

CURRICULUM VITAE

MICHAEL K. HOFFMAN

Education: B.A. Queen's University at Kingston (Biology), 1971
Qualifying year, University of Guelph (Soils), 1973
M.Sc. University of Guelph, Ontario, Agricultural
College (Soils and Land Use), 1975

Professional Organizations and Affiliations:

Ontario Institute of Agrology, Agricultural Institute
of Canada
Ontario Society for Environmental Management
Soil Conservation Society of America - Ontario Chapter
Federation of Ontario Naturalists
Canadian Land Reclamation Association
Member, Committee of Adjustment, City of Guelph

Career History:	1971-79	Soil Consultant, part-time, various firms
	1975-79	Environmental Analyst, Ontario Hydro
	1978,83	Lecturer, Macdonald College, Department of Renewable Resources, McGill University
	1979-81	Soil Scientist, Ecoplans Limited
	1981	Soil Scientist, Vice-President, SMITH, HOFFMAN ASSOCIATES LIMITED

Profile: Mr. Hoffman has 15 years experience in environmental consulting. He has brought his specialty of soils and agriculture to many inter-disciplinary teams completing projects in planning, research and management. Mr. Hoffman is familiar with rural land use issues and has participated in public participation programs. His experience includes project management of multi-disciplinary teams.



Representative Professional Experience:

PIPELINE AND HYDRO TRANSMISSION CORRIDORS

- Alternate Route Study and Detailed Environmental Assessment, Kerwood to Caradoc
Soil survey and agricultural capability
Client: **Union Gas Limited**
- Alternate Route Study and Detailed Environmental Inventory, Lisgar to Niagara
Soil Survey and interpretation for specialty crop use
Client: **TransCanada PipeLines**
- Environmental Assessment and Clean-up Recommendations, Maple to Lisgar
Client: **Trans Canada PipeLines**
- Environmental Assessment - Ottawa Lateral
Soil erosion potential
Client: **TransNorthern Pipelines**
- Alternate Route Study and Environmental Assessment, Toronto to North Bay
Client: **TransNorthern Pipelines**
- Slope, Stability and Soil Mitigation Recommendations, Oakville to Clarkson
Client: **TransNorthern Pipelines**
- Soil Erosion and Compaction Prediction
Clients: **Various groups including Ontario Hydro, land developers and aggregate producers**
- Specialty Crop Capability Study: Preparation of a Specialty Crop Capability System for Planning Studies
Client: **Ontario Hydro**
- Soil Rehabilitation and Crop Production including Specialty Crop Areas in Southwestern Ontario
Client: **Union Gas Limited**
- Environmental Assessment, Forest to Parkhill Transmission System
Client: **Union Gas Limited**
- Environmental Assessment, Burford Transmission System
Client: **Union Gas Limited**



- Environmental Assessment, LNG Peakshaving Plant
Client: **Consumers' Gas**

- Hydro Transmission Corridors

- Lennox to Oshawa
- Middleport to Milton
- London to St. Thomas
- Chatham to Sandwich
- Texas Gulf to Porcupine
- Bruce to Milton
- Gretna to Picton

TRANSPORTATION

- GO-ALRT Northern Section - Mississauga Segment,
Environmental Analysis
Client: **GO-ALRT and McCormick, Rankin & Associates**

- GO-ALRT Northern Section - Scarborough Segment,
Environmental Analysis
Client: **GO-ALRT and Giffels Associates Limited**

- Mavis Road Functional Planning Study, Class Environ-
mental Assessment
Client: **McCormick, Rankin & Associates Limited**

- Guelph Line Functional Planning Study, Class Environ-
mental Assessment
Client: **Parker Consultants and Regional Municipality
of Halton**

- GO-ALRT Oakville Project - West Extension, Environmen-
tal Assessment
Client: **GO-ALRT and Parker Consultants**

- GO-ALRT Hamilton Project - West Extension, Environmen-
tal Assessment
Client: **GO-ALRT and Giffels Associates Limited**



- Highway 89 Keswick Marsh, Environmental Assessment
Client: **Ontario Ministry of Transportation and
Communications**

