

Part C: Appendixes

Appendix C1: Other Applicable Statutes

TO conduct zoning review, the county should also find that proper procedure for adoption has been followed, proper drafting of the ordinance has been done and that the ordinance has been reviewed in light of all other applicable statutes and law. This finding of fact should be based on a legal opinion provided by the township's attorney. Some, but not all, applicable statutes, federal programs and county ordinances are listed here:

- Blighted Area Rehabilitation Act 334 of 1945.
- Trailer Coaches Outside Licensed Parks Act 172 of 1958.
- Neighborhood Area Improvements Act 208 of 1919.
- Control of Junkyards Adjacent to Highways Act 219 of 1966.
- Highway Advertising Act 106 of 1972.
- Airport Zoning Act 23 of 1950.
- Part 323 of P.A. 451 of 1994, as amended, (being the Shorelands Protection and Management part of the Michigan Natural Resources and Environmental Protection Act MCL 324.32301 *et. seq.* (formerly the Shorelands Protection and Management Act 245 of 1970, as amended)). (High Risk Erosion along Lake Michigan).
- Part 303 of P.A. 451 of 1994, as amended, (being the Wetland Protection part of the Michigan Natural Resources and Environmental Protection Act MCL 324.30301 *et. seq.* (formerly the Goemaere-Anderson Wetlands Protection Act 203 of 1979)).
- Part 305 of P.A. 451 of 1994, as amended, (being the Natural Rivers part of the Michigan Natural Resources and Environmental Protection Act MCL 324.30501 *et. seq.* (formerly the Natural Rivers Act 231 of 1970)). (Betsie River and possibly the Big Wexford River, tributaries and Little Wexford River).
- Part 311 of P.A. 451 of 1994, as amended, (being the Local River Management part of the Michigan Natural Resources and Environmental Protection Act MCL 324.31101 *et. seq.*)
- Part 309 of P.A. 451 of 1994, as amended, (being the Inland Lake Improvement part of the Michigan Natural Resources and Environmental Protection Act MCL 324.30901 *et. seq.* (formerly the Inland Lake Improvement Act 345 of 1966)).
- U.S. Corps of Engineers administration of federal statutes and regulations.
- Part 301 of P.A. 451 of 1994, as amended, (being the Inland Lakes and Streams part of the Michigan Natural Resources and Environmental Protection Act MCL 324.30101 *et. seq.* (formerly the Inland Lakes and Streams Act 345 of 1972)).
- Part 325 of P.A. 451 of 1994, as amended, (being the Great Lakes Submerged Lands part of the Michigan Natural Resources and Environmental Protection Act MCL 324.32501 *et. seq.* (formerly the Great Lakes and Submerged Shorelands Act)).
- Part 307 of P.A. 451 of 1994, as amended, (being the Inland Lake Level part of the Michigan Natural Resources and Environmental Protection Act MCL 324.30701 *et. seq.*)
- Part 309 of P.A. 451 of 1994, as amended, (being the Inland Lake Improvement part of the Michigan Natural Resources and Environmental Protection Act MCL 324.30901 *et. seq.*)
- Part 91 of P.A. 451 of 1994, as amended, (being the Soil Erosion and Sedimentation Control part of the Michigan Natural Resources and Environmental Protection Act MCL 324.9101 *et. seq.* (formerly the Soil Erosion and Sedimentation Control Act 347 of 1972)).
- Part 361 of P.A. 451 of 1994, as amended, (being the Farmland and Open Space Preservation part of the Michigan Natural Resources and Environmental Protection Act MCL 324.36101 *et. seq.* (formerly the Farmland and Open Space Preservation Act 116 of 1971)).
- Part 353 of P.A. 451 of 1994, as amended, (being Sand Dunes Protection and Management part of the Michigan Natural Resources and Environmental Protection Act MCL 324.35301 *et. seq.* (formerly P.A. 222 of 1976)).
- P.A. 288 of 1967, as amended (being the Land Division Act, MCL 560.101 *et. seq.* (formerly known as the Subdivision Control Act)).
- Roads to Isolated Lands Act 172 of 1915.
- Michigan Construction Code Act 230 of 1972.
- Federal Flood Insurance Program, administered by U.S. Department of Housing and Urban Development.
- Michigan Drain Code, Act 40 of 1956.
- Part 324 of P.A. 451 of 1994, as amended, (being the Natural Beauty Roads part of the Michigan Natural Resources and Environmental Protection Act MCL 324.3323.01 *et. seq.* (formerly the Natural Beauty Roads Act 150 of 1970)). (Lakeview and Schaeff Roads in Arcadia Township).
- Preservation of Historic Sites and Structures Act 169 of 1970.
- Part 761 of P.A. 451 of 1994, as amended, (being Aboriginal Records and Antiquities and Abandoned Property part of the Michigan Natural Resources and Environmental Protection Act MCL 324.76101 *et. seq.*)
- Planned Rehabilitation and Industrial Development Districts Act 198 of 1971.
- Commercial Redevelopment Districts Act 225 of 1978.
- Industrial Development Revenue Bonds Act 62 of 1963.
- Economic Development Corporation Act 338 of 1971.
- Downtown Development Authority Act 197 of 1975.
- Federal designation of the Big Wexford River, Big Bear Creek, Pine River as a Scenic Rivers.
- Article II, Chapter 1 of P.A. 451 of 1994, as amended, (being the Point Source Pollution Control chapter of the Michigan Natural Resources and Environmental Protection Act MCL 324.3101 *et. seq.* (point source, sewage disposal, waterworks, air resources protection)).
- Article II, Chapter 2 of P.A. 451 of 1994, as amended, (being the Nonpoint Source Pollution Control chapter of the Michigan Natural Resources and Environmental Protection Act MCL 324.8101 *et. seq.*)
- Article II, Chapter 3 of P.A. 451 of 1994, as amended, (being the

Waste Management chapter of the Michigan Natural Resources and Environmental Protection Act MCL 324.11101 *et. seq.*)

- Article II, Chapter 4 of P.A. 451 of 1994, as amended, (being the pollution prevention chapter of the Michigan Natural Resources and Environmental Protection Act MCL 324.14101 *et. seq.*)
- Article III, Chapter 2 of P.A. 451 of 1994, as amended, (being management of renewable resources (wildlife, hunting, fishing, forests, timber industry) of the Michigan Natural Resources and Environmental Protection Act MCL 324.40101 *et. seq.*)
- Article III, Chapter 3 of P.A. 451 of 1994, as amended, (being management of nonrenewable resources (geological survey, oil and gas, mineral wells and mining, peat extraction) of the Michigan Natural Resources and Environmental Protection Act MCL 324.60101 *et. seq.*)
- Article III, Chapter 4 of P.A. 451 of 1994, as amended, (being recreation management (trails, trespass, parks, waterways, harbors, marine safety, off-road vehicles) of the Michigan Natural Resources and Environmental Protection Act MCL 324.70101 *et. seq.*)
- Other parts of Article III, Chapter 1 of P.A. 451 of 1994, as

amended, (being the chapters on inland waters, Great Lakes, land habitats and endangered species of the Michigan Natural Resources and Environmental Protection Act MCL 324.30101 *et. seq.*)

- Wexford County Sanitary Code of 1982.
- Wexford County Junk Ordinance.
- Wexford County Subdivision and Condominium Control Ordinance.
- Wexford County Address Ordinance.

Examples include: The Planning Commission when it is reviewing subdivision applications (under a county subdivision control ordinance), farmland and open space preservation applications, federal grant A-95 reviews, and when the Planning Office is providing direction and assistance to township zoning boards; the County Economic Development Corporation when it makes the decision to assist or not to assist a particular type of business in a particular area with financial bonding; the Wexford County Road Commission in planning for future road development; Equalization Department in its assessment and classification of land for taxing purposes; and the Wexford-Mason District Health Department in their review of septic tank practices and locations.

Appendix C2: Bibliography

Other Selected Reports, Studies (Bibliography)

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Appendix C3: Land Owner Opinion Survey

Background³³⁷

In fall, 1999, representatives of the Wexford County Commission contracted with the Center for Applied Research and Rural Studies (CARRS) of Central Michigan University to complete a telephone interview study of county residents. The purpose of the study was to learn more about residents' views about land use planning and about the quality of life in the county.

The Center for Applied Research and Rural Studies was created through a Michigan Research Excellence Fund grant in 1995. Its primary focus is addressing issues of concern to central and northern Michigan. The function of CARRS is to utilize the resources and academic expertise of Central Michigan University to assist governmental units, social agencies, and non-profit organizations in addressing social, economic, environmental, and community development concerns.

The survey instrument for this project was developed by CARRS in consultation with the county planner. Some questions are revisions of those used in similar studies of other northwest Michigan counties. The complete text of the interview schedule is found in Appendix A of the survey report.

Interviewing and the Sample

Interviews for this project were completed in the Computer-Assisted Telephone Interview (CATT) laboratory associated with CARRS. Interviewers were Central Michigan University students who have attended a general workshop on survey research and telephone interviewing as well as focused training for this specific study. This interviewer training and the pretests of the interview schedule took place on Sunday, October 22, 2000; Monday, October 23, 2000; and Tuesday, October 24, 2000. Modifications to the interview schedule were made after each pretest session. Actual interviewing began, as scheduled, on Wednesday, October 25, 2000 and concluded on Friday, November 3, 2000.

The sample of telephone numbers for this study was purchased from Genesys Sampling Systems of Fort Washington, Pennsylvania, nationally recognized experts in the field of sampling for telephone interviewing. In the end, interviewers placed calls to 1,200 different telephone numbers that were chosen randomly from listed telephone numbers.

Interviewers began the interview by confirming that the respondent did live in Wexford County. In addition, interviewers worked to ensure that they were speaking with someone 18 years of age or older who was willing to complete the interview schedule.

Of the total calls made, 145 were to households that were not in Wexford County, were to telephones that were out of service, or were to

"wrong numbers." An additional 40 calls were made to households where the relevant individual was incapable of speaking on a telephone or was not available until after the end of the study period.

Computer modems were programmed to call each telephone number up to five times over a number of different days. For 221 telephone numbers, the final call resulted in the failure to "pick up" the phone (e.g., an answering machine), and for 46 numbers the final call resulted in a conversation with a household member who told interviewers that the relevant household member was "not at home" or with a household member who was not willing to talk at the time calls were made.

Completed interviews were obtained from 404 residents of Wexford County. Some 344 household members who spoke with interviewers refused to take part in the study. Hence, the percentage of completed interviews out of the total number of calls made to eligible respondents who actually spoke to our interviewers was 54 percent.

The average interview lasted for slightly over 15 minutes. Eight percent of interviews lasted for 10 minutes or less, while 14 percent continued for more than 20 minutes. CARRS gratefully acknowledges the cooperation and assistance of the residents who spent time on the telephone with our interviewers.

Readers should remember that all random samples have associated with them a margin of error. Given the population of Wexford County, a sample of 404 yields a margin of error of about plus or minus 5 percentage points, at the 95 percent confidence level. That is, a reader can be 95 percent confident that the population of Wexford County residents falls within 5 percentage points of the sample statistics presented in this report. Consequently, small differences between subgroups in the sample or between the results from one question and another should be discounted.

The Findings

Data from the telephone interviews are summarized in four sections in the report (Hill, James P., Dr. and Mary Senter, *Report of Findings Wexford County Residents' Views of Land Use Planning and the Quality of Life; A study Prepared for the Wexford County Commission*; Central Michigan University Center for Applied Research and Rural Studies; Mt. Pleasant; December 2000.)

- Demographic Characteristics;
- Satisfaction with the City and County Services;
- Opinions about Change in the County; and
- Opinions about Land Use and Environmental Protection.

In the body of the report, data are usually presented for the sample as a whole. In Appendix B of the survey report are found a series of tables that compare residents of the City of Cadillac with residents who live in other parts of the county. These two groups of Wexford County residents do *not* differ in their opinions about the issues under analysis

here.³³⁸

Demographic Characteristics of the Sample

Respondents were asked a number of questions about their own

background and about their history in Wexford County. Some of these questions appeared at the beginning of the interview to ensure that interviewers were speaking with appropriate respondents. Other questions were placed near the end of the interview because they are not necessarily engaging questions for respondents and because they may seem—to some respondents—to focus on private or personal matters. (Respondents were assured that their confidentiality would be maintained and that this information would be used—as here—for summary purposes only.) Table 1 provides a summary of the information gathered with these questions.

**Table 1: Demographic Characteristics of the Sample:
Percentage Distributions**

Place of Residence	Percent
Township ³³⁹	55.7
Village	5.4
City	38.9
Years in county	
Five or fewer years	11.6
6 – 15 years	21.1
16 – 25 years	15.8
26 – 40	24.5
41 or more years	27.0
Months per year in county	
Less than 12 months	6.2
12 months	93.8
Home ownership status	
Own	90.8
Rent/Lease	8.7
Don't Know	0.5
Own waterfront property	
Yes	8.9
No	91.1
Sex	
Male	46.3
Female	53.7
Age	
18 – 29 years	7.4
30 – 39 years	15.6
40 – 49 years	21.8
50 – 59 years	20.0
60 – 69 years	18.6
70 – 99 years	16.6
Major portion of income from farming	
Yes	1.5
No	98.5
Income	
Less than \$25,000	26.3
\$25,000 up to \$50,000	38.9
\$50,000 up to \$75,000	24.9
\$75,000 up to \$100,000	8.0
\$100,000 or more	1.9
Size of household	
1 person	18.8
2 people	41.1
3 people	11.6
4 people	17.3
5 or more	11.1

The table shows that most Wexford County residents (more than 60 percent) live in townships or villages, although the cities of

Cadillac and Manton houses more than one third of the county's population. Data from the U.S. Bureau of the Census demonstrate

³³⁹ The number of respondents found in each township, village, and city are found in parentheses after the place name: Townships: Antioch (14), Boon (2), Cedar Creek (10), Cherry Grove (38), Clam Lake (43), Colfax (10), Greenwood (2), Hanover (4), Haring Charter (37), Henderson (4), Liberty (7), Selma (20), Slagel (3), South Branch (4), Springville (15), Wexford (10), no answer (3). Villages: Buckley (9), Harrietta (5), Mesick (7), other (1). Cities: Cadillac (137), Manton (20).

that the sample used here adequately reflects the division of the county's population into city, village, and township sectors.³⁴⁰ While the vast majority of respondents (more than 90 percent) report that they live in the county year-round, the number of years that respondents have lived in the county differs widely among respondents. Many respondents (more than one quarter) have lived in the county for more than 40 years, although more than one tenth of the sample have lived in the county for five or fewer years.

Home ownership is very common among respondents, with less than 10 percent of the sample reporting that they rent or lease their residence. Owning waterfront property is not, however, common, with more than 90 percent of respondents stating that they do not own property on one of the lakes, rivers, or streams in the

county.

The sample is roughly evenly divided between men and women, with slightly more women, as one would expect given the county's population.³⁴¹ Interviewers spoke with respondents from 18 to 92 years of age. About one sixth of the sample is 70 years of older and comparable numbers are in their thirties.

Relatively high numbers of people in the sample have low incomes, with more than one quarter of respondents reporting household incomes of \$25,000 or less. Very few respondents in the sample (less than two percent) report that a "major portion" of their income comes from farming. The most common household size is two residents, although almost 20 percent of respondents live in single-person households and 10 percent live in a household with five or more people.

