



JOHN ENGLER, Governor

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

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RUSSELL J. HARDING, Director

March 7, 2001

Mr. Mike Lahti, Chairperson  
Houghton County Board of Commissioners  
401 East Houghton Avenue  
Houghton, Michigan 49931

Dear Mr. Lahti:

The Department of Environmental Quality (DEQ) received the locally approved update to the Houghton County Solid Waste Management Plan (Plan) on November 13, 2000. Except for the items indicated below, the Plan is approvable. As outlined in the December 5, 2000 letter to Mr. Jackie Niemi, Chairperson, Houghton County Board of Commissioners (BOC), from Mr. Stan Idziak, DEQ, Waste Management Division, and as confirmed by letter dated December 14, 2000, from Mr. John M. Kelly, Controller, County of Houghton, on behalf of the BOC, to Mr. Idziak, the DEQ makes certain modifications to the Plan as discussed below.

On [page III-33](#), under the heading Criteria, the Plan states:

The following criteria will be used to evaluate the information provided by the developer and to determine if the proposed new Type II, Type III landfill or processing facility or expansion is, or is not, consistent with the approved Houghton County Solid Waste Management Plan.

1. Does the developer intend to charge equitable and similar fees within its service area?
2. Does the developer agree to treat all haulers equitably and impartially?
3. If the proposed facility is a landfill, does the proposed landfill provide long-term capacity?

(If the facility proposed is for restricted use by an industry located within the service area defined by the plan, the provision for 10 year County capacity is not required).

4. Does the proposed facility utilize proven technology?

The criteria cited above are not well defined, and the determination of these conditions is subject to interpretation. Section 11538 (3) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) states:

An interim siting mechanism shall include both a process and a set of minimum siting criteria, both of which are not subject to interpretation or discretionary acts by the planning entity, and which if met by an applicant submitting a disposal area proposal, will guarantee a finding of consistency with the Plan.

In order to remedy this situation, the criteria are revised to read:

The following criteria will be used to evaluate the information provided by the developer and to determine if the proposed new Type II landfill, Type III landfill, processing facility, transfer station, or disposal area expansion is or is not consistent with the approved Houghton County Solid Waste Management Plan.

1. Was a signed statement submitted by the developer indicating an intention to charge equitable and similar fees within its service area?
2. Was a signed statement submitted by the developer agreeing to treat all haulers equitably and impartially?
3. If the proposed facility is a landfill, was a signed statement submitted by the developer that the proposed landfill provides 10 years of capacity?

(If the facility proposed is for restricted use by an industry located within the service area defined by the plan, the provision for 10-year County capacity is not required).

4. Was a signed statement submitted by the developer that the proposed facility will utilize proven technology?

By approving the Plan with modifications, the DEQ has determined that it complies with the provisions of Part 115 and the Part 115 administrative rules concerning the required content of solid waste management plans. Specifically, the DEQ has determined that the Plan identifies the enforceable mechanisms that authorize the state, a county, a municipality, or a person to take legal action to guarantee compliance with the Plan, as required by Part 115. The Plan is enforceable, however, only to the extent the County properly implements these enforceable mechanisms under applicable enabling

legislation. The Plan itself does not serve as such underlying enabling authority, and the DEQ approval of the Plan neither restricts nor expands the County authority to implement these enforceable mechanisms.

The Plan may also contain other provisions that are neither required nor expressly authorized for inclusion in a solid waste management plan. The DEQ approval of the Plan does not extend to any such provisions. Under Part 115, the DEQ has no statutory authority to determine whether such provisions have any force or effect.

The DEQ applauds your efforts and commitment in addressing the solid waste management issues in Houghton County. If you have any questions, please contact Ms. Joan Peck, Chief, Solid Waste Program Section, at 517-335-3383.

Sincerely,



Russell J. Harding  
Director  
517-373-7917

cc: Senator Donald Koivisto  
Representative Rich Brown  
Mr. Kim J. Stoker, Western Upper Planning & Development Region  
Mr. Arthur R. Nash Jr., Deputy Director, DEQ  
Mr. Timothy R. Sowton, Legislative Liaison, DEQ  
✓ Mr. Jim Sygo, DEQ  
Ms. Joan Peck, DEQ  
Mr. Robert Schmeling, DEQ - Marquette  
Mr. Stan Idziak, DEQ  
Houghton County File



# **HOUGHTON COUNTY SOLID WASTE MANAGEMENT PLAN**

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**Prepared by: Western U.P. Planning & Development Region**



## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	1-1
OVERALL VIEW OF THE COUNTY .....	1-2
CONCLUSIONS .....	1-3
SELECTED ALTERNATIVES .....	1-3
INTRODUCTION .....	1-5
GOALS AND OBJECTIVES .....	1-5-6
DATA BASE .....	II-1
SOLID WASTE FACILITY DESCRIPTIONS .....	II-2
DEMOGRAPHICS .....	II-3
SOLID WASTE DISPOSAL AREAS .....	II-7
SOLID WASTE COLLECTION SERVICES & TRANSPORTATION INFRASTRUCTURE .....	II-11
EVALUATION OF DEFICIENCIES & PROBLEMS .....	II-12
LAND DEVELOPMENT .....	II-13
SOLID WASTE MANAGEMENT ALTERNATIVES .....	II-14
SELECTED SOLID WASTE MANAGEMENT SYSTEM .....	III-1
IMPORT/EXPORT AUTHORIZATIONS .....	III-2-6
SOLID WASTE DISPOSAL AREAS .....	III-7
FACILITY DESCRIPTIONS .....	III-8
SOLID WASTE COLLECTION SERVICES & TRANSPORTATION INFRASTRUCTURE .....	III-11
RESOURCE CONSERVATION EFFORTS .....	III-12
WASTE REDUCTION, RECYCLING, & COMPOSTING PROGRAMS .....	III-14
EDUCATIONAL AND INFORMATIONAL PROGRAMS .....	III-30
TIMETABLE .....	III-31
SITING PROCEDURE .....	III-32
MANAGEMENT COMPONENT .....	III-36
LOCAL ORDINANCES AND REGULATIONS .....	III-41
CAPACITY CERTIFICATION PROCESS .....	IV-1
APPENDIX A - ADDITIONAL INFORMATION REGARDING THE SELECTED SYSTEM	
EVALUATION OF RECYCLING .....	Appendix A-1
DETAILED FEATURES OF RECYCLING & COMPOSTING PROGRAMS .....	Appendix A-2-4
COORDINATION EFFORTS .....	Appendix A-5
COSTS & FUNDING .....	Appendix A-6
EVALUATION SUMMARY .....	Appendix A-7
ADVANTAGES AND DISADVANTAGES .....	Appendix A-8
APPENDIX B - NON SELECTED SYSTEMS .....	Appendix B-1-4
APPENDIX C - PUBLIC PARTICIPATION .....	
PUBLIC PARTICIPATION AND APPROVAL .....	Appendix C-1-4a
APPENDIX D - ATTACHMENTS .....	
ATTACHMENTS .....	Appendix D-1-7

1997 PLAN UPDATE COVER PAGE

The Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, requires that each County have a Solid Waste Management Plan Update (Plan) approved by the Michigan Department of Environmental Quality (DEQ). Section 11539a requires the DEQ to prepare and make available, a standardized format for the preparation of these Plan updates. This document is that format. The Plan should be prepared using this format without alteration. Please refer to the document entitled "Guide to Preparing the Solid Waste Management Plan Update" for assistance in completing this Plan format.

DATE SUBMITTED TO THE DEQ:

If this Plan includes more than a single County, list all counties participating in this Plan.

The following lists all the municipalities from outside the County who have requested and have been accepted to be included in the Plan, or municipalities within the County that have been approved to be included in the Plan of another County according to Section 11536 of Part 115 of the NREPA. Resolutions from all involved County boards of commissioners approving the inclusion are included in Appendix E.

<u>Municipality</u>	<u>Original Planning County</u>	<u>New Planning County</u>
N/A		

DESIGNATED PLANNING AGENCY PREPARING THIS PLAN UPDATE:

Western Upper Peninsula Planning and Development Region (WUPPDR)

CONTACT PERSON: Kim J. Stoker, Planning Director

ADDRESS: 326 Shelden Avenue, P.O. Box 365  
Houghton, MI 49931-0365

PHONE: 906-482-7205      FAX: 906-482-9032  
(if applicable)

E-MAIL: stoker@up.net

CENTRAL REPOSITORY LOCATION(S): WUPPDR offices located at 326 Shelden Avenue, Houghton, MI Office hours: 8:00 AM - 5:00 PM (EDT) and the Houghton County Courthouse, Controller's Office, 401 E. Houghton Avenue, Houghton, MI Office hours: 8:00 AM - 4:30 PM (EDT)

This plan was developed by the Houghton County Solid Waste Planning Committee (SWMPC) with assistance of the Western U.P. Planning and Development Region (WUPPDR). The draft document was provided for a 90 day public review period from April 15, 2000 through July 14, 2000, which included a public hearing on July 18, 2000. The SWMPC recommended the plan to the County Board which granted its approval. The plan was circulated to all municipalities and received approval by \_\_\_\_\_ percent. Approvals/disapprovals are copied in Appendix \_\_\_\_\_.

## EXECUTIVE SUMMARY

The following summarizes the solid waste management system selected to manage solid waste within Houghton County. In case of conflicting information between the executive summary and the remaining contents of the Plan update, the information provided in the main body of the Plan update found on the following pages will take precedence over the executive summary.

Pursuant to Section 1153a of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 P.A. 451, as amended, Houghton County has contracted with the Western Upper Peninsula Planning and Development Region (WUPPDR) to update the County's Solid Waste Management Plan.

The Houghton County Solid Waste Planning Committee and WUPPDR, Designated Planning Agency (DPA), was charged with production of this plan. WUPPDR produced this document with the cooperation of the Solid Waste Management Planning Committee which was appointed by the Houghton County Board to assist in this process.

The contents of the plan are specified in Public Act 451. ~~Further, a plan format was provided~~ by the Department of Environmental Quality to facilitate uniformity of reporting by the County and all other entities preparing solid waste management plans in Michigan. The purpose of this plan is to provide guidance as relates to solid waste management decision-making and practices in Houghton County.

The selected alternative consists of two transfer stations located in the City of Houghton serving the main population centers of Houghton/Hancock and Calumet/Laurium. A major portion of the collection service is provided by Peninsula Sanitation (Waste Management, Inc.) and there is one other private hauler (Bukema) operating in the Calumet/Laurium area and several municipalities that operate a collection service which are listed in the data base.

Houghton County is authorized to dispose of up to 100% of their Type II and Type III wastes at the K & W Landfill in Ontonagon County and the Wood Island landfill in Alger County.

## OVERALL VIEW OF THE COUNTY

### % of Land Use - Urban

Township or Municipality Name	Pop.*	Res	Com.	Ind.	Agri.	Forested	Other
Adams Twp.	1,587 <sup>1</sup>	1.49	0.08	0.04	0.72	84.93	12.72
Calumet Twp.	3,739 <sup>2</sup>	3.32	0.37	0.21	6.77	55.07	34.24
Chassell Twp.	1,686	1.20	0.07	0.04	16.04	53.17	29.48
Duncan Twp.	290	0.14	0.01	0.04	0.98	90.92	7.90
Elm River Twp.	162	0.32	0.01	0.06	0.01	91.84	7.77
Franklin Twp.	1,164	1.64	0.32	0.72	12.25	44.59	40.47
Hancock Twp.	283	1.66	0.07	0.03	13.26	67.31	17.67
Laird Twp.	593	0.11	0.00	0.00	3.24	90.87	5.75
Osceola Twp.	1,864	2.30	0.03	0.40	12.74	41.06	43.46
Portage Twp.	2,941	0.63	0.05	0.04	10.10	72.67	16.54
Quincy Twp.	218	2.46	0.00	0.00	18.46	57.33	21.75
Schoolcraft Twp.	885 <sup>3</sup>	0.64	0.03	0.05	15.84	60.39	23.06
Stanton Twp.	1,184	0.23	0.04	0.02	6.58	82.84	10.29
Torch Lake Twp.	1,525	1.33	0.03	0.17	4.03	71.01	23.43
City of Hancock	4,547	32.58	5.97	1.16	0.00	22.86	37.43
City of Houghton	7,498	21.38	9.75	1.55	0.82	45.76	20.74
Calumet Village	802	40.35	37.33	0.00	0.00	0.00	22.32
Copper City Vill.	206	68.13	3.90	0.00	0.00	0.00	27.97
Lake Linden Vill.	1,203	26.85	2.04	1.96	3.33	2.63	63.18
Laurium Village	2,268	71.09	8.79	0.57	0.00	0.47	19.07
South Range Vil.	801	59.50	20.73	2.03	0.00	7.35	10.39
<b>TOTALS</b>	<b>35,446</b>	<b>337.35</b>	<b>89.62</b>	<b>9.09</b>	<b>125.17</b>	<b>1,043.07</b>	<b>495.63</b>

Source: Michigan Resource Information System, Land and Water Management Division, Department of Natural Resources; Data compiled from 1978 aerial photography (7-27-88)

\*1990 Census of Population \*Ag = Agriculture; For = Forestry; Ind = Industry; Com = Commercial; Oth = All Other Economic Bases

<sup>1</sup>Does not include Village of South Range <sup>2</sup>Does not include Village of Calumet, Laurium or Copper City <sup>3</sup>Does not include Village of Lake Linden

## CONCLUSIONS

WUPPDR and the Planning Committee considered alternatives that could be implemented in lieu of the present system or partially implemented as enhancements to the existing system. Alternatives ranged from landfill construction to maintaining the current system.

Alternatives were assessed as to their consistency with solid waste management goals and objectives stated in this plan as well as the economic feasibility of proposals and the likelihood of obtaining and maintaining general public and municipal support for the system selected.

A substantial public and private investment has been made in the system currently operating in the County. State, local and private investment has resulted in the development of two transfer stations which serve the majority of the county and have a potentially unlimited life expectancy since they are not on the order of a landfill with only a certain limit of useable space.

The continued disposal of a consistent volume of solid waste is critical to the efficient and cost effective operation of the transfer stations with final disposal at two licensed landfills. The Houghton County transfer facility ships to the Wood Island Landfill in Alger County and Peninsula Sanitation, Inc. ships wastes to the K & W Landfill in Ontonagon County (selected final disposal alternative). Reductions in the monthly tonnage processed at the facilities may effect an increase in the cost per ton to cover operational and capital costs. At the same time, a consistent reduction in waste volume will benefit County residents economically and environmentally. Improvements in the waste management system such as reduction, reuse and recycling are strongly encouraged by the Houghton County Board of Commissioners and this Plan.

Importation of waste from Keweenaw County has occurred at the stations for many years. Larger volumes of waste help to provide revenues for operations of the facilities. Approximately 1,500\* tons/year are imported from nearby Keweenaw County and this volume is expected to remain stable or increase slightly. There are also small amounts of waste imported from Baraga and Ontonagon counties for transfer to the identified landfills.

## SELECTED ALTERNATIVE

The selected solid waste management system for Houghton County is facilitated by both the public and private sectors and consists of seven independent features which are integrated into one system. A description of each of these features follows.

- ▶ **Source reduction** - Source reduction (or waste prevention) is the best point to begin waste management. By avoiding the generation of waste, the burden on disposal facilities and all other components of the system are diminished. An additional benefit is the conservation of natural resources that would otherwise have been wasted. Education regarding reduction techniques and initiatives that implement them are supported by this plan.

\*based on 1998 Population Estimates, MDOT and 4.2 lbs./person/day

- ▶ **Reuse** - Reuse is another method of preventing materials from prematurely entering the waste stream. Material that can be utilized in its present form or without reprocessing saves disposal and conserves resources.
- ▶ **Collection** - Materials not addressed by either of the previous techniques are collected. This can be accomplished at curbside or by green box. Material may be waste or recyclables.
- ▶ **Recycling** - Recycling is encouraged and anticipated to increase during this planning period. Successful public education has enhanced the acceptance of recycling. With the "willingness to participate" that currently exists, providing public education regarding recycling will show the public how to participate. Additionally, improved access to recycling and increased cost of disposing of material as waste adds additional incentive for participation. Public demand for recycling will require improved efficiencies to offset additional handling costs.
- ▶ **Composting** - For those individuals and businesses that cannot or will not compost yard waste in their own "backyard", alternatives must be maintained for their disposal needs. Municipal composting programs will be maintained or enhanced through the duration of this plan.
- ▶ **Transfer** - All Type II and Type III waste generated in the County go to either of the two licensed Type A transfer stations with ultimate disposal at the Wood Island landfill in Alger County or the K & W Landfill in Ontonagon.

# INTRODUCTION

## GOALS AND OBJECTIVES

To comply with Part 115 and its requirements, each Plan must be directed toward goals and objectives based on the purposes stated in Part 115, Section 11538.(1)(a), 11541.(4) and the State Solid Waste Policy adopted pursuant to this Section, and Administrative Rules 711(b)(i) and (ii). At a minimum, the goals must reflect two major purposes of Solid Waste Management Plans:

- (1) To utilize to the maximum extent possible the resources available in Michigan's solid waste stream through source reduction, source separation, and other means of resource recovery and;
- (2) to prevent adverse effects on the public health and the environment resulting from improper solid waste collection, transportation, processing, or disposal, so as to protect the quality of the air, the land, and ground and surface waters.

This Solid Waste Management Plan works toward the following goals through actions designed to meet the objectives described under the respective goals which they support:

**GOAL 1:** Establish and maintain a high-quality environment by developing and implementing integrated solid waste management which provides for the protection of public health and the environment.

Objective 1a: The county will comply with Act 451, Part 115 to meet the goal. (Solid Waste Management Act).

**GOAL 2:** Build an educated public where citizens are informed about and understand solid waste management issues and concerns.

Objective 2a: Establish or designate an office where the public can direct questions about solid waste management and obtain educational materials. Michigan State University provides this type of service and questions can be addressed to this agency.

Objective 2b: Continue on a periodic basis information to citizens regarding available opportunities for recycling.

Objective 2c: Encourage the MSU Extension Service and the GEM Center to provide environmental education programs for K-12 grades.

## **INTRODUCTION**

**GOAL 3:** Maintain, support and expand recycling programs and facilities.

**Objective 3a:** Will encourage procurement of recycled products of supplies purchased by local governmental units by encouraging a procurement policy which recommends the purchase of recycled products when it does not exceed ten percent of other bids for non-recycled materials and if the bid is comparable in other terms to the other bids.

**Objective 3b:** Encourage private-public intergovernmental cooperation by promoting both a tire recycling center and a countywide composting program.

**Objective 3c** To encourage and develop the Regionwide location, collection, and processing of junk automobiles (white goods, stoves/appliances, refrigerators, etc.).

**Objective 3d:** Encourage tire recycling center to locate in the Houghton area.

## **DATA BASE**

### **WASTE GENERATION**

Data was collected pertaining to waste generated in the County as well as volumes diverted from the waste stream by recycling and composting. Also collected was information regarding annual tonnage disposed of at the transfer stations. Volume data was obtained from the Department of Environmental Quality "Report of Solid Waste Landfilled in Michigan" dated February 19, 1997: which provided disposal volumes for other counties throughout the state to be used for comparison purposes.

Population data was also valuable in preparation of this plan. Numbers from the last several census counts and sub-county population estimates for 1990 - 1996 provided by the State Demographics Office and also the Michigan Department of Transportation population projections contributed to the baseline information.

By relating volumes generated, diverted, and disposed to population, per capita figures were derived for these activities. Population trend data allowed us to estimate future population numbers, and, by applying the per capita figures, anticipate future waste volumes and disposal needs.

Page II-1-A shows 1997 waste disposal by municipality in Houghton County and how it compares with other Upper Peninsula counties, similar size counties throughout the state and national averages. Page II-3 shows projections of population and waste volumes anticipated for disposal at the station.

**DATA BASE**

**WASTE VOLUME - U.P. COUNTIES  
1996**

County	Population	Type II (cu.yd.)	Tons	Pounds/day/capita
Alger	9,971	N/A	N/A	N/A
Baraga	8,472	N/A	N/A	N/A
Chippewa	37,289	68,295	22,765	3.35
Delta	39,047	80,628	26,876	3.77
Dickinson	27,285	58,618	19,538	3.92
Gogebic	17,704	41,463	8,253	2.35
Houghton	36,230	85,776	28,592	4.34
Iron	13,121	29,193	9,731	4.06
Keweenaw	2,010	N/A	N/A	N/A
Luce	6,180	13,606	4,636	4.02
Mackinac	11,096	41,218	13,739	6.78
Marquette	62,017	144,681	48,227	4.26
Menominee	24,551	N/A	N/A	N/A
Ontonagon	8,405	26,361	8,787	4.42
Schoolcraft	8,653	29,940	9,980	6.32

**POUNDS/DAY/CAPITA**

Houghton	4.34
U.P. Counties Average	4.53
Similar Size County Average	4.05
State Average	6.10
National Average	4.50

\*Source: DEQ Report of Solid Waste Landfilled in Michigan 10/1/95 - 9/30/96

N/A - Not available

**DATA BASE**

**Per Capita Generation of Municipal Solid Waste by Material**

Material	Pounds/Person/Day* 2000	Houghton County*	
		Per day Lbs.	Annual Tons
Paper and paperboard	1.79	63,448	11,579
Glass	0.27	9,570	1,746
Metals	0.34	12,051	2,199
Plastics	0.42	14,887	2,717
Rubber and leather	0.13	4,608	841
Textiles	0.17	6,026	1,099
Wood	0.33	11,697	2,135
Other	0.08	2,836	517
Total Non Food Products	3.52	124,770	22,770
Food Wastes	0.29	10,279	1,876
Yard Trimmings	0.54	19,141	3,493
Miscellaneous Inorganic Wastes	0.07	2,481	453
Total Municipal Solid Waste Generated	4.42	156,671	28,592

\*Characterization of Municipal Solid Waste in the U.S. 1996 Update

+Based on 1990 Population using 4.42 lbs./person/day

**DATA BASE**

**Houghton County/Estimated Weekly Solid Waste Generation (Uncompacted-/tons)**

Municipality	Total Housing Units	1990 Population	Residential+ & Commercial
Adams Township	751 <sup>1</sup>	1,587 <sup>1</sup>	48,213/24.1
Calumet Township	1,841 <sup>2</sup>	3,739 <sup>2</sup>	113,591/56.8
Chassell Township	846	1,686	51,221/25.6
Duncan Township	394	290	8,810/4.4
Elm River Township	336	162	4,921/2.5
Franklin Township	560	1,164	3,536/1.8
Hancock Township	235	283	8,599/4.3
Laird Township	395	593	18,015/9.0
Osceola Township	874	1,864	56,628/28.3
Portage Township	1,500	2,941	89,348/44.7
Quincy Township	92	218	6,623/3.31
Schoolcraft Township	516 <sup>3</sup>	885 <sup>3</sup>	26,886/13.4
Stanton Township	700	1,184	35,970/17.9
Torch Lake Township	1,382	1,525	46,329/23.2
City of Hancock	2,008	4,547	138,138/69.1
City of Houghton	2,121	7,498	227,789/13.8
Calumet Village	543	802	24,365/12.2
Copper City Village	112	206	6,258/ 3.1
Lake Linden Village	594	1,203	36,547/18.3
Laurium Village	1,116	2,268	68,902/34.5
South Range Village	380	801	4,334/12.2
<b>TOTALS</b>	<b>17,296</b>	<b>35,446</b>	<b>1,025,023/422.51</b>

SOURCE: 1990 Census of Population and Housing; \*EPA Characterization of Municipal Solid Waste in the U.S. 1996 Update; 4.34 lbs./person/day in 1995; <sup>1</sup>Does not include Village of South Range; <sup>2</sup>Does not include Village of Calumet, Laurium or Copper City; <sup>3</sup>Does not include Village of Lake Linden;

**TOTAL QUANTITY OF SOLID WASTE GENERATED IN HOUGHTON COUNTY:**

21,970 Tons Per Year<sup>1</sup>

**TOTAL QUANTITY OF SOLID WASTE NEEDING DISPOSAL:**

20,485 Tons Per Year (less recycled material)

**DATA BASE**

**DEMOGRAPHICS**

The following presents the current and projected population densities and centers for approximately ten and fifteen year periods, identification of current and projected centers of solid waste generation including industrial solid waste for ten and fifteen year periods as related to the Selected Solid Waste Management System for the next five and ten year periods. Solid waste generation data is expressed in tons or cubic yards, and if it was extrapolated from yearly data, then it was calculated by using 365 days per year, or another number of days as indicated, and actual disposal average of 4.54 lbs./person/day.

Waste Generation (\*Tons/Year) Population Estimates (MDOT)  
Page 1 of 2

Township or Municipality	Population 1990	Waste Generation 1999*	Population 2000	Waste Generation	Population 2005	Waste Generation	Population 2010	Waste Generation
Adams Township	1,587		1,584	1,312	1,556	1,289	1,518	1,258
Calumet Township	3,739		3,731	3,091	3,666	3,037	3,576	2,963
Chassell Township	1,686		1,683	1,394	1,653	1,369	1,613	1,336
Duncan Township	304		304	252	298	247	291	241
Elm River Township	159		159	132	156	129	152	126
Franklin Township	1,164		1,163	964	1,141	945	1,113	922
Hancock Township	287		285	236	281	233	274	227
Laird Township	582		582	482	571	473	557	461
Osceola Township	1,878		1,876	1,554	1,841	1,525	1,795	1,487
Portage Township	2,941		2,939	2,435	2,883	2,389	2,812	2,330
Quincy Township	223		223	184	219	181	214	177
Schoolcraft Township	834		834	691	817	677	797	660

\*Actual tonnage reported from transfer stations in 1998. Including residential, commercial and industrial wastes.