- Eglinton Avenue Grade Separation and Credit River
Crossing, Environmental Assessment
Client: **City of Mississauga**



- County Road 18 Extension: County Road 24 to Highway 24, Environmental Assessment
Client: County of Brant
- Blind River By-Pass, Environmental Assessment
Client: Ontario Ministry of Transportation and Communications
- Highway 403: Rest Acres to Horners Creek, Environmental Assessment
Client: Ontario Ministry of Transportation and Communications

URBAN DEVELOPMENT AND NEW COMMUNITIES

- Erin Mills New Town
Client: Cadillac Fairview Development Corporation
- Townsend New Community
Client: Llewelyn Davies Weeks and Ontario Ministry of Housing
- Glen Abbey Community
Client: Genstar Corporation
- Port Maitland Harbour Development
Client: Misener Shipping
- Creditview Subdivision - Phase II
Client: Taro Properties
- Doon Pioneer Park
Client: Major Holdings Ltd.
- Brooklin Residential Development
Client: Consolidated Building Corporation
- Heritage Glen Estates
Client: Genstar Corporation and Ecoplans Limited
- Brampton Rural Estate Development
Client: City of Brampton
- Albion Fairways Rural Estate Development, Environmental Study
Client: Albion Fairways



AGRICULTURAL, LAND RECLAMATION AND REHABILITATION STUDIES

- Rehabilitation of Agricultural Lands - Dawn to Kerwood Loop Pipeline
Identification and implementation of soil rehabilitation measures to mitigate construction impacts on agricultural yields

Client: Union Gas Limited

- Rehabilitation of Sand and Gravel Pits for Tree Fruit and Tender Fruit Production
Assessment of appropriate standards and technologies for tender fruit production on abandoned sand and gravel pits

Client: Ontario Ministry of Natural Resources and Agriculture and Food

- Specialty Crop Capability Study
Preparation of a specialty crop capability system for planning studies

Client: Ontario Hydro

- Fruitland Compensation Study
Agricultural assessment of Niagara fruitlands

Client: TransCanada PipeLines

- Acidic Precipitation in Ontario Study
Soils analysis to determine effect of acid precipitation on forest productivity

Client: Ontario Ministry of Natural Resources

- Soils Survey of Portions of Huron County

Client: Ontario Hydro

- Farm Impact and Selling Price Analysis

Client: Ontario Hydro

SANITARY LANDFILL AND WASTE MANAGEMENT

- Halton Landfill Study
Client: Town of Milton

- Tricil Sarnia Waste Management Incinerator
Client: Tricil Corporation

agric
land ??



- Ontario Waste Management Corporation Phases 3B and 4A
Critique
Client: Group of Eight

*15 Mio
sanitary land*

- Proposed Sanitary Landfill - Township of Tecumseth
Client: Comcor Waste Systems Ltd.

PARKS AND RECREATION PLANNING

- Ecological Inventories of Conservation Lands
Client: Saugeen River Conservation Authority
- Rushing River Park Recreational Impact
Client: Canadian Forestry Service
- Pink Lake Development Plan
Client: National Capital Commission

Expert Witness Testimony:

Ontario Municipal Board
Ontario Energy Board
Niagara Escarpment Commission
Consolidated Hearing Board



Witness Statement of

MICHAEL K. HOFFMAN, M.Sc., P. Ag.,
Smith, Hoffman Associates Limited,
143 Wyndham Street, Suite 203,
Guelph, Ontario N1H 4E9

In the matter of the Consolidated Hearing for the
Environmental Assessment of the proposed Halton Region
Landfill Component of Solid Waste Management

Role and Responsibilities

Mr. Hoffman is an agrologist with Smith, Hoffman Associates Limited. He is a principal and Vice-President of the Company as outlined in the attached curriculum vitae.