Appendix C4: Surface Water Inventory

Rivers (including intermittent)

(Name of the river with location of mouth, or exit from Wexford County located by township and section number.)

Great Lakes watershed

Lakes Michigan and Huron watershed

I. Manistee River (sec 30, Springville Twp) at Hodenpyl Dam

A. Pine River³⁴² (formerly the South Branch of the Manistee River) (sec. 19, South Branch Twp)

1. Unnamed (sec. 20, South Branch Twp)
 - a. Unnamed (sec. 20, South Branch Twp)
 - b. Unnamed (sec. 28, South Branch Twp)
 - c. Unnamed (sec. 29, South Branch Twp)
 - i. Unnamed (sec. 27, South Branch Twp)
 - d. Unnamed (sec. 34, South Branch Twp)
2. Hoxey Creek (sec. 34, South Branch Creek)
 - a. Unnamed (sec. 25, South Branch Twp)
3. Poplar Creek (sec. 35, South Branch Twp)
 - a. Dowling Creek (sec. 32, Henderson Twp)
 - i. Unnamed (sec. 29, Henderson Twp)
 - b. Unnamed (sec. 27, Henderson Twp)
 - c. Unnamed (sec. 27, Henderson Twp)
4. North Branch Pine River (sec. 36, Cherry Grove Twp)
 - a. Fairchild Creek (formerly Negro Creek) (sec. 33, Cherry Grove Twp)
 - b. Spalding Creek (sec. 26, Cherry Grove Twp)
 - i. Unnamed (sec. 26, Cherry Grove Twp)
 - c. Unnamed (sec. 23, Cherry Grove Twp)
 - d. Unnamed (sec. 13, Cherry Grove Twp)
 - e. Unnamed (sec. 18, Cherry Grove

Twp)

i. Unnamed (sec. 18, Cherry Grove Twp)

f. Unnamed (sec. 19, Cherry Grove Twp)

B. Peterson Creek (sec. 31, Slagle Twp)

1. Unnamed (section 31, Slagle Twp)
2. Unnamed (section 30, Slagle Twp)
3. Sands Creek (sec. 6, South Branch Twp)
 - a. Unnamed (section 31, Slagle Twp)
 - b. Unnamed (section 5, South Branch Twp)
 - c. Unnamed (section 5, South Branch Twp)
4. Unnamed (sec. 9, South Branch Twp)
5. Unnamed (sec. 9, South Branch Twp)
 - a. Unnamed (sec. 4, South Branch Twp)
6. Johnson Creek (sec. 10, South Branch Twp)
 - a. Unnamed (sec. 3, South Branch Twp)
 - b. Unnamed (sec. 3, South Branch Twp)
 - i. Unnamed (sec. 2, South Branch Twp)
 - ii. Unnamed (sec. 35, Slagle Twp)
 - iii. Unnamed (sec. 36, Slagle Twp)
 - iv. Unnamed (sec. 36, Slagle Twp)
 - v. Unnamed (sec. 3, Henderson Twp)
 - vi. Unnamed (sec. 3, Henderson Twp)
 - c. Unnamed (sec. 34, Slagle Twp)
 - d. Unnamed (sec. 34, Slagle Twp)
 - e. Unnamed (sec. 25, Slagle Twp)

C. Hinton Creek (sec. 30, Slagle Twp)

1. Unnamed (sec. 30, Slagle Twp)
2. Unnamed (sec. 30, Slagle Twp)
 - a. Unnamed (sec 29, Slagle Twp)
 - b. Unnamed (sec 28, Slagle Twp)
3. Unnamed (sec 28, Slagle Twp)
4. Unnamed (sec. 27, Slagle Twp)
 - a. Unnamed (sec. 27, Slagle Twp)
5. Unnamed (sec. 26, Slagle Twp)
6. Unnamed (sec. 26, Slagle Twp)

D. Arquilla Creek (sec. 19, Slagle Twp)

1. Unnamed (sec 19, Slagle Twp)

E. Unnamed (sec 18, Slagle Twp)

F. Cedar Creek (sec. 18, Slagle Twp)

1. Unnamed (sec. 16, Slagle Twp)

- 2. Unnamed (sec. 22, Slagle Twp)
- 3. Unnamed (sec. 23, Slagle Twp)
- 4. Unnamed (sec. 24, Slagle Twp)
- G. **Dead Creek** (sec. 7, Slagle Twp)
- H. **Slagle Creek** (sec. 6, Slagle Twp)
 - 1. Unnamed (sec. 10, Slagle Twp)
 - a. Unnamed (sec. 2, Slagle Twp)
 - 2. Unnamed (sec. 12, Slagle Twp)
 - 3. Unnamed (sec. 13, Slagle Twp)
 - 4. Unnamed (sec. 18, Boon Twp)
 - 5. Unnamed (sec. 18, Boon Twp)
 - 6. Unnamed (sec. 18, Boon Twp)
 - a. Unnamed (sec. 18, Boon Twp)
 - 7. Unnamed (sec. 18, Boon Twp)
 - 8. Unnamed (sec. 18, Boon Twp)
 - 9. Unnamed (sec. 17, Boon Twp)
 - 10. Unnamed (sec. 17, Boon Twp)
 - 11. Unnamed (sec. 17, Boon Twp)
 - 12. **Perkins Creek** (sec. 17, Boon Twp)
 - a. Unnamed (sec. 8, Boon Twp)
 - b. Unnamed (sec. 9, Boon Twp)
 - 13. Unnamed (sec. 17, Boon Twp)
 - a. Unnamed (sec. 16, Boon Twp)
 - i. Unnamed (sec. 16, Boon Twp)
 - ii. Unnamed (sec. 16, Boon Twp)
 - b. Unnamed (sec. 15, Boon Twp)
 - c. Unnamed (sec. 10, Boon Twp)
 - d. Unnamed (sec. 10, Boon Twp)
 - e. Unnamed (sec. 10, Boon Twp)
 - f. Unnamed (sec. 3, Boon Twp)
 - g. Unnamed (sec. 4, Boon Twp)
 - h. Unnamed (sec. 4, Boon Twp)
 - 14. Unnamed (sec. 17, Boon Twp)
 - 15. Unnamed (sec. 17, Boon Twp)
 - 16. Unnamed (sec. 20, Boon Twp)
 - 17. Unnamed (sec. 20, Boon Twp)
 - 18. Unnamed (sec. 29, Boon Twp)
 - a. Unnamed (sec. 29, Boon Twp)
 - i. Unnamed (sec. 30, Boon Twp)
 - b. Unnamed (sec. 30, Boon Twp)
 - 19. Unnamed (sec. 29, Boon Twp)
 - a. Unnamed (sec. 29, Boon Twp)
 - b. Unnamed (sec. 28, Boon Twp)
 - 20. Unnamed (sec. 29, Boon Twp)
 - a. Unnamed (sec. 33, Boon Twp)
 - 21. Unnamed (sec. 32, Boon Twp)
 - 22. Unnamed (sec. 33, Boon Twp)
- I. Unnamed (sec. 31, Springville Twp)
- J. Unnamed (sec. 31, Springville Twp)
- K. Unnamed (sec. 19, Springville Twp)
- L. **Seaton Creek** (sec. 30, Springville Twp)
- M. **Tar Creek** (sec. 30, Springville Twp)
- N. Unnamed (sec. 19, Springville Twp)
- O. **Small Creek** (sec. 21, Springville Twp)
 - 1. Unnamed (sec. 27, Springville Twp)
 - 2. Unnamed (sec. 26, Springville Twp)
 - 3. Unnamed (sec. 36, Springville Twp)
 - a. Unnamed (sec. 36, Springville Twp)
 - b. Unnamed (sec. 36, Springville Twp)
- 4. Unnamed (sec. 31, Antioch Twp)
 - a. Unnamed (sec. 31, Antioch Twp)
- 5. Unnamed (sec. 31, Antioch Twp)
- 6. Unnamed (sec. 32, Antioch Twp)
- P. **Cripple Creek** (sec. 21, Springville Twp)
- Q. Unnamed (sec. 15, Springville Twp)
- R. **Fletcher Creek** (sec. 10, Springville Twp)
 - 1. Unnamed (sec. 34, Wexford Twp)
 - 2. Unnamed (sec. 34, Wexford Twp)
 - 3. Unnamed (sec. 27, Wexford Twp)
 - 4. Unnamed (sec. 16, Wexford Twp)
 - 5. Unnamed (sec. 16, Wexford Twp)
 - 6. Unnamed (sec. 9, Wexford Twp)
 - a. Unnamed (sec. 6, Wexford Twp)
 - 7. Unnamed (sec. 8, Wexford Twp)
 - 8. Unnamed (sec. 8, Wexford Twp)
 - 9. Unnamed (sec. 8, Wexford Twp)
 - 10. **Cotton Creek** (sec. 5, Wexford Twp)
- S. Unnamed (sec. 11, Springville Twp)
- T. **Preston Creek** (sec. 11, Springville Twp)
- U. Unnamed (sec. 2, Springville Twp)
- V. **Glengary** (sec. 2, Springville Twp)
- W. **Burkett Creek** (sec. 1, Springville Twp)
- X. Unnamed (a.k.a. Sherman Creek) (sec. 36, Wexford Twp)
- Y. Unnamed (sec. 36, Wexford Twp)
- Z. **Wheeler Creek** (sec. 36, Wexford Twp)
 - 1. **East Branch** (sec. 19, Hanover Twp)
 - a. **Lake Gitchegumee** (backwater on East Branch) (sec. 8, Hanover Twp)
 - 2. Unnamed (sec. 1, Wexford Twp)
- AA. **Cole Creek** (sec. 32, Hanover Twp)
 - 1. Unnamed (sec. 22, Antioch Twp)
 - 2. Unnamed (sec. 26, Antioch Twp)
 - a. Unnamed (sec. 26, Antioch Twp)
 - i. Unnamed (sec. 27, Antioch Twp)
 - b. Unnamed (sec. 27, Antioch Twp)
 - c. Unnamed (sec. 27, Antioch Twp)
 - d. Unnamed (sec. 27, Antioch Twp)
 - 3. Unnamed (sec. 26, Antioch Twp)
- AB. Unnamed (sec. 29, Hanover Twp)
 - 1. Unnamed (sec. 29, Hanover Twp)
 - 2. Unnamed (sec. 29, Hanover Twp)
- AC. Unnamed (sec. 32, Hanover Twp)
- AD. Unnamed (sec. 28, Hanover Twp)
- AE. Unnamed (sec. 28, Hanover Twp)
- AF. Unnamed (sec. 28, Hanover Twp)
- AG. **Adams Creek** (sec. 27, Hanover Twp)
- AH. Unnamed (sec. 27, Hanover Twp)
 - 1. Unnamed (sec. 27, Hanover Twp)
- AI. **Anderson Creek** (sec. 22, Hanover Twp)
 - 1. Unnamed (sec. 10, Hanover Twp)
- AJ. **Soper Creek** (sec. 24, Hanover Twp)
- AK. **Filer Creek** (sec. 24, Hanover Twp)
- AL. **Blind Creek** (sec. 18, Greenwood Twp)
- AM. **Apple Creek** (sec. 18, Greenwood Twp)
 - 1. Unnamed (sec. 20, Greenwood Twp)
- AN. Unnamed (sec. 9, Greenwood Twp)
- AO. Unnamed (sec. 9, Greenwood Twp)

- AP. Unnamed (sec 9, Greenwood Twp)
- AQ. Unnamed (sec 9, Greenwood Twp)
- AR. Unnamed (a.k.a. Baxter, or Big Marsh Creek) (sec. 3, Greenwood Twp)
- AS. **Silver Creek** (sec. 9, Greenwood Twp)
 - 1. **Briggs County Drain** (sec. 26, Greenwood Twp)
 - 2. **Greenwood Highway County Drain** (sec. 35, Greenwood Twp.)
 - 2. Unnamed (sec. 35, Greenwood Twp)
 - a. Unnamed (sec. 35, Greenwood Twp)
 - b. Unnamed (sec. 12, Colfax Twp)
 - 3. Unnamed (sec. 2, Colfax Twp)
 - 4. Unnamed (sec. 11, Colfax Twp)
 - 5. Unnamed (sec. 11, Colfax Twp)
- AT. **Buttermilk Creek** (sec. 11, Greenwood Twp)
 - 1. Unnamed (sec. 11, Greenwood Twp)
 - 2. Unnamed (sec. 13, Greenwood Twp)
 - 3. Unnamed (sec. 13, Greenwood Twp)
 - 4. Unnamed (sec. 25, Greenwood Twp.)
 - a. Unnamed (sec. 29, Liberty Twp.)
 - 5. **Seaman County Drain** (sec. 25, Greenwood Twp)
 - a. **Seaman County Drain** (sec. 29, Liberty Twp)
 - b. **Seaman County Drain** (sec. 32, Liberty Twp)
 - 6. **Seaman County Drain** Sec. 30, Liberty Twp)
 - a. **Seaman County Drain** (sec. 30, Liberty Twp)
 - b. **Seaman County Drain** (sec. 30, Liberty Twp)
 - 7. Unnamed (sec. 30, Liberty Twp)
- AU. Unnamed (sec. 3, Greenwood Twp)
 - 1. Unnamed (sec. 3, Greenwood Twp)
 - a. Unnamed (sec. 3, Greenwood Twp)
- AV. Unnamed (sec. 1, Greenwood Twp)
- AW. Unnamed (sec. 1, Greenwood Twp)
- AX. Unnamed (sec. 6, Liberty Twp)
- AY. Unnamed (sec. 6, Liberty Twp)
- AZ. Unnamed (sec. 6, Liberty Twp)
- BA. **Manton Creek** (sec. 8, Liberty Twp) (part, in sec 3 & 10, Cedar Creek Twp, is **Manton Creek County Drain**)
 - 1. Unnamed (sec. 17, Liberty Twp)
 - 2. Unnamed (sec. 20, Liberty Twp)
 - 3. Unnamed (sec. 20, Liberty Twp)
 - 4. **Cedar Creek 2 County Drain** (sec. 4, Cedar Creek Twp)
 - 5. Unnamed (sec. 16, Cedar Creek Twp)
 - 6. Unnamed (sec. 16, Cedar Creek Twp)
- BB. Unnamed (sec. 8, Liberty Twp)
- BC. Unnamed (sec. 8, Liberty Twp)
- BD. Unnamed (sec. 9, Liberty Twp)
- BE. Unnamed (sec. 9, Liberty Twp)
- BF. **Fife Lake Outlet** (sec. 10, Liberty Twp)
 - 1. Unnamed (sec. 2, Liberty Twp)
- BG. **Chase Creek** (sec. 14, Liberty Twp)
 - 1. Unnamed (sec. 14, Liberty Twp)