**DATA BASE**

**Waste Generation (\*Tons/Year) Population Estimates (MDOT)  
Page 2 of 2**

Township or Municipality	Population 1990	Waste Generation 1999	Population 2000	Waste Generation	Population 2005	Waste Generation	Population 2010	Waste Generation
Stanton Township	1,184		1,184	981	1,161	962	1,132	938
Torch Lake Township	1,553		1,551	1,285	1,523	1,262	1,486	1,231
South Range Village	745		745	617	731	605	713	591
Copper City Village	198		197	163	194	161	190	157
Lake Linden Village	1,203		1,201	995	1,182	979	1,153	955
Laurium Village	2,268		2,265	1,877	2,224	1,843	2,171	1,798
Calumet Village	818		817	677	804	666	784	650
Hancock City	4,547		4,553	3,772	4,457	3,963	4,347	3,602
Houghton City	7,498		7,487	6,203	7,352	6,091	7,171	5,941
<b>HOUGHTON COUNTY TOTALS</b>	<b>35,446</b>	<b>26,492</b>	<b>35,493</b>	<b>29,297</b>	<b>34,748</b>	<b>28,756</b>	<b>33,896</b>	<b>28,051</b>

\*Actual tonnage reported from both transfer stations in 1999. Including residential, commercial and industrial wastes.

**DATA BASE**

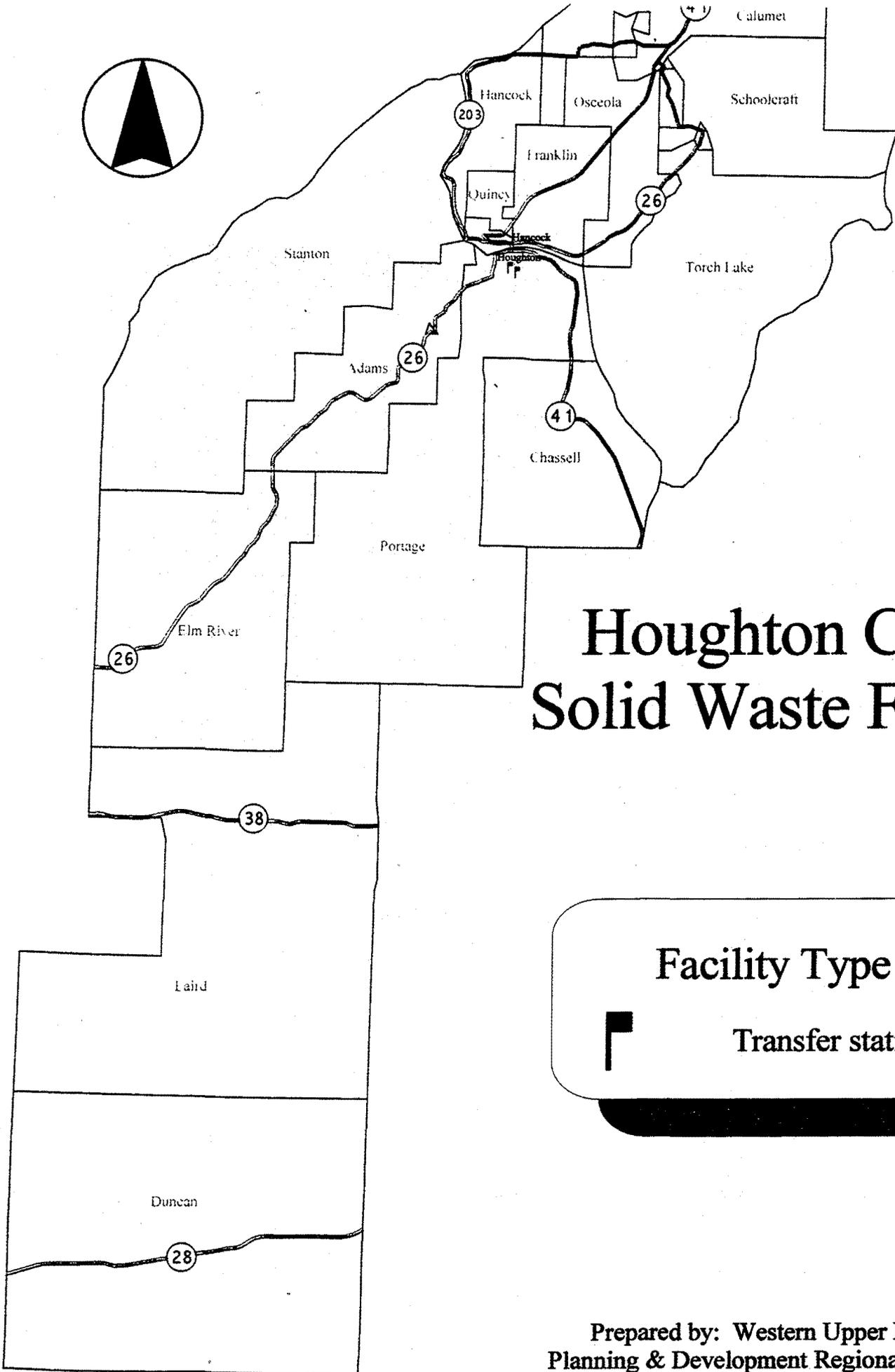
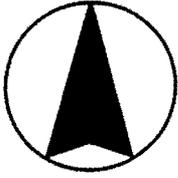
**ACTUAL  
MONTHLY TONNAGE DISPOSAL OF THE  
HOUGHTON COUNTY SOLID WASTE TRANSFER STATION**

Month	1994	1995	1996	1997	1998	1999
JANUARY	613	679	606	455	440	507
FEBRUARY	612	466	515	415	516	499
MARCH	679	648	553	460	556	614
APRIL	708	619	492	660	737	739
MAY	907	861	760	776	755	790
JUNE	876	826	668	791	787	894
JULY	749	819	742	817	889	846
AUGUST	855	820	706	718	825	855
SEPTEMBER	846	92	637	700	731	822
OCTOBER	732	650	725	758	794	770
NOVEMBER	700	623	555	567	646	693
DECEMBER	705	517	475	583	642	581
<b>ANNUAL TOTALS</b>	<b>8,982</b>	<b>7,620</b>	<b>7,434</b>	<b>7,700</b>	<b>8,318</b>	<b>8,610</b>

SOURCE: Houghton County, 1999

**ACTUAL  
1999 TONS TO K & W LANDFILL BY MONTH  
From Peninsula Sanitation Transfer Station**

<u>Month</u>	<u>Tons</u>
Jan-99	1247.46
Feb-99	1110.56
Mar-99	1380.49
Apr-99	1465.80
May-99	1574.32
Jun-99	1847.18
Jul-99	1795.09
Aug-99	1748.85
Sep-99	1583.02
Oct-99	1459.64
Nov-99	1334.87
Dec-99	1344.80
Total	17,892/yr.



# Houghton County Solid Waste Facilities

## Facility Type



Transfer stations

Prepared by: Western Upper Peninsula  
Planning & Development Regional Commission



**DATA BASE**

**FACILITY DESCRIPTIONS**

Facility Type: Type II Sanitary Landfill

Facility Name: Wood Island Landfill

County: Alger Location: Town: T46N Range: R18W Section SE1/4.18 E1/2.19

Map identifying location included in Attachment Section:      Yes   X   No

If facility is an incinerator or a transfer station, list the final disposal site and location for incinerator ash or transfer station wastes: \_\_\_\_\_

     Public   X   Private Owner: Wood Island Waste Management, Inc.

**Operating Status (check)**

  X   open  
     closed  
  X   licensed  
     unlicensed  
     construction permit  
     open, but closure  
     pending

**Waste Types Received (check all that apply)**

  X   residential  
  X   commercial  
  X   industrial  
  X   construction & demolition  
  X   contaminated soils  
     special wastes\*  
     other: \_\_\_\_\_

\*Explanation of special wastes, including a specific list and/or conditions:

**Site Size:**

Total area of facility property:   325   acres  
Total area sited for use:   68   acres  
Total area permitted:  
  Operating:   18   acres  
  Not excavated:   10   acres

Current capacity: 1,500,000 Tons or yds<sup>3</sup>  
Estimated lifetime:   20   years  
Estimated days open per year:   316   days  
Estimated yearly disposal volume:  
(If applicable)   78,000   tons or yds<sup>3</sup>  
Annual energy production:  
  Landfill gas recovery projects:   n/a   megawatts  
  Waste-to-energy incinerators:   n/a   megawatts

**DATA BASE**

**FACILITY DESCRIPTIONS**

Facility Type: Transfer Station

Facility Name: Peninsula Sanitation

County: Houghton Location: Town:        Range:        Section(s):       

Map identifying location included in Attachment Section: X Yes        No

If facility is an incinerator or a transfer station, list the final disposal site and location for incinerator ash or transfer station wastes: K & W Landfill, Greenland Township, Ontonagon, MI 49953

       Public   X   Private Owner: Waste Management

Operating Status (check)	Waste Types Received (check all that apply)
<u>  X  </u> open	<u>  X  </u> residential
<u>      </u> closed	<u>  X  </u> commercial
<u>  X  </u> licensed	<u>      </u> industrial
<u>      </u> unlicensed	<u>  X  </u> construction & demolition
<u>      </u> construction permit	<u>      </u> contaminated soils
<u>      </u> open, but closure	<u>      </u> special wastes*
<u>      </u> pending	<u>      </u> other: <u>      </u>

\*Explanation of special wastes, including a specific list and/or conditions:

**Site Size:**

Total area of facility property:        acres  
Total area sited for use:        acres  
Total area permitted:        acres  
  Operating:        acres  
  Not excavated:        acres

Current capacity:        tons or yds<sup>3</sup>  
Estimated lifetime        years  
Estimated days open per year:   260   days  
Estimated yearly disposal volume:  15,000  tons or yds<sup>3</sup> (est)

(If applicable)

Annual energy production:  
  Landfill gas recovery projects:        megawatts  
  Waste-to-energy incinerators:        megawatts

**DATA BASE**

**FACILITY DESCRIPTIONS**

Facility Type: Solid Waste Transfer Facility

Facility Name: Houghton County Solid Waste Transfer Facility

County: Houghton Location: Town: 54N Range: 34W Section: 1

Map identifying location included in Attachment Section: X Yes        No

If facility is an incinerator or a transfer station, list the final disposal site and location for incinerator ash or transfer station wastes: \_\_\_\_\_

Wood Island Landfill and K & W Landfill

X Public        Private Owner: Houghton County

Operating Status (check)

  X   open  
       closed  
  X   licensed  
       unlicensed  
       construction permit  
       open, but closure  
       pending

Waste Types Received (check all that apply)

  X   residential  
  X   commercial  
       industrial  
  X   construction & demolition  
       contaminated soils  
       special wastes\*  
       other: \_\_\_\_\_

\*Explanation of special wastes, including a specific list and/or conditions: \_\_\_\_\_

Site Size:

Total area of facility property: 1.84 acres  
Total area sited for use: 1.84 acres  
Total area permitted: 1.84 acres  
  Operating: \_\_\_\_\_ acres  
  Not excavated: \_\_\_\_\_ acres

Current capacity: \_\_\_\_\_ tons or yds<sup>3</sup>  
Estimated lifetime: \_\_\_\_\_ years  
Estimated days open per year: 300 days  
Estimated yearly disposal volume: 9,000 tons or yds<sup>3</sup>

(If applicable)

Annual energy production:  
  Landfill gas recovery projects: \_\_\_\_\_ megawatts  
  Waste-to-energy incinerators: \_\_\_\_\_ megawatts

**SOLID WASTE COLLECTION SERVICES  
AND TRANSPORTATION INFRASTRUCTURE**

The following describes the solid waste collection services and transportation infrastructure that will be utilized within the County to collect and transport solid waste.

**HOUGHTON COUNTY  
RESIDENTIAL/COMMERCIAL WASTE HAULERS AND SERVICE AREAS**

Township or Municipality	Peninsula Sanitation	Bukema	Municipal
Adams Township	X		
Calumet Township	P	P	
Chassell Township	X		
Duncan Township	X		
Elm River Township	X		
Franklin Township	X		
Hancock Township	X		
Laird Township			X
Osceola Township	X		
Portage Township	X		
Quincy Township	X		
Schoolcraft Township			X
Stanton Township	X		
Torch Lake Township			X
City of Hancock			X
City of Houghton	X		
Calumet Village	P	P	
Copper City Village	X		
Lake Linden Village			X
Laurium Village			X
South Range Village			X

P - Portion of service.

## **DATA BASE**

### **EVALUATION OF DEFICIENCIES AND PROBLEMS**

The following is a description of problems or deficiencies in the existing solid waste system.

- ▶ High cost of demolition disposal (Type III waste)
- ▶ High cost of disposal provides incentive for woods dumping and burning at home
- ▶ High transportation costs
- ▶ High cost for landfill leachate disposal at municipal treatment facility
- ▶ Distance to markets for recyclable and price.

## **DATA BASE**

### **LAND DEVELOPMENT**

The following describes current and projected land development patterns, as related to the Selected Solid Waste Management System, for the next five and ten year periods.

Land uses in Houghton County are typical of those found throughout the Upper Peninsula. It was primarily mining and forestry activities that attracted early settlers to the area. Towns grew up near resource production centers. The growing population prompted land uses such as farming, commercial, industrial, and others. Mining and lumbering still remain viable land uses in Houghton County.

The County participated in a comprehensive survey in the early 1980's under the provisions of Part 609, Resource Inventory, of the Natural Resources and Environmental Protection Act, 1994 PA 451 as amended which was enacted to obtain land use information on a statewide basis. The maps produced through this project made up the Michigan Resource Information System (MIRIS) which have been very useful in state and local planning efforts.

Using the MIRIS data from the mid 1980's and comparing it with the land use data, the areas used for commercial/industrial and residential use grew with the forest/agricultural lands decreasing to accommodate growth.

Residential land use has also increased throughout the County. Most of the growth has been in the population centers of Houghton/Hancock and the Calumet/Laurium area. There also is a significant amount of development associated with water bodies throughout the County.

The current down trend in population we are experiencing in the County (\*1980 - 37,872; 1990 - 35,446; 1997 - 35,810) probably will prevent any significant land use changes in the County over the next five to ten years.

\*Source: U.S. Bureau of the Census, 1980 and 1990  
U.S. Bureau of the Census, for 1997, issued March 17, 1998

## **DATA BASE**

### **SOLID WASTE MANAGEMENT ALTERNATIVES**

The following briefly describes all solid waste management systems considered by the County and how each alternative will meet the needs of the County.

#### **ALTERNATIVE 1**

Consists of two transfer stations serving the majority of the County, both stations are located in the City of Houghton with the Houghton County Station in the City of Houghton Industrial Park and Peninsula Sanitation, Inc. located a few blocks away. Primary disposal for Peninsula Sanitation is the K & W Landfill located in Ontonagon County and the Houghton County facility hauls waste to Wood Island Landfill in Alger County.

#### **ALTERNATIVE 2**

After evaluation of the cost associated with the construction of a Type II landfill to serve the County, it was determined that at this time it was not economically feasible. With the small quantities of waste generated in the county it is evident that the construction (approximately \$1.5 million) of a licensed Type II landfill by municipal government would result in significantly higher tipping fees.

#### **ALTERNATIVE 3**

##### **Incineration**

At this time incineration has been eliminated due to the high cost associated with development and low volumes of waste generated in the county and the high costs associated with the disposal of incinerator ash.

## SELECTED SYSTEM

### THE SELECTED SOLID WASTE MANAGEMENT SYSTEM

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing the County's solid waste and recoverable materials. The Selected System addresses the generation, transfer and disposal of the County's solid waste. It aims to reduce the amount of solid waste sent for final disposal by volume reduction techniques and by various resource conservation and resource recovery. It also addresses collection processes and transportation needs that provide the most cost effective, efficient service. Proposed disposal area locations and capacity to accept solid waste are identified as well as program management, funding, and enforcement roles for local agencies:

The major components of this system (Alternative 1) includes transfer and disposal of waste at two private landfill.

The selected system includes a recycling component with drop-off centers at both transfer stations and a curbside recycling program in the City of Hancock.

#### FINANCING

The cost of operating the transfer stations is borne by the users who are paying tipping fees which are based on scaled tons and pay per bag. The tipping fee also reflects a reserve to be used for equipment maintenance and replacement and in Peninsula Sanitation's case a margin of profit.

#### PRIMARY DISPOSAL CAPACITY

Primary disposal capacity for wastes generated in Houghton County are at two private landfills, one in Alger County (Wood Island) and the other in Ontonagon County (K & W Landfill). Both the Alger and Ontonagon County Solid Waste Management Plans allow for the importation of up to 100% of the waste generated in Houghton County to be disposed of at these facilities. Both of the facilities have at least a ten year capacity to receive up to 100% of Houghton County's waste stream.

#### Authorized Importation of Solid Wastes into Houghton County

The Houghton County Solid Waste Management Plan specifically authorizes the importation of waste from the following counties in Michigan:

- ▶ Keweenaw County (up to 100%)
- ▶ Baraga County (up to 100%)
- ▶ Ontonagon County (up to 100%)

Since the facilities providing primary disposal capacity for Houghton County are located in Ontonagon County and Alger County these County Solid Waste Management Plans also have to specifically authorize the importation of solid waste from Houghton, Ontonagon, Baraga and Keweenaw Counties. See page IV-2-3.

#### INDUSTRIAL DISPOSAL

Several local boards in Houghton County and the planning committee have indicated that they are in favor of encouraging industrial development within the County. In order to address this concern, the Houghton County Solid Waste Management Plan authorizes the development of either a Type II or Type III industrial solid waste disposal facility in any township or city located in the County. Specifically, industry may site a facility for disposal of solid wastes generated solely by that industry at its facility in Houghton County. A solid waste disposal facility of this type is determined to be consistent with the Houghton County Solid Waste Management Plan and is not subject to the siting criteria defined by this Plan. The facility must meet all applicable State and Federal regulations concerning construction of a landfill.

**SELECTED SYSTEM**

**IMPORT AUTHORIZATION**

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 1-A.

**Table 1-A  
CURRENT IMPORT VOLUME AUTHORIZATION OF SOLID WASTE**

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME <sup>1</sup>	AUTHORIZED QUANTITY/DAY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS <sup>2</sup>
Houghton	Baraga		100%	100%	P
Houghton	Gogebic		100%	100%	P
Houghton	Ontonagon		100%	100%	P
Houghton	Keweenaw		100%	100%	C
Houghton	Iron		100%	100%	C
Houghton	Dickinson		100%	100%	C
Houghton	Marquette		100%	100%	C
Houghton	Alger		100%	100%	C
Houghton	Menominee		100%	100%	C
Houghton	Delta		100%	100%	C
Houghton	Schoolcraft		100%	100%	C
Houghton	Luce		100%	100%	C
Houghton	Mackinac		100%	100%	C
Houghton	Chippewa		100%	100%	C

Additional authorizations and the above information for those authorizations are listed on an attached page.

<sup>1</sup>Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

<sup>2</sup>Authorization indicated by P = Primary Disposal; C = Contingency Disposal; \* = Other conditions exist and detailed explanation is included in the Attachment Section.

**SELECTED SYSTEM**

If a new solid waste disposal area is constructed and operating in the future in the County, then disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the AUTHORIZED CONDITIONS in Table 1-B.

**Table 1-B**

**FUTURE IMPORT VOLUME AUTHORIZATION OF SOLID WASTE  
CONTINGENT ON NEW FACILITIES BEING SITED**

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME <sup>1</sup>	AUTHORIZED QUANTITY/DAILY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS <sup>2</sup>

\_\_\_\_ Additional authorizations and the above information for those authorizations are listed on an attached page.

<sup>1</sup>Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

<sup>2</sup>Authorization indicated by P = Primary Disposal; C = Contingency Disposal; \* = Other conditions exist and detailed explanation is included in the Attachment Section.

**EXPORT AUTHORIZATION**

If a Licensed solid waste disposal area is currently operating within another County, disposal of solid waste generated by the EXPORTING COUNTY is authorized up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 2-A if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Table 2-A

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME <sup>1</sup>	AUTHORIZED QUANTITY/DAY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS <sup>2</sup>
Houghton	Alger	Wood Island Landfill	100%	100%	P
Houghton	Ontonagon	K & W Landfill	100%	100%	P
Houghton	Keweenaw		100%	100%	P
Houghton	Gogebic		100%	100%	C
Houghton	Iron		100%	100%	C
Houghton	Baraga		100%	100%	C
Houghton	Marquette		100%	100%	C
Houghton	Dickinson		100%	100%	C
Houghton	Menominee		100%	100%	C
Houghton	Delta		100%	100%	C
Houghton	Schoolcraft		100%	100%	C
Houghton	Luce		100%	100%	C
Houghton	Mackinac		100%	100%	C
Houghton	Chippewa		100%	100%	C

X Additional authorizations and the above information for those authorizations are listed on an attached page.

<sup>1</sup>Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

<sup>2</sup>Authorization indicated by P = Primary Disposal; C = Contingency Disposal; \* = Other conditions exist and detailed explanation is included in the Attachment Section.



JOHN ENGLER, Governor

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

*"Better Service for a Better Environment"*

HOLLISTER BUILDING, PO BOX 30473 LANSING MI 48909-7973

INTERNET: [www.deq.state.mi.us](http://www.deq.state.mi.us)

RUSSELL J. HARDING, Director

REPLY TO:

WASTE MANAGEMENT DIVISION  
PO BOX 30241  
LANSING MI 48909-7741

August 13, 1999

Mr. Kim Stoker  
Western U.P. Planning and Development Region  
P.O. Box 365  
Houghton, MI 49931

Dear Mr. Stoker:

This letter is in response to your letter dated August 5, 1999 to Seth Phillips regarding disposal of solid waste from Houghton and Keweenaw Counties at licensed facilities in Alger County.

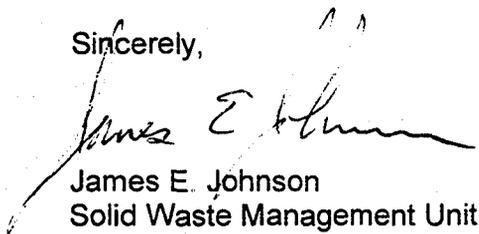
This is to inform you that I intend to recommend that Keweenaw County and Houghton County be authorized to import up to 100 percent of the solid waste generated in those counties to licensed disposal areas in Alger County. This will not represent any change, as both counties are authorized to export waste to Alger County in the current Alger County Plan.

Final authorization of waste imports to Alger County in the Plan Update will not occur until the Director issues the Plan Update. Until that time, the existing Alger County Plan will remain in effect.

If authorized in the Alger County Plan Update, this Plan authorization will not guarantee that solid waste disposal facilities in Alger County will be willing to, or have the capacity to, accept waste from Keweenaw County and Houghton County. Customers will need to contact the licensed disposal areas directly to receive confirmation that the waste will be accepted.

If you have any further questions please feel free to contact me.

Sincerely,



James E. Johnson  
Solid Waste Management Unit  
Waste Management Division  
517-373-4738

cc: Mr. Seth Phillips, DEQ  
Alger County File  
Houghton County File  
Keweenaw County File



JOHN ENGLER, Governor

**DEPARTMENT OF ENVIRONMENTAL QUALITY***"Better Service for a Better Environment"*

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INTERNET: [www.deq.state.mi.us](http://www.deq.state.mi.us)

RUSSELL J. HARDING, Director

REPLY TO:

WASTE MANAGEMENT DIVISION  
PO BOX 30241  
LANSING MI 48909-7741

March 10, 2000

Mr. Kim Stoker  
Western Upper Peninsula Planning and Development Regional Commission  
P.O. Box 365  
Houghton, Michigan 49937

Dear Mr. Stoker:

This letter is in response to your telephone call on March 3, 2000, regarding the export of solid waste from Baraga County to Houghton County.

This is to inform you that I anticipate that I will recommend that Baraga County be authorized to export 100 percent of the solid waste generated in Baraga County to each of the other 14 counties in the Upper Peninsula. This is pursuant to these counties authorizing the import of Baraga waste in their respective Solid Waste Management Plan Updates.

Final authorization of waste exports from Baraga County in the Plan Update will not occur until the Director issues the Plan Update. Until that time, the existing Baraga County Plan will remain in effect.

If authorized in the Baraga County Plan Update, this Plan authorization will not guarantee that solid waste disposal facilities will be willing to, or have the capacity to, accept waste from Baraga County. Customers will need to contact the licensed disposal areas directly to receive confirmation that the waste will be accepted.

If you have any further questions, please feel free to contact me.

Sincerely,

Matt Staron  
Solid Waste Management Unit  
Waste Management Division  
517-373-4741

III-5a

**SELECTED SYSTEM**

If a new solid waste disposal area is constructed and operates in the future in another County, then disposal of solid waste generated by the EXPORTING COUNTY is authorized up to the AUTHORIZED QUANTITY according to the AUTHORIZED CONDITIONS in Table 2-B if authorized for import in the approved Solid Waste Management Plan of the receiving County.

**Table 2-B**

**FUTURE EXPORT VOLUME AUTHORIZATION OF SOLID WASTE  
CONTINGENT ON NEW FACILITIES BEING SITED**

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME <sup>1</sup> DAILY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS <sup>2</sup>

\_\_\_\_ Additional authorizations and the above information for those authorizations are listed on an attached page.

<sup>1</sup>Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

<sup>2</sup>Authorization indicated by P = Primary Disposal; C = Contingency Disposal; \* = Other conditions exist and detailed explanation is included in the Attachment Section.

**SELECTED SYSTEM**

**SOLID WASTE DISPOSAL AREAS**

The following identifies the names of existing disposal areas which will be utilized to provide the required capacity and management needs for the solid waste generated within the County for the next five years and, if possible, the next ten years. Pages III-7-1 through III-7-5 contain descriptions of the solid waste disposal facilities which are located within the County and the disposal facilities located outside of the County which will be utilized by the County for the planning period. Additional facilities within the County with applicable permits and licenses may be utilized as they are sited by this Plan, or amended into this Plan, and become available for disposal. If this Plan update is amended to identify additional facilities in other counties outside the County, those facilities may only be used if such import is authorized in the receiving County's Plan. Facilities outside of Michigan may also be used if legally available for such use.

