-style-type: none"> There is no flood plain mapping for the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for any of the watercourses or drains on the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for any of the watercourses or drains on the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for any of the watercourses or drains on the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for any of the watercourses or drains on the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for any of the watercourses or drains on the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	<ul style="list-style-type: none"> There is no flood plain mapping for any of the watercourses or drains on the site. The site has not been regulated by the St. Clair Region Conservation Authority. 	
<ul style="list-style-type: none"> location of surface waterbodies adjacent to site 	<ul style="list-style-type: none"> Baby Creek flows south/westerly to the west of the site area. The site is located approximately 9 km upstream of the St. Clair River. 	<ul style="list-style-type: none"> There are no natural watercourses adjacent to or near the site. 	<ul style="list-style-type: none"> There are no natural watercourses adjacent to the site. 	<ul style="list-style-type: none"> There are no natural watercourses adjacent to the site. 	<ul style="list-style-type: none"> There are no natural watercourses adjacent to the site. 	<ul style="list-style-type: none"> There are no natural watercourses adjacent to the site. 	<ul style="list-style-type: none"> Baby Creek flows south/westerly near the western boundary of the site. The site is located approximately 3 km upstream of the St. Clair River. 	<ul style="list-style-type: none"> Baby Creek flows south/westerly near the western boundary of the site. The site is located approximately 3 km upstream of the St. Clair River. 	<ul style="list-style-type: none"> Baby Creek flows south/westerly near the western boundary of the site. The site is located approximately 3 km upstream of the St. Clair River. 	

		DATA FOR POTENTIAL SITES									
GOAL/FACTOR	GROUPING/FACTOR/INDICATOR	A	B	C	D	E	F	G	H	I	
	<ul style="list-style-type: none"> existing land uses within 500-1000 m of the site 	<ul style="list-style-type: none"> Golf Course Agricultural Lands 19 Single Family Homes Chemical Plant Township Works Garage 	<ul style="list-style-type: none"> Chemical Plant 15 Single Family Homes One Commercial Use (activity unknown) Agricultural Uses 	<ul style="list-style-type: none"> 8 Single Family Homes Agricultural Uses Air Quality Monitoring Station Chemical Plant Refinery 	<ul style="list-style-type: none"> 9 Single Family Homes Agricultural Uses Contractor's Yard Radio Antenna 	<ul style="list-style-type: none"> 15 Single Family Homes Agricultural Uses 1 Commercial Use 	<ul style="list-style-type: none"> 40 Single Family Homes Township Works Garage MTO Storage Yard Golf Course Agricultural Uses 	<ul style="list-style-type: none"> > 100 Single Family Homes Township Works Garage 80% of an urban area 70% of an urban area Agricultural Lands Golf Course Closed Landfill Site 2 Cemeteries 6 Churches 1 School Museum Community Hall Firehall Recreasy 6 Commercial Uses 2 Industrial Uses Sports Complex 	<ul style="list-style-type: none"> Trans Canada Pipeline Station Industrial Plant Abandoned Industrial Plant 	<ul style="list-style-type: none"> Trans Canada Pipeline Station Agricultural Uses Industrial Plant 	
	<ul style="list-style-type: none"> Compatibility with future designated and proposed land use(s) in the site vicinity 	<ul style="list-style-type: none"> Agricultural, Industrial - Type Two, Industrial - Type Three, Major Open Space and Institutional No current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three and Agricultural. No current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three and Agricultural. No current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three, Agricultural, and Waste Disposal Area. No current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three, Waste Disposal Area, and Agricultural. No current development proposals. 	<ul style="list-style-type: none"> Agricultural. No current development proposals. 	<ul style="list-style-type: none"> Agricultural, Environmental Protection and Residential-Urban Single Family. 	<ul style="list-style-type: none"> Industrial - Type Two, Industrial - Type Three (Moore Township OP) and Industrial (Sombra Township OP). 	<ul style="list-style-type: none"> Industrial - Type Three (Moore Township OP). Industrial (Sombra Township OP). 	
	<ul style="list-style-type: none"> Official Plan designations and development activity and/or proposals within 0-500 m of the site 	<ul style="list-style-type: none"> OP designations are Agricultural, Industrial - Type Two, Industrial - Type Three, Major Open Space, Institutional and Residential Urban Single Family. There are no current development proposals. 	<ul style="list-style-type: none"> OP designations are Industrial - Type Three and Agricultural. One residential severance has been approved. There are no current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three, Industrial - Type Two and Agricultural. No current development proposals. One Industrial severance has been approved. 	<ul style="list-style-type: none"> Industrial - Type Three, Agricultural, and Waste Disposal Area. No current development proposals. Two residential severances have been approved. 	<ul style="list-style-type: none"> Industrial - Type Three, Waste Disposal Area, and Agricultural. No current development proposals. One residential severance has been approved. 	<ul style="list-style-type: none"> Agricultural. No current development proposals. 	<ul style="list-style-type: none"> Agricultural, Major Open Space - Institutional - Urban Residential - Single Family, Residential - Suburban Single Family, Countryside Commercial District. 	<ul style="list-style-type: none"> Industrial - Type Two, Industrial - Type Three (Moore Township OP), Industrial and Hazard Open Space (Sombra Township OP) No current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three (Moore Township OP). Industrial (Sombra Township OP). 	
	<ul style="list-style-type: none"> Official Plan designations and development activity and/or proposals within 500-1000 m of the site 	<ul style="list-style-type: none"> OP designations are Agricultural, Industrial - Type Two, Industrial - Type Three, Major Open Space, Institutional and Residential Urban Single Family. There are no current development proposals. 	<ul style="list-style-type: none"> OP designations are Industrial - Type Three and Agricultural. One residential severance has been approved. There are no current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three, Industrial - Type Two and Agricultural. No current development proposals. One Industrial severance has been approved. 	<ul style="list-style-type: none"> Industrial - Type Three, Agricultural, and Waste Disposal Area. No current development proposals. Two residential severances have been approved. 	<ul style="list-style-type: none"> Industrial - Type Three, Waste Disposal Area, and Agricultural. No current development proposals. One residential severance has been approved. 	<ul style="list-style-type: none"> Agricultural. No current development proposals. 	<ul style="list-style-type: none"> Agricultural, Major Open Space - Institutional - Urban Residential - Single Family, Residential - Suburban Single Family, Countryside Commercial District. 	<ul style="list-style-type: none"> Industrial - Type Two, Industrial - Type Three (Moore Township OP), Industrial and Hazard Open Space (Sombra Township OP) No current development proposals. 	<ul style="list-style-type: none"> Industrial - Type Three (Moore Township OP). Industrial (Sombra Township OP). 	

		DATA FOR POTENTIAL SITES									
GOAL/FACTOR GROUPING/FACTOR/INDICATOR		A	B	C	D	E	F	G	H	I	
<ul style="list-style-type: none"> proximity to receiving body total transportation haulage distance from source (vehicle - km) total length along local access road and new access road required cost of land acquisition 	<ul style="list-style-type: none"> 500 m to Baby Creek to west. 	1085.8	1055.2	1149.5	1219.5	1215.3	1245.7	1374.7	1340.5		
	<ul style="list-style-type: none"> Agricultural drain flows south along east edge of site. Agricultural drain flows along east edge of site. Baby Creek flows southwesterly near western edge of site. Agricultural drain flows west along the south edge of site. Agricultural drain flows along the north edge of site. No natural watercourses adjacent to or near the site. Agricultural drain flows southwesterly near western edge of site. Baby Creek flows southwesterly near western edge of site. Bowen's Creek and the St. Clair River flows southerly to the west and Clay Creek to the east. 	1010.0	1085.8	1055.2	1149.5	1219.5	1215.3	1245.7	1374.7	1340.5	
		1.7	3.5	2.7	0.5	1.8	1.6	2.4	2.1	1.2	

SARNIA-LAMBTON WASTE MANAGEMENT MASTER PLAN
LANDFILL SITING WORKSHOP #4

LAMBTON COUNTY BUILDING, WYOMING

Minutes of Meeting

DATE: 29 November 1990
PLACE: Lambton County Building, Wyoming
SUBJECT: Landfill Siting Workshop #4

JAN 16 1991

M.M. DILLON LTD.
TORONTO OFFICE

ATTENDANCE: Trudy Downie Sheila Gibbons Pat Alexander
Ed Hoskin Bob Killey Hank Plug
Jack Wallace Liz Larson Brenda Lorenz
Lillian Harkins Dick Lam Kyle Harrison
Pat Nantais Cathy LaPeir Muriel Wright
Rhonda Hustler Allan McNeil Sherry Morrison

The following were facilitators for the workshop:

Jim Kutumba - County of Lambton
Catherine Fletcher - M. M. Dillon Limited
Bohdan Kowalyk - M. M. Dillon Limited
Don McKinnon - M. M. Dillon Limited
Marilyn Harrold - M. M. Dillon Limited

DRAFT

C. Fletcher opened the workshop by explaining that the purpose of the workshop was to review the data and rank the criteria for the comparison of the nine potential landfill sites and the identification of preferred sites.

Pat Alexander asked the group if she could make a presentation. Pat was concerned about decisions made at past workshops. She is trying not to be biased about past decisions. However, she felt that using Class 3 land and a 25 minute travel time* would limit growth to the area along the river. This area is growing rapidly and growth is moving east from the river. Placing a landfill close to these expanding areas may prohibit growth in the communities of Corunna, Mooretown and Courtright. Pat requested that the group rank future urban development factors as high. Emphasis should be placed on social factors. The group should reevaluate the criteria used and set up a ranking to take into account these concerns. The last County Council meeting stated that royalties would be provided to the host municipality.

* Please note that a 20-minute travel time was not used to define the site selection study area (as revised on 7 April 1990).

Pat stated that Moore Township already has five landfills and she requested that the workshop group look at what compensation is appropriate as soon as possible.

C. Fletcher asked whether Pat Alexander's main concern was the use of the Class 3 to 7 agricultural land criteria in defining the study area.

Pat Alexander said that expanding areas should be taken into consideration and that rural areas are more preferable than developing areas for siting. She felt that sites west of Hwy. 40 and north of Hwy. 80 should not be considered unless a site couldn't be found elsewhere.

Bob Killey stated that the site locations were anonymous and, therefore, we could not arbitrarily eliminate an area.

Muriel Wright stated that the distance factor had been eliminated at the first meeting. She felt all of the appropriate factors had been taken into consideration. She asked that we go through the evening's exercise and that likely, those undesirable lands would be eliminated based on existing factors.

Pat thanked the group for hearing her concerns.

Review of Work Done Since Workshop #3 on 11 October 1990

C. Fletcher explained that the letter sent out with the workshop package outlined the activities completed by the consultant team since the last workshop.

B. Kowalyk explained why two new candidate areas have been included since the last workshop. A Special Appendix Area mistakenly had a 500 m buffer around it. The workshop criteria had requested a 500 m buffer around ESAs only. Therefore to be consistent, the buffers were removed and two new sites emerged.

C. Fletcher stated that a third area was also added. It was originally screened as being too small when mapped at the 1:50,000 scale. However, there was sufficient area when mapped at the 1:10,000 scale.

C. Fletcher explained that a few corrections had been made to the table provided in the workshop package mailed on 26 November 1990. Updated tables were provided to each workshop participant.

It was explained to the group that the minimum site size was changed from 71 ha (as identified in Workshop #3) to 75 ha. The larger area was due to the squaring off of the land required for the facilities.

D. McKinnon explained how sites were identified using a minimum site size of 75 ha. Some siting areas had only one site while others had several. Sixteen potential sites were identified of approximate equal size. The sites had to be equal in size for comparative purposes. Actual sites areas were identified based on:

- minimizing the number of properties affected;
- maximizing distance from urban areas; and
- maximizing accessibility by locating sites close to existing roads.

C. Fletcher stated that the 16 sites were then screened based on agricultural designation, use and capability.

B. Kowalyk said that sites with high intensity agricultural use (e.g., field crops) and that were designated for agricultural use were eliminated. One site was found at the detailed level to have some Class 2 land. Seven sites were eliminated in total.

C. Fletcher explained that detailed data was collected for the remaining nine sites. The workshop group was asked to look at the data tables dated 29 November 1990.

Editor's Note: A 10th site was added after the 29 November 1990 Workshop as a result of a review of the siting criteria.

DATA TABLES

Groundwater Resources

- M. Harrold explained the groundwater factor group and outlined the factors and indicators. She explained that based on existing information, all of the sites are suitable from a hydrogeologic perspective and have low potential for groundwater contamination. She said that the two indicators: depth to basal aquifer and potential yields could be used to rank sites if necessary. The greater the overburden and the lower the yields, the more likely the site will be suitable.
- Pat Alexander questioned what the significance was in the differences between the data under the indicator "nature of aquifer".

Surface Water

- M. Harrold explained that there were no significant differences between sites with respect to available surface water data.

Natural Ecosystems

- B. Kowalyk outlined the different natural features found on each of the sites. All data was obtained from secondary sources and general field survey. There are no high priority forests on any of the sites. The only sensitive features identified near the sites were the St. Clair River and the Clay Creek Woodland ANSI.
- Bob Killey asked what the status of Environmentally Sensitive Areas was and whether Special Appendix Areas were any less valuable than ESAs.
- B. Kowalyk stated that these areas (Special Appendix Areas) have no status and, therefore, we did not give them any buffers. However, the area itself was eliminated from further consideration.

Agriculture

- B. Kowalyk said that he would consider land use designations and the area and type of agricultural use to rank sites. Pasture land is considered a less intensive use than field crops. The potential for disruption at each of the sites is similar.

Other Resources

- B. Kowalyk stated that there were no identified mineral aggregate resources on site. Sites were located such that no timber agreements were on site. Site E has a 16 ha timber agreement wood lot adjacent to the site.

Social/Cultural Environment

- D. McKinnon outlined the differences between sites. He explained that the data table was missing information on school bus routes and stops because we would have to indicate the location of the sites in order to obtain the information.

Land Use

- D. McKinnon explained that all sites are currently being used for agriculture. He explained that the designation "Industrial-Type 3" allows for a heavier industrial use compared to "Industrial-Type 2" land. He requested that the group add "no current development proposals" on their data tables for Sites G and I, across from the indicator "official plan designations and development activity and/or proposals within 500-1000 m of the site".

Transportation

- M. Harrold explained that transportation impacts would be assessed based on ease of access and potential for traffic disruption. Sites that are further away will be in general less preferred. The data in the table is based on approximate waste centroids for each community weighted by the anticipated number of trucks from that area. The truck counts were based on a maximum number (i.e., no diversion).

Cost

- M. Harrold explained that costs will differ for each site. Transportation costs depend on travel distance and road upgrading/construction. Leachate may be required to be treated on site or trucked to a treatment facility. The sites are all similar with respect to ease of development. Costs will vary for each site depending on the distance to a surface water receiving body. Actual operation of the landfill will be similar at each of the sites.
- Bob Killey questioned the significance in the differences between transportation distances with respect to cost. He wondered what the \$/km was.

FACTOR GROUPS AND FACTOR RANKING

C. Fletcher explained the ranking process to the group. . Factor groups will be ranked first as either of high, medium or low importance. Factors will then be ranked in the same way. Each of the indicators will be evaluated later by the technical team for each of the sites. The factor ranking and factor group ranking will then be applied to the technical team's evaluation.

The factor group and factor rankings are provided in Table 1.

The workshop group decided that further meetings would not be required and requested that the results of the evening's workshop be sent to them in the form of a letter. It was also suggested that a letter be sent to each municipality in Lambton County indicating the names of the workshop participants from their jurisdiction.

TABLE 1
RANKING OF COMPARATIVE EVALUATION FACTOR GROUPS AND FACTORS BY WORKSHOP PARTICIPANTS

FACTOR GROUP/FACTOR	HIGH	MODERATE	LOW	ABSTENTIONS
Groundwater ● potential for contamination of groundwater	15/17 13/17	2/17 1/17	1/17	
Surface Water ● potential for contamination of surface water	13/17 13/17	4/17 4/17		
Natural Ecosystems ● potential removal of natural ecosystems on site ● potential disruption of natural ecosystems off site	9/17 6/17 7/17	6/17 9/17 9/17	2/17 2/17 1/17	
Agriculture ● potential removal of agricultural resource lands on site ● potential disruption of agricultural resource lands off site	6/17 6/17 9/17	9/17 8/17 8/17	2/17 3/17	
Other Resources ● potential removal of mineral aggregate resources on site ● potential removal of timber agreement resources on site	*			
Social Cultural ● potential disruption to residents in site vicinity ● potential disruption to community/recreation features in site vicinity ● potential disruption to residents along access routes ● potential disruption to community/recreation features along access routes ● potential effects on school bus routes ● potential disruption of heritage features ● displacement of properties owned by residents living on or near the property ● land ownership parcels ● potential for buffering of landfill effects	15/17 15/17 10/17 10/17 18/16 12/16 6/16 10/16	2/17 2/17 6/17 7/17 5/16 2/16 5/16 2/16	1/17 3/16 1/16 5/16 4/16	1/16 1/16

FACTOR GROUP/FACTOR		HIGH	MODERATE	LOW	ABSTENTIONS
Land Use	• compatibility of existing land use(s) on site	10/16	5/16		1/16
	• compatibility with future designated land use(s) on site	5/16	10/16	1/16	1/16
	• compatibility with existing land use(s) in the site vicinity	5/16	9/16		1/16
	• compatibility with future designated land use(s) in the site vicinity	8/16	7/16	1/16	1/16
Economics	• potential disruption to business in site vicinity	7/16	3/16	6/16	
	• potential for traffic disruption	1/16	11/16	4/16	
Transportation	• ease of access	0/16	11/16	5/16	
	• potential for traffic disruption	4/16	9/16	3/16	
	• transportation haulage costs	8/16	5/16	3/16	
Costs	• site capital/operating costs	2/16	11/16	3/16	
	• site capital/operating costs	7/15	8/15		

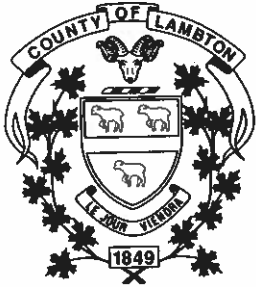
* No resources/features, therefore, ranking not required.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-12

**PROPERTY OWNER LETTERS
JANUARY 1991**





COUNTY OF LAMBTON

HWY. #21 BOX 3000
WYOMING - ONTARIO
NON ITD

H. WAYNE KLOSKE, A.M.C.T.
CLERK ADMINISTRATOR

DON R. BRUDER, A.M.C.T.
TREASURER

TEL.: (519) 845-3303
FAX.: (519) 845-3160

January 4, 1991

Dear

The County of Lambton and City of Sarnia are currently preparing the Sarnia/Lambton Waste Management Master Plan. The aim of the Master Plan is to define the best system for the long-term management of wastes within Lambton County from 1991 to 2016.

The waste management system for the County will include the following components: recycling and source separation, backyard composting, centralized composting, a materials recovery facility (MRF) and landfill.

Over the past year, a site selection process has been in progress to select a site for a centralized waste management facility which will include a composting area, MRF and a new landfill. The site selection process has been conducted by staff from the County of Lambton, the consulting firm of M.M. Dillon Limited and by members of the public representing municipalities across the County.

Properties which you own identified by the assessment roll number are two of several properties within Moore Township which have been identified for consideration in the site selection process for the new centralized waste management facility.



You will be contacted in the near future to discuss the site selection process and to arrange for further consultation. Following that, further detailed studies will be conducted in order to determine the preferred site for the facility.

If you have any immediate questions or concerns, please contact the undersigned at (519) 845-0801.

Yours truly,

James J. Kutyba, P.Eng.
Director, Waste Management

JJK/nb



COUNTY OF LAMBTON

HWY. #21 BOX 3000
WYOMING — ONTARIO
NON 1T0

H. WAYNE KLOSKE, A.M.C.T.
CLERK ADMINISTRATOR

DON R. BRUDER, A.M.C.T.
TREASURER

TEL.: (519) 845-3303
FAX.: (519) 845-3160

January 7, 1991

Dear

The County of Lambton/City of Sarnia Waste Management Master Plan Steering Committee would like to invite you to an information meeting on the results of the Landfill Site Selection process. As a property owner that may be directly affected by the siting of the new County landfill site, the Steering Committee feels an interactive meeting would be beneficial.

The meeting has been scheduled as follows:

Wednesday, January 16, 1991
7:00 p.m.
MOORE CIVIC CENTRE, Council Chambers.

We look forward to your attendance. Please call if you should have any questions.

Yours truly,

James J. Kutymba, P.Eng.
Director, Waste Management

JJK/nb



POTENTIAL LANDFILL SITE PROPERTIES

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
A. Michael Ludney	6700 E. 15 Mile Road Sterling Heights, MI 48077 USA	40-071
Keneth Prouse	R. R. #1 Mooretown, Ontario NON 1M0	40-072
Robert Prouse	95 William Mooretown, Ontario NON 1M0	40-074
Edward MacPherson Mary MacPherson	R. R. #1 Mooretown, Ontario NON 1M0	40-075
357316 Alberta Ltd. c/o Matthews Group Ltd.	Suite 1500 50 Burnhamthorpe Mississauga, Ontario	40-076
Talsto Puurunen Sylvia Puurunen	R. R. #1 Mooretown, Ontario NON 1M0	40-107
540933 Ontario Ltd. c/o Mrs. Stan Sroks	R. R. #1 Mooretown, Ontario NON 1M0	40-106
Donald J. Burns	R. R. #1 Mooretown, Ontario NON 1M0	40-105
Robert MacPherson Laurie MacPherson	R. R. #1 Mooretown, Ontario NON 1M0	40-103

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
B. Robert D. Nisbet Margaret R. Eyre c/o James Eyre	R. R. #1 Mooretown, Ontario NON 1M0	40-063
Michael P. Bogart	R. R. #1 Brigden, Ontario NON 1B0	40-062
Kenneth L. Kells Phyllis C. Kells	R. R. #1 Mooretown, Ontario NON 1M0	40-061
Dora J. Rankin	R. R. #1 Mooretown, Ontario NON 1M0	40-060
Mooreglen Fams Ltd. c/o Melvin R. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-059

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
C. Frank Celnar Helena Celnar	1145 Fraser Ave. Sarnia, Ontario N7S 4V3	40-097-01
Frank Celnar Helena Celnar	1145 Fraser Ave. Sarnia, Ontario N7S 4V3	40-097
Verne A. Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-095
Brian L. Bruton Robin Bruton	R. R. #1 Mooretown, Ontario NON 1M0	40-094
Robert D. Nisbet Margaret R. Eyre c/o James Eyre	R. R. #1 Mooretown, Ontario NON 1M0	40-093
Garry A. Robbins Mary Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-092-01
Archibald K. Robbins Ruby K. Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-092

	<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
D.	166814 Canada Ltd. In Trust	P. O. Box 3001 Sarnia, Ontario N7T 7M2	20-148
	166814 Canada Ltd. In Trust	P. O. Box 3001 Sarnia, Ontario N7T 7M2	20-147
	166814 Canada Ltd. In Trust	P. O. Box 3001 Sarnia, Ontario N7T 7M2	20-146

	<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
E.	Donald W. Anderson Doris J. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-025
	Donald W. Anderson Doris J. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-024
	Donald W. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-023
	Donald W. Anderson Doris J. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-022
	William D. Booth Ethel Booth	R. R. #1 Mooretown, Ontario NON 1M0	40-020
	Verna McDonald	R. R. #1 Mooretown, Ontario NON 1M0	40-019

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
H. Monsanto Canada Inc. Ross Braun	P. O. Box 787 2330 Argentia Road Streetsville, Ontario L5M 2G4	20-164
Monsanto Canada Inc. Ross Braun	P. O. Box 787 2330 Argentia Road Streetsville, Ontario L5M 2G4	20-163-02
C.I.L. Lambton Employees Social Recreational Club Inc.	P. O. Box 1900 Courtright, Ontario NON 1H0	20-163-01

	<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
I.	ICI Nitrogen Products Stewart Forbes, Plant Manager	P. O. Box 1900 Courtright, Ontario NON 1H0	20-021
	ICI Nitrogen Products Stewart Forbes, Plant Manager	P. O. Box 1900 Courtright, Ontario NON 1H0	20-022

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-13

**PRESENTATION OF THE SITE SELECTION PROCESS
TO MOORE TOWNSHIP AND LOCAL MEDIA
JANUARY 1991**

**SARNIA/LAMBTON WASTE
MANAGEMENT MASTER PLAN**

**PRESENTATION OF THE SITE
SELECTION PROCESS**

SARNIA/LAMBTON WASTE MANAGEMENT MASTER PLAN

AIM

To define the best system for the long-term management of wastes within Lambton County from 1991 to 2016.

COMPONENTS

The Master Plan document addresses the following:

- **existing waste quantities**
- **future waste quantities**
- **existing waste management system**
- **future waste management requirements**
- **alternative waste management technologies for the future**
- **the preferred waste management system**
- **implementation of the preferred system**
- **waste management contingency plan**

The Recommended Waste Management System Includes:

- recycling/source separation
- backyard composting
- centralized composting
- materials recovery facility
- landfill

In the recommended system, wastes will be collected and handled through:

- curbside collection
- direct haul
- waste transfer stations

NEED FOR NEW LANDFILL CAPACITY

- Waste quantities were estimated for the County by:
 - contacting all of the municipalities
 - surveying industries
 - site inspections of existing disposal facilities
 - discussions with MOE staff
 - discussions with waste haulers
 - discussions with landfill operators
- Future waste quantities were predicted for the study period based on the waste quantities identified and the projected population growth for each of the municipalities in the County
- Based on the above waste quantities, only one of the six municipally owned landfills has sufficient capacity to accommodate its present waste shed over the study period. This landfill has insufficient capacity to absorb all of the County's waste. Therefore, new disposal capacity is required over the study period.

**DISPOSAL CAPACITY FOR PLANNING PERIOD
FROM 1 JANUARY 1991 TO 1 JANUARY 2016
(TONNES)**

Existing Landfill Site	Estimated Required Disposal Capacity (tonnes)	Estimated Remaining Available Disposal Capacity Per Site (tonnes)	Surplus/(Deficit) Capacity (tonnes)
Brooke Township	13 640	8 880	(4 760)
Dawn Township	10 800	52 500	41 700
Grand Bend	46 440	¹	(46 440)
Moore Township	274 320	45 570	(228 750)
Petrolia	412 340	²	(412 340)
Sarnia	1 781 990	60 520	(1 721 470)
Sombra	45 460	¹	(45 460)
Laidlaw	413 490	²	(413 490)
Export (Euphemia)	9 950	²	(9 950)
TOTAL	3 008 430	167 470	(2 840 960)

¹Landfill still being used but is recommended for closure.

²Private landfills; assumes capacity will not be used by the County as of 1 January 1991.

THE MASTER PLAN PROCESS: STAGE 3

KEY EVENTS 1989/90

August 1989 to November 1989:

- Stage 3 Master Plan work began
- Consultants identified non-landfill requirements, landfill capacity requirements, draft landfill siting criteria, preliminary landfill study area.

November 1989:

- Newsletter No. 1 distributed in Lambton County summarizing the Master Plan process, components and opportunities for public participation
- Municipal Councillors' Workshop held 20 November 1989.
- Public Information Centres held:
 - 20 November 1989 (Wyoming)
 - 21 November 1989 (Sarnia)
- County municipalities requested to nominate representatives for a Public Advisory Committee
- Landfill Site Selection Public Workshop registration.

December 1989

- Public Advisory Committee held first meeting
- Draft Master Plan (non-landfill components) presented to the Steering Committee and Public Advisory Committee.

December 1989 to April 1990:

- Public Advisory Committee reviewed non-landfill aspects of the Master Plan

Site Selection Public Workshops:

- 7 April 1990
- 13 September 1990
- 11 October 1990
- 29 November 1990

SITE SELECTION WORKSHOP PARTICIPANTS

Representatives from the following municipalities participated in the site selection workshops:

- **Alvinston**
- **Brooke Township**
- **Clearwater Township**
- **Grand Bend**
- **Moore Township**
- **Oil Springs**
- **Plympton Township**
- **Sarnia**
- **Theford**
- **Watford**
- **Wyoming**

The workshops were facilitated by staff from:

- **the County of Lambton**
- **M. M. Dillon Limited**

SITE SELECTION PROCESS

STEPS:

- 1. Study Area Identification**
- 2. Candidate Area Identification**
- 3. Siting Area Identification**
- 4. Site Identification**
- 5. Comparative Evaluation of Sites**
- 6. Identification of Preferred Sites for Further Detailed Study**

KEY SITING ASSUMPTIONS

- Waste management needs will be taken care of through publicly-owned facilities; County will not be dependent upon private sector facilities
- Site will be selected for a centralized, composite waste management facility:
 - Landfill
 - Materials Recovery Facility
 - Composting Area
- Only municipal solid wastes, and the solid, non-hazardous wastes which are currently taken from industrial and commercial sources (e.g., kitchen wastes, office wastes) will be handled by County facilities.

SITE SELECTION STUDY AREA

Proposed Study Area (December 1989):

- Whole County was assessed with respect to:
 - hydrogeologic conditions
 - population distribution
- Based on regional scale data, all areas were found to be equivalent in terms of general hydrogeologic conditions (with the exception of a few pockets of less suitable areas) and population distribution
- Other criteria were required to "narrow down" the study area to a reasonable size; the criteria defined were:
 - a waste centroid for the County
 - waste haul travel time from the major source of waste: City of Sarnia
- Therefore, the proposed study area was determined based on:
 - assessment of hydrogeologic conditions (regional scale)
 - assessment of population distribution (regional scale)
 - 10 km radius around waste centroid
 - 20 min haul time from Sarnia

SITE SELECTION STUDY AREA (continued)

Revised Study Area (April 1990):

- The study area originally proposed was revised at the first site selection workshop
- The application of the waste centroid/waste haul time concept was considered inappropriate
- The new study area was defined based upon the following criteria:
 - clay based lands with Class 3 to 7 agricultural capability
 - eroded lands
 - lands designated for industrial use regardless of agricultural classification

IDENTIFICATION OF CANDIDATE AREAS

The criteria used to identify the candidate areas were as follows:

NATURAL ENVIRONMENT AND RESOURCES

- Areas with endangered species and their habitat
- Areas of Natural and Scientific Interest (ANSIs) (provincial/regional significance), with 500m buffer
- Class 1-3 wetlands (provincial/regional significance), with 500m buffer
- Environmentally Sensitive Areas (ESAs) identified by the University of Waterloo Study Team for the Lambton County Planning Department or in local municipal plans, with 500m buffer
- Areas within 500m of major streams with significant/rare fish species

SOCIAL/CULTURAL/LAND USE ENVIRONMENT

- Areas within 500m of built-up areas and residences

IDENTIFICATION OF SITING AREAS AND SITES

The siting areas were identified based on the following criteria:

GROUND WATER

- Presence of wells (abandoned oil, gas, water and brine injection)

SURFACE WATER

- Flood plains and related hazard lands (100 and 200 year flood zones)
- Areas within 500m of all water courses previously not identified as outlined on 1:50,000 topographic map and 1:10,000 Ontario Base Map

NATURAL ENVIRONMENT AND RESOURCES

- Displacement of high quality forests and Management Agreement Areas on site
- Special areas (areas with strong potential for ESA status - as identified in Background Report No. 13 to the Lambton County Official Plan)
- Presence of active oil and gas wells

IDENTIFICATION OF SITING AREAS AND SITES (continued)

SOCIAL/CULTURAL ENVIRONMENT

- Areas within 500m of future committed residential development
- Presence of existing and future (committed) planned recreational features
- Presence of known archaeological features plus a 500m buffer
- Presence of heritage features plus a 500m buffer
- Presence of existing and future approved utilities in the area
- Presence of Indian Reserves plus a 500m buffer
- Presence of cemeteries plus a 500m buffer.