- 2. Unnamed (sec. 23, Liberty Twp)
- BH. **Golden Creek** (sec. 13, Liberty Twp)
 - 1. Unnamed (sec. 13, Liberty Twp.)
 - 2. **Morrisy Creek** (sec. 24, Liberty Twp.)
 - a. **Golden Creek** (sec. 24, Liberty Twp)
 - b. Unnamed (sec. 36, Liberty Twp.)
- II **Muskegon River** (not in Wexford County)
 - A. **Clam River** (parts channelized) (sec. 24, Haring Twp)
 - 1. Unnamed (sec. 24, Haring Twp)
 - a. Unnamed (sec. 24, Haring Twp)
 - 2. Unnamed (sec. 24, Haring Twp)
 - 3. Unnamed (sec. 23, Haring Twp)
 - 4. Unnamed (sec. 23, Haring Twp)
 - 5. **Ball County Drain** (sec. 27, Haring Twp)
 - a. **Ball County Drain** (sec. 21, Haring Twp)
 - 6. Unnamed (channelized) (sec. 27, Haring Twp)
 - 7. **Lake Cadillac**
 - a. Unnamed (drain) (sec. 9, Cadillac City/Clam Lake Twp)
 - b. **Drury County Drain** (sec. 8, Cadillac City/Clam Lake Twp)
 - c. **Leeson County Drain** (formerly known as three different drains: Old Town, Skafford, and Sundstrom) (sec. 6, Cadillac City/Clam Lake Twp; Heritage-Cadillac Nature Study Area)
 - d. **Channel/Lake Mitchell** (sec. 6, Cadillac City/Clam Lake Twp)
 - i. **Mitchell Creek** (also **Wheeler County Drain**) (sec. 3, Cherry Grove Twp)
 - ii. **Brandy Creek** (sec. 34, Selma Twp)
- III. its own basin (drys up, re-enters groundwater, ends in pond without an outlet)
 - A. Unnamed (sec. 6, South Branch Twp)
 - B. Unnamed (sec. 17, Springville Twp)
 - C. Unnamed (sec. 35, Haring Twp)
 - D. Unnamed (sec. 36, Haring Twp)
 - E. Unnamed (sec. 23, Selma Twp)
 - F. Unnamed (sec. 11, Boon Twp)
 - G. Unnamed (sec. 14, Slagle Twp)
 - H. Unnamed (sec. 3, Antioch Twp)
 - I. **Colfax County Drain** (sec. 33, Greenwood Twp)
 - J. Unnamed (sec. 3, Cedar Creek Twp)
 - K. **Harmon County Drain** (sec. 33, Liberty Twp)

Lakes and Ponds

Antioch Twp

- Oatly Lake** (sec. 1, Antioch Twp)
- unnamed three (Less Barnes) (sec. 1, Antioch Twp)
- two unnamed (sec. 1, Antioch Twp)
- Gerguson Lake** (sec. 3, Antioch Twp)
- unnamed (sec. 5, Antioch Twp)

Carpenter Lake (sec. 6, Antioch Twp)
 unnamed backwaters in Burkett Creek (sec. 6, Antioch Twp)
 unnamed backwater in Adams Creek (sec. 11, Antioch Twp)
 unnamed (backwater off Adams Creek) (sec. 11, Antioch Twp)
Carp Lake (sec. 12, 13, Antioch Twp)
Jewett Lake (sec. 17, Antioch Twp)
 unnamed (sec. 22, Antioch Twp)
 two unnamed (sec. 34, Antioch Twp)

Boon Twp and Harrietta Village

two unnamed (sec. 3, Boon Twp)
 unnamed (sec. 7, Boon Twp (Harrietta Village))
 unnamed (sec. 10, Boon Twp)
 unnamed (sec. 11, Boon Twp)
 two unnamed (sec. 13, Boon Twp)
 backwater in Slagle Creek feeder (sec. 16, Boon Twp)
 backwater in Slagle Creek (sec. 17, Boon Twp)
 backwater in Slagle Creek feeder (sec. 17, Boon Twp)
 two unnamed (sec. 18, Boon Twp)
 unnamed (sec. 18, Boon Twp (Harrietta Village))
 backwater in Slagle Creek (sec. 20, Boon Twp)
 two unnamed (sec. 24, Boon Twp)
 unnamed (sec. 25, Boon Twp)
 two unnamed (sec. 29, Boon Twp)
 three unnamed (sec. 36, Boon Twp)

Cedar Creek Twp

unnamed (sec. 2, Cedar Creek Twp)
Lake Billings backwater on Manton Creek (sec. 3, Manton City)
Mill Pond backwater on Manton Creek (sec. 4, Manton City)
 six unnamed (sec. 4, Cedar Creek Twp)
 unnamed (sec. 4, Manton City)
Manton sewage treatment ponds (sec. 4, Manton City)
 five unnamed (sec. 5, Cedar Creek Twp)
 one unnamed (sec. 8, Cedar Creek Twp)
 eight unnamed (sec. 10, Manton City)
 four unnamed (sec. 10, Cedar Creek Twp)
 unnamed (sec. 11, Cedar Creek Twp)
 unnamed (sec. 12, Cedar Creek Twp)
 nine unnamed (sec. 16, Cedar Creek Twp)
 two unnamed (sec. 24, Cedar Creek Twp)
 unnamed (sec. 25, Cedar Creek Twp)
 unnamed (sec. 32, Cedar Creek Twp)
 unnamed (sec. 33, Cedar Creek Twp)
 unnamed (sec. 34, Cedar Creek Twp)

Cherry Grove Twp

two unnamed (sec. 3, Cherry Grove Twp)
 unnamed in headwaters of Mitchell Creek, (sec. 6, Cherry Grove Twp)
 six unnamed (sec. 11, Cherry Grove Twp)
 four unnamed (sec. 12, Cherry Grove Twp)
 unnamed (sec. 13, Cherry Grove Twp)
 four unnamed (sec. 17, Cherry Grove Twp)
 two unnamed (sec. 18, Cherry Grove Twp)
 two unnamed in Spalding Creek, (sec. 21, Cherry Grove Twp)
 unnamed in Spalding Creek (sec. 22, Cherry Grove Twp)
 seven unnamed (sec. 23, Cherry Grove Twp)
 nine unnamed (sec. 24, Cherry Grove Twp)
 unnamed (sec. 25, Cherry Grove Twp)

Clam Lake Twp and part of Cadillac City

unnamed (sec. 1, Clam Lake Twp)
Lake Mitchell (formerly Large Clam Lake) (sec. 2, Cherry Grove Twp)
 unnamed (sec. 3, Cadillac City/Clam Lake)
Lake Cadillac (formerly Little Clam Lake) (sec. 5, Clam Lake Twp)
 five unnamed (sec. 5, Clam Lake Twp)
 unnamed (sec. 7, Clam Lake Twp)
 four unnamed (sec. 8, Cadillac City/Clam Lake Twp)
 unnamed (sec. 9, Cadillac City/Clam Lake Twp)
 two unnamed (sec. 9, Clam Lake Twp.)
Twin Lake (two) (sec. 10, Clam Lake Twp)
 two unnamed (sec. 10, Clam Lake Twp)
 unnamed (sec. 10, Cadillac City/Clam Lake Twp)
 two unnamed (sec. 11, Clam Lake Twp)
Berry Lake (sec. 12, Clam Lake Twp)
 unnamed (sec. 13, Clam Lake Twp)
 unnamed (sec. 17, Clam Lake Twp)
 two unnamed (sec. 19, Clam Lake Twp)
 three unnamed (sec. 20, Clam Lake Twp)
 five unnamed (sec. 21, Clam Lake Twp)
 unnamed (sec. 22, Clam Lake Twp)
 unnamed (sec. 23, Clam Lake Twp)
 two unnamed (sec. 24, Clam Lake Twp)
 unnamed (sec. 25, Clam Lake Twp)
Blackberry Lake (sec. 27, Clam Lake Twp)
Stone Ledge Lake (sec. 27, 34, Clam Lake Twp)
 three unnamed (sec. 28, Clam Lake Twp)
 two unnamed (sec. 29, Clam Lake Twp)
Peterson Lake (sec. 32, Clam Lake Twp)
 two unnamed (sec. 32, Clam Lake Twp)
 unnamed (sec. 34, Clam Lake Twp)
 two unnamed (sec. 35, Clam Lake Twp)
 three unnamed (sec. 36, Clam Lake Twp)

Colfax Twp

three unnamed (sec. 1, Colfax Twp)
 unnamed (sec. 2, Colfax Twp)
Cedar Lake (sec. 4, Colfax Twp)
 two unnamed (sec. 5, Colfax Twp)
 Soper Creek headwaters ponds (sec. 32, Greenwood Twp; sec. 5, Colfax Twp)
 three unnamed (sec. 11, Colfax Twp)
 unnamed (sec. 12, Colfax Twp)
 unnamed (sec. 18, Colfax Twp)
 two unnamed (sec. 22, Colfax Twp)
Stoddard Lake (sec. 24, Colfax Twp)
 unnamed (sec. 27, Colfax Twp)
 two unnamed (sec. 28, Colfax Twp)
Meauwataka Lake (sec. 31, 32, Colfax Twp)
 two unnamed (sec. 31, Colfax Twp)
 unnamed (sec. 33, Colfax Twp)

Greenwood Twp

three unnamed (sec. 1, Greenwood Twp)
 unnamed (sec. 4, Greenwood Twp)
Grassy Lakes (two) (sec. 6, 7, Greenwood Twp)
 unnamed (sec. 31, Greenwood Twp)
 unnamed (sec. 32, Greenwood Twp)
 three unnamed (sec. 35, Greenwood Twp)
 four unnamed (sec. 36, Greenwood Twp)

Hanover Twp

Lake Gitchegumee (sec. 8, Hanover Twp, sec. 1, Wexford Twp)
 unnamed (sec. 10, Hanover Twp)
 two unnamed (sec. 15, Hanover Twp)
 unnamed (sec. 25, Hanover Twp)
 unnamed (sec. 28, Hanover Twp)
 unnamed backwater near Sherman (sec. 31, Hanover Twp)
 unnamed backwater in Wheller Creek (sec. 31, Hanover Twp)
 unnamed (sec. 32, Hanover Twp)
 unnamed (sec. 32, Hanover Twp)
 unnamed (sec. 34, Hanover Twp)
Twin Lakes (two) sec. 34, 35, Hanover Twp)

Haring Twp and part of Cadillac City

Reddy Lake (sec. 1, Haring Twp)
 three unnamed (sec. 1, Haring Twp)
Long Lake (sec. 2, 11, Haring Twp)
Island Lake (sec. 2, Haring Twp)
Bullhead Lake (sec. 2, Haring Twp)
 six unnamed (sec. 2, Haring Twp)
North Lake (sec. 3, Haring Twp)
Bond Mill Pond (sec. 4, Haring Twp)
 unnamed (sec. 4, Haring Twp)
 unnamed (sec. 5, Haring Twp)
 two unnamed (sec. 10, Haring Twp)
 four unnamed (sec. 12, Haring Twp)
Round Lake (sec. 12, Haring Twp)
 unnamed (sec. 14, Haring Twp)
 unnamed (sec. 15, Haring Twp)
 two unnamed (sec. 16, Haring Twp)
 two unnamed (sec. 17, Haring Twp)
 three unnamed (sec. 18, Haring Twp)
 three unnamed (sec. 19, Haring Twp)
 unnamed (sec. 29, 30, Haring Twp)
 two unnamed (sec. 31, Haring Twp)
 unnamed (sec. 31, Cadillac City/Haring Twp)
 unnamed (sec. 36, Haring Twp)

Henderson Twp

unnamed (sec. 1, Henderson Twp)
 unnamed headwater of Negro Creek, (sec. 13, Henderson Twp)
 four unnamed (sec. 15, Henderson Twp)
 unnamed (sec. 22, Henderson Twp)
 unnamed (sec. 23, Henderson Twp)
 unnamed (sec. 26, Henderson Twp)
 unnamed (sec. 27, Henderson Twp)
 three unnamed (sec. 30, Henderson Twp)
 unnamed (sec. 31, Henderson Twp)
 three unnamed (sec. 32, Henderson Twp)
 two unnamed (sec. 34, Henderson Twp)

Liberty Twp

unnamed (sec. 1, Liberty Twp)
 unnamed (sec. 7, Liberty Twp)
 unnamed (sec. 11, Liberty Twp)
 unnamed (sec. 21, Liberty Twp)
 two unnamed (sec. 25, Liberty Twp)
 two unnamed (sec. 26, Liberty Twp)
 unnamed (sec. 27, Liberty Twp)
 one unnamed (sec. 29, Liberty Twp)
Buttermilk Lake (sec. 31, Liberty Twp)
 six unnamed (sec. 31, Liberty Twp)

four unnamed (sec. 32, Liberty Twp)
 five unnamed (sec. 33, Liberty Twp)
 five unnamed (sec. 34, Liberty Twp)
 two unnamed (sec. 35, Liberty Twp)
 two unnamed (sec. 36, Liberty Twp)

Selma Twp

Altman Lake (sec. 7, Selma Twp)
 three unnamed (sec. 7, Selma Twp)
Woodward Lake (sec. 8, 17, Selma Twp)
 two unnamed (sec. 10, Selma Twp)
 unnamed (sec. 11, Selma Twp)
 two unnamed (sec. 12, Selma Twp)
Pleasant Lake (sec. 13, 14, Selma Twp)
 unnamed (sec. 14, Selma Twp)
 unnamed (sec. 16, Selma Twp)
 unnamed (sec. 17, Selma Twp)
 two unnamed (sec. 20, Selma Twp)
 two unnamed (sec. 22, Selma Twp)
 unnamed (sec. 23, Selma Twp)
 unnamed (sec. 24, Selma Twp)
Gyttja Lake (sec. 26, Selma Twp)
 four unnamed (sec. 26, Selma Twp)
 unnamed (sec. 29, Selma Twp)
 unnamed (Brandy Brook flooding/Brandy Creek headwaters) (sec. 33, Selma Twp)
 five unnamed (sec. 34, Selma Twp)
 four unnamed (sec. 36, Selma Twp)

Slagle Twp

unnamed excavated (Yuma Sand Co.) (sec. 3, Slagle Twp)
 unnamed (sec. 10, Slagle Twp)
Harrietta Fish Hatchery ponds (sec. 13, Slagle Twp)
 unnamed (sec. 14, Slagle Twp)
 unnamed (sec 21, Slagle Twp)
 unnamed (sec 27, Slagle Twp)
 unnamed (sec. 30, Slagle Twp)

South Branch Twp

Garlett Pond (sec. 1, South Branch Twp)
Caberfae Sewage Disposal Ponds (sec. 2, South Branch Twp)
 unnamed (sec. 2, South Branch Twp)
 three unnamed (sec. 26, South Branch Twp)
 unnamed (sec. 27, South Branch Twp)
 two unnamed (sec. 35, South Branch Twp)

Springville Twp

unnamed backwater on Slagle Creek (sec. 6, Springville Twp)
 unnamed (sec. 8, Springville Twp)
 unnamed (sec. 10, Springville Twp)
 Preston Creek ponds (sec. 11, 12, Springville Twp)
Lake of the Woods (sec. 12, Springville Twp)
 unnamed (sec. 14, Springville Twp)
 unnamed (sec 15, Springville Twp)
 unnamed backwater (sec. 17, Springville Twp)
Hodenpyl Dam Pond (sec. 19, 30, Springville Twp)
 unnamed (sec. 27, Springville Twp)
 unnamed backwater on Tar Creek (sec. 29, Springville Twp)

Wexford Twp

Glengary ponds/flooding (sec. 1, 2, Wexford Twp)
 unnamed backwaters in Cotton Creek (sec. 4, Wexford Twp)

unnamed backwaters (sec. 3,4, Wexford Twp)
unnamed backwaters (sec. 4, Wexford Twp).
two unnamed (sec. 9, Wexford Twp)
unnamed (sec. 16, Wexford Twp)
unnamed (sec. 18, Wexford Twp)
unnamed backwater in Fletcher Creek (sec. 21, Wexford Twp)
unnamed backwater (behind railroad grade), (sec. 25, 36, Wexford Twp)
unnamed backwater in Fletcher Creek (sec. 28, Wexford Twp)
unnamed backwater in Fletcher Creek (sec. 34, Wexford Twp)
unnamed (sec. 35, Wexford Twp)

Significant Wetlands

Headwaters to westerly unnamed feeder creeks to Fletcher Creek (sections 7, 18, Wexford Twp)
Network of wetlands which are headwaters to Silver Creek and

feeders, Buttermilk Creek feeders, and to the west of Manton Creek (sec. 7, 8, 17, 18,19, 20, 30, 32, 33, Liberty Twp; 11, 14, 15, 25, 26, 35 Greenwood Twp)
Headwaters of Negro Creek and feeders/Poplar Creek (sec. 24, 25, Henderson Twp)
The bayous and valley associated with the Big Manistee and Pine Rivers
Thousand Acre Swamp (a.k.a. Brandy Brook Waterfowl Area, Mitchell Creek Waterfowl Area) (sec. 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 18, Cherry Grove Twp; sec. 26, 27, 28, 32, 33, 34, 35 Selma Township)
Heritage-Cadillac Nature Study Area (sec. 36, Selma Twp; sec. 31, Haring Twp; sec. 6 Clam Lake Twp)

Appendix C5: Wexford County Soils

Summary of Soil Characteristics.