Type II Landfill:

K & W Landfill

Wood Island Landfill

Type III Landfill:

Incinerator:

Waste-to-Energy Incinerator:

Type A Transfer Facility:

Houghton County

Peninsula Sanitation

Type B Transfer Facility:

Processing Plant:

Waste Piles:

Other:

Additional facilities are listed on an attached page. Letters from or agreements with the listed disposal areas owners/operators stating their facility capacity and willingness to accept the County's solid waste are in the Attachments Section.



**SELECTED SYSTEM**

**FACILITY DESCRIPTIONS**

Facility Type: Type II Sanitary Landfill

Facility Name: Wood Island Landfill

County: Alger Location: Town: T46N Range: R18W Section SE1/4.18 E1/2.19

Map identifying location included in Attachment Section:        Yes   X   No

If facility is an incinerator or a transfer station, list the final disposal site and location for incinerator ash or transfer station wastes: \_\_\_\_\_

       Public   X   Private      Owner: Wood Island Landfill

**Operating Status (check)**

  X   open  
       closed  
  X   licensed  
       unlicensed  
       construction permit  
       open, but closure  
       pending

**Waste Types Received (check all that apply)**

  X   residential  
  X   commercial  
  X   industrial  
  X   construction & demolition  
  X   contaminated soils  
       special wastes\*  
       other: \_\_\_\_\_

\*Explanation of special wastes, including a specific list and/or conditions:

**Site Size:**

Total area of facility property:       325       acres  
Total area sited for use:       68       acres  
Total area permitted:       28       acres  
    Operating:       18       acres  
    Not excavated:       10       acres

Current capacity: 1,500,000 tons  
Estimated lifetime       20       years  
Estimated days open per year:      316       days  
Estimated yearly disposal volume:      78,000       tons

(If applicable)

**Annual energy production:**

Landfill gas recovery projects:       n/a       megawatts  
Waste-to-energy incinerators:       n/a       megawatts

**SELECTED SYSTEM**

**FACILITY DESCRIPTIONS**

Facility Type: Transfer Station

Facility Name: Peninsula Sanitation

County: Houghton Location: Town: \_\_\_\_\_ Range: \_\_\_\_\_ Section(s): \_\_\_\_\_

Map identifying location included in Attachment Section:  Yes  No

If facility is an incinerator or a transfer station, list the final disposal site and location for incinerator ash or transfer station wastes: K & W Landfill, Greenland Township, Ontonagon, MI 49953

Public  Private Owner: Waste Management

**Operating Status (check)**

open  
 closed  
 licensed  
 unlicensed  
 construction permit  
 open, but closure  
 pending

**Waste Types Received (check all that apply)**

residential  
 commercial  
 industrial  
 construction & demolition  
 contaminated soils  
 special wastes\*  
 other: \_\_\_\_\_

\*Explanation of special wastes, including a specific list and/or conditions:

**Site Size:**

Total area of facility property: \_\_\_\_\_ acres  
Total area sited for use: \_\_\_\_\_ acres  
Total area permitted: \_\_\_\_\_ acres  
    Operating: \_\_\_\_\_ acres  
    Not excavated: \_\_\_\_\_ acres

Current capacity: \_\_\_\_\_ tons  
Estimated lifetime: \_\_\_\_\_ years  
Estimated days open per year: 260 days  
Estimated yearly disposal volume: 15,000 tons (est)

(If applicable)

Annual energy production:  
    Landfill gas recovery projects: \_\_\_\_\_ megawatts  
    Waste-to-energy incinerators: \_\_\_\_\_ megawatts

**SELECTED SYSTEM**

**FACILITY DESCRIPTIONS**

Facility Type: Solid Waste Transfer Facility

Facility Name: Houghton County Solid Waste Transfer Facility

County: Houghton Location: Town: 54N Range: 34W Section: 1

Map identifying location included in Attachment Section:  Yes  No

If facility is an incinerator or a transfer station, list the final disposal site and location for incinerator ash or transfer station wastes: \_\_\_\_\_

Wood Island Landfill and K & W Landfill

Public  Private Owner: Houghton County

**Operating Status (check)**

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

**Waste Types Received (check all that apply)**

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes\*
- other: \_\_\_\_\_

\*Explanation of special wastes, including a specific list and/or conditions:  
\_\_\_\_\_  
\_\_\_\_\_

**Site Size:**

Total area of facility property: 1.84 acres

Total area sited for use: 1.84 acres

Total area permitted: 1.84 acres

Operating: \_\_\_\_\_ acres

Not excavated: \_\_\_\_\_ acres

Current capacity: \_\_\_\_\_ tons

Estimated lifetime \_\_\_\_\_ years

Estimated days open per year: 300 days

Estimated yearly disposal volume: 9,000 tons

(If applicable)

Annual energy production:

Landfill gas recovery projects: \_\_\_\_\_ megawatts

Waste-to-energy incinerators: \_\_\_\_\_ megawatts

## **SELECTED SYSTEM**

### **SOLID WASTE COLLECTION SERVICES AND TRANSPORTATION:**

The following describes the solid waste collection services and transportation infrastructure which will be utilized within the County to collect and transport solid waste.

Peninsula Sanitation, Inc. provides residential curbside service, a pay per bag system, and commercial containerized service to all of the county.

Residential service is varied. There is curbside service through municipal contracts, and pay a per bag system. All residential services are provided with a rear end load collection vehicle. There are drop off locations at Superior Water and Welding (Karvako's, Tapiola) and at the Peninsula Sanitation transfer station on Enterprise Drive in Houghton.

Commercial service is provided as a containerized service. Containers range in size from 20 cubic yards to 40.0 cubic yards. Containers 20 cubic yards and larger are rolloff containers. Containers 8.0 cubic yards and smaller are serviced with a front end or a rear end load vehicle.

All waste collected by Peninsula Sanitation in Houghton County is taken to the K & W Landfill in Ontonagon County.

A number of municipalities in Houghton County operate their own collection vehicles including Torch Lake Township, City of Hancock, Laird Township, Schoolcraft Township, Villages of South Range, Lake Linden and Laurium.

Bukema Garbage Collection Services operates a single rear load truck in several areas of northern Houghton County.

Torch Lake Township operates a rear load compactor truck and has a cooperative agreement with Schoolcraft Township. Besides serving all of the Township, they also service Schoolcraft Township, Calumet Township (Traprock portion), Pepin Road and the edge of Torch Lake Township (Osceola Township).

The City of Hancock operates a single rear load packer and serves the city only.

Laird Township operates a closed-in semi trailer. People who reside in the township bring their garbage here and then a truck pulls the trailer to K & W Landfill.

Schoolcraft Township operates a rear load truck. The Township cooperates with Torch Lake Township and serves both townships.

The Villages of South Range and Lake Linden both operate a single axle rear loading trucks which serves the Villages only.

The Village of Laurium operates a rear loading and local on sides truck. They serve the entire Village and Boundary Street (Calumet Township).

**SELECTED SYSTEM**

**RESOURCE CONSERVATION EFFORTS:**

The following describes the selected system's proposed conservation efforts to reduce the amount of solid waste generated throughout the County. The annual amount of solid waste currently or proposed to be diverted from landfills and incinerators is estimated for each effort to be used, if possible. Since conservation efforts are provided voluntarily and change with technologies and public awareness, it is not this Plan update's intention to limit the efforts to only what is listed. Instead citizens, businesses, and industries are encouraged to explore the options available to their lifestyles, practices, and processes which will reduce the amount of materials requiring disposal.

Effort Description	Est. Diversion Tons/Year		
	Current	5th Yr.	10th yr.
Peninsula Sanitation Drop-off	1485	1550	1650
City of Hancock Curbside-Recycling	Included above		
Houghton County Transfer Drop-off - Metal only	No estimated diversion available		
Houghton County Transfer - Used oil collection	9435 gal.		

Additional efforts and the above information for those efforts are listed on an attached page.

## **SELECTED SYSTEM**

### **Source Reduction**

The optimum technique for managing solid waste is to reduce the quantity of waste generated. Of solid waste management activities, source reduction occupies the top of the hierarchy followed by recycling (including composting) and disposal (including combustion and landfilling). The U.S. Environmental Protection Agency defines source reduction as "activities designed to reduce the volume or toxicity of waste generated including the design and manufacture of products with minimum toxic content, minimum volume of material, and/or a longer useful life".

Source reduction differs from all other solid waste management activities. Recycling and disposal options all come into play after goods have been produced. Source reduction takes place before materials have been identified as waste. Four basic methods for achieving this have been identified:

**Reduced Resource Used Per Product** - This is source reduction through redesigning of products and packaging. Several products such as autos, newspapers, steel cans, glass bottles, and corrugated packaging have illustrated this.

**Increased Product Lifetime** - More durable and longer-lived products increases the time from purchase to disposal and decreases the number of items to be disposed.

**Products Reuse** - This concept is to reuse a product without changing its original form. Bringing bags back to the grocery store to use again exemplifies this type of source reduction. There are also some types of beverage containers that are returned, washed and refilled.

**Decreased Consumption of Consumer Products** - This is the logical elimination of unnecessary products which become solid waste. One example of unnecessary consumption is the bagging of single items in a retail store.

Though source reduction is probably the best place to manage solid waste, initiating a program at the local level would be difficult. To have much effect, these programs need implementation at the state or national level.

**SELECTED SYSTEM**

**WASTE REDUCTION, RECYCLING & COMPOSTING: PROGRAMS**

**Volume Reduction Techniques**

The following describes the techniques used and proposed to be used throughout the County which reduces the volume of solid waste requiring disposal. The annual amount of landfill air space not used as a result of each of these techniques is estimated. Since volume reduction is practices voluntarily and because technologies change and equipment may need replacing, it is not this Plan update's intention to limit the techniques to only what is listed. Persons within the County are encouraged to utilize the technique that provides the most efficient and practical volume reduction for their needs. Documentation explaining achievements of implemented programs or expected results of proposed programs is attached.

Technique Description	Est. Air Space Conserved Yds. <sup>3</sup> /Yr.		
	<u>Current</u>	<u>5th Yr.</u>	<u>10th yr.</u>
Compaction at landfills	No specified quantity		

\_\_\_\_ Additional efforts and the above information for those efforts are listed on an attached page.

**SELECTED SYSTEM**

**OVERVIEW OF RESOURCE RECOVERY PROGRAMS:**

The following describes the type and volume of material in the County's waste stream that may be available for recycling or composting programs. How conditions in the County affect or may affect a recycling or composting program and potential benefits derived from these programs is also discussed. Impediments to recycling or composting programs which exist or which may exist in the future are listed, followed by a discussion regarding reducing or eliminating such impediments.

See following page.

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- Recycling programs within the County are feasible. Details of existing and planned programs are included on the following pages.
- Recycling programs for the County have been evaluated and it has been determined that it is not feasible to conduct any programs because of the following:

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**SELECTED SYSTEM**

**Per Capita Generation of Municipal Solid Waste by Material**

Material	Pounds/Person/Day* 2000	Houghton County*	
		Per day Lbs.	Annual Tons
Paper and paperboard	1.79	63,448	11,579
Glass	0.27	9,570	1,746
Metals	0.34	12,051	2,199
Plastics	0.42	14,887	2,717
Rubber and leather	0.13	4,608	841
Textiles	0.17	6,026	1,099
Wood	0.33	11,697	2,135
Other	0.08	2,836	517
Total Non Food Products	3.52	124,770	22,770
Food Wastes	0.29	10,279	1,876
Yard Trimmings	0.54	19,141	3,493
Miscellaneous Inorganic Wastes	0.07	2,481	453
Total Municipal Solid Waste Generated	4.42	156,671	28,592

\*Characterization of Municipal Solid Waste in the U.S. 1996 Update

+Based on 1990 Population using 4.42 lbs./person/day

# RECYCLING IN THE KEWEENAW

## RES

ie Line Tire - Hancock (\$3 car/\$6 truck; NO lg. truck)

e Shop - Hancock (\$2 car/\$3 truck\*)

ve's Auto - Laurium (\$2.50-\$3.50; NO lg. truck)

kkila's Auto - Calumet (\$2.50 car/\$3.50 truck)

\* Light truck. Will also accept large truck tires; price varies with size.

M-64 Truck & Auto - Ontonagon (\$2 car/\$10 lg. truck)

Usitalo's Service - S. Range (\$2-3; NO large truck tires)

Dick's Service - L'Anse (\$1.50; NO large truck tires)

Wally's Tire Service - L'Anse (\$2-3 car/\$7 lg. truck)

## USED MOTOR OIL

Houghton Co. Transfer Station - S. of Sharon Ave. (Enterprise/Gundlach), 9-4 Mon-Sat, 482-8872

ck's Service (Amoco), 102 E. Broad, downtown L'Anse, 8-5 Mon-Sat, 524-6383

## HOUSEHOLD ITEMS

ear Glass, Metal, Newspapers, Magazines, Plastic Milk Jugs (see Peninsula Sanitation on back)

## CORRUGATED CARDBOARD

Peninsula Sanitation - 1108 Enterprise, Houghton (see above), 482-7523

Hancock City Garage - 1601 Tomasi Dr., Quincy Hill (Hancock residents only), 482-1480

LEAD BATTERIES (Note: State law requires retailers to accept from customers, for recycling, at least as many lead acid batteries as they sell)

ave's Marathon - U.S. 41, Hancock, 482-3410

-Mart (Penske Auto) - Copper Country Mall, M-26, Houghton, 482-3006

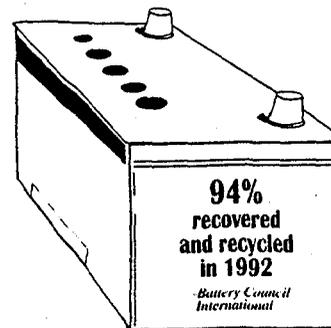
Wal-Mart - M-26, Houghton (with purchase of new battery), 482-0639

## Ni-Cd RECHARGEABLE BATTERIES

Wal-Mart - Houghton, 482-0639

Swift's True Value Hardware - Houghton, 482-0530

Harvi's Ace Home Center - Chassell, 523-4265



## REFRIGERATION UNITS (REFRIGERATORS, FREEZERS, AIR CONDITIONERS)

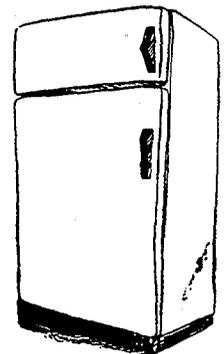
Superior Crafts - U.S. 41, Mohawk (\$20 charge), 337-0875

(Must have Freon removed and be tagged by professional Freon remover, listed below, \$15 and up):

Townsend Refrigeration - Hancock, 482-1911

Pillowman Appliance - Chassell (for customers only), 523-4213

North State Refrigeration & Appliance - Calumet, 337-4572



## LARGE HOUSEHOLD APPLIANCES (OVEN, WASHER, DRYER, ETC.)

Superior Crafts - U.S. 41, Mohawk (\$10 charge), 337-0875

Julio Contracting - M-26, Ripley (\$10 charge), 482-2650 or 482-1380

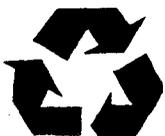
## LATEX PAINT

Pour onto newspaper-covered surface or into plastic bag-lined box, or add cat litter or sawdust. Allow to dry away from children and pets. Deposit dry paint with garbage, as well as empty cans with lids removed. Bring paint in good condition to Marquette Wallpaper & Paint (115 S. Third) for recycling, 8-5:30 MTWTF, 9-3:30 Sat. (Benjamin Moore and Mautz free, others \$1 or less/can).



## OLEFINE BASED PAINT

Useful for 10-15 years if not frozen. Give away to neighbors, theater groups, etc. Save for household hazardous waste collection. Allow to dry. Avoid breathing fumes.



GEM Center for Science and Environmental Outreach, Michigan Technological University  
310 Chemical Sciences, 1400 Townsend Drive, Houghton, MI 49931-1295. 906/487-3341

**SELECTED SYSTEM**

- Composting programs within the County are feasible. Details of existing and planned programs are included on the following pages.
- Composting programs for the County have been evaluated and it has been determined that it is not feasible to conduct any programs because of the following:

There are numerous backyard composters in the County. At this time there are insufficient resources at the local level of government to implement organized composting programs in the County.

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- Programs for source separation of potentially hazardous materials are feasible and details are included on the following pages.

- Separation of potentially hazardous materials from the County's waste stream has been evaluated and it has been determined that it is not feasible to conduct any separation programs because of the following:

Due to long distance and high disposal costs it has been determined that at this time it is not economically feasible to separate hazardous materials from the county's waste stream.

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## **SELECTED SYSTEM**

Peninsula Sanitation (PSI) provides a recycling drop-off center at their transfer station located in the City of Houghton. Tuesdays and Thursdays, customers of PSI may use the drive-thru drop-off to recycle the following items: newsprint, metal cans, glass, magazines, cardboard and plastic milk jugs.

The Houghton County Transfer Station allows residents to drop-off used oil and there is a container provided by Julio Contracting to recycle metals.

PSI has a contract with the City of Hancock for once per month curbside recycling of the items described above which are accepted by PSI. The following page outlines PSI's recycling guidelines.

# Peninsula Sanitation Recycling Guidelines

# Recycling Info

Each recycling program has special guidelines that depend on available markets. Please follow the guidelines below or the materials will be contaminated, resulting in much higher costs to recycle them. This becomes a problem we may have to start charging customers to drop off recyclables.

**NEWSPAPERS:** This means newspapers and the inserts (ads) that come with them ONLY!! If you take your newspapers to the recycling center in paper or plastic bags, cardboard boxes, etc., you must remove them from the container. We do not accept grocery bags for recycling! We do not accept junk mail or office paper. Telephone books are accepted if covers are removed (covers can be recycled with magazines).

**MAGAZINES:** High gloss magazines and catalogs ONLY!! We do not accept any books, mixed paper, or semi-gloss paper. If you have books with glossy covers, we will take the covers only!

**CARDBOARD:** Clean, dry, corrugated cardboard ONLY!! We do not accept cereal boxes, cigarette cartons, 12-pack cases, or any similar paper-type cardboard. All cardboard should be flattened. (Tape on cardboard is acceptable.)

**PLASTIC:** Translucent milk jugs marked with #2 HDPE ONLY!! Remove caps and rings. Plastic should be rinsed thoroughly. No other plastic (clear, white, or colored) can be recycled with milk jugs.

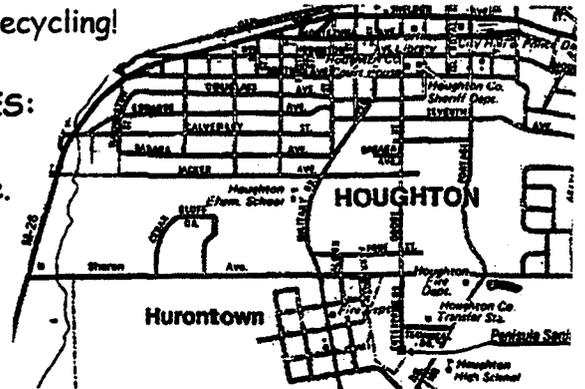
**METAL:** CLEAN tin cans, metal jar lids, and foil products ONLY!! Rinse all cans and flatten to save space. Remove labels.

**GLASS:** Clear, colorless glass ONLY!! No tinted or colored glass. Most wine bottles are tinted and cannot be recycled here. Place carefully in labeled cardboard bins. If the bin is full, inform the office. Do not overload containers!

Be sure to place recyclables in the proper areas and read all signs. We appreciate your cooperation and thank you for recycling!

## WHERE AND WHEN TO DROP OFF RECYCLABLES:

Peninsula Sanitation drive-through recycling center, 1108 Enterprise Dr., Houghton (south of Sharon Ave. across from Bresnan Communications), Tuesday 9-3, Thursday noon-6.



Recycling is a cost-effective way to reduce your garbage disposal costs!



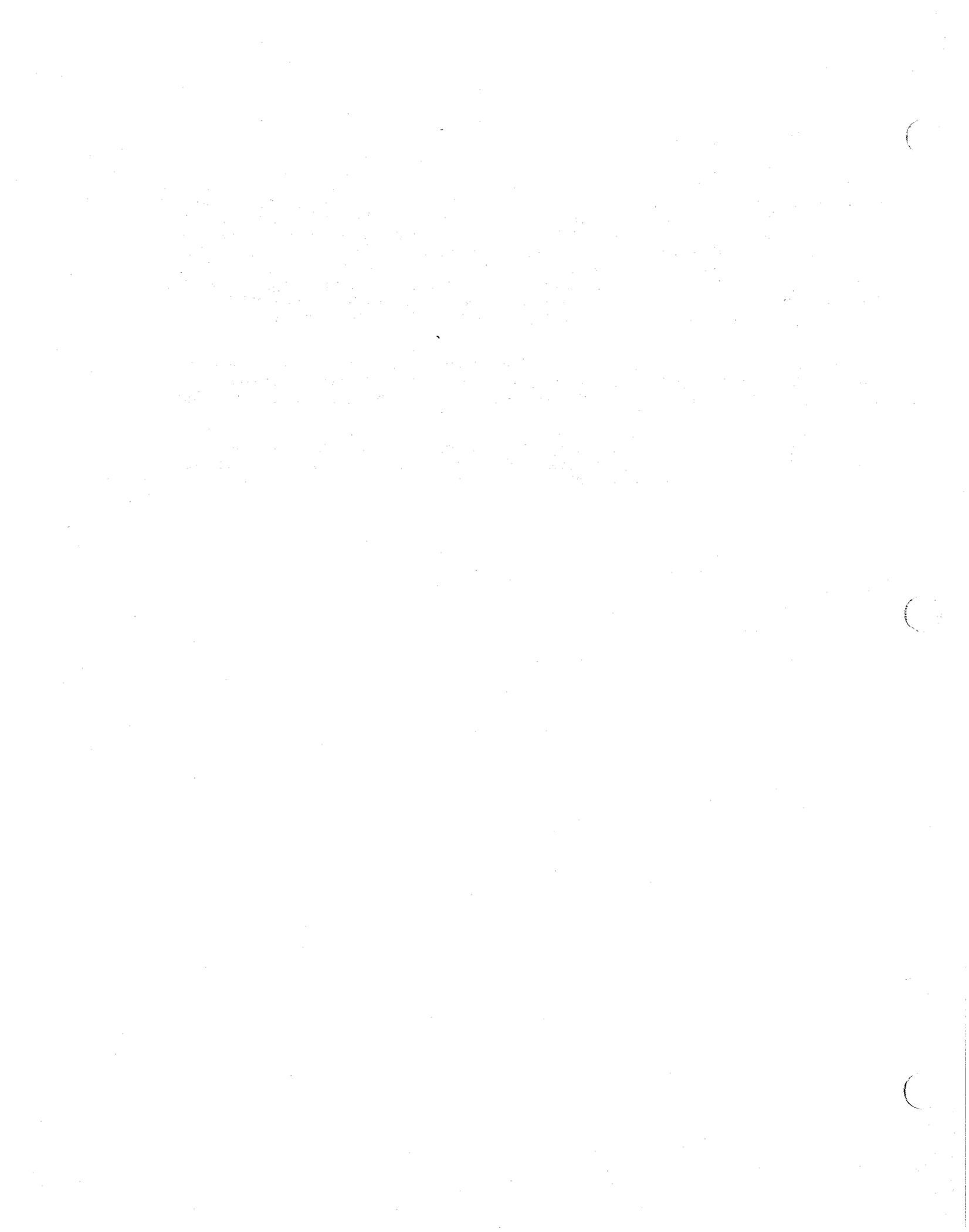
## **SELECTED SYSTEM**

### **RECYCLING AND COMPOSTING**

The following is a brief analysis of the recycling and composting programs selected for the County in this Plan. Additional information on operation of recycling and composting programs is included in Appendix A. The analysis covers various factors within the County and the impacts of these factors on recycling and composting. Following the written analysis, the tables on pages III-18, 19, & 20 list the existing recycling, composting, and source separation of hazardous materials programs that are currently active in the County and which will be continued as part of this Plan. The second group of three tables on pages III-21, 22, & 23 list the recycling, composting, and source separation of hazardous materials programs that are proposed in the future for the County. It is not this Plan update's intent to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

There are a number of recycling activities taking place in Houghton County. The most active program is a drop-off recycling program operated at the Peninsula Sanitation transfer station and Houghton County transfer for metal and oil. Quantities of materials received can be found in Appendix A.

Other activities in the County include scrap metal dealers (Julio Contracting) and grocery stores recycling small quantities of cardboard. Peninsula Sanitation also provides limited recycling as part of their commercial pickup operations.



**SELECTED SYSTEM**

**TABLE III-1**

**RECYCLING:**

<u>Program Name</u>	<u>Service Area<sup>1</sup></u>	<u>Public or Private</u>	<u>Collection Point<sup>3</sup></u>	<u>Collection Frequency<sup>4</sup></u>	<u>Materials Collected<sup>5</sup></u>	<u>Program Management Development</u>	<u>Responsibilities<sup>2</sup> Operation</u>	<u>Evaluation</u>
<u>Peninsula Sanitation</u>	<u>Houghton, Keweenaw Baraga</u>	<u>Private</u>	<u>d</u>	<u>Drop-off</u>	<u>A,B,F,E, D,C</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>City of Hancock</u>	<u>City-wide</u>	<u>Private</u>	<u>c</u>	<u>M</u>	<u>A,B,F,E, D,C</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Houghton County</u>	<u>Houghton County</u>	<u>Public</u>	<u>d</u>	<u>Drop-off</u>	<u>Oil, metal</u>		<u>2</u>	

Additional programs and the above information for those programs are listed on an attached page.

<sup>1</sup>Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county if only in specific municipalities, then listed by its name and respective county.

<sup>2</sup>Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 24); 5 = Private Owner/Operator; 6 = Other (Identified on page 24).

<sup>3</sup>Identified by c= curbside; d = drop-off; o = onsite; and if other, explained.

<sup>4</sup>Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

<sup>5</sup>Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugated Containers; D = Other Paper; E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2, etc. = as identified on Page 25.

