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FACULTY OF ENVIRONMENTAL STUDIES

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October 15, 1986

Ms. Toby Vigod
Canadian Environmental
Law Association
243 Queen St. W.
Toronto, Ontario
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Dear Toby,

Attached, as promised, is a copy of the SIA study design I prepared to guide my work in assessing the social impacts of Peel's Landfill sites options.

You may find this helpful in working out a strategy for responding to Halton's EA.

Sincerely,

Audrey Armour, MES, MCIP
Assistant Professor

Encl.

/hg

SOCIAL IMPACT ASSESSMENT OF LANDFILL SITING OPTIONS

APPROACH AND WORK PROGRAM

Study being conducted for the Regional Municipality of Peel
By Armour and Associates and Institute of Environmental Research, Inc.

July - November 1986

Finalized 8 August 1986

PREFACE

In 1981, the Region of Peel initiated an update of their 1976 Solid Waste Management Policy Statement and Master Plan. At the same time, a search for a new regional landfill site was initiated and is being conducted in tandem with the Master Plan update. By agreement between the Region and area municipalities, it was decided that the location of the landfill would be in the City of Brampton, provided that a viable site could be found.

The landfill site search has proceeded through a series of stages. First, areas deemed unsuitable for landfilling were eliminated from further analysis. The remaining areas were then investigated to identify specific potential areas. Now, detailed assessments are underway to determine which of these areas should be recommended to Council as the preferred site or sites. Three candidate sites, shown on Map 1, are currently being studied. These include: Area 1 (sub-areas B and C), Area 2 (sub-areas B, C, E and F), and Area 6 (sub-areas A and B).

In March 1986, Regional Council adopted the following recommendation of regional staff

that a detailed social impact assessment be conducted on all areas to complete the evaluation (of the potential areas). (Regional Municipality of Peel, A Report on the Status of Waste Management Issues, March 1986, p. vi).

On 4 June 1986 Armour and Associates, in association with the Institute of Environmental Research Inc., was retained by MacLaren PlanSearch Inc., on behalf of the Regional Municipality of Peel, to prepare a study design for the social impact assessment of the landfill siting options and, subsequently on 3 July 1986, was contracted to carry out the study itself. The social impact assessment is being conducted concurrently with and will integrate findings from two additional assessments -- a land use impact study and an economic impact study. Terms of reference for these studies are contained in Attachment 1.

The development of the study approach occurred in two phases (see Attachment 2 for the timing of specific activities). Phase 1, completed during the month of June, involved the following tasks and resulted in a detailed study design:

Review of relevant reports and data collected to date by MacLaren PlanSearch Inc., consultants to the Region

Review of public submissions and briefs relating to the landfill site search

Meetings with regional staff to discuss terms of reference and the integration of the SIA with the land use and economic impact studies

Meetings with each of the Community Liaison Groups in Areas 1, 2, and 6 to inform them of the terms of reference for the SIA and to get their input to the selection of study area boundaries and the identification of impact issues and concerns

A meeting with the Regional Chief Administrative Officer to get his assistance in identifying other key interests who should be consulted in the study design phase

A meeting with the Mayor of Brampton, Mr. Ken Whillans, to inform him of the terms of reference for the SIA and to get his input to the identification of impact issues and concerns

A meeting with Councillor Peter Robertson to inform him of the terms of reference for the SIA and to get his input to the identification of impact issues and concerns

A reconnaissance of each siting option area.

Five criteria, commonly used to judge the adequacy of impact studies, guided the development of the study approach and work program:

Appropriateness. Is the study design -- its "frame of reference" and the methods used -- appropriate and the "best possible" given the nature of the undertaking, the social context under consideration, study constraints, and in light of other approaches and methods available? The study design recognizes that the proposed undertaking is controversial and is perceived to pose a threat to human health and the environment. Both standard and special impacts will be assessed, and two analytic approaches, technical and interactive, will be applied (described in Section 1.1). It also recognizes that the siting options differ sociologically in that two are distinctly rural/agricultural communities while the third is in transition and urbanizing. Recognition of these contextual differences will be reflected in the analysis of each area's sociological dimensions (population structure, patterns of activity, community character, and lifestyle expectations) and in the analysis of issues relevant to the assessment of social impacts (for example, the long-term social implication of selecting a rural versus an urbanizing site).

Comprehensiveness. Taking into account unavoidable constraints, is the SIA complete? Are there serious gaps or omissions in the analysis of the undertaking and its potential impacts? Comprehensiveness can have two meanings. The first has to do with the scope of the study and whether it focuses on a full range of key impacts. The second meaning concerns the extent to which the SIA integrates the findings of the other EA components (e.g., land use assessment, economic impact assessment) and whether it takes into account interactive, cumulative effects as well as attempting to apply a holistic perspective, similar to that of the people who will be affected and are concerned about the overall implications of the undertaking for their quality of life. Both aspects of comprehensiveness were considered in designing the SIA approach. To ensure that a full range of key impacts is addressed, the study team reviewed research findings related to the impacts of landfills generally as well as documentation prepared specifically for this undertaking. In addition, the study team reviewed public briefs and submissions and consulted with community liaison groups in each of the candidate areas as a means of determining which general impacts were particularly relevant in this case. As

well, meetings were held with regional staff and other consultants to ensure that the SIA integrates the findings of other studies undertaken in the assessment of the landfill options.

Consistency. Were the study methods applied uniformly? Are there serious inconsistencies in the application of evaluative criteria? A basic requirement of any impact assessment is that it be internally consistent, that is, that it involve the uniform application of analytic assumptions and procedures. Careful attention was paid to this requirement in the setting of study area boundaries and in the selection of impact indicators (i.e., the specific measures of impact to be applied).

Accuracy. Are there serious errors or misrepresentations? Obviously, accuracy is essential for sound analysis. To ensure that views of those affected are not misrepresented in the selection and assessment of impact concerns, the study team has asked each Community Liaison Group to review notes taken during the study design meeting held with the Group. In addition, time has been allocated in the workplan for review of the draft report by local officials and community representatives to augment the in-house peer review that will be done by the study team.

Reliability. Are the analytic results valid? Are the indicators selected appropriate? Do they measure what is intended to be measured? Rationales, reflecting documented research findings and current impact assessment practice, are set out to substantiate the selection of factors and indicators.

In Phase 2, begun 3 July and completed 8 August, the study design along with a draft of the Socio-Economic Assessment Interview Instrument, were circulated for comment to MacLaren PlanSearch Inc., Regional Council, Regional staff, and to each of the Community Liaison Groups in Areas 1, 2 and 6. Meetings were arranged with the Community Liaison Groups to provide them with an opportunity to discuss the proposed study approach and interview instrument in detail with the lead consultant. One of the Community Liaison Groups, the Area 1 Group, declined the offer of a meeting and did not provide any feedback on either the

proposed study approach or interview instrument. Comments received from the other participants resulted in revisions to the study approach (feedback in this regard focussed exclusively, with the exception of minor editorial comments, on the study area boundaries) and to the interview instrument (comments received and responses to them are documented in a separate report titled "Notes on Revisions to the Interview Instrument", 8 August 1986).