Sites were located within the siting areas based on:

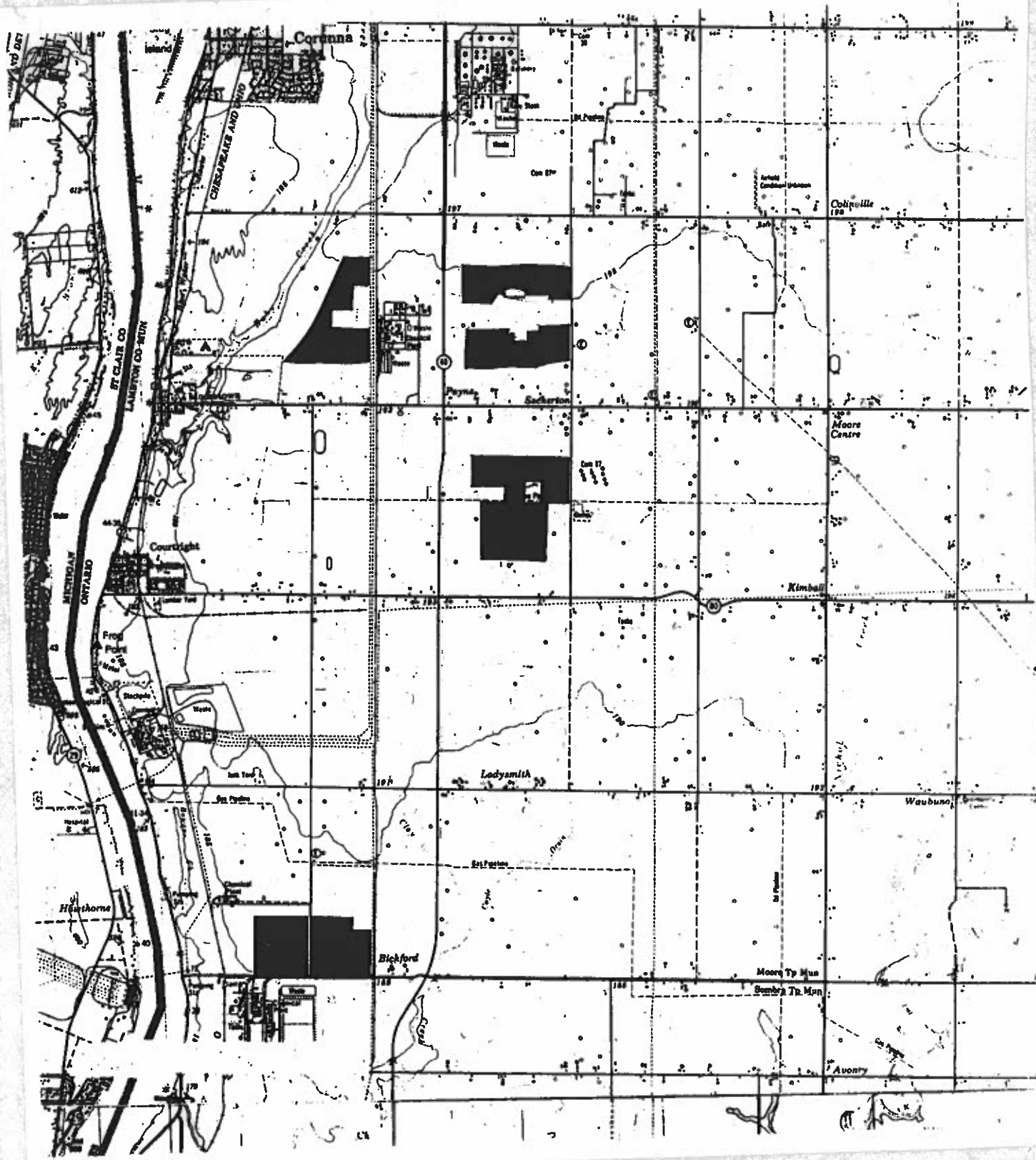
- the minimum site size requirement (75 ha)
- land parcels and property ownership considerations.
- maximization of distance from residential areas
- site accessibility

COMPARATIVE EVALUATION OF SITES

The sites were assessed and compared based on consideration of the following:

Factor	Factor Ranking ¹
Potential for contamination of ground water	High
Potential for contamination of surface water and downstream flooding	High
Effects on natural ecosystems	High/Moderate
Effects on agricultural resource lands	High/Moderate
Social/cultural concerns	High
Land use compatibility	High/Moderate
Transportation concerns	Moderate
Costs	High/Moderate

¹As identified by the Site Selection Workshop participants.



**MAP OF SEVEN POTENTIAL SITES
ANNOUNCED JANUARY 1991**

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-14

**SUBMISSION BY UMA ENGINEERING AND
CONSOLIDATED ENVIRONMENTAL GROUP LTD.
AND RESPONSE BY DILLON
MAY AND JUNE 1991**

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

**SUBMISSION BY
UMA ENGINEERING AND
CONSOLIDATED ENVIRONMENTAL GROUP LTD.
MAY 1991**

JUN 1 1 1991

HARRISON  ELWOOD

BARRISTERS AND SOLICITORS

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(1909-1983)
C.G. STUART DAWSON, Q.C.
ROBERT J. ISRAEL
E. LINDSEY ELWOOD
JANET A. CLARK
DOUGLAS G. DAWSON
L. MICHELE MANNERING
JANE L. BUCKRELL
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*CERTIFIED BY THE LAW SOCIETY AS A SPECIALIST IN FAMILY LAW

PLEASE REPLY TO: **Thomas J. Corbett**FILE NO: **57871**WRITER'S DIRECT LINE (519) 881-6708
WRITER'S FACSIMILE (519) 663-9341

May 31, 1991

VIA FACSIMILE - 867-5509

Moore Civic Centre
1155 Emily Street
Mooretown, Ontario
N0M 1M0

Attention: Mr. Charles Nisbett, Reeve

Dear Sirs:

**Re: Acquisition of Property within the Township
of Moore for Waste Disposal Sites**

We advise that we have had an opportunity to review aspects of the work done on the County of Lambton Waste Management Master Plan (the "Master Plan"). We have also reviewed the letter from UMA Engineering Ltd. dated May 30, 1991. You have asked us to comment from a legal perspective.

The Master Plan is developed pursuant to the frame work contained in the Environmental Assessment Act (EAA). That Act is a planning tool. The Ministry of the Environment in its publication revised November, 1988 called Introduction to Waste Management Planning stated at page 7:

"Five features have been identified as key to successful planning under the EAA. These features are:

1. Consult with affected parties;
2. consider reasonable alternatives;

- 2 -

3. consider all aspects of the environment;
4. systematically evaluate net environmental effects;
5. provide clear competent documentation."

Section 5(3) of the EAA stresses the fact that alternatives must be extensively reviewed in order to satisfy the planning process under the EAA.

The results of inadequate examination of alternatives can be seen in decisions of the Joint Board, constituted under the Consolidated Hearings Act, in decisions involving proposed landfill sites in the Township of Tiny and the Township of St. Vincent. Extremely expensive and lengthy hearings were undertaken before the Joint Board only to have the proposal rejected due to inadequate planning and consideration of alternatives. In the Township of Tiny decision, Cabinet overruled the Joint Board which would simply have said no to the project altogether. The Cabinet ordered that it be referred for further study. In the Township of St. Vincent decision the Joint Board decided that the process was so flawed it had to be started again.

With the greatest of respect to all parties involved, it is our view that the process is fundamentally flawed as outlined in the UMA Engineering Ltd. report of May 30, 1991. The assessment is not complete and should not be submitted to the Minister. If it is, there will be valid objections which, in our view, would result in a hearing before the Joint Board. The cost to the County would be extremely large.

With these comments, we do not wish to adversely comment on any of the participants. The Master Plan study began with different terms of reference from those with which it concluded. We do not suggest that anyone look for a party upon whom to cast blame. We consider the process to be flawed and respectfully suggest that you seek to correct the same.

If we can be of any assistance, please do not hesitate to contact us.

Yours very truly,

HARRISON, ELWOOD

Per:


Thomas J. Corbett

TJC/lda



UMA Engineering Ltd.
Engineers & Planners

1135 Adelaide St. N., Suite 211, London, Ontario N5Y 5K7
Tel (519) 842-2400 Fax (519) 842-2404

6958-001

May 31, 1991

Moore Civic Centre
1155 Emily Street
MOORETOWN, Ontario
N0N 1M0

Attention: Mr. Charles Nisbett, Reeve

Re: **Executive Summary of the Report Entitled**
"Sarnia/Lambton Waste Management Master Plan
A Review, Critique and Recommendations for Moore Township"
Submitted to Moore Township Council

Dear Mr. Nisbett:

Subsequent to our meeting and presentation of the report to Council on May 16, 1991, CEG and UMA were instructed to prepare a summary letter of the review for distribution to Lambton County Council and other interested persons and agencies.

The purpose of the study commissioned by Moore Township was to review the issues raised by the Sarnia/Lambton Waste Management Master Plan Study as they affect the County as well as the Township.

The following issues were identified in the review and it is recommended that Moore Township investigate further how they may be best managed.

Waste Quantity Projections and Remaining Landfill Capacity

The Stage 1 process in the Master Plan Study provides the basis on which the later recommendations and decisions are made by the Waste Management Committee and M. M. Dillon Limited.

There have been concerns raised by the Ministry of Environment (MOE) with the figures for waste generation rates and the remaining capacity of the existing landfill sites used by the County and their consultants in the Waste Management Master Plan.

The consultant has used waste generation rates that are 25% higher than the MOE planning rates, which give values for projected waste quantities at the high end of the scale. Appended to the back of this summary are quantity calculations showing quantity projections based on MOE waste generation rates and quantity reduction credits for introduction of the 3R's. These calculations indicate substantial accumulated quantity reductions over the 20-year planning period. Further, the report states that because of limited time and budget, a detailed analysis of existing landfill facilities was not carried out to accurately determine the remaining capacity of the existing sites in the County.

Reasonably accurate information for projected quantities and remaining site life capacities is essential in determining the need and timing for a new County landfill site.

6958-001
Moore Township
Page #2

Use of Existing/Proposed Municipal and Private Landfills

The decision was made late in the planning process to obtain a new landfill rather than enhance the existing County municipal system or utilize existing or proposed private and municipal landfills for the County's future needs. For example, under sites of opportunity, no mention was made of the land owned by Moore Township adjacent to their existing landfill.

It appears that from the outset, the Waste Management Committee was only given two options, the first was the existing municipally owned and operated collection and landfilling system or an entirely private run system. There was no discussion about maintaining the current collection system and utilizing the excess capacity of the privately owned sites.

In addition, it has come to Moore Township's attention that a private developer has offered to accept all of Lambton County's residential waste at no cost to taxpayers in a proposed 600 acre landfill site in Plympton Township. In addition, the owner has offered a substantial royalty for every tonne of garbage landfilled at the site that originates outside of Lambton County. This would be a revenue producing arrangement versus a total estimated cost to the County ratepayers of \$70 M for the acquisition, development and operation of a new municipal landfill.

Public Involvement

There appears to be a lack of significant public involvement in the process to date. Four open houses were held during Stage 1 attracting a total of 50 people. The open houses served as an information distribution function only. Little or no comments were solicited from the public at large and only a selected number of elected officials were interviewed. In recent decisions of the Environmental Assessment Hearing Board on applications for new landfills, the Board has criticized the lack of effective public involvement in each case. In addition, the Public Advisory Committee does not appear to be a true representation of the public's perceptions and attitudes towards the Waste Management Planning Process in Lambton County. Prior to progressing any further, a detailed survey of all elected officials, administrators and 300 to 500 randomly chosen citizens of the County should be undertaken to see if the Waste Management Committee and its consultant are still in touch with the public goals and objectives regarding Waste Management planning in Lambton County.

Role of County Planning Department

The role of the County Planning Department appears to be minimal in this planning process. It is obvious that the County Planning office cannot function objectively when it comes to siting new landfills and how this may affect the member municipalities. With this in mind, thought should be given to the directly affected townships retaining independent objective planning advice that deals with the new and existing landfill issues. This would free the County Planning office from its conflict position, thus enabling the office to undertake its normal day-to-day planning consultation and administration of the individual municipality's Official Plans and Zoning By-laws.

6958-001
Moore Township
Page #3

Site Selection Criteria

The site selection criteria employed to identify a new landfill site has not been consistent throughout the study. During the course of the study, the various screening criteria employed to identify potential landfill areas and sites have changed, but industrial land designation has remained constant. Therefore, since the Township of Moore has a substantial tract of industrial designated land in its Official Plan, all potential landfill sites identified to date are in Moore.

This industrial designation as a criteria seems to have eliminated further investigation of suitable sites in the County. However, the industrial designation is an artificial criteria that could change at any time.

These concerns demonstrate that the current process in obtaining approval of a new landfill site for Lambton County may be doomed to failure before the Joint Board. We recommend that Moore Township suggest that the County cease all further work on the study until the following actions are undertaken:

- a detailed calculation of existing and future waste generation volumes;
- a detailed survey of current capacity in the existing system including sites of opportunity;
- a review of the planning issues related to the Master Plan study by an independent consulting planner;
- the completion of a comprehensive public involvement survey;
- discussions with the owner/operator of the proposed Plympton site as to the terms and conditions of his offer to provide County capacity within his landfill; and
- a thorough examination of all data and critique of assumptions regarding all aspects of the Master Plan to date.

In closing, it is hoped that this summary will provide sufficient information to County Council to make an informed decision regarding the motion tabled which will be voted on June 3, 1991 regarding the suspension of Master Plan study activities until these and other issues have been addressed.

Sincerely,

UMA Engineering Ltd.

Consolidated Environmental Group Ltd.

David J. Whitney, P. Eng., M. Eng.
Manager, London Office
/kh

Ian Moncrieff
Manager

06/04/91

15:13

☎ 519 6422404

UMA LONDON

005

RECEIVED
JUN 18 1991
RECEIVED

APPENDIX

Waste Quantity Projections

UMA Engineering Ltd. have prepared the following Waste Generation Tables based on tables in the Draft Stage 3A Report prepared by M. M. Dillon. Included is the projected population table by municipality used by M. M. Dillon in the Stage 1 Report and the Draft Stage 3A Report.

There are two sets of waste generation tables included in this appendix, one being the Projected Municipal Waste Generation Rates Per Year, and the other being the Projected Cumulative Municipal Wastes.

In each case, the rates proposed by M. M. Dillon were reduced by 25% to represent the planning rates used by the M.O.E. for waste projections. These rates were then reduced further, on separate tables, by 20% and 40% to reflect the waste reduction rates proposed by the M.O.E. through implementation of the 3R's.

A summary of each of the Waste Generation tables illustrates the reduction of waste quantities produced in the County through the planning period. Based on this, a new landfill site may not be required in the County by using the reduced waste quantity rates and conducting an extensive survey of the existing remaining capacity in the County waste management system.

Table from the Stage 3A Report
Prepared by M. M. Dillon Ltd.

STAGE 3A
PROJECTED POPULATION BY MUNICIPALITY
1986 TO 2011

<u>Municipality</u>	<u>1986</u>	<u>1991¹</u>	<u>1996¹</u>	<u>2001¹</u>	<u>2006²</u>	<u>2011²</u>
CITY						
Sarnia ² (Sarnia-Clearwater in 1991)	49,033	78,127	80,277	81,578	81,643	82,874
TOWNS						
Clearwater ³	23,754	-	-	-	-	-
Forest	2,558	3,054	3,185	3,283	3,349	3,450
Petrolia	4,347	4,569	4,630	4,638	4,646	4,670
VILLAGES						
Alvinston	759	748	751	744	737	733
Arkona	476	486+	496+	508+	523+	538+
Grand Bend	662	1,707+	1,932+	2,185+	2,472+	2,796+
Oil Springs	674	802	849	889	924	970
Point Edward	2,291	2,135	1,976	1,816	1,656	1,535
Thedford	649	668	649	621	585	560
Watford	1,516	1,434	1,427	1,402	1,374	1,354
Wyoming	1,796	2,019	2,289	2,486	2,685	2,993
TOWNSHIPS						
Bosanquet	4,424	9,384	9,463	9,460	9,341	9,326
Brooke	1,878	1,716	1,572	1,401	1,219	1,107
Dawn	1,752	1,480	1,134	1,123	977	875
Enniskillen	3,165	3,261+	3,342+	3,427+	3,512+	3,601+
Euphemia	1,027	1,232	1,188	1,128	1,064	1,018
Moore	10,182	12,475	13,602	14,621	15,352	16,536
Plympton	5,042	5,298+	5,568+	5,852+	6,150+	6,463+
Sombra	4,231	4,572	4,659	4,694	4,740	4,795
Warwick	2,462	2,528	2,500	2,440	2,367	2,322
	<u>122,678</u>	<u>137,695</u>	<u>141,489</u>	<u>144,296</u>	<u>145,316</u>	<u>148,516</u>

Notes

- Except where noted by +, the projections are from Lambton County Planning Department, Background Report No. 1 to the Lambton County Official Plan, "Population", Table 10, "Lambton County Projected Population by Municipality, 1976-2001" (August 1979) and 1987 "Sarnia-Lambton Waste Management Master Plan Stage Addendum". Exceptions are those updates (+) by Dillon in 1989 to change those projections which are no longer valid due to seasonal influx of population (Bosanquet, Grand Bend) and recent growth (Point Edward Town of Clearwater). Other updates reflect more accurate growth rates.
- Lambton County's projections were extrapolated to 2006 by Dillon in the Stage I report. The 2011 figures were extrapolated by Dillon in 1989.
- On January 1, 1991, the City of Sarnia and the Town of Clearwater will be amalgamated. The County projected population for the Town of Clearwater as adjusted by Dillon, were added to the City's population projections to reflect the amalgamation.

Table from the Stage 3A Report
Prepared by M. M. Dillon Ltd.

STAGE 3A
PROJECTED MUNICIPAL WASTE GENERATION RATES PER YEAR
(TONNES/ANNUM)

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
<u>CITY</u>						
Sarnia ²	39,370	62,740	64,460	65,510	65,560	66,550
<u>TOWNS</u>						
Clearwater ³	18,210	-	-	-	-	-
Forest	2,050	2,450	2,560	2,640	2,690	2,770
Petrolia	3,490	3,670	3,720	3,720	3,730	3,750
<u>VILLAGES</u>						
Alvinston	610	600	600	600	590	590
Arkona	380	390	400	410	420	430
Grand Bend	530	1,370	1,550	1,750	1,990	2,250
Oil Springs	540	640	680	710	740	780
Point Edward	1,840	1,710	1,590	1,460	1,330	1,230
Thedford	520	540	520	500	470	450
Watford	1,220	1,150	1,150	1,130	1,100	1,090
Wyoming	1,440	1,620	1,840	2,000	2,160	2,400
<u>TOWNSHIPS</u>						
Bosanquet	1,780	3,770	3,800	3,800	3,750	3,740
Brooke	750	690	630	560	490	440
Dawn	700	590	460	450	390	350
Enniskillen	1,270	1,310	1,340	1,380	1,410	1,450
Euphemia	410	490	480	450	430	410
Moore	7,430	9,110	9,930	10,670	11,210	12,070
Plympton	3,130	3,290	3,450	3,630	3,820	4,010
Sombra	1,700	1,840	1,870	1,880	1,900	1,930
Warwick	990	1,010	1,000	980	950	930
	<u>88,360</u>	<u>98,980</u>	<u>102,030</u>	<u>104,230</u>	<u>105,130</u>	<u>107,620</u>

Notes:

- ¹ Lambton County assumes waste management responsibility on 01 January 1991. Year 20 for County planning purposes is reached 01 January 2011.
- ² Effective 01 January 1991 waste quantities reflect total from City of Sarnia and Town of Clearwater due to amalgamation.
- ³ Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

Table from the Stage 3A Report
Revised by UMA Engineering Ltd.

STAGE 3A

PROJECTED MUNICIPAL WASTE GENERATION RATES PER YEAR
(TONNES/ANNUM)

M.O.E. RATES (25% LES THAN M. M. DILLON RATES)

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
<u>CITY</u>						
Sarnia ²	29,527.5	47,055.0	48,345.0	49,132.5	49,170.0	49,912.5
<u>TOWNS</u>						
Clearwater ³	13,657.5	-	-	-	-	-
Forest	1,537.5	1,837.5	1,920.0	1,980.0	2,017.5	2,077.5
Petrolia	2,617.5	2,752.5	2,790.0	2,790.0	2,797.5	2,812.5
<u>VILLAGES</u>						
Alvinston	457.5	450.0	450.0	450.0	442.5	442.5
Arkona	285.0	292.5	300.0	307.5	315.0	332.5
Grand Bend	397.5	1,027.5	1,162.5	1,312.5	1,492.5	1,687.5
Oil Springs	405.0	480.0	510.0	532.5	555.0	585.0
Point Edward	1,380.0	1,282.5	1,192.5	1,095.0	997.5	922.5
Theford	390.0	405.0	390.0	375.0	352.5	337.5
Watford	915.0	862.5	862.5	847.5	825.0	817.5
Wyoming	1,080.0	1,215.0	1,380.0	1,500.0	1,620.0	1,800.0
<u>TOWNSHIPS</u>						
Bosanquet	1,335.0	2,827.5	2,850.0	2,850.0	2,812.0	2,805.0
Brooke	562.5	517.5	472.5	420.0	367.5	330.0
Dawn	525.0	442.5	345.0	337.5	292.5	262.5
Enniskillen	952.5	982.5	1,005.0	1,035.0	1,057.5	1,087.5
Euphemia	307.5	367.5	360.0	337.5	322.5	307.5
Moore	5,572.5	6,832.5	7,447.5	8,002.5	8,407.5	9,052.5
Plympton	2,347.5	2,467.5	2,587.5	2,722.5	2,865.0	307.5
Sombra	1,275.0	1,380.0	1,402.5	1,410.0	1,425.0	1,447.5
Warwick	742.5	757.5	750.0	735.0	712.5	697.5
	<u>66,270.0</u>	<u>74,235.0</u>	<u>76,522.5</u>	<u>78,172.5</u>	<u>78,847.5</u>	<u>80,715.0</u>

Notes:

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- ² Effective 01 January 1991 waste quantities reflect total from City of Sarnia and Town of Clearwater due to amalgamation.
- ³ Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

Table from the Stage 3A Report
Revised by UMA Engineering Ltd.
STAGE 3A

PROJECTED MUNICIPAL WASTE GENERATION RATES PER YEAR
(TONNES/ANNUM)

M.O.E. RATES, 20% REDUCTION OF WASTE QUANTITIES THROUGH 3R'S

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
<u>CITY</u>						
Sarnia ²	23,622	37,644	38,676	39,306	39,336	39,930
<u>TOWNS</u>						
Clearwater ³	10,926	-	-	-	-	-
Forest	1,230	1,470	1,536	1,584	1,614	1,662
Petrolia	2,094	2,202	2,232	2,232	2,238	2,250
<u>VILLAGES</u>						
Alvinston	366	360	360	360	354	354
Arkona	228	234	240	246	252	258
Grand Bend	318	822	930	1,050	1,194	1,350
Oil Springs	324	384	408	426	444	468
Point Edward	1,104	1,026	954	876	798	738
Theford	312	324	312	300	282	270
Watford	732	690	690	678	660	654
Wyoming	864	972	1,104	1,200	1,296	1,440
<u>TOWNSHIPS</u>						
Bosanquet	1,068	2,262	2,280	2,280	2,250	2,244
Brooke	450	414	378	336	294	264
Dawn	420	354	276	270	234	210
Enniskillen	762	786	844	828	846	870
Euphemia	246	294	288	270	258	246
Moore	4,458	5,466	5,958	6,402	6,726	7,242
Plympton	1,878	1,974	2,070	2,178	2,292	246
Sombra	1,020	1,104	1,122	1,128	1,140	1,158
Warwick	594	606	600	588	570	558
	<u>53,016</u>	<u>59,388</u>	<u>61,218</u>	<u>62,538</u>	<u>63,078</u>	<u>64,572</u>

Notes:

- Lambton County assumes waste management responsibility on 01 January 1991. Year 20 for County planning purposes is reached 01 January 2011.
- Effective 01 January 1991 waste quantities reflect total from City of Sarnia and Town of Clearwater due to amalgamation.
- Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

Table from the Stage 3A Report
Revised by UMA Engineering Ltd.

STAGE 3A

PROJECTED MUNICIPAL WASTE GENERATION RATES PER YEAR

(TONNES/ANNUM)

M.O.E. RATES, 40% REDUCTION OF WASTE QUANTITIES THROUGH 3R'S

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
<u>CITY</u>						
Sarnia ²	17,716.5	28,233.0	29,007.0	29,479.5	29,502.0	29,947.5
<u>TOWNS</u>						
Clearwater ³	8,194.5	-	-	-	-	-
Forest	922.5	1,102.5	1,152.0	1,188.0	1,210.5	1,246.5
Petrolia	1,570.5	1,651.5	1,674.0	1,674.0	1,678.5	1,687.5
<u>VILLAGES</u>						
Alvinston	274.5	270.0	270.0	270.0	265.5	265.5
Arkona	171.0	175.5	180.0	184.5	189.0	199.5
Grand Bend	238.5	616.5	697.5	787.5	895.5	1,012.5
Oil Springs	243.0	288.0	306.0	319.5	333.0	351.0
Point Edward	828.0	769.5	715.5	657.0	598.5	553.5
Theford	234.0	243.0	234.0	225.0	211.5	202.5
Watford	549.0	517.5	517.5	508.5	495.0	490.5
Wyoming	648.0	729.0	828.0	900.0	972.0	1,080.0
<u>TOWNSHIPS</u>						
Bosanquet	801.0	1,696.5	1,710.0	1,710.0	1,687.2	1,683.0
Brooke	337.5	310.5	283.5	252.0	220.5	198.0
Dawn	315.0	265.5	207.0	202.5	175.5	157.5
Enniskillen	571.5	589.5	603.0	621.0	634.5	652.5
Euphemia	184.5	220.5	216.0	202.5	193.5	184.5
Moore	3,343.5	4,099.5	4,468.5	4,801.5	5,044.5	5,431.5
Plympton	1,408.5	1,480.5	1,552.5	1,633.5	1,719.0	184.5
Sombra	765.0	828.0	841.5	846.0	855.0	868.5
Warwick	445.5	454.5	450.0	441.0	427.5	418.5
	<u>39,762.0</u>	<u>44,541.0</u>	<u>45,913.5</u>	<u>46,903.5</u>	<u>47,308.5</u>	<u>48,429.0</u>

Notes:

- Lambton County assumes waste management responsibility on 01 January 1991. Year 20 for County planning purposes is reached 01 January 2011.
- Effective 01 January 1991 waste quantities reflect total from City of Sarnia and Town of Clearwater due to amalgamation.
- Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

Table Prepared By UMA Engineering Ltd.
SUMMARY PROJECTED MUNICIPAL WASTE GENERATION RATES PER YEAR
(Tonnes/Annum)

	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011</u>
M.M. Dillon	88,360.0	98,980.0	102,030.0	104,230.0	105,130.0	107,620.0
M.O.E. Waste Generation Rates 25% Less Than Dillon's Rates	66,270.0	74,235.0	76,522.5	78,172.5	78,847.5	80,715.0
M.O.E. Waste Generation Rates 3R's 20% Reduction	53,016.0	59,388.0	61,218.0	62,538.0	63,078.0	64,572.0
M.O.E. Waste Generation Rates 3R's 40% Reduction	39,762.0	44,541.0	45,913.5	46,903.5	47,308.5	48,429.0

Table from the Stage 3A Report
Prepared by M. M. Dillon Ltd.
STAGE 3A
PROJECTED CUMULATIVE MUNICIPAL WASTES
(TONNES/ANNUM)

<u>Municipality</u>	<u>1986</u>	<u>1991¹</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
<u>CITY</u>						
Sarnia ²	39,370	358,380	676,380	1,001,310	1,328,980	1,659,260
<u>TOWNS</u>						
Clearwater ³	18,210	-	-	-	-	-
Forest	2,050	13,500	26,080	39,120	52,470	66,150
Petrolia	3,490	21,390	39,870	58,470	77,090	95,790
<u>VILLAGES</u>						
Alvinston	610	3,640	6,640	9,640	12,610	15,560
Arkona	380	2,310	4,280	6,310	8,380	10,510
Grand Bend	530	5,280	12,580	20,830	30,180	40,780
Oil Springs	540	3,490	6,790	10,270	13,890	17,690
Point Edward	1,840	10,720	18,970	26,600	33,570	39,970
Thedford	520	3,170	5,820	8,370	10,800	13,100
Watford	1,220	7,150	12,900	18,600	24,170	29,650
Wyoming	1,440	9,090	17,740	27,340	37,740	49,140
<u>TOWNSHIPS</u>						
Bosanquet	1,780	15,655	34,580	53,580	72,460	91,190
Brooke	750	4,350	7,650	10,630	13,250	15,580
Dawn	700	3,930	6,550	8,830	10,930	12,780
Enniskillen	1,270	7,720	14,350	21,150	28,120	35,270
Euphemia	410	2,660	5,090	7,410	9,610	11,710
Moore	7,430	48,780	96,380	147,880	202,580	260,780
Plympton	3,130	19,180	36,030	53,730	72,360	91,930
Sombra	1,700	10,550	19,830	29,200	38,650	48,230
Warwick	990	5,990	11,020	15,970	20,800	25,500
TOTAL	88,360	556,935	1,059,530	1,575,240	2,098,640	2,630,580

Notes:

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- ³ Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

Table from the Stage 3A Report
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STAGE 3A

PROJECTED CUMULATIVE MUNICIPAL WASTES

(TONNES/ANNUM)

M.O.B. RATES (25% LESS THAN M. M. DILLON RATES)

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
CITY						
Sarnia ²	29,527	268,785	507,285	750,982	996,735	1,244,445
TOWNS						
Clearwater ³	13,657	-	-	-	-	-
Forest	1,537	10,125	19,560	29,340	39,352	49,620
Petrolia	2,617	16,042	29,902	43,852	57,817	71,842
VILLAGES						
Alvinston	457	2,730	4,980	7,230	9,457	11,670
Arkona	285	1,732	3,210	4,732	6,285	7,882
Grand Bend	397	3,960	9,435	15,622	22,635	30,585
Oil Springs	405	2,617	5,092	7,702	10,417	13,267
Point Edward	1,380	8,040	14,227	19,950	25,177	29,977
Theford	390	2,377	4,365	6,277	8,100	9,825
Watford	915	5,362	9,675	13,950	18,127	22,237
Wyoming	1,080	6,817	13,305	20,505	28,305	36,855
TOWNSHIPS						
Bosanquet	1,335	11,741	25,935	40,185	54,345	68,392
Brooke	562	3,262	5,737	7,972	9,937	11,685
Dawn	525	2,947	4,912	6,622	8,197	9,585
Enniskillen	952	5,790	10,762	15,862	21,090	26,452
Euphemia	307	1,995	3,817	5,557	7,207	8,782
Moore	5,572	36,585	72,285	110,910	151,935	195,585
Plympton	2,347	14,385	27,022	40,297	54,270	68,947
Sombra	1,275	7,912	14,872	21,900	28,987	36,172
Warwick	742	4,492	8,265	11,977	15,600	19,122
TOTAL	66,270	417,701	794,647	1,181,430	1,573,980	1,972,932

Notes:

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STAGE 3A

PROJECTED CUMULATIVE MUNICIPAL WASTES
(TONNES/ANNUM)

M.O.E. RATES, 20% REDUCTION OF WASTE QUANTITIES THROUGH 3R'S

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
<u>CITY</u>						
Sarnia ²	23,622	215,028	405,828	600,786	797,388	995,556
<u>TOWNS</u>						
Clearwater ³	10,926	-	-	-	-	-
Forest	1,230	8,100	15,648	23,472	31,482	39,696
Petrolia	2,094	12,834	23,922	35,082	46,254	57,474
<u>VILLAGES</u>						
Alvinston	366	2,184	3,984	5,784	7,566	9,336
Arkona	228	1,386	2,568	3,786	5,028	6,306
Grand Bend	318	3,168	7,548	12,498	18,108	24,468
Oil Springs	324	2,094	4,074	6,162	8,334	10,614
Point Edward	1,104	6,432	11,382	15,960	20,142	23,982
Theford	312	1,902	3,492	5,022	6,480	7,860
Watford	732	4,290	7,740	11,160	14,502	17,790
Wyoming	864	5,454	10,644	16,404	22,644	29,484
<u>TOWNSHIPS</u>						
Bosanquet	1,068	9,393	20,748	32,148	43,476	54,714
Brooke	450	2,610	4,590	6,378	7,950	9,348
Dawn	420	2,358	3,930	5,298	6,558	7,668
Enniskillen	762	4,632	8,610	12,690	16,872	21,162
Euphemia	246	1,356	3,054	4,446	5,766	7,026
Moore	4,458	29,268	57,828	88,728	121,548	156,468
Plympton	1,878	11,508	21,618	32,238	43,416	55,158
Sombra	1,020	6,330	11,898	17,520	23,190	28,938
Warwick	594	3,594	6,612	9,582	12,480	15,300
TOTAL	53,016	333,921	635,718	945,144	1,259,184	1,578,348

Notes:

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- Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

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STAGE 3A

PROJECTED CUMULATIVE MUNICIPAL WASTES
(TONNES/ANNUM)

M.O.E. RATES, 40% REDUCTION OF WASTE QUANTITIES THROUGH 3R'S

<u>Municipality</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011¹</u>
CITY						
Sarnia ²	17,716.2	161,271.0	304,371.0	450,589.2	598,041.0	746,667.0
TOWNS						
Clearwater ³	8,194.2	-	-	-	-	-
Forest	922.2	6,075.0	11,736.0	17,604.0	23,611.2	29,722.0
Petrolia	1,570.2	9,625.2	17,941.2	26,311.2	34,690.2	43,105.0
VILLAGES						
Alvinston	274.2	1,638.0	2,988.0	4,338.0	5,674.2	7,002.0
Arkona	171.0	1,039.2	1,926.0	2,839.2	3,771.0	4,729.0
Grand Bend	238.2	2,376.0	5,661.0	9,373.2	13,581.0	18,351.0
Oil Springs	243.0	1,570.2	3,055.2	4,621.2	4,621.2	7,960.0
Point Edward	828.0	4,824.0	8,536.2	11,970.0	11,970.0	17,986.0
Theford	234.0	1,426.2	2,619.0	3,766.2	3,766.2	5,895.0
Watford	549.0	3,217.2	5,805.0	8,370.0	8,370.0	13,342.0
Wyoming	648.0	4,090.0	7,983.0	12,303.0	12,303.0	22,113.0
TOWNSHIPS						
Bosanquet	801.0	7,044.6	15,561.0	24,111.0	32,607.0	41,035.0
Brooke	337.2	1,957.2	3,442.2	4,783.2	5,962.2	7,011.0
Dawn	315.0	1,768.2	2,942.7	3,973.2	4,918.2	5,751.0
Enniskillen	571.2	3,474.0	6,457.2	9,517.2	12,654.0	15,871.0
Euphemia	184.2	1,197.0	2,290.2	3,334.2	4,324.2	5,269.0
Moore	3,343.2	21,951.0	43,371.0	66,546.0	91,161.0	117,351.0
Plympton	1,408.2	8,631.0	16,213.2	24,178.2	32,562.0	41,368.0
Sombra	765.0	4,747.2	8,923.2	13,140.0	17,392.2	21,703.0
Warwick	445.2	2,695.2	4,959.0	7,186.2	9,360.0	11,475.0
TOTAL	39,762.0	250,620.6	476,788.2	708,858.0	944,388.0	1,183,761.0

Notes:

- Lambton County assumes waste management responsibility on 01 January 1991. Year 20 for County planning purposes is reached 01 January 2011.
- Effective 01 January 1991 cumulative quantities are for City of Sarnia and Town of Clearwater.
- Town of Clearwater waste quantity is added to City of Sarnia waste quantity effective 01 January 1991 due to amalgamation.