**SELECTED SYSTEM**

**TABLE III-2**

**COMPOSTING:**

<u>Program Name</u>	<u>Service Area<sup>1</sup></u>	<u>Public or Private</u>	<u>Collection Point<sup>3</sup></u>	<u>Collection Frequency<sup>4</sup></u>	<u>Materials Collected<sup>5</sup></u>	<u>Program Management Development</u>	<u>Responsibilities<sup>2</sup> Operation</u>	<u>Evaluation</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

\_\_\_\_ Additional programs and the above information for those programs are listed on an attached page.

<sup>1</sup>Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county if only in specific municipalities, then listed by its name and respective county.  
<sup>2</sup>Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 24); 5 = Private Owner/Operator; 6 = Other (Identified on page 24).  
<sup>3</sup>Identified by c= curbside; d = drop-off; o = onsite; and if other, explained.  
<sup>4</sup>Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.  
<sup>5</sup>Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Food; W = Wood; P = Paper; S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1, L2 etc. = as identified on page 25.

**SELECTED SYSTEM**

**TABLE III-3**

**SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:**

Since improper disposal of nonregulated hazardous materials has the potential to create risks to the environment and human health, the following programs have been implemented to remove these materials from the County's solid waste stream.

<u>Program Name</u>	<u>Service Area<sup>1</sup></u>	<u>Public or Private</u>	<u>Collection Point<sup>3</sup></u>	<u>Collection Frequency<sup>4</sup></u>	<u>Materials Collected<sup>5</sup></u>	<u>Program Management</u>	<u>Responsibilities<sup>2</sup></u>	<u>Evaluation</u>
<u>Development</u>	<u>Operation</u>	<u>Evaluation</u>						
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

\_\_\_\_\_ Additional programs and the above information for those programs are listed on an attached page.

<sup>1</sup>Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county if only in specific municipalities, then listed by its name and respective county.  
<sup>2</sup>Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 24); 5 = Private Owner/Operator; 6 = Other (Identified on page 24).  
<sup>3</sup>Identified by c= curbside; d = drop-off; o = onsite; and if other, explained.  
<sup>4</sup>Identified by d = daily; w = weekly; b = biweekly; m = monthly; and is seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.  
<sup>5</sup>Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Products except Used Oil, Oil Filters & Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C - Cleaners and Polishers; H = Hobby and Art Supplies; OF = Used Oil Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

**SELECTED SYSTEM**

**TABLE III-4**

**PROPOSED RECYCLING:**

<u>Program Name</u> <u>(if known)</u>	<u>Service Area</u> <sup>1</sup>	<u>Public or Private</u>	<u>Collection Point</u> <sup>3</sup>	<u>Collection Frequency</u> <sup>4</sup>	<u>Materials Collected</u> <sup>5</sup>	<u>Program Management Development</u>	<u>Responsibilities Operation</u>	<u>Evaluation</u> <sup>2</sup>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

\_\_\_\_\_ Additional programs and the above information for those programs are listed on an attached page.

<sup>1</sup>Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county if only in specific municipalities, then listed by its name and respective county.

<sup>2</sup>Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 24); 5 = Private Owner/Operator; 6 = Other (Identified on page 24).

<sup>3</sup>Identified by c= curbside; d = drop-off; o = onsite; and if other, explained.

<sup>4</sup>Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

<sup>5</sup>Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugated Containers; D = Other Paper; E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2, etc. = as identified on Page 25.

**SELECTED SYSTEM**

**TABLE III-5**

**PROPOSED COMPOSTING:**

<u>Program Name</u> <u>(If known)</u>	<u>Service Area</u> <sup>1</sup>	<u>Public or Private</u>	<u>Collection Point</u> <sup>3</sup>	<u>Collection Frequency</u> <sup>4</sup>	<u>Materials Collected</u> <sup>5</sup>	<u>Program Management Development</u>	<u>Responsibilities Operation</u>	<u>Responsibilities Evaluation</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

Additional programs and the above information for those programs are listed on an attached page.

<sup>1</sup>Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county if only in specific municipalities, then listed by its name and respective county.

<sup>2</sup>Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 24); 5 = Private Owner/Operator; 6 = Other (Identified on page 24).

<sup>3</sup>Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

<sup>4</sup>Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

<sup>5</sup>Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Food; W = Wood; P = Paper; S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1 L2, etc. = as identified on page 25.

**SELECTED SYSTEM**

**TABLE III-6**

**PROPOSED SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:**

<u>Program Name</u> <u>(If known)</u>	<u>Service Area</u> <sup>1</sup>	<u>Public or Private</u>	<u>Collection Point</u> <sup>3</sup>	<u>Collection Frequency</u> <sup>4</sup>	<u>Materials Collected</u> <sup>5</sup>	<u>Program Management Development</u>	<u>Responsibilities<sup>2</sup> Operation</u>	<u>Evaluation</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

\_\_\_\_\_ Additional programs and the above information for those programs are listed on an attached page.

<sup>1</sup>Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county if only in specific municipalities, then listed by its name and respective county.

<sup>2</sup>Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 24); 5 = Private Owner/Operator; 6 = Other (Identified on page 24).

<sup>3</sup>Identified by c= curbside; d = drop-off; o = onsite; and if other, explained.

<sup>4</sup>Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

<sup>5</sup>Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Products except Used Oil, Oil Filters & Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C = Cleaners and Polishers; H = Hobby and Art Supplies; OF - Used Oil Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

## **SELECTED SYSTEM**

### **IDENTIFICATION OF RESOURCE RECOVERY MANAGEMENT ENTITIES:**

The following identifies those public and private parties, and the resource recovery or recycling programs for which they have management responsibilities.

#### **Environmental Groups:**

#### **Other:**

Houghton County operates the County Transfer Station and is responsible for managing the used oil and scrap metal recovery at the station.

Waste Management owns and operates the Peninsula Sanitation Transfer Station which provides for collection of recyclables in the City of Hancock and a recycling drop-off center at the station.

## SELECTED SYSTEM

### PROJECTED DIVERSION RATES:

The following estimates the annual amount of solid waste which is expected to be diverted from landfills and incinerators as a result of the current resource recovery programs and in five and ten years.

<u>Collected Material:</u>	<u>Projected Annual Tons Diverted:</u>			<u>Collected Material:</u>	<u>Projected Annual Tons Diverted:</u>		
	<u>Current</u>	<u>5th Year</u>	<u>10th Yr</u>		<u>Current</u>	<u>5th Yr</u>	<u>10th Yr</u>
A. TOTAL PLASTICS	14	20	25	G. GRASS & LEAVES	N/A		
B. NEWSPAPERS	84	90	100	H. TOTAL WOOD WASTE:	N/A		
C. CORRUGATED CONTAINERS:	1,200	1,300	1,500	I. CONSTRUCTION & DEMOLITION:	N/A		
D. TOTAL OTHER PAPER:	82	90	95	J. FOOD & FOOD PROCESSING:	N/A		
E. TOTAL GLASS:	96	100	110	K. TIRES:	N/A		
F. OTHER MATERIALS:				L. TOTAL METALS:	9	10	15
F1. _____				F3. _____			
F2. _____				F4. _____			

### MARKET AVAILABILITY FOR COLLECTED MATERIALS:

The following identifies how much volume that existing markets are able to utilize of the recovered materials which were diverted from the County's solid waste stream.

<u>Collected Material</u>	<u>In-State Markets</u>	<u>Out of State Markets</u>	<u>Collected Material</u>	<u>In-State Markets</u>	<u>Out-of-State Markets</u>
A. TOTAL PLASTICS		14	G. GRASS & LEAVES:		
B. NEWSPAPER:	84		H. TOTAL WOOD WASTE:		
C. CORRUGATED CONTAINERS:		1,200	I. CONSTRUCTION & DEMOLITION:		
D. TOTAL OTHER PAPER:		82	J. FOOD & FOOD PROCESSING:		
E. TOTAL GLASS:		96	K. TIRES:		
F. OTHER MATERIALS:			L. TOTAL METALS:	9	
F1. Oil			F3. _____		
F2. _____			F4. _____		

**SELECTED SYSTEM**

**EDUCATIONAL AND INFORMATIONAL PROGRAMS:**

It is often necessary to provide educational and informational programs regarding the various components of a solid waste management system before and during its implementation. These programs are offered to avoid miscommunication which results in improper handling of solid waste and to provide assistance to the various entities who participate in such programs as waste reduction and waste recovery. Following is a list of the programs offered or proposed to be offered in this County.

<u>Program Topic<sup>1</sup></u>	<u>Delivery Medium<sup>2</sup></u>	<u>Targeted Audience<sup>3</sup></u>	<u>Program Provider<sup>4</sup></u>
<u>1 2 3 4</u>	<u>WOE</u>	<u>P</u>	<u>MSU-Ext.</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

<sup>1</sup>Identified by 1 = recycling; 2 = composting; 3 = household hazardous waste; 4 = resource conservation; 5 = volume reduction; 6 = other which is explained.

<sup>2</sup>Identified by w = workshop; r = radio; t = television; n = newspaper; o = organizational newsletter; f = flyers; e = exhibits and locations listed; and ot = other which is explained.

<sup>3</sup>Identified by p = general public; b = business; i = industry; s = students with grade levels listed. In addition if the program is limited to a geographic area, then that county, city, village, etc. is listed.

<sup>4</sup>Identified by EX = MSU Extension; EG - Environmental Group (Identify name); OO - Private Owner/Operator (Identify name); HD = Health Department (Identify name); DPA = Designated Planning Agency; CU = College/University (Identify name); LS = Local School (Identify name); ISD = Intermediate School District (Identify name); O = Other which is explained.

  Additional efforts and the above information for those efforts are listed in Appendix E.

## SELECTED SYSTEM

### TIMETABLE FOR SELECTED SYSTEM IMPLEMENTATION

This timetable is a guideline to implement components of the Selected System. The Timeline gives a range of time in which the component will be implemented such as "1995-1999" or "On-going." Timelines may be adjusted later, if necessary.

TABLE III-7

Management Component	Timeline
Alternative I	On-going

## **SELECTED SYSTEM**

### **SITING CRITERIA AND PROCESS**

#### **AUTHORIZED DISPOSAL AREA TYPES**

The following solid waste disposal area types may not be sited by this Plan. Any proposal to construct a facility listed herein shall be deemed inconsistent with this Plan.

Incineration

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### **SITING CRITERIA AND PROCESS**

The following process describes the criteria and procedures to be used to site solid waste disposal facilities and determine consistency with this Plan.

#### **Identification of New or Expanded Solid Waste Facilities**

Houghton County does not have a licensed landfill, therefore the county plan contains a siting mechanism that guarantees that a facility can be sited in the county.

In order for a solid waste facility to pursue a construction permit from the Michigan Department of Environmental Quality, the site must be either identified within the county solid waste plan update or be found consistent with the plan based on the criteria as described below.

Incineration is not consistent with this 5-year updated plan.

The Solid Waste Planning Committee is responsible for reviewing proposals from proponents of new or expanded facilities and for making a determination of "consistency with the Solid Waste Plan". The Planning Committee will use the following information and criteria when reviewing proposals and determining consistency.

The developer of a proposed new or expanded landfill or processing facility shall submit the following information to the Planning Committee. This information not to be used in determining siting.

1. Does the developer provide documentation demonstrating: estimated total project costs, the possible source of the waste stream coming to the facility from within the service area defined by the plan, the short-term and long-term capacity of the facility, (b) the apparent needs of the service area and how they will be met by the proposed development, including proposed recycling services?

**SELECTED SYSTEM**

2. Does the developer provide a written statement that the proposed development is consistent with proven technologies and with all statutory changes to and requirements of Public Act 451?
3. Does the developer provide a written statement of his intent to charge equitable and similar fees within its service area?
4. Does the developer provide a written statement agreeing to treat all haulers equitably and impartially?

If the proposal is for a processing facility, the developer shall also provide the following documentation:

5. Does the developer provide a list of communities where the processing technology is being successfully used.

**CRITERIA**

The following criteria will be used to evaluate the information provided by the developer and to determine if the proposed new Type II, Type III landfill or processing facility or expansion is, or is not, consistent with the approved Houghton County Solid Waste Management Plan.

RETURN TO  
APPROVAL  
LETTER

	<u>Yes</u>	<u>No</u>
1. Does the developer intend to charge equitable and similar fees within its service area?	_____	_____
2. Does the developer agree to treat all haulers equitably and impartially?	_____	_____
3. If the proposed facility is a landfill, does the proposed landfill provide long-term capacity?	_____	_____
(If the facility proposed is for restricted use by an industry located within the service area defined by the plan, the provision for 10 year County capacity is not required).		
4. Does the proposed facility utilize proven technology?	_____	_____

## **SELECTED SYSTEM**

If all of the above criteria were answered "yes," the proposed facility is consistent with the Houghton County Solid Waste Management Plan.

The Planning Committee will determine if the proposed development is, or is not, consistent with the Houghton County Solid Waste Management Plan within 90 days of receiving all of the information listed above. The Committee must provide developer a written determination of consistency or inconsistency and include the reasons and facts supporting their decision. If the Committee fails to make a determination within the 90 day time period, the proposal shall be consistent with the County Plan.

## **APPEAL PROCESS - TO THE COUNTY BOARD OF COMMISSIONERS**

If, and only if, a proposed development is found to be inconsistent with the Houghton County Solid Waste Management Plan by the Planning Committee, an appeal by the developer may be made to the County Board of Commissioners. The appeal hearing between the developer and the County Board of Commissioners must be held within 30 days of receipt of the request by the County Board Chairman.

The appeal process before the County Board of Commissioners shall be identical to the Planning Committee review process in terms of information considered and criteria used to determine consistency. The developer, however, may provide additional information to the Board.

Within 30 days of the appeal hearing, the County Board of Commissioners must provide a written determination of consistency or inconsistency to the developer. This determination must include the reasons and facts supporting their decision. If the County Board of Commissioners upholds the determination of inconsistency rendered by the Planning Committee the developer may address the deficiencies identified by the Board of Commissioners (and the Planning Committee) during the appeal process and resubmit the project proposal to the Planning Committee for subsequent review for consistency. If the County Board of Commissioners fails to make a determination within the 30 day time period, the proposal shall be consistent with the County Plan.

### Disposal Contingency Plan

The following process describes the criteria and procedures to be used to site solid waste disposal facilities and determine consistency with this Plan.

As part of the Houghton County five year updated solid waste management plan, the County is outlining an emergency disposal plan. In the past, situations have arisen where the only landfill servicing an entire county is forced to cease its operations. In this situation the county is left with no viable disposal option.

## **SELECTED SYSTEM**

Due largely to the aforementioned factor and the inter-county transportation of waste issue, a short-term emergency disposal alternative must be addressed. This alternative will include a short-term emergency disposal plan. The plan is intended to define a course of action needed to alleviate a disruption or discontinuation in disposal service. The emergency plan is only for unexpected situations which may include, but is not limited to: contract disputes, leachate outbreaks, serious equipment malfunctions, or natural disasters such as flood or tornado.

The emergency contingency plan is not intended to address landfill capacity problems but rather unexpected situations which may arise.

The following is a summary of Houghton County's contingency plan:

If for any reason the K & W Landfill, Inc. or Wood Island Landfill is forced to cease operation, wastes could be shipped to the other operating facility or the following:

1. Michigan Environs, Inc. in Menominee County

This contingency plan is a summary of possibilities and is not intended to be all inclusive.

In order to alleviate an emergency situation the course of action may include, but is not limited to:

1. Defining if the problems are short or long term.
2. If they are long term: investigate a new disposal system, or
3. Identify, if necessary, a new disposal alternative, e.g. landfill construction in Houghton County.

This contingency plan has been established on a reciprocal agreement with the counties which are addressed and will be incorporated into the identified county's five year update. The Plan would be implemented at the time the emergency arises, that is if a problem occurs the County Solid Waste Committee would immediately contact any of the aforementioned entities to negotiate the short-term agreement.

## **SELECTED SYSTEM**

### **SOLID WASTE MANAGEMENT COMPONENTS<sup>1</sup>**

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

The Western Upper Peninsula Planning and Development Region is responsible for planning.

Houghton County is responsible for enforcement.

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<sup>1</sup>Components or subcomponents may be added to this table.

## **SELECTED SYSTEM**

### **IDENTIFICATION OF RESPONSIBLE PARTIES**

Document which entities within the County will have management responsibilities over the following areas of the Plan.

#### **Resource Conservation:**

Source or Waste Reduction

Product Reuse

Reduced Material Volume: Metal & Oil - Houghton County and Waste Management

Increased Product Lifetime

Decreased Consumption

#### **Resource Recovery Programs:**

Composting

Recycling - Peninsula Sanitation, Inc., Houghton County Transfer Station, City of Hancock

Energy Production

#### **Volume Reduction Techniques:**

**Collection Processes:** Peninsula Sanitation



1229 W. Washington St.  
Marquette, MI 49855  
Tel: 906-228-4000  
Fax: 906-228-4051

**WASTE MANAGEMENT**

August 6, 1999

Mr. Kim J. Stoker  
Planning Director  
Western Upper Peninsula Planning & Development Regional Commission  
P.O. Box 365  
Houghton, MI 49931

RE: K&W Landfill  
Capacity Certification

Dear Mr. Stoker:

This letter serves to certify that the K&W Landfill has sufficient disposal capacity based on current volumes to accept all the waste generated in Houghton and Keweenaw Counties for a minimum 10 year period.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Robert Pliska'. The signature is written in a cursive, flowing style.

Robert Pliska, P.E.  
Regional Engineer

# WOOD ISLAND Sanitary Landfill



Corporate Office  
P.O. Box 2002  
Kingsford, MI 49802  
906-774-9006

Landfill Office  
M-28 East, P.O. Box 165  
Wetmore, MI 49894  
906-387-2646

August 11, 1999

Mr. Kim J. Stoker, Planning Director  
WUPPDR  
P.O. Box 365  
Houghton, MI 49931

Dear Kim:

Wood Island Landfill has at least 10 years of capacity available for disposal of waste generated within Houghton County. This will guarantee that the approximate 8,000 tons of waste generated at the Houghton county transfer station can be disposed of at our Wood Island facility.

Should you have any questions, please feel free to give me a call.

Sincerely,

A handwritten signature in cursive script that reads "Terrance J. Barnes".

Terrance J. Barnes  
Vice President

*"Committed To Our Upper Peninsula Environment"*

**SELECTED SYSTEM**

**Transportation:**

**Disposal Areas:**

Processing Plants

Incineration

Transfer Stations - Houghton County and Peninsula Sanitation, Inc.

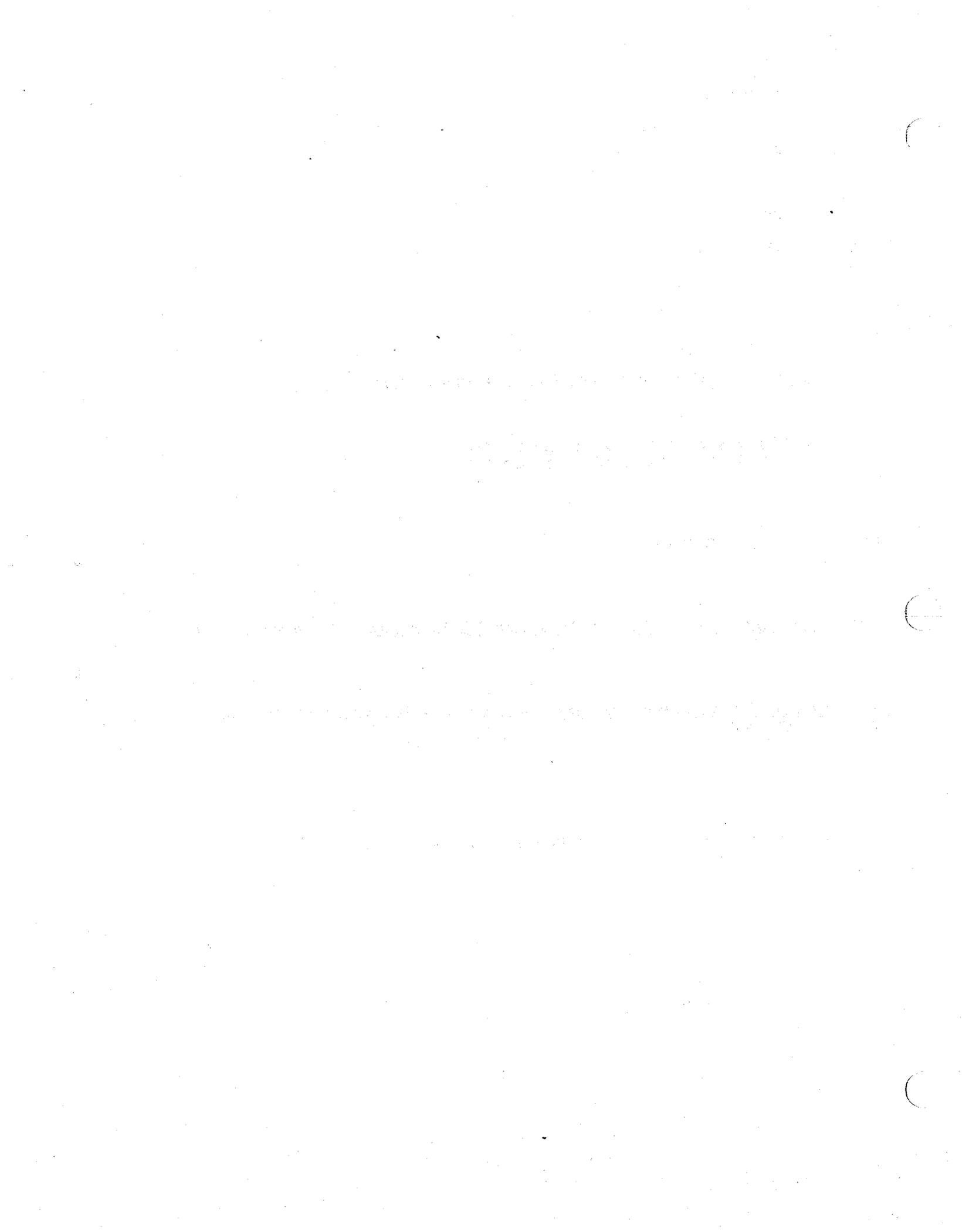
Sanitary Landfills - K & W Landfill, Ontonagon County  
Wood Island Landfill, Alger County

**Ultimate Disposal Area Uses:**

**Local Responsibility for Plan Update Monitoring & Enforcement:** Houghton County

**Educational and Informational Programs:** GEM Center at Michigan Technological University, MSU Extension

Documentation of acceptance of responsibilities is contained in Appendix D.



**LOCAL ORDINANCES AND REGULATIONS AFFECTING  
SOLID WASTE DISPOSAL**

This Plan update's relationship to local ordinances and regulations within the County is described in the option(s) marked below:

- \_\_\_ 1. Section 11538.(8) and rule 710 (3) of Part 115 prohibits enforcement of all County and local ordinances and regulations pertaining to solid waste disposal areas unless explicitly included in an approved Solid Waste Management Plan. Local regulations and ordinances intended to be part of this Plan must be specified below and the manner in which they will be applied described.

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- \_\_\_ 2. This Plan recognizes and incorporates as enforceable the following specific provisions based on existing zoning ordinances:

A. Geographic area/Unit of government: \_\_\_\_\_

Type of disposal area affected: \_\_\_\_\_

Ordinance or other legal basis: \_\_\_\_\_

Requirement/restriction: \_\_\_\_\_

---

B. Geographic area/Unit of government: \_\_\_\_\_

Type of disposal area affected: \_\_\_\_\_

Ordinance or other legal basis: \_\_\_\_\_

Requirements/restriction: \_\_\_\_\_

---

C. Geographic area/Unit of government: \_\_\_\_\_  
Type of disposal area affected: \_\_\_\_\_  
Ordinance or other legal basis: \_\_\_\_\_  
Requirement/restriction: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D. Geographic area/Unit of government: \_\_\_\_\_  
Type of disposal area affected: \_\_\_\_\_  
Ordinance or other legal basis: \_\_\_\_\_  
Requirement/restriction: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E. Geographic area/Unit of government: \_\_\_\_\_  
Type of disposal area affected: \_\_\_\_\_  
Ordinance or other legal basis: \_\_\_\_\_  
Requirement/restriction: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ 3. This Plan authorizes adoption and implementation of local regulations governing the following subjects by the indicated units of government without further authorization from or amendment to the Plan.

## CAPACITY CERTIFICATIONS

Every County with less than ten years of capacity identified in their Plan is required to annually prepare and submit to the DEQ an analysis and certification of solid waste disposal capacity validly available to the County. This certification is required to be prepared and approved by the County Board of Commissioners.

- This County has more than ten years capacity identified in this Plan and an annual certification process is not included in this Plan.
- Ten years of disposal capacity has not been identified in this Plan. The County will annually submit capacity certifications to the DEQ by June 30 of each year on the form provided by the DEQ. The County's process for determination of annual capacity and submission of the County's capacity certification is as follows:

\_\_\_\_ Additional listings are on attached pages.

## ATTACHMENTS

### Landfill Capacity

The K & W Landfill located in Ontonagon County is required to provide annual waste receipt reports to the Michigan Department of Environmental Quality. The Ontonagon County Solid Waste Plan authorizes the K & W Landfill to accept waste from the five counties listed in Table 1-A on page 111-3 for primary disposal of up to 100% of the wastes generated in the listed counties. Using the waste receipt report from 1998 provided to the MDEQ by the K & W Landfill. The following calculations determine that the landfill does have adequate disposal area remaining to provide Houghton County more than 66 months of capacity:

1998 reported receipts 232,153 cubic yards divided by 3 = 77,384 tons/year

Total landfill area permitted = 55 acres

Current capacity = 2,700,000 tons (for permitted design)

Landfill life estimated with accepting 100,000 tons/year = 27 years  
2,700,000 divided by 100,000 tons/year

Total volume calculated for Ontonagon county using 4.42 lbs/person/day = 8,606/year

Actual reported tonnage at the landfill = 7,319 tons in 1998



1229 W. Washington St.  
Marquette, MI 49855  
Tel: 906-228-4000  
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**WASTE MANAGEMENT**

August 6, 1999

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Western Upper Peninsula Planning & Development Regional Commission  
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Robert Pliska, P.E.  
Regional Engineer

# WOOD ISLAND Sanitary Landfill

Corporate Office  
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906-774-9006



Landfill Office  
M-28 East, P.O. Box 165  
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WUPPDR  
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Houghton, MI 49931

Dear Kim:

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A handwritten signature in cursive script, appearing to read "Terrance J. Barnes".