This report describes the methodology and work program developed for the conduct of the social impact assessment. It describes what social impact assessments generally involve, the objectives of this study, study area boundaries (including changes made to these during the course of Phase 2 of the study design), impact concerns and issues to be taken into account, specific factors and indicators to be used, analytic methods and techniques to be applied, and the timing of public consultation activities.

SECTION 1: STUDY APPROACH

1.1 Social Impact Assessment

Defined simply, social impacts are changes that occur in peoples' way of life (how they live, work, play and interact with one another on a day-to-day basis) and their community (its services, character, cohesion) as a result of the development and implementation of a new project and that are experienced by these people as significant events. They can result from other impacts such as environmental impacts (e.g., contamination of groundwater, air pollution) and economic impacts (e.g., property devaluation, loss of business) or they can be the direct result of the construction and operation of the proposed project (e.g., displacement of residents, disruption of enjoyment of property). And they can be short-term or long-term, major or minor. In any case, peoples' quality of life may be affected.

The purpose of a social impact assessment is to determine what kinds of changes are likely to occur including who will be affected and how, to assess the significance of those changes taking into account the views of those affected, to identify ways and means of possibly lessening potential impacts, and to identify trade-offs involved in selecting one alternative versus another. Aside from bringing the full consequences of a proposed project to the attention of decision-makers before the final commitment is made, a social impact assessment has another important purpose -- to assist the proponent to internalize, as much as possible and to the extent considered fair, the social costs that the project will create. Thus the identification of publically acceptable mitigation, compensation and local benefit measures is an important component of a social impact assessment.)

Social impact studies generally involve four stages of analysis. These include:

1. **Profiling:** To assess the potential social impact of a proposed project, it is necessary to describe the existing social conditions in the area(s) likely to be affected. The purpose of profiling is to establish the baseline

information which the assessor can use to determine what difference the project would make to the well-being of those affected.

2. Predicting: With the baseline data in hand, the assessor determines which impacts are likely to occur should the proposed undertaking proceed, who will be affected, in what way and for how long.

3. Assessing: This stage involves the careful analysis of the predicted impacts to determine their relative importance (i.e., separating significant from non-significant impacts) taking into account such criteria as magnitude, duration, current conditions, future conditions in any case, community goals, and possible mitigation measures.

4. Evaluating: The final step is to make a judgement regarding the overall impact of the proposed undertaking on the potentially affected area(s). This involves not only evaluating the social significance of the potential impacts but also making explicit the trade-offs among the alternatives. In addition it requires taking into account any issues (such as perceived inequities, fairness of compensation measures, effectiveness of impact mitigation measures) which influence the perception of impact significance on the part of affected publics.

In each of these stages, full consideration must be given to:

(a) the attitudes and perceptions of those potentially affected towards the undertaking and its impact on their way of life and community (people will perceive and respond in different ways to a proposed project)

(b) the relative vulnerability of affected people and communities (the "fit" between the proposed project and its receiving environment) must be assessed. To do so consideration must be given to the likelihood that some people and some communities will be more vulnerable than others to adverse effects of the undertaking)

(c) the nature of the communities that may be affected (what constitutes "the community" in each area, how these communities function, what

support roles they play in the lives of the residents, how cohesive they are, how this cohesiveness may be affected by the proposed undertaking).

In designing a specific impact study, it is important to ensure that the study approach is appropriate for the kind of undertaking being assessed. When the undertaking involved is a controversial one, and especially one that is regarded as posing a threat to human health and the environment, it is necessary to ensure that the study approach takes into consideration two broad categories of impacts, namely standard and special impacts, and to apply two kinds of analytic processes, namely technical and interactive.

Social impacts can be categorized into standard and special impacts. Standard impacts, as the name implies, refers to a set of fairly common changes that tend to occur with the construction and operation of any project. Expropriation of properties, interference with local traffic, and property devaluation due to air and/or water pollution, noise, dust and other nuisances are examples of standard impacts. Special impacts are different in kind. They are largely subjective in nature and result from the perceptions and attitudes that potentially affected residents have toward the facility. For example, if residents fear that the project will pollute the environment in ways that will affect their health and/or livelihood, they may experience increased stress and anxiety which, if prolonged, could result in illness. Or they may come to feel dissatisfied with their community and, if they feel strongly that the project is an unwanted intrusion, they may become disinclined to improve their properties or take part in community affairs. They may even move out of the community altogether. Such reactions inevitably impact on the community's character and cohesion.

The assessment of standard and special impacts requires different kinds of analytic processes. Standard impacts are amenable to technical studies which stress objective and systematic collection of data and rigorous scientific analysis. Special impacts, because they are largely subjective and tend to be focused on qualitative concerns, require a more interactive process of assessment, one which involves consulting with affected interest groups, individuals, local officials and politicians to draw out public concerns and issues associated with the proposed project and the differing attitudes and

perceptions that underlie them. Often such concerns and issues revolve around perceived inequities, disruption of lifestyle expectations and community goals, loss of control over the quality of one's environment, and the uncertainties regarding potential impacts and the extent to which they can be effectively mitigated and managed.

The study approach, described in the remainder of this Section, has taken into account all of the above principles and analytic requirements.

1.2 Study Objectives

The social impact assessment of landfill siting options proposed by the Regional Municipality of Peel will address the following six objectives:

1. to identify the social impacts likely to occur "on site", in the vicinity of the siting options, and in the communities surrounding the proposed landfill siting options.
2. to determine the relative importance and significance of the expected changes for potentially affected areas.
3. to identify differences in impact among the potentially affected areas and clarify decision trade-offs.
4. to identify measures necessary to prevent or manage potential impacts.
5. to identify possible compensation and local enhancement measures to offset adverse impacts.
6. to describe the pro's and con's of each siting option and, if possible, to rank the siting options.

1.3 Study Area Boundaries

At least three kinds of boundaries are relevant to the assessment of social impacts of any undertaking: boundaries defining the level of social analysis (i.e., whether the focus is on individuals, groups or organizations, communities, the public at large, or some combination of these); boundaries delimiting the spatial extent of the analysis; and boundaries delimiting the temporal extent of the analysis (i.e., the time horizons taken into account).

Levels of Social Analysis

The potential social impacts of the landfill siting options will be considered at three levels of social analysis:

impacts on individual residents: for analysis purposes these will be grouped into on-site residents, those adjacent (i.e., abutting a siting option or a perimeter roadway) to a siting option or key access roads, and those within the vicinity of the siting options (i.e., within the community boundary)

impacts on local services and facilities ("local" defined as within or serving residents who live within the community boundary)

impacts on the community(ies) in each area ("community" is defined sociologically as described below in the section on Spatial Boundaries)

Spatial Boundaries

Several, sometimes overlapping, spatial boundaries were delimited to define the area(s) within which data should be collected. These take into account the levels of social analysis required and, where appropriate, have been adjusted to include remaining portions of lots and adjacent properties. It should be noted that these boundaries define areas for the purpose of data collection --

they do not define the expected areal extent of impact. This can only be determined once data has been collected and analyzed.