**Table Prepared By UMA Engineering Ltd.
SUMMARY PROJECTED CUMULATIVE MUNICIPAL WASTES
(Tonnes/Annum)**

	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>	<u>2006</u>	<u>2011</u>
M.M. Dillon	88,360	556,935	1,059,530	1,575,240	2,098,640	2,630,580
M.O.E. Waste Generation Rates 25% Less Than Dillon's Rates	66,270	417,701	794,642	1,181,432	1,573,980	1,972,935
M.O.E. Waste Generation Rates 3R's 20% Reduction	53,016	333,921	635,718	945,144	1,259,184	1,578,348
M.O.E. Waste Generation Rates 3R's 40% Reduction	39,762	250,620.6	476,788.2	708,858	944,388	1,183,761

Jim Kutyka

**SARNIA/LAMBTON
WASTE MANAGEMENT MASTER PLAN**

**A Review, Critique and Recommendations
For
MOORE TOWNSHIP**

**By
CONSOLIDATED ENVIRONMENTAL GROUP LTD.
and
UMA ENGINEERING LTD.**

May 1991

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1.0 INTRODUCTION

In 1985, M. M. Dillon Engineering Consultants were retained by Lambton County to undertake the assignment of drafting the Sarnia/Lambton Waste Management Master Plan (WMMP). Initially, the perception was that it would be a so-called "good news" plan and that it was likely that no new landfill site would need to be identified and therefore the Master Plan would set out a contemporary waste management system for the County and would not likely have to be subjected to an Environmental Assessment (EA) Hearing Process.

Because of unforeseen circumstances, however, in late 1989, it became clear that the original option for future landfill requirements in the County was no longer available. As a result, the study process had to be upgraded and the baseline information updated to meet the requirements of the Environmental Assessment Act (EAA) because a new site had to be identified and recommended for approval. The result of the updated Master Plan and site selection process produced 7 possible sites for a new landfill, all located within Moore Township.

In response, Moore Township requested funds from the County to undertake a planning study on behalf of the Township in order to determine the validity of the Dillon Master Plan's assumptions and conclusions. The following report will discuss in detail a brief project history, the purpose of this review and critique, the method used for the review, the documents used and finally the conclusions and recommendations to the Township Council.

2.0 PROJECT HISTORY

M. M. Dillon was retained by the County of Lambton's Waste Management Committee in 1985 to prepare a Waste Management Master Plan (WMMP) for the County. The objective of the WMMP was to outline the various waste management options, opportunities and weaknesses and how the system could be modified and improved to maximize available resources well into the 21st century.

The standard approach utilized in such studies is outlined in the document entitled "Introduction to Waste Management Planning and the Ontario Environmental Assessment Act" produced by the Ministry of Environment (MOE), Environmental Assessment (EA) Branch. In summary, the approval is broken down into three main stages leading to a recommended WMMP. The first stage is a basic information or database document. The second stage is divided into two parts; Stage 2A outlining the identification of candidate areas or markets, and Stage B being an analysis of those alternatives. The third stage is also divided into two separate areas; 3A being the Master Plan formulation and 3B being the summary document for the Master Plan EA.

As discussed earlier, it was anticipated by the consultant and the Waste Management Steering Committee that the Master Plan would be a "good news" plan, since there appeared to be sufficient long term capacity in the two municipally owned landfills. The objectives, therefore, were to confirm to the perception that there was sufficient landfill space within the Sarnia/Lambton County area to meet the needs of the County and member municipalities well into the future. With this preliminary analysis, the reporting need not meet the standards necessary to survive scrutiny under the EA Act.

The reason for assuming the planning process would be relatively easy was based on two assumptions that later turned out to be vastly different than originally anticipated. The first was that the existing Sarnia landfill had sufficient capacity to take all of the waste generated in the City for an additional 10 years. The second assumption was that once the Sarnia site was exhausted, there was considerable volume or capacity in the recently approved expansion to the Petrolia landfill. The Petrolia landfill Provisional Certificate of Approval would have to be amended to increase its service area to include all of Lambton County and the City of Sarnia. This was not perceived to be a major hurdle and could be applied for under the Environmental Protection Act (EPA).

With these two adequate landfills operating and approved within the County, the purpose of the plan was to simply streamline the waste management system and provide guidelines and upgrade the

management structure and plans for the implementation of various initiatives including Energy From Waste (EFW), resource recovery, and centralized collection and disposal.

In January of 1989, the Ontario Government passed Bill 35, the amalgamation of the City of Sarnia and the Town of Clearwater (formerly Sarnia Township) and a restructuring of governments within the County of Lambton. Such restructuring addressed in particular, the establishment of a county-wide waste management department responsible for the operation and management of all municipal landfill facilities in the Sarnia/Lambton area. This act, although passed in 1989, was to come into force on January 1, 1990. Until Bill 35 had been passed, Sarnia wished to play a relatively minor role in the Master Plan process due to the apparent sufficient capacity within its own landfill.

However, after further investigation and measurement by the MOE, Waste Management Branch, it was discovered that Sarnia had less than 18 months capacity and that Sarnia had better apply for a temporary extension to their landfill until a more suitable permanent solution could be found. With Sarnia committed to the master plan process, efforts intensified in the direction of the Petrolia landfill, which, after a rather notorious battle, was sold to Philip Environmental Ltd., a private waste management company from Burlington.

The consultant and Steering Committee were now faced with the task of starting at the beginning with their research and focusing on a site selection process for a completely new landfill given the generic code name, the "Greenfield Site". In addition, the study contents, assumptions and conclusions had to be brought up to EAA standards suitable for review at an EA or Joint Board hearing.

One of the most important concerns that needed to be addressed, was the level of public involvement in the Master Plan process. A recent decision by the Joint Board turned down an application for a new landfill in Tiny Township, Simcoe County because of insufficient public involvement in the site selection planning and development process. With this decision from the Board on another proposed landfill, it was recommended that the Steering Committee and Dillon implement a more thorough public involvement program as quickly as possible.

Several methods exist as useful mechanisms that meet the requirements of sufficient and useful public involvement. The one selected for the Sarnia/Lambton Study was the use of a Public Advisory Committee (PAC). The membership would be made up of individuals nominated by the municipalities after a notice, advertising such a position was published in all the local newspapers. Other members

were taken from various public interest groups located and active within the County who expressed an interest in taking part in the process. PAC was formed and asked to review the documentation to date, including a draft Stage 3A report, which was produced by Dillon in ^{Nov} ¹⁹⁹⁰ May of 1990. This report was an attempt to update the information and assumptions discussed in the Stage 1, Stage 2A and Stage 2B reports released earlier in order to meet EAA requirements.

PAC took 10 months to review all of the documentation and reports before responding back to the Steering Committee with its recommendations. These recommendations were considered by the Steering Committee and consultant for inclusion in the site selection process. The recommendations called for a reduction in dependence on landfills for disposal of wastes in the County.

The PAC recommendation suggested that the Steering Committee consider system components with respect to achieving the MOE waste diversion initiatives calling for a 50% diversion by the year 2000. PAC felt that a diversion rate of 70% is realistic and achievable. In order to meet these objectives, PAC suggested that aggressive reduction and recycling programs be implemented for residential and industrial/commercial wastes.

One of the benefits of the 3R's, as recommended by PAC, is a reduction in waste volume for landfilling, thereby extending site life, which could possibly eliminate the need for siting a new landfill facility within the study horizon, as proposed by the WMMP.

Dillon's response to the PAC recommendations addresses the recommendations on a very cursory level. There appears to be no discussion of the recommendations with members of PAC or the Steering Committee and the main factor in not addressing the recommendations in detail appeared to be cost and time. The results of the site selection process were released on January 4, 1991. All seven candidate sites identified were located in Moore Township. A mailed survey was sent to all of the property owners affected by the alternative sites and there was additional site analysis in order to reduce the proposed candidate sites to a more manageable number of these sites.

In March 1991, the selection process reduced the number to 3 sites, then 2; both being located at the south end of Moore Township adjacent to the Moore-Sombre townline north of the ICI (formerly CIL) fertilizer plant.

These sites will be subjected to further impact assessments before a final recommended site is announced by the Steering Committee.

3.0 PURPOSE OF THIS REVIEW AND CRITIQUE

On March 7, 1991, Moore Township council passed a resolution hiring the joint venture of consultants, Consolidated Environmental Group Ltd. (CEG) and UMA Engineering Ltd. (UMA) to undertake a planning review of the Sarnia/Lambton Waste Management Master Plan (WMMP) study documents and recommendations to date. Specifically, council wished the consultants to examine the following points:

- 1) Is there a need for a new landfill site in the County, given the large number of private sites.
- 2) Will the location of the site hurt future economic development for the Township.
- 3) Has the master plan study included any analysis of energy from waste or recovery.
- 4) Has the County Planning Office been involved in the process.

In addition, the purpose of this report was to examine the documentation and process produced in the Master Plan study in order to determine whether Moore Township has a case to intervene in the EAA process. The following points are to be examined:

1. Basic assumptions regarding solid waste generated in the Sarnia/Lambton area.
2. The site selection criteria.
3. Timing, intensity and role of the public involvement process.

The funding of the report was provided by the Township Waste Management Steering Committee and the budget range was \$10,000 to \$14,000.

The following sections discuss the method of evaluation and a summarized review of the various documents used in order to derive the conclusion and recommendations to council.

4.0 METHOD OF REVIEW

4.1 Information and Document Sources

The joint venture consultants were hired to undertake a Planning Review of the Sarnia/Lambton WMMP study documents and recommendations. Moore Township provided the consultants with the Stage 1, 2A, 2B and draft 3A reports prepared by M. M. Dillon. Additional information was given to the consultants to assist in their review of the reports and recommendations. This information included the Minutes of the Steering Committee, the Waste Management Committee and the Public Advisory Committee. Further, letters, reports, comments and correspondence referred to the committees or municipalities were also reviewed. However, during the review of the data, it has become apparent there is considerably more information, specifically MOE comments, which has not been reviewed.

The analysis of the material commenced with organizing the information into chronological order, so that minutes of meetings and comments from agencies and the public could be read in conjunction with each of the reports that were completed for each stage under separate cover. This method enabled the consultants to review the process used to develop the report for each of the stage documents of the WMMP and to be cognizant of the WMMP consultant's response to comments on the reports from government agencies and the public. The critique of the Sarnia/Lambton WMMP has been preliminary in nature and based on the limited amount of documentation supplied by Moore Township. After the initial review of the material, it is evident that significant background information, not in the report has been reviewed to justify the recommendations of the WMMP.

However, if the Critique is to proceed, it will be necessary to receive a complete set of the minutes of all the committees and public workshops, as well as any correspondence or reports that were sent or presented to the committees.

Moreover, all of the comments made by the MOE to M. M. Dillon throughout the Master Plan process should be reviewed to establish the background of comments made by the MOE, as noted in the minutes of the Steering Committee.

A list of the documentation reviewed has been included in a Bibliography.

4.2 Interviews

A limited number of interviews were conducted in order to clarify the history and study progression, as well as personal opinion when they were offered. These interviews took two forms; personal and telephone, and were kept as informal as possible. The interviews, in general, assisted in understanding the process and personalities involved better. It will be necessary to interview all of the administration and municipal politicians in the second phase in order to determine true reflection of their attitude towards waste management in Lambton County.

5.0 M. M. DILLON STUDIES

5.1 Methodology Employed

The MOE assists municipalities in the preparation of WMMP with 50% cost sharing and technical advice involvement to establish the long term management of municipal waste. The WMMP is to be prepared based on the following recommended steps.

Stage 1 - Data Collection: Document Existing Data

- 1) Collect general background information.
- 2) Define current waste management system.
- 3) Project future waste management system requirements.
- 4) Devise evaluation criteria.

This report should also include any responses to input from public and government agencies' consultations.

Stage 2A - Identification of Candidate Areas/Markets

The report from Stage 1 is used as the basis for developing and evaluating alternatives in Stage 2A. Work for Stage 2A is as follows:

- 1) Prepare evaluation for identifying candidate areas and markets.
- 2) Analyze factors to identify candidate areas/markets based on review of facility type.

The public and government agencies' review will continue as required.

Stage 2B - Analysis of Alternatives

This stage amalgamates the waste management alternatives into systems to derive a preferred waste management system. Work for Stage 2B is as follows:

- 1) Develop and assess system component alternatives and sites.
- 2) Evaluate and rank each of the alternatives based on nature, social, cultural, technical, economic, financial, land use planning and environmental perspectives.

This report documents public and government agencies' reviews.

Stage 3A - Master Plan Formulation

The final report is a Master Plan document, which identifies the preferred waste management system.

Work for Stage 3A is as follows:

- 1) Report on environmental effects of the selected alternatives.
- 2) Include recommendations on:
 - i) description of sites/facilities;
 - ii) changes to present financial and administrative practices;
 - iii) possible changes in legislative authority;
 - iv) financing of facility development and operation;
 - v) detailed schedule and budgets for facility development; and
 - vi) identify procedure for updating the Master Plan including public and agencies review.

Stage 3B - Summary Document for Master Plan EA

A summary document is prepared if the Master Plan is to be submitted for an EAA approval.

5.2 Stage 1 Report

As outlined in the MOE's publication, "Introduction to Waste Management Planning", the Stage 1 report is intended to document the existing data, describe the alternatives and the affects on the environment and develop criteria for evaluation to be used to complete the subsequent stages of the study. The Ministry requires the involvement of the public and agency review at this stage to introduce the study and to develop, rank and weigh the evaluation criteria.

The initial perception of the Master Plan, when it was undertaken, was that it would be a "good news" report and that a new landfill site would not need to be identified. This perception set the precedent for the level of detail used to analyze the existing waste management system. This established an almost cursory level of analysis, which M. M. Dillon express as an overview evaluation based on limited field investigation and available information. Again, this reflects the concept of a "good news" report.

The study consultant then proceeded to develop goals and objectives to be the basis of the component evaluation criteria for the Master Plan. The goals and objectives are based on the existing system for the landfill component and the addition of a non-landfill component to the waste management system.

There is no indication in the Stage 1 report of public involvement in the initial development of the goals and objectives of the Master Plan to form the basis of the component evaluation criteria.

The lack of public involvement is further evidenced by the poor turnouts at four public open houses held by the consultant to provide an opportunity for the public to review the existing waste management system and the components being considered for inclusion in the Master Plan. A total of fifty people turned out to the four open house meetings.

The open houses were organized as informal walk-in sessions. Displays were prepared to illustrate conditions at existing landfill sites, described components being considered for inclusion in the system and provided the goals and objectives of the Master Plan. At no time during the open house was a formal presentation made to the public to educate and inform them on the requirements of a WMMP or to have input on setting the goals and objectives for carrying out the Master Plan.

Throughout the Stage 1 report and the subsequent reports, there are inconsistencies in the analysis of the background information based on the evaluation criteria as presented in the report.

The goals and objectives present a broad perspective with which to analyze the information in the preparation of the Master Plan reports. These criteria should be applied to all areas of the review on an equal basis and documented to allow consistent ranking and weighing of components.

The second activity undertaken in the Stage 1 report was to identify the possible components for inclusion in the waste management system. Dillon's component identification process consisted of four activities:

- 1) Evaluate a "long list" of components to identify possible components.
- 2) Evaluate administrative alternatives.
- 3) Identify candidate areas for system facilities.
- 4) Identify objectives to evaluate possible components and facility location throughout the WMMP process.

For each of these activities, the consultant identified criteria to screen the alternatives to narrow down the lists for further examination in Stage 2. Again, there is no reference to public or agency involvement in developing the criteria or ranking the criteria by level of importance to the local community.

Details of the methods used to screen the different components in each of the four activity areas are lacking and lend themselves to the conclusion of a predetermined solution for waste management in Lambton County.

The main criticism of the Stage 1 report, which carried over to the subsequent reports, is the level of detail gathered for evaluation of the existing system and then projected to determine the future waste management requirements. In addition is the reliance by the Steering Committee on Dillon's experience from their ongoing work in waste management projects, as noted in the Stage 2A report, without involving the public in a more direct decision-making role, or questioning the rationale of Dillon's recommendations.

The concerns in regard to the data collection and waste quantity projections are further noted in the June 24, 1986 Steering Committee minutes, where the consultant was asked to give an overview of the Stage 1 report. There was considerable discussion amongst the City, local Ministry representatives and Dillon staff in regard to the consultant's landfill capacity calculations. Mr. Janse, the acting Sarnia District Manager for the MOE stated that he disagreed with almost all of the consultant's capacity calculations. Mr. Murray, Project Manager for M. M. Dillon stated that, regardless of the discrepancies, the most important point is that the Study Area has 20 years of excess landfill capacity. It was further stated that the consultant is simply asking the Committee be basically content with the figures.

These types of responses from the consultant bring into question the validity of the whole Stage 1 report and the methods employed in carrying out the background research.

Alderman Rade, City Co-Chairman of the Waste Management Committee asked the consultant at the same meeting, for a summary of the public participation at the series of open houses. Mr. Balfour, of M. M. Dillon explained that not very many residents came to the open houses, but a number of entrepreneurs interested in recycling attended. This indicates the lack of public consultation in the initial stages of the Master Plan development and the lack of concern by the consultant to involve the public in the WMMP process.

The conclusions of the Stage 1 report supports the premise of a "good news" WMMP. Dillon, based on their existing and projected waste quantity calculations, concluded there was sufficient capacity within the existing system for the 20-year planning period. Further, the existing landfills were evaluated to determine the potential to expand the approved area for landfill within the existing property boundaries and found the potential available capacity would be well in excess of the 20-year requirement.

Dillon recommended that because the existing system is totally landfill dependent, with excess of 20 years of capacity for landfilling, further evaluation is required to determine the best system for the management of waste for Sarnia/Lambton. For this reason, it was recommended to proceed to Stage 2 of the Master Plan process.

5.3 Stage 2A Report

The Master Plan process consists of three stages. The first stage focused on what could be done by establishing a long list of possible waste management components and elements. This was accomplished by reviewing the existing system and assessing the adequacy of the system to meet the future needs of the community.

Stage 2 concentrates on what should be done to manage the area's waste. To do this, Stage 2 is divided into two phases. The first phase, 2A, structures the evaluation process and identifies alternatives. The second phase, 2B, concentrates on the evaluation of the alternatives and the selection of the approach to be included in the Master Plan.

The third stage, Stage 3 is the preparation of the Master Plan, which will focus on what will be done and how it will be implemented.

The Stage 2A report is based on the results of the Stage 1 report, which contains many flaws and inconsistencies. The Stage 2 report further compounds the inadequacy of Stage 1 by accepting the base information provided and making recommendations to be examined in Stage 2B.

The Stage 1 analysis consisted of three major components:

- 1) Develop goals for the implementation of the Master Plan.
- 2) Assessment of the existing system and determine the future needs.
- 3) Identify potential components to be included in the system.

As previously reviewed, the goals used to guide the process in which the Master Plan is directed were not derived through a public participation process.

The assessment of the existing waste management system and the projected future needs of the users has been brought into question by the MOE, as noted in the minutes of the Steering Committee minutes of June 24, 1986.

The result of the analysis of the existing system in Stage 1 determined there is sufficient capacity for the 20-year planning period. The existing landfills were also evaluated for the potential to expand the approved area for landfilling within their property boundaries. The additional capacity through expansion would create potentially available capacity in excess of the 20-year requirement.

The findings of the Stage 1 report indicated that there was no need to conduct a search for an additional landfill facility in the County. The major activities in Stage 1 were the identification of possible components for the waste management system and to identify administration alternatives to manage the system.

Candidate areas were identified for siting various components. Constraints mapping was used to identify possible areas for siting future landfills and opportunity mapping identified sites for all other components. There were considerable siting opportunities for all components of the waste management system.

The Stage 1 analysis identified four administrative alternatives, not including the existing situation. There was no attempt to rank the alternatives in Stage 1, because it was considered inappropriate to narrow the choices before allowing the public and agencies to review and comment on the alternatives.

The Steering Committee reviewed the Stage 1 analysis, which resulted in a Working Paper, that deleted the option of full privatization of the system and added two new alternatives for a total of 6. The Working Paper should have been included in the Stage 2A report or a review of its contents to enable readers of the report to follow the process used to determine its conclusions. There is no record of public input in reaching the decision on dropping the full privatization option for waste management.

In the analysis of the Administrative Alternatives, there is a statement saying that all of the alternatives could include public versus private operations of elements. There is no indication that this was ever examined further either by administrative analysis or by economic analysis.

The privatization of one or more of the system components should have been evaluated further for consideration in the development and implementation of the Master Plan in the broad terms as specified by the four goals developed in Stage 1.

Chapter 3 of the Stage 2A report outlines the development and evaluation of the treatment components.

The analysis does not consider the "No Treatment" alternative as part of the waste management system even though there is in excess of 20 years of landfill capacity within the boundaries of existing landfill facilities.

The Stage 1 report identified five options for waste treatment:

- 1) Composting
- 2) Shredding
- 3) Combustion (with & without energy recovery)
- 4) Waste derived fuel (RDF)
- 5) Private sector recycling initiatives

These were the only options evaluated in the Stage 2 report. There was no consideration of a municipal recycling initiative to reduce the volume of garbage going into the existing waste collection system and further extending the capacity lifetime beyond the present 20 year time frame available.

The data source for information used in this analysis relied on information from Dillon's, the consultant, ongoing work and experience in waste management. There are no references in the report of when the consultant's past experience was used to evaluate the data and what basis the consultant used to determine when an option required further analysis beyond relying on past experience.

This type of analysis could prejudice the findings of the report by not allowing a totally unbiased evaluation.

The treatment alternatives were evaluated according to a set criteria. There is no indication of any involvement of the public, in the selection or ranking of criteria, as recommended by the MOE. One of the criteria, Possibly Public Response (PPR), suggests that the analysis was based on avoiding possible public criticism of options. A description of the PPR criteria used in the ranking of treatment alternatives by criteria is written in an advisable tone by analyzing the choices for waste treatment with terms such as "It is not possible to speculate which technology, EFW, RDR or; composting, would receive greater/lesser public resistance/acceptance. However, it is reasonable to assume that two

facilities would potentially receive greater public opposition than one."¹

By using this type of criteria, the "Best Solution" may be avoided because of perceived public response by the politicians. This criteria also indicates the consultant tried to deflect public opinion by suggesting uncontroversial treatment alternatives and siting locations.

There is no documentation of public involvement in selecting the recommended components for consideration in the development of the waste management system which were determined to be:

1. The existing collection system.
2. Mass burning modular technology with energy recovery.
3. Landfill.

Two possible system options are:

1. The existing collection system and landfill facility(s).
2. The existing collection system with EFW facility(s) and landfill facility(s).

Once it was decided to pursue the EFW technology, a narrow focus was used for the site selection criteria. The main consideration for siting was based on the potential steam market for the energy produced by the facility. The selection of an EFW facility was made without any firm commitment from potential steam customers to purchase steam.

The volume of waste required to fuel the EFW plant did not consider waste reduction derived from recycling/source separation and the public initiative for waste reduction. There was no justification to research for additional landfill capacity due to the sufficient capacity within the present system.

The Stage 2B report will further refine these systems and comparatively evaluate them based on the flawed existing waste quantities and projected waste quantities, as well as a lack of public involvement in the process.

¹ M. M. Dillon, Sarnia/Lambton Waste Management Master Plan, Stage 2A Report, May 1987, p. 3-18.

5.4 Stage 2B Report

The Stage 2B report reviews the waste management alternatives and develops component systems. The report determines the preferred system and the respective sites for the various components.

The Stage 2B report documents the second phase of Stage 2 of the Master Plan process. The first phase structured the evaluation process and identified the waste management system alternatives and administrative options. The second phase concentrates on the evaluation of alternative systems.

Stage 2B reviews three main activities:

- . examines recycling and its impact on system choice;
- . the optimization of the two system options; and
- . recommendation of a preferred alternative.

The Stage 2B report further compounds the inaccuracies derived from the previous two reports. There is an absence of documentation of public involvement in the master plan process in the report.

The screening of the EFW siting opportunities in the report relies on the opportunity mapping criteria from Stage 1. The opportunity mapping identified industrially designated lands and major institutional/industrial uses as possible siting locations because of potential markets for the energy generated by the EFW facility. There has been no commitment from any of the potential steam customers to purchase the steam. If the EFW facility is built relying on one or two customers for the energy produced, it would be possible for one or both of the energy customers to hold the EFW facility for ransom, after the investment by the municipality to build the EFW facility, to set the rates charged for the energy or lose the client.

This is similar to the situation to not privatize the waste management system because the municipality could not control the cost of dumping after the initial contract had expired. In the EFW scenario, the County would be out significantly more money by having to finance the building of the EFW facility.

The summary of the system differences in the Stage 2B report compares the environmental effects, displacement effects, level of service, flexibility attributes and long term reliability. Based on these assessments, additional observations were made:

- . EFW is a waste reduction alternative and the system cannot pay for itself;
- . benefits of EFW are long term based on deferring the need for new landfill sites;
- . the costs favour the existing landfill system because of adequate landfill capacity existing in the system.

The Stage 2B report recommends the existing landfill system with a review at 5 year periods to re-evaluate developing an EFW facility or other waste reduction systems. The Stage 3 report will detail the development of the preferred system.

5.5 Stage 3A Report

The draft 3A report has been subjected to a number of significant changes in approach and direction. The Master Plan Steering Committee decided in 1989 to develop a Master Plan that will meet the full requirements of the Environmental Assessment Act. This required the previous work to be updated to a level acceptable to the Environmental Assessment Act standards.

Bill 35, 1989 transferred the responsibility for waste management administration from the local municipalities to the County. This required the updates of the previous reports to reflect the change in administration.

Further in March 1988, the Ministry of Environment announced aggressive waste diversion targets calling for a 25% diversion of waste from landfills and incinerators by 1992 and 50% diversion by the end of the century.

The 3A report also incorporates recent information on the waste quantities available in the Sarnia landfill, as reported by Conestoga-Rovers and Associates Limited, the consultant for the City of Sarnia. These findings show the site life of the Sarnia landfill as having 17 months of capacity available as of September 1988.

The guidelines for Waste Management Planning recommended by the Ministry of Environment outline the work to be completed to prepare the plan. Stage 3, the Master Plan Formulation, relies on the background information documented in the previous reports. The Stage 1, 2A and 2B reports were prepared based on a limited amount of field investigation of the available capacity in the existing waste management system. The existing and projected waste quantity capacity calculations are brought into doubt by the Conestoga-Rovers' report on the Sarnia landfill and the limited field investigations of the other sites.

The May 2, 1989 minutes of the Waste Management Steering Committee outlines the discussion between the Committee, the consultants and the MOE. The Ministry felt that significant changes to the Stage 1 and 2 reports to account for Sarnia's situation would result in too much "fudging" of the reports. It was decided that Stage 2 not be adjusted and that revisions will be made to Stage 3 to accommodate the new information.

The current waste profile used for the Stage 3A report is based on the 1985 questionnaire and survey data. The 3 R's were not considered in the quantity calculations to project the future waste profile.

The waste generation rates used by the consultant are 25% higher than the MOE Planning rates. It is stated in the 3A report that these values skew the overall waste generation rates to the high end of the scale. This brings into question the need for new landfill capacity when no accurate assessment of available capacity has been undertaken of the existing sites, the volumes projected are 25% higher than MOE rates and the recycling component for waste reduction has not been quantified.

One of the primary goals of the WMMP is to reduce the waste quantities going into landfills. The WMMP recommended finding a new site for a landfill without detailed analysis of existing facilities and determining accurate waste generation rates.

One of the main concerns regarding the Waste Management Master Plan has been the lack of public involvement in the process. The consultant implemented for Stage 3 a Public Advisory Committee in December 1989. The Committee reviewed all of the previous reports prepared by the consultant to obtain background information to review the Stage 3 report. The Committee was charged with playing catch-up on past analysis, while at the same time trying to review current information and reports from the consultant. Further, the review of the minutes of the PAC indicates the concerns of the Committee. PAC wanted funds to hire an outside Engineer to lead them through the site selection process. There were also concerns that PAC was brought in too late and given too little time to review the past work and become involved with the present process.

There is a lack of documentation of the involvement of the public in establishing the criteria and reviewing the screening of alternative components to be considered for the waste management system.

The landfill site selection process identifies potential capacity in the County of Lambton. The approach implemented to identify new landfill capacity was divided into two phases.

- Phase 1 identifies opportunity sites which are defined as areas adjacent to existing landfill sites in the County, which have additional approved capacity.
- Phase 2 identifies new sites for landfilling through the constraint mapping process. This resulted in the identification of large candidate areas suitable for siting a new landfill.

The candidate areas and the opportunity sites were then evaluated to determine the most preferred sites.

The documentation in the Stage 3A report is incomplete. The Section listing the available capacity of all existing landfill sites is missing, Section X. The detailed evaluations are not included in Section 6.3 as indicated. The descriptions of the Laidlaw and Petrolia sites are to be completed and are not included in the Draft 3A report.

The 3A report site selection process followed the constraint mapping approach initiated in the Stage 2 report. Then, because of the new information regarding the site life at the Sarnia landfill, a new approach was introduced to find a new landfill site that was not required in the Stage 2 reports.

The new rationale for site selection proposed a waste centroid be located in the County in combination with waste haul time distances from Sarnia. The study area was identified based on the waste centroid and then candidate areas were selected by eliminating areas which are clearly unsuitable for a landfill in the study area. Candidate area and then candidate sites were selected through a more detailed level of analysis.

To summarize, the results of the constraint mapping of terrain evaluations and population distribution analysis indicated there are numerous areas throughout Lambton County to locate a new landfill site. Therefore, additional criteria were introduced to reduce the study area. The waste centroid analysis was based on economic factors to identify the least cost location for a landfill to serve the needs of the entire County.

The waste centroid was located approximately 10 km east of the City of Sarnia. Further analysis developed a study area that included an outer most boundary of a 10 km radius from the centroid or a 20 minute travel time from the City of Sarnia.

The initial development of the waste centroid site selection method was started prior to the PAC being formed to review past reports and to comment on the current site selection process. No further reports other than the minutes of the Steering Committee, the Public Advisory Committee and the public workshops have not been received for review. At some point in the process, the results of the waste centroid site selection criteria has been dropped and the thrust of the Stage 3A report changes. The

criteria in Stage 3A to locate a new landfill facility were revised.

The Stage 3A report states that privately owned landfill sites are less preferred because of the lack of control by the County over access to the site and tipping fees and then states that a Material Recovery Facility (MRF) could be publicly or privately owned. The report recommends that an MRF for Lambton County be privately owned due to the high capital costs and the location cannot be determined due to the potential private ownership of the facility.

There is a very large gap between the direction of the draft 3A report and the recommendation for siting seven sites in Moore Township made by the Steering Committee in the spring of 1991. Chapter 5, Materials Recovery Site Selection and Chapter 6, Landfill Site Selection are not included in the draft 3A report.

The most current information reviewed to analyze the site selection process has been the minutes of meetings and public workshops.

The main criteria for siting the landfill facility in Moore Township is the industrial designation in the Township Official Plan, which has been a criteria used by the consultant since the Stage 2A report. There is evidence in the minutes of the second Master Plan workshop on September 13, 1990 that there were questions on the rationale of the industrial criteria.

The most significant concern is the fact that basing the site location on industrial land is an artificial designation which could change at any time. Moreover, the options for siting the facility could reduce too quickly by examining only industrial areas and not investigating other more suitable sites.