Terrance J. Barnes  
Vice President

*"Committed To Our Upper Peninsula Environment"*

**APPENDIX**

**ADDITIONAL INFORMATION  
REGARDING THE  
SELECTED  
SYSTEM**

## EVALUATION OF RECYCLING

The following provides additional information regarding implementation and evaluations of various components of the Selected System.

**DETAILED FEATURES OF RECYCLING AND COMPOSTING PROGRAMS:**

List below the types and volumes of material available for recycling or composting.

See Appendix A.

The following briefly describes the processes used or to be used to select the equipment and locations of the recycling and composting programs included in the Selected System. Difficulties encountered during past selection processes are also summarized along with how those problems were addressed:

**Equipment Selection**

Existing Programs:

Proposed Programs:

**Site Availability & Selection**

**Existing Programs:**

**Proposed Programs:**

**Composting Operating Parameters:**

The following identifies some of the operating parameters which are to be used or are planned to be used to monitor the composting programs.

**Existing Programs:**

<u>Program Name</u>	<u>pH Range</u>	<u>Heat Range</u>	<u>Other Parameter</u>	<u>Measurement Unit</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**Proposed Programs:**

<u>Program Name</u>	<u>pH Range</u>	<u>Heat Range</u>	<u>Other Parameter</u>	<u>Measurement Unit</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

## **COORDINATION EFFORTS:**

Solid Waste Management Plans need to be developed and implemented with due regard for both local conditions and the state and federal regulatory framework for protecting public health and the quality of the air, water, and land. The following states the ways in which coordination will be achieved to minimize potential conflicts with other programs and, if possible, to enhance those programs.

It may be necessary to enter into various types of agreements between public and private sectors to be able to implement the various components of this solid waste management system. The known existing arrangements are described below which are considered necessary to successfully implement this system within the County. In addition, proposed arrangements are recommended which address any discrepancies that the existing arrangements may have created or overlooked. Since arrangements may exist between two or more private parties that are not public knowledge, this section may not be comprehensive of all the arrangements within the County. Additionally, it may be necessary to cancel or enter into new or revised arrangements as conditions change during the planning period. The entities responsible for developing, approving, and enforcing these arrangements are also noted.

**COSTS & FUNDING:**

The following estimates the necessary management, capital, and operational and maintenance requirements for each applicable component of the solid waste management system. In addition, potential funding sources have been identified to support those components.

<b>System Component<sup>1</sup></b>	<b>Estimated Costs</b>	<b>Potential Funding Sources</b>
<u>Resource Conservation Efforts</u>		
<u>Resource Recovery Programs</u>		
<u>Volume Reduction Techniques</u>		
<u>Collection Processes</u>		
<u>Transportation</u>		
<u>Disposal Areas</u>		
<u>Future Disposal Area Uses</u>		
<u>Management Arrangements</u>		
<u>Educational &amp; Informational Programs</u>		

<sup>1</sup>These components and their subcomponents may vary with each system.

## **EVALUATION SUMMARY OF THE SELECTED SYSTEM:**

The solid waste management system has been evaluated for anticipated positive and negative impacts on the public health, economics, environmental conditions, siting considerations, existing disposal areas, and energy consumption and production which would occur as a result of implementing this Selected System. In addition, the Selected System was evaluated to determine if it would be technically and economically feasible, whether the public would accept this Selected System, and the effectiveness of the educational and informational programs. Impacts to the resource recovery programs created by the solid waste collection system, local support groups, institutional arrangements, and the population in the County in addition to market availability for the collected materials and the transportation network were also considered. Impediments to implementing the solid waste management system are identified and proposed activities which will help overcome those problems are also addressed to assure successful programs. The Selected System was also evaluated as to how it relates to the Michigan Solid Waste Policy's goals. The following summarizes the findings of this evaluation and the basis for selecting this system:

As the selected system is a continuation of the selected system of the previous plan, evaluation of this alternative has been, essentially, an ongoing process. Service provision continues to be a mix of public and private entities driven primarily by cost efficiency. The transfer station, being owned by the citizens of Houghton County, represents a sizeable public investment in solid waste disposal. The long term advantages of having made this investment, however, are already paying off. County flow control requires all Type II and Type III waste generated within the county to go to the Authority's transfer station. This high degree of flow control insures sufficient volumes of waste to protect the economic viability of the facility. The transfer station provides a focal point to allow residents the opportunity to recycle.

Though there are deficiencies that exist in the selected system, it was concluded that enhancement and improvement of the current system was more economically attainable, had greater public support, and provided longer term management benefit than the other alternatives.

## **ADVANTAGES AND DISADVANTAGES OF THE SELECTED SYSTEM:**

Each solid waste management system has pros and cons relating to its implementation within the County. Following is an outline of the major advantages and disadvantages for this Selected System.

### **ADVANTAGES:**

1. Unlimited life span. (Transfer stations)
2. Cost savings associated with not developing sites.
3. Local ownership contributes to environmentally sound management.
4. Single transfer to landfills provides economy of scale.
5. Convenient location to population centers.
6. Recycling drop-off available at transfer stations.

### **DISADVANTAGES:**

1. Transportation costs due to large geographic area of County.
2. Lack of competition/choice of final disposal site.
3. Lack of flexibility.
4. Cost dependent upon landfill fees.

## NON-SELECTED SYSTEMS

Before selecting the solid waste management system contained within this Plan update, the County developed and considered other alternative systems. The details of the non-selected systems are available for review in the County's repository. The following section provides a brief description of these non-selected systems and an explanation why they were not selected. Complete one evaluation summary for each non-selected alternative system.

### **SYSTEM COMPONENTS - ALTERNATIVE 2 - INCINERATION (WASTE ENERGY)**

The following briefly describes the various components of the non-selected system.

**RESOURCE CONSERVATION EFFORTS:** N/A

**VOLUME REDUCTION TECHNIQUES:** Combustibles would be eliminated from the waste stream. The only materials requiring landfilling would be incinerator ash and non-combustibles.

**RESOURCE RECOVERY PROGRAMS:** Sorting of waste into combustible/non-combustible materials would provide an opportunity to perform a much more intensive recycling and household hazardous waste program.

**COLLECTION PROCESSES:** Collection could still be performed by public or private entities. Separation of combustible/non-combustible material will complicate collection.

**TRANSPORTATION:** Keeping combustible/non-combustible material separate will potentially increase transportation costs. Siting of an incinerator (near an energy market) would have an impact based on location.

**DISPOSAL AREAS:** Ash would most likely be hazardous and have to be shipped to a licensed Type I facility.

## SYSTEM COMPONENTS

**INSTITUTIONAL ARRANGEMENTS:** Intergovernmental agreement for all municipalities to direct Type II and Type III waste to the landfill would no longer be valid. A similar agreement to bring waste to the new facility would be required. Agreements with other counties may be necessary to assure sufficient volumes for operation.

**EDUCATIONAL AND INFORMATIONAL PROGRAMS:** Greater emphasis on source separation, reuse, and recycling would be necessary to make the waste stream more compatible with incineration.

**CAPITAL, OPERATIONAL, AND MAINTENANCE COSTS:** Costs associated with waste to energy facility would be incurred for land acquisition, facility construction, and processing facility construction. Ongoing costs for waste separation. Some disposal will still be required.

### EVALUATION SUMMARY OF NON-SELECTED SYSTEM:

The non-selected system was evaluated to determine its potential of impacting human health, economics, environmental, transportation, siting and energy resources of the County. In addition, it was reviewed for technical feasibility, and whether it would have public support. Following is a brief summary of that evaluation along with an explanation why this system was not chosen to be implemented.

**Human health** - There may be additional health risks associated with more extensive waste handling to accomplish the amount of sorting necessary for this alternative.

Michigan has strict regulations related to air emissions. The emissions created by the proposed waste to energy system will exceed those resulting from traditional power generation techniques.

**Economics** - A small waste to energy facility (30 tons/day) can cost nearly \$3 million to construct. Houghton County generates approximately 23 tons per day and it is assumed that a larger scale facility will be more expensive. Land acquisition will be another component of start up costs as a site near an "energy market" will be needed. There will also be costs associated with making the necessary connections to the consumer in order to utilize energy produced. Increased handling/sorting of material will be expensive.

Some cost recovery could result from the sale of energy.

## SYSTEM COMPONENTS

Environmental - The smaller amount of material requiring final disposal (at the landfill) will result in a smaller landfill being required and less "greenfield" being impacted by the facility.

Popularity of waste to energy facilities is limited because of difficulties in complying with air emissions standards.

There is concern over the higher toxicity of ash resulting from waste combustion being buried in the landfill.

Transportation - Impacts on transportation are difficult to assess. Location of the facility will be based on the energy market which is developed.

Siting - Siting criteria for this type of facility do not currently exist.

Energy Resources - A waste to energy facility would tap a fuel source currently not used for energy production and preserve other fuels for the future.

Technical Feasibility - Modular facilities, sized to accommodate the amount of waste generated in the County and in compliance with emission standards are available.

Public Support - There has always been some level of support for deriving benefit from solid waste, if possible, rather than just burying it in the landfill. A waste to energy facility would be a means of accomplishing this.

As the selected alternative, in light of the substantial public investment in the transfer station, the "environmentally friendly" aspect of keeping "useful" material out of the landfill would succumb to cold, hard economics. There is also an "if it's not broke, don't fix it" mentality towards the current selected alternative of transferring to an out-of-county landfill.

## **ADVANTAGES AND DISADVANTAGES OF THE NON-SELECTED SYSTEM:**

Each solid waste management system has pros and cons relating to its implementation within the County. Following is a summary of the major advantages and disadvantages for this non-selected system.

### **ADVANTAGES:**

1. Small volume of residuals requiring landfilling.
2. Enhanced participation in recycling.
3. Production of energy from an otherwise "wasted resource".
4. Enhanced opportunity for hazardous waste control.
- 5.
- 6.
- 7.
- 8.

### **DISADVANTAGES:**

1. Compliance with Michigan Air Quality Standards difficult/expensive to achieve.
2. An energy market must be located.
- 3 Existing financial commitment to the transfer station.
4. Construction and on-going operational costs of an incinerator are greater than construction and operation of a transfer station.
5. Waste volume generated in Houghton County are not sufficient for economic operation of an incinerator.
6. Toxicity of residue is high.
7. Community opposition due to public investment in current alternative.

## **PUBLIC PARTICIPATION**

## **PUBLIC PARTICIPATION**

## **AND APPROVAL**

The following summarizes the processes which were used in the development and local approval of the Plan including a summary of public participation in those processes, documentation of each of the required approval steps, and a description of the appointment of the solid waste management planning committee along with the members of that committee.

## **PUBLIC PARTICIPATION**

**PUBLIC INVOLVEMENT PROCESS:** A description of the process used, including dates of public meetings, copies of public notices, documentation of approval from the solid waste planning committee, County board of commissioners, and municipalities.

All meetings were held at the Houghton County Court House in Houghton:

Wednesday, October 7, 1998

Wednesday, March 15, 2000

Wednesday, August 2, 2000

Notices were placed at the court house as per the regular public meeting notice proposals.

## **PUBLIC PARTICIPATION**

### **PLANNING COMMITTEE APPOINTMENT PROCEDURE:**

At their regular monthly meeting on September 15, 1998, the County Board authorized the Chairman to make appointments to the Solid Waste Planning Committee.

The Chairman proceeded to appoint the members listed on the following page.

**AFFIDAVIT OF PUBLICATION**

In the matter of PUBLIC NOTICE HOUGHTON COUNTY SOLID WASTE

**STATE OF MICHIGAN**

**COUNTY OF HOUGHTON SS**

MARY JO STIMAC

**PUBLIC NOTICE**

The preliminary draft of the Houghton County Solid Waste Management Plan is available for inspection at the following locations: Houghton County Clerk's Office, 401 E. Houghton Avenue, Houghton; all Township, City and Village Clerk's offices and the Western U.P. Planning and Development Region, 326 Shelden Avenue, Houghton. Written comments may be submitted to: WUPPDR, P.O. Box 365, Houghton, MI 49931 through July 14, 2000.

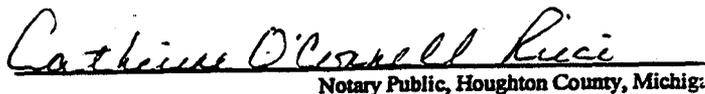
Being first duly sworn, says that he/she is the agent of the Publisher of The Daily Mining Gazette, a newspaper published in the English language for the dissemination of local or transmitted news and intelligence of a general character and legal news, which is a duly qualified newspaper and that annexed hereto is a copy of a certain order taken from said newspaper in which the order was published on the following dates:

APRIL 15, 2000

  
Agent of the Publisher of The Daily Mining Gazette

Subscribed and sworn before me this 18TH

Day of APRIL A.D., 2000

  
Notary Public, Houghton County, Michigan

CATHERINE O'CONNELL RICCI  
Notary Public, Houghton County, MI  
My Commission Expires Aug. 10, 2002

**AFFIDAVIT OF PUBLICATION**

In the matter of PUBLIC HEARING NOTICE

**STATE OF MICHIGAN**

**COUNTY OF HOUGHTON SS**

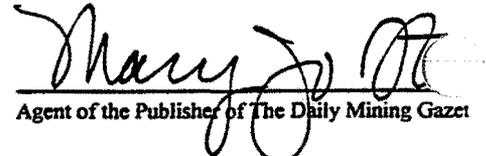
MARY JO STIMAC

**PUBLIC HEARING NOTICE**

The Houghton County Solid Waste Planning Committee will hold a public hearing on Tuesday, July 18, 2000 at the Houghton County Courthouse, Conference Room, beginning at 4:00 PM (EST). The purpose of the hearing is to receive public comment on the Houghton County Solid Waste Plan.

Being first duly sworn, says that he/she is the agent of the Publisher of The Daily Mining Gazette, a newspaper published in the English language for the dissemination of local or transmitted news and intelligence of a general character and legal news, which is a duly qualified newspaper and that annexed hereto is a copy of a certain order taken in said newspaper in which the order was published on the following dates:

JUNE 14, 2000

  
Agent of the Publisher of The Daily Mining Gazette

Subscribed and sworn before me this 8TH

Day of AUGUST A.D., 2000

  
Notary Public, Houghton County, Mich

**CATHERINE O'CONNELL RICCI**  
Notary Public, Houghton County, MI  
My Commission Expires Aug. 10, 2002

**PUBLIC PARTICIPATION**

**PLANNING COMMITTEE**

Committee member names and the company, group, or governmental entity represented from throughout the County are listed below.

Four representatives of the solid waste management industry:

1. Glenn Anderson, City of Hancock
2. Doug Dernberger, Peninsula Sanitation
3. Vacant
4. Mary Lancot, Torch Lake/Schoolcraft Townships

One representative from an industrial waste generator:

1. Vacant

Two representatives from environmental interest groups from organizations that are active within the County:

1. Pat Toczydlowski
2. Vacant

One representative from County government. All government representatives shall be elected officials or a designee of an elected official.

1. Gerald Perreault, County Board of Commissioners

One representative from township government:

1. Paul Lehto, Calumet Township Supervisor

One representative from city government:

1. Vacant

One representative from the regional solid waste planning agency:

1. Kim J. Stoker

Three representatives from the general public who reside within the County:

1. Don Workman
2. Robert Fricke
3. Ozzie Klein

**Regular Meeting (Continued)**  
**September 15, 1998**

Motion by Commissioner Perreault, supported by Commissioner Quinlan to approve the following specific agency appointments and alternates to the County 9-1-1 Advisory Board as presented in the letter from the County 9-1-1 Committee.

<u>AGENCY</u>	<u>REPRESENTATIVE</u>	<u>1st ALTERNATE</u>	<u>2nd ALTERNATE</u>
Portage Health Systems	Kirk Lufkin, M.D.	Fran Ricci	Bill Aldrich
Keweenaw Memorial MC	Theresa Pleshe, R.N.	Dale Plante, CRNA	Craig Plant, R.N.
Mercy Ambulance	Gerald Primeau	Patricia Primeau	Jeffery Primeau
Houghton Co. Sheriff Dept.	Brian McLean	Roy Britz	Charles Cadwell
Michigan State Police	Lt. Curtis Robertson	Lt. Mike Lloyd	Lt. Aaron Sweeny
Michigan Tech Univ.	Jon Ahola	Rodney Guilbault	Louis Ferdianelli
Hancock City	Brian Cadwell	Mike Beaudoin	Phil Verville
Houghton City	Ralph Raffaelli	Mike Croze	Rick Jurkanis

YES: Perreault, Quinlan, Boyce, Dwyer. 4

NO: None

ABSENT: Niemi

Commissioner Perreault reported on the Houghton County Solid Waste Planning Committee appointments as presented to the County Board for their review as follows:

**COMMITTEE STRUCTURE:**

**4 Members - SOLID WASTE INDUSTRY**

1. Glenn Anderson, City of Hancock
2. Doug Dernberger, Peninsula Sanitation
3. Don Bukema, Independent
4. Peggy Lanctot, Torch Lake/Schoolcraft Townships

**2 Members - ENVIRONMENTAL INTEREST GROUPS**

1. Pat Toczydlowski
2. Vacant

**3 Members - GENERAL PUBLIC**

1. Don Workman
2. Robert Fricke
3. Ozzie Klein

**1 Member - COUNTY**

1. Gerald Perreault

**1 Member - CITY**

1. Scott McGinnis

**1 Member - TOWNSHIPS**

1. Paul Lehto

**1 Member - REGIONAL PLANNING AGENCY**

1. Kim Stoker

Motion by Commissioner Perreault, supported by Commissioner Quinlan to approve the County Solid Waste Planning Committee appointments as presented.

YES: Perreault, Quinlan, Boyce, Dwyer. 4

NO: None

ABSENT: Niemi

The County Controller presented the Board with the bid tabulations for the proposed air conditioning system for the Circuit, District and Probate Courtrooms. Motion by Commissioner Perreault, supported by Commissioner Boyce to accept the low bid of Manderfield, Inc. in the amount of \$59,909.00 for the air conditioning system.

YES: Perreault, Boyce, Quinlan, Dwyer. 4

NO: None

ABSENT: Niemi

The Board discussed the need to schedule a budget work session meeting and a meeting to adopt the County's 1998-99 fiscal year budget. Motion by Commissioner Perreault, supported by Commissioner Quinlan that a budget work session meeting be set for Wednesday, September 23, 1998 at 4:30 P.M., and that the Public Hearing on the Proposed 1998-99 County Budget and the property tax millage rate proposed to be levied to support the proposed budget be advertised and set for Tuesday, September 29, 1998 at 5:00 P.M.

YES: Perreault, Quinlan, Boyce, Dwyer. 4

NO: None

ABSENT: Niemi

## ATTACHMENTS

### APPENDIX D

#### Plan Implementation Strategy

The following discusses how the County intends to implement the plan and provides documentation of acceptance of responsibilities from all entities that will be performing a role in the plan.

A letter will be obtained from \_\_\_\_\_ accepting responsibility for certain aspects of implementation outlined in this document.

## ATTACHMENTS

### Resolutions

The following are resolutions from County Board of Commissioners approving municipality's request to be included in an adjacent County's Plan.

**ATTACHMENTS**

**Listed Capacity**

Documentation from landfills that the County has access to their listed capacity.

See Pages D-3a-b.



1229 W. Washington St.  
Marquette, MI 49855  
Tel: 906-228-4000  
Fax: 906-228-4051

**WASTE MANAGEMEN**

August 6, 1999

Mr. Kim J. Stoker  
Planning Director  
Western Upper Peninsula Planning & Development Regional Commission  
P.O. Box 365  
Houghton, MI 49931

RE: K&W Landfill  
Capacity Certification

Dear Mr. Stoker:

This letter serves to certify that the K&W Landfill has sufficient disposal capacity based on current volumes to accept all the waste generated in Houghton and Keweenaw Counties for a minimum 10 year period.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Robert Pliska'. The signature is written in a cursive, flowing style.

Robert Pliska, P.E.  
Regional Engineer

WOOD ISLAND  
Sanitary Landfill

Corporate Office  
P.O. Box 2002  
Kingsford, MI 49802  
906-774-9006



Landfill Office  
M-28 East, P.O. Box 165  
Wetmore, MI 49894  
906-387-2646

August 11, 1999

Mr. Kim J. Stoker, Planning Director  
WUPPDR  
P.O. Box 365  
Houghton, MI 49931

Dear Kim:

Wood Island Landfill has at least **10 years of capacity** available for disposal of waste generated within Houghton County. This will guarantee that the approximate 8,000 tons of waste generated at the Houghton county transfer station can be disposed of at our Wood Island facility.

Should you have any questions, please feel free to give me a call.

Sincerely,

A handwritten signature in cursive script, appearing to read "Terrance J. Barnes".

Terrance J. Barnes  
Vice President

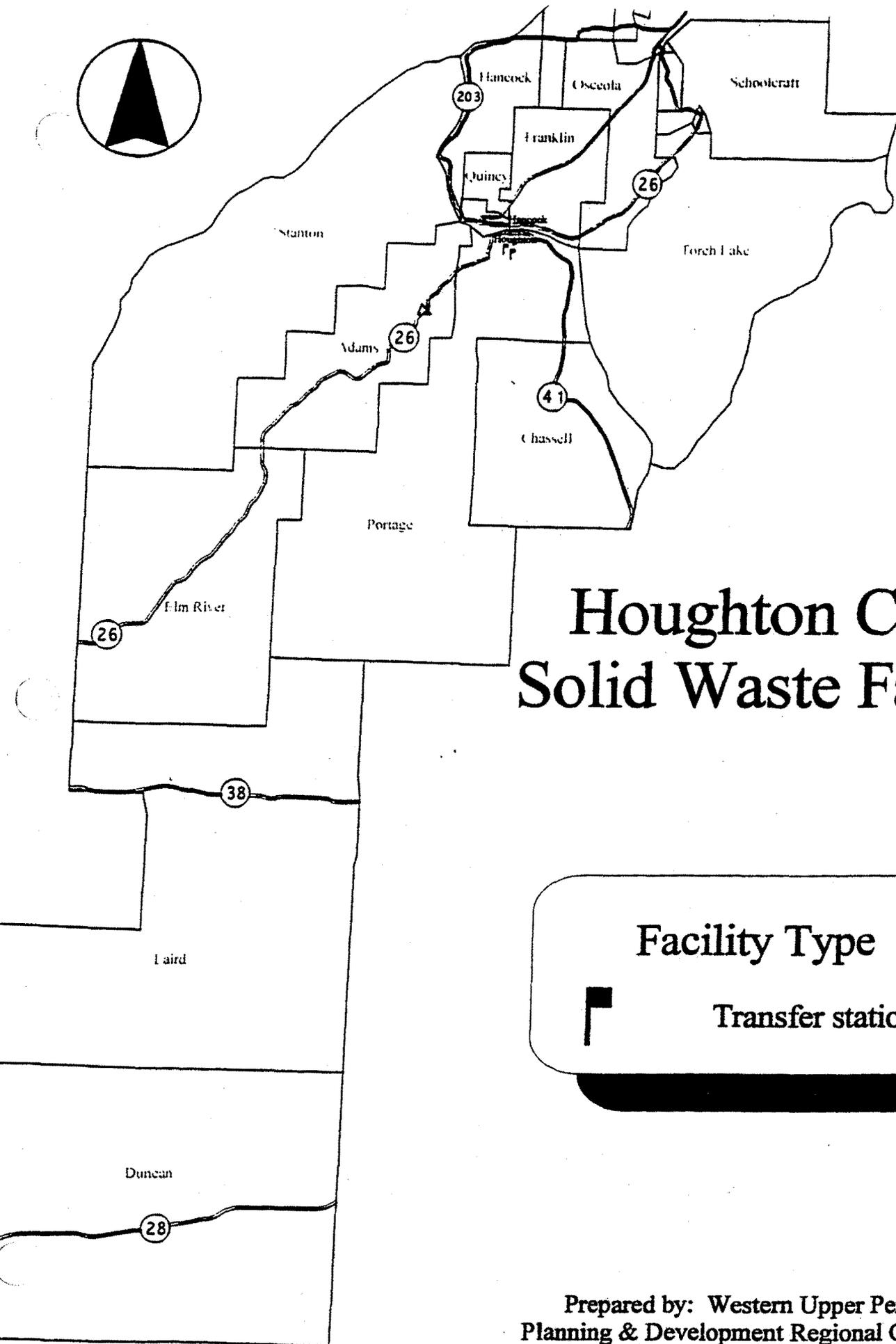
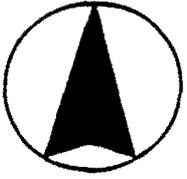
*"Committed To Our Upper Peninsula Environment"*

## **ATTACHMENTS**

### **Maps**

**Maps showing locations of solid waste disposal facilities used by the County:**

**See Page D-4a**



# Houghton County Solid Waste Facilities

## Facility Type



Transfer stations

Prepared by: Western Upper Peninsula  
Planning & Development Regional Commission

**ATTACHMENTS**

**Inter-County Agreements**

Copies of Inter-County agreements with other Counties (if any).

N/A

**ATTACHMENTS**

**Special Conditions**

Special conditions affecting import or export of solid waste.



1229 W. Washington St.  
Marquette, MI 49855  
Tel: 906-228-4000  
Fax: 906-228-4051

**WASTE MANAGEMENT ASSOCIATES**

March 29, 1999

Mr. Kim J. Stoker  
Planning Director  
Western Upper Peninsula Planning & Development Regional Commission  
P.O. Box 365  
Houghton, MI 49931

RE: K&W Landfill  
Capacity Certification

Dear Mr. Stoker:

This letter serves to certify that the K&W Landfill has sufficient disposal capacity based on current volumes to accept waste generated in Houghton County for a minimum 10 year period.