The spatial boundaries include:

A. In and around the landfill sub-areas

the landfill sub-area boundaries themselves (to take account of social impacts on on-site residents)

500 meters extending from the site boundary (an estimate of the distance over which methane gas, leachate, noise, litter and dust generally tends to disperse and could thus affect residents and local services and facilities; this estimate was developed by the Ontario Ministry of the Environment and is based on information regarding existing landfill facilities)

1000 meters extending from the site boundary (this boundary adds a margin of error to the 500 meter estimate, recognizing that the 500 meter boundary is an estimate of the average performance of landfill facilities and that it is possible for some impacts to extend beyond 500 meters)

hydrogeologic zones (to take account of the concerns of residents relying on well water or surface water)

overall community boundaries as well as any sub-communities within the larger community boundary (the delineation of community boundaries was based on the responses of members of the Community Liaison Groups to questions regarding their perceptions of the extent of "sense of belonging" and "social relationships" among residents in their area and thus reflects a perceptual/sociological definition of "community"; defining community in terms of what residents perceive it to be was felt to be more appropriate, in the context of a social impact study, than using a definition based on some arbitrary distance from the siting options or using existing civic/administrative boundaries set up for other purposes.

B. Along the access routes

noise attenuation boundaries (to take account of effects on individuals living along the access routes within the overall community boundary)

sub-communities within or servicing the overall community that are likely to be impacted by nuisance effects of truck traffic (to take account of the effects of noise and traffic interference on services and facilities within the sub-communities)

As a result of mapping these boundaries for each site option, four relevant impact zones were defined:

1. A Primary Impact Zone: encompassing the landfill areas themselves, the 500 meter boundary and the 1000 meter boundary.

Because the primary impact boundaries overlapped in Areas 1 and 2, the Areas were combined and only one Primary Impact Zone was delineated.

The 500 and 1000 meter boundaries were adjusted to include that portion of any property that was severed by the boundary line so that the whole property was included. This resulted in a zig-zag line for each boundary. This became problematic in that the 1000 meter boundary often stopped short of major roadways and small pockets of residential properties located between the 1000 meter boundary and a major roadway were cut out of the primary impact zone. Owners of these properties quite naturally questioned why their neighbour was in the study area but they had been excluded. Discussions were held with the economic consultant and the regional official responsible for the land use impact study to determine whether an extension of the 1000 meter boundary to the nearest roadway could be justified. The consensus was that this would be reasonable since it was conceivable that some impacts (in particular, property devaluation) could extend beyond a 1000 meters from the siting option and, if impacts were to extend beyond a 1000 meters, this extension was not likely to go beyond the nearest roadway since the roadway would act as a barrier or buffer. Thus the 1000 meter boundary line was further

adjusted to take in any properties effectively encompassed by the boundary line and that lay between the boundary line and a major roadway or other man-made or natural barrier.

2. Secondary Impact Zones: outside the primary impact zone and encompassing residents in non-serviced areas relying on well water or surface water and those residents whose property abuts access road segments determined in the traffic analysis to be areas of potential problems.

3. A Community Impact Zone: to take account of impacts on the community as a whole. For Sites 1 and 2 this includes the area encompassed by Lot 19 to the north, Highway 10 to the east, Queen St. to the South, and Winston Churchill Blvd. to the west. For Area 6, this included the area encompassed by Lot 21 to the north, McVean Drive (8th Line) and a portion of Gore Road to the East, Castlemore Road to the south, and 4th Line to the west (this boundary line extends slightly west of the 4th Line in the northern section to take in the new housing starts in this area).

4. Sub-Community Impact Zones: to take account of potential impacts on communities within the larger community or along access routes. In the case of Areas 1 and 2, this includes Snelgrove, and Huttonville. In the case of the eastern siting option, this includes Tullamore and Professors Lake.

Residents suggested four additional sub-communities which, for reasons elaborated below, were not incorporated as sub-communities into the study design. First, Norval was proposed as a potential sub-community since representatives of Upper Canada College and the Presbyterian and United Churches had previously expressed concern regarding the potential impact of a landfill facility on their services and facilities. The concern in this case, however, was not related to the community of Norval but to specific services and facilities, a concern which could be addressed in meetings with representatives of U.C.C. and the two churches. For this reason, Norval was not designated as a sub-community. Second, the Old

Towne Subdivision was proposed as a potential sub-community since it was felt that residents there could be negatively affected by an increase in truck traffic going to and from the landfill facility. It was determined, however, that the Subdivision did not really have a distinct and separate "community" identity and since the concern focused on the impact of truck traffic and residents of the Subdivision would be included in the access route survey to be conducted, the Old Towne Subdivision was not designated as a sub-community. Third, Heart Lake was suggested as a potential sub-community warranting inclusion in the study since the landfill facility, it was felt, would be visible to residents of Heart Lake and thus could negatively affect the community. A field check was conducted by MacLaren PlanSearch to assess the potential for visual intrusion and it was determined that such an impact was not likely. For this reason, Heart Lake was not designated as a sub-community. Finally, Wildfield was suggested as a potential sub-community. Some children and families in the vicinity of the siting options in Area 6 go to school and church in Wildfield and it was felt that these facilities could be negatively affected if residents move out of Area 6 as a result of a decision to locate the landfill facility in there. It was determined, however, that except for the potential impact on the school and church there, Wildfield is not likely to be impacted by the proposed landfill facility. It will not be on an access route for trucks going to or from the landfill and it will not be negatively affected by visual intrusion or other nuisance impacts. As for the potential impact on the school and church, residents in the Primary Impact Area will be asked to provide information on school and church facilities they make use of and state any intentions they may have to move should the landfill be located in their area. This will allow a determination to be made as to the potential impact on the school and church in Wildfield. Thus, Wildfield was not designated as a sub-community.

Data collected will be aggregated and reported for each of these impacts zones for each siting option (and where appropriate, for the Sub-areas of each siting option). Maps 1 and 2 illustrate the study area spatial boundaries.

MAPS IN PREPARATION

Temporal Boundaries

Four time horizons will be taken into account in the assessment of social impacts. These include:

the immediate future (spanning the construction and early years of site operation -- the period during which the host community will be required to make the most adjustments to the effects of the landfill)

a twelve year time frame (based on a resolution of Brampton Council)

a twenty year time frame (based on the assumption that the waste management targets for recycling and EFW are not met and the 400 acre landfill reaches capacity within this time frame)

a forty year time frame (the time required for the 400 acre landfill to reach capacity assuming that 40 percent of the waste stream is disposed of in the landfill).

It should be noted that in the identification of compensation measures one additional time frame will be taken into consideration and that is the period between the announcement of siting options and the selection of the preferred option by Regional Council. This period of facility planning and assessment (as opposed to construction and operation) also tends to have its own set of social impacts associated with it such as stress, family disruption, and property devaluation. Such impacts represent an extra degree of hardship for those affected (and in the short-run at least could restrict their ability to adjust to facility construction and operation). Once a site is selected, this information will provide a useful starting point for the development of compensation policies.

1.4 Impact Concerns and Issues

In identifying the impact concerns and issues that should be taken into account in the assessment of social impacts, the study team took a two-pronged approach.