Sandy Soils

1. Rubicon-Montcalm-Graycalm

Nearly level to steep, somewhat excessively drained and well drained sandy soils on moraines, till plains, and outwash plains.

11A *Croswell sand, 0-4% slopes*

This nearly level and undulating, moderately well drained soil is on low flats and benches and is adjacent to drainageways and bogs. Individual areas are irregular in shape and range from about 5 to 300 acres.

20B *Montcalm-Graycalm complex*

This map unit consists of nearly level and undulating, well drained Montcalm soils and somewhat excessively drained Graycalm soils. Areas of Montcalm and Graycalm soils are intermingled on plains and knolls. The map unit is irregular in shape and ranges from about 10 to 700 acres. The Montcalm soil makes up about 45 to 55 percent of the unit, and the Graycalm soil makes up about 30 to 40 percent of the unit. Areas of these soils are so intricately mixed or so small in size that mapping them separately is not practical.

20C *Montcalm-Graycalm complex 6-12% slopes*

This map unit consists of rolling, well drained Montcalm soils and somewhat excessively drained Graycalm soils. Areas of the Montcalm and Graycalm soils are intermingled on knolls and ridges. The map unit is irregular in shape and ranges from 10 to 300 acres. The Montcalm soil makes up about 40 to 50 percent of the unit, and the Graycalm soil makes up about 30 to 40 percent of the unit. Areas of these soils are so intricately mixed or so small in size that mapping them separately is not practical.

20E *Montcalm-Graycalm complex, 12-30% slopes*

This map unit consists of rolling to steep, well drained Montcalm soils and somewhat excessively drained Graycalm soils. Areas of the Montcalm and Graycalm soils are intermingled on hills, knolls, and ridges. Individual areas are irregular in shape and range from about 5 to 300 acres. The Montcalm soil makes up about 40 to 50 percent of the unit, and the Graycalm soil makes up about 30 to 40 percent of the unit. Areas of these soils are so intricately mixed or so small in size that mapping them separately is not practical.

23B *Rubicon sand, 0-12% slopes*

This nearly level to gently rolling, excessively drained soil is on plains, ridges, and knolls.

Individual areas are irregular in shape and range from about 10 to 700 acres.

23E *Rubicon sand, 12-40% slopes*

This rolling to steep, excessively drained soil is on hills and ridges. Individual areas are irregular in shape and range from about 5 to 200 acres.

24D *Rubicon sand, 23-40% slopes, severely eroded*

This rolling to steep, excessively drained soil is on knolls, hills, and ridges. Individual areas are generally rounded in shape and range from about 3 to 50 acres.

25 *Pits*

This map unit consists of open excavations. The original soil material has been excavated. The pits range from about 3 to 70 acres and range in depth from about 5 to 50 feet or more. The sides of the pits are very steep. Some pits have been excavated below the water table and have shallow pools of water in the bottoms much of the time.

35B *Mancelona-East Lake complex, 0-6% slopes*

This map unit consists of nearly level and undulating, somewhat excessively drained soils. Areas of the Mancelona and East Lake soils are intermingled on broad plains. This map unit is irregular in shape and ranges from about 10 to 300 acres. The Mancelona soil makes up about 40 to 50 percent of the unit, and the East lake soil makes up about 35 to 45 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

2. Grayling-Graycalm

Nearly level to moderately steep, excessively drained and somewhat excessively drained sandy soils on outwash plains, till plains, and low moraines.

13B *Grayling sand, 0-6% slopes*

This nearly level and undulating, excessively drained soil is on broad outwash plains. Individual areas range from about 300 acres to several square miles.

29B *Graycalm-Grayling sands, 0- 6% slopes*

This map unit consists of nearly level and undulating, somewhat excessively drained Graycalm soils and excessively drained Grayling soils. Areas of Graycalm and Grayling soils are intermingled on broad plains. This map unit ranges from about 600 acres to several square miles. The Graycalm soil makes up about 75 percent of the unit, and the Grayling soil makes up about 20 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

29D *Graycalm-Grayling sands, 6-30% slopes*

This map unit consists of gently rolling to moderately steep, somewhat excessively drained Graycalm soils and excessively drained Grayling soils. Areas of Graycalm and Grayling soils are intermingled on knolls and hills. This map unit is irregular in shape and ranges from about 10 to 200 acres. The Graycalm soil makes up about 60 to 70 percent of the unit, and the Grayling soil makes up about 20 to 25 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

3. Kalkaska

Nearly level to steep, somewhat excessively drained and well drained sandy soils on outwash plains, till plains and moraines.

15B *Kalkaska sand, 0-6% slopes*

This nearly level and undulating, somewhat excessively drained soil is on plains and knolls. Individual areas are irregular in shape and range from about 10 to 1,000 acres.

15C *Kalkaska sand, 6-12% slopes*

This gently rolling, somewhat excessively drained soil is on ridges and knolls. Individual areas are irregular in shape and range from about 10 to 200 acres.

15E *Kalkaska sand, 12-40% slopes*

This rolling to steep, somewhat excessively drained soil is on ridges and hills. Individual areas are irregular in shape and range from about 5 to 500 acres.

30B *Kalkaska-East Lake sands, 0-6% slopes*

This map unit consists of nearly level and undulating, somewhat excessively drained soils. Areas of Kalkaska and East lake soils are intermingled on broad plains. This map unit is irregular in shape and ranges from about 5 acres to 200 acres. The Kalkaska soil makes up about 50 to 60 percent of the unit, and the East Lake soil makes up about 30 to 35 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

30C *Kalkaska-East Lake sands, 6-12% slopes*

This map unit consists of gently rolling, somewhat excessively drained soils. Areas of the Kalkaska and East Lake soils are intermingled on ridges and knolls. This map unit is irregular in shape and ranges from about 10 to 100 acres. The Kalkaska soil makes up about 50 to 60 percent of the unit, and the East Lake soil makes up about 25 to 35 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

30E *Kalkaska-East Lake sands, 12-30% slopes*

This map unit consists of rolling to moderately steep, somewhat excessively drained soils. Areas of the Kalkaska and East Lake soils are intermingled on hills and ridges. This map unit is irregular in shape and ranges from about 10 to 300 acres. The Kalkaska soil makes up about 50

to 60 percent of the unit, and the East lake soil makes up about 30 to 35 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

36B *Kalkaska sand, banded substratum, 0-6% slopes*

This nearly level and undulating, well drained soil is on flats and swales between hills. Individual areas are irregular in shape and range from about 10 to 300 acres.

36C *Kalkaska sand, banded substratum, 6-12% slopes*

This gently rolling, well drained soil is on knolls and foot slopes of hills. Individual areas are irregular in shape and range from about 10 to 50 acres.

36E *Kalkaska sand, banded substratum, 12-40% slopes*

This rolling to very steep, well drained soil is on ridges and hills. Individual areas are irregular in shape and range from about 100 acres to 500 acres.

Sandy Loam Soils

5. Emmet-Montcalm

Nearly level to steep, well drained loamy and sandy soils on till plains and moraine.

12B *Emmet-Montcalm complex, 0-6% slopes*

This map unit consists of nearly level and undulating, well drained soils. Areas of Emmet and Montcalm soils are intermingled on plains and knolls. The map unit is irregular in shape and ranges from about 5 to 120 acres. The Emmet soil makes up about 60 to 65 percent of the unit, and the Montcalm soil makes up about 20 to 25 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

12C *Emmet-Montcalm complex, 6-12% slopes*

This map unit consists of gently rolling, well drained soils. Areas of Emmet and Montcalm soils are intermingled on ridges and knolls. The map unit is irregular in shape and ranges from about 5 to 400 acres. The Emmet soil makes up about 45 to 55 percent of the unit, and the Montcalm soil makes up about 35 to 45 percent of the unit. Areas of these soils are so intricately mixed or so small in size that mapping them separately is not practical.

12D *Emmet-Montcalm complex, 12-18% slopes*

This map unit consists of rolling, well drained soils. Areas of Emmet and Montcalm soils are intermingled on high knolls. The map unit is irregular in shape and ranges from about 5 to 1000 acres or more. The Emmet soil makes up about 50 to 55 percent of the unit, and the Montcalm soil makes up about 45 to 50 percent of the unit. Areas of these soils are so intricately mixed or so small in size that mapping them separately is not practical.

12E *Emmet-Montcalm complex, 18-40% slopes*

This map unit consists of moderately steep and steep, well drained soils. Areas of Emmet and

Montcalm soils are intermingled on hills and ridges. The map unit is irregular in shape and ranges from about 5 to 300 acres. The Emmet soil makes up 45 to 55 percent of the unit, and the Montcalm soil makes up 35 to 45 percent of the unit. Areas of these soils are so intricately mixed or so small in size that mapping them separately is not practical.

7. Hodenpyl-Karlin

Nearly level and undulating, well drained and somewhat excessively drained loamy and sandy soils on outwash plains.

16B *Hodenpyl-Karlin complex, 0-4% slopes*

This map unit consists of the nearly level and undulating, well drained Hodenpyl soil and the somewhat excessively drained Karlin soil. Areas of the Hodenpyl and Karlin soils are intermingled on plains. Most of this unit is in one large area making up about 6,300 acres and is very irregular in shape. The Hodenpyl soil and the Karlin soil are each about 48 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

Loam and Clay-Loam Soils

6. Nester-Kawkawlin-Manistee

Nearly level to steep, well drained and somewhat poorly drained loamy and sandy soils on till plains and moraines.

17A *Kawkawlin loam, 0-4% slopes*

This nearly level and undulating, somewhat poorly drained soil is on low flats and in drainageways. Individual areas are irregular in shape and range from about 5 to 120 acres.

21B *Nester sandy loam, 1-6% slopes*

The nearly level and undulating, well drained soil is in plans and knolls. Individual areas are irregular in shape and range from about 5 to 150 acres.

21C *Nester sandy loam, 6-12% slopes*

This gently rolling, well drained soil is on ridges and knolls. Individual areas are irregular in shape and range from 5 to 100 acres.

21E *Nester loam, 12-40% slopes*

This rolling to steep, well drained soil is on hills and on steep side slopes adjacent to flood plains. Individual areas are irregular or elongated in shape and range from about 5 to 100 acres.

26B *Manistee-Montcalm loamy sands, 0-6% slopes*

This map unit consists of nearly level and undulating, well drained soils. Areas of the Manistee and Montcalm soils are intermingled on plains and knolls. This map unit is irregular in shape and ranges from about 5 to 250 acres. The Manistee soil makes up about 50 to 60 percent of the unit, and the Montcalm soil makes up about 20 to 30 percent of the unit. These soils are so intricately mixed or so small that mapping them separately is not practical.

26C *Manistee-Montcalm loamy sands, 6-12% slopes*

This map unit consists of gently rolling, well

drained soils. Areas of the Manistee and Montcalm soils are intermingled on ridges and knolls. This map unit is irregular in shape and ranges from about 5 acres to 100 acres. The Manistee soil makes up about 50 to 60 percent of the unit, and the Montcalm soil makes up about 20 to 30 percent of the unit. These soils are so intricately mixed or so small in size that mapping them separately is not practical.

28C *Dighton loam, 6-12% slopes*

This gently rolling, well drained soil is on knolls and short, uneven side slopes. Individual areas are irregular in shape and range from about 5 to 100 acres.

Somewhat to Very Poorly Drained soils

4. Tawas-Croswell-Lupton (wetland soils)

Nearly level and undulating, very poorly drained and moderately well drained mucky and sandy soils in bogs, depressions, and drainageways and on low flats and benches.

10A *Au Gres-Finch sands, 0-4% slopes*

This map unit consists of nearly level and undulating, somewhat poorly drained soils. Areas of these soils are intermingled on low flats and benches.

14A *Allendale loamy sand, 0-4% slopes*

This nearly level and undulating, somewhat poorly drained soil is on low flats and in drainageways. Individual areas are irregular in shape and range from about 5 to 100 acres.

18 *Loxley peat*

This nearly level, very poorly drained soil is in bogs. This soil is subject to ponding. Individual areas are generally rounded and range from about 5 to 400 acres.

19 *Lupton muck*

This nearly level, very poorly drained soil is in bogs, depressions, and drainageways. This soil is subject to ponding. Individual areas are irregular in shape and range from about 10 to 1,200 acres.

22 *Tawas-Roscommon association*

This map unit consists of nearly level, very poorly drained soils in drainageways and bogs. These soils are subject to ponding. Roscommon soils are generally on the edges of the unit. Tawas soils generally are in the center. Individual areas are elongated or irregular in shape and range from about 5 to 800 acres. Some areas of this unit are predominantly Tawas soil, and other areas are predominantly Roscommon soil. Both sides are present in most areas.

Flood Plain Soils

34 *Winterfield sand*

This nearly level, somewhat poorly drained soil is on flood plains. This soil is subject to frequent flooding. Individual areas are elongated in shape and range from about 5 to 360 acres.

37 *Fluvaquents and Histosols*

This map unit consists of nearly level, poorly drained and very poorly drained soils on the

flood plains of river valleys and their tributaries. These soils are frequently flooded. Individual areas are elongated and irregular in shape. They range from about 10 acres to 600 acres. The Fluvaquents make up 50 to 60 percent of this map unit, and the Histosols make up 40 to 50 percent. The short, steep side slopes adjacent to

some of the narrow drainageways are included in this unit.

A detailed review of the soil found in the Wexford County *Soils Survey of Lake and Wexford Counties Michigan*.

Appendix C6: Population Data

THE following is available 2000 U.S. Census data which does not appear in the text of this report. Additional 2000 Census is not anticipated for Michigan until June 2002. Farther below is additional 1990 U.S. Census data on population.