M. M. Dillon staff also indicated that the options would be limited too quickly by only examining the industrial designated lands and suggested that it be used as a latter criteria in the comparative evaluation of sites.

The County will be responsible for the rehabilitation and perpetual care of the landfills after they become full and cease operation. Uses will have to be found for the closed sites. Possible uses include parks and conservation areas. Some existing uses for closed landfill sites include ski hills, toboggan runs and grazing land for livestock. When the long term rehabilitation of these sites to recreational or agricultural uses is considered, it would be more appropriate to locate the facility on agriculturally

designated lands. Locating the landfill in industrial designated lands removes the land from being returned to industrial uses.

6.0 CONCLUSIONS

Subsequent to a review of all of the provided data and limited interviews, CEG and UMA have arrived at a number of conclusions. These conclusions could have serious and far reaching impacts on the present WMMP study and it will be necessary to undertake more detailed studies to verify the conflicts before progressing further.

The first observations are that the terms and conditions of the initial study changed considerably over time so that finally the objective was the need for a new landfill. Everyone involved in the study seems to agree that these conditions have changed. However, there is no justified need for a new landfill to satisfy the long term requirements of the City/County plan. When it became clear that the Petrolia site was no longer available and that the Sarnia site needed to be expanded in order to get through the short term, a fast track was established in order to identify a new site and obtain the necessary approvals.

A number of times, counsel for the County and M. M. Dillon stated that the use of private sites was acceptable providing they have the proper "institutional underpinnings" and are environmentally sound. The problem with the County satisfying itself that those criteria are met is that Dillon was unilaterally making a recommendation to the County on the "soundness" of the Laidlaw site. This decision should be determined by the EAHB.

In addition, it is noted that Dillon is representing the Greater Toronto Area (GTA) in selecting site selection criteria and possible new sites for its client. There appears to be some conflict in interest that should be discussed and researched further.

With regard to the approach to public participation used by the Steering Committee and their consultant, the fundamental problem is the weak and an almost superficial public involvement program. The maxim of "too little, too late" is very appropriate in this situation. The impetus was left up to the public to become involved and as a result there was little volunteer involvement. In order to solicit public comment and attitude towards such proposals, an effort must be made to reach the public on their own terms and conditions. Workshops can be a useful tool once a specific proposal and alternate locations have been generated, however, detailed survey of representative local politicians and a large number of the general public should have been undertaken at the initiation of the project. It is these public and local political attitudes that will help shape the direction of any WMMP study.

The second issue is the need for a new municipal site given that there are so many existing and proposed private sites within the County. Early in the study, the Steering Committee rejected the idea of a fully private system of waste collection and disposal as a viable alternative to be considered further. It appears from reading the documentation that no variation of this alternative was considered until the meeting of September 11, 1989 when a refinement of the originally so called "private" disposal method was discussed. Mr. Andy Wright, the County's solicitor stated that Kent and Essex Counties have such arrangements and they work very well with an agreed rate structure. However, the committee still did not wish to consider private sites further.

It is clear that there is more than enough capacity within the existing landfills both public and private in the County. What is needed is a clear understanding of this capacity and what arrangements can be put in place to ensure the County's needs over the long term and the terms and conditions of such an arrangement.

The third issue is the potential effects of a landfill on adjacent planned land use designations. Although there was a number of times when the "industrial zoned or designated" land use area was considered, then dropped as a criteria for site selection, it is obvious that the criteria was used in the siting of the 7 potential landfills, which are all located in the "industrial designation" of the Moore Township Official Plan.

There is no hard planning evidence that a municipal landfill operation is a major attribute or detriment to an industrial development area. However, this begs the argument, why develop another site when several exist already? Most businesses usually have to use private collection and since a majority are the owners of those private sites most of this waste is redirected from the municipal sites. Therefore, it can be concluded that the development of the landfill on industrial planned land will reduce the capability of the Township to provide such land to a potentially more productive, longer term employer and rate payer.

The fourth issue is the seriousness of the Master Plan in its discussion of waste recovery and energy from waste. Given that this is a WMMP study for the Sarnia/Lambton study area, private groups, such as the Chamber of Commerce have undertaken what appears to be more detailed studies of energy from waste projects than the Steering Committee were willing to consider. These options have not been brought into the Master Planning Process in sufficient detail to warrant valid consideration and

evaluation.

The fifth issue pertains to the role of the County Planning Office in the process. Due to certain conflicting views held by the consultant and Steering Committee on one hand and the planning administration on the other, the role of the planning department toward the later period has been minimized. The municipal planning advice and components in the study has been dependent on the interpretation of the consultant. There is no doubt that some planning information was obtained from the County department, however, little or no professional opinion was solicited from the County planner regarding their client's planning needs, goals and objectives. This is obvious by the lack of consideration of Moore Township's goals and objectives regarding the industrial area designated on either side of Highway #40.

The final issue is that pertaining to a perceived conflict of interest between the consultant, M. M. Dillon; the client, the Sarnia/Lambton Waste Management Steering Committee; and the Greater Toronto Area, the sponsor of the three private sites in Lambton. There have been a number of discussions in the minutes about the topic and M. M. Dillon were instructed to draft a letter stating why in their opinion there was no conflict. This letter has not been reviewed, however, a second legal opinion may produce a different conclusion than that of the WMMP Steering Committee.

7.0 RECOMMENDATIONS

There are a number of recommendations to be made as a result of the review and conclusions drawn from this study documentation to date. The purpose of these recommendations is to provide Moore Township an understanding of the work still to be completed prior to submitting a formal intervention before the EAHB hearing on the Master Plan prepared for the Sarnia/Lambton Waste Management Steering Committee.

Recommendation #1

Prior to embarking on any study of this size and magnitude, it is imperative that the proponent has a good idea of the public attitude towards the specific problem. In the case of the Sarnia/Lambton Waste Management plan, very little effort was made to understand what the public perception and attitudes are towards garbage and landfills and their management.

Therefore, it is recommended that a full public attitude survey be undertaken in order to better understand the public perception of the problem and their suggestions as to possible solutions to the waste management in the Sarnia/Lambton study area.

The objective of this survey is to identify public attitudes toward various aspects of waste management to identify preferences for how the waste management system might operate most appropriately for Lambton County.

This survey should be undertaken to document the opinions of political and community leaders as well as from a representative sample of residents in Lambton County.

The approach to gathering the information will be as follows:

1. The key community leaders and politicians will be interviewed, either in person or by telephone and other Moore Township officials as appropriate. Those to be interviewed will be identified in discussion with the CAO and Reeve of Moore Township.
2. A telephone survey from a random sample of Lambton County residents will be undertaken. The samples will be drawn such that there is a representative number of respondents from each

municipal jurisdiction within Lambton County and for the County as a whole.

The public attitude study will take about 2 months to complete and can be initiated as soon as approval is granted.

Recommendation #2

The basis of this report and recommendations are the documents provided by Moore Township. Prior to any further investigation, a detailed and thorough critique should be undertaken in order to establish a more firm position regarding the issues surrounding the whole study. This would include a detailed survey of the existing system, both public and private, in order to verify the M. M. Dillon data with regards to existing and proposed capacity of the waste management system; the amount of waste generated and the predicted success of the alternative methods of reduction such as resource recovery and EFW processing.

Recommendation #3

Moore Township should retain a municipal planner to review the land use planning aspects of the study. The County planning department could continue the day-to-day administration of the Official Plan and Zoning by-law. However, an independent consultant is recommended to address the planning issues raised by the Master Plan process.

Recommendation #4

A thorough engineering, economic and environmental study be undertaken to provide council with a competitive, more up-to-date recommendation for the Master Plan implementation and cost/benefit analysis of the private versus municipal system.

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APPENDIX A

Stage 1 - Outline

pg. 1-1

1.1.1 **Study Purpose**

The plan will serve as the rationale for subsequent approvals of facilities under the Environmental Assessment Act.

pg. 1-2

1.1.4 **Status under the Environmental Act**

MP being developed in accordance with requirements of the Environmental Act.

pg. 1-4

1.1.6 **Report Format**

pg. 1-5

1.2 **Study Approach**

1.2.2 **Goal Identification**

The goals address, in general terms, the definition of environment in the EAA. Four goals were developed.

- . avoid risk to public health and safety
- . avoid environmental impacts
- . enhance level of service
- . minimum costs

pg. 1-7 Relating all analysis to the four study goals allows decisions to be made in a consistent, traceable and logical manner and satisfies the requirements of the Environmental Assessment Act.

pg. 1-7

1.2.4 **Stage/Evaluation** - two major activities

- . description and assessment of existing system and identification of future needs.
- . identification of possible components for inclusion in the waste management system.

pg. 1-8 **Existing System Assessment**

This evaluation was undertaken at an overview level.

- site suitability criteria Table 1, pg. 1-9.

pg. 1-10 Table 2 - Relationship of Goals to existing site suitability criteria.

pg. 1-11

b) The level of analysis used and the data, time and resources available to undertake the evaluation (existing sites).

- time and resources limited to undertake the evaluation.
- do not allow a detailed analysis and evaluation.
- overview level analysis, limited field investigation and available information.

pg. 1-13

b) Time and costs do not allow a detailed analysis and evaluation of expansion.

pg. 1-14 Table 3 - Criteria for Assessing Site Expansion

pg. 1-17 Component Identification

Second major activity undertaken in Stage 1 consisted of four activities.

- . identify possible components
- . administrative alternatives
- . identify candidate areas
- . identify objectives to evaluate components and locations

pg. 1-18 Component Screening Criteria, Table 5

pg. 1-19 Relate between Goals & Component Screening Criteria, Table 6

pg. 1-20 Level of detail - generic in nature

pg. 1-21 Component Identification- identify candidate areas.
- areas where the location of a particular waste management component is high.

pg. 1-22 Administrative Evaluation Criteria, Table 6

pg. 1-23 Relate between Goals & Administrative Evaluation Criteria, Table 8

pg. 1-24 Components for which candidate areas identified

- . depot centres
- . transfer stations
- . composting
- . combustion (with energy recovery)
- . combustion (without energy recovery)
- . waste derived fuel
- . landfill

Grouped into two types.

- . landfill facilities
- . non-landfill facilities

pg. 1-24 Those components for which candidate areas were identified included:

- . depot centres
- . transfer stations
- . composting
- . combustion (with energy recovery)
- . combustion (without energy recovery)
- . waste derived fuel
- . landfill

These were grouped into two types for constraint mapping.

- . landfill facilities
- . non-landfill facilities

The non-landfill facilities are generally industrial in nature and siting requirements were distinctly different from landfill component.

Stage 1

pg. 1-21 - no public input on goals for the Waste Management Master Plan.

pg. 1-23 - uses costs as a factor - minimize costs.
- why buy existing industrial land.

pg. 1-24 - grouped facilities into two types
- landfill
- non-landfill

- non-landfill facilities industrial in nature - siting requirements distinctly different from landfill component.

pg. 1-24 - constraint mapping used for landfill component - generally sites throughout Lambton County.

pg. 1-29 - no absolute constraints to siting any facility - any location in the County considered suitable.

- pg. 1-30 - non-landfill facilities industrial in nature. Identify areas which permit industrial.
-Question- only existing industrial - no offer of site to municipalities to see if anyone wants it - change O.P.'s and zoning.
- pg. 1-30 - potential markets - for steam - EFW's dropped later.
- pg. 1-35 - components can be sited anywhere in Sarnia/Lambton area.
- pg. 1-36 - avoid risk to public health by reducing potential for pollution of surface water.
- Moore sites close to St. Clair River.
- move further inland.
- avoid risk to public health by reducing polluting air resources.
- move from Moore already bad air, spread impact around the County.
- pg. 1-37 - agricultural land.
- lots in County
- not a significant loss (71 ha). willing sellers/next to existing.
- pg. 1-38 - minimize conflict with existing, committed proposed and planned land uses.
- taking valuable industrial land.
- check Moore O.P. background for projections on need for industrial land figures. - need for areas as designated - landfill not considered/need to designate additional area for it - may be based on land ownership and industry surveys - landfill not considered.
- Economic**
- maximize local employment opportunities.
- pg. 1-40 - minimize land acquisition costs.
- pg. 1-41 **Public Participation Program**
- to assist in development of the plan.
- pg. 2-29 - EFW facility - market area requirements.
- pg. 2-30 - Ontario Hydro - would not be warranted.
- pg. 2-40 - hidden costs.
- land purchase - why industrial land
- administration - why not private system
- exempt assessment - tax private fac. higher
- pg. 2-45 - capacity and life of existing private sites
- well beyond planning period
- pg. 2-49 - future needs
- current capacity - beyond 20 years

- pg. 2-52 - expansion potential and existing landfill facilities
 - within current boundaries
 - acquisition of adjacent lands
 - to be investigated during Stage 2
- pg. 2-53 - each site desirable characteristics would favour expansion.
- pg. 2-54 - additional unapproved area available on site.
- pg. 3-52 - management/administrative
Alternative C
 - entirely private responsibility
- pg. 3-55 - review and comment by agencies and the public of alternatives - considered inappropriate to narrow choices before allowing comments.
- pg. 3-57 - agricultural constraint mapping criteria dropped from further consideration.
 - because of predominance of high quality agricultural lands.
- pg. 3-58 - opportunity mapping for components
EFW/MRF
 - industrial designation
 - Figure 22
- pg. 4-2 - capacity for 20 years. However, the system is totally landfill dependent - no 3 R's.
- pg. 4-4 - Stage 2 analysis will develop specific siting criteria - with public input - no record.

Appendix D

pg. D-3 Public Participation Program

1st open house:

- total of 13 people at open house in Wyoming.
- 12 people in Sarnia
- no written comments

2nd open house:

- opportunity to review the results of Stage 1 analysis.
- 18 people in Wyoming
- 7 people in Sarnia
- one written comment

pg. D-4 Direct Mailing List

- interested persons or groups

pg. D-7 - very little response from public on approach methods and analysis.
- were they asked.

Appendix F

Figure 3 - assessment of existing system.

Figure 18 - transportation and utilities - Moore Twp. contains the most.

Stage 1 - Addendum

- contains changes and additions from Steering Committee and MOE.
- we have none of the MOE comments.

- pg. 1-32 - added existing waste management facilities to the opportunity mapping criteria.
- pg. 1-49 - reference to ESA's.
- pg. 2-5 - constant generation rate used over the 40-year needs period - reflecting current trend in the province.
 - doesn't consider 4 R's.
- pg. 2-10 - discussion on how Dillon arrived at waste quantities.
- pg. 2-18 - sludge not included in quantity estimates.
- pg. 2-44 - Sarnia landfill life - 10+ years.
- *pg. 2-51 - Landfill area used and remaining
 - add extensively.
- Insert 6 - County can meet the requirements for 20 years at existing landfills.
- pg. 2-52 - Expansion potential of existing landfill
 - Facilities - developing areas not approved but within property boundaries.
 - acquiring additional land not considered in stage 1 - could be in Stage 2.
- pg. 2-56 - Conclusions on Expansion
 - in excess of 20 year planning period.
- pg. 4-1 Stage 1 -Conclusions
- pg. 4-2 - potentially available capacity well in excess of 20 year requirement.
- pg. 4-4 - recommends importing of waste be examined in Stage 2.

Stage 1 - Appendices

Appendix A - External Team Organization

Appendix B - Questionnaires

- Municipal Questionnaire
- Industrial Waste Questionnaire

**Appendix C - Site Descriptions
Existing Landfills**

Appendix D - Public Participation Program

- Newsletters
- Public Open Houses
- Media Advertisement
- Direct Mailing to Interested Groups and Individuals

Appendix E - Replacement Cost of Landfill Calculations

Appendix F - Figures

APPENDIX B

Stage 2A - Outline

pg. 1-8 - desirable to devise an approach for developing and evaluating systems that minimizes the number of alternatives.

- approach has been devised and followed during Stage 2A, see pg. 1-8.

pg. 2-1 - inappropriate to narrow choices before review by agencies and the public.

- review by Steering Committee resulted in a working paper. Where is paper?
- most notably - the deletion of the full privatization alternative - no public comment.

pg. 3-1 - information drawn from Dillon's ongoing work in waste management.

- this experience used to estimate costs.

pg. 3-3 - possible public response/evaluation criteria.

- components for future consideration - 3 alternatives.

pg. 3-10- incineration without energy recovery deemed inappropriate and will not be pursued further.

- EFW recommended combustion option for Sarnia/Lambton.

Window Technology

- public response more severe than mechanical treatment
- disadvantage of mechanical - higher cost

pg. 3-11- mechanical treatment recommended composting option for Sarnia/Lambton.

- very general

Data Source pg. 3-1

- information was drawn from Dillon's ongoing work in waste management.
- no public involvement on decisions.

pg. 2-1 Administration

- Steering Committee dropped full privatization.
- no public comment.

- it seems like Dillon is making the decisions on what to drop.

APPENDIX C

Stage 2B - Outline

- pg. 4
1.1.6 **Study Goals** - four goals
- pg. 5
1.1.7 **Evaluation of existing System**
- existing approved capacity of 102 ha.
 - need to dispose of 2.4 million tonnes over 20 years.
 - requires 90 ha
 - sufficient capacity within existing system for 20 year planning period.
- *pg.6 - potential for expanding approved area of landfilling.
- additional capacity available approximately 148 ha in addition to the 102 ha of unused approved capacity available in existing system.
 - total of 250 ha is well in excess of 20 year requirement of approximately 90 ha.
 - is this requirement before the 3 R's - yes.
- pg. 8 - considerable opportunities for siting all components.
- pg. 13 - "appeared to be little justification for a new landfill search".
- pg. 13 - two systems identified.
- pg. 13 - if no EFW, won't need to be near steam markets.
- pg. 18 - 'long list' of factors.
- pg. 20 - system alternative assessment factor, Table 2.1 includes social impacts.
- pg. 9 - separation and recycling deferred until preferred system identified, (stage 3).
- pg. 10
1.3.3 **Treatment Component Evaluation**
- five treatment components (RDF and EFW)
- pg. 12 - eight criteria to evaluate components.
- * - EFW - siting opportunities - dependent on markets.
 - EFW modular technology recommended as most desirable option.
- pg. 13 - two system alternatives identified.
 - existing collection system and landfill facilities.
 - the above with EFW facility.

- pg. 25 - added (e) public input.
- pg. 26 Recycling Opportunities
- waste reduction estimates are highly speculative (thus no reduction is a reasonable conservative assumption), contradicts page 27 & 34.
- pg. 27 - recycling should be considered as a major element in keeping with the MOE's "4 R's" policy.
- pg. 29 - recycling tonnage
- if County-wide significant saving.
- pg. 30 - reduce landfill capacity requirements and extend life of existing sites (10% over 20 yrs.)
- pg. 34
3.7 Why Recycle?
- less waste extend site life.
- pg. 36 System 1 Optimization
- pg. 36 - Allocation of wastes 'C of 2A's' - assumptions
- no limits - change rules later.
- pg. 44 - Sombra - does have industrial land, but privately owned.
- pg. 49 - shredding only considered for Sarnia.
- pg. 50 - import/export.
- pg. 53 - Optimized System 1 Description
- existing collection system - existing landfill and transfer facility at Grand Bend
- pg. 55 System 2 Optimization
- add an EFW
- pg. 58 EFW Facility Siting
- based on Steam customers
- Figure 5.1 EFW siting opportunities
- all located in Moore Twp.
- pg. 61 - life of four landfills shown
- Sarnia - 25 years
 - Moore - 27 years
 - Petrolia - 31 years
 - Dawn - 24 years
- pg. 52 - list of all certified operating landfill sites in the counties surrounding Lambton - Appendix C

pg. 81 Social Impacts

pg. 84 Recommendation

APPENDIX D

Stage 3A - Outline

No/Index

No/Chapter 5: Materials Recovery Facility Site Selection

No/Chapter 6: Landfill Site Selection

Change of direction from Stage 2B promoting an EFW as one of two preferred options for Lambton County.

- 3 R's not considered in quantity calculations.
- dropped EFW and now promote an MRF.

Section 1.5 Public Consultation

- says nothing
- where are the results of public consultation.

Section 2.1 Introduction

- the information presented in Stage 1, 2A & 2B was incorporated and where necessary, updated in this report.

Section 2.3.2 Current Waste Profile

- based on the 1985 questionnaire and survey data.

Section 2.3.3 Future Waste Profile

- waste generation rates 25% higher than the MOE planning rates
- these values "skew" the overall waste generation rates to the high end of the range.
- as a result, higher values than MOE planning rates use for planning in this Master Plan.
- pg 6. 3 R's waste reduction not factored into waste quantity rates.
- pg 11. private industry may handle industrial non-hazardous waste. No figures.

Section 2.6.2 Existing Disposal Facilities

A more accurate assessment of the remaining capacity at all sites may be warranted.

- assessment would include field surveys and mapping.

Section 2.6.3 Environmental Suitability

- pg 25. landfill locations suitable for continued use within current disposal areas.
- pg 30. four existing landfills have approval to operate on only a portion of land owned.

- pg 30. estimates for required disposal capacity assume current practices with no waste reduction from 3 R's.

- * Primary goal of WMMP to reduce waste quantities destined for landfilling. *

Section 3 Identify and Evaluate Alternative Technique

pg.1 Technologies evaluated in a two-step process to reduce a long list of alternatives to a more manageable number.

- based on criteria in Table 3.1.

- * No public involvement in setting criteria and no record of public comment as listed as one of the criteria.

- who picked or suggested alternative techniques.

- no record of steering committee decisions on alternative technique.

pg. 14 Section 3.5 Criteria for Evaluation of Selected Components

- again no documentation of public involvement.

pg. 26 & 27

- elimination of EFW based on 3 R's yet on page 30 estimated disposal capacity assumed no 3 R's.

Section 4 Identify and Evaluation of Alternative Collection & Handling Techniques

4.1 Criteria

- no documentation of Steering Committee or public involvement.

No Section 5 MRF Site Selection

- to be completed.

- phone call on April 4, 1991 to Kim Kutyba. Said Site Selection criteria coming in 2-3 months.

Section 6 Landfill Site Selection

6.1.2 Goals of Site Selection process

- minimize cost - why pick industrial land over agricultural land.

6.1.4 pg. 3 New Landfill Capacity

- 2 phases
 1. Opportunity Sites - area adjacent to existing landfill sites, which have additional approved capacity.
 2. Identify new sites for landfilling.

pg. 3 - all evaluation factors were identified and developed and ranked with input from PAC and 2 public workshops.

6.2.3 Opportunity Site Identify

- most compatible with existing/proposed land uses.
- only landfills with approved capacity considered as opportunity sites.
- areas adjacent to existing sites may have infrastructure in place.
- description of opportunity sites to be completed.

G.3 Landfill Site Selection Approach

1. waste centroid and waste haul time distance from Sarnia
2. identify candidate areas
3. identify potential sites in C.A.
4. assess candidate sites.

6.3.2 Study Area Description and Rationale

- entire county acceptable from hydrogeologic perspective.
- no area to be at an advantage in terms of hydrogeology.
 - day soils everywhere.
- sensitivity to population distribution - candidate areas throughout the County.
- in summary - results of terrain and population. No area at an advantage for landfilling.
- additional steps taken to reduce study area.

pg. 14 Reduce Study Area

1. - produced a Waste Centroid and located approximately 10 km to east of City of Sarnia.
 - from the Waste Centroid, a radius of 10 km was used in which to locate the candidate sites.
2. City of Sarnia major waste producer.
 - used to identify waste travel time from 3 exit points from the City.
 - study team determined 20 minutes would be boundary of study area.
 - 20 minutes travel time contained the 10 km radius around Waste Centroid.

Figure 1 illustrates - No. Figure 1.

Section 7 Waste Management System Development

7.3

pg. 5 - MRF may divert 60% of waste. MOE mandated waste reduction 50%.

pg. 4 - MRF desirable for the waste diversion potential.

7.3.1

pg. 7 - Residential recyclable volume reduction - 65% potential.

pg. 14 - MRF - private ownership preferred for Lambton County.

- MRF should be located in opportunity areas identified in Chapter 5. Not completed.

pg. 14 - MRF location cannot be determined due to potential private ownership of the facility.

pg. 14 - there are several opportunity lands for MRF sitings in the defined study area. Opportunities are vacant industrially zoned land and existing waste disposal facilities.

7.4.1 Plan 1 Potential Allocation of Waste No Diversion

pg. 19 - new land has yet to be selected. Assumed new landfill located at the centre of the Waste Centroid.

pg. 36/

7.6 Optimized System Description

Section 8.1.2.1 Goals and Objectives

- key goals - the 3 R's.

Section 8.2.5 Landfill p. 13

- additional long term capacity needed.

pg. 13 - the County should now continue with the site selection process and environmental assessment studies.

pg. 14 - the County will be responsible for rehabilitation and perpetual care of landfills after they cease operation. Such uses could possibly include parks or conservation authority activities.

• rehab. landfills make more sense to locate in a park.

APPENDIX E

Steering Committee Minutes Review

The Steering Committee was established to act as a liaison between the consultant and the member municipalities of Lambton County and the City of Sarnia. It functions as the client to whom the consultant M. M. Dillon reports, seeks approval and direction for the study progress. The Steering Committee is made up of _____.

The following is a summarization in point form of the committee minutes from March 29, 1988 to January 4, 1991. Comments are made in bold.

March 29, 1988. S/L WMMP

- Report on Stage 2B.

May 2, 1989

- Where Master Plan fits with Sarnia Landfill EA.
- MOE setting up PAC.

Update on WMMP

- Authorize Dillon to finalize Stage 2B report. Start Stage 3.
- County restructuring concerns.
- Laidlaw applied to change C of A to include all of Ontario. 1,700 people attended an Open House held by Laidlaw.
- S/L WMMP Committee opposes Laidlaw C of A change to all of Ontario.
- Would not recommend changes to Stage 1 and 2 to account for Sarnia's situation. Result in too much fudging.

Comment: Does this mean that the original data was incorrect or did not account for Sarnia? If the latter, then new Stage 1 and 2 report should have been initiated.

- Should have a Public Advisory Committee.
- Report on meeting - MOE/Sarnia Technical staff.

June 15, 1989

- Stage 2B report received from June 1, 1988.
- Feasibility study being done.
- Letter from City of Sarnia, Dec. 15/88, requesting Dillon to revise Stage 1 & 2 reports, re: Sarnia landfill life.

Comment: What was Dillon's response?

- Dillon letter Feb. 16/89 included public participation program.
- Lack of public interest - MOE and Steering Committee feel opportunities were adequate.

- Letter from Malcolm Boyd, re: tech. meeting Apr.7/88.

June 19, 1989

Deals with Petrolia Site.

- Dillon instructed to upgrade WMMP to EAA level.
- MOE recommended hiring a public participation co-ordinator.

Comment: There were no Terms of Reference for the public participation co-ordinator and Dillon recommended against it.

July 25, 1989

- Discuss Laidlaw propose to expand its landfill and license to take in waste from all of Ontario.
- Rhonda Hustler from Citizen's Committee wants County to take stand on Laidlaw EA process - Committee want a report from Planning Director.

Comment: What is County's stand towards Laidlaw?

September 5, 1989

Sarnia Interim Expansion

- Recommend Dillon & Conestoga-Rovers at a cost of \$525,000.

September 11, 1989

Petrolia landfill life at present fill rate.

- 17,000 t/yr is 35 years.
- Sufficient at Brooke, Dawn, Moore and Petrolia sites, until 2001 at present fill rates.

Janet Smolders of Dillon pointed out July 19/89 letter includes 5 criteria for accessing value of landfill sites.

Comment: What is the life of Sarnia landfill now? What is 5 criteria?

September 13, 1989

Sarnia Interim Expansion

October 24, 1989

General

- Public participation in this stage more intense to address MOE concerns.

Comment: What were MOE concerns?

November 16, 1989

Update on WMMP Stage 3A

- Three options for site.
 - Laidlaw site
 - Petrolia site
 - New site in study area
- Dillon explained study area site search.
- Dillon's work has shown many areas technically suitable for landfill.
- MOE's concerns establishing PAC and involving the public.
- Alderman Poore commented addition of PAC constitutes a "change in rules while the game is on".

Comment: It is obvious that Alderman Poore represents a majority opinion of members of Steering Committee.

November 27, 1989

- Review of proposed workplan for increased public participation in WMMP.
- Reference of Tiny Township in Simcoe County - inadequate public participation.
- MOE recommending more public participation.
- Best to have some radicals, housewives and farmers on PAC.
- Dillon will choose representatives from list.
- Update on Laidlaw site.
- Existing capacity - approximately 1 million tons at present fill rate (200 t/day) = 12 yrs.
- May not be viable site to include in WMMP.

Comment: Why?

- Petrolia site fits in WMMP.

Comment: Why?

December 18, 1989

Update on Stage 3 of WMMP

- Update on Petrolia site.
- Both Petrolia and Laidlaw - "opportunity sites".
- Compare them to a new site.
- Long term new site would not require community consensus because of site selection process in EAA.

Comment: Assumption is that there is no public involvement in site selection process.

PAC update - general

- Will invite 2 PAC members to sit on WMMP Steering Committee.

Update Sarnia Interim Expansion

- Residents interviewed within 1.5 km of site.
- Participation rate high.

Comment: Note that when effort is made to contact public on an environmental issue, participation rate is high.

January 22, 1990

Question on voting privileges of PAC on the Steering Committee.

Moved by M. Bradley. PAC Chairman and Vice-Chairman have full voting privileges on WMMP Steering Committee.

April 19, 1990

Chamber of Commerce. present re: EWP - feasibility study by Gore & Storrie to be completed by September 20, 1990. Cost of plant = 1 billion, start-up = 8-10 yrs.

- Funding for study from 4 major industries in Chemical Valley, Ontario Hydro, City of Sarnia, County of Lambton and Ministry of Energy.
- Letter from R. Hustler wanting minutes of Public and In-camera meetings of Steering Committee.
- In-camera meeting should not be discussed publicly.
- Both Councils oppose Laidlaw expansion - on record. Set aside \$300,000 to fight.
- Stage 3 draft does not agree with Chapter 6 predictions on waste quantities.
- P. Westfall, solicitor for the intervenor group for Sarnia Interim Expansion.
- A. Wright wanted to know if there were other groups that would seek intervenor funding.
- General consensus of WMMP Committee is that Public Liaison Committee established for the Sarnia landfill not be given voting privileges on WMMP Steering Committee.
- The representatives of PAC on the Steering Committee adequately fulfilled the needs of the public.

**SARNIA/LAMBTON
WASTE MANAGEMENT MASTER PLAN - Appendix E**

Sarnia Landfill Terms of Reference

April 19, 1990

Certificate of Approval - part lots 11 and 12, Conc. III, Twp. of Sarnia, Oct. 3/86

May 23, 1990

Moore Township talked about the Ogden-Martin EFW plant and tour in Grand Rapids, Mi.

- Worried the GTA proposal will delay the WMMP.

Comment: Proposed Plympton Site.

- Discuss taping minutes.
- Discussion on Dillon/Metro. Toronto/Lambton conflicts of interest.

Relationship to date

Lambton/Sarnia:

- Dillon hired in 1986 for WMMP and site selection process.
- Also Sarnia site interim expansion.

Metro Toronto:

- Dillon hired in 1987 for a long term site selection.
- Plympton Township looked at.
- Concern if Metro asks Dillon to list sites best to worst.
- Suspicion of those not involved of "Hidden Agenda".
- The Committee took the position that Dillon does not have a Conflict of Interest.
- Dillon will prepare a letter for public record on why no conflict of interest.

Comment: Letter should be reviewed and if necessary, challenged.

- Infor. on MRF plant.

PAC minutes of May 3, 1990:

- T. Burrell feels committee has not had a hand in landfill site selection process to date.
- C. Fletcher of Dillon explained Dillon started siting on their own in 1989.
- PAC favoured environmental constraints over environmental.
- Dillon would assist PAC in "getting the word out".
- A. Wright indicated daily tonnage limit for Laidlaw site Warwick Township could be court challenge.

June 19, 1990 - Sarnia Landfill Expansion

Purpose: Review comments on draft documentation to support Applications for an En Assessment Act Exemption and Environmental Protection Act Approval.

Landfill expansion costs:

- Letter to David Peterson, re: GTA Council does not support site in Lambton.

July 3, 1990

- Short summer meeting.

July 18, 1990

New Committee members from City and County.

Further discussion on Dillon's Conflict of Interest.

Metro asked Dillon to go beyond technical fact finding to actually ranking the sites in order of preference.

- Letter to Kent County to identify the Ridge and Gore sites as alternatives to expanding Sarnia site.
- PAC minutes of May 31 and June 28/90 be adopted.
- Direction re: PAC and mileage.
- Backyard composting program status.
- WMMP committee supports B.C.P.
- Copy of Waste Line - magazine.

August 15, 1990

New Committee members from PAC introduced.

Sarnia Interim Expansion

- Social Impact Assessment, pg. 68-70.
- WMMP - Ogden Martin proposal - EFW.

August 29, 1990 @ 12:30 p.m.