First, the team reviewed literature and research documenting the impacts of landfills. This resulted in the list of potential negative impacts generally associated with landfills shown below in Table 1. It should be noted that this is a generic checklist of the kinds of impacts known to have resulted from landfilling operations. The kinds of impacts that could occur in a specific case depend on the particular characteristics of the environment where the landfill is located and on how the landfill is designed and operated. Many of these impacts can be avoided or minimized through careful siting, sound engineering and state-of-the-art operational policies.

TABLE 1: POTENTIAL IMPACTS ASSOCIATED WITH LANDFILLS

POTENTIAL ON-SITE IMPACTS

- displacement of residents
- displacement of community/recreation facilities
- displacement of businesses
- loss of agricultural land
- loss of natural habitat or habitat continuity
- loss of core species (flora and fauna)
- loss or displacement of archaeological/historical sites
- fires in the landfill cells
- explosions due to methane gas build-ups

POTENTIAL SITE VICINITY IMPACTS

- decreased property value
- disruption of way of life
- loss of satisfaction with place

- methane gas build-up and possible explosions
- disruption of the operations of community/recreation facilities
- loss of business
- interference with local traffic and potential roadway safety hazards
- visual intrusion
- nuisance impacts (noise, dust, odours, smoke, litter, rodents)
- contamination of groundwater from leachate
- contamination of surface water (especially if chemicals are used in a pre-fill extermination process)
- potential health hazard resulting from seagulls and rodents which are vectors of diseases
- interference with airport traffic due to seagulls

POTENTIAL COMMUNITY IMPACTS

- loss of community character
- potential stigma effect with area seen as less appealing to potential newcomers
- loss of community cohesion and stability if residents move from the area or lose interest in civic affairs
- change in land use patterns

POTENTIAL ACCESS ROUTE IMPACTS

- conflict between landfill trucks and local traffic
- conflict between landfill trucks and pedestrians
- reduced property access
- truck fires (internal combustion of garbage)
- truck spills of garbage
- increased requirement for access route maintenance
- nuisance impacts (noise, odour, litter)
- drivers not adhering to designated access routes
- construction impacts as existing roads are upgraded (resident displacement, loss of land, nuisance impacts)
- damage due to truck vibration (cracked plaster, broken water mains)

Second, the study team reviewed public submissions and held a series of meeting with local officials and citizen groups to get a fix on those impacts considered to be most relevant and of key concern in this case. This resulted in the list of impact concerns shown in Table 2.

TABLE 2: LOCAL CONCERNS ABOUT LANDFILLS

- interference with local traffic, possible safety hazard
- loss of agricultural land
- loss of ancestral ties for displaced residents
- disruption of way of life and life plans, hardship for those having to start over somewhere else
- loss of satisfaction with place
- financial and emotional set back for those who have invested substantial time, effort and money in their properties
- impact on the vitality of the community if residents displaced, become less inclined to get involved in civic affairs, or decide to move out
- possible contamination of groundwater and local wells or reduction of well water supply (and associated cost of obtaining alternate water supplies, and loss of personal control over quality of water)
- possible contamination of surface water (and associated implications for activities of Conservation Authorities)
- loss of or interference with business activities (due to water contamination or interference with accessibility)
- disruption of day-to-day activities due to nuisance impacts
- interference with the operation of services and facilities (in particular schools, churches, recreational facilities)
- property devaluation and loss of financial security
- air pollution and potential health impacts (especially for those with respiratory problems or allergies)
- visual intrusion
- nuisance and health hazards posed by seagulls and rodents
- stigma effect of landfill
- loss of century homes

- dumping of hazardous wastes into the landfill
- degradation of aesthetics due to litter, odour, etc.
- loss of peace and tranquility of home/community
- interference of birds with airport traffic

A number of other issues and concerns were raised which are relevant to the assessment of social impacts. These include:

- is a 40 year site equitable?
- the process of siting itself has had a considerable impact on residents in terms of stress, anxiety and disruption of family life
- due to the uncertainty surrounding the landfill issue residents have put off needed property improvements
- landfill should be serviced; but should residents with their own well water have to sacrifice their water for the sake of a landfill?
- what kinds of controls would there be on materials put into the dump?
- will there be monitoring of water quality and toxic pollutants?
- the onus is now on residents to "prove" water contamination -- is this fair? will this continue to be the practice?
- what kind of air pollution monitoring systems will be put in place?
- what kind of compensation will be offered? how will "fair" compensation be determined?
- will social impacts be given much weight? the process appears to be dominated by politics and economics
- not enough effort is being directed toward recycling, reduction, etc.
- the landfill is not consistent with community goals and objectives

1.5 Impact Factors and Indicators

Working with both lists of impact concerns and taking into account methodological requirements as well as the concerns being addressed in other studies currently underway (i.e., the land use impact study and the economic impact study), the study team was able to set the scope of the social impact assessment.

The following factors and indicators will be used in the assessment of the social impacts of the landfill siting options:

IMPACTS ON INDIVIDUAL RESIDENTS

FACTOR 1: DISPLACEMENT

The development of the landfill will result in the displacement of residents who live on-site. The concern in the SIA will be with the potential hardships that may be experienced by displaced residents. For example, they may lose friendship and community ties; they may experience stress and anxiety at the disruption of their way of life, effects which result in illness; or they could experience difficulties in relocating and getting their family settled again. The significance of such hardships can be expected to vary from individual to individual depending on such variables as age, type of tenure, length of residence, and attachment to place.

INDICATORS

The total number of residents who will be displaced, their characteristics (age, type of tenure), and attachment to place (length of residence, ancestral ties to property, family and friendship ties in the community, life plans associated with property) will be used as measures of the social significance of displacement and will also be taken into account in the identification of impact mitigation and compensation measures.

It should be noted that the degree of hardship cannot be predicted. It will be influenced by how far residents move (i.e., whether they are able to find alternate accommodation in the community or within reasonable distance of their relatives and friends), the adequacy of compensation, the timing of the relocation process (length of time residents are given to find new housing and to move), and the timing of the compensation.

FACTOR 2: DISRUPTION OF DAY-TO-DAY ACTIVITIES AND/OR USE AND ENJOYMENT OF PROPERTY

The construction and operation of the landfill may disrupt the daily activities of residents in the vicinity of the site and along access routes and may interfere with their use and enjoyment of property. The potential for disruption depends on the characteristics of the residents (e.g., length of time at the home during the hours of site operation), their proximity, and the extent to which the facility operation will or will be perceived to interfere with daily activities and use and enjoyment of property. "Interference" will be assessed in terms of potential nuisance effects (noise, interference with local traffic), visual intrusion, possible water pollution, and in terms of the perceived compatibility of the facility with the residents' activities and use of property (based on expert judgment as well as on the subjective judgment of residents).

INDICATORS

The assessment of this factor will be based on the following indicators: number and characteristics (age, length of time on property during site operation) of residents within the primary and sub-community impact zones; number and kinds of activities or uses of property likely to be affected within the primary and sub-community impact zones; potential for interference with use of property (i.e., projected nuisance, environmental impacts, and visual intrusion); resident perception of the compatibility of the facility with their daily activities.