Political Subdivision	2000 Census Total Pop.	2000 U.S. Census Persons												Total Minorities	%
		Race										Ethnic			
		White	% White	Am. Indian, Eskimo & Aleut	% Indian, Esk. & Al.	Black	% Black	Asian & Pacific Islander	% Asian & Pacific Islander	Other	% Other	Spanish Origin	% Spanish Origin		
Wexford County (83)	30,484	29,659	97.3%	225	0.70%	57	0.20%	136	0.40%	16	0.20%	307	1.00%	492	2.70%
Antioch Twp.	810	785	96.9%	14	1.70%	0	0.00%	4	0.50%	0	0.00%	7	0.86%	23	2.84%
Boon Twp & Harrietta V.	839	825	98.3%	1	0.18%	0	0.00%	0	0.00%	13	1.50%	19	2.30%	14	1.70%
Cadillac City	10,000	9,655	96.5%	92	0.90%	21	0.20%	66	0.70%	166	1.70%	118	1.17%	345	3.50%
Cedar Creek Twp.	1,489	1,448	97.2%	10	0.70%	6	0.59%	6	0.59%	19	1.30%	18	1.78%	41	3.85%
Cherry Grove Twp.	2,328	2,281	98.0%	9	0.51%	2	0.11%	14	0.60%	22	0.90%	16	0.70%	47	2.00%
Clam Lake Twp.	2,238	2,213	98.9%	6	0.35%	3	0.17%	2	0.10%	14	0.60%	11	0.50%	25	1.10%
Colfax Twp.	763	761	99.7%	0	0.00%	0	0.00%	0	0.00%	2	0.30%	1	0.18%	2	0.36%
Greenwood Twp.	542	529	97.6%	2	0.54%	3	0.81%	0	0.00%	8	1.50%	10	1.80%	13	2.40%
Hanover Twp. & Buckley V.	1,750	1,658	94.7%	27	1.50%	9	0.50%	4	0.24%	52	3.00%	58	3.30%	92	5.30%
Haring Charter Twp.	2,962	2,905	98.1%	17	0.68%	11	0.40%	10	0.40%	4	0.10%	16	0.50%	57	1.90%
Henderson Twp.	176	174	98.9%	0	0.00%	0	0.00%	0	0.00%	2	1.10%	3	1.70%	2	1.10%
Liberty Twp.	800	778	97.2%	7	0.90%	0	0.00%	5	0.60%	10	1.30%	6	0.80%	22	2.80%
Manton City	1,221	1,196	97.9%	5	0.40%	0	0.00%	3	0.20%	17	1.40%	25	2.00%	14	1.10%
Selma Twp.	1,915	1,860	97.1%	12	1.50%	0	0.00%	21	2.63%	22	1.10%	13	0.70%	55	2.90%
Slagle Twp.	569	562	98.8%	5	0.90%	0	0.00%	0	0.00%	2	0.40%	0	0.00%	7	1.20%
South Branch Twp.	330	324	98.2%	0	0.00%	0	0.00%	0	0.00%	6	1.80%	5	1.50%	6	1.80%
Springville Twp. & Mesick V.	2,120	2,092	98.7%	22	1.00%	8	0.40%	3	0.10%	31	2.50%	22	1.00%	86	4.10%
Wexford Twp.	798	771	96.6%	10	1.30%	1	0.10%	0	0.00%	16	2.00%	5	0.60%	27	3.40%

The above is what is available from the 2000 U.S. Census data which does not appear in the text of this report. Additional 2000 Census is not anticipated for Michigan until June 2002. Below is additional 1990 U.S. Census data on population.

Children Ever Born per 1,000 Women

	15-24 Years	25-34 Years	35-44 Years
Wexford County (83)	9,128	31,634	40,599
Antioch Twp.	714	1,739	2,225
Boon Twp.	519	1,524	2,564
Harrietta Village	0	2,000	2,375
Cadillac City	632	1,528	2,107
Cedar Creek Twp.	772	1,826	2,333
Cherry Grove Twp.	368	1,551	2,286
Clam Lake Twp.	222	1,718	2,291
Colfax Twp.	419	1,939	2,317
Greenwood Twp.	333	2,120	2,625
Hanover Twp.	821	1,662	2,345
Buckley Village	839	1,487	2,738
Haring Charter Twp.	204	1,591	2,197
Henderson Twp.	1,222	1,800	1,000
Liberty Twp.	260	1,886	2,443
Manton City	549	1,918	2,358
Selma Twp.	340	1,599	2,269
Slagle Twp.	286	1,960	1,917
South Branch Twp.	563	1,750	2,500
Springville Twp.	404	1,843	2,172
Mesick Village	500	1,485	2,156
Wexford Twp.	500	1,680	2,650

* Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Nativity and Place of Birth

	Native Population	% Born in Michigan	Foreign-born Population	Entered the U.S. in 1980-1990
Wexford County (83)	26,013	86.3%	347	84
Antioch Twp.	590	83.2%	6	4
Boon Twp.	544	88.6%	10	2
Harrietta Village	154	77.3%	6	0
Cadillac City	9,952	86.1%	152	55
Cedar Creek Twp.	985	87.7%	9	0
Cherry Grove Twp.	1,731	85.2%	32	0
Clam Lake Twp.	1,726	88.2%	13	4
Colfax Twp.	499	91.6%	8	0
Greenwood Twp.	383	87.7%	0	0
Hanover Twp.	813	76.1%	7	4
Buckley Village	467	77.1%	7	4
Haring Charter Twp.	2,448	88.1%	53	8
Henderson Twp.	167	92.8%	2	0
Liberty Twp.	643	87.2%	6	0
Manton City	1,152	86.8%	9	0
Selma Twp.	1,598	88.2%	9	1
Slagle Twp.	441	80.7%	11	0
South Branch Twp.	324	83.3%	4	0
Springville Twp.	1,407	82.9%	7	2
Mesick Village	445	86.7%	0	0
Wexford Twp.	610	92.1%	9	4

Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

1990 Languages Spoken at Home Statistics

Municipality	Persons five years and over	Speak a language other than English	Do not speak English very well	Speak Spanish at home	Do not speak English Very Well	Speak Asian or Pacific Island	Do not speak English very well
Wexford County (83)	24,293	613	238	194	62	81	39
Antioch Twp.	565	17	5	5	0	0	0
Boon Twp.	525	22	2	5	2	0	0
Harrieta Village	153	4	2	0	0	0	0
Cadillac City	9,233	319	124	127	43	52	21
Cedar Creek Twp.	909	15	5	3	0	3	3
Cherry Grove Twp.	1,654	16	0	6	0	3	0
Clam Lake Twp.	1,614	31	10	12	4	0	0
Colfax Twp.	477	7	0	1	0	0	0
Greenwood Twp.	351	3	3	1	1	0	0
Hanover Twp.	744	4	0	0	0	0	0
Buckley Village	420	4	0	0	0	0	0
Haring Charter Twp.	2,319	52	17	14	0	19	13
Henderson Twp.	149	9	7	0	0	0	0
Liberty Twp.	623	27	19	9	9	2	2
Manton City	1,057	4	0	0	0	0	0
Selma Twp.	1,485	16	8	0	0	0	0
Slagle Twp.	434	15	11	0	0	0	0
South Branch Twp.	312	14	0	4	0	0	0
Springville Twp.	1,278	29	16	78	3	2	0
Mesick Village	405	5	3	0	0	0	0
Wexford Twp.	564	13	11	0	0	0	0

Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Vehicles Available 1990

Municipality	Occupied Housing Units	None	One	Two	Three or more
Wexford County (83)	9,923	827	3,458	3,889	1,749
Antioch Twp.	253	25	53	75	77
Boon Twp.	186	5	47	65	53
Harrieta Village	55	8	20	22	5
Cadillac City	4,001	563	1,644	1,367	427
Cedar Creek Twp.	346	8	90	158	89
Cherry Grove Twp.	654	12	183	343	116
Clam Lake Twp.	616	14	160	276	166
Colfax Twp.	204	0	58	83	42
Greenwood Twp.	128	0	30	64	35
Hanover Twp.	293	16	79	117	80
Buckley Village	148	16	48	46	38
Haring Charter Twp.	867	27	216	414	210
Henderson Twp.	64	0	38	24	13
Liberty Twp.	239	9	71	110	49
Manton City	468	48	248	132	40
Selma Twp.	613	28	186	286	113
Slagle Twp.	185	8	62	81	25
South Branch Twp.	120	9	48	35	38
Springville Twp.	493	45	182	185	98
Mesick Village	199	18	77	49	27
Wexford Twp.	193	10	63	74	78

Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Percent Below Poverty Level

Municipality	All Persons	Persons 18 years & older	Persons 65 years and over	Related Children Under 18 years	With related Children under five years	With related children 5-17 years	unrelated individuals	All families	With related children under 18 years	With related children under five years	Female household families	With related children under 18 years	With related children under five years
Wexford County (83)	14.60%	12.40%	13.70%	19.50%	23.10%	18.20%	27.10%	12.10%	18.00%	22.10%	40.60%	53.00%	64.50%
Antioch Twp.	15.30%	13.80%	18.80%	16.70%	32.30%	12.80%	37.10%	11.90%	16.20%	25.90%	61.50%	50.00%	100.00%
Boon Twp.	18.30%	14.40%	23.50%	24.40%	22.20%	24.80%	47.40%	14.70%	19.62%	33.30%	28.60%	66.70%	100.00%
Harrieta Village	31.30%	22.60%	23.30%	53.30%	28.60%	57.90%	50.00%	15.80%	37.50%	33.30%	0.00%	0.00%	0.00%
Cadillac City	15.50%	13.20%	15.00%	20.80%	25.00%	19.00%	27.60%	12.90%	19.40%	23.30%	43.10%	51.90%	61.50%
Cedar Creek Twp.	20.20%	15.60%	8.80%	30.00%	37.60%	26.90%	22.60%	16.60%	25.90%	41.20%	21.40%	33.30%	33.30%
Cherry Grove Twp.	8.60%	6.90%	10.70%	12.20%	12.80%	12.00%	22.70%	6.40%	10.20%	10.40%	34.40%	39.10%	33.30%
Clam Lake Twp.	5.10%	5.20%	5.20%	4.10%	4.00%	4.10%	23.00%	4.00%	5.60%	7.10%	16.70%	33.30%	50.00%
Colfax Twp.	7.60%	5.10%	0.00%	15.40%	0.00%	19.40%	12.50%	6.70%	15.20%	0.00%	23.50%	57.10%	0.00%
Greenwood Twp.	11.40%	12.50%	21.70%	8.60%	0.00%	11.50%	28.00%	10.90%	3.90%	0.00%	0.00%	0.00%	0.00%
Hanover Twp.	21.60%	16.60%	12.80%	30.90%	38.20%	28.20%	21.10%	19.70%	28.90%	35.20%	52.30%	74.10%	54.50%
Buckley Village	27.40%	20.60%	26.30%	37.30%	53.70%	30.90%	21.70%	26.50%	30.40%	45.20%	72.00%	68.20%	54.50%
Haring Charter Twp.	6.00%	5.90%	14.10%	6.10%	0.00%	8.00%	18.90%	4.70%	5.90%	0.00%	10.00%	33.30%	0.00%
Henderson Twp.	27.60%	29.30%	40.00%	20.00%	50.00%	0.00%	23.10%	35.80%	32.10%	50.00%	50.00%	50.00%	100.00%
Liberty Twp.	15.60%	14.80%	18.80%	17.10%	42.30%	13.00%	36.70%	10.90%	15.10%	21.10%	42.90%	50.00%	50.00%
Manton City	23.20%	18.00%	14.40%	34.50%	41.00%	31.80%	33.70%	18.10%	28.80%	36.40%	50.90%	60.00%	80.00%
Selma Twp.	12.90%	10.90%	7.10%	18.60%	20.50%	17.70%	21.60%	10.30%	18.50%	16.50%	38.60%	64.70%	80.00%
Slagle Twp.	23.00%	19.60%	18.70%	34.30%	38.90%	33.30%	37.10%	14.80%	22.20%	25.00%	35.70%	37.50%	100.00%
South Branch Twp.	19.80%	14.80%	13.00%	30.00%	62.50%	21.90%	48.90%	9.70%	19.00%	55.60%	33.30%	50.00%	100.00%
Springville Twp.	23.50%	19.70%	10.80%	31.50%	31.60%	31.50%	21.20%	23.40%	29.70%	29.70%	62.00%	65.80%	77.80%
Mesick Village	26.70%	23.00%	11.30%	34.10%	48.80%	26.70%	15.90%	31.20%	36.00%	40.00%	86.40%	81.30%	100.00%
Wexford Twp.	20.40%	19.00%	25.60%	23.60%	27.30%	22.00%	36.90%	17.10%	20.40%	31.00%	40.00%	50.00%	100.00%

Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

1990 School Enrollment and Educational Attainment Statistics

Municipality	Persons 3 years+, enrolled in school	Pre-preliminary school	Elementary or High School	% in private school	College	Persons 25 years and over	Less than 9 th grade attainment	9 th - 12 th no diploma	High School Graduate	Some college, no degree attained	Associates Degree	Bachelor degree	Graduate or professional degree	% High School graduate or higher	% bachelor degree or higher
Wexford County	6,764	588	5,184	5.0%	992	16,597	1,555	2,658	6,638	2,720	930	1,499	597	74.6%	12.6%
Antioch Twp.	142	12	107	0.0%	23	405	44	96	157	65	18	15	12	65.4%	6.7%
Boon Twp.	167	15	142	7.0%	10	323	30	53	163	40	11	23	3	74.3%	8.0%
Harrieta Village	40	2	38	5.3%	0	109	8	40	46	3	5	7	0	56.0%	6.4%
Cadillac City	2,477	213	1,883	6.8%	381	6,354	641	928	2,311	1,057	434	726	257	75.3%	15.5%
Cedar Creek Twp.	246	20	194	1.0%	32	604	57	110	270	81	32	44	10	72.4%	8.9%
Cherry Grove Twp.	436	34	358	0.8%	44	1,177	41	144	427	206	85	197	77	84.3%	23.3%
Clam Lake Twp.	485	63	342	11.1%	80	1,113	67	129	410	246	78	134	49	82.4%	16.4%
Colfax Twp.	127	14	98	10.2%	15	338	30	60	134	72	22	9	11	73.4%	5.9%
Greenwood Twp.	107	6	86	0.0%	15	240	19	59	87	41	9	12	13	67.5%	10.4%
Hanover Twp.	248	15	215	9.8%	18	457	42	93	233	45	15	21	8	70.5%	6.3%
Buckley Village	160	10	132	2.3%	18	229	20	50	113	21	7	15	3	69.4%	7.9%
Haring Charter Twp.	700	72	502	3.2%	126	1,556	155	197	679	270	67	123	65	77.4%	12.1%
Henderson Twp.	32	4	24	0.0%	4	105	2	22	52	11	5	8	5	77.1%	12.4%
Liberty Twp.	187	12	158	0.0%	17	414	30	101	169	71	22	15	6	68.4%	5.1%
Manton City	337	23	245	0.0%	69	700	83	121	303	117	13	36	27	70.9%	9.0%
Selma Twp.	354	32	269	8.2%	53	1,048	99	163	451	169	44	89	33	75.0%	11.8%
Slagle Twp.	94	2	84	0.0%	8	328	33	98	122	45	8	19	3	60.1%	6.7%
South Branch Twp.	75	3	61	0.0%	11	223	36	24	100	36	18	8	1	73.1%	4.0%
Springville Twp.	395	34	296	0.0%	65	833	94	199	377	111	27	12	13	64.8%	3.0%
Mesick Village	109	12	84	0.0%	13	262	20	72	116	28	18	6	2	64.9%	3.1%
Wexford Twp.	155	14	120	10.0%	21	379	52	61	193	37	24	8	4	70.2%	3.2%

Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Appendix C7: Housing Data

THE following is additional 1990 U.S. Census data on housing.