Sarnia Interim Expansion Application

- re: expansion a minor variance to the zoning - non-conforming use.
- A.Wright stated a landfill can exist anywhere as long as it conforms to the EAA. R.Snow felt County farther ahead to purchase homes prior to approval of landfill and then resell with landfills existence a pre-condition.

Comment: Obvious that R.Snow does not understand EAA or process.

- Moore, Dawn and Brooke can't accept Sarnia Waste as per respective C of A.

Comment: Can they be expanded and meet environmental criteria.

September 17, 1990 @ 12:30 p.m.

- Curbside collection of lawn and garden waste left to the future.
- Dillon will make presentation on Interim Expansion at County Council.
- Public Advisory Committee Action Plan Recommendations.

- Less emphasis on landfill more on reduction.
- C.Fletcher feels onus on County to respond to PAC recommendations.
- PAC does not feel MRF feasible at this time.
- PAC - 70% diversion over time.
- Dillon will review PAC recommendations in regard to Stage 3 report. Review Sept. 13/90 workshop.

Comment: Has Dillon ignored PAC recommendations?

- Industrial versus all land. Zoning not a consideration.
- R.Snow question on how to handle a willing seller.
- Reply - site has to meet technical requirements. Pass minimum acceptability.
- Reviewed criteria for study area are:
 - no Class 1 or 2 lands
 - close to highways
 - ESA to be avoided
 - break-in watershed
 - industrially zoned lands preferred
- As a result of Sept.13/90 workshop, industrially zoned land not a criteria.

October 18, 1990 @ 12:30 p.m.

- Sarnia Interim Expansion application 95% complete.
- C. Fletcher updated Committee.
- 3 workshops to date include PAC and public at large.
- Discussed 19 candidate areas.
- Siting criteria and priority discussed.
- Site size 71 ha on assumption. It would include landfill with no diversion to MRF (worst case).
- Next workshop short list sites. Site sizes required as follows: 31 ha -meet diversion objections (25%-50%) landfill only.
- A number of sizes and uses (see minutes).
- **ASSUMPTIONS OF MASTER PLAN**
 1. Planning - Council will not depend on private sector.
 2. Will be - landfill composting and MRF.
 3. Waste quantities residential some commercial/industrial.
- Dillon looking at candidate landfill sites.
- Moved - design of site not included, approx. 140,000 t/yr. of inert industrial/commercial solid waste.

November 8, 1990 12:30 p.m.

Delegation RE: Reuter Resource Recovery

- Asked Dillon and MOE for comments.
- 25% contingency in landfill size criteria.
- Letter from Rhonda Hustler, Oct.18/90, re: potential conflict of interest by Committee member.

Comment: Who?

- Letter sent by Metro Toronto to citizens of Plympton against landfill to review and approve criteria for Metro site selection.

Comment: Did WMMP Committee do the same for Sarnia/Lambton study?

- Letter.

December 13, 1990 @ 12:30 p.m.

- Delegation from Bluewater Recycling Assoc. gave a short introduction to BRA.
- Currently serving 55 municipalities in Huron, Middlesex, Lambton and Perth.
- MOE guidelines 25% to 50% reductions.
- Processing approximately 4,000 tones of recycles per year.
- Request from Metro Toronto to review the criteria for site selection.
- Request made to PAC.

Comment: Did Metro review the sites and were they selected by Dillon?

- Sarnia landfill interim expansion application update to committee.
- Review of discussion by M. Lennox with P. Hungerford with regard to planning documentation, re: required zoning changes.
- D. Poore advised committee property owners in vicinity of Sarnia landfill willing to sell their properties.

Comment: Was this followed-up by the Committee?

- Discussed best methods to notify the public, re: Stage 3 report.
- Discussed user pay system.
- Letter from City Sarnia, re: garden composting received and filed - dealt with staff level.

New Business:

- Material Recovery Facility by the Reuter group on the Indian Reserve. R.Snow agrees MRF viable part of waste plant.

Comment: Was it considered/reduce volume for existing sites, ie. Moore, Dawn, Etc.?

- Sarnia Interim Expansion - site will fill less quickly because City reduced or diverted waste from the landfill 1,500 t/month between 1988 and 1990.
- Letter from Dillon to the Committee, re: Material Recovery Facility. Possible effects on siting work.
- Process has proceeded on assumption of a site for a composite facility.
- If separate, it would not necessarily invalidate current siting process.

Comment: Have they ever considered separate sites for composting facility?
from Peter Westfall/lawyer, to the newspaper, Blackwell S.R. landfill.

January 4, 1991 @ 1:00 p.m.

- Move ahead with seven preferred sites and notify the owners.
- Next step, notify the adjacent landowners.

Comment: Was there no prior contact with the landowners to see if they wanted their lands considered? Did the landowners have any input into the process?

- Moore Township Council attended meeting.
- S.Campbell expressed planning process not followed.

APPENDIX F

**Waste Management Committee
Minutes of Meetings Review**

December 20, 1989

- PAC started at Stage 3 of WMMP.

January 23, 1990

- PAC reviewing Stage 3 report info on Environics Research Group Ltd., re: Halton WMMP.

February 22, 1990

Chairperson of PAC

- Attended MOE workshop in Toronto on public participation.

Comment: Why not Steering Committee and consultant?

March 27, 1990

- PAC reviewed Stage 3 draft - ready for Site Selection workshop.

April 20, 1990

Results of site selection workshops.

- 40 people attended from across the County.

Comment: Who were these people and who did they represent?

- agenda: Task 1 - Define Study Area
Task 2 - List Constraints
Task 3 - Rank Constraints

April 23, 1990

May 23, 1990

- Second meeting of Landfill Site Selection Committee.
- PAC wants Dillon's assistance to arrive at a method of justifying process to determine final study areas defined by constraints.

June 13, 1990

June 18, 1990

June 26, 1990

July 24, 1990

- PAC timetable for WMMP.
- Public workshops re: site selection.

August 14, 1990

August 28, 1990

- General

September 25, 1990

Department Report

- PAC submitted "Action Plan Recommendations" referred to Dillon.
- Listed site selection criteria - industrial land.
- In order to not constrain sites prematurely, industrial zoning requirement dropped.

October 30, 1990

- General

November 27, 1990

Department Report.

- Last component to complete WMMP. Select sites. Reduce number to eight.

December 4, 1990

- Fees for dumping.

Comment: What are the proposed fees?

December 10, 1990

- About County takeover of landfill sites.

January 29, 1991

Department Report

- Candidate sites were presented to the Steering Committee.
- Agreed to 7 sites.
- D, E, H, I most preferred. A, B, C less preferred.
- Met with Moore Township Council - property owners affected by sites notified by hand delivered mail on same day, January 4, 1990.
- Landowners contacted. Sent out a questionnaire.
- County Planning Department in difficult position. Could be Conflict of Interest with candidate sites in Moore Township.
- Suggest County provide intervenor funding to Moore Township.
- Strong support for intervenor funding.

APPENDIX G

**Public Advisory Committee
Minutes of Meetings Review**

The Public Advisory Committee was formed at the advice of the Ministry of the Environment in November 1989 in an effort to improve the public participation and involvement in the process. Although it was late in the process, it can be an acceptable method of seeking public involvement, if implemented properly.

December 12, 1989

First meeting of PAC.

- Introductions.
- Review of Master Plan progress.
- EAA.
- PAC Draft Aims and Objectives.
- PAC started at Stage 3.

January 11, 1990

Second meeting of PAC.

- An apparent push for speed or pressure on PAC to meet Steering Committee schedule.
- Membership around 20 from all areas of County.

February 1, 1990

Third meeting of PAC.

- Stats out of date.
- We need up-to-date stats to make informed judgements.

March 1, 1990

- List questions on Master Plan for answers from Dillon and County.
- Set up 3 sub-committees. Landfill site selection, one committee.

August 2, 1990

- Discussion of importance of PAC's recommendation to Steering Committee.
- J. Kutyba said they are very important to the EA board.
- General discussion on site selection workshop. Dillon will be asked to provide info on woodlots, ESA's pipelines, oil & gas wells and area residences.
- PAC Landfill Design & Operation Recommendations - landfill should be in industrial area.

August 16, 1990

Sarnia Interim Expansion Application

- Public presentations discussed.
- Waste reduction discussed.

November 1, 1990

- Letter from Rhonda Hustler, re: Conflict of Interest. Mr. Plug attending landfill site selection meeting is also employee of K & E Solid Waste.
- Attached memo from M.V.A. Harrold, re; area requirements for landfill siting. PAC recommendation and response.

December 6, 1990

Question - Where is PAC going?

- PAC will be finished in January or February 1991.

Comment: PAC should be active right up to and including the hearing.

APPENDIX H

ENVIRONMENTAL ASSESSMENT WATCH

Joint Board denies Meaford/St. Vincent landfill application

Doug Thomson and
Dennis H. Wood
McCarthy Tétrault, Toronto

A Joint Board, under the *Consolidated Hearings Act, 1981*, issued on December 13, 1990 a decision on an application by the Town of Meaford and the Township of St. Vincent to establish a new landfill in St. Vincent.

The municipalities involved have a combined population of approximately 6220, and have been involved in a search for a new landfill site since 1981. The Joint Board hearing on the application lasted 104 days, and it would appear that the cost of the application to the municipalities exceeded one million dollars.

The Joint Board, in its decision, did not accept the environmental assessment carried out on behalf of the municipalities, and accordingly *denied* approval to proceed to the municipalities.

The Board held that (at least with respect to municipalities), a proper site selection process is required by the *Environmental Assessment Act*. Such a process will, in the Board's view, minimize the negative environmental impacts of a project, as well as ensure to those who may be affected by a project that the selection of the site was "fair." In *Meaford*, the Board concluded that the site selection "process" used by the proponents was so badly flawed as to be irreparable, and accordingly, the environmental assessment was not accepted.

While the Board found numerous shortcomings in the proponents' site selection process, the following were listed as the most significant:

1. Criteria were not clearly defined, and, to the extent that some of the criteria had been defined, they were not used in identifying potential sites. The initial list of candidate sites was assembled as a result of suggestions from members of the Joint Landfill Committee, the township Council and the public, with some input from the consultants. A number of these sites would not have survived the application of the "exclusionary" criteria which had been identified by the consultants. The preferred site was identified by the Chair of the Joint Landfill Committee as a result of an approach to the property owners, rather than as the result of the application of site selection criteria.

Doug Thomson and Dennis H. Wood practise environmental law in the Toronto office of McCarthy Tétrault, with an emphasis on waste management and assessment matters.

2. The municipalities adopted an exclusionary criterion, namely that they would only look at properties which were "available" for sale, on account of their desire to avoid expropriation. The Board, while accepting the municipalities' judgment on the reasonableness of this criterion, found that it was not applied in a manner which ensured that a full list of sites that met this criterion was compiled.

3. The preferred site was investigated for hydrogeologic suitability, and when it appeared to offer potential for landfill development, an option was taken on the property and the site was in effect "selected" without a comparative evaluation of alternative sites.

4. When a comparative evaluation involving alternative sites was subsequently done in order to attempt to justify the selection of the preferred site, the Board found that those evaluations were "inconsistent and unfair."

The Board also offered a number of comments and conclusions on related and other environmental assessment matters which are of more general application. Among the more significant are the following:

1. The requirement of the *Environmental Assessment Act* that the advantages and disadvantages to the environment of an undertaking and its alternatives be evaluated implies that, prior to the selection of the preferred alternative, a planning process will have taken place. At a minimum, according to the Board, that planning process will include the establishment of criteria for the identification and evaluation of alternatives. The Board suggested that, if such planning is not done prior to the selection of the preferred alternative, the evaluation cannot be fair:

...what will invariably happen is that after the alternative is selected, the criteria will be established and prioritized, and the evaluations will be carried out, consciously or not, to achieve the result that the undertaking selected is the best one.

2. The Board was asked by the intervenors in *Meaford* to find that public participation was an implied requirement of the *Environmental Assessment Act*. The Board declined to answer this question, but noted that "(r)egardless of whether it is required, it is to a proponent's considerable advantage to involve the public in a meaningful way from the earliest stages of project development." In *Meaford*, the Board found that the public participation program of the municipalities was informative and not consultative, and that virtually all of the important decisions, including the establishment of the

selection and evaluation criteria, were made without public involvement.

3. The Board stated that, given provincial waste diversion targets, municipalities "should no longer do their planning on the basis that waste generation will inevitably increase."

4. The proponent municipalities in *Meaford* did not carry out a formal "social impact assessment study." The Board concluded that the criteria employed by the municipalities in their site search were, instead, an adequate consideration of social impact "given the nature of the undertaking and the standards of the day."

The finding of the Board in this regard leaves open the question of whether a formal social impact study of an undertaking and its alternatives will be required by the Board in other circumstances. At the very least, it appears clear that evaluation criteria properly designed to take social impact into account are a required component of any environmental assessment.

5. With respect to site selection and evaluation criteria, the Board suggested that, in most circumstances, all criteria will not be of equal importance. Accordingly, some determination of the relative importance of these criteria must be made at the outset: "(a)t a minimum, there must be an explicit recognition of which criteria are exclusionary, and, of the non-exclusionary, which are most important."

6. The hydrogeological evidence of both the proponents, and to some extent the intervenors and the Ministry of the Environment, was criticized by the Board. The Board's decision states that, during the course of the hearing: "(i)t became clear to the Board that

hydrogeology is at best a crude science, with high degrees of experimental error possible, and even probable." In particular, the Board was concerned that the soil sampling and other information upon which the hydrogeologic assessment of the preferred site was based were limited, inexact and subject to wide variances. The Board found that the proponents' hydrogeologist had failed to acknowledge the "large amount of uncertainty" in his estimates of hydraulic conductivity.

The Board recommended in this regard that the Ministry of the Environment assist with the standardization of field measurement and data analysis methodologies for the hydrogeological investigation of landfill sites.

According to the Board: "(i)f standardization existed,

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the range of dispute, and therefore the time and expense of hearings, might be considerably reduced."

7. Based on its interpretation of conditions at the preferred site, the Board found that a fully engineered leachate collection system would be necessary to keep leachate out of the groundwater. In this regard, the Board acknowledged the Ministry of the Environment policy on the use of engineered facilities at landfills, namely that such facilities must be maintained for at least the "contaminating lifespan" of the landfill. Concern has been raised in the past with respect to this policy in that it is difficult to establish that an engineered facility, such as a leachate collection system, or a liner, would in fact survive the contaminating lifespan of the landfill. Significantly, in *Meaford*, the Board appeared to

accept that, if the leachate detection system, or part of it, failed, that failure "would most likely be detectable and repairable." This aspect of the Board's decision may offer some useful guidance to other applicants who wish to propose the use of engineered facilities for landfilling.

8. The Board accepted the proponents' decision to use avoidance of specialty cropland as an exclusionary criteria in their search for a new landfill site. This appears to support the importance accorded to agricultural impact in the *North Simcoe* decision, and in the subsequent Cabinet Order that modified the *North Simcoe* decision.

While indicating that it was reluctant to attempt to provide a "how to" manual for municipal landfill site searches, the Board offered the following process suggestions:

(i) The proponent should make every attempt to involve the Ministry of the Environment and the public at the outset.

(ii) The site selection criteria should be established, defined and prioritized before potential sites are identified.

(iii) Data relating to the site selection criteria should be gathered so that screening and, later, meaningful comparative evaluation can be carried out.

(iv) The site selection criteria should be employed in identifying potential sites so that an array of real alternatives is compiled for evaluation.

(v) Sites should be compared using similar levels of detail.

Meaford is the second Joint Board decision in succession to reject a site on which it appeared landfilling could have been safely carried out, on account of concerns about

the "process" which led to the site. The Board in *Meaford* cites with approval the decision of the Joint Board in the *North Simcoe* case, namely that "if the process is flawed, a question mark hangs over the result."

While it is perhaps easy to find fault with the site selection process employed by the municipalities in *Meaford* on the evidence outlined by the Board, the decision nonetheless reaffirms that the identification and evaluation of alternatives required by the *Environmental Assessment Act* must be carried out in a systematic, rational and traceable fashion.

In the *North Simcoe* case, a Joint Board denied approval for the landfill sought by the applicant municipalities. On review, the Cabinet overturned the Board's decision and substituted an adjournment of the hearing, in order to allow the municipalities an opportunity to carry out further investigations of other areas comparable to the preferred site, and present this evidence at a continuation of the "adjourned" hearing. This remedy does not appear to be available in *Meaford*, where the Board stated that: "(t)he site selection process cannot be repaired; it has to be started anew." It remains to be seen whether Cabinet will agree. □



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**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

**RESPONSE BY DILLON
JUNE 1991**

Our File: F9928-20

18 June 1991

Lambton County Waste Management
Master Plan Steering Committee
County of Lambton
P.O. Box 3000
WYOMING, Ontario
N0N 1T0

Attention: Mr. H. Wayne Kloske
Chief Administrative
Officer and Clerk

**Waste Management Master Plan
Review and Critique**

This letter provides, as requested, a brief and general response to the following:

- a letter from Harrison Elwood, Barristers and Solicitors dated 31 May 1991 and signed by Thomas J. Corbett (the Harrison Elwood letter);
- a letter from UMA Engineering Ltd., Engineers and Planners, dated 31 May 1991 and signed by David J. Whitney of UMA and Ian Moncrieff of Consolidated Environmental Group Ltd. (CEG) (the UMA/CEG letter);
- a report by Consolidated Environmental Group Ltd. and UMA Engineering Ltd., dated May 1991, entitled Sarnia/Lambton Waste Management Master Plan: A Review, Critique and Recommendations for Moore Township (the UMA/CEG report).

Our overall response is that the Harrison Elwood and UMA/CEG letters, and the UMA/CEG report demonstrate a lack of knowledge and an inadequate understanding of the process being followed, the activities that have been completed and the work in progress in the development and finalization of the Lambton County Waste Management Master Plan (WMMP). The two letters and the report reflect not only a lack of information but significant misinformation.

... continued

DILLON

Lambton County Waste Management
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What is surprising is that the letters by Harrison Elwood and UMA/CEG contain broad criticisms and condemnations of the WMMP process, in spite of their admitted lack of knowledge and uncertainty about what has occurred.

We recognize that the reviewers may not have been provided with the information necessary to be fully knowledgeable about the Lambton County WMMP process. We also recognize that their Terms of Reference may have prevented them from contacting all sources necessary to conduct an adequate review. Members of the Dillon study team were not contacted. Apparently, the MOE representatives, who have provided an ongoing review and critique of the WMMP work, were not contacted.

We would welcome a legitimate, comprehensive and independent review of the Master Plan work to date and would be happy to co-operate with such an effort.

The UMA/CEG letter provides comments on the following:

- waste quantity projections;
- the use of municipal and private landfills;
- public involvement;
- the role of the County Planning Department; and
- the site selection criteria.

The following provides responses to these and other key issues raised by UMA/CEG. We have attempted, as requested, to be concise in our review. We would, however, be pleased to provide a more detailed response to the report, if warranted.

- The reviewers refer to a draft Stage 3A report produced by Dillon in May 1990. No such report exists.

In addition to the Stage 1, Stage 2A and Stage 2B reports, a draft report entitled Sarnia/Lambton Waste Management Master Plan, dated December 1989, was presented to the Steering Committee and the Public Advisory Committee (PAC). The purpose of the draft report was to provide the Steering Committee and the PAC members with written documentation of the work completed to that date, and to encourage implementation of any aspects of the recommended system (e.g., 3R's) that could proceed immediately.

As outlined in presentations to the Steering Committee and to members of County Council, the Master Plan work undertaken since August 1989, and currently in its final phase, will result in the production of an EAA-level plan which incorporates and updates all previous work. This will not be a "Stage 3" document but will be a final Master Plan which incorporates the results of all Stage 1, 2 and 3 work.

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Public representatives from across the County are participating in the review and update process and, through the site selection workshops held from April to November 1990, members of the public, representing 11 municipalities across the County, have played a significant role in the site selection process.

It appears the reviewers are unaware of the approach being pursued in conducting and documenting the Master Plan process. It is possible they not only misread the date but also misinterpreted the status of the December 1989 draft report produced for the benefit of Steering Committee and PAC members.

- The reviewers assert that a decision was made to obtain a site for a new landfill rather than enhance the existing County municipal system or utilize existing or proposed private and municipal landfills. The reviewers question the waste quantity projections calculated by Dillon. The reviewers conclude that "there is no justified need for a new landfill to satisfy the long-term requirements of the City/County plan".

The decision to pursue new long-term landfill capacity is based on extensive analysis of:

- the existing waste management system and municipal facilities within Lambton County;
- the potential role of existing private waste management facilities;
- the predictions of future waste quantities for the planning period;
- the potential effects of waste diversion activities.

With respect to the six existing municipally-owned landfills, only one has sufficient capacity to accommodate its present wasteload over the study period. This landfill has insufficient capacity to absorb all of the County's waste through to 2016. Long-term disposal capacity is specifically required in the Sarnia-Clearwater area. Even if existing municipal sites had sufficient capacity, five of the six sites (all except the Sarnia site) would require changes to their Certificates of Approval in order to accept wastes from the Sarnia-Clearwater area.

With respect to private sites, no alternatives currently exist within Lambton County for the long-term disposal of wastes. Two privately owned sites, Laidlaw and Petrolia, have capacity but require changes to their existing Certificates of Approval (C of A). In the case of Laidlaw, it is already operating at or near the allowed daily limit. In the case of Petrolia, a change to the approved service area would be required.

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The use of private sites can be, and has been (for several years), pursued in parallel with the planning for a publicly owned waste management facility. The County, however, cannot afford to abandon plans for a public facility unless and until a contractually committed private solution is in place.

With respect to the reviewers' comments regarding waste quantity projections, waste generation rates calculated for Sarnia-Clearwater and Point Edward were determined to be approximately 2.5 kg/cap/day, based on data available in 1986. This rate is approximately 25 per cent greater than the Ministry of Environment's (MOE) planning or rule-of-thumb rate of 2 kg/cap/day for urban areas. The planning rate is assumed by the MOE to be 1 kg/cap/day for rural areas. However, in July 1990, the MOE released a discussion paper entitled "Towards a Sustainable Waste Management System" which indicated that each person in Ontario generated over one tonne of waste during the year 1987. This is equivalent to a generation rate of 2.7 kg/cap/day.

The Sarnia area accounts for about 80 per cent of the wastes generated within Lambton County. To determine waste quantity projections, the generation rate calculated for Sarnia-Clearwater and Point Edward was adjusted downwards to better reflect the generic MOE generation rates. A waste generation rate of 2.2 kg/cap/day was considered by the County to be a reasonable estimate of waste generation in urban areas. Similarly, a rate of 1.1 kg/cap/day for rural areas was also considered reasonable.

During the past year, further work has been completed in relation to the generation of municipal wastes in the Sarnia-Clearwater area. This work was undertaken as a component of the Sarnia Landfill expansion study. Waste generation data collected for that study reflects the generation rates used in the WMMP.

The effect of waste diversion or 3R's (reduce, re-use, recycle) programs on the quantity of municipal wastes requiring disposal in Lambton County was considered in the WMMP as part of the development of systems. It will be essential that the County make a concerted effort to achieve the MOE guidelines for waste diversion. These guidelines are to divert 25 per cent of the waste stream from disposal by 1992 and 50 per cent by 2000. To achieve these goals, the County has included such alternatives as composting and a materials recovery facility in their proposed waste management system. The inclusion of these alternatives will decrease the reliance on disposal by landfill.

- The reviewers state: "There appears to be a lack of significant public involvement in the process to date." With respect to "public involvement methods" they assert that "the one selected for the Sarnia/Lambton study was the use of a Public Advisory Committee (PAC)". Apparently, the reviewers were unaware of the range of activities undertaken in the public consultation program to date, and the degree to which the public has been involved.

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Lambton County Waste Management
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During Stages 1, 2A and 2B of the Master Plan process, the Steering Committee and Dillon provided many opportunities for public, interest group, local municipal and agency input. The opportunities provided during these stages are summarized as follows:

Stage 1 (1986)

- A notice was placed in ten County newspapers advising of the start-up of the Master Plan.
- Two newsletters were distributed to all local municipalities, interest groups, area industries, interested/affected agencies and to the County's branch libraries.
- A questionnaire on current waste management practices was distributed to all local municipalities and area industries.
- A meeting was held with interested/affected agencies.
- Four Open Houses were held.
- The Stage 1 report was distributed to all local municipalities and to those agencies and interest groups who had participated in Stage 1.

Stage 2A (1987)

- Two Open Houses were held.
- A meeting was held with interested/affected agencies.
- The Stage 2A report was distributed to local municipalities and all agencies and interest groups who had participated during Stages 1 and 2A.

Stage 2B (1987)

- Two Open Houses were held during Stage 2B.
- A joint City/County Council meeting was held. Representatives of interested/affected agencies and local municipal councillors were invited to attend.
- The Stage 2B report was distributed in the same way as the previous reports.

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The poor attendance at the Open Houses and lack of public interest in the early stages of the Master Plan were discussed on many occasions with representatives of the Ministry of the Environment's Environmental Assessment Branch and Waste Management Branch. Both Branches agreed, at the time, that the co-proponents provided adequate opportunities for public input. Unfortunately, few people took advantage of these opportunities.

Since the initiation of the EAA-level plan, in August 1989, and the decision to begin a site selection process for new landfill capacity, public interest and involvement in the Master Plan has increased. Since the fall of 1989, a full range of public consultation activities has occurred, including:

- a newsletter
 - public notices
 - Council presentations
 - Public Information Centres
 - Public Advisory Committee Meetings
 - Site Selection Public Workshops
 - Press Conferences
 - a property owner meeting.
- The UMA/CEG 31 May letter states that "the role of the County Planning Department appears to be minimal in this planning process". The County Planning Department has, in fact, had significant involvement in the WMMP. The Planning Department's role has changed throughout the Master Plan process, as a result of the County's new responsibilities for waste management.

The Master Plan was initiated by the Lambton County Planning Department in 1985. Between 1985 and 1990, the Master Plan was directed by the Waste Management Master Plan Steering Committee, which reported to the County's Planning and Development Committee. The County Planning Director was Dillon's main client contact.

During the Summer of 1989, the Provincial Legislature passed Bill 35 which provided for the restructuring of Lambton County on 1 January 1991. Also on that date, the County was to assume waste management responsibilities. To implement these responsibilities, the County hired a Waste Management Director in late 1989, and formed a County Waste Management Department.

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With the new department, the responsibility for the Master Plan shifted from the County Planning Department to the Waste Management Department. The Waste Management Master Plan Steering Committee now reports to the County's newly formed Waste Management Committee. Dillon's main client contact is the Waste Management Director, Mr. James Kutyba.

The County Planning Department is still, however, involved in the preparation of the Master Plan. The Department has provided Dillon with ongoing assistance. In addition, representatives of the Department will continue to be consulted during the final phase of the site selection process.

- The reviewers state that "the site selection criteria employed to identify a new landfill site has not been consistent throughout the study", and that "the various screening criteria employed to identify potential landfill areas and sites have changed, but industrial land designation has remained constant". They assert that "the current process in obtaining approval of a new landfill site for Lambton County may be doomed to failure before the Joint Board" and that "the process is fundamentally flawed".

Unlike those that have failed before the Joint Board, the site selection process undertaken to date is, in our view, a rational, comprehensive, defensible process which has included significant public involvement, including representation from Moore Township. Representatives of the Ministry of the Environment have reviewed the process and provided comments and suggestions for improvements throughout. The process which resulted in the announcement of seven candidate sites in January 1991 was presented to members of Moore Township Council, the media and potentially affected property owners in January 1991.

The goals of the process, established at the outset, provided the framework for the aspects of the environment ("factor groups" and "factors") which were considered explicitly at every step in the process. The participants in the site selection workshops reviewed, and confirmed or revised, not only the type of criteria employed but the relative importance of the criteria in decision-making.

The site selection process involved a constraint mapping procedure. In essence, this procedure involved the progressive elimination of areas within the County considered unsuitable or less suitable for landfilling.

The criteria used to eliminate areas were identified with reference to the site selection goals and to the broad definition of the environment specified in the Environmental Assessment Act. The approach taken was logical and consistent throughout.

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- The reviewers refer to the waste centroid and 20 minute travel time from the City of Sarnia originally suggested by the consultant team to assist in defining a site selection study area. These initial criteria were deleted due to decisions made by the site selection workshop participants at the first site selection workshop held in April 1990.

This revision in the study area identification criteria was considered appropriate, given the workshop participants' views that there should be less emphasis on costs, and greater emphasis on the preservation of Class 1 and 2 agricultural soils, and on land use compatibility. A waste management facility is considered an industrial use, and it is most appropriate that, where possible, waste management facilities be sited on lands designated for industrial uses.

With respect to the Moore Township site and the proposed site in Plympton Township, neither of these are compatible with the criteria established for the site selection process. In the selection of a site for new landfill capacity, existing sites (as in the case of Moore) are not considered to have advantages over a new site.

- The reviewers indicate that the energy-from-waste options have not been given sufficient consideration or evaluation. In fact, energy-from-waste options have been explicitly considered in the evaluation of alternative waste management technologies; the technical reasons why EFW is not a component of the recommended system have been clearly discussed. In brief, the Lambton County waste stream, with the incorporation of the 3R's, including an MRF and centralized composting, would be insufficient to support both an incinerator and a landfill. It is also noteworthy that a ban on any new municipal solid waste incinerators was recently imposed by the Minister of the Environment.
- The reviewers state that "the (Dillon) report recommends that an MRF for Lambton County be privately owned ..." In the December 1989 draft report by Dillon it was stated: "The MRF may be publicly or privately run. Private ownership is preferred for Lambton County ...". Following further analysis it was recommended that a County-owned, privately-operated MRF facility would offer a number of advantages and may best "fit" the intent and content of the current Master Plan, as indicated in the "Working Paper on Materials Recovery Facility Implementation" by Dillon dated May 1990, and

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Lambton County Waste Management
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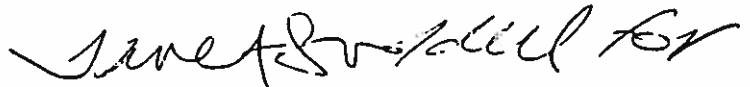
18 June 1991

the letter from Dillon presented to the Steering Committee and dated 13 December 1990. The pursuit of a County-owned MRF has been clearly reflected in the site selection process which occurred throughout 1990 and is currently in its final phase. This site selection process focuses on the identification of a site for a composite waste management facility, including an MRF, centralized composting and a landfill.

We would be happy to respond to any further questions or concerns that may be raised, within the context of the Steering Committee, regarding the Lambton County WMMP process.

Yours truly,

M. M. DILLON LIMITED



CJF:cmf

Catherine J. Fletcher, M.Sc.
for J. R. Balfour, P.Eng., MCIP
Project Manager

cc: Warden Ron Snow
Mr. Ivan Bryce, Chairman, Waste Management Standing Committee
Mr. James Kutyba
Mr. Andy Wright, McLennan Wright



148 Fullarton Street, Suite 1700, Talbot Centre, London, Ontario N6A 5P3 • Telephone (519) 434-7393 • Fax (519) 432-0784

June 18, 1991

The Corporation of the
County of Lambton,
789 Broadway Street,
Post Office Box 3000,
WYOMING, Ontario
N0N 1T0

RECEIVED

FEB 17 1995

M.M. DILLON LTD.
TORONTO OFFICE

Attention: Ron Snow
Warden of Lambton County

Dear Warden Snow:

Re: Moore Township's Legal, Engineering and
Planning Consultants' Critique of the
Waste Management Master Planning Process

I am taking the liberty of writing as I gather that the County is being faced with what I predict will be the first of many attempts by Moore Township to sabotage the County's Waste Management Master Plan, from within.

One of the difficulties which the County will inevitably encounter, as it attempts to establish waste disposal facilities, is that those facilities will be located in and be opposed by local municipalities which are part of the County. Local municipalities, then, will always be privy to the strategic planning and decision making of the County, as it works toward obtaining the necessary approvals under the Environmental Assessment Act.

The reverse, however, will not be true. Local municipalities opposing the County cannot be expected to share their strategic planning. This is a necessary feature of a County system under which the County has the authority to provide waste disposal facilities, inevitably in the territorial jurisdiction of a constituent local municipality.

Because the process will always be open to scrutiny by the potential opposition, the County must take care to provide a consistent and open response to suggestions or demands that the process be changed. Only by continuing to proceed in a consistently reasoned and rational manner will the County be able to implement its' mandate under the Sarnia-Lambton Act, 1989, that is, obtaining approvals for and commissioning waste disposal capacity as part of the over-all County waste management plan.

D.L. McLENNAN, O.C.
C. GRANT DICKIE, B.A., LL.B.
ANTHONY M.J. VAN BOMMEL, LL.B.

ANDREW C. WRIGHT, B.A., LL.B.
H. JAMES WOOD, B.Sc., LL.B.
MARCUS A. LENNOX, LL.B., M.B.A.

JOHN M. DRIESMAN, B.A.
TIMOTHY G. PRICE, B.Sc., LL.B.
R. MAIREEN FOSTER, LL.B.