The assessment of this factor will also take into account the results of the land use impact study (regarding the compatibility of the landfill with existing land uses in the area) and the economic impact study (regarding property devaluation).

FACTOR 3: SATISFACTION WITH PLACE

The siting of a landfill in or near a community may cause some residents to feel less satisfied with their community as a place to live. As a result residents may choose to withdraw from community activities or from the community itself, which can lead to psychosocial impacts (e.g., individual stress/depression, loss of friendship ties, loss of overall life satisfaction, increased family problems, etc.) as well as broader social impacts (e.g., loss of community cohesion and stability).

INDICATORS

The assessment of this factor will be based on the expressions of residents within the primary impact zone regarding their current and potential satisfaction with place and expert judgement regarding the significance of potential disruption of day-to-day activities (factor 2). Specific indicators to be used include: what residents like about living in their community; residents' perceptions of how the facility will affect them and their community; degree of disruption of day-to-day activities; extent of neighbouring; involvement in community activities and associations; and possible impact mitigation and compensation measures.

FACTOR 4: PUBLIC HEALTH AND SAFETY

Considerable concern has been expressed regarding potential health and safety problems due to water contamination, increased number of seagulls and other vectors of disease, increased dust, and traffic congestion and interference. A thorough assessment of this concern could require such studies as epidemiological, toxicological and risk assessment studies, all of which are beyond the scope of a social impact assessment. (At best a social impact study can provide only an indication of the potential social significance of such problems should they occur.)

INDICATORS

The potential significance of this concern will be assessed using the following indicators: number of unserved properties downstream (i.e., residents relying on well water and surface water for household use and for livestock), number and proximity of potentially vulnerable residents (i.e., residents with health problems who are concerned that their condition may be adversely affected by landfill operations) within the primary impact zone; school bus routes and potential for interference with truck routes; other uses made of the road by residents (e.g., jogging, bike riding, etc) and potential for interference by truck traffic.

IMPACTS ON LOCAL SERVICES AND FACILITIES

FACTOR 1: DISPLACEMENT

There are services and facilities on-site which will be displaced as a result of the landfill siting (two cemeteries and a recreational facility). There are also some facilities, existing and proposed (e.g., churches, a hospital, research farm), which may be displaced as a result of owner/operator decisions not to continue with the activity or proposed plans. The displacement of such features may cause hardship to clients and reduce social cohesion by causing changes in the commitment of residents to the community and in patterns of resident interaction.

INDICATORS

Data collected will include the number of facilities in the primary impact zone, the community, and sub-community(ies); their characteristics (clients, service area, role in the community); and the availability of alternate services/facilities.

FACTOR 2: DISRUPTION OF OPERATIONS

Local services and facilities located or proposed to be located within the primary impact zone, sub-communities, and along access routes may experience some disruption of their operations as a result of the operation of the landfill. This could be the result of noise, visual intrusion, or traffic interference.

INDICATORS

Data to be collected in assessing this potential impact include: number of services and facilities likely to be affected; their characteristics (clients, service area, role in the community, operating hours, proximity to the landfill site or access routes); and owners'/operators' concerns regarding the impact of the landfill on their service and/or facility.

IMPACTS ON SURROUNDING COMMUNITIES

FACTOR 1: LOSS OF CHARACTER

The introduction of a landfill into a community can have a negative effect on its character as a result of impacts on the community's environment and its aesthetics (e.g., noise, dust, litter) or the landfill's incompatibility with surrounding land uses. "Community character" refers to the distinctive qualities of a community which can be physical in nature (land uses, geographic and environmental features), socio-cultural (way of life, shared values and perspectives), and economic (type of business activities). The unique character or image of a community is a function of the mix of these qualities and as such there is no single, universally accepted definition of community character for all areas.

INDICATORS

The assessment of this impact requires identifying the unique/distinctive characteristics of each candidate site (environmental and cultural landmarks, heritage and historic features within the primary impact zone), and assessing the compatibility of the landfill with land uses in the area (present and future).

The assessment of this factor will be coordinated with the land use impact study.

FACTOR 2: LOSS OF COHESION

Community cohesion refers to the level of interaction and degree of interdependence of individuals, groups and institutions as evidenced by the number of friends and relatives in the area, the extent of use of local services and facilities, participation in community activities, and neighbouring. To varying degrees, cohesiveness in a community helps individual residents to gain a sense of belonging and psychological identification with the community and generally encourages an interest in the community's well-being and future. The development of a landfill in a community could impact its cohesiveness as a result of the displacement of residents and local services and facilities, interference with the use of community services and facilities, interference with patterns of neighbouring, and loss of resident attachment to place.

INDICATORS

The assessment of this impact requires first determining the extent of cohesiveness in each community and then determining the extent to which this cohesiveness may be affected by the operation of a landfill.

Measures of community cohesion include extent to which residents have a homogeneous lifestyle and participate in community activities, the number of friends and relatives they have in the area, their length of residence in the community, and extent of their use of local services and facilities (i.e., the extent to which they meet most, if not all, of their life requirements in the community).

The assessment of impact on community cohesion will also involve taking into account the potential implications of displacement of residents (Factor 1 under Impacts on Individual), loss of satisfaction with place (Factor 3 under Impacts on Individuals), and displacement of local services and facilities (Factor 1 under Impacts on Local Services and Facilities).

In addition to the above impact factors, the following issues which are relevant to the assessment of social impacts but not amenable to site comparison will be addressed:

the equity of one 40 year site versus sequential 20 year sites versus a 12 year site

consistency of the landfill with community goals and objectives

loss of community control over the quality of their environment

mitigation and compensation for social impacts

the social impacts of the siting process

impact monitoring

1.6 Analytic Methods and Techniques

Several analytic approaches will be used in the assessment of social impacts. These include:

1. Formal questionnaire survey of potentially impacted residents.

A detailed questionnaire survey will be developed and administered to residents within the primary impact zone (100 percent coverage including non-resident owners and tenants), and secondary impact zone (a sample of residents, randomly selected). In the primary impact zone the survey will be administered through face-to-face interviews. In the secondary impact zone the questionnaire will be dropped off and self-administered. To increase the response rate of the drop-off survey, the questionnaire will be picked up rather than mailed back. (of all survey techniques, mail back questionnaires usually produce the lowest response rate).

In Area 6, to facilitate and encourage the involvement of the Italian community, interviewers who speak Italian will be employed where needed and correspondence relating to the survey will also be written in Italian for Italian residents.

2. Formal meetings with two groups: first, local service and facility owners/operators within the primary impact zone, community boundary, and sub-communities; and second, with representatives of the sub-communities. In each case, the meetings will be guided by a structured set of questions to ensure consistency in approach to information collection. The basic objective of the meetings will be to solicit the concerns of those consulted regarding the proposed landfill facility and its implications for local services and facilities and the sub-communities.