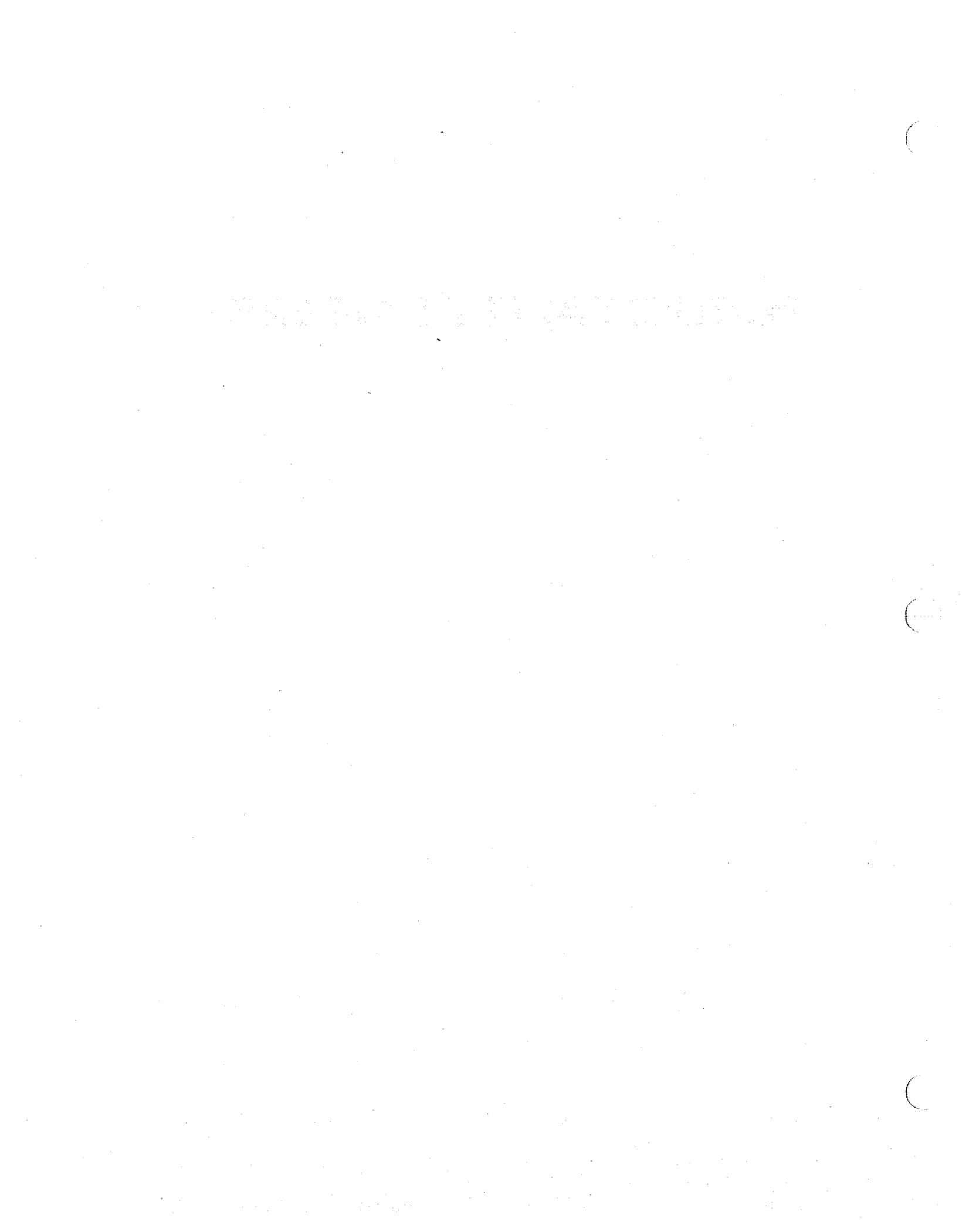
Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Robert Pliska'. The signature is written in a cursive, flowing style.

Robert Pliska, P.E.  
Regional Engineer

# **MUNICIPALITY LETTERS**



TORCH LAKE TOWNSHIP  
P.O. BOX 429  
HUBBELL, MI 49934

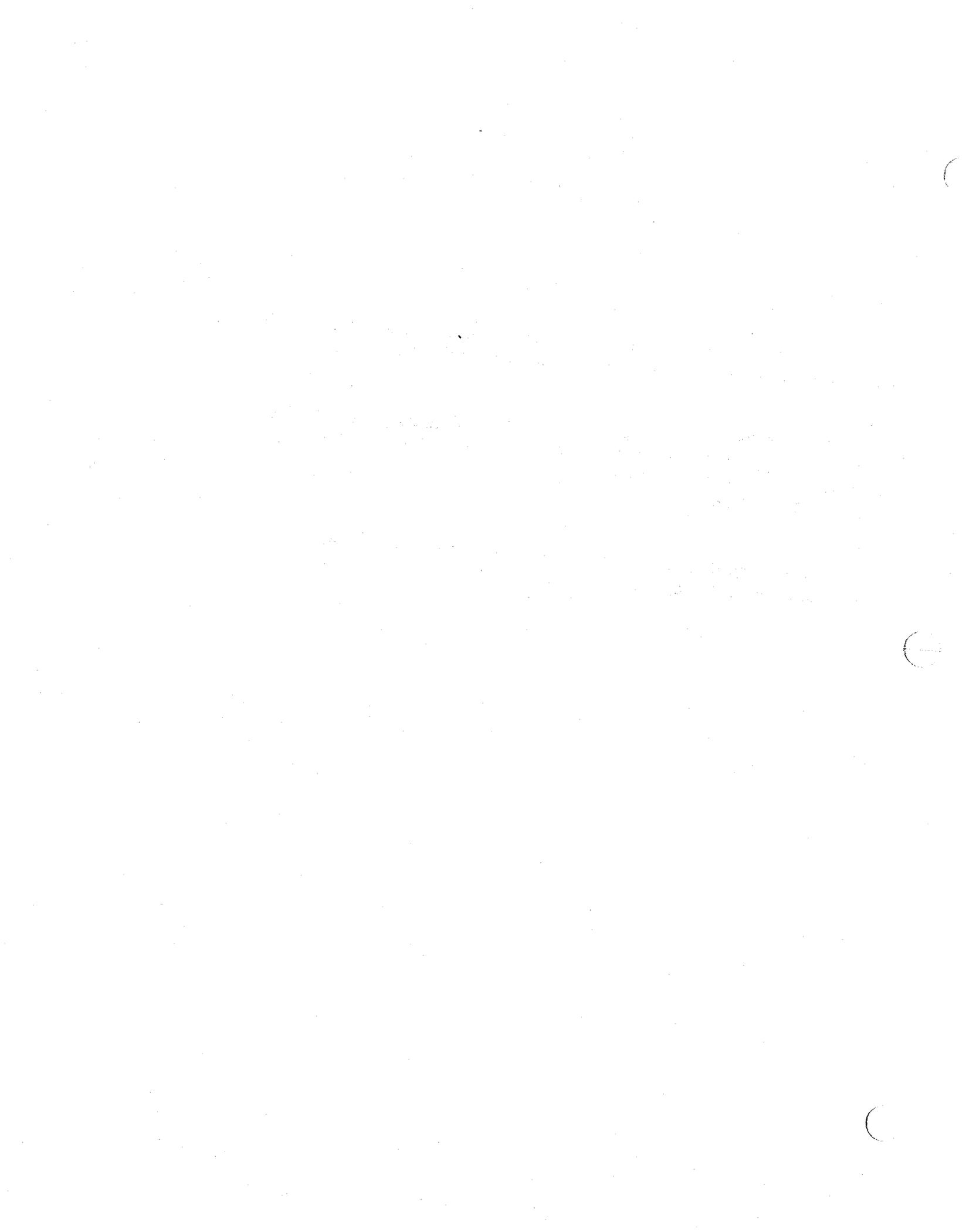
At its regularly scheduled meeting which was held September 13, 2000, the Torch Lake Township Board approved the Houghton County Solid Waste Plan.

A motion by MUG FORD was seconded by M. PERREAULT to approve the Houghton County Solid Waste Plan. The motion passed with Rheault, Lanctot, M. Perreault, and Mugford voting aye.

A. Perreault absent.

I hereby certify this to be a true copy of a resolution passed by the Torch Lake Township Board on September 13, 2000.

Mary M. Lanctot  
Clerk





1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data. The records should be organized chronologically and categorized by type of transaction to facilitate analysis.

2. The second part of the document outlines the procedures for handling discrepancies. It states that any variance between the recorded amounts and the actual amounts should be investigated immediately. The cause of the discrepancy should be identified, and appropriate corrective actions should be taken to prevent future occurrences. This process is crucial for maintaining the integrity of the financial data.

3. The third part of the document provides guidelines for the storage and security of the records. It recommends that all records be stored in a secure, fireproof location. Regular backups should be performed to ensure that the data is not lost in the event of a disaster. Access to the records should be restricted to authorized personnel only to prevent unauthorized modifications or deletions.

4. The fourth part of the document discusses the periodic review of the records. It suggests that the records should be reviewed at least once a year to ensure that they are up-to-date and accurate. This review should include a comparison of the recorded amounts with the actual amounts and a check for any missing or duplicate entries. The results of the review should be documented and used to improve the record-keeping process.

5. The fifth part of the document provides a detailed explanation of the accounting cycle. It describes the ten steps involved in the cycle, from identifying the accounting entity to preparing financial statements. Each step is explained in detail, and examples are provided to illustrate the process. This section is essential for understanding the overall flow of the accounting process and how the records are used to generate financial statements.

6. The sixth part of the document discusses the role of the accounting department in the organization. It highlights the department's responsibility for providing accurate and timely financial information to management. This information is used for decision-making and strategic planning. The accounting department also plays a key role in ensuring compliance with applicable laws and regulations.

7. The seventh part of the document provides a summary of the key points discussed in the document. It reiterates the importance of accurate record-keeping, the procedures for handling discrepancies, the guidelines for storage and security, the periodic review of records, the accounting cycle, and the role of the accounting department. This summary serves as a quick reference for the reader.

8. The eighth part of the document includes a list of references and sources used in the document. This list provides information about the books, articles, and other resources that were consulted during the research process. It is intended to provide the reader with additional information on the topics discussed in the document.

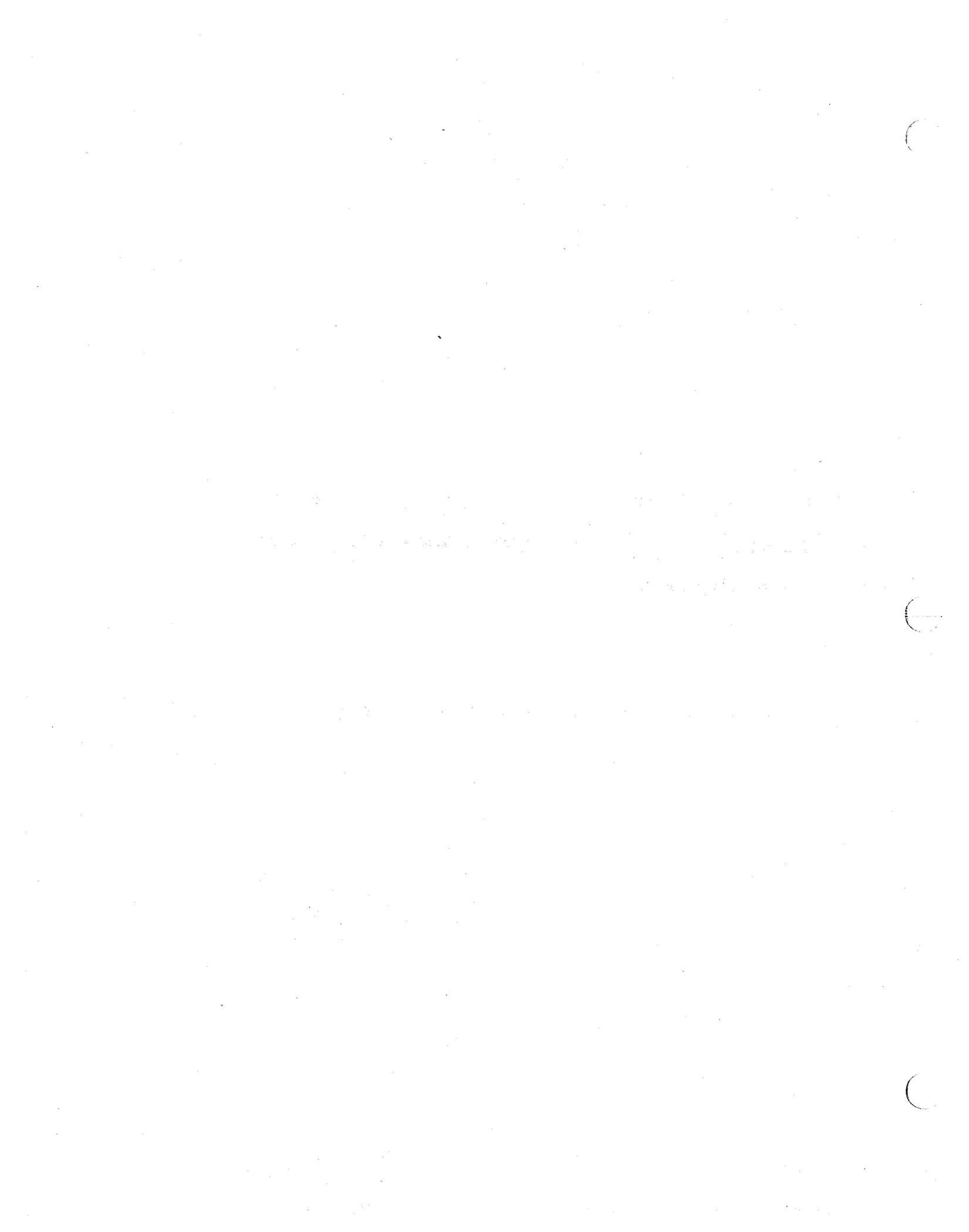
ADAMS TOWNSHIP PUBLIC WORKS  
PO Box 520  
South Range, MI 49963  
(906) 482-4420  
Fax: (906) 482-1073

At its regular scheduled meeting on 9-11-, 2000, the  
Adams Township Board approved (or disapproved) the Houghton  
County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the

Adams Township Board on 9-11-00.

Peter A. Bailey  
Peter S. Bailey Clerk





# CHARTER TOWNSHIP OF CALUMET

HOUGHTON COUNTY

106 RED JACKET ROAD • CALUMET, MICHIGAN 49913  
906-337-2410

At a regular meeting of the Board of Trustees of the Charter Township of Calumet, Houghton County, Michigan, held in the Calumet Township Office on the 25<sup>th</sup> day of August, 2000 at 1:00 p.m. on a motion made by Trustee Tikkanen and supported by Treasurer Aubin the Calumet Township Board approved the Houghton County Solid Waste Plan.

Voice Vote Held:

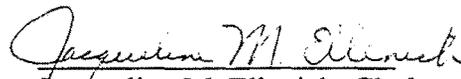
Ayes: Paul Winquist, Mary Jo Crawford, Debra Aubin, Tom Tikkanen,  
Jacqueline Ellenich

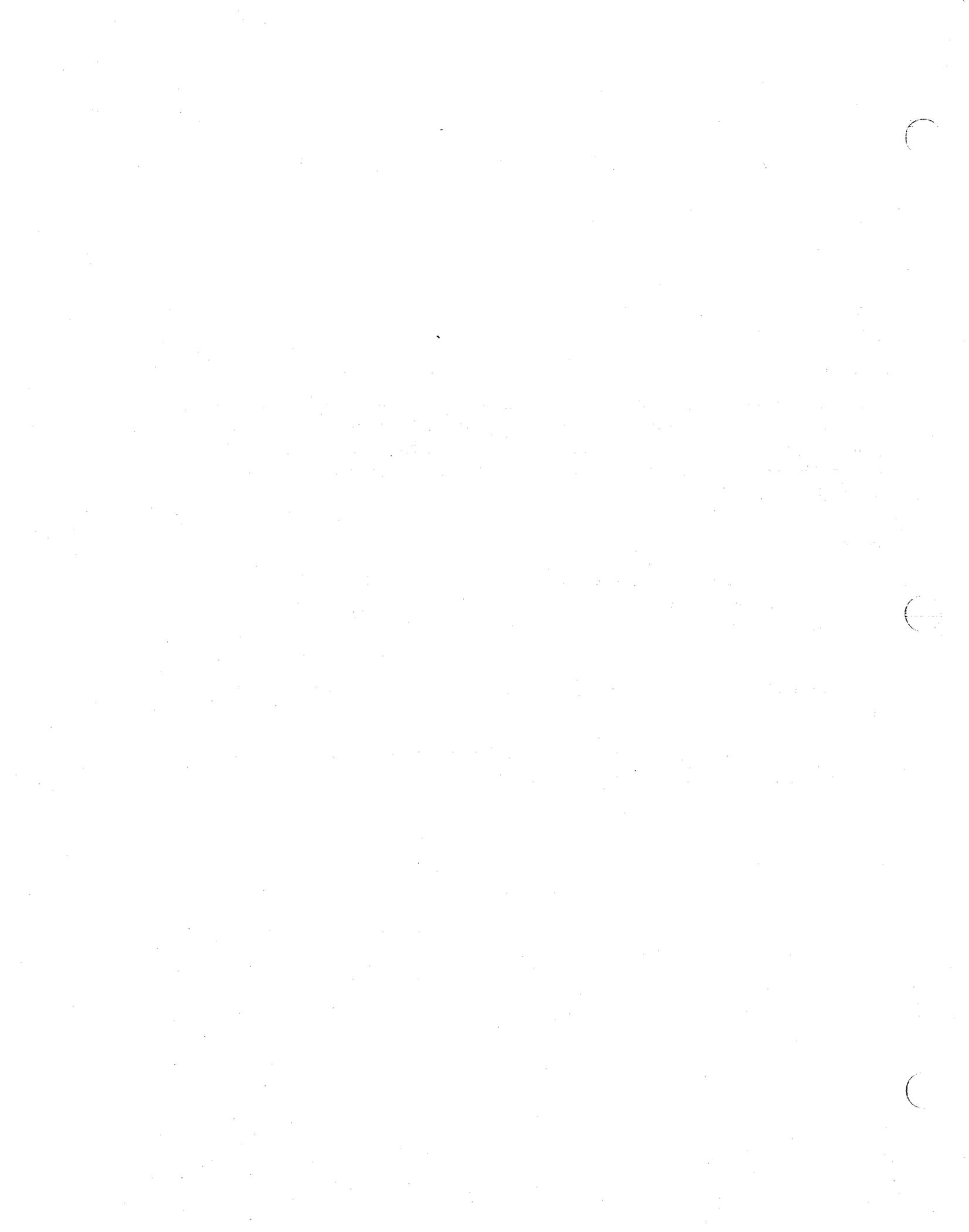
Nayes: None

Absent: Paul Lehto, David Yeo

**THE HOUGHTON COUNTY SOLID WASTE PLAN** declared approved this 25<sup>th</sup> day of August, 2000.

I hereby certify this to be a true copy of a resolution passed by the Calumet Township Board of Trustees on the 25<sup>th</sup> day of August, 2000.

  
Jacqueline M. Ellenich, Clerk





**OFFICERS**

JOYCE M. BAUSANO, PRESIDENT  
DEBRA AUBIN, TREASURER  
JOYCE M. BAUSANO, CLERK  
JAMES TERCHA, ATTORNEY

**TRUSTEES**

ROBERT ANDERSON  
SHARON KIPFER  
GENE LAROCHELLE  
JOSEPH MIHAL  
  
ABE VOELKER

CALUMET, MICHIGAN 49913  
PHONE (906) 337-1713  
SUSAN C. CONE, COMPTROLLER

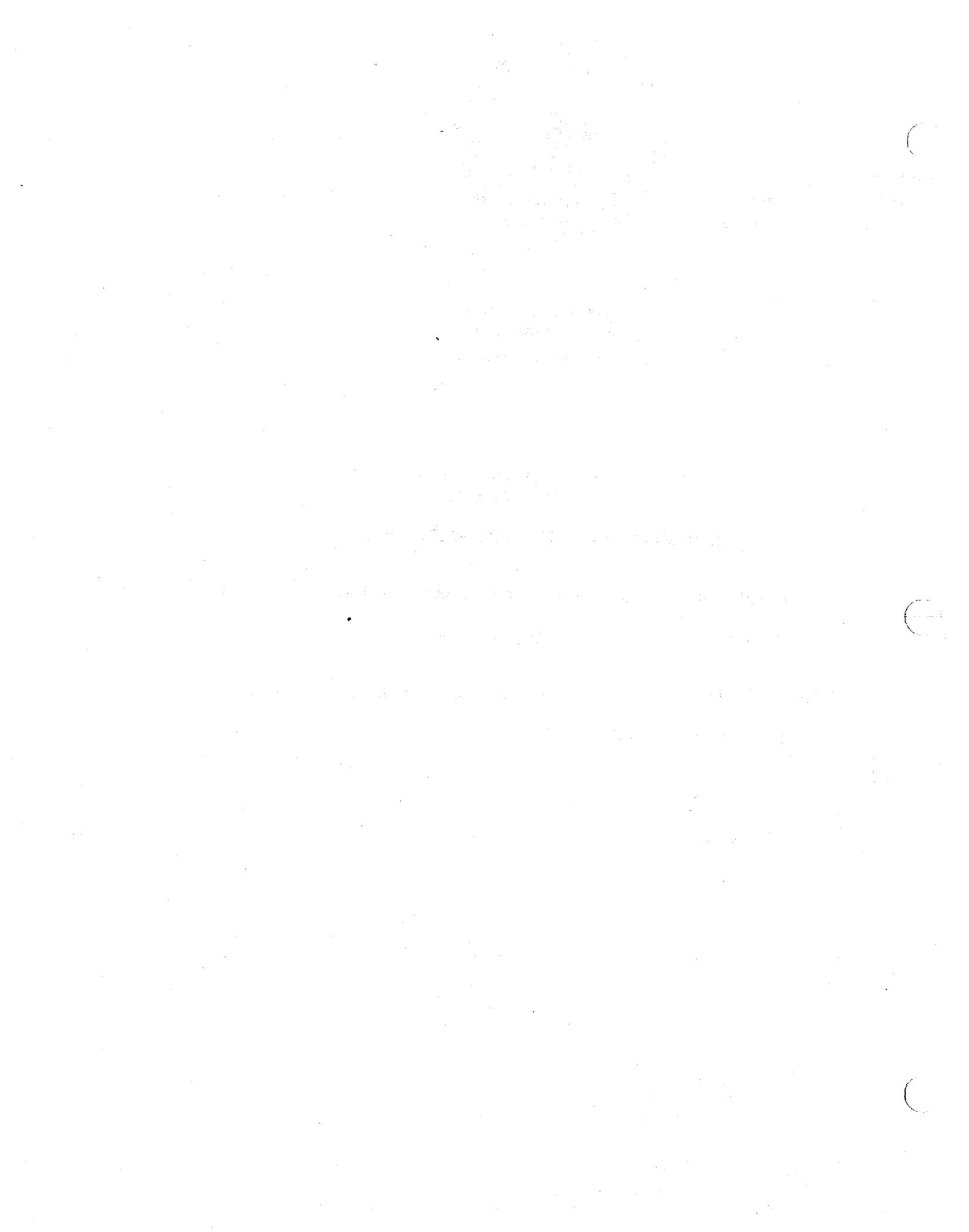
**RESOLUTION  
VILLAGE OF CALUMET**

**HOUGHTON COUNTY SOLID WASTE PLAN**

At its regularly scheduled meeting on September 19, 2000, the Calumet Village Council approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Calumet Village Council on September 19, 2000.

  
\_\_\_\_\_  
Joyce Bausano, Clerk



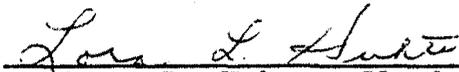
# CHASSELL TOWNSHIP BOARD

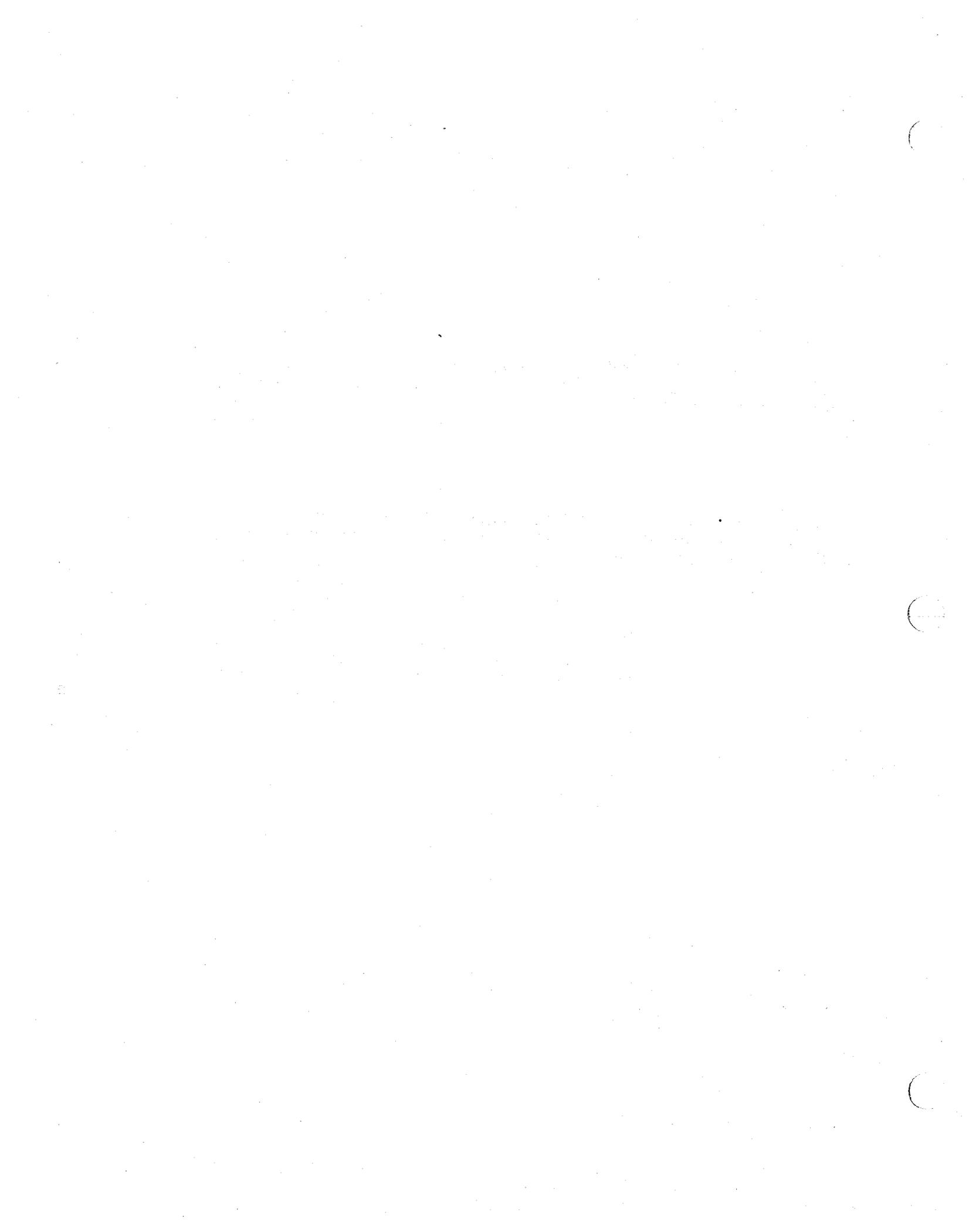
BOX 438 7th STREET (906)523-4000

CHASSELL, MICHIGAN 49916

At its regularly scheduled meeting on September 13, 2000, the Chassell Township Board approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Chassell Township Board on September 13, 2000.