W. RUSSELL MONTEITH, O.C.
A. DAVID BRANDER, B.A., LL.B.
E. ANNE HISCOCK, B.A., LL.B.

The point of this communication is to caution the County to recognize Moore Township's motives. When considering the legal, engineering and planning opinions presented by Moore Township, County Council and its administration must appreciate that those opinions reflect the views of a Township which is seeking to avoid hosting a County landfill site. It appears to me that the Township's current strategy is to persuade County Council to take a fatal step in the process at this stage. The Township would then challenge the result of the process when it comes to the necessary hearings.

I gather that County Council has before it a series of resolutions which, if adopted, would pervert or curtail the Waste Management Master Plan, including the ensuing environmental assessment process. In support of these resolutions the Township of Moore has recently obtained opinions from legal, engineering and planning consultants.

While the County and its legal, engineering and planning advisors should always be ready to consider criticisms, suggestions and opinions from the prospective host municipality, the County must appreciate that such criticisms, suggestions and opinions are not always intended to be constructive. When there is a difference of view, I would suggest that more weight ought to be given to the opinions of the legal, engineering and planning advisors of the County. Their mandate is to serve the County-wide best interests, which is consistent with the County's mandate under the Sarnia-Lambton Act, 1989. This mandate requires that a County-wide perspective be taken in matters relating to waste management strategy and planning.

In the current situation, Moore Township has presented a legal opinion which is based on a joint report prepared in May of 1991 by UMA Engineering Ltd. and Consolidated Environmental Group Ltd. The conclusions of UMA Engineering Ltd. and Consolidated Environmental Group Ltd. are predictably critical of the County's efforts. The consultants' conclusions, in this sense, are representative of the conclusions which would be expected of any potential host community; whether it be Moore Township or Plympton Township, as recommended by the consultants for Moore Township.

Notwithstanding that, on their own admission found on page 6 of the Joint UMA/Consolidated May 1991 Report, Moore Township's consultants are not fully informed of all of the facts, they are nonetheless prepared to recommend the undertaking of a thorough study to provide "a competitive, more up-to-date recommendation for the Master Plan implementation" (page 28 of Joint UMA/Consolidated May 1991 Report) in the hopes that the competitive master plan will produce a different result.

Certainly the production of another, competing master plan is a legitimate opposition tactic. If successful, from the

perspective of Moore Township, it will produce a preferred land-fill site in another Lambton County municipality. It is highly probable, however, that the new prospective host municipality will want to undertake a further competitive master plan. In the end, the County must ask how many master plans the County must sponsor and subsidize before this process comes to an end.

In the name of saving money, it would seem that the County is being asked to scrap the Waste Management Master Plan which has been under way for six years and to fund the cost of the proposed competitive master plan which is, presumably, to be undertaken by UMA Engineering Ltd. and Consolidated Environmental Group Ltd. under the direction of Moore Township's legal advisors rather than our firm as the County's waste management lawyers.

I conclude with an expression of concern about this costly, and unbudgeted, mode of information exchange with Moore Township. Care should be taken to avoid establishing this pattern as the norm for dealing with requests for clarification of issues relating to waste management. For instance, I would suggest that, through the County's Waste Steering Committee, Moore Township should be encouraged to have its solicitors and consultants communicate with us or with M.M. Dillon for clarification of issues or facts.

With these comments I do not wish to comment adversely on any of the participants retained by the Township of Moore to oppose the results of the County's Waste Management Plan. Their position is essentially a reflection of the mandate which they have from their client. However, while the County and its consultants should be astute to consider the opposition comments, the County should not adopt a course of action designed to pervert the process so that this, or any other, Township may avoid a result with which it and its ratepayers are not entirely delighted.

Yours very truly,



Andrew C. Wright

ACW/fog
2391 2 29.1

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-15

**QUESTIONNAIRE TO
PROPERTY OWNERS AND TENANTS
OF SEVEN PREFERRED SITES
1991**

**SARNIA/LAMBTON
WASTE MANAGEMENT MASTER PLAN
LANDOWNER QUESTIONNAIRE**

Name _____

Mailing Address _____

Property

Lot _____ Conc. _____

Please address the following questions by outlining the requested information on the attached map (if applicable) and discussing its significance. Also, could you please outline the boundaries of your property on the map.

Residency

1. How long have you owned the property? _____ years.

2. a) Do you lease your property to another individual?
_____ yes _____ no.

b) If yes, to whom and for what purpose do you lease your property.
(Name & Address) _____

c) If yes, how much of your land parcel is leased?

3. Please check off the appropriate.

_____ I live on-site and farm the property.

_____ I live on-site and lease the property.

_____ I live off-site and farm the property.

_____ I live off-site and lease the property.

4. What future plans to you have for this property.

Agriculture

5. Do you currently farm your property?

_____ yes _____ no.

6. Please outline the types of crops grown (and where grown) and productivity levels for the last five (5) years.

7. Please comment on your farming practices (i.e. crop rotations or monoculture, fertilizer application, land improvement, etc.)

8. Please outline the % production of this area as compared to the other areas you farm (i.e. what % does this area contribute to your total production).

9. What is the total area you farm (include this area and elsewhere)?

10. Is this property used for any type of livestock? If so, what kind and how many.

Natural Environment/Resources

11. Please outline any information with respect to the following for your property.

- Fisheries _____

- Vegetation _____

- Soils _____

- Wildlife _____

12. Are you involved in any of the following activities on your land parcel?

- Tree Cutting _____

- Hunting _____

- Trapping

13. If so, please discuss the activity's significance to you.
-
-
-
-

14. Please outline on the map any active oil/gas wells which are on your property.

Surface Water

15. Please outline the location and direction of flow of any drains on you property.

16. Which drains would you consider permanent (i.e. flow all year round)?
-
-
-

17. Please outline areas on your property which have standing water (sprin flooding).

Hydrogeology

18. Please mark on the map the location of any abandoned wells of which yo are aware.

19. Please mark on the map areas of your property which are leased for natural gas storage. Also, what gas company leases your land for this purpose.
-
-
-
-

20. Please comment on ground water quality in your area.

21. Please provide any information with respect to your water well (use, location, depth, depth to water, diameter, type, name of driller, when drilled/dug).

General Comments

22. Are there any other comments concerning your property you would like to make?

23. Are there any other significant land features on your property of which you feel we should be aware?

Thank you for your comments. This information will be used to assess the suitability of your property for a waste management facility.

POTENTIAL LANDFILL SITE PROPERTIES

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
A. Michael Ludney	6700 E. 15 Mile Road Sterling Heights, MI 48077 USA	40-071 leased
Kenneth Prouse	R. R. #1 Mooretown, Ontario NON 1M0	40-072 XX leased 867-5399
Robert Prouse "Lyle"	95 William Mooretown, Ontario NON 1M0	40-074 XX leased 867-2941
Edward MacPherson "Bruce" Mary MacPherson	R. R. #1 Mooretown, Ontario NON 1M0	40-075 XX
357316 Alberta Ltd. c/o Matthews Group Ltd. Kim Donovan Vice President, Project Development	1091 Crumlin Road P. O. Box 3055 London, Ontario N6A 1J2	40-076 453-5900
Taisto Puurunen Sylvia Puurunen	R. R. #1 Mooretown, Ontario NON 1M0	40-107 XX
540933 Ontario Ltd. c/o Mrs. Stan Sroka	R. R. #1 Mooretown, Ontario NON 1M0	40-106 XX leased 862-3229
Donald J. Burns	R. R. #1 Mooretown, Ontario NON 1M0	40-105 leased 864-4058
Robert MacPherson Laurie MacPherson	R. R. #1 Mooretown, Ontario NON 1M0	40-103 XX 867-2673

XX - questionnaire returned

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
B. Blake Nisbet	R. R. #1 Mooretown, Ontario NON 1M0	40-063 leased 867-2874
Michael P. Bogaert	R. R. #1 Brigden, Ontario NON 1B0	40-062 XX 864-1210
Kenneth L. Kells Phyllis C. Kells	R. R. #1 Mooretown, Ontario NON 1M0	40-061 XX leased 864-1424
Dora J. Rankin	R. R. #1 Mooretown, Ontario NON 1M0	40-060 XX
Mooreglen Farms Ltd. c/o Melvin R. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-059 XX 867-5278

XX - questionnaire returned

	<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
C.	Frank Celnar	1145 Fraser Ave.	40-097-01
	Helena Celnar	Sarnia, Ontario N7S 4V3	542-5917
	Frank Celnar	1145 Fraser Ave.	40-097
	Helena Celnar	Sarnia, Ontario N7S 4V3	leased 542-5917
	Verne A. Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-095 XX leased 867-5517
	Brian L. Bruton	R. R. #1 Mooretown, Ontario NON 1M0	40-094 XX 862-1762
	Robert D. Nisbet	R. R. #1 Mooretown, Ontario NON 1M0	40-093 XX leased 862-1877
	Margaret R. Eyre c/o James Eyre		
	Garry A. Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-092-01 leased 862-1870
	Mary Robbins		
	Archibald K. Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-092 XX 862-1656
	Ruby K. Robbins		

XX - questionnaire returned

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
D. 166814 Canada Ltd. In Trust E.A.(Beth) Burr Mgr. Real Estate & Facilities	P. O. Box 3060 Sarnia, Ontario N7T 7M1	20-148 332-1212
166814 Canada Ltd. In Trust E.A.(Beth) Burr Mgr. Real Estate & Facilities	P. O. Box 3060 Sarnia, Ontario N7T 7M1	20-147 XX 332-1212
166814 Canada Ltd. In Trust E.A.(Beth) Burr Mgr. Real Estate & Facilities	P. O. Box 3060 Sarnia, Ontario N7T 7M1	20-146 332-1212

XX - questionnaire returned

	<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
E.	Donald W. Anderson Doris J. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-025 XX 867-5395
	Donald W. Anderson Doris J. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-024 XX leased 867-5395
	Donald W. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-023 XX 867-5395
	Donald W. Anderson Doris J. Anderson	R. R. #1 Mooretown, Ontario NON 1M0	40-022 XX 867-5395
	William D. Booth Ethel Booth	R. R. #1 Mooretown, Ontario NON 1M0	40-020 XX leased 867-2637
	Verna McDonald	R. R. #1 Mooretown, Ontario NON 1M0	40-019 XX 867-5233

XX - questionnaire returned

<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
H. Monsanto Canada Inc. Keith MacMillan Director Legal & Regulatory Affairs	P. O. Box 787 Streetsville P.O. 2330 Argentia Road Mississauga, Ontario L5M 2G4	20-164 XX Leased 416-826-9222
Monsanto Canada Inc. Keith MacMillan Director Legal & Regulatory Affairs	P. O. Box 787 Streetsville P.O. 2330 Argentia Road Mississauga, Ontario L5M 2G4	20-163-02 XX Leased 416-826-9222
ICI Nitrogen Products Jim Hodgins U.A.S. Production Manager	P. O. Box 1900 Courtright, Ontario N0N 1H0	20-163-01 XX Leased 867-2739

XX - questionnaire returned

	<u>Name</u>	<u>Address</u>	<u>Assess. Roll #</u>
I.	ICI Nitrogen Products Jim Hodgins U.A.S. Production Manager	P. O. Box 1900 Courtright, Ontario NON 1H01	20-021 XX 867-2739
	ICI Nitrogen Products Jim Hodgins U.A.S. Production Manager	P. O. Box 1900 Courtright, Ontario NON 1H0	20-022 XX 867-2739

XX - questionnaire returned

**SARNIA/LAMBTON
WASTE MANAGEMENT MASTER PLAN
LEASED PROPERTY QUESTIONNAIRE**

Name _____

Assess Roll

Mailing Address _____

Property

Lot ____ Conc. ____

Please address the following questions by outlining the requested information on the attached map (if applicable) and discussing its significance. Also could you please outline the boundaries of the property you lease on the map

Residency

1. How long have you leased the property? _____ years

2. How long do you plan to lease this property? _____ years

Agriculture

3. Do you currently farm this property?

_____ yes _____ no (if no, go to question 9).

4. Please outline the types of crops grown (and where grown) and productivity levels for the last five (5) years on this leased parcel.

5. Please comment on your farming practices (i.e. crop rotations or monoculture, fertilizer application, land improvement, etc.) for this leased parcel.

6. Please outline the % production of this area as compared to the other areas you farm (i.e. what % does this area contribute to your total production).

7. What is the total area you farm (include this area and elsewhere)?

8. Is this leased property used for any type of livestock? If so, what kind and how many.

Natural Environment/Resources

9. Please outline any information with respect to the following for this land parcel which you lease.

- Fisheries _____

- Vegetation _____

- Soils _____

- Wildlife _____

10. Are you involved in any of the following activities on this land parcel which you lease?

- Tree Cutting _____

- Hunting _____

- Trapping _____

11. If so, please discuss the activity's significance to you.

12. Please outline on the map any active oil/gas wells of which you are aware?

Surface Water

13. Please outline the location and direction of flow of any drains on this property.

14. Which drains would you consider permanent (i.e. flow all year round)?

15. Please outline areas on the leased property which has standing water (spring flooding).

16. a) Do you lease a residence on this property?

_____ yes _____ no (if no, go to question 17).

b) If yes, please comment on ground water quality in your area.

c) If yes, please provide any information with respect to the water well you use (use, location, depth, depth to water, diameter, type, name of driller, when drilled/dug).

General Comments

17. Are there any other comments you would like to make with respect to this leased parcel?

18. Are there any other significant land features on this property of which you feel we should be aware?

Thank you for your comments. This information will be used to assess the suitability of this property for a waste management facility.

POTENTIAL LANDFILL SITE PROPERTIES (leased properties)

A.	Aaron R. Crawford	R. R. #1 Mooretown, Ontario NON 1M0	40-071	
	Michael Ludney c/o Rich Fisher	R. R. #7 Chatham, Ontario N7M 5J7	40-071	
	Wilfred & Joan Eastman	R. R. #1 Mooretown, Ontario NON 1M0	40-074	XX
	Lloyd E. Clipdale Hazel E. Clipdale	R. R. #1 Mooretown, Ontario NON 1M0	40-105	
	Margo Sroka	R. R. #1 Mooretown, Ontario NON 1M0	40-106	
	Reginald Lumley	2578 Confederation Road Sarnia, Ontario N7T 7H3	40-106	XX
B.	Robert Findlater Sheila Findlater	R. R. #1 Mooretown, Ontario NON 1M0	40-061	
	Paul James Babcock	R. R. #1 Mooretown, Ontario NON 1M0	40-063	
C.	Islay Alexander Reeves Shirley Mae Reeves	R. R. #1 Mooretown, Ontario NON 1M0	40-097	XX
	Paul James Babcock Marianne Babcock	R. R. #1 Mooretown, Ontario NON 1M0	40-093	
	Mary Patricia Robbins	R. R. #1 Mooretown, Ontario NON 1M0	40-092-01	

XX - questionnaire returned

D. no tenants listed

E. Andy Melville 2526 Confederation 40-020 XX
Bruce Melville Sarnia, Ontario
N7T 7H3

Alan A. Gary R. R. #1 40-024 XX
Mooretown, Ontario
NON 1M0

H. Alcide J. Therrien General Delivery 20-163-01 XX
Wilkesport, Ontario
NOP 2R0

I. no tenants listed

XX - questionnaire returned

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-16

**SITE SELECTION PROCESS REVIEW
PRESENTATION TO MOORE TOWNSHIP
SEPTEMBER 1992**



LAMBTON COUNTY

WASTE MANAGEMENT MASTER PLAN

**SITE SELECTION
PROCESS REVIEW**

**Presentation to
Moore Township Council
September 1992**

SITE SELECTION

AIM:

To identify a site for a composite waste management facility which will be optimum in terms of:

- **minimizing impacts on human health and the environment;**
- **minimizing costs;**
- **maximizing service to waste generators.**

The composite facility will include:

- **a materials recovery facility;**
- **a composting facility;**
- **a landfill.**

Presentation to
Moore Township Council
September 1992

SITE SELECTION PUBLIC WORKSHOPS

The workshops were held:

- **7 April 1990**
- **13 September 1990**
- **11 October 1990**
- **29 November 1990**

Representatives from the following municipalities participated:

- **Alvinston**
- **Brooke Township**
- **Clearwater Township**
- **Grand Bend**
- **Moore Township**
- **Oil Springs**
- **Plympton Township**
- **Sarnia**
- **Theford**
- **Watford**
- **Wyoming**

The workshops were facilitated by:

- **the County of Lambton**
- **M. M. Dillon Limited**

Presentation to
Moore Township Council
September 1992

SITE SELECTION

STEPS:

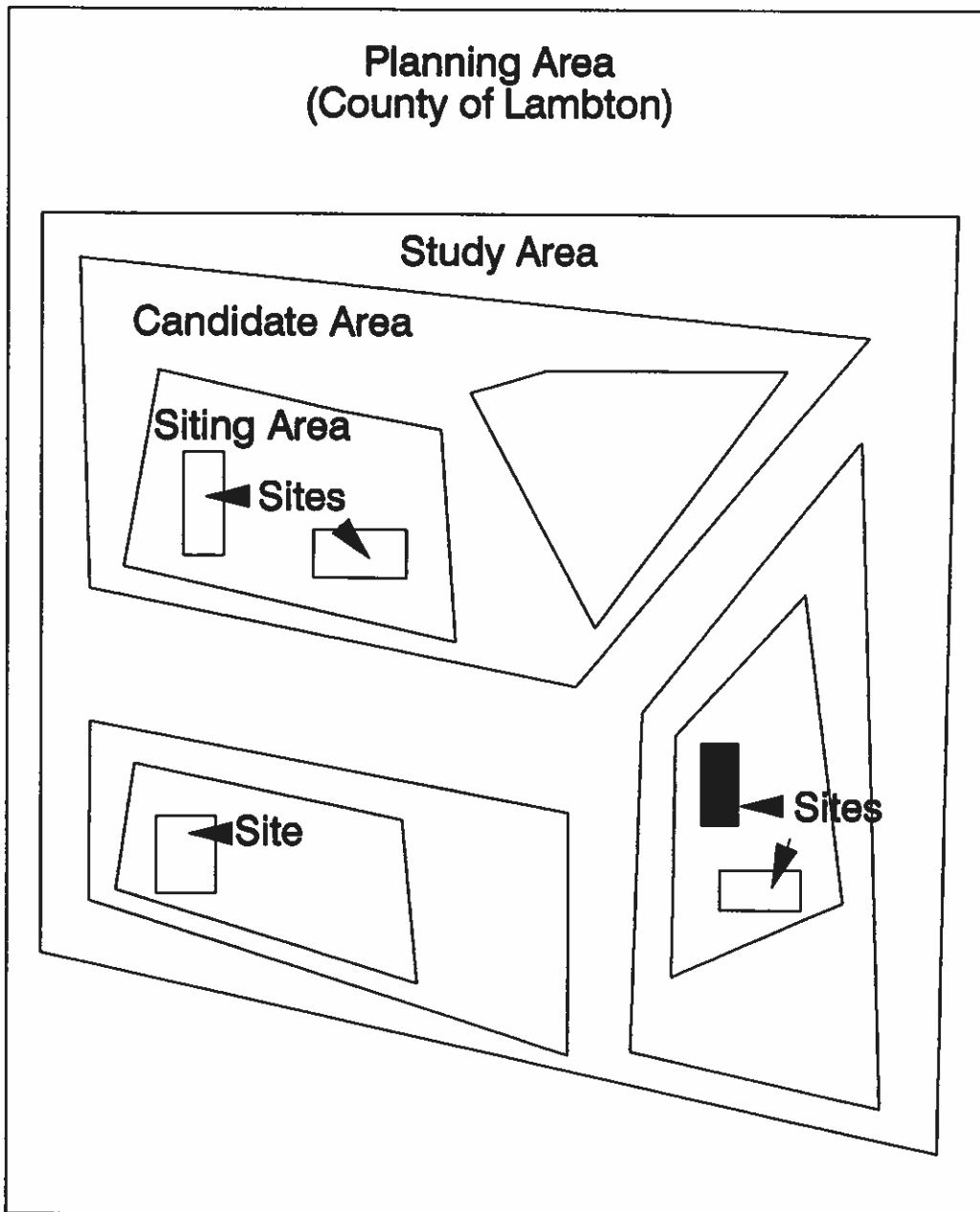
- **Identify Study Area**
- **Identify Candidate Areas**
- **Identify Siting Areas**
- **Identify Potential Sites**
- **Comparative Evaluation of Sites**
- **Detailed Comparison of Preferred Sites**

CONSTRAINT MAPPING APPROACH:

- **Involves the progressive elimination of areas within the County considered less suitable for the facility - in particular, the landfill.**

Presentation to
Moore Township Council
September 1992

SITE SELECTION CONSTRAINT MAPPING APPROACH CONCEPTUAL DIAGRAM



STUDY AREA IDENTIFICATION

- **Whole County was assessed with respect to:**
 - **hydrogeologic conditions**
 - **population distribution**
- **Based on regional scale data, all areas in the County were found to be generally equivalent with respect to the above.**
- **To narrow down the study area, a "waste centroid" concept was initially proposed; this was rejected by the workshop participants in April 1990.**
- **The final study area was defined based on the following:**
 - **clay-based lands with Class 3 to 7 agricultural capability;**
 - **rehabilitated eroded lands;**
 - **lands designated for industrial uses (regardless of agricultural capability).**

Presentation to
Moore Township Council
September 1992

IDENTIFICATION OF CANDIDATE AREAS

The criteria used to identify the candidate areas were as follows:

NATURAL ENVIRONMENT AND RESOURCES

- **Areas with endangered species and their habitat.**
- **Areas of Natural and Scientific Interest (ANSIs) (provincial/regional significance), with 500m buffer.**
- **Class 1-3 wetlands (provincial/regional significance), with 500m buffer.**
- **Environmentally Sensitive Areas (ESAs) identified by the University of Waterloo Study Team for the Lambton County Planning Department or in local municipal plans, with 500m buffer.**
- **Special areas (areas with strong potential for ESA status - as identified in Background Report No. 13 to the Lambton County Official Plan).**
- **Areas within 500m of major streams with significant/rare fish species.**

SOCIAL/CULTURAL/LAND USE ENVIRONMENT

- **Areas within 500m of residences.**

Presentation to
Moore Township Council
September 1992

IDENTIFICATION OF SITING AREAS

The siting areas were identified based on the following criteria:

GROUND WATER

- **Presence of wells (abandoned oil, gas, water and brine injection).**

SURFACE WATER

- **Flood plains and related hazard lands (100 and 200-year flood zones).**
- **Areas within 500m of all water courses previously not identified as outlined on 1:50,000 topographic map and 1:10,000 Ontario Base Map.**

NATURAL ENVIRONMENT AND RESOURCES

- **Displacement of high quality forests and Management Agreement Areas on site.**
- **Presence of active oil and gas wells.**

Presentation to
Moore Township Council
September 1992

IDENTIFICATION OF SITING AREAS (continued)

SOCIAL/CULTURAL ENVIRONMENT

- **Areas within 500m of future committed residential development.**
- **Presence of existing and future (committed) planned recreational features.**
- **Presence of known archaeological features plus a 500m buffer.**
- **Presence of heritage features plus a 500m buffer.**
- **Presence of existing and future approved utilities in the area.**
- **Presence of Indian Reserves plus a 500m buffer.**
- **Presence of cemeteries plus a 500m buffer.**

**Presentation to
Moore Township Council
September 1992**

IDENTIFICATION OF SITES

- **The siting areas that were at least 75 ha in size were carried forward for site identification.**
- **Potential sites (75 ha parcels) were located with emphasis on the following:**
 - **minimize number of land owners and property owners affected;**
 - **maximize distance from residential areas;**
 - **maximize site accessibility.**
- **Sixteen (16) potential sites were identified.**

**Presentation to
Moore Township Council
September 1992**

INITIAL ASSESSMENT OF SITES

- **The 16 potential sites were assessed with respect to agricultural capability and use.**
- **One (1) site eliminated due to lands with Class 2 agricultural capability.**
- **Six (6) sites eliminated due to high intensity agricultural use on lands designated for agriculture.**
- **Nine (9) sites carried forward for comparative evaluation.**
- **A tenth site (Site "J") was later identified and evaluated.**

**Presentation to
Moore Township Council
September 1992**

COMPARATIVE EVALUATION OF SITES

The sites were compared based on consideration of the following:

Factor	Factor Ranking¹
Potential for contamination of ground water	High
Potential for contamination of surface water and downstream flooding	High
Effects on natural ecosystems	High/Moderate
Effects on agricultural resource lands	High/Moderate
Social/cultural concerns	High
Land use compatibility	High/Moderate
Transportation concerns	Moderate
Costs	High/Moderate

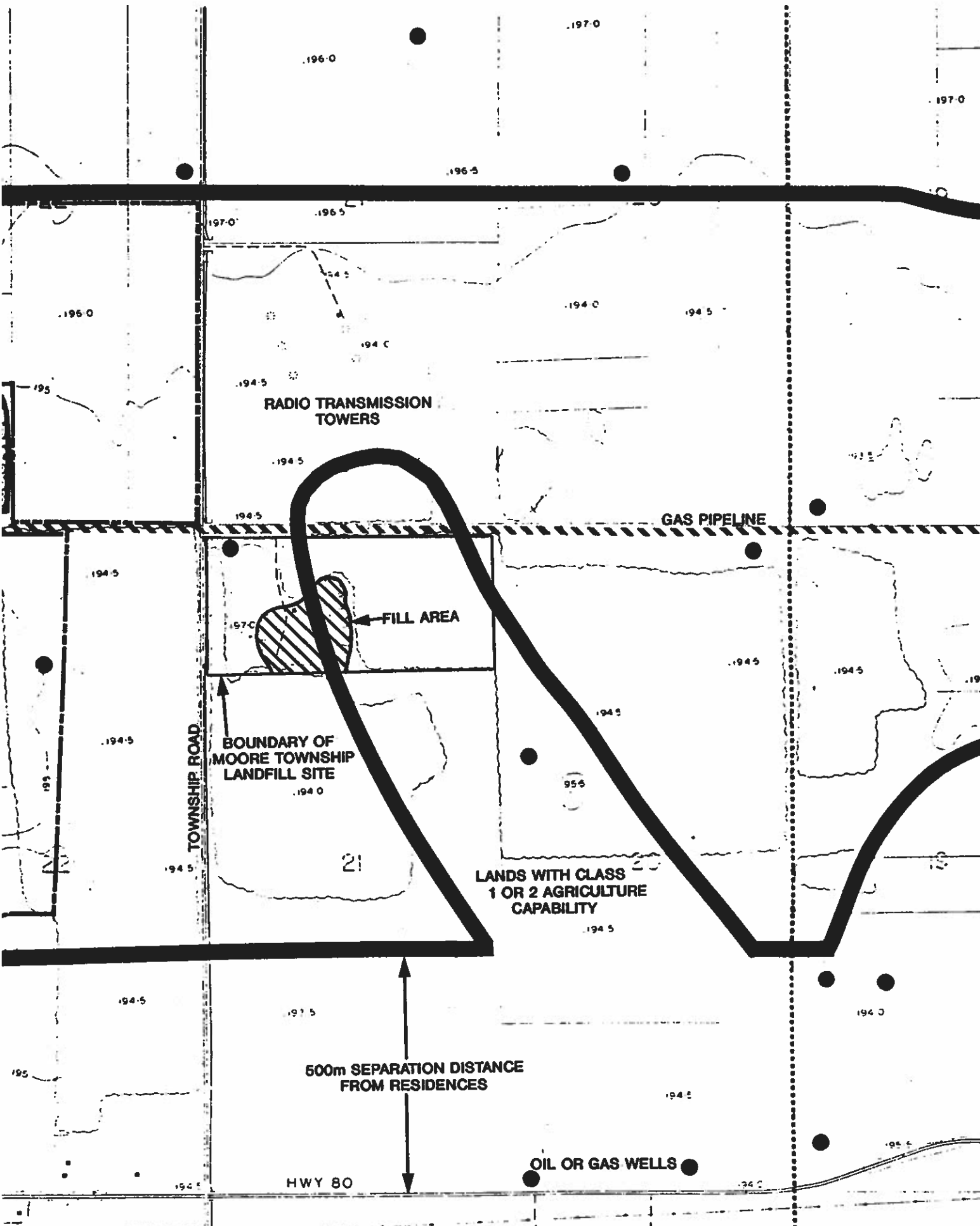
¹As identified by the Site Selection Workshop participants.

Presentation to
Moore Township Council
September 1992

REASONS FOR ELIMINATION OF MOORE TOWNSHIP LANDFILL SITE/ADJACENT LANDS

- **Existing site does not meet the 75 ha size requirement**
- **to the north: gas pipeline**
- **to the west: Township road**
- **to the south: 500m separation distance from existing residence**
- **to the east: lands with Class 2 agricultural capability**

Presentation to
Moore Township Council
September 1992



SITING CONSTRAINTS IN VICINITY OF MOORE TOWNSHIP LANDFILL SITE

Figure 1


SCALE 1:10,000

COMPARATIVE REVIEW OF SITE "K"

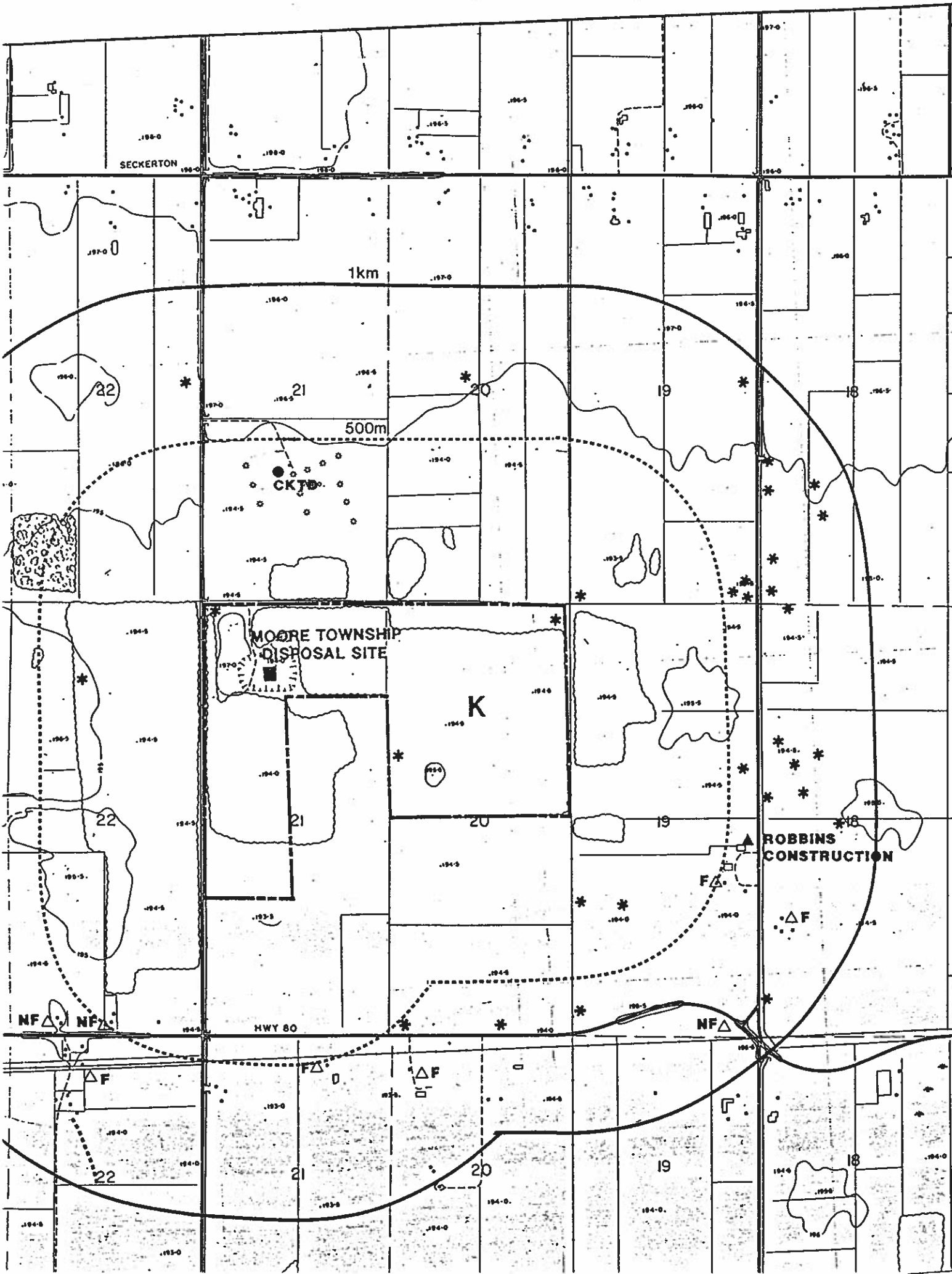
Reasons for the review:

- **"Industrial lands" was interpreted to include:**
 - **lands designated for industrial uses;**
 - **lands designated and licensed for waste disposal;**

on clay-based soils, regardless of agricultural capability.
- **Lands adjacent to the Moore Township Landfill Site - which are designated for waste disposal, but not licensed - were not included.**
- **Moore Township disagrees with the above interpretation.**
- **If the Moore Township interpretation is accepted, the Moore Site plus adjacent lands would form a potential site: "Site K".**

PRESENTED TO PAC

OCTOBER 1992



**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-17

**PROJECT START-UP LETTER
MARCH 1993
(One Example)**

FILE COPY

March 16, 1993

1~

Lambton County Waste Management Master Plan

The County of Lambton is preparing a Waste Management Master Plan to determine the best ways to manage wastes. The central aim of the Master Plan is to define the best system for the long-term management of wastes within the County.