Housing Occupancy and Tenure

Political Subdivision	Occupied Housing Units				Vacant Housing Units		Persons per owner-occupied unit	Persons per renter-occupied unit	Units with over one person per room
	Total	Owner-Occupied	% owner-Occupied	Renter Occupied	Total	for Seasonal/ Rec. Use			
Wexford County (83)	9,923	7,414	74.7%	2,509	2,939	2,166	0.00	0.00	229
Antioch Twp.	253	204	80.6%	49	100	71	2.59	2.90	4
Boon Twp.	186	159	85.5%	27	100	69	2.97	3.33	6
Cadillac City	4,001	2,498	62.4%	1,503	297	65	2.59	2.25	71
Cedar Creek Twp.	346	276	79.8%	70	77	49	2.91	2.99	13
Cherry Grove Twp.	654	571	87.3%	83	264	220	2.73	2.48	16
Clam Lake Twp.	616	526	85.4%	90	133	91	2.89	2.46	10
Colfax Twp.	204	188	92.2%	16	119	91	2.75	2.44	5
Greenwood Twp.	128	117	91.4%	11	130	110	2.89	3.09	7
Hanover Twp.	293	244	83.3%	49	218	161	2.83	2.92	7
Haring Charter Twp.	867	755	87.1%	112	45	15	2.94	2.48	22
Henderson Twp.	64	58	90.6%	6	43	41	2.57	2.17	1
Liberty Twp.	239	211	88.3%	28	80	59	2.71	2.46	9
Manton City	468	295	63.0%	173	54	21	2.46	2.52	9
Selma Twp.	613	510	83.2%	103	316	282	2.69	2.13	18
Slagle Twp.	185	154	83.2%	31	190	167	2.49	2.77	7
South Branch Twp.	120	100	83.3%	20	248	227	2.50	2.80	2
Springville Twp.	493	382	77.5%	111	436	370	2.66	2.89	22
Wexford Twp.	193	166	86.0%	27	89	57	2.89	3.22	0

Number of Units in a Structure

Political Subdivision	1-unit detached	1-unit attached	2 to 4 units	5 to 9 units	10 + units	Mobile home, trailer, & other	Percent M.H., trailer, & other
Wexford County (83)	8,990	71	579	258	346	2,618	20.35%
Antioch Twp.	245	1	3	0	0	104	29.46%
Boon Twp.	218	1	1	0	0	66	23.08%
Cadillac City	2,809	33	472	225	320	439	10.21%
Cedar Creek Twp.	314	1	3	1	0	104	24.59%
Cherry Grove Twp.	805	6	4	0	0	103	11.22%
Clam Lake Twp.	633	2	6	8	1	99	13.22%
Colfax Twp.	273	1	0	0	0	49	15.17%
Greenwood Twp.	177	0	0	0	0	81	31.40%
Hanover Twp.	292	2	22	0	0	195	38.16%
Haring Charter Twp.	737	3	4	8	0	160	17.54%
Henderson Twp.	76	0	0	0	0	31	40.79%
Liberty Twp.	217	0	1	0	0	101	31.66%
Manton City	358	5	33	12	24	90	17.24%
Selma Twp.	689	5	4	0	1	230	24.76%
Slagle Twp.	246	0	8	0	0	121	32.27%
South Branch Twp.	254	2	3	0	0	109	29.62%
Springville Twp.	454	9	15	4	0	447	48.12%
Wexford Twp.	193	0	0	0	0	89	31.56%

* Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Year Resident Took Residency in Housing Unit

Municipality	1989 to March 1990	1985 To 1988	1980 To 1984	1970 To 1979	1960 To 1969	1959 Or Earlier
Wexford County (83)	1,865	2,655	1,497	2,132	774	1,000
Antioch Twp.	45	68	24	42	17	34
Boon Twp.	23	42	32	37	14	22
Harrieta Village	2	19	13	12	7	2
Cadillac City	893	1,001	591	703	358	455
Cedar Creek Twp.	39	90	70	83	29	34
Cherry Grove Twp.	106	195	107	154	49	43
Clam Lake Twp.	80	181	77	165	55	58
Colfax Twp.	21	42	21	65	13	21
Greenwood Twp.	17	50	9	34	3	16
Hanover Twp.	54	72	51	82	14	19
Buckley Village	32	49	10	43	5	9
Haring Charter Twp.	110	222	149	238	70	78
Henderson Twp.	13	22	9	18	3	10
Liberty Twp.	35	70	46	45	15	28
Manton City	109	124	68	56	50	61
Selma Twp.	127	177	92	141	41	35
Siagle Twp.	22	34	36	53	13	18
South Branch Twp.	14	30	6	53	4	23
Springville Twp.	120	160	68	111	22	29
Mesick Village	45	49	15	41	11	10
Wexford Twp.	37	75	41	52	4	16

* Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Political Subdivision	Total Housing Units	Total Households	Households by Type					Non family households			Persons living in households	Persons / household	Total pop.	Group Quarters	
			Family households			Total	% total	Househ. living alone	Househ. 65+ years old	Instituted people				Other persons in group quarters	
			Total Family HH	Married Couple	Male Househ.										Female Househ.
Wexford County (83)	12,862	9,923	7,273	5,953	283	1,037	2,650	20.6%	2,276	1,076	26,107	2.63	26,360	229	24
Antioch Twp.	353	253	191	168	9	14	62	17.6%	54	24	671	2.65	671	0	0
Boon Twp.	286	186	156	137	6	13	30	10.5%	24	12	562	3.02	562	0	7
Cadillac City	4,298	4,001	2,689	1,995	109	565	1,332	31.0%	1,174	600	9,868	2.47	10,104	229	0
Cedar Creek Twp.	918	346	287	246	16	25	59	13.9%	48	20	1,013	2.93	1,013	0	0
Cherry Grove Twp.	749	654	519	480	7	32	135	14.7%	115	41	1,763	2.70	1,763	0	0
Clam Lake Twp.	323	204	163	142	9	12	41	12.7%	33	17	556	2.73	556	0	0
Colfax Twp.	258	128	104	95	3	6	24	9.3%	21	8	372	2.91	372	0	0
Greenwood Twp.	511	293	222	180	11	31	71	13.9%	59	29	826	2.82	826	0	0
Hanover Twp.	912	867	709	610	26	73	158	17.3%	119	37	2,501	2.88	2,501	0	0
Haring Charter Twp.	107	64	48	45	1	2	16	15.0%	15	8	162	2.53	162	0	0
Henderson Twp.	319	239	187	154	9	24	52	16.3%	39	20	641	2.68	641	0	0
Liberty Twp.	522	468	318	250	15	53	150	28.7%	136	83	161	2.48	1,161	0	17
Manton City	929	613	460	389	18	53	153	16.5%	122	39	1,590	2.59	1,607	0	0
Selma Twp.	375	185	135	119	4	12	50	13.3%	44	18	470	2.54	470	0	0
Slagle Twp.	368	120	96	83	7	6	24	6.5%	20	11	306	2.55	306	0	0
South Branch Twp.	929	493	362	291	10	61	131	14.1%	114	56	1,339	2.72	1,339	0	0
Springville Twp.	282	193	150	124	6	20	43	15.2%	37	12	567	2.94	567	0	0

Political Subdivision	Housing Unit Value and Rent Costs										CONTRACT RENT: Specified renter-occupied units				
	VALUE: Specified owner-occupied units										paying cash rent				
	Number of Units	Less than \$50,000	\$50,000 to \$99,999	\$100,000 to \$149,999	\$150,000 to \$199,999	\$200,000 to \$299,999	\$300,000 or more	Median	Number of units	Less than \$300/mo	\$300 to \$499/mo	\$500 to \$749/mo	\$750 to \$999/mo	\$1,000 or more/mo	Median
Wexford County (83)	4,645	2,954	1,375	198	75	31	12	\$41,200	2,236	803	1,287	124	22	0	\$279
Antioch Twp.	59	45	13	0	1	0	0	\$31,100	27	16	11	0	0	0	\$236
Boon Twp.	72	61	9	2	0	0	0	\$30,000	18	11	6	1	0	0	\$230
Cadillac City	2,033	1,453	472	58	30	13	7	\$37,000	1,447	455	863	108	21	0	\$260
Cedar Creek Twp.	107	86	21	0	0	0	0	\$35,500	45	19	26	0	0	0	\$327
Cherry Grove Twp.	409	97	239	41	16	13	3	\$68,300	64	18	43	3	0	0	\$334
Clam Lake Twp.	311	126	144	31	10	0	0	\$56,300	71	12	49	9	1	0	\$225
Colfax Twp.	60	38	19	1	2	0	0	\$41,900	7	5	2	0	0	0	\$280
Greenwood Twp.	31	22	8	1	0	0	0	\$36,300	8	1	7	0	0	0	\$271
Hanover Twp.	120	91	28	1	0	0	0	\$37,100	42	16	26	0	0	0	\$271
Haring Charter Twp.	508	264	206	30	7	1	0	\$49,000	94	33	61	0	0	0	\$250
Henderson Twp.	20	16	4	0	0	0	0	\$43,300	4	2	2	0	0	0	\$258
Liberty Twp.	66	46	19	0	0	0	1	\$40,000	18	8	10	0	0	0	\$243
Mantion City	224	197	27	0	0	0	0	\$30,400	162	87	75	0	0	0	\$283
Selma Twp.	288	141	107	27	8	4	1	\$51,000	83	27	53	3	0	0	\$221
Slagle Twp.	59	50	8	1	0	0	0	\$32,900	21	14	7	0	0	0	\$275
South Branch Twp.	31	18	9	3	1	0	0	\$42,500	12	4	8	0	0	0	\$228
Springville Twp.	189	158	29	2	0	0	0	\$31,400	97	64	33	0	0	0	\$220
Wexford Twp.	58	45	13	0	0	0	0	\$39,400	16	11	5	0	0	0	\$220

House Heating Fuel, 1990 Statistics

Municipality	Utility Gas	Bottled, Tank, Or L.p. Gas	Elec.	Fuel Oil Kerosene, Etc.	Coal Or Coke	Wood	Solar Energy	Other Fuel	No Fuel Used
Wexford County (83)	5,107	1,638	417	1,100	0	1,627	2	21	11
Antioch Twp.	2	96	13	46	0	73	0	0	0
Boon Twp.	0	67	5	30	0	68	0	0	0
Harrieta Village	0	37	3	9	0	6	0	0	0
Cadillac City	3,511	66	184	72	0	150	0	7	11
Cedar Creek Twp.	43	68	16	95	0	121	2	0	0
Cherry Grove Twp.	330	122	15	86	0	99	0	2	0
Clam Lake Twp.	173	149	22	138	0	134	0	0	0
Colfax Twp.	0	39	8	39	0	97	0	0	0
Greenwood Twp.	0	44	10	34	0	41	0	0	0
Hanover Twp.	2	119	15	60	0	92	0	4	0
Buckley Village	2	45	11	42	0	48	0	0	0
Haring Charter Twp.	437	177	15	121	0	117	0	0	0
Henderson Twp.	0	10	0	11	0	54	0	0	0
Liberty Twp.	7	115	12	40	0	65	0	0	0
Manton City	387	6	23	4	0	42	0	6	0
Selma Twp.	215	160	34	88	0	114	0	2	0
Slagle Twp.	0	72	5	32	0	67	0	0	0
South Branch Twp.	0	34	4	16	0	76	0	0	0
Springville Twp.	0	219	36	119	0	136	0	0	0
Mesick Village	0	79	210	46	0	25	0	0	0
Wexford Twp.	0	75	0	69	0	81	0	0	0

Selected Monthly Owner Costs as a Percentage of Household Income in 1989

Village/townships	Specified Owner Occupied Housing Units	Less Than 20%	20% To 24%	25% To 29%	30% To 34%	35% Or More	Not Computed
Wexford County (83)	4,726	3,105	652	369	157	413	30
Antioch Twp.	59	35	5	9	5	5	0
Boon Twp.	54	28	2	6	8	10	0
Harrieta Village	27	15	0	5	2	5	0
Cadillac City	2,075	1,461	220	162	50	164	18
Cedar Creek Twp.	118	73	16	10	4	15	0
Cherry Grove Twp.	413	237	57	58	22	39	0
Clam Lake Twp.	313	191	50	32	17	23	0
Colfax Twp.	51	27	4	6	3	11	0
Greenwood Twp.	33	27	1	0	2	0	3
Hanover Twp.	122	74	18	8	8	14	0
Buckley Village	65	31	10	5	8	11	0
Haring Charter Twp.	523	376	85	19	11	32	0
Henderson Twp.	20	15	2	0	0	0	3
Liberty Twp.	63	32	18	9	3	1	0
Manton City	227	124	43	19	11	28	2
Selma Twp.	298	183	64	18	9	24	0
Slagle Twp.	73	43	18	0	1	11	0
South Branch Twp.	33	16	12	2	3	0	0
Springville Twp.	183	125	16	9	0	29	4
Mesick Village	80	51	9	0	0	18	2
Wexford Twp.	68	38	21	2	0	7	0

Selected Monthly Tenant Costs as a Percentage of Household Income in 1989

Village/Township	Specified Renter Occupied Housing Units	Less Than \$200	\$200 To \$299	\$300 To \$499	\$500 To \$749	\$750 To \$999	\$1,000 Or More	No Cash Rent	Median (Dollars)
Wexford County (83)	2,367	285	439	1,129	312	74	3	122	
Antioch Twp.	31	0	7	16	2	0	0	6	\$339.00
Boon Twp.	29	0	7	16	0	0	0	6	\$353.00
Harrieta Village	19	0	8	11	0	0	0	0	\$319.00
Cadillac City	1,496	232	302	629	241	65	0	27	\$345.00
Cedar Creek Twp.	35	0	2	25	0	0	0	8	\$363.00
Cherry Grove Twp.	72	3	6	37	14	6	0	6	\$418.00
Clam Lake Twp.	81	5	5	46	15	3	0	7	\$450.00
Colfax Twp.	5	0	2	3	0	0	0	0	\$325.00
Greenwood Twp.	13	0	1	12	0	0	0	0	\$442.00
Hanover Twp.	48	0	11	22	12	0	3	0	\$410.00
Buckley Village	34	0	7	17	7	0	3	0	\$386.00
Haring Charter Twp.	100	0	12	72	5	0	0	11	\$388.00
Henderson Twp.	10	0	0	10	0	0	0	0	\$375.00
Liberty Twp.	30	0	4	16	0	0	0	7	\$334.00
Manton City	173	25	36	93	9	0	0	10	\$332.00
Selma Twp.	93	5	11	56	9	0	0	12	\$355.00
Slagle Twp.	16	0	9	7	0	0	0	0	\$290.00
South Branch Twp.	10	0	0	6	0	0	0	4	\$338.00
Springville Twp.	108	12	18	59	5	0	0	14	\$339.00
Mesick Village	44	12	13	19	0	0	0	0	\$263.00
Wexford Twp.	17	3	6	4	0	0	0	4	\$269.00

Gross Rent as a Percentage of Household Income in 1989

Village/township	Specified Renter Occupied Housing Units	Less Than 20%	20% To 24%	25% To 29%	30% To 34%	35% Or More	Not Computed
Wexford County (83)	2,367	652	267	323	222	777	115
Antioch Twp.	31	7	1	0	0	17	6
Boon Twp.	29	12	5	0	2	4	6
Harrieta Village	19	6	3	0	2	8	0
Cadillac City	1,496	394	186	246	158	485	27
Cedar Creek Twp.	35	8	5	0	5	9	8
Cherry Grove Twp.	72	28	12	5	8	12	7
Clam Lake Twp.	81	30	6	7	5	26	7
Colfax Twp.	5	0	2	0	0	3	0
Greenwood Twp.	13	1	0	0	3	9	0
Hanover Twp.	48	9	10	0	2	27	0
Buckley Village	34	5	5	0	2	22	0
Haring Charter Twp.	100	36	5	8	16	24	0
Henderson Twp.	10	7	0	0	0	3	0
Liberty Twp.	30	11	4	4	0	4	7
Manton City	173	53	12	27	15	56	10
Selma Twp.	93	30	8	15	1	27	12
Slagle Twp.	16	6	0	0	2	8	0
South Branch Twp.	10	2	2	0	0	2	4
Springville Twp.	108	16	7	8	5	55	17
Mesick Village	44	8	4	8	5	19	0
Wexford Twp.	17	2	2	3	0	6	4

* Village data is included in township data (when adding columns do not add in village lines). (Source: 1990 U.S. Census)

Appendix C8: Traffic Count Data

THE is traffic count data provided by the Wexford County Road Commission and Michigan Department of Transportation.