  
\_\_\_\_\_  
Lora L. Huhta, Clerk



ELM RIVER TOWNSHIP  
32840 M-26  
Toivola, MI 49965  
906-288-3721

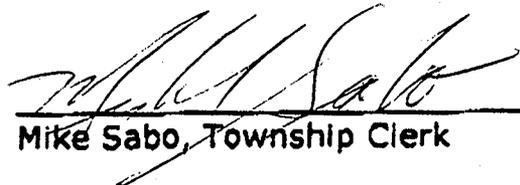
October 18, 2000

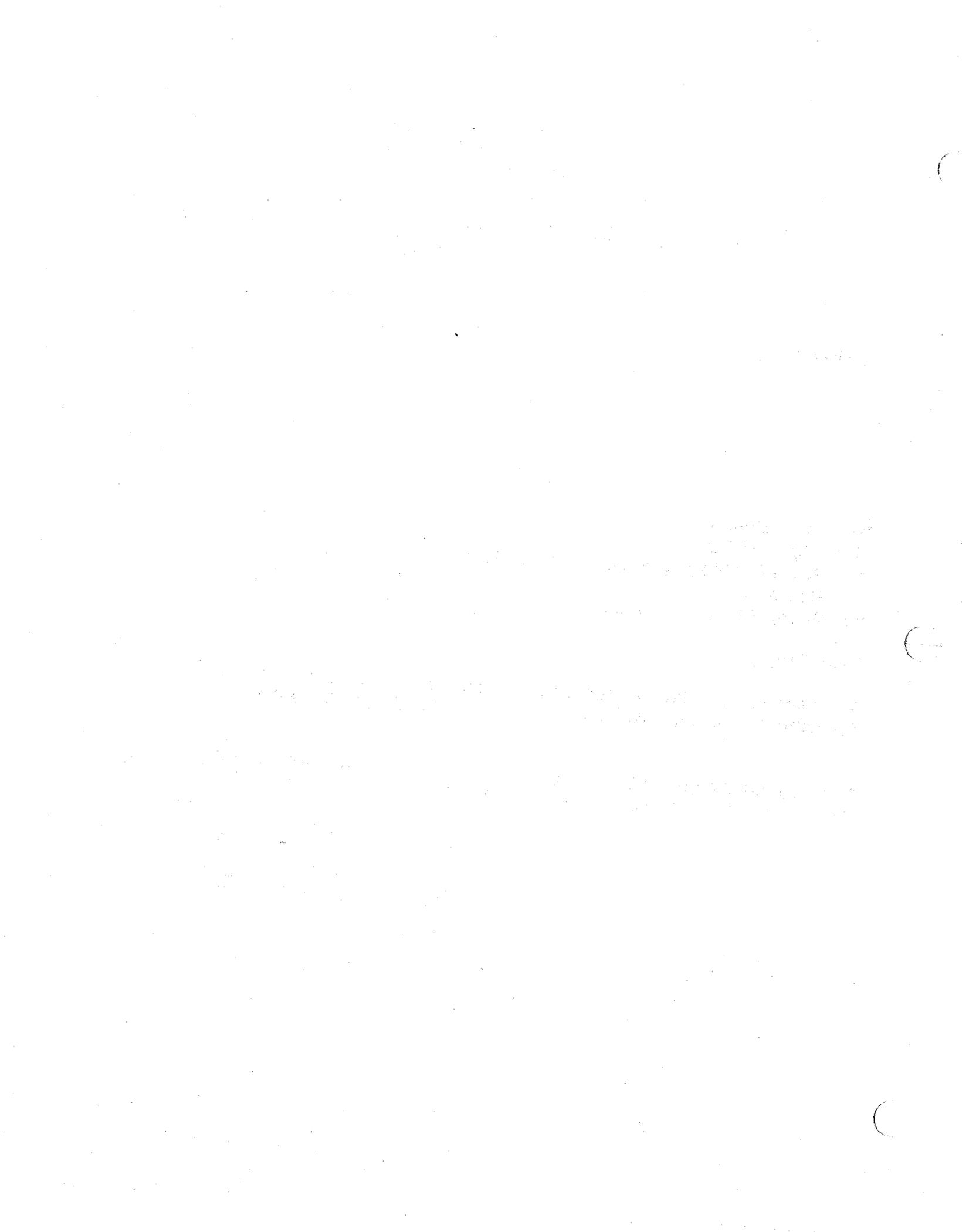
Mr. Kim J. Stoker  
Planning Director  
Western U.P. Planning & Development Region  
P.O. Box 365  
Houghton, MI 49931-0365

Dear Kim,

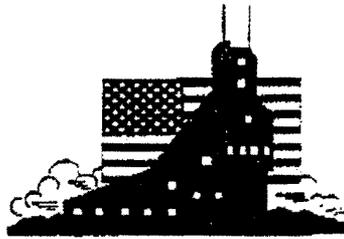
At its regularly scheduled meeting on October 12, 2000, the Elm River Township Board approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Elm River Township Board on October 12, 2000.

  
Mike Sabo, Township Clerk



William Forsman, *Supervisor*  
Cheri Raasio, *Clerk*  
Cindy Simonson, *Treasurer*

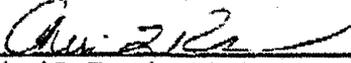


**Franklin Township**  
HANCOCK, MICHIGAN

Glenn Ekdahl, *Treasurer*  
John Laitinen, *Treasurer*

At its regularly scheduled meeting on September 11, 2000, the Franklin Township Board approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Franklin Township Board on September 11, 2000.

  
Cheri L. Raasio, Clerk

FAX TRANSMITTAL MEMO

TO: <u>WUPP DEC</u>	NUMBER OF PAGES: <u>3</u>
DEPT: _____	FAX #: <u>482-9032</u>
FROM: <u>Cheri Raasio</u>	NOTE: _____
PHONE #: <u>906 482-8272</u>	FAX #: _____

FORM 0004 (REV)



## RESOLUTION

At a regular monthly meeting of the Franklin Township Board held at the Boston Fire Hall, Franklin Township, Houghton County, Michigan, held on the 11<sup>th</sup> day of September, 2000.

**PRESENT:** William Forsman, Glenn Ekdahl, John Laitinen, Cindy Simonson

**ABSENT:** Cheri Raasio

**WHEREAS,** the Western Upper Peninsula Planning & Development Regional Commission has submitted the HOUGHTON COUNTY SOLID WASTE MANAGEMENT PLAN for review and subsequent action to the Franklin Township Board

**WHEREAS,** the Township of Franklin has received and reviewed the SOLID WASTE MANAGEMENT PLAN

**WHEREAS,** the Franklin Township Board has considered and approved the HOUGHTON COUNTY SOLID WASTE MANAGEMENT PLAN dated August 2000.

The foregoing resolution offered by Board Member Cindy Simonson and supported by Board Member Glenn Ekdahl.

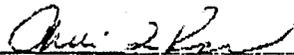
Upon roll call vote, the following voted:

**AYE:** William Forsman, Cindy Simonson, Glenn Ekdahl, John Laitinen,

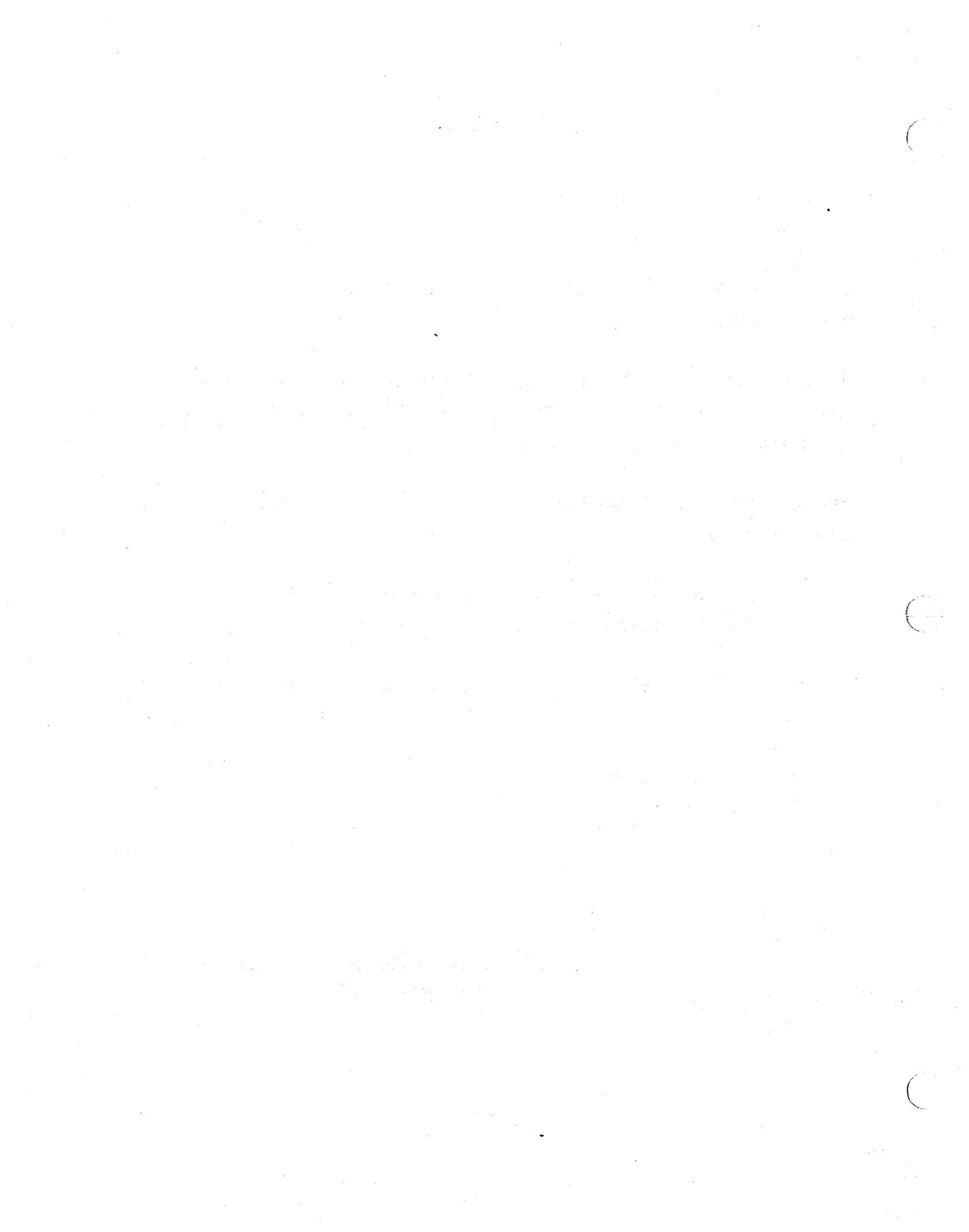
**NAY:** None.

**ABSENT:** Cheri Raasio

The Supervisor declared the Resolution adopted:



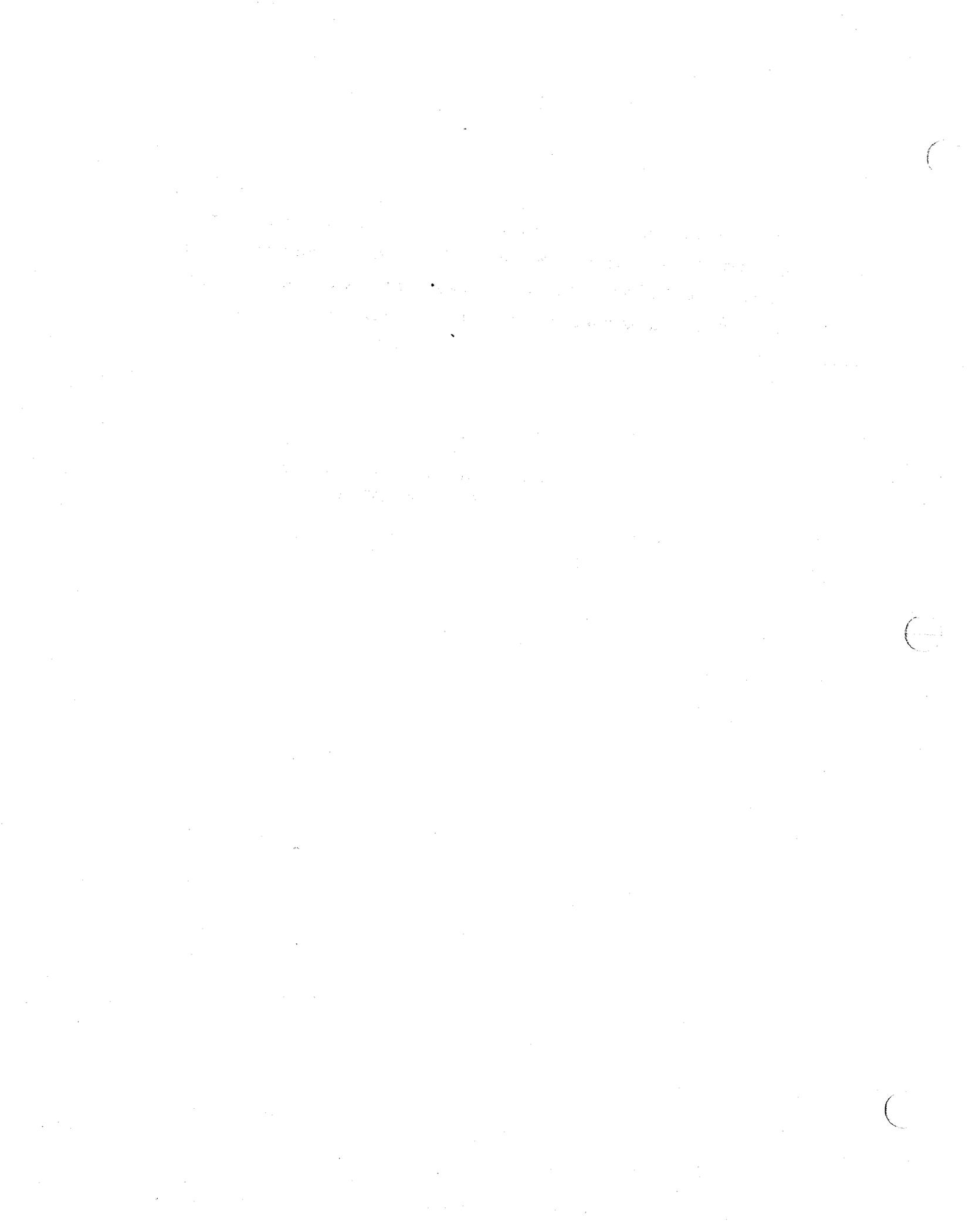
Cheri L. Raasio, CLERK



**CERTIFICATE**

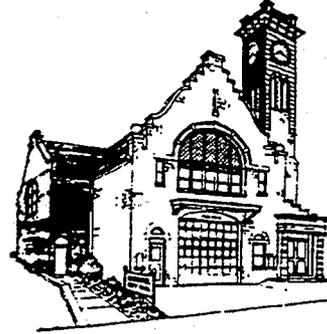
I, Cheri L. Raasio, the duly elected and acting Clerk of Franklin Township, hereby clarify that the foregoing resolution was adopted by the Township Board of said Township at the regular meeting of said Board held on September 11, 2000, at which meeting a quorum was present by a roll call vote of said Board as hereinbefore set forth; that said Resolution was ordered to take immediate effect.

  
\_\_\_\_\_  
CHERI L. RAASIO, CLERK



**RESOLUTION # 10-00**

**COUNTY SOLID WASTE PLAN**

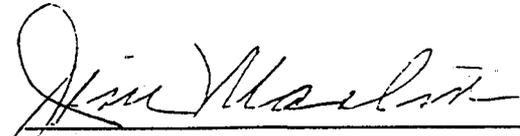


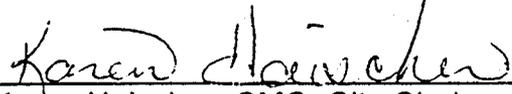
At its regularly scheduled meeting on September 6, 2000, the Hancock City Council approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Hancock City Council on September 6, 2000.

  
\_\_\_\_\_  
Karen Haischer, CMC City Clerk

SEAL

  
\_\_\_\_\_  
Jim Martin, Mayor

  
\_\_\_\_\_  
Karen Haischer, CMC City Clerk





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## HANCOCK TOWNSHIP

Route 1, Box  
Hancock, Michigan 49930

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**SUPERVISOR**  
Paul A. Kemppainen  
**TREASURER**  
Kenneth R. Moyle  
**CLERK**  
Richard E. Hauswirth  
**TRUSTEES**  
Paul E. Moilanen  
Ronald P. Racine

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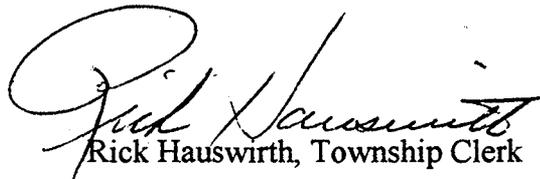
October 11, 2000

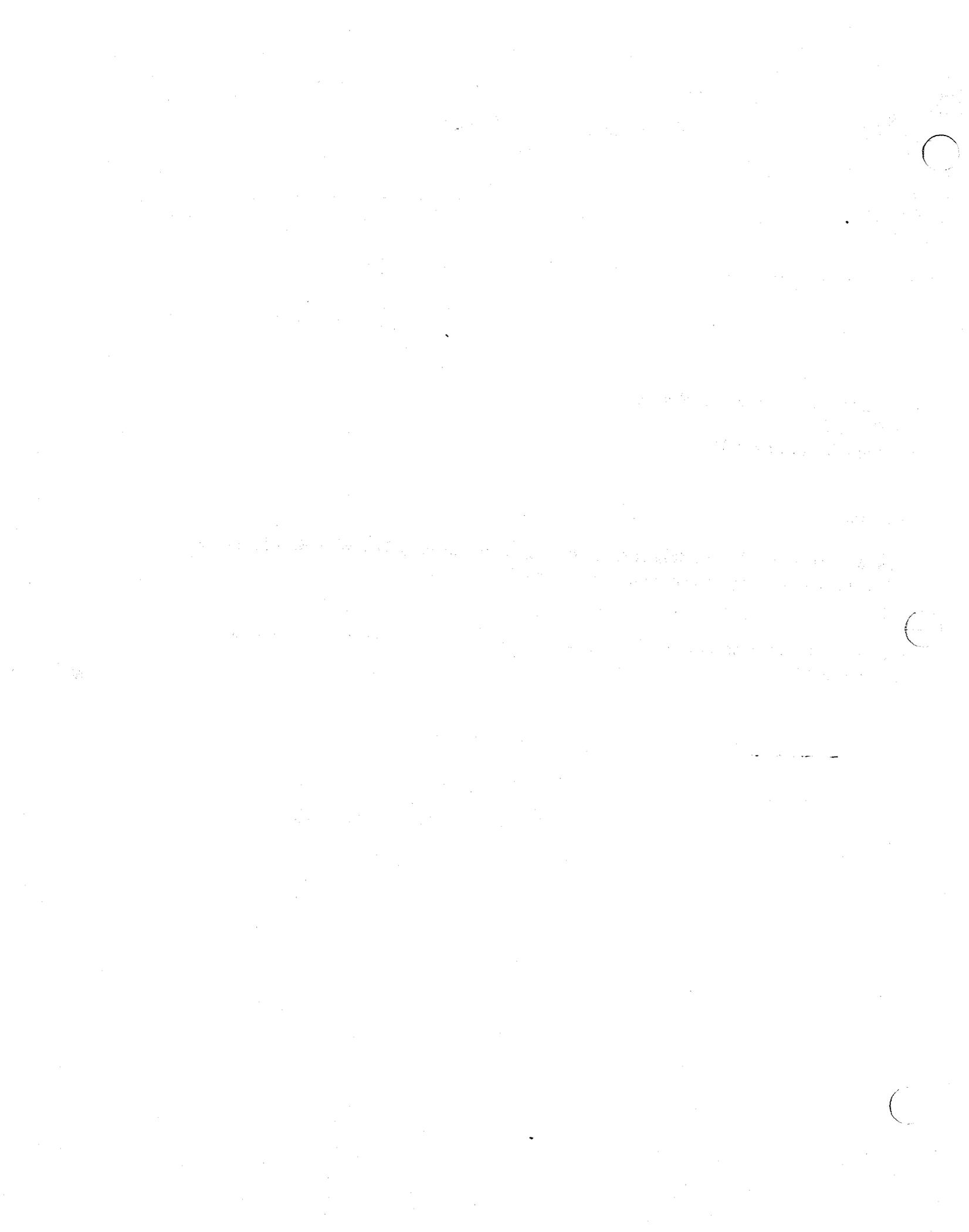
Western U.P. Planning & Development  
P.O. Box 365  
Houghton, Michigan 49931

Dear Kim,

At its regularly scheduled meeting on October 9, 2000 the Hancock Township Board approved the Houghton County Solid Waste Plan, as presented.

I hereby certify this to be a true copy of a resolution passed by the Hancock Township Board on October 9, 2000.

  
Rick Hauswirth, Township Clerk





# CITY OF HOUGHTON

COMMUNITY OF EXCELLENCE

City Centre

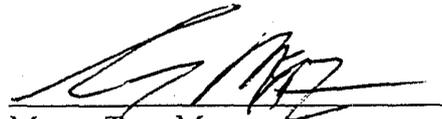
616 Shelden Avenue • P.O. Box 606

Houghton, Michigan 49931

(906) 482-1700

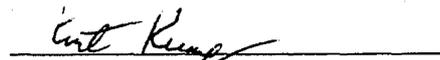
## CITY OF HOUGHTON RESOLUTION #2000-963

At its regularly scheduled meeting on September 13, 2000, the Houghton City Council approved the Houghton County Solid Waste Plan.



\_\_\_\_\_  
Mayor Tom Merz

I hereby certify this to be a true copy of a resolution passed by the Houghton City Council on September 13, 2000.



\_\_\_\_\_  
Kurt Kuure, City Clerk



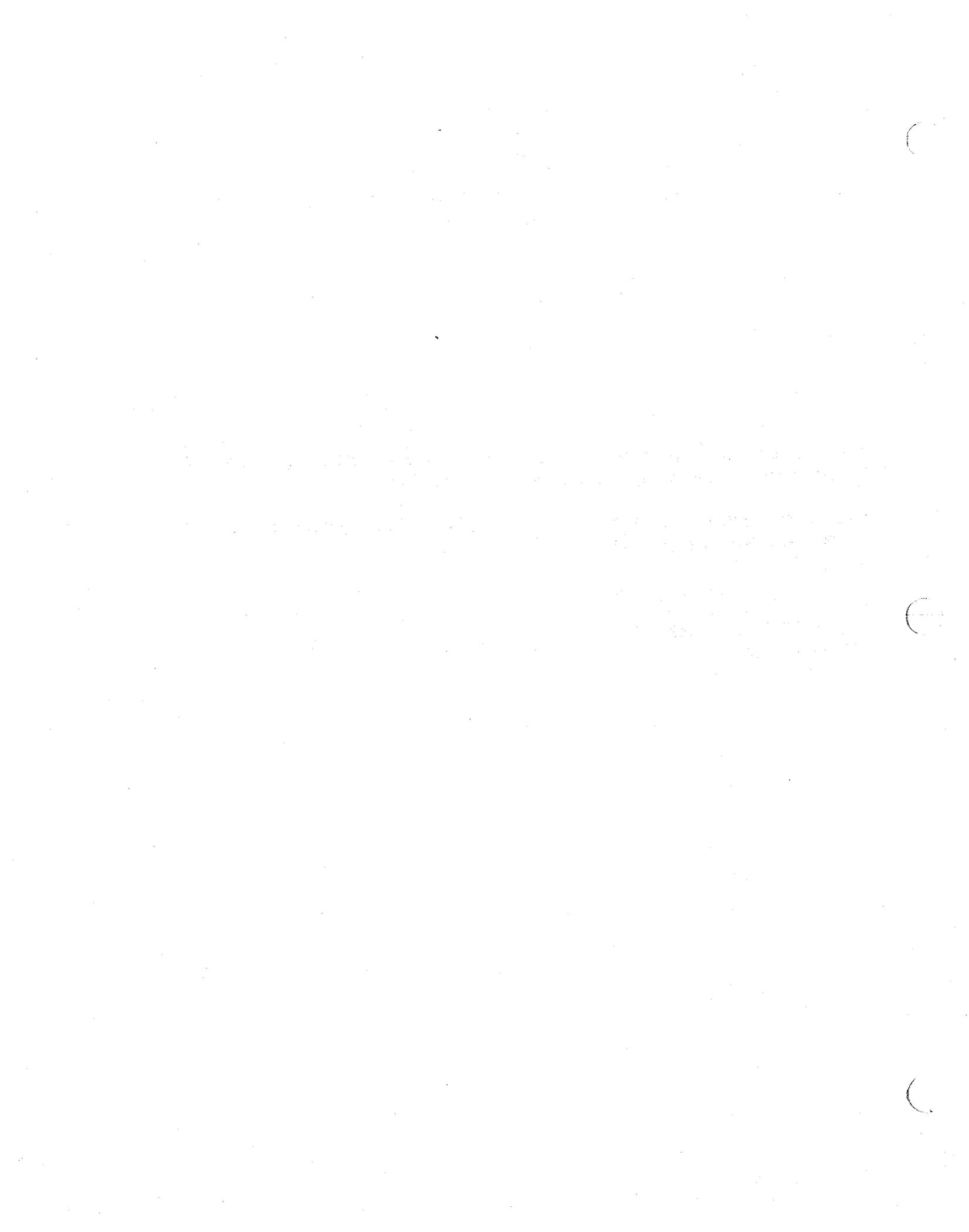
Village of Laurium  
310 Hecla Street  
PO Box 627  
Laurium, Michigan 49913-0627  
Phone (906)337-1600 Fax (906)337-4461  
[www.lauriumvillage.bresnanlink.net](http://www.lauriumvillage.bresnanlink.net)

## RESOLUTION

At its regularly scheduled meeting on September 19, 2000, the Village of Laurium Council approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Village of Laurium Council on September 19, 2000.