You are invited to attend the upcoming Public Information Centre for the Master Plan. The Information Centre will be set up as an informal walk-in centre with materials and displays that explain the progress of the Master Plan to date. County representatives will be available to explain the displays, answer questions, and receive your comments.

The Public Information Centre will be held at:

Moore Township Municipal Offices
1155 Emily Street
Mooretown, Ontario
Tuesday, 30 March 1993

Drop in any time from 2:00 to 4:00 p.m. or 7:00 to 9:00 p.m. A brief presentation will be made at 7:30 p.m.

Enclosed for your information is a copy of the Waste Management Master Plan Newsletter that has been distributed across Lambton County.

For further information, please contact:

Mr. Jim Kutyba, P.Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
N0N 1T0
Tel: (519) 845-0801
Fax: (519) 845-3817

OR

Ms. Catherine Fletcher, M.Sc.
Senior Planner
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7
Tel: (519) 438-6192
Fax: (519) 672-8209

Yours truly,

James J. Kutyba, P.Eng.
Administrator, Waste Management

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-18

**NEWSPAPER AD FOR
MARCH 1993 PUBLIC INFORMATION CENTRE**



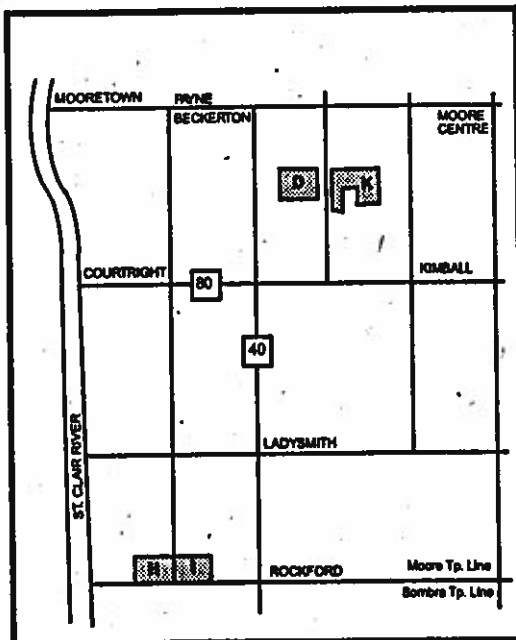
LAMBTON COUNTY WASTE MANAGEMENT MASTER PLAN

YOU ARE INVITED TO A PUBLIC INFORMATION CENTRE

Lambton County is preparing a Waste Management Master Plan (WMMP) to determine the best ways to manage our wastes for the next 20 to 40 years. The Lambton County WMMP is being prepared according to the requirement of the Environmental Assessment Act and the Ministry of the Environment guidelines for waste management master plans.

It has been recommended that the best waste management system for Lambton County would include: waste reduction, reuse, and recycling at source; backyard composting; and a central composting, materials recovery and landfill facility.

A site must be found to accommodate the central composting, materials recovery and landfill facility. A facility siting exercise was initiated and through an evaluation of a number of candidate sites (see map below), four sites were considered to be more preferred than the others: Sites D, H, I and K.



LAMBTON WMMP PUBLIC INFORMATION CENTRE

WHO IS INVITED?

You are invited to attend a Public Information Centre to review past and future WMMP activities. Representatives from the Waste Management Waste Plan Steering Committee, the County of Lambton, and M.M. Dillon Limited will be available to answer questions.

WHY SHOULD YOU COME?

To view the activities undertaken to date and the proposed activities for the next step of the waste management facility site selection process. Lambton County is interested in hearing any comments or concerns from individuals or groups about this project.

WHERE AND WHEN WILL IT BE HELD?

Location: Township of Moore
Municipal Office
1155 Emily Street
Mooretown, Ontario

Date: Tuesday, March 30, 1993
Time: 2:00 p.m. to 4:00 p.m. (informal viewing session of displays)
7:00 p.m. to 9:00 p.m. (informal viewing session of displays)
Presentation 7:30 p.m.

If you wish to be more involved in the study or to be placed on the mailing list, please contact:

Mr. Jim Kutyba, P. Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
N0N 1T0

OR

Ms. Catherine Fletcher, M.Sc.
Senior Planner
M.M. Dillon Limited
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London, Ontario
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Fax: (519) 672-8209

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-19

**RADIO ANNOUNCEMENT OUTLINE
MARCH 1993**

RADIO ANNOUNCEMENT

**March 3, 1993
(50 seconds)**

**RE: LAMBTON COUNTY WASTE MANAGEMENT MASTER PLAN
PUBLIC INFORMATION CENTRE, MARCH 30, 1993**

The management of waste is an issue that affects everyone living or working in Lambton County. We need to find ways to, first of all, reduce waste and then effectively manage what remains.

The Lambton County Waste Management Master Plan aims to define the best system for the long-term management of wastes within the County.

(30 seconds)

The Lambton County Waste Management Master Plan is being prepared and you are invited to attend a Public Information Centre to comment on the activities to date. The recommendations for waste reduction, reuse and recycling will be outlined. Also, the siting process which will lead to a site for a new composting, materials recovery and landfill facility will be explained. The Public Information Centre will be held at:

WHERE: Township of Moore
Municipal Office (wheelchair accessible)
1155 Emily Street
Mooretown Ontario

WHEN: Tuesday, March 30, 1993
Drop in anytime between 2:00 p.m. to 4:00 p.m.
and 7:00 p.m. to 9:00 p.m.

Presentation: 7:30 p.m.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-20

MARCH 1993 NEWSLETTER



LAMBTON COUNTY WASTE MANAGEMENT MASTER PLAN

Newsletter

March 1993

Waste management is an issue that affects everyone living or working in Lambton County. The County is preparing a Waste Management Master Plan to determine the best ways to manage our wastes for the next 20 to 40 years.

We are sending you this newsletter:

- to provide an update on the progress of the Master Plan;
- to encourage you to be involved; and
- to invite you to the Public Information Centre on Tuesday, March 30, 1993 (see page 2 for more details).

An overview...

The central aim of the Master Plan is to define the best system for the long-term management of wastes within the County. Like many areas across Ontario, and throughout Canada, the production of waste has risen as population, industrial development and our consumer lifestyle has increased. It is estimated that each Canadian produces approximately 1 kilogram of garbage per day.

In 1992, the residents, businesses and industries of Lambton County produced approximately 100,000 tonnes of solid non-hazardous garbage. This figure does not include liquid industrial or hazardous waste. Although the production of some waste is inevitable, it is important for everyone, both individually and collectively, to find ways to first of all reduce waste and then effectively manage what remains.

The Lambton County Waste Management Master Plan (WMMP) is being prepared according to the requirements of the *Environmental Assessment Act* and the Ministry of the Environment guidelines for waste management master plans.

Based on the work completed to date, it is recommended that the best waste management system for Lambton County would include:

- waste reduction, reuse and recycling at source (e.g. at home, work);
- backyard composting;
- a central composting facility;
- a materials recovery facility (MRF); and
- a central landfill.

Wastes would be collected and handled through curbside collection, direct haul, and transfer stations (if required).

MASTER PLAN PROGRESS TO DATE:

1986/87	Stage 1 completed
1987/88	Stage 2A and 2B completed
1988/89	Master Plan on hold
August 1989	Revised Master Plan initiated, to meet Environmental Assessment Act (EAA) requirements
1989 to 1991	EAA-level Master Plan in progress, including site selection for new long-term waste management facility.
July 1991	Master Plan put on hold to await Ministry of Environment funding
January 1993	Master Plan progress resumed; EAA-level Master Plan report expected to be complete in Fall 1993

CONSULTATION PROGRAM: IT'S YOUR MASTER PLAN . . . BE INVOLVED

Public and agency consultation has been a significant part of the planning process for the Master Plan. Residents from across Lambton County are encouraged to continue to be involved.

You are invited to attend a **PUBLIC INFORMATION CENTRE**

Location: MOORE TOWNSHIP MUNICIPAL OFFICE
1155 Emily Street
Mooretown, Ontario
(across from Moore Township Civic Centre)



Date: Tuesday, March 30, 1993

Time: 2:00 p.m. to 4:00 p.m. (informal viewing session of displays)
7:00 p.m. to 9:00 p.m. (informal viewing session of displays)

Presentation: 7:30 p.m.

Information will be available on the past and future activities for the Master Plan. Representatives from the WMMP Steering Committee, the County of Lambton, and M.M. Dillon Limited will be available to answer questions. The Information Centre will be set up as an informal walk-in centre.

In addition to the upcoming Public Information Centre (PIC), members of the public will have the opportunity to be involved in the Master Plan through the following:

- resident meetings;
- municipal council meetings;
- workshops; and
- Public Advisory Committee (PAC) meetings.

The dates and locations of future activities will be announced as the Master Plan progresses.

The county will also continue to inform and involve affected government agencies in the Master Plan. Agency representatives will be invited to the Information Centre and other consultation activities, and will be invited to comment on the Master Plan process and recommendations.

PUBLIC ADVISORY COMMITTEE

In 1989, the Waste Management Master Plan Steering Committee established a Public Advisory Committee (PAC) to assist in the development and implementation of the Master Plan. The PAC consists of interested ratepayers from municipalities within Lambton County as well as representatives of industry and environmental groups. The PAC has 20 municipal representatives and 10 citizen representatives.

The PAC members review recommended Master Plan components, help to identify concerns and issues, and continue to assist in the selection of sites for new or expanded waste management facilities.

PAC meetings are held in the lunchroom at the Lambton County Administration Building in Wyoming at 7 p.m. on the last Wednesday of every month. Members of the public are welcome.

For further information, please contact:

Muriel Wright

Public Advisory Committee Chairperson
(519) 899-2345 (Home)

MINIMIZING OUR GARBAGE: THE 3Rs

The first priority in any waste management master plan is to find ways to reduce the waste we produce. At home, we can minimize our garbage by recycling cans, bottles and newspapers; reusing bags, plastic containers, clothes and other materials; using a garden compost box for kitchen scraps, garden materials and leaves; and by minimizing use of "throw-a-ways". As consumers, we can purchase food in reusable cloth shopping bags rather than plastic ones; buy fresh foods with no packaging, where possible avoid products with excess packaging, and buy "environmentally friendly products".

The actions of individual householders and consumers are very important, but significant waste reduction efforts must be made by industrial and commercial generators as well. At work, industrial, commercial and government employers need to inventory the type and amount of waste produced in industrial processes, "on the floor", and in offices, and identify ways to reduce the wastes produced.

In the Spring of 1989, the Minister of the Environment announced objectives to reduce the amount of waste going to disposal facilities such as incinerators or landfills. By maximizing the 3Rs (reduction, reuse and recycling) communities across Ontario are required to reduce waste disposal by 50% by the year 2000.

RECYCLING PROGRAMS

Local recycling programs are one way to promote the '3Rs' of waste management and reduce the amount of waste requiring disposal. Much of Lambton County is already served by recycling programs. Blue Box collection programs are presently operating in the City of Sarnia, the Town of Forest, the Villages of Alvinston, Arkona, Grand Bend, Oil Springs, Point Edward, Thedford, Watford, and the Townships of Bosanquet, Moore, Plympton and Sombra. Recycling depots presently serve the Town of Petrolia, the Village of Wyoming, and the Townships of Brooke, Enniskillen, Euphemia, Sombra, and Warwick. Local residents should attempt to use these programs as much as possible so as to maximize the amount of waste diverted from landfill disposal.

COMPOSTING

Composting allows the transformation of "waste" materials into a soil-like material. Leaves, lawn and garden cuttings, food scraps and other kitchen wastes can be composted rather than thrown away.

Each individual household is capable of composting up to 36% of their wastes. In a backyard composting program, households are supplied with a specially designed unit (a composter), in which to place compostable wastes. After a period of time allowing for the decomposition of the waste, the compost can then be used as a mulching agent and/or soil additive for the home and garden.

The City of Sarnia is currently operating a mass leaf collection and composting program. The County of Lambton has distributed a total of 6,960 back yard composters to date. The Master Plan may recommend the gradual extension of the program to include:

- curbside collection of lawn and garden materials; and
- collection of kitchen and food wastes.

MATERIALS RECOVERY FACILITY

A Materials Recovery Facility (MRF) is used to separate mixed waste materials into reusable, recyclable, compostable and residual components. Wastes are collected and transported to the facility where mass processing occurs. Recyclable materials, such as glass, tin, aluminium, newsprint, and plastics are separated and sent to appropriate markets. Compostable materials are sent to a composting facility. Residual wastes are then transported to a disposal facility such as a landfill.

The Master Plan will recommend the eventual incorporation of an MRF into the long-term waste management system for the County. This type of facility would significantly reduce (by up to 60%) the amount of waste requiring disposal and thereby reduce the need for facilities such as landfills.

MATERIALS RECOVERY FACILITY SURVEY

As part of Lambton County's WMMP, a study is being conducted to assess the feasibility of a materials recovery facility (MRF) and the collection system that would be compatible with such a facility. At this point, your assistance is appreciated by taking a few moments to fill out the survey below.

SURVEY

In completing the survey, please keep in mind the following notes.

A recycling depot is much less expensive to set up and operate, can be set up at convenient locations, and additional materials can be added more easily in the future. A Blue Box program is more convenient and results in more material being collected, but Blue Box programs are generally more expensive to operate on a per tonne of waste diverted basis.

A new type of waste collection system that is common in Europe is the wet/dry system. In this system, wet wastes, like food wastes and yard clippings, are placed in a designated container. Similarly, dry wastes, like paper, glass, metal cans and plastics, are placed in a second designated container. These containers, which can be bags (less expensive) or bins (more expensive), are collected on a regular basis.

A two container system would consist of one container for wet wastes and a second container for dry materials. In this system, all of your wastes would go into the two containers. In a three container system, you would be given a special container for your wet wastes and be expected to use your Blue Box for recyclable materials. The rest of your wastes would go into your regular garbage container.

The main advantage of this system is that much higher amounts of garbage can be diverted from disposal because it is much easier to process and recover the compostable and recyclable materials from the waste stream when the wet and dry fractions are separated.

The Cities of Guelph and Mississauga, the Region of Halton and the Municipality of Metropolitan Toronto are presently conducting pilot studies to determine the feasibility of implementing a variation of the wet/dry collection system.

1. I prefer a blue box, emptied on a regular basis, in which to put my recyclables.
 YES NO Other _____
2. I prefer to take my recyclables to a recycling depot set up at convenient locations.
 YES NO Other _____
3. I prefer to haul my wastes to the local landfill site.
 YES NO Other _____
4. If Lambton County were to adopt a variation of the wet/dry collection program described above, I would be willing to participate in it.
 YES NO Other _____
5. For a wet/dry collection system, I prefer:
 a two container system a three container system
 other _____
6. For a wet/dry collection system, I prefer to use:
 coloured bags (e.g. blue for dry wastes, green for wet wastes)
 special containers/bins

NAME: _____

ADDRESS: _____

DAY-TIME PHONE NO.: _____

Please cut out questionnaire and return by March 31, 1993 (or drop it off at the Public Information Centre) to:

Mr. Jim Kutyba, P.Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
N0N 1T0

Phone: (519)845-0801
Fax: (416) 845-3817
519

WASTE MANAGEMENT FACILITY SITE SELECTION PROCESS

One activity in the Master Plan process is the selection of a site for the new long-term waste management facility. The site selection process began in 1990 and 1991, and resumed in January 1993 following the receipt of Ministry of Environment funding. The new long-term facility will include:

- a Materials Recovery Facility;
- a central Composting Facility; and
- a Landfill.

The siting process aims to find the most suitable 75 ha site. Public workshops were held throughout 1990 to identify siting criteria, and to begin to identify possible areas and possible sites. "Constraint mapping" was conducted, which involves the gradual elimination of less suitable lands.

The following outlines the six main steps of the site selection process.

Step 1 - Identification of Study Area

The Study Area is the broad area within Lambton County in which the site selection process occurs. The study area was identified as clay-based lands designated for industrial type land uses, clay-based rehabilitated eroded lands and clay-based lands with Class 3 to 7 agricultural capability.

Step 2 - Identification of Candidate Areas

Candidate Areas are large areas of land within the Study Area considered to be more suitable for the development of the waste management facility. Candidate Areas were identified by applying constraints with respect to: natural environment and resources, land use, and the social/cultural environment.

Step 3 - Identification of Siting Areas

Siting Areas are smaller land parcels located within the Candidate Areas considered to be more suitable for the development of the waste management facility. Siting Areas were identified by applying constraints with respect to ground water, surface water, natural environment and resources, and the social/cultural environment.

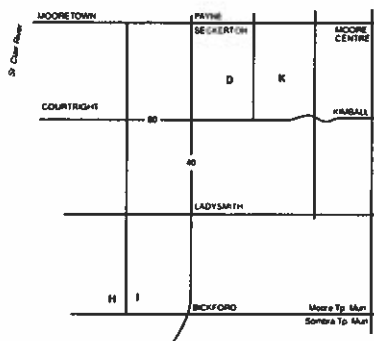


Figure: Location of Sites D, H, I and K

Step 4 - Identification of Long List of Sites

This step involved the identification of 75 ha sites within the Siting Areas with emphasis on the following:

- minimizing the number of landowners and property owners affected;
- maximizing the distance from residential areas;
- maximizing the distance from sensitive natural areas; and
- maximizing the site accessibility.

The sites within agricultural designated areas under current agricultural use were eliminated. A total of 11 sites were identified.

Step 5 - Comparison of Long List of Sites

The long list of eleven sites were compared by specialists in: ground water, surface water, natural ecosystems, agriculture, social/cultural issues, land use, transportation and costs. As a result of this exercise, four sites were considered to be preferred: D, H, I and K (see map).

Step 6 - Comparison of Short List of Sites

Step 6 will involve the comparative evaluation of Sites D, H, I and K in order to identify a preferred site. This comparative evaluation is to be conducted at a greater level of detail involving on-site field visits and resident interviews. This activity is expected to occur throughout spring and summer 1993.

Waste collection and handling are necessary components of any waste management system. To date, the Master Plan studies have concluded that curbside collection, direct haul and transfer stations are recommended collection and handling approaches for Lambton County. Further studies will be carried out to refine the best options and the best mix of options for the collection of wastes in urban and rural areas. A conceptual design for an integrated material recovery and compost facility will be developed. This information will be used in the comparison of candidate sites D, H, I and K.

TRANSFER STATIONS

Waste transfer stations may be needed, particularly in areas of Lambton that would be distant from the new composite waste management facility. Studies will be carried out to investigate the economic feasibility of developing one or more transfer stations. The County will then decide on location(s) of the stations.

For further information, please contact:

Jim Kutyba, P.Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
N0N 1T0

or

Catherine Fletcher, M.Sc.
Senior Planner
M.M. Dillon Limited
Box 426, Station B
London, Ontario
N6A 4W7

Tel: (519) 845-0801
Fax: (519) 845-3817

Tel: (519) 438-6192
Fax: (519) 672-8209



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See you at the Information Centre!

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-21

**INFORMATION PACKAGE
MARCH 1993 PUBLIC INFORMATION CENTRE**



**LAMBTON COUNTY
WASTE MANAGEMENT MASTER PLAN**

PUBLIC INFORMATION CENTRE

WELCOME

OVERVIEW

In 1992, the residents, businesses and industries of Lambton County produced approximately 100,000 tonnes of solid non-hazardous garbage. This figure does not include liquid industrial or hazardous waste.

Although the production of some waste is inevitable, it is important for everyone, both individually and collectively, to find ways to first of all reduce waste and then effectively manage what remains.

Waste management is an issue that affects everyone living or working in Lambton County. The County is preparing a Waste Management Master Plan according to the requirements of the *Environmental Assessment Act* and the *Ministry of Environment Guidelines* to determine the best ways to manage our wastes for the next 20 to 40 years.

LAMBTON COUNTY WASTE MANAGEMENT MASTER PLAN

AIM

To define the best system for the long-term management of wastes within Lambton County for the next 20 to 40 years.

THE RECOMMENDED WASTE MANAGEMENT SYSTEM INCLUDES:

- Recycling/source separation
- Backyard composting
- Centralized composting
- Materials Recovery Facility
- Landfill

In the recommended system, wastes will be collected and handled through:

- Curbside collection
 - Direct haul
 - Waste transfer station(s) (to be determined).
-

WASTE MANAGEMENT INITIATIVES FOR LAMBTON COUNTY

Short-Term Needs (5 years)	Environmental Approvals Required
<p>The initiatives recommended to address the short-term waste management needs are:</p> <ul style="list-style-type: none"> • maximize 3R's • Sarnia Landfill Application for Expansion 	<ul style="list-style-type: none"> • none • EAA Exemption (as per MOE policy re Interim Expansion of Municipal Landfills) • EPA level

Long-Term Needs (20-40 years)	Environmental Approvals Required
<p>The Waste Management Master Plan recommends that the waste management system should include the following:</p> <ul style="list-style-type: none"> • Maximize 3R's <ul style="list-style-type: none"> • waste reduction/reuse • recycling/source separation • composting <ul style="list-style-type: none"> - household - centralized • Materials Recovery Facility • Collection <ul style="list-style-type: none"> • curbside collection • direct haul • transfer station(s) • Disposal <ul style="list-style-type: none"> • long-term County landfill 	<ul style="list-style-type: none"> • none • none • none • EPA level and potentially EAA level • EPA level and potentially EAA level • none • none • EPA level and potentially EAA level • EAA level and EPA level

1992 WASTE QUANTITIES

Residential and some light commercial wastes are collected by municipal forces and private contractors. These wastes are disposed in landfills owned by Lambton County and by private firms. Industrial, commercial and institutional wastes are collected by private firms and disposed in landfills owned by private firms.

<u>Residential and Light Commercial Wastes</u>	<u>Tonnes</u>
Sarnia Landfill (Sarnia and Point Edward)	17,500
Laidlaw Landfill in Warwick (Clearwater, Forest, Alvinston, Arkona, Grand Bend, Thedford, Watford, Bosanquet, Euphemia, Warwick)	14,300
Phillip Environmental Site in Petrolia (Petrolia, Oil Springs, Wyoming, Enniskillen, Plympton)	4,050
Brooke Township Landfill	200
Dawn Township Landfill	150
Moore Township Landfill	2,500
Sombra Township Landfill	1,000
TOTAL	39,700
<hr/>	
<u>Industrial, Commercial and Institutional Wastes</u>	
Laidlaw Site in Warwick	
Phillip Environmental Site in Petrolia	
K&E Dry Waste Site in Sarnia	
Sussex Environmental Site in Sarnia	
Unitec Site in Moore Township	
TOTAL	61,200
<hr/>	
Total for County and Private Sites for 1992	100,900

WASTE REDUCTION

LEGAL AND POLICY ISSUES

- The Ministry of the Environment and Energy (MOEE) adopted objectives of at least 25% diversion from disposal by the year 1992 and at least 50% diversion by the year 2000.
 - Consistent with these objectives, the MOEE is proposing to issue new regulations that will:
 - make it easier to obtain approvals for recycling and composting sites;
 - make it mandatory for establishments in the industrial, commercial and institutional (IC&I) sectors to complete waste audits and waste reduction work plans and separate certain materials for recycling;
 - make it mandatory for municipalities with populations of 5,000 or more to set up recycling programs;
 - require municipalities that collect leaf and yard wastes to provide composting systems.
 - On September 1992, the Ontario Government banned the construction of future solid waste incinerators in Ontario.
-

WASTE DIVERSION

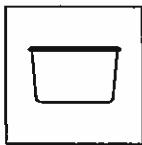
WHAT ARE THE 3 Rs OF WASTE DIVERSION?

REDUCE - REDUCE THE AMOUNT OF WASTE PRODUCED.

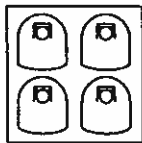
REUSE - REUSE SOMETHING SEVERAL TIMES BEFORE THROWING IT AWAY.

RECYCLE - COLLECT SOMETHING AND CONVERT IT INTO A SIMILAR OR NEW PRODUCT.

HOW IS LAMBTON COUNTY DOING?



BLUE BOX COLLECTIONS ARE CURRENTLY PROVIDED IN ALVINSTON, ARKONA, BOSANQUET, FOREST, GRAND BEND, MOORE, OIL SPRINGS, PLYMPTON, POINT EDWARD, SARNIA, SOMBRA, THEDFORD, AND WATFORD. RECYCLABLES ARE ALSO COLLECTED AT APARTMENT BUILDINGS IN SARNIA. A TOTAL OF 5354 TONNES OF RECYCLABLES WERE COLLECTED USING BLUE BOXES IN 1992.



RECYCLING DEPOTS ARE PROVIDED IN BROOKE, ENNISKILLEN, EUPHEMIA, PETROLIA, SOMBRA, WARWICK, AND WYOMING. A TOTAL OF 312 TONNES OF RECYCLABLES WERE COLLECTED USING DEPOTS IN 1992.



BACKYARD COMPOSTERS HAVE BEEN DISTRIBUTED THROUGHOUT LAMBTON COUNTY. THE COUNTY HAS SO FAR DISTRIBUTED A TOTAL OF 6,960 COMPOSTERS. AN ADDITIONAL 1,441 COMPOSTERS HAVE BEEN DISTRIBUTED BY BLUEWATER RECYCLING.



LEAF AND YARD WASTE COLLECTIONS ARE PROVIDED IN SARNIA. THESE ARE COMPOSTED AT A CENTRAL COMPOSTING SITE LOCATED IN SARNIA. A TOTAL OF 1852 TONNES OF LEAF AND YARD WASTES WERE COMPOSTED IN 1992.



HOUSEHOLD HAZARDOUS WASTE COLLECTIONS WERE OPERATED BY THE COUNTY IN 1991 AND 1992.



THE VILLAGE OF GRAND BEND STARTED UP A USER PAY COLLECTION PROGRAM ON OCTOBER 1, 1992. LOCAL RESIDENTS MUST USE BAG TAGS. THESE TAGS ARE SOLD BY LOCAL MERCHANTS. GRAND BEND IS REPORTING REDUCTIONS IN WASTE QUANTITIES GOING TO LANDFILLS AND SIGNIFICANT INCREASES IN THE AMOUNTS OF RECYCLABLES COLLECTED.

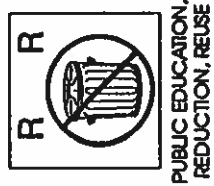
WASTE MANAGEMENT SYSTEM COMPONENT OPTIONS

①	PUBLIC EDUCATION, REDUCTION AND REUSE			⑧ HOUSEHOLD HAZARDOUS WASTES COLLECTION
②	CURBSIDE WASTE COLLECTION			⑨ BACKYARD COMPOSTING
③	DIRECT HAUL			⑩ LEAF AND YARD COLLECTION
④	RESIDENTIAL USER PAY COLLECTION			OR
⑤	BLUE BOX COLLECTION			⑪ WET/DRY COLLECTION - 2 STREAM
⑥	EXPANDED BLUE BOX COLLECTION			- 3 STREAM
⑦	COLLECTION DEPOT			⑫ INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL PROGRAMS
				⑬ MATERIALS RECOVERY FACILITY
				⑭ CENTRAL COMPOSTING

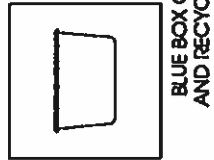
WASTE COLLECTION AND HANDLING SYSTEM OPTIONS

RURAL AREAS

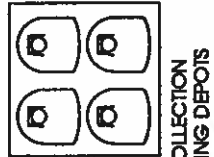
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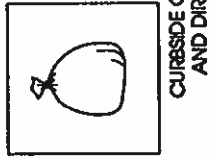
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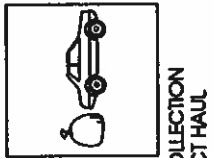
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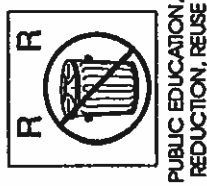
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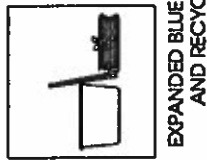
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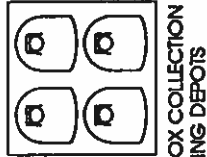
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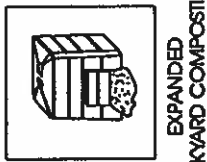
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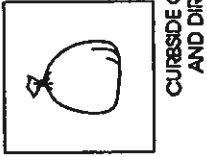
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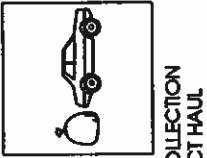
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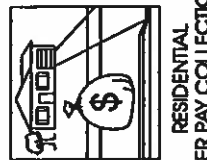
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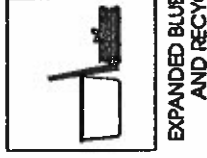
OPTION 2



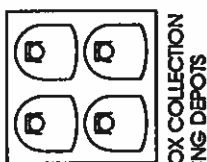
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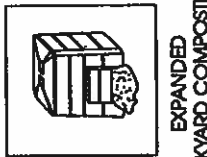
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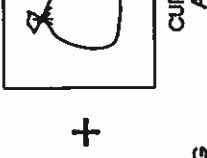
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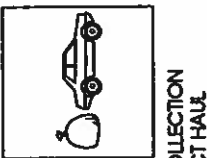
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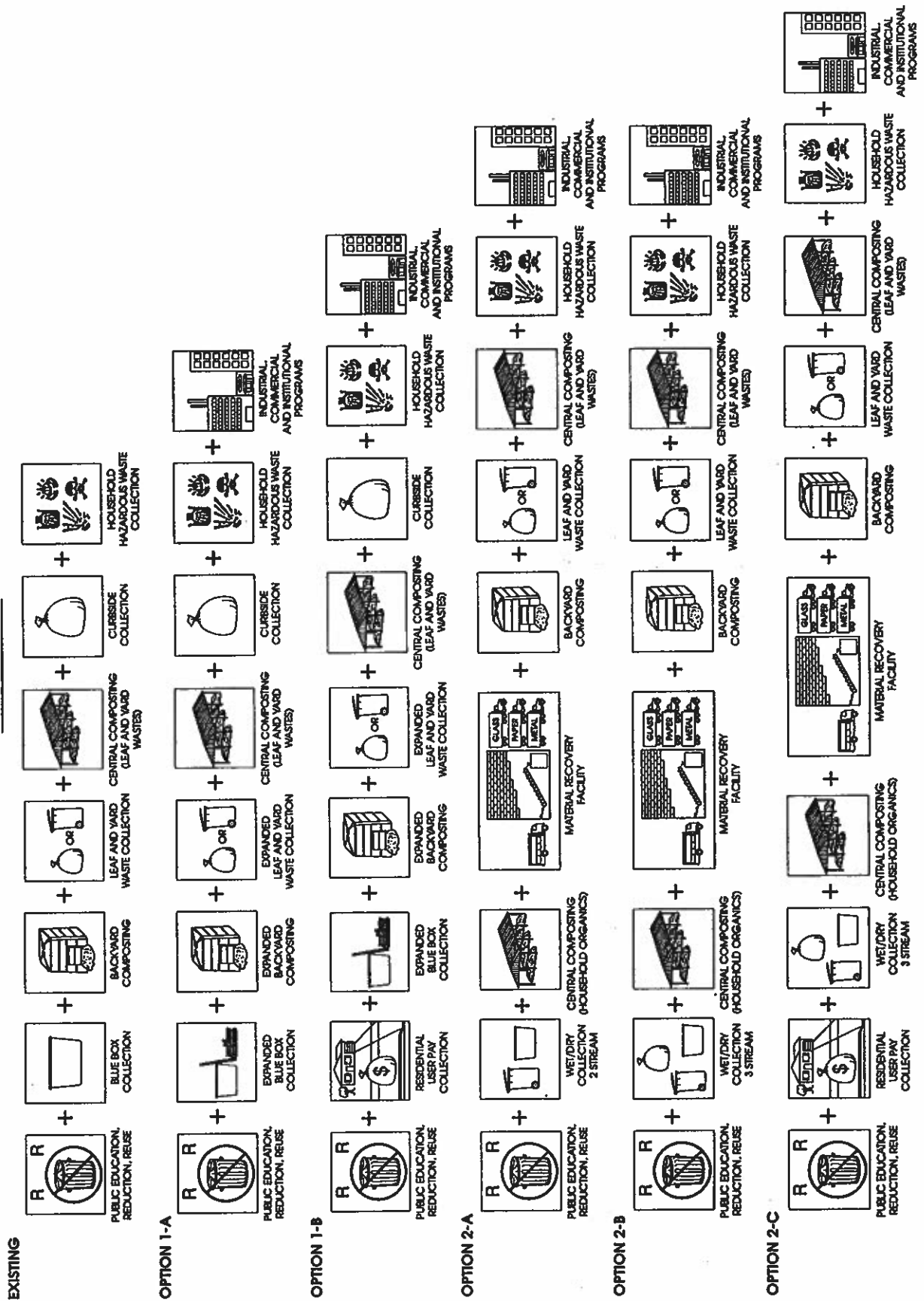


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WASTE COLLECTION AND HANDLING SYSTEM OPTIONS

URBAN AREAS



TRANSFER STATIONS

- Many of the landfills in Lambton County will close in the next few years. The landfill in Grand Bend closed October 1, 1992.
 - Landfills which close in the future may be replaced by rural transfer stations.
 - Rural transfer stations are facilities where wastes are delivered in small vehicles, packed into large vehicles and hauled to the landfill site.
 - Rural transfer stations can help reduce operating costs when the landfill is a long distance from where the wastes are generated.
 - Rural transfer stations act as a substitute to a local landfill site. Local residents avoid having to drive long distances to the closest landfill.
 - Rural transfer stations can also serve as locations for recycling depots.
 - The feasibility of establishing rural transfer stations will be evaluated. Locations, costs and service areas will be considered.
-

KEY ASSUMPTIONS AND POLICIES AFFECTING THE MASTER PLAN

PUBLIC SECTOR OR PRIVATE SECTOR?