Average Daily Traffic (ADT) Count by Municipality³⁴³

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Pri- mary Road/ Major Street ADT	Local Road/ Minor Street ADT
Antioch Twp	M-115	northwest of Road Commission	MDOT 1999	6,700	
Antioch Twp	M-42	east of Mesick Village	MDOT 1999	1,700	
Antioch Twp	W 14 Road	west of N 19 Road	June 1984		107
Antioch Twp	N 15 Road	north of M-115	June 1984		78
Antioch Twp	N 19 Road	south of M-42	May 1986	210	
Antioch Twp	N 19 Road	north of M-115	June 1984	167	
Antioch Twp	N 19½ Road	north of M-42	June 1984		79
Antioch Twp	N 19½ Road	south of M-42	June 1984		81
Antioch Twp	N 19½ Road	north of M-115	June 1984		133
Antioch Twp	N 21½ Road	south of M-115	June 1984		142
Boon Twp	S 11½ Road	south of Harrietta	May 1986	90	
Boon Twp	S 13 Road	150' s of W 30 Road	July 1990	121	
Boon Twp	S 13½ Road	south of W 30½ Road	June 1984		121
Boon Twp	S 15½ Road	south of W 30½ Road	June 1984		81
Boon Twp	S 21½ Road	north of W 30 Road	May 1986		150
Boon Twp	S 21½ Road	south of W 30 Road	June 1984		150
Boon Twp	S 23 Road	south of W 32 Road	Sept 2000		233
Boon Twp	S 23 Road	north of W 32½ Road	June 1984	517	
Boon Twp	S 23 Road	50' n of W 34 Road	July 1990	1,054	
Boon Twp	S 23 Road	north of W 34 Road	Sept 1996	1,228	
Boon Twp	S 23 Road	south of W 34 Road	May 1986	240	
Boon Twp	S 23 Road	south of W 36 Road	Sept 1996	246	
Boon Twp	S 23 Road	300' north of W 38 Road	July 1990	247	
Boon Twp	S 23 Road	south of W 38 Road	Aug 1999	357	
Boon Twp	W 30 Road	west of S 13 Road	Aug 1999	881	
Boon Twp	W 30 Road	300' east of W 13½ Road	July 1990	623	
Boon Twp	W 30 Road	300' west of S 21½ Road	July 1990	513	
Boon Twp	W 30 Road	east of S 21½ Road	June 1984	566	
Boon Twp	W 30 Road	west of S 25 Road	June 1984		48
Boon Twp	S 30½ Road	west of S 13½ Road	June 1984	493	
Boon Twp	W 32 Road	east of S 23 Road	Sept 2000		214
Boon Twp	W 32 Road	west of S 23 Road	June 1984		47
Boon Twp	W 32 Road	east of S 23 Road	June 1984		156
Boon Twp	W 34 Road	southeast of Boon	May 1986	780	
Boon Twp	W 34 Road	east of S 23 Road	June 1984	590	
Boon Twp	W 34 Road	west of S 23 Road	Sept 1996		54
Boon Twp	W 34 Road	east of S 25 Road	April 2000	1,542	
Boon Twp	W 34 Road	west of S 25 Road	April 2000	1,389	
Boon Twp	W 34 Road	west of S 25 Road	May 2000	1,263	
Boon Twp	W 36 Road	east of S 23 Road	Sept 1996		37
Boon Twp	W 36½ Road	east of S 23 Road	Sept 1996		20
Boon Twp	S 38 Road	west of S 23 Road	June 1984	88	

³⁴³ Average Daily Traffic counts provided by the Wexford County Road Commission for the date indicated, and by the Michigan Department of Transportation, Bureau of Transportation Planning, as indicated with "MDOT 1999."

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Primary Road/ Major Street ADT	Local Road/ Minor Street ADT
Boon Twp	S 38 Road	east of S 23 Road	June 1984	105	
Cadillac City	U.S.-131	south of Thirteenth Street (E 36 Road)	MDOT 1999	25,200	
Cadillac City	U.S.-131	south of Haynes Street	MDOT 1999	23,600	
Cadillac City	U.S.-131	between M-55s (Granlite and Cass Sts)	MDOT 1999	23,800	
Cadillac City	U.S.-131	south of M-55 (Granlite Street)	MDOT 1999	18,200	
Cadillac City	U.S.-131	south city limits	MDOT 1999	14,700	
Cadillac City	M-55	east of U.S.-131	MDOT 1999	9,400	
Cadillac City	M-55	west of U.S.-131	MDOT 1999	5,500	
Cadillac City	M-55	east of M-115	MDOT 1999	5,300	
Cadillac City	M-115	north of Canal Street	MDOT 1999	10,800	
Cadillac City	M-115	at the causeway over Lake Cadillac	MDOT 1999	12,000	
Cadillac City	M-115	south of M-55 (Sunnyside Drive)	MDOT 1999	8,900	
Cadillac City	E Division	east of Seneca	July 1996	3,626	
Cadillac City	4 th Avenue	south of E 13 th Street	July 1996	2,311	
Cadillac City	6 th Avenue	south of E 13 th Street	May 1984	1,871	
Cadillac City	8 th Avenue	south of E 13 th Street	July 1996	551	
Cadillac City	Leeson Ave	south of E 13 th Street	July 1996	4,461	
Cadillac City	Plett Road	south of 13 th Street	July 1996	1,127	
Cadillac City	Wilson	south of E 13 th Street	July 1996	1,059	
Cedar Creek Twp	E 14 Road	150' east of N 37 Road (Liberty)	June 1990		273
Cedar Creek Twp	E 14 Road	east of N 41½ Road (Liberty)	June 1984		424
Cedar Creek Twp	E 14 Road	50' west of N US-131 (Liberty)	May 1990		632
Cedar Creek Twp	E 14 Road	100' east of N 47½ Road (Liberty)	July 1990	433	
Cedar Creek Twp	E 14½ Road	west of N 43½ Road	June 1984		664
Cedar Creek Twp	E 16 Road	east of Manton	May 1986	560	
Cedar Creek Twp	E 16 Road	west of N 47 Road	June 1984	558	
Cedar Creek Twp	E 16½ Road	300' east of N 39 Road	July 1990		213
Cedar Creek Twp	E 16½ Road	west of N 41½ Road	July 1990		288
Cedar Creek Twp	E 16½ Road	west of N US-131	May 1986		305
Cedar Creek Twp	E 18½ Road	300' west of N US-131	July 1990		335
Cedar Creek Twp	E 18½ Road	100' east of N US-131	July 1990		152
Cedar Creek Twp	E 20 Road	100' west of N 41 Road	July 1990		151
Cedar Creek Twp	E 20 Road	west of N 41½ Road	June 1984		15
Cedar Creek Twp	E 20 Road	250' east of N 47 Road	July 1990		337
Cedar Creek Twp	E 20 Road	east of N 47 Road	Aug 2000		581
Cedar Creek Twp	E 20 Road	50' west of N 47 Road	July 1990		126
Cedar Creek Twp	E 20 Road	west of N 47 Road	Aug 2000		198
Cedar Creek Twp	E 20½ Road	30' west of N US-131	July 1990		247
Cedar Creek Twp	E 22 Road	20' east of N US-131	July 1990		340
Cedar Creek Twp	E 22 Road	west of N 45 Road	Aug 2000		240
Cedar Creek Twp	N 37 Road	100' south of N 14 Road (Colfax)	July 1990		178
Cedar Creek Twp	N 39 Road	300' north of E 16½ Road	July 1990		146
Cedar Creek Twp	N 39 Road	south of M-42	June 1984		108
Cedar Creek Twp	N 41 Road	north of E 18½ Road	June 1984		79
Cedar Creek Twp	N 41 Road	150' north of E 20 Road	July 1990		192
Cedar Creek Twp	N 41 Road	350' south of E 20 Road	July 1990		147
Cedar Creek Twp	N 41 Road	north of E 20½ Road	June 1984		106
Cedar Creek Twp	N 41½ Road	south of E 20½ Road	June 1984		131
Cedar Creek Twp	N 45 Road	south of E 18½ Road	Aug 2000		109
Cedar Creek Twp	N 45 Road	north of E 18½ Road	Aug 2000		66
Cedar Creek Twp	N 47 Road	150' north of E 16 Road	July 1990	811	
Cedar Creek Twp	N 47 Road	south of E 16 Road	June 1984		243
Cedar Creek Twp	N 47 Road	100' north of M-42	July 1990		601
Cedar Creek Twp	N 47 Road	300' south of M-42	July 1990		332
Cedar Creek Twp	N 47 Road	north of E 20 Road	Aug 2000		484
Cherry Grove Twp	M-55	west of M-115	MDOT 1999	8,300	
Cherry Grove Twp	S 25 Road	south of E 40½ Road	Sept 1996	357	

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Pri mary Road/ Major Street ADT	Local Road/ Minor Street ADT
Cherry Grove Twp	S 25 Road	150' north of M-55	July 1990	509	
Cherry Grove Twp	S 27½ Road	north of E 46 Road	May 1996		40
Cherry Grove Twp	S 29 Road	50' north of M-55	July 1990		843
Cherry Grove Twp	S 29 Road	50' south of M-55	July 1990		225
Cherry Grove Twp	S 31 Road	north of Pole Road	May 1986	310	
Cherry Grove Twp	S 31 Road	north of Pole Road	Aug 1999	278	
Cherry Grove Twp	S 31 Road	west of W Lk Mitchell	Aug 1996		53
Cherry Grove Twp	S 31 Road	south of S Lk Mitchell	Aug 1996	241	
Cherry Grove Twp	S 33 Road	500' south of M-55	July 1990	1,136	
Cherry Grove Twp	S 33 Road	south of M-55	Aug 1996	1,837	
Cherry Grove Twp	S 33 Road	south of M-55	Aug 1999	1,684	
Cherry Grove Twp	S 33 Road	south of E 46 Road	Aug 1996	1,696	
Cherry Grove Twp	S 33 Road	north of E 46 Road	Aug 1996	1,832	
Cherry Grove Twp	S 33 Road	300' north of E 53 Road	July 1990	517	
Cherry Grove Twp	S 33 Road	north of S Lk Mitchell	Aug 1996		325
Cherry Grove Twp	S 33½ Road	north of S Lk Mitchell	Aug 1996		412
Cherry Grove Twp	S 37 Road	20' north of E 46 Road	July 1990		120
Cherry Grove Twp	S 37 Road	20' south of E 46 Road	July 1990		234
Cherry Grove Twp	E 40½ Road	east of S 25 Road	Sept 1996		24
Cherry Grove Twp	E 46 Road	east of S 27½ Road	May 1996		120
Cherry Grove Twp	E 46 Road	west of S 27½ Road	May 1996		118
Cherry Grove Twp	E 46 Road	25' west of S 29 Road	July 1990		168
Cherry Grove Twp	E 46 Road	east of S 33 Road	Aug 1996		223
Cherry Grove Twp	E 46 Road	west of S 33 Road	Aug 1996		264
Cherry Grove Twp	E 46 Road	50' west of S 37 Road	July 1990		108
Cherry Grove Twp	E 48½ Road	east of S 33 Road	Aug 1996		66
Cherry Grove Twp	E 48½ Road	west of S 33 Road	Aug 1996		33
Cherry Grove Twp	E 50 Road	west of S 33 Road	Aug 1996		63
Cherry Grove Twp	E 52 Road	east of S 33 Road	Aug 1996	640	
Cherry Grove Twp	Benson Road	east of S 33 Road	Aug 1996		217
Cherry Grove Twp	Birchwood	east of S 33 Road	Aug 1996		129
Cherry Grove Twp	E Division	east of E Lk Mitchell	July 1996	490	
Cherry Grove Twp	Farm Lane	west of S 33 Road	Aug 1996		224
Cherry Grove Twp	Forrest Lawn	east of S Lk Mitchell	Aug 1996		74
Cherry Grove Twp	Greenridge Drive	east of S 33 Road	Aug 1996		46
Cherry Grove Twp	E Lk Mitchell	south of E Division	July 1996	413	
Cherry Grove Twp	E Lk Mitchell	north of E Division	July 1996	596	
Cherry Grove Twp	E Lk Mitchell	west of M-115	July 1996	467	
Cherry Grove Twp	W Lk Mitchell	north of S Lk Mitchell	Aug 1996	484	
Cherry Grove Twp	S Lk Mitchell	north of Forrest Lawn	Aug 1996	1,533	
Cherry Grove Twp	S Lk Mitchell	west of E M-55	May 1986	1,250	
Cherry Grove Twp	Lakewood Drive	east of S 33 Road	Aug 1996		977
Cherry Grove Twp	Lakewood Drive	south of White Pine	July 1996		677
Cherry Grove Twp	Lakewood Drive	north of White Pine	July 1996		103
Cherry Grove Twp	Lofgren Drive	west of M-115	July 1996		115
Cherry Grove Twp	Pole Road	east of S 31 Road	Aug 1996	592	
Cherry Grove Twp	Pole Road	west of S 31 Road	Aug 1996		314
Cherry Grove Twp	Pole Road	north of M-55	Aug 1999	1,335	
Cherry Grove Twp	White Pine Drive	east of Lakewood	July 1996		433
Clam Lake Twp	U.S.-131 freeway	north of M-115	MDOT 1999	10,800	
Clam Lake Twp	U.S.-131 freeway	south of M-115 (south county line)	MDOT 1999	10,700	
Clam Lake Twp	M-115	southeast of U.S.-131 freeway	MDOT 1999	8,900	
Clam Lake Twp	M-115	northwest of U.S.-131 freeway	MDOT 1999	8,900	
Clam Lake Twp	S 37 Road	20' north of E 46 Road (Ch Grove)	July 1990		120
Clam Lake Twp	S 37 Road	20' south of E 46 Road (Ch Grove)	July 1990		234
Clam Lake Twp	E 38 Road	east of M-115 (Haring)	May 1986	2,200	
Clam Lake Twp	S 39 Road	300' north of E 48 Road	July 1990		241