As part of a multi-disciplinary study team, Mr. Hoffman was responsible for the review of the agricultural rehabilitation proposals associated with the Halton Region Waste Management Plan. He was retained by the Town of Milton. In this capacity, he was responsible for the preparation of a report called:

Agricultural Characteristics and Impacts of the Proposed Halton Region Landfill Site D

Assessment of Agricultural Characteristics

A review of published literature and the collection of field information on soils, field crops, land parcel and field sizes, tile drainage and farm buildings on and adjacent to the Sites D and F revealed that:

- i) Site D - has a high capability for common field production (the site consists of soil capability classes one to three), is being used for agricultural crops of small grains, corn, soybeans and forage in rotation. While the site has been divided relative to the common 40 hectare (100 acre) parcel, the majority of parcels are greater than 10 hectares (25 acres). The lands surrounding Site D are being used for agricultural crop production.
- ii) Site F - is located in an area of mixed land uses where agricultural production is minimal. Ninety percent of the site is in non-agricultural uses and 51% of the land has no agricultural capability. Site F cannot be considered as farm land.

Thus, use of Site D for landfill would result in a relatively high agricultural impact whereas the use of Site F would result in a low agricultural impact. The findings and conclusions support those described in the report by Ecological Services for Planning (ESP) and the agricultural planning process used by the Region of Halton.

Agricultural Rehabilitation

A review of existing characteristics on Site F reveals that agricultural rehabilitation of the site would not be recommended because of high costs and because the agricultural end-use would be atypical relative to surrounding land uses. This recommendation corresponds with that of Dr. E. Mackintosh of ESP.

A review of existing literature, interviews, field work and data interpretation indicates that after rehabilitation of Site D, the following will result:

- i) Using data provided by Ecological Services for Planning, some land (at least 33.2 hectares out of 139.5 hectares or 23.8% of the site) will be permanently lost from arable agricultural use. An additional 4.5 hectares or 3.2 % will be restricted in crop production due to slope.

Smith, Hoffman data shows that 47.9 hectares out of 126 hectares or 38% of the site would be permanently lost from arable agricultural use. As well, an additional 2.9 hectares or 2.3% of the site will be restricted in crop production due to slope.

- ii) Of the land left in production, only 90% of average Halton yields will be achieved according to Ecological Services for Planning data. This level, when compared to existing yield potential, indicates that the best potential of the land is equal to class three land. Therefore, class 1 and 3 land presently on Site D will ultimately be rehabilitated to a class three level. Yields will not reach pre-development levels.

A calculation of potential grain corn yields which is based on capability classes shows that pre-development yields of 6.38 - 7.00 tonnes/ha would become 3.84-4.52 tonnes/ha.

- iii) Topsoil depths are not sufficient to meet the 20 centimetre depth outlined in the concept plan by ESP.

- iv) Soybeans and alfalfa cannot be grown on the rehabilitated land. Thus, flexibility to rotate crops or to use crops with higher marginal returns (such as soybeans) will be reduced on the rehabilitated lands.
- v) A review of the literature, particularly that in Great Britain, and a site visit to rehabilitated lands in that country, indicate that problems of crop yield persist over time due to subsidence, methane gas production and reduced internal soil drainage. Present rehabilitation plans in that country include gas collection systems, tile drainage and land levelling. Two of these (tiles and gas collection) have not been included in the ESP documents.

Even with these two systems, the Ministry of Food and Forestry in England does not rate the capability of rehabilitated lands as high as "pre-landfilled" areas.

- vi) No specific yield information on field crops exists for old landfill areas presently being used for agricultural after-uses in Southern Ontario.
- vii) Rehabilitation costs associated with those landfills are not known. If rehabilitation costs for gravel pits are used to indicate a range of possible costs, the range of variability is relatively large according to the Ministry of Natural Resources. This Ministry will not release specific costs of pit rehabilitation. However, the variability in costs suggests that prediction of rehabilitation costs is difficult.

Conclusions

- i) Use of Site D for landfill will result in high agricultural impacts.
- ii) Rehabilitation of the site to an agricultural after-use will result in lower capability lands, with reduced flexibility for use of different crops. Problems of drainage and methane gas production may further reduce yield levels. Rehabilitation costs will be higher if methane gas is produced or if tile drainage is required.