- The County will not be dependent upon the private sector. The County will pursue public sector solutions for waste management needs unless and until private sector solutions are in place.

IMPORT/EXPORT?

- The County will not import or export wastes.

SITE SIZE (75 ha) FOR LONG-TERM WASTE MANAGEMENT FACILITY?

- The site will accommodate a landfill, materials recovery facility and centralized composting area.
 - Only municipal solid wastes, and solid, non-hazardous wastes which are currently taken from industrial and commercial sources (e.g. kitchen wastes, office wastes) will be handled by County facilities.
 - Some existing landfill sites will be closed.
 - There will be a deficit of disposal capacity of up to 2.8 million tonnes.
-

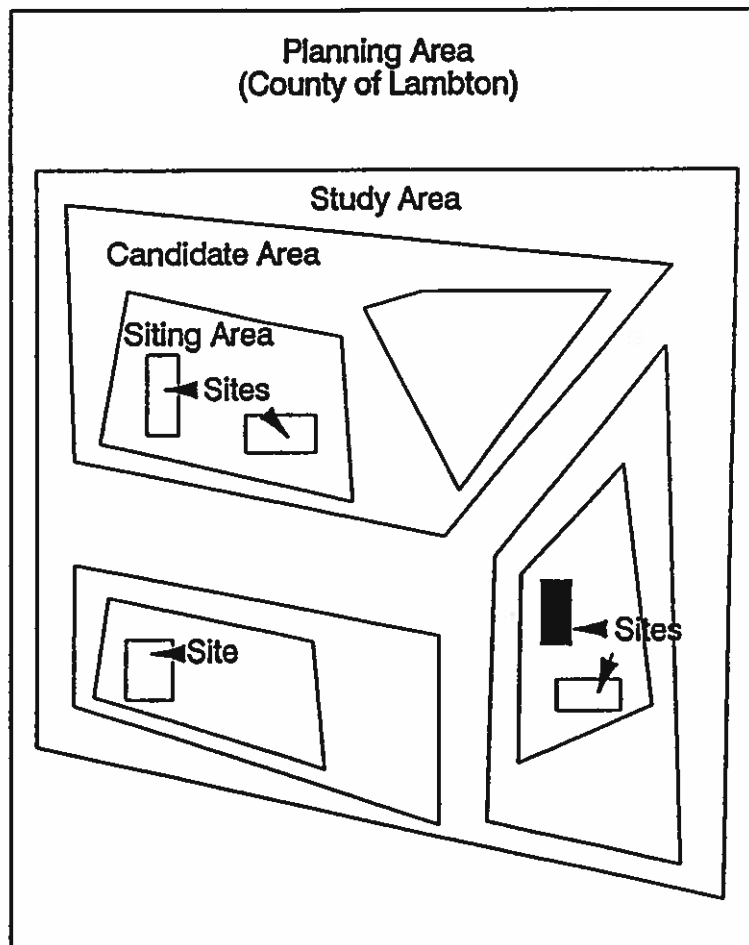
SITE SELECTION APPROACH

STEPS

- Identify study area
- Identify candidate areas
- Identify siting areas
- Identify potential sites
- Comparative evaluation of sites
- Detailed comparison of preferred sites.

SITE SELECTION CONSTRAINT MAPPING APPROACH CONCEPTUAL DIAGRAM

- Involves the progressive elimination of areas within the County considered less suitable for the facility - in particular, the landfill.



STUDY AREA IDENTIFICATION

- All of Lambton County was assessed with respect to:
 - hydrogeologic conditions
 - population distribution.
 - The final Study Area was defined based on the following:
 - clay-based lands with Class 3 to 7 agricultural capability
 - clay-based rehabilitated eroded lands and bottom lands
 - clay-based lands designated for industrial-type uses (regardless of agricultural capability).
-

IDENTIFICATION OF CANDIDATE AREAS

The constraint criteria used to identify the candidate areas were as follows:

NATURAL ENVIRONMENT AND RESOURCES

- Areas of Natural and Scientific Interest (ANSIs) (provincial/regional significance), with 500 m buffer.
- Class 1 to 3 wetlands (provincial/regional significance), with 500 m buffer.
- Environmentally Sensitive Areas (ESAs) identified by the University of Waterloo study team for the Lambton County Planning Department or in local municipal plans, with 500 m buffer.
- Special areas (areas with strong potential for ESA status - as identified in Background Report No. 13 to the Lambton County Official Plan).
- Areas within 500 m of major streams with significant/rare fish species.

SOCIAL / CULTURAL / LAND USE ENVIRONMENT

- Built-up areas.
 - Areas within 500 m of residences and other sensitive land use features (i.e. schools).
-

IDENTIFICATION OF SITING AREAS

The siting areas were identified based on the following constraint criteria:

GROUND WATER

- Presence of wells (abandoned oil, gas, water and brine injection).

SURFACE WATER

- Floodplains and related hazard lands (100 and 200-year flood zones).
- Areas within 500 m of all watercourses previously not identified as outlined on 1:50,000 topographic map and 1:10,000 Ontario Base Map.

NATURAL ENVIRONMENT AND RESOURCES

- Displacement of high quality forests and management agreement areas on site.
 - Presence of active oil and gas wells.
-

IDENTIFICATION OF SITING AREAS

(Continued)

SOCIAL / CULTURAL ENVIRONMENT

- Areas within 500 m of future committed residential development.
 - Presence of existing and future (committed) planned recreational features.
 - Presence of known archaeological features plus a 500 m buffer.
 - Presence of heritage features plus a 500 m buffer.
 - Presence of existing and future approved utilities in the area.
 - Presence of Indian reserves plus a 500 m buffer.
 - Presence of cemeteries plus a 500 m buffer.
-

IDENTIFICATION OF SITES

- The siting areas that were at least 75 ha in size were carried forward for site identification.
 - Potential sites (75 ha parcels) were located with emphasis on the following:
 - minimize number of landowners and property owners affected
 - maximize distance from residential areas
 - maximize site accessibility.
-

COMPARATIVE EVALUATION OF SITES

The sites were compared based on consideration of the following:

FACTOR	FACTOR RANKING¹
POTENTIAL FOR CONTAMINATION OF GROUND WATER	HIGH
POTENTIAL FOR CONTAMINATION OF SURFACE WATER AND DOWNSTREAM FLOODING	HIGH
EFFECTS ON NATURAL ECOSYSTEMS	HIGH/MODERATE
EFFECTS ON AGRICULTURAL RESOURCE LANDS	HIGH/MODERATE
SOCIAL/CULTURAL CONCERNS	HIGH
LAND USE COMPATIBILITY	HIGH/MODERATE
TRANSPORTATION CONCERNS	MODERATE
COSTS	HIGH/MODERATE

¹ *As identified by the Site Selection Workshop participants.*

- Eleven sites were considered suitable and compared by specialists.
 - As a result of this exercise, four sites were considered to be preferred:
D, H, I and K.
-

PUBLIC CONSULTATION ACTIVITIES TO DATE

- Newsletters (November 1989, March 1993)
 - Municipal Council Presentations
 - Public Information Centres (November 1989, March 1993)
 - Public Advisory Committee Meetings (ongoing since 1989)
 - Site Selection Public Workshops (April to November 1990)
 - Press Conferences
 - Property Owner Meeting (January 1991)
 - WMMP Steering Committee Meetings
-

FUTURE STEPS

During 1993, work will continue on the following parts of the Master Plan:

WASTE COLLECTION AND DIVERSION:

- The best short-term and long-term strategy for the County will be defined.

TRANSFER STATIONS:

- The need for transfer stations will be assessed. If it is determined that one or more transfer stations will be required, a site selection process will be carried out.

COMPOSITE WASTE MANAGEMENT FACILITY:

- The four sites (Sites D, H, I and K) will be evaluated in detail to select the preferred site.

PUBLIC AND AGENCY CONSULTATION:

- The County will continue to inform and involve members of the public and interested agencies.

MASTER PLAN REPORT

- The Master Plan studies, consultation activities, recommendations and results will be documented in a report which will be made available for public review.

In 1994-95, the preferred site for the Composite Waste Management Facility will be investigated in detail to meet the requirements of the Environmental Protection Act (EPA). Following that, it is expected that a public hearing will be held to obtain final approvals for the facility.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-22

**COMMENT FORM
MARCH 1993 PUBLIC INFORMATION CENTRE**

Please provide your comments regarding the Lambton County Waste Management Master Plan in the space below. Your written comments will be maintained on file as part of the database for the study and may also be included in the study documentation which will be made available for public review. Your comments and opinions are welcome. Please consider the following questions:

1. Do you have specific comments or concerns about the proposed waste collection and handling systems?
2. Do you have specific comments or concerns about the siting process for the new composite waste management facility?

Please provide your comments in the space below and on the back of this page if necessary.

Name and Address (Optional). Please print.

Please leave your completed Comment Form in the box provided or mail to:



Mr. Jim Kutya, P.Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
N0N 1T0

Tel: (519) 845-0801
Fax: (519) 845-3817

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-23

**RESIDENT MEETING NO. 1
ATTENDANCE RECORD
APRIL 1993**

BILL & SANDRA WHEELER

APRIL 21/93.

<u>NAME</u>	<u>ADDRESS</u>	
Bill & Joyce Trapp	Lot 22, Conc 7	RR#1 Mooretown
Pat & Cindy Seward	Lot 24 Conc 4	RR#1 Courtright
Meindert & Gail Wolff	Lot 21 Conc 4	RR#1 Courtright
HAROLD ROBINSON	LOT 22 CON 5	RR#1 COURTRIGHT
April Robins	LOT 22 CON 5	RR#1 COURTRIGHT
MEL ANDERSON	LOT 21 CON 6	RR#1 MOORETOWN
ESTHER WAYBRANT	1583 SIXTH ST	COURTRIGHT.
PERRY & SANDY ROUTLEY	LOT 24 CONC 4	RR#1 COURTRIGHT
GARY & BRENDA ROBBINS	LOT 19 CONC 5	RR#1 COURTRIGHT
ALVIN McLAUGHLIN	E.H. LOT 25. CON. 5	RR#1 COURTRIGHT.
3 A RY & DIANNE ST. PIERRE	LOT 23 CON 4	RR#1 Courtright
ED SCHMIDT II	LOT 21 CON 4	RR#1 COURTRIGHT
ROD WHEELER	LOT 23 CON 4	RR#1 Courtright
GORD REED	909 KEMSLEY DR	SARNIA
DAVE RIVERS	997 ASH CR	SARNIA
Rebecca Andersson	Lot 21 Con 6	RR#1 Mooretown
STEVEN SEWARD	LOT 25 Con 4	RR1 COURTRIGHT
J. GILBERT NETHERY	LOT 22 CON 5	RR#1 COURTRIGHT
EDWIN A SCHMIDT	LOT 21 CON 4	RR#1 COURTRIGHT
SANDRA WHEELER.	LOT 23 CON 4	RR#1 COURTRIGHT
BILL WHEELER.	" "	" "
TOM. WHEELER	" "	" "

- meeting with residents in vicinity of Site D'Et
at the home of Bill & Sandra Wheeler

7:30 pm to ~ 10:30 pm.

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-24

**RESIDENT MEETING NO. 2
ATTENDANCE RECORD
OCTOBER 1993**

Call S. Wheeler

Re: Attendees @
mtg. OCT. 13/93

B. Robbins (Gary)
Bill & Mrs. Booth
Gert & Diane St. Pierre
Pat & Cindy Seward
Steve Seward

Eugene Robbins (

Booby & Mel Anderson
Inge & Bill Trapp
Don & ^{son} (wife) Anderson
Rankin Family

Bob Young (Trudy)
Bert Nathan (Linda)
Betty Watson
Carol Baker (Alfred) (Rod-Son)
Ed Schmidt

Jerry Stuart (Don)

Alfred Eye

~~Red B~~

Keith & Grace McLaughlin (Alvin-brother)

Memhard Wolffe

Sandy & Cheryl Ronteleu

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-25

**NEWSPAPER AD FOR
NOVEMBER 1993
PUBLIC PRESENTATION**



**YOU ARE INVITED
TO A PUBLIC PRESENTATION OF
THE DRAFT LAMBTON COUNTY
WASTE MANAGEMENT MASTER PLAN**

Lambton County has prepared a draft Waste Management Master Plan (WMMP) to determine the best way to manage our waste for the next 20 years.

Draft recommendations for the management of Lambton County's wastes over the long term include:

- waste reduction, reuse, and recycling at source;
- backyard and centralized composting;
- materials recovery; and
- landfilling.

Preliminary recommendations for the development and siting of these activities and facilities will be introduced at this presentation. Representatives from the Steering Committee, the County of Lambton, and M.M. Dillon Limited will be available to answer your questions.

WHY SHOULD YOU COME?

This presentation will mark the beginning of the last phase of public and agency review of the draft WMMP prior to formal submission to the Ministry of Environment and Energy in early 1994.

WHEN AND WHERE WILL IT BE HELD ?

Thursday, November 25, 1993
7:00 p.m. - 9:00 p.m.

Moore Township Council Chambers
1155 Emily Street
Mooretown, Ontario

FOR MORE INFORMATION CONTACT:

Mr. Jim Kutya, P.Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
N0N 1T0

Phone: (519) 845-0801
Fax: (519) 845-3817

Ms. Catherine Fletcher
Senior Planner
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**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-26

**PUBLIC PRESENTATION
RADIO ANNOUNCEMENT OUTLINE
NOVEMBER 1993**

LAMBTON COUNTY
WASTE MANAGEMENT MASTER PLAN

RADIO SPOT (30 seconds)

Proposals for the reduction, recycling and disposal of Lambton County's waste for the next 20 years will be presented to the public:

WHEN: Thursday, November 25, 1993
7:00 - 9:00 p.m.

WHERE: Moore Township Council Chambers
1155 Emily Street
Mooretown, Ontario

This presentation, sponsored by Lambton County, will include a description of a proposed site for a combination materials recovery facility, central composting, and landfill.

For more information please contact:

Jim Kutyba
Lambton County Offices
(519) 845-0801

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-27

**FLYER RE:
NOVEMBER 1993 PUBLIC PRESENTATION**



**YOU ARE INVITED
TO A PUBLIC PRESENTATION OF THE**

DRAFT LAMBTON COUNTY WASTE MANAGEMENT MASTER PLAN

Lambton County has prepared a draft Waste Management Master Plan (WMMP) to determine the best way to manage our waste for the next 20 years. Draft recommendations for the management of Lambton County's wastes over the long term include:

- waste reduction, reuse, and recycling at source;
- backyard and centralized composting;
- materials recovery; and
- landfilling.

Preliminary recommendations for the development and siting of these activities and facilities will be introduced at this presentation. Representatives from the Steering Committee, the County of Lambton, the Public Advisory Committee, and M.M. Dillon Limited will be available to answer your questions.

WHY SHOULD YOU COME?

This presentation will mark the beginning of the last phase of public and agency review of the draft WMMP prior to submission to the Ministry of Environment and Energy, and other government reviewers, in early 1994.

WHEN AND WHERE WILL IT BE HELD?

**Thursday, November 25, 1993
7:00 - 9:00 p.m.
Moore Township Council Chambers
1155 Emily Street
Mooretown, Ontario**

FOR MORE INFORMATION PLEASE CONTACT:

**Mr. Jim Kutyba, P.Eng.
Administrator, Waste Management
Lambton County
Highway 21, Box 3000
Wyoming, Ontario
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**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-28

**COMMENT FORM RE:
NOVEMBER 1993 PUBLIC PRESENTATION**

**Lambton County Waste Management Master Plan
Volume 3 - Public and Agency Consultation**

SCHEDULE 3D-29

NOVEMBER 1993 PUBLIC PRESENTATION MATERIAL

DRAFT

LAMBTON COUNTY

WASTE MANAGEMENT MASTER PLAN

PUBLIC PRESENTATION

NOVEMBER 25, 1993

DRAFT MASTER PLAN DOCUMENTATION FOR REVIEW BY PAC, STEERING COMMITTEE, COUNCIL AND AGENCIES

VOLUME 1: MASTER PLAN REPORT

- **DESCRIBES ALL ELEMENTS OF THE MASTER PLAN PROCESS AND THE LONG-TERM WASTE MANAGEMENT RECOMMENDATIONS**

VOLUME 2: MASTER PLAN APPENDICES

- **CONTAINS TECHNICAL APPENDICES RELATED TO THE DEVELOPMENT OF THE MASTER PLAN**

VOLUME 3: PUBLIC AND AGENCY CONSULTATION

- **CONTAINS APPENDICES RELATED TO THE PUBLIC AND AGENCY CONSULTATION PROGRAM**

VOLUME 4: SITE SELECTION APPENDICES

- **CONTAINS TECHNICAL APPENDICES RELATED TO THE SITE SELECTION PROCESS**

PURPOSE OF THE PRESENTATION

TO PROVIDE A SUMMARY OF KEY MASTER PLAN RESULTS AND RECOMMENDATIONS

TOPICS

- **WASTE MANAGEMENT MASTER PLAN GOAL/HIERARCHY**

- **RECOMMENDATIONS REGARDING:**
 - **OVERALL SYSTEM**
 - **WASTE DIVERSION (3Rs)**
 - **SITE FOR NEW LONG-TERM FACILITY**

- **FUTURE STEPS**

GOAL

- **DEVELOP BEST SYSTEM FOR LONG-TERM MANAGEMENT OF MUNICIPAL SOLID WASTES**

OBJECTIVES

- **DEFINE A SYSTEM THAT WOULD:**
 - **MINIMIZE IMPACTS ON THE ENVIRONMENT**
 - **MINIMIZE TRUE COSTS**
 - **MAXIMIZE SERVICE TO THE PEOPLE IN LAMBTON COUNTY**

WASTE MANAGEMENT

HIERARCHY

1ST : REDUCTION OF WASTE

2ND : REUSE OF MATERIALS

3RD : RECYCLING OF MATERIALS

LAST : DISPOSAL OF WASTES

TYPES OF RECOMMENDATIONS

**THE MASTER PLAN PRESENTS
RECOMMENDATIONS REGARDING:**

- **WHAT WASTE MANAGEMENT
ACTIVITIES/ INITIATIVES/FACILITIES
SHOULD OCCUR**
- **HOW THE COUNTY COULD IMPLEMENT
EACH INITIATIVE**

TOPICS

- **WASTE MANAGEMENT MASTER PLAN GOAL/HIERARCHY**

- **RECOMMENDATIONS REGARDING:**

- **OVERALL SYSTEM**

- **WASTE DIVERSION (3Rs)**

- **SITE FOR NEW LONG-TERM FACILITY**

- **FUTURE STEPS**

RECOMMENDED WASTE MANAGEMENT SYSTEM COMPONENTS

- **DRAFT WMMP RECOMMENDATIONS (1993):**
 - **COLLECTION (REVISED)**
 - **SOURCE SEPARATION/RECYCLING**
 - **HOUSEHOLD COMPOSTING**
 - **CENTRALIZED COMPOSTING (ADDED)**
 - **MATERIALS RECOVERY FACILITY (ADDED)**
 - **EXISTING PLUS NEW LANDFILL SITES (REVISED)**
 - **TRANSFER STATIONS (IF REQUIRED)**

TOPICS

- **WASTE MANAGEMENT MASTER PLAN GOAL/HIERARCHY**

- **RECOMMENDATIONS REGARDING:**
 - **OVERALL SYSTEM**

 - **WASTE DIVERSION (3Rs)**

 - **SITE FOR NEW LONG-TERM FACILITY**

- **FUTURE STEPS**

LONG-TERM WASTE DIVERSION STRATEGY

- **PROVINCIAL OBJECTIVE OF AT LEAST 50% DIVERSION BY YEAR 2000**

- **BEST COMBINATION OF WASTE DIVERSION TECHNOLOGIES AND PROCESSES**

- **IS BASED ON THE 3Rs HIERARCHY**
 - 1) **REDUCTION OF WASTE**

 - 2) **REUSE OF MATERIALS**

 - 3) **RECYCLING OF MATERIALS**

LONG-TERM WASTE DIVERSION STRATEGY

RECOMMENDED STRATEGY INCLUDES:

COLLECTION

- **USER PAY / DIRECT COST WASTE COLLECTION**

SOURCE SEPARATION/RECYCLING

- **ENHANCED PUBLIC EDUCATION (3Rs)**
- **ENHANCED BLUE BOX (ADDITIONAL MATERIALS)**
- **ENHANCED AND EXPANDED LEAF & YARD WASTE COLLECTION**
- **EXPANDED COLLECTION OF BULKY ITEMS & HOUSEHOLD HAZARDOUS WASTES**
- **INSTITUTIONAL, COMMERCIAL & INDUSTRIAL (IC&I) COLLECTION PROGRAMS**

LONG-TERM WASTE DIVERSION STRATEGY

RECOMMENDED STRATEGY INCLUDES (CONTINUED):

HOUSEHOLD COMPOSTING

- **EXPANDED BACKYARD COMPOSTER DISTRIBUTION**
- **LARGE 3-BIN COMPOSTERS FOR MULTI-FAMILY HOUSING COMPLEXES AND APARTMENT BUILDINGS**

CENTRALIZED COMPOSTING

- **SARNIA/COUNTY LEAF AND YARD WASTE SITE(S)**

MATERIALS RECOVERY FACILITY

- **PRIVATE/COUNTY OWNED MATERIALS RECOVERY FACILITIES (MRF)**

ENHANCED BLUE BOX

- **ENHANCEMENT OF EXISTING RECYCLABLES COLLECTION SYSTEM**
- **EXAMPLES OF ADDITIONAL MATERIALS:**
 - PLASTIC BOTTLES & JUGS**
 - FILM PLASTICS**
 - BOXBOARD**
 - ALUMINIUM TRAYS & FOIL**
- **RECYCLING CONTRACTORS ALREADY COLLECT SOME TYPICAL ENHANCED BLUE BOX MATERIALS**
- **CURBSIDE COLLECTION & DEPOTS**
- **RECOMMENDATION: THAT THE COUNTY ASSUME RESPONSIBILITY FOR THE COLLECTION OF RECYCLABLES**

USER PAY / DIRECT COST WASTE COLLECTION

- **TWO LEVELS:**
 - 1) **COUNTY**
 - **TIPPING FEES FOR MUNICIPALITIES**

 - 2) **MUNICIPALITY**
 - **PART OF EXISTING WASTE
COLLECTION PROGRAMS**

 - **OPTIONAL FOR MUNICIPALITIES**

 - **GRAND BEND & BOSANQUET
TOWNSHIP**

ENHANCED AND EXPANDED LEAF & YARD WASTE COLLECTION

- **ENHANCE BY ADDING MORE COLLECTIONS THROUGHOUT YEAR**
- **EXPAND BY INCLUDING URBAN AREAS OUTSIDE SARNIA**
- **RECOMMENDATION: CONTINUE USE OF SARNIA COMPOSTING SITE OR DEVELOP NEW SITE AT COMPOSITE FACILITY IF NECESSARY**

EXPANDED HOUSEHOLD COMPOSTING

- **PRIMARY DIVERSION ALTERNATIVE FOR HOUSEHOLD ORGANICS**
- **RECOMMEND DISTRIBUTION OF COMPOSTERS FREE OF CHARGE THROUGHOUT COUNTY**
- **BASED ON PILOT STUDIES IN PICKERING & WATERLOO**
- **COST EFFICIENT - PICKERING, \$24.32/TONNE OVER 10 YEARS BEFORE SUBSIDIES**
- **RECOMMEND PILOT STUDY IN SARNIA**
- **RECOMMEND THREE-BIN COMPOSTERS FOR MULTI-FAMILY HOUSING COMPLEXES AND APARTMENT BUILDINGS**

BULKY ITEMS AND HOUSEHOLD HAZARDOUS WASTES

- **BULKY ITEMS INCLUDE USED APPLIANCES,
SCRAP TIRES, SCRAP WOOD**

RECOMMENDATIONS:

- **EXPAND ON EXISTING CURBSIDE
COLLECTIONS AND NUMBER OF DEPOTS**
- **EXPAND EXISTING COLLECTIONS OF
HOUSEHOLD HAZARDOUS WASTES**
 - 1) **MORE COLLECTION DAYS AT
PERMANENT DEPOT IN SARNIA AREA**
 - 2) **MORE COLLECTION DAYS IN OUTLYING
AREAS**

INSTITUTIONAL, COMMERCIAL & INDUSTRIAL (IC&I) PROGRAMS

- **TRADITIONALLY, MUNICIPAL WASTES INCLUDE IC&I WASTES**
- **PRIMARILY COMMERCIAL AND INSTITUTIONAL WASTES FROM SARNIA**
- **NEW 3Rs REGULATIONS WILL PLAY A LIMITED ROLE IN DIVERTING THESE WASTES**
- **EXAMPLE: PILOT STUDY BY CENTRE AND SOUTH HASTINGS WASTE MANAGEMENT BOARD IN QUINTE REGION**
- **RECOMMENDATION: ENHANCED BLUE BOX COLLECTIONS FOR SMALL COMMERCIAL AND INSTITUTIONAL ESTABLISHMENTS**

MATERIALS RECOVERY FACILITIES (MRF)

- **PRIVATE FACILITIES BEING RUN BY
COLLECTION CONTRACTORS**
- **MAY BE ADEQUATE FOR ENHANCED BLUE
BOX PROGRAM**
- **RECOMMENDATION: CONTINUE USE OF
PRIVATE MRFs OR DEVELOP COUNTY MRF
AT COMPOSITE FACILITY IF NECESSARY**

TRANSFER STATIONS

- **COMPARED STATION OPERATING COST WITH POTENTIAL SAVINGS IN HAUL COSTS**
- **CONSIDERED OVERALL COST TO COUNTY AND MUNICIPALITIES**
- **MOEE WILL REQUIRE COVERED BUILDING**
- **NET COST WAS POSITIVE - TRANSFER COSTS MORE**
- **RECOMMENDATION: ALL MUNICIPALITIES TO DIRECT HAUL SOLID WASTES TO DESIGNATED LANDFILL SITES**
- **ALTERNATIVE: IF TRANSFER STATIONS ARE DESIRED BY THE COUNTY, THE INCREASED COST COULD BE COLLECTED IN A COUNTY LEVEL USER PAY SYSTEM**

TOPICS

- **WASTE MANAGEMENT MASTER PLAN
GOAL/HIERARCHY**
- **RECOMMENDATIONS REGARDING:**
 - **OVERALL SYSTEM**
 - **WASTE DIVERSION (3Rs)**

- **SITE FOR NEW LONG-TERM FACILITY**

- **FUTURE STEPS**

DETAILED COMPARISON OF SITES

**THE FOLLOWING STUDIES WERE DONE TO
COMPARE SITES D, H, I AND K:**

AGRICULTURE IMPACT ASSESSMENT

BIOLOGY IMPACT ASSESSMENT

DESIGN AND OPERATIONS ASSESSMENT

HYDROGEOLOGIC IMPACT ASSESSMENT

LAND USE IMPACT ASSESSMENT

SOCIAL IMPACT ASSESSMENT

SURFACE WATER IMPACT ASSESSMENT

TRANSPORTATION IMPACT ASSESSMENT

DETAILED COMPARISON OF SITES

(Continued)

- **RESULTS OF DETAILED STUDIES WERE COMBINED AND SUMMARIZED TO IDENTIFY THE BEST SITE OVERALL**

- **TWO METHODS USED TO IDENTIFY AND EVALUATE THE ADVANTAGES AND DISADVANTAGES OF THE SITES:**
 - **A QUALITATIVE (DESCRIPTIVE) ANALYSIS**

 - **A QUANTITATIVE (CONCORDANCE) ANALYSIS**

DETAILED COMPARISON OF SITES

(Continued)

**BASED ON THE TECHNICAL STUDIES, THE
ORDER OF PREFERENCE OF THE SITES IS:**

1ST : SITE I

2ND : SITE H

3RD : SITE D

4TH : SITE K

KEY ADVANTAGES OF RECOMMENDED SITE I

- **BEST PROTECTION OF SURFACE WATER
QUALITY**
- **POTENTIAL FLOOD HAZARD IS LOWEST**
- **LOCATED IN AN AREA DESIGNATED FOR
INDUSTRY, WITH EXISTING HEAVY INDUSTRY**
- **ONLY ONE RESIDENCE WITHIN 1000 M**
- **NO RESIDENCES IN SITE VICINITY
(1000 TO 1500 M)**

KEY ADVANTAGES OF RECOMMENDED SITE I (CONTINUED)

- **NO RECREATION FEATURES IN SITE VICINITY**
- **NO RESIDENCES OR RECREATION FEATURES LOCATED ALONG ACCESS ROUTE**
- **NO SENSITIVE/SIGNIFICANT NATURAL AREAS ON SITE; CLEARED LAND**
- **SECOND LOWEST NUMBER OF POSSIBLE FARM UNITS WITHIN 1000 M (5.8 UNITS x 40 HA EACH)**
- **EXCELLENT PROTECTION OF GROUNDWATER (ALL 4 SITES)**

COSTS COMPARISON FOR SITE PREPARATION AND SERVICING

SITE	D	H	I	K
LAND PURCHASE	LAND PURCHASE PRICES TO BE NEGOTIATED AT THE TIME OF PURCHASE			
CLEARING AND GRUBBING	\$4,000	\$32,000	\$0	\$211,000
FENCING	\$175,000	\$180,000	\$180,000	\$240,000
POWER SERVICING	\$24,000	\$55,000	\$72,000	\$41,000
ROAD WORKS	\$708,000	\$508,000	\$516,000	\$939,000
LEACHATE TREATMENT	\$800,000	\$1,080,000	\$1,047,000	\$804,000
TOTAL OF PRICE ESTIMATES	\$1,711,000	\$1,855,000	\$1,815,000	\$2,235,000

RELATED ISSUE: NATIVE LAND CLAIMS

- **ACROSS ONTARIO, FIRST NATION COMMUNITIES ARE NEGOTIATING/HAVE NEGOTIATED:**
 - **SPECIFIC LAND CLAIMS**
 - **COMPREHENSIVE LAND CLAIMS**
 - **TREATY RIGHTS**

- **ALL SITES IN MOORE TOWNSHIP:**
 - **SUBJECT TO TREATY RIGHTS**

- **SITES H AND I:**
 - **INCLUDED IN SPECIFIC LAND CLAIM BY WALPOLE ISLAND FIRST NATION**
 - **LAND CLAIM STATUS UNCERTAIN RE:**
 - **SPECIFIC BOUNDARIES**
 - **RESOLUTION DATE (ONGOING FOR 30 YEARS)**
 - **WHETHER COMPENSATION WILL BE IN LAND OR IN CASH**

**RELATED ISSUE:
NATIVE LAND CLAIMS
(CONTINUED)**

- **OPTIONS:**
 - **MEET WITH WALPOLE ISLAND REPRESENTATIVES**
 - **CONTINUE TO INFORM ALL FIRST NATIONS IN THE AREA**
 - **CONTINUE TO PURSUE LAND CLAIM STATUS WITH PROVINCIAL/FEDERAL GOVERNMENT REPRESENTATIVES**

TOPICS

- **WASTE MANAGEMENT MASTER PLAN GOAL/HIERARCHY**
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FUTURE STEPS

Activity	Estimated Completion Date
Completion of Draft Master Plan Review by PAC, Steering Committee, and Council	Jan. 1994
Distribute Draft for Agency Review	Feb. 1994
Initiate EPA Level Studies on Preferred Site	Feb. 1994
Completion of Final Master Plan	Mid-1994
Completion of EPA Level Studies	Mid-1995
Completion of Final EAA Level/EPA Level Document(s)	Late 1995
Hearing	Late 1996 to Mid-1997
Site Development for New Long-Term Waste Management Facility	Late 1997 to Mid-1998