  
Patricia M. Golus, Clerk  
Village of Laurium



H

DAVID WIITANEN SUPERVISOR  
MARY ANN WILMER, CLERK



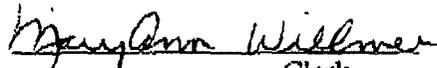
DONNA ENGMAN, TREASURER  
JAMES LAPLANDER, TRUSTEE  
JAMES ROBERTS, TRUSTEE

Box 437 132 Main Street  
Dollar Bay, MI 49922  
Phone (906) 482-8578 FAX (906) 482-8596

### HOUGHTON COUNTY SOLID WASTE RESOLUTION

At its regularly scheduled meeting on September 14, 2000, the Osceola Township Board approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the Osceola Township Board on September 14, 2000.

  
Clerk

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## VILLAGE OF SOUTH RANGE

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45 Trimountain Avenue • PO Box 129 • South Range, MI 49963-0129 • (906) 482-8833 • FAX (906) 482-5190

October 6, 2000

WUPPDR

Mr. Kim Stoker

PO Box 365

Houghton, MI 49931-0365

Re: Solid Waste Plan

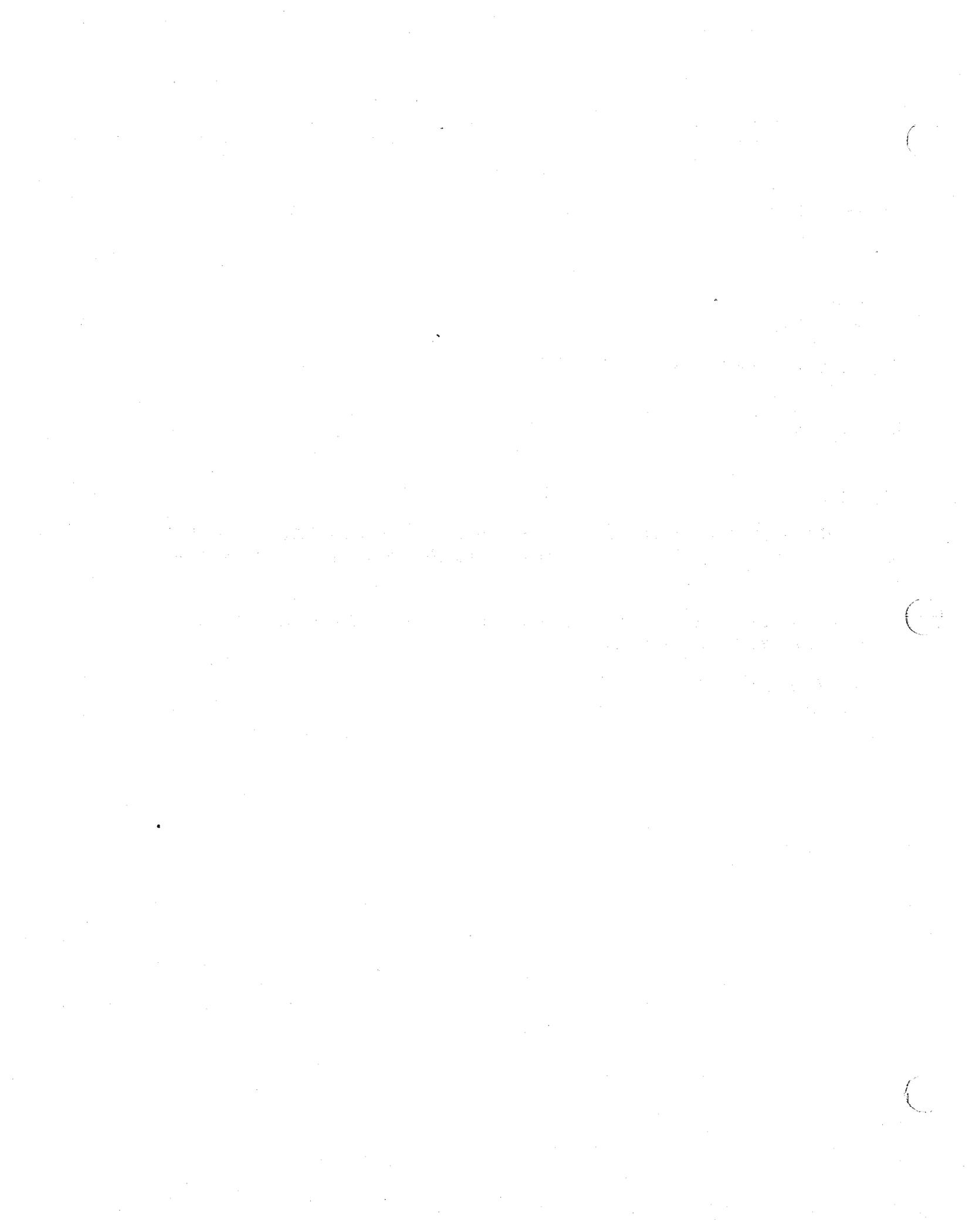
Dear Kim:

At the regular scheduled meeting of the Common Council of the Village of South Range, held on Thursday, October 5, 2000 approved the Houghton County Solid Waste Plan.

I hereby certify this to be a true copy of a resolution passed by the South Range Village Council on Thursday, October 5, 2000.



John Pastore,  
Deputy Clerk

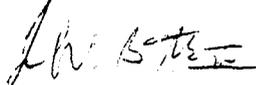


# STANTON TOWNSHIP BOARD

John Botto, Township Clerk  
Route 1, Box 870  
Houghton, MI 49931  
(906) 482-8358

At its regularly scheduled meeting on September 6, 2000, the STANTON Township Board approved the HOUGHTON COUNTY SOLID WASTE PLAN as submitted.

I hereby certufy this to be a true copy of a Resolution passed by the STANTON TOWNSHIP BOARD on September 6, 2000.

JOHN BOTTO,   
STANTON Twp Clerk



# CHARTER TOWNSHIP OF PORTAGE

Houghton, Michigan

*"Progress our Goal"*

**OFFICERS:**

**C. Becia, Supervisor**  
**Virginia Bingham, Clerk**  
**Gail Raffaelli, Treasurer**

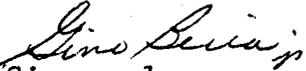
47240 Green Acres Road  
Houghton, Michigan 49931  
(906) 482-4310 • Fax: 482-4942  
TDD: (800) 649-3777

November 14, 2000

Kim J. Stoker  
WUPPDR  
P.O. Box 365  
Houghton, MI 49931

Kim:

At the Charter Township of Portage November 13, 2000 regular township meeting, the board went on record approving the Houghton County Solid Waste Plan.



Sincerely,  
Gino Becia, Supervisor  
Charter Township of Portage



# Village of Lake Linden

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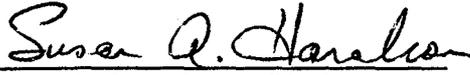
3 M. Aittama, President  
Susan A. Haralson, Clerk  
Cheryl J. Stevens, Treasurer

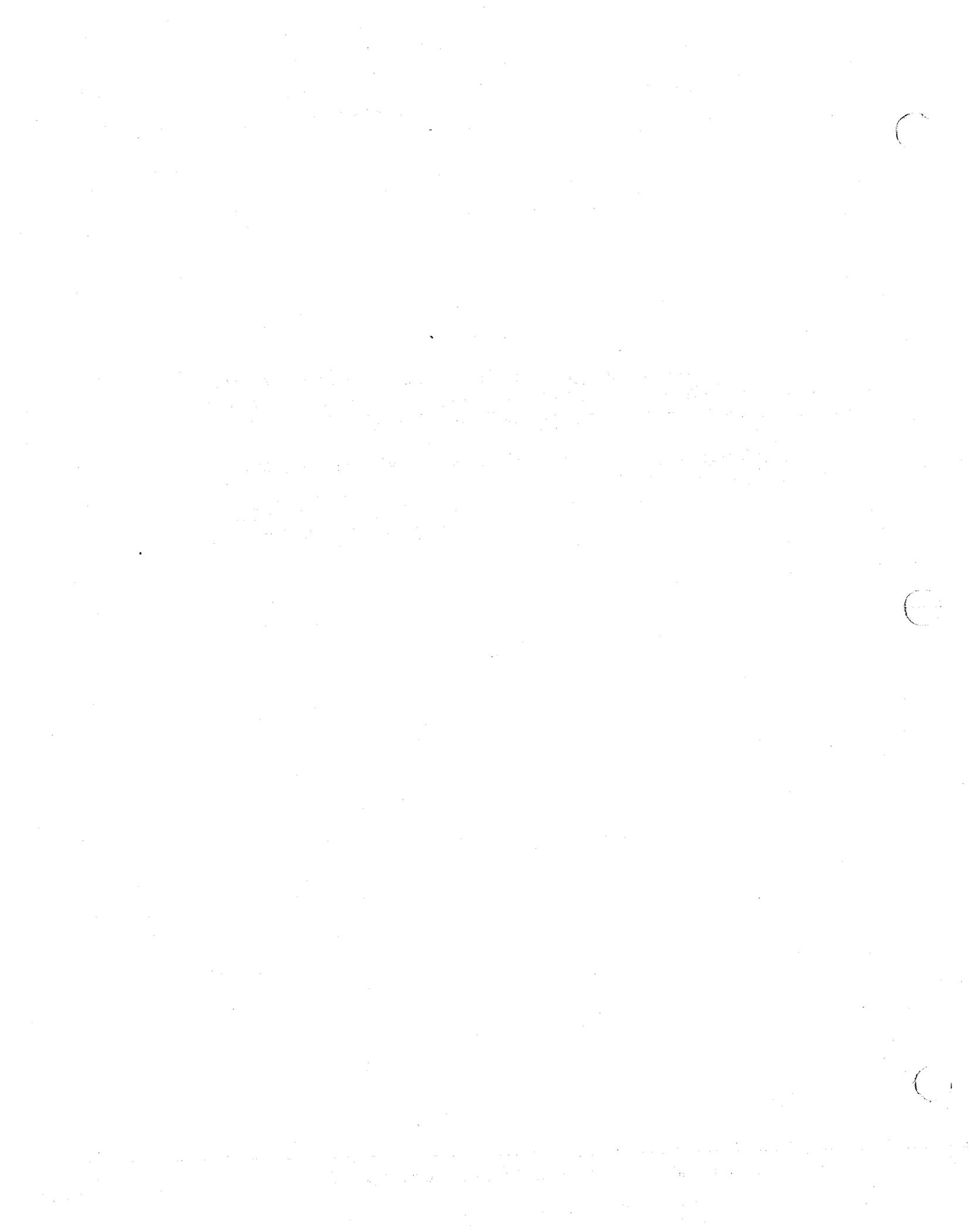
Phone: (906) 296-9911  
Fax: (906) 296-1044  
E-mail: vll@up.net

## RESOLUTION

At it's regularly scheduled meeting held on Nov. 9, 2000, the Village of Lake Linden Council approved the Houghton County Solid Waste Plan on a motion made by Trustee Fisher and supported by Trustee Pummill. All in favor

I hereby certify this to be a true copy of a resolution passed by the Village of Lake Linden on Nov. 9, 2000.

  
Susan A. Haralson, Clerk



**HOUGHTON COUNTY  
SOLID WASTE MANAGEMENT PLAN**

Wednesday, August 2, 2000

Houghton County Courthouse  
Conference Room, Houghton  
4:00 PM

**Members Present:**

Gerald Perreault, County Government  
Glenn Anderson, Solid Waste Industry  
Doug Dernberger, Solid Waste Industry  
Peggy Lanctot, Solid Waste Industry  
Don Workman, General Public  
Robert Fricke, General Public  
Ozzie Klein, General Public  
Paul Lehto, Township  
Kim Stoker, Regional Planning

**Members Absent:**

Pat Toczydlowski, Environmental Interest

Perreault said this meeting needed to be held because there was no quorum at the July public hearing/meeting.

Stoker distributed DEQ comments and changes made to the plan according to the DEQ. The changes are:

Page II-8: changed acreage under "Total area sited for use" "operating" and "not excavated".

Page II-10: listing Wood Island Landfill and K & W Landfill as final disposal sites.

Page III-9 (listed as Page II-9 in DEQ comments): same information as in Page II-8.

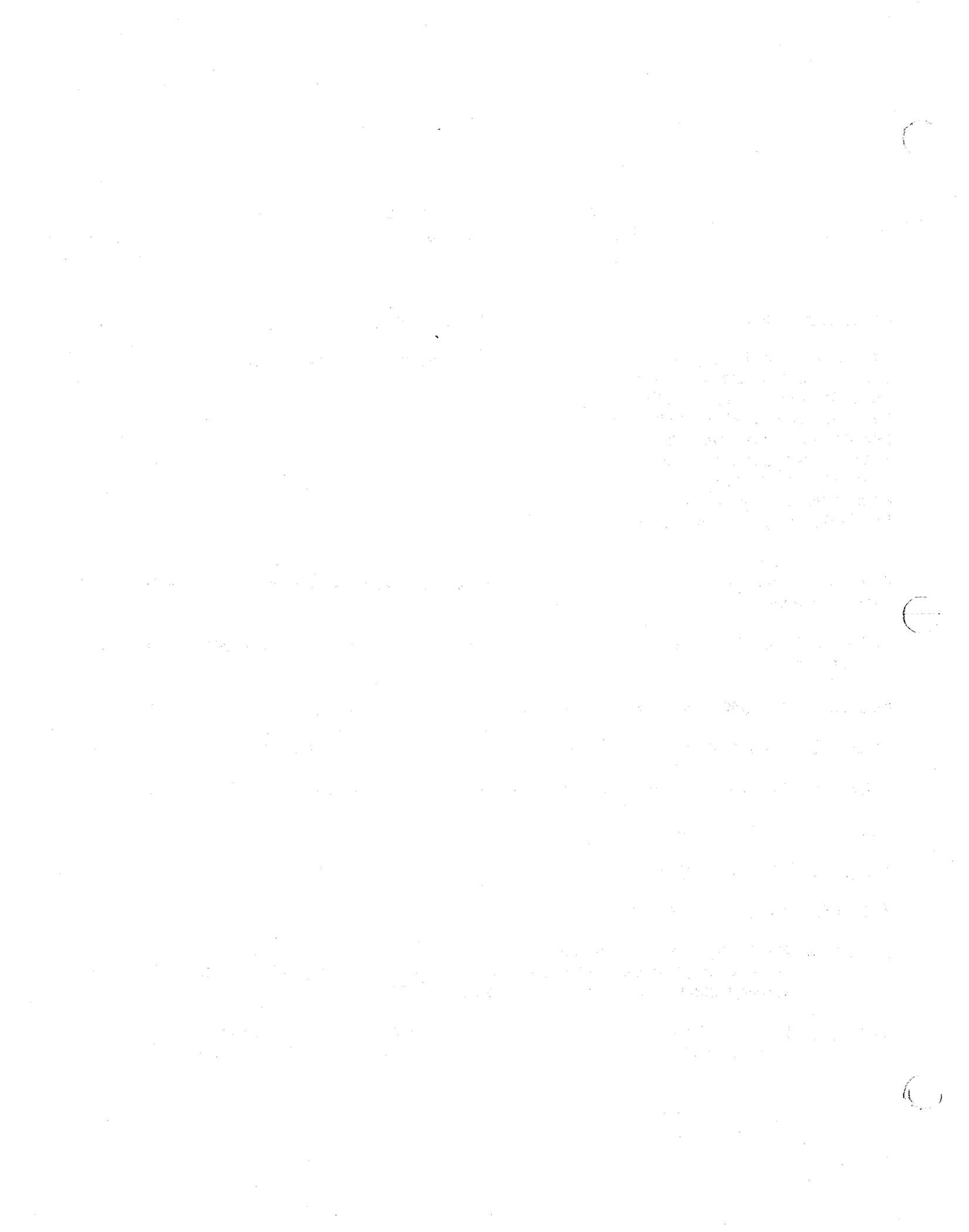
Page III-10a: same information as in II-10.

Page III-28: information on resource recovery and recycling is listed under Other.

Page III-29: Five and ten year diversion rates are listed.

Page III-32: Regarding a new or expanded landfill, this line will be added to the end - "This information not to be used in determining siting". Regarding siting criteria, #1-5, each question will begin with "Does" rather than "The".

Page III-37: Houghton County and Waste Management were listed under Reduced Material Volume and Peninsula Sanitation was added under Collection Processes.



Page IV-1: Regarding ten year capacities, DEQ asked for calculations showing these capacities. Stoker provided letters from Wood Island and Waste Management, but DEQ wants to see calculations. He asked DEQ to provide him with Wood Island's. Stoker used the figures provided by Waste Management for the Ontonagon County Plan and is using these figures for the Houghton County Solid Waste Plan.

Page A-2: This information was already provided in a previous page.

Page A-6: Stoker is not adding anything to this because cost figures change.

Klein asked if the County has any type of plan to reduce the garbage by recycling. Perreault said initially there was recycling outside of the mall where a truck would come once/month. It was later done at the transfer station by Tom Deschaine, however, material was put in the wrong bins and the bins became contaminated. After Deschaine went out of business, the County Board discussed the possibility of a county recycling program, charging \$24/year/household, but this was rejected by some of the County Board members.

Moved by Klein, supported by Workman that the Houghton County Solid Waste Plan be approved as amended and forwarded to the Houghton County Board of Commissioners for their approval to send it on to the municipalities for their approval or disapproval. Motion carried.

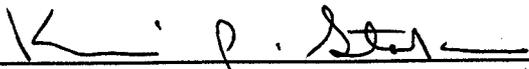
Public Appearances - None

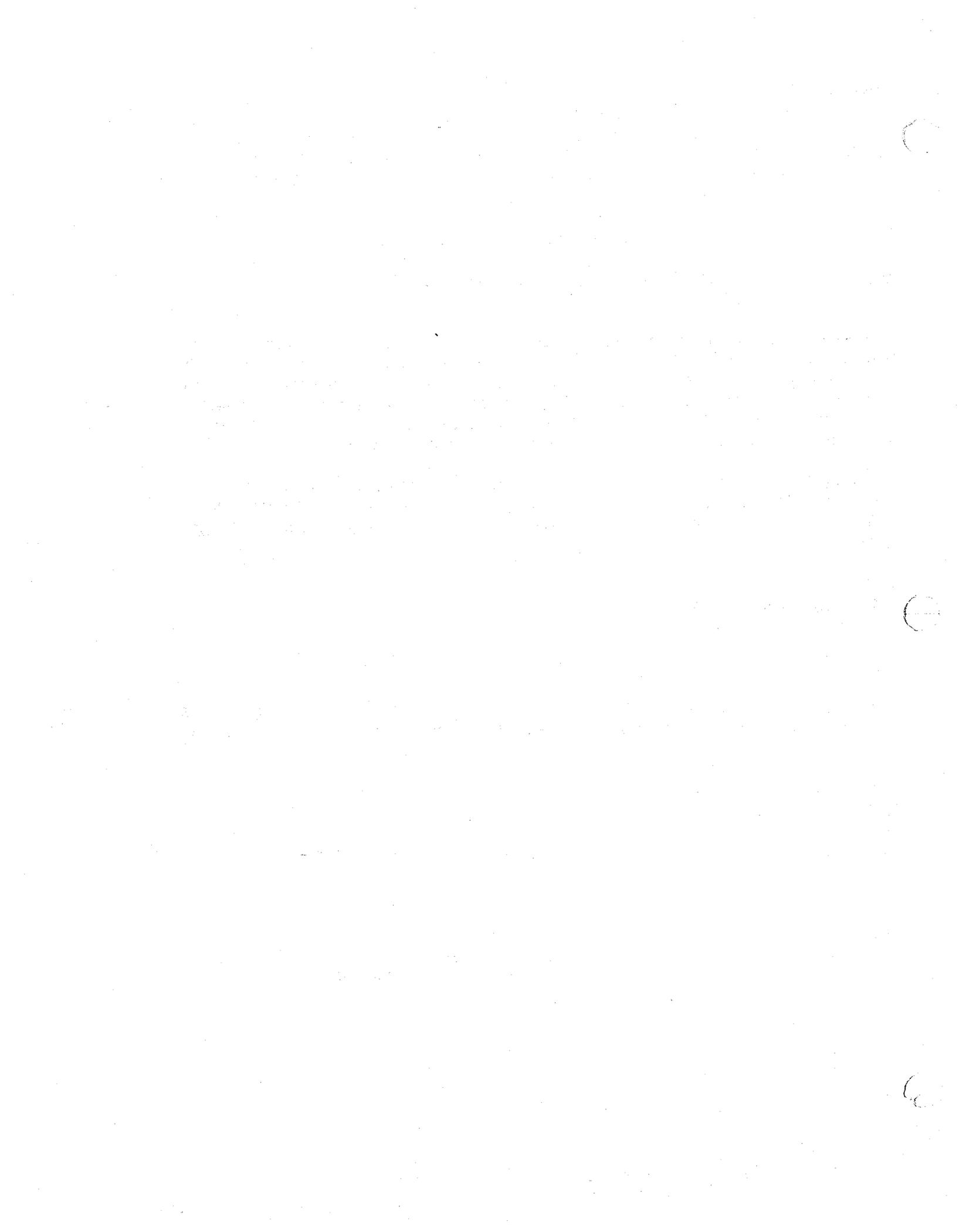
Other Business

Lehto suggested that the WUPPDR office contact every municipality three days before their meeting to make sure the Solid Waste Plan is on their agenda. Stoker said this would be done.

Adjournment

Moved by Lehto, supported by Anderson that the meeting adjourn. Motion carried.

  
\_\_\_\_\_  
Kim J. Stoker





John Engler Governor  
Russell J. Harding Director

WASTE MANAGEMENT DIVISION  
MICHIGAN DEPARTMENT OF  
ENVIRONMENTAL QUALITY  
PO BOX 30241  
LANSING MI 48909-7741  
517-373-2730

**District  
Offices**

CADILLAC DISTRICT  
120 W CHAPIN STREET  
CADILLAC MI 49601  
616-775-3560  
FAX: 616-775-1511

DETROIT OFFICE  
SUITE 3600  
300 RIVER PLACE  
DETROIT MI 48207  
313-392-6480  
FAX: 313-392-6488

GAYLORD DISTRICT  
PO BOX 667  
1732 W M-32  
GAYLORD MI 49735  
517-731-4920  
FAX: 517-732-0794

GRAND RAPIDS DISTRICT  
STATE OFFICE BLDG  
6TH FLOOR  
350 OTTAWA AVE NW  
GRAND RAPIDS MI 49503  
616-456-5071  
FAX: 616-456-1239

GRAYLING DISTRICT  
1955 I-75 BL  
GRAYLING MI 49738  
517-348-6381  
FAX: 517-348-8825

JACKSON DISTRICT  
STATE OFFICE BLDG  
4TH FLOOR  
301 E LOUIS B GLICK  
HIGHWAY  
JACKSON MI 49201  
517-780-7690  
FAX: 517-780-7437

MARQUETTE DISTRICT  
1590 US 41 SOUTH  
MARQUETTE MI 49855  
906-228-6561  
FAX: 906-228-5245

PLAINWELL DISTRICT  
621 N 10TH STREET  
PO BOX 355  
PLAINWELL MI 49080  
616-625-3851  
FAX: 616-625-1362

SAGINAW BAY DISTRICT  
503 N EUCLID AVENUE  
BAY CITY MI 48706  
517-686-8025  
FAX: 517-684-9799

SHIAWASSEE DISTRICT  
10650 S BENNETT DRIVE  
MORRICE MI 48857  
517-625-5515  
FAX: 517-625-5000

SOUTHEAST MICHIGAN  
DISTRICT  
38980 SEVEN MILE ROAD  
LIVONIA MI 48152  
313-953-0241  
FAX: 313-432-1277

**Information Transmittal**

*Provided under authority of P.A. 451 of 1994*

TO: Renee Pohland  
Waste Management, Inc.  
W 124 N 8925 Boundary Rd.  
Menomonee Falls, WI 53051

We are pleased to send you the enclosed material. This informal way of responding to your request saves us the time and expense of preparing a formal letter. Thank you for your interest, and please contact us if we can be of further assistance.

FROM: Stan Idziak  
DEQ-Waste Management Division

Phone: 517-373-4740  
Fax: 517-373-4797

**Additional Comments:**

*Houghton & Schoolcraft  
County SWMP*