3. Ethnographic analysis.

The focus of this form of analysis is with understanding resident patterns of activity and the social and cultural meanings attached to these activities and community features (e.g., the meaning attached to "home" and "land"). The main technique which will be used to facilitate this analysis will be resident-conducted site tours organized by the Community Liaison Group in each candidate site. This will provide the residents with an opportunity to convey to the assessors, in their own way, attitudes and values relating to their community and its quality of life. In addition any ethnographic studies undertaken of the study areas (e.g., historical analyses, sociological analyses) previously conducted and reported on will be researched.

4. Focus Group Process.

A focus group consists of eight to ten individuals, generally homogeneous in terms of social class, income, education, and occupation. A trained facilitator leads the group through an open, in-depth discussion that explores members' attitudes and values. The focus group technique can be an effective way to get at major issues such as those listed at the end of Section 1.5. There is some concern among social researchers about the subjectivity of this technique (the results may differ with other participants, another facilitator, or another setting). But it is generally agreed that focus groups do have the advantage of stimulating creative thinking, providing an indication of the degree of flexibility or rigidity of attitudes towards the matter in question, and fostering a degree of candor not possible in formal individual interviews or public meetings.

The main criteria used to identify potential participants in the focus group exercise will include place of residence and/or business (participants must live outside the community boundary defined for each study area and have no business interests within the community boundary), occupation (participants in the focus group should be representative in this respect of residents in the study area), and knowledge of landfill operations and their potential impacts.

5. Content analysis of public submissions on the landfill siting options.

This is a standard survey research technique that can produce a systematic, quantified description of local concerns and issues.

1.7 Public Consultation



Extensive public consultation is regarded as essential to the assessment of the social impacts of the landfill siting options if the assessment is to reflect accurately resident perceptions, attitudes and values.

Formal and informal consultations took place with community representatives during the initial development of the study design. Three additional formal opportunities for consultation with the Community Liaison Group and other concerned residents in each candidate site were incorporated into the Work Program described in Section 2 of this report.

First, meetings were arranged during the month of July with the Community Liaison Groups at the start of the social impact assessment to get their feedback on the study approach and workplan (this constituted Phase 2 of the Study Design Process).

Second, residents and local service and facility owners/operators in each of the candidate areas will be surveyed and interviewed as described in Section 1.6.

Third, a meeting will be arranged with the Community Liaison Groups just prior to the submission of the draft report to feedback to them the results of the assessment and give them an opportunity to seek clarification where required on the assessment results. A copy of the draft and final reports will be distributed to each Group once the reports are received by Regional Council.

In addition to these formal consultation opportunities, the study team will be interacting with community residents and local officials during the assessment itself (e.g., as part of the resident-conducted site tours, to coordinate the survey drop-off, to field check information, etc.). These points of interaction will be approached as an opportunity for informal consultation to the extent desired by the residents involved. Each Community Liaison Group was provided with the phone numbers of the consultants involved in the social impact assessment and were encouraged to call at any time to discuss the study.

SECTION 2: WORK PROGRAM

2.1 Tasks to Be Undertaken

Our work program has been structured into three distinct phases.

Phase One is the data gathering phase. In this phase the approach to the social impact study is refined and the required information gathered. This phase consists of 12 specific tasks.

Phase Two is the analysis stage and consists of three tasks. The impacts are described and predicted for the various site areas and the impacts analysed across various sites so that the sites can be ranked or prioritized. In the analysis stage we also consider the issues of compensation and social equity.

Phase Three which is the report preparation phase also consists of three tasks.

In addition, there are the on-going responsibilities of meetings with the client and the community and the general management of the project.

Each phase is discussed in turn.

PHASE ONE- DATA GATHERING

TASK #1 - FINALIZE THE STUDY AREAS

As part of the development of the work program, study areas and impact areas have been proposed for the social impact assessment. Subsequent to the meetings with the other consultants and the client, the study areas will be reviewed and finalized in consultation with the Community Liaison Groups.

TASK #2 - REVIEW THE WORK PROGRAM WITH THE COMMUNITY LIAISON GROUPS

It is important that the social impact assessment involve the residents in the potentially affected areas and this will require considerable interaction with the organized Community Liaison Groups at key times. It is essential that we meet with the Community Liaison Committees to present to them and review with them the study approach and the work program before commencing the interviewing and further data gathering.

TASK #3 - FIELD CHECKS

Data exists in the area up to 500m around each of the sites. However, for the social impact assessment we require information from a much wider area, and as a result we will need to carry out our own field checks to gather this information as well as to verify that which currently exists. Field checks may be coordinated with input from the Community Liaison Committees.

TASK #4 - FINALIZE THE FACTORS AND MEASURES

During the development of the work program we have identified what we see as the most appropriate factors and measures. Subsequent to the discussion of our work plan with the Community Liaison Groups and the finalizing of the study areas and the field checks, we will review and finalize the factors and measures to be used in social impact assessment.

TASK #5 - DRAFT QUESTIONNAIRE

Much of the data required for us to describe the potentially affected communities and to carry out the impact assessment must be gathered from the local residents. As a result, we will draft a questionnaire which will assist us in gathering the information needed to describe and assess the impacts at the various potential sites.

TASK #6 - PRETEST THE QUESTIONNAIRE

A pretest is necessary to determine the length of the interview as well as to ensure that the questions are properly worded. We intend to do three or four questionnaire pretests as well as review the questionnaire with the Region Consultants Committee. Pretests will be conducted in Maple and Schomberg, Ontario. These communities were selected as pre-test sites because they offered a high potential for identifying pre-test participants who would be representative of those residents in the study areas (e.g. involved in farming, living in an urbanizing area, knowledgeable of landfill operations).

TASK #7 - ADMINISTER THE QUESTIONNAIRE

It is currently our intention to administer a detailed questionnaire at each household within 1,000m of the two community areas. Our current estimate is approximately 200 questionnaires. The approach required will be to identify all of the property owners and residents, and to contact them all first by letter to indicate that there will be a questionnaire survey and then to phone them all to schedule an interview at an appropriate time. Once an interview has been scheduled, our staff will be assigned to carry out the interview.

TASK #8 - ADDITIONAL SELECTED INTERVIEWS

There will be areas outside 1,000m zones referred to above within which we believe it will be important to carry-out interviews. Specifically, we are referring to the sub-communities of Huttonville, Snelgrove, Tullamore, and Professors Lake. To carry out the selected interviews it will be necessary to reconsider which questions on the draft questionnaire are appropriate and then to identify a sample of people to be interviewed.

TASK #9 - DROP-OFF QUESTIONNAIRES

A short drop-off questionnaire will be administered to a sample of randomly selected residents within the secondary impact zone. For budgeting purposes, a drop-off of 400 questionnaires was estimated.

It was subsequently determined that residences within the Secondary Impact Zone totalled 716 (477 along access routes, 239 in non-serviced areas). Thus, a questionnaire will be dropped-off at every second house within the Secondary Impact Zone.

TASK #10 - AGENCY CONTACTS

It is our intention to meet with an appropriate official for services and/or facilities located within the community boundaries or serving residents living within the community boundaries. The purpose of the interview is to determine the activities of the agency or organization and to assess the extent to which the location of the landfill site might affect the operation of their service and/or facility. All services and/or facilities within the 1000m zone will be contacted; outside this boundary only those services and/or facilities which were the subject of submission to the Region or which were identified by the Community Liaison Groups are relevant to the social impact study will be contacted.

TASK #11 - CODING

All the data forms will be coded for the purposes of computer analysis.

TASK #12 - COMPUTER RUNS

Once the questionnaires have been coded and the data entered, computer analysis will be carried out which will provide frequencies as well as cross-tabulations.

PHASE TWO - ANALYSIS

TASK #1 - IMPACT PREDICTION

Apply the factors and measures previously defined to the data gathering and describe the potential impacts at each of the sites.

TASK #2 - IMPACT ASSESSMENT

Utilizing the public inputs, the information generated from the application of factors and measures in Task 1 above, our experience from similar situations, carry out an analysis of the two community areas and the specific parcels of land within each.

TASK #3 - POLICY CONSIDERATIONS

For specific policy issues such as equity and compensation, organize a key informants workshop drawing individuals from existing public interest groups to consider the issues and provide us with an understanding of public acceptability on compensation and equity matters. The structure of this workshop will require the identification of prospective participants, the issuing of invitations, the design and hosting of the workshop and preparation of a workshop report.

PHASE THREE - REPORT PREPARATIONTASK #1 - DRAFT REPORT

A Draft Report will be prepared that will describe the existing communities in the areas of perspective sites as well as the consideration of impacts at each of the sites. In addition, the report will discuss the policy issues of equity and compensation.

TASK #2 - REPORT REVIEW

The report will be reviewed with the Consultants Committee for the region, with the client (specifically the Regional Council) and with the three citizen liaison groups.

TASK #3 - FINALIZE THE REPORT

Based on the discussions held with the consultants working group, the client and the public, the social impact assessment report will be finalized.

MEETINGS AND MANAGEMENT

TASK #1 - CLIENT MEETINGS

It is anticipated that there will be a meeting every two weeks between the social impact assessment consultants and other consultants carrying out the studies for the region, and regional staff. In addition, it is expected that there will be one meeting with the Regional Council when the Draft Report is presented.

TASK #2 - COMMUNITY MEETINGS

In light of the importance of public participation to social impact assessment, we are intending to formally meet with the Community Liaison Committees twice during this process. The first meeting will occur at the beginning of the process when we present the workplan and discuss the draft questionnaire. The second meeting will occur near the end of the process when we review the summary of our analysis and the Draft Report with the Community Liaison Committees. In addition, we anticipate frequent informal interaction with the Community Liaison Committees during the course of the study.

2.2 Study Timetable

The study timetable is extremely tight. The timetable is based on the assumptions that all required data can be obtained when and as needed; that the Community Liaison Groups and local residents cooperate; that meetings with the clients and other consultants are held once every two weeks; that review by the community occurs promptly; and, there are no unforeseen difficulties.

Assuming a July 2, 1986 start date, the target date for completion of the draft report is the third week of October, 1986, and a final report by mid-November, 1986.

STUDY TIMETABLE

July

August

September

October

November

Phase One

Finalize the Study Areas

Review the Work Program with
the Community Liaison Groups

Field Checks

Finalize the Factors and
Mesures

Draft Questionnaire

Pretest the Questionnaire

Administer the Questionnaire

Additional Selected Interviews

Drop-off Questionnaires

Agency Contacts

Coding

Computer Runs

Phase Two

Impact Prediction

Impact Assessment

Policy Considerations

Phase Three

Draft Report

Report Review

Finalize the Report

ATTACHMENT 1: TERMS OF REFERENCE

PLEASE NOTE: The SIA Terms of Reference were submitted to the Region of Peel on June 24, 1986. The timing of the studies have subsequently been adjusted in the process of finalizing the study approach and work program.

TERMS OF REFERENCE
PEEL LANDFILL STUDIES - SOCIAL IMPACT ASSESSMENT

The objective of this study is to identify the social impacts of a new landfill located in the City of Brampton. Social impacts are defined as changes that occur in peoples' ways of life (how they live, work, play and interact with one another on a day-to-day basis) and their community (its services, character and cohesion) as a result of the development and implementation of a new project (programme or policy) and are experience by these people as significant events.

The landfill facility and site areas are described in "Investigations for Landfill Sites in the City of Brampton", MacLaren Plansearch, March 1986.

The impact of sites potentially located in Areas I, II and VI are to be investigated. The site is to be approximately 400 acres in size. The use of this facility over 20 and 40 year time frames are to be investigated.

This study is to be done in co-ordination with the Planning and Economic Impact Studies.

This study is to be performed in two stages. Stage 1 is the design of the study while Stage 2 involves the completion of the Social Impact Assessment.

Task Details

The potential social impacts of the landfill siting options are to be considered at three levels of social analysis.

- . impacts on individual residents
- . impacts on local services and facilities
- . impacts on surrounding communities.

The kinds of impacts to be assessed include:

1. Impacts on individual residents
 - . displacement
 - . disruption of day-to-day activities and way of life
 - . disruption of use and enjoyment of property
 - . loss of satisfaction with place
2. Impacts on local services and facilities
 - . displacement
 - . disruption
3. Impacts on surrounding communities
 - . loss of character
 - . loss of cohesion

Other broad issues (contentious, unresolved concerns) relevant to the assessment of social impacts but not amenable to site comparison will also be considered. These include, but are not limited to:

- . the equity of one 40-year site versus sequential 20-year sites
- . consistency with community goals and objectives
- . impact monitoring
- . compensation for injurious affection

Specific objectives to be addressed by the Social Impact Assessment Study are:

1. To identify the social impacts likely to occur in the communities surrounding the proposed landfill sites

2. To determine the significance of the expected changes for each community
3. To identify differences among the potentially affected communities and clarify decision trade-offs
4. To identify measures necessary to prevent or manage potential impacts
5. To identify potential compensation and local enhancement measures to offset adverse impacts
6. To describe the pros and cons of the sites and, if possible, to rank these sites

The study is to be conducted by Armour and Associates, the principal being Audrey Armour.

Schedule

Stage 1, Study Design, is to be complete by 30th June 1986.

A draft report on Stage 2, Impact Assessment is to be completed by 02 September 1986 and a final report is to be submitted by 01 October 1986.

TERMS OF REFERENCE

PEEL LANDFILL STUDIES - COMMUNITY ECONOMIC IMPACTS

The objective for this study is to identify the economic impacts of a new landfill located in the City of Brampton. The direct costs of developing this facility are not to be addressed in this study. The landfill facility and site areas are described in "Investigations for Landfill Sites in the City of Brampton".

The impacts of sites potentially located in Areas I, II and VI are to be investigated. The sites are to be approximately 400 acres in size, the use of this facility over 20 and 40 year time frames are to be investigated.

The study is to be performed in co-ordination with the Planning and Social Impact Studies.

The study is to be performed in two stages. Stage 1 is the design of the study, while Stage 2 involves the performing of the work.

Task Details

The emphasis in the study is to be on the difference between the broader economic implication of development of the potential sites rather than the absolute amounts involved. The analysis is required to assist in site selection.

The analysis of impacts is to start with the following considerations.

- . uses to be removed, or frozen via purchase
- . uses to be excluded by statute, (eg., NOE restrictions)

- . uses expected to be subject to physical impacts of the undertaking and some disruption or benefit as a result, (eg. varying exposure to noise, dust, litter, visual effects, birds, vermin, municipal improvements, waste disposal services)
- . uses further removed from the area which may be impacted economically as a result of change of image, character, social perspective and the like.

The final results are to be tabulated for each site in terms of a total cost/benefit (present value by type of user) with the preferred site or grouping of sites identified. Nonfinancial economic considerations are to be minimized.

Community economic impact embraces the financial and economic implications of the undertaking on:

- . individuals on site and in the vicinity
- . farms and businesses on-site and in the vicinity
- . the City of Brampton, the Region of Peel as well as Mississauga and Caledon
- . Toronto Region and the Province.

The Consultant is to utilize the existing data bases wherever possible extending them only when authorized by the Project Committee.

Economic and financial considerations include the following factors:

- . property taxes; property and leased values; operating costs; sales and activity; agricultural output; employment (including ability to replace lost employment); construction and development activity; and municipal infrastructure investment.

Consideration is to be given to both present land uses and those which are proposed or potential in accordance with the Brampton Official Plan, whether those uses are to be maintained, deflected, displaced or otherwise.

The analysis is to be based upon consideration of:

- . work done to date on the EA, including the Planning and Social studies underway
- . documented studies on landfill and related works conducted elsewhere
- . first-hand experience with landfills in Peel and vicinity
- . interviews with realtors, property owners, agriculturalists and others in the area
- . the Consultant's experience and judgement in interpreting the above, together with land use data bank assembled for the sites and vicinities.

The potential economic impacts are to be estimated using pre-announcement baseline data. Any anticipated differences between this impact and the situation during the planning/construction phase in the later operating years and post-operating years will be discussed as well.

The Consultant is to submit a list of additional potential mitigating requirements to the Project Committee by late July for consideration in the finalization of the concept, design and costing. The alternatives are to be evaluated on a mitigated and unmitigated basis, separately.

A range of alternative approaches to on- and off-site property owners' compensation is to be defined as a separate adjunct to the study.

The study is to be conducted by Mr. C.N. Watson personally with support from the staff of MacLaren Plansearch. Mr. Watson is to be available to give evidence as required, in any Approval Hearings which may be conducted.

Schedule

Stage 1, Study Design, is to be complete by 30th June 1986.

A draft report on Stage 2, Impact Assessment is to be completed by 02 September 1986 and a final report is to be submitted by 01 October 1986.

TERMS OF REFERENCE

PEEL LANDFILL STUDIES - PLANNING IMPACTS

The objective of this study is to identify the planning impacts of a new landfill site located in the City of Brampton. The landfill facility and site areas are described in "Investigations for Landfill Sites in The City of Brampton, MacLaren Plansearch, March 1986."

The impact of sites potentially located in Areas I, II and VI are to be investigated. Site is to be approximately 400 acres in size. The use of the facility over 20 and 40 year time frames are to be investigated.

The study is to be in co-ordination with the Economic and Social Impact Studies.

The study is to be performed in two stages. Stage 1 is the design of the study while Stage 2 involves performing the work.

Task Details

1. Studies for sites in Area I, II and VI, (the specific sites will be separated into those with similar planning impacts.)
 - a. based on existing land uses
 - . impact on site itself
 - . impact on adjacent lands with parameters to be established
 - b. land use in Official Plans
 - . impact on site itself
 - . impact on adjacent lands with parameters to be established.

The above sections of the study will review all existing and future designated land uses, transportation impacts, and servicing impacts. In the case of future designated land uses the study will address the following:

Agriculture

- . the area and classification of agricultural land that would temporarily or permanently removed from the agricultural land base
- . existing agricultural uses that would cease to operate or would be affected by sanitary landfill site.
- . replacement of lost agricultural land.

Residential and Related Uses

- . number and breakdown of potential units and related population that would be displaced, and impacts on long-term housing supply
- . the extent of potential commercial development that would be displaced and the impact on the commercial structure of the overall area
- . impacts on the distribution of potential community services including: parks, recreation facilities, schools and fire stations
- . a general evaluation of alternative sites to accommodate development displaced if a sanitary landfill were located in Area VI, based on the Brampton Official Plan, Related Background Studies, existing and committed servicing and existing housing market analysis. Select the most appropriate alternative site for residential development.

- . an indepth analysis of the selected alternative area in terms of those factors considered in the impact analysis of the alternative sites.

Industrial

- . the potential land and jobs that would be displaced and the impact on the overall supply of industrial land.
- . replacement of lost industrial land.

Transportation

- . Transportation impacts will be evaluated in terms of the overall pattern of arterial and collector roads and related traffic volumes, existing and future right-of-way widths existing and future pavement widths and any planned capital works.
- . Servicing impacts will be evaluated in terms of changes that will be required to the overall system of existing, committed and projected trunk sanitary sewers and watermains in the phasing of development.
- . The study will address the above impacts in respect to the City of Brampton, the Town of Caledon, the City of Mississauga and the Region of Peel as a whole.

The study is to be conducted by the Regional Planning Department and the Brampton Planning Department. Commissioner Peter Allen will be co-ordinating this undertaking.

Schedule

Stage 1, Study Design, is to be complete by 30th June, 1986.

A draft report on Stage 2, Impact Assessment is to be completed by 02 September 1986 and a final report is to be submitted by 01 October 1986.

ATTACHMENT 2: STUDY DESIGN ACTIVITIES

In developing the study approach, the following activities were undertaken:

PHASE 1

<u>Date</u>	<u>Activity</u>
June 4 to July 2	o Review of reports and data collected by MacLaren Plansearch
June 4 to July 2	o Review of public submissions and briefs
June 8, June 18, June 19	o Field reconnaissance of siting options in Areas 1, 2 and 6
June 10, June 19, July 2	o Meetings with regional staff to discuss terms of reference and integration of SIA with other studies
June 17	o Meeting with Regional Chief Administrative Officer
June 18	o Meeting with Area 1 Community Liaison Group
June 19	o Meeting with Area 6 Community Liaison Group
June 24	o Meeting with Area 2 Community Liaison Group o Meeting with Councillor Robertson
June 25	o Meeting with Mayor Whillans

PHASE 2

<u>Date</u>	<u>Activity</u>
July 2	o Draft Interview Instrument submitted to Regional Consultants Committee for review
July 3	o Resident - conducted tour of Area 2
July 4	o Resident - conducted tour of Area 6
July 8	o Study design report and draft Interview Instrument distributed to Council
July 9	o Study design report and draft Interview Instrument sent by courier to Community Liaison Groups
July 14	- o Meeting with Community Liaison Group in Area 6 to discuss study design and interview instrument - o Meeting with Community Liaison Group in Area 2 to discuss study design and interview instrument
August 1	o Final comments on study design and interview instrument received from CLG's in Areas 2 and 6
August 8	o Study design and interview instrument finalized