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Primary Road/ Major Street ADT	Local Road/ Minor Street ADT
Clam Lake Twp	E 40½ Road	400' east of S 45 Road	July 1990	1,102	
Clam Lake Twp	E 40½ Road	east of S 45 Road	June 1996		982
Clam Lake Twp	E 40½ Road	east of S 45 Road	Apr 1998		1380
Clam Lake Twp	E 40½ Road	west of S 45 Road	June 1996		55
Clam Lake Twp	S 41 Road	600' south of M-55	July 1990		848
Clam Lake Twp	S 41 Road	south of M-115	May 1986		400
Clam Lake Twp	S 41½ Road	300' south of S US-131	July 1990	2,761	
Clam Lake Twp	S 41½ Road	north of Crestview	June 1996	2,003	
Clam Lake Twp	S 41½ Road	north of E 46 Road	June 1996	1,816	
Clam Lake Twp	S 41½ Road	south of E 46 Road	July 1990	1,795	
Clam Lake Twp	S 41½ Road	20' north of M-115	July 1990	2,047	
Clam Lake Twp	S 41½ Road	400' south of M-115	June 1996	1,653	
Clam Lake Twp	S 41½ Road	North of E 48 Road	June 1996	1,600	
Clam Lake Twp	S 41½ Road	South of E 48 Road	June 1996	1,604	
Clam Lake Twp	S 41½ Road	north of E 50 Road	June 1996	962	
Clam Lake Twp	S 41½ Road	south of E 50 Road	June 1996	1,458	
Clam Lake Twp	S 41½ Road	100' north of E 52 Road	July 1990	1,429	
Clam Lake Twp	S 41½ Road	north of E 52 Road	June 1996	1,458	
Clam Lake Twp	S 41½ Road	south of E 52 Road	June 1996	1,085	
Clam Lake Twp	S 43½ Road	south of E 44½ Road	May 1996		60
Clam Lake Twp	E 44 Road	east of S 47 Road	June 1996		260
Clam Lake Twp	E 44½ Road	east of S 43½ Road	May 1996		162
Clam Lake Twp	E 44½ Road	west of S 43½ Road	May 1996		196
Clam Lake Twp	E 44½ Road	east of S 45 Road	July 1984		213
Clam Lake Twp	E 44½ Road	west of S 45 Road	July 1984		157
Clam Lake Twp	E 44½ Road	east of S 47 Road	July 1984		264
Clam Lake Twp	E 44½ Road	east of S 47 Road	May 1996		319
Clam Lake Twp	E 44½ Road	25' west of S 47 Road	July 1990		156
Clam Lake Twp	E 44½ Road	west of S 47 Road	May 1996		257
Clam Lake Twp	S 45 Road	north of E 40½ Road	June 1996		3,487
Clam Lake Twp	S 45 Road	north of E 40½ Road	April 1998		3,526
Clam Lake Twp	S 45 Road	400' south of E 40½ Road	July 1990		1,788
Clam Lake Twp	S 45 Road	south of E 40½ Road	June 1996		2,008
Clam Lake Twp	S 45 Road	@ City limits	May 1986	1,920	
Clam Lake Twp	S 45 Road	north of E 44½ Road	July 1984		910
Clam Lake Twp	S 45 Road	south of E 44½ Road	July 1984		723
Clam Lake Twp	S 45 Road	south of E 46 Road	July 1984		637
Clam Lake Twp	S 45 Road	north of E 48 Road	May 1986		680
Clam Lake Twp	S 45 Road	north of E 48 Road	June 1996		1,756
Clam Lake Twp	S 45 Road	south of E 48 Road	July 1984		331
Clam Lake Twp	S 45 Road	south of E 48 Road	June 1996		748
Clam Lake Twp	S 45 Road	south of E 48½ Road	July 1984		317
Clam Lake Twp	S 45 Road	100' south of E 50 Road	July 1990		652
Clam Lake Twp	E 46 Road	150' east of S 41½ Road	July 1990		84
Clam Lake Twp	E 46 Road	east of S 41½ Road	June 1996		224
Clam Lake Twp	E 46 Road	east of S 45 Road	July 1984		50
Clam Lake Twp	E 46½ Road	200' east of S 39 Road	July 1990		287
Clam Lake Twp	S 47 Road	north of Arbutus	June 1996	780	
Clam Lake Twp	S 47 Road	north of E 44 Road	June 1996	835	
Clam Lake Twp	S 47 Road	south of E 44 Road	June 1996	437	
Clam Lake Twp	S 47 Road	north of E 44½ Road	July 1984	537	
Clam Lake Twp	S 47 Road	north of E 44½ Road	May 1996	485	
Clam Lake Twp	S 47 Road	south of E 44½ Road	July 1984	406	
Clam Lake Twp	S 47 Road	south of E 44½ Road	May 1996	360	
Clam Lake Twp	S 47 Road	north of E 48 Road	July 1984	399	
Clam Lake Twp	S 47 Road	north of E 48 Road	May 1996	336	
Clam Lake Twp	S 47 Road	south of E 48 Road	July 1984	277	

Fact Book for Wexford County Plan

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Pri- mary Road/ Major Street ADT	Local Road/ Minor Street ADT
			April 1996	382	
			July 1984	214	
Clam Lake Twp	S 47 Road	south of E 48 Road	July 1990	273	
Clam Lake Twp	S 47 Road	south of 48 1/2 Road	April 1996	156	
Clam Lake Twp	S 47 Road	150' north of M-115	April 1996	467	
Clam Lake Twp	S 47 Road	north of M-115	July 1990		200
Clam Lake Twp	S 47 Road	south of M-115	July 1990		
Clam Lake Twp	E 48 Road	300' west of S 39 Road	May 1986	850	
Clam Lake Twp	E 48 Road	east of M-115	July 1990	1,183	
Clam Lake Twp	E 48 Road	50' west of M-115	June 1996		178
Clam Lake Twp	E 48 Road	east of S 41 1/2 Road	June 1996		151
Clam Lake Twp	E 48 Road	west of S 41 1/2 Road	July 1984	683	
Clam Lake Twp	E 48 Road	east of S 45 Road	June 1996	1,577	
Clam Lake Twp	E 48 Road	west of S 45 Road	July 1984	814	
Clam Lake Twp	E 48 Road	east of S 47 Road	May 1996	2,413	
Clam Lake Twp	E 48 Road	east of S 47 Road	May 1996	2,286	
Clam Lake Twp	E 48 Road	west of S 47 Road	July 1990		20
Clam Lake Twp	E 48 Road	300' w of S 49 Road	July 1984		15
Clam Lake Twp	E 48 Road	east of S 45 Road	May 1996		159
Clam Lake Twp	E 48 1/2 Road	west of S 47 Road	July 1990		128
Clam Lake Twp	E 48 1/2 Road	200' east of S 41 Road	June 1996		222
Clam Lake Twp	E 50 Road	east of S 41 1/2 Road	June 1996		168
Clam Lake Twp	E 50 Road	west of S 41 1/2 Road	July 1990		55
Clam Lake Twp	E 50 Road	100' west of S 43 Road	July 1984		60
Clam Lake Twp	E 50 Road	east of S 45 Road	July 1984		67
Clam Lake Twp	E 50 Road	east of S 47 Road	May 1996		35
Clam Lake Twp	E 50 Road	east of S 47 Road	May 1996		370
Clam Lake Twp	E 50 Road	west of S 47 Road	June 1996		152
Clam Lake Twp	E 50 Road	east of S 41 1/2 Road	July 1990		140
Clam Lake Twp	E 52 Road	500' west of S 41 1/2 Road	June 1996		381
Clam Lake Twp	E 52 Road	west of S 41 1/2 Road	July 1990		683
Clam Lake Twp	E 52 Road	100' east of S 40 1/2 Road	June 1996		203
Clam Lake Twp	Arbutus Drive	east of S 47 Road	July 1990		298
Clam Lake Twp	Arbutus Drive	200' west of S 41 1/2 Road	June 1996		
Clam Lake Twp	Crestview Drive	west of S 41 1/2 Road	July 1984	1,920	
Clam Lake Twp	Crestview Drive	south of Cadillac City limits	June 1984		117
Clam Lake Twp	Whaley Road	west of N 31 Road (Greenwood)	July 1990		169
Clam Lake Twp	E 14 Road	20' west of N 37 Road (Greenwood)	June 1984		30
Clam Lake Twp	E 14 Road	east of N 27 Road	June 1984		31
Clam Lake Twp	E 16 1/2 Road	west of N 29 Road	June 1984		46
Clam Lake Twp	E 20 Road	west of N 29 Road	June 1984		268
Clam Lake Twp	E 22 Road	west of N 29 Road	July 1990	384	
Clam Lake Twp	E 24 Road	75' east of N 29 Road	June 1984		99
Clam Lake Twp	E 24 Road	east of N 31 Road	June 1984		91
Clam Lake Twp	N 27 Road	north of M-42	June 1984		66
Clam Lake Twp	N 27 Road	south of M-42	May 1986		470
Clam Lake Twp	N 29 Road	south of M-42	June 1984		339
Clam Lake Twp	N 29 Road	north of E 22 Road	July 1990		565
Clam Lake Twp	N 29 Road	300' north of E 24 Road	July 1990		513
Clam Lake Twp	N 29 Road	20' south of E 24 Road	June 1984		331
Clam Lake Twp	N 29 1/2 Road	south of E 16 1/2 Road	May 1986		400
Clam Lake Twp	N 31 Road	north of M-42	July 1990		445
Clam Lake Twp	N 31 Road	500' south of M-42	June 1984		199
Clam Lake Twp	N 31 Road	south of E 24 Road	July 1990		178
Clam Lake Twp	N 37 Road	100' south of E 14 Road (Cedar Creek)	June 1984		54
Clam Lake Twp	E 8 Road	east of N 33 Road	June 1984		107
Clam Lake Twp	E 10 Road	east of N 33 Road	Jan 1996		161
Clam Lake Twp	E 10 Road	west of N 33 Road	Jan 1996		45

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Pri mary Road/ Major Street ADT	Local Road/ Minor Street ADT
Greenwood Twp	E 12 Road				
Greenwood Twp	E 12 Road	20' east of N 35 Road			
Greenwood Twp	E 12 1/2 Road	20' west of N 35 Road	July 1990		81
Greenwood Twp	E 12 1/2 Road	50' east of N 35 Road	July 1990		134
Greenwood Twp	E 12 1/2 Road	east of N 35 Road	July 1990		128
Greenwood Twp	E 12 1/2 Road	20' west of N 35 Road	Aug 1996		253
Greenwood Twp	E 12 1/2 Road	west of N 35 Road	July 1990		145
Greenwood Twp	E 14 Road	20' west of N 37 Road	Aug 1996		238
Greenwood Twp	E 14 Road	west of N 31 Road (Collfax)	July 1990		310
Greenwood Twp	E 14 Road	20' west of N 37 Road (Collfax)	June 1984		117
Greenwood Twp	N 31 Road	north of E 8 Road	July 1990		169
Greenwood Twp	N 33 Road	north of E 10 Road	June 1984	357	
Greenwood Twp	N 33 Road	south of E 10 Road	Jan 1996	97	
Greenwood Twp	N 35 Road	50' north of E 12 Road	Jan 1996		30
Greenwood Twp	N 35 Road	60' south of E 12 Road	July 1990		66
Greenwood Twp	N 35 Road	20' north of E 12 1/2 Road	July 1990		115
Greenwood Twp	N 35 Road	north of E 12 1/2 Road	July 1990		186
Greenwood Twp	N 35 Road	20' south of E 12 1/2 Road	Aug 1996		244
Greenwood Twp	N 35 Road	south of E 12 1/2 Road	July 1990		102
Greenwood Twp	N 37 Road	50' north of E 12 1/2 Road (Liberty)	Aug 1996		123
Greenwood Twp	N 37 Road	300' south of E 12 1/2 Road (Liberty)	July 1990		82
Greenwood Twp	N 37 Road	100' north of E 14 Road (Liberty)	July 1990		239
Hanover Twp	W 2 Road	east of N 13 Road	July 1990		245
Hanover Twp	W 2 1/2 Road	west of N 17 Road	May 1984	457	
Hanover Twp	W 4 Road	east of N 17 Road	June 1984	311	
Hanover Twp	W 4 Road	east of First Street	June 1984	238	
Hanover Twp	W 4 Road	east of Buckley	June 1984		651
Hanover Twp	W 4 Road	west of Lakeshore Drive	May 1986	240	
Hanover Twp	N 15 Road	@ Lake Gitchegumee	June 1984		108
Hanover Twp	N 15 Road	north of Lakeshore Drive	May 1986		620
Hanover Twp	N 17 Road	south of W 4 Road	June 1984		669
Hanover Twp	N 19 Road	north of W 14 Road	June 1984	61	
Hanover Twp	Gitchegumee Drive	south of W 4 Road	June 1984		64
Haring Charter Twp	U.S.-131	north of E 34 Road (Boon Road)	June 1984		597
Haring Charter Twp	U.S.-131	north of Thirteenth Street (E 36 Road)	MDOT 1999	12,300	
Haring Charter Twp	M-55	east of Cadillac City	MDOT 1999	25,500	
Haring Charter Twp	3 rd Avenue	north of E 13 th Street	MDOT 1999	8,800	
Haring Charter Twp	4 th Avenue	north of E 13 th Street	July 1996		153
Haring Charter Twp	4 th Avenue	north of E 36 Road	July 1996		311
Haring Charter Twp	4 th Avenue	south of E 36 Road	May 1984		216
Haring Charter Twp	5 th Avenue	north of E 13 th Street	May 1984		300
Haring Charter Twp	5 th Avenue	north of E 36 Road	July 1996		210
Haring Charter Twp	6 th Avenue	north of E 13 th Street	May 1984		316
Haring Charter Twp	E 13 th Street	east of S 37 Road	July 1996		641
Haring Charter Twp	E 13 th Street	west of S 37 Road	July 1996	6,790	
Haring Charter Twp	E 13 th Street	east of S 39 1/2 Road	July 1996	6,363	
Haring Charter Twp	E 13 th Street	west of 39 1/2 Road	July 1996	6,523	
Haring Charter Twp	13 th Street	east of Pleitt Road	July 1996	6,890	
Haring Charter Twp	13 th Street	west of Pleitt Road	July 1996	4,872	
Haring Charter Twp	E 30 Road	east of S 41 Road	July 1996	4,609	
Haring Charter Twp	E 30 Road	west of S 41 Road	Aug 1996		45
Haring Charter Twp	E 30 Road	350' west of N US-131	Aug 1996		22
Haring Charter Twp	E 30 1/2 Road	20' east of N US-131	July 1990		126
Haring Charter Twp	E 30 1/2 Road	400' east of N US-131	July 1990		187
Haring Charter Twp	E 30 1/2 Road	25' east of S 39 Road	July 1990		169
Haring Charter Twp	E 32 Road	350' west of N US-131	July 1990		633
Haring Charter Twp	E 32 Road	east of S 37 Road	July 1990		658
Haring Charter Twp	E 32 Road	east of S 37 Road	May 1986		325
Haring Charter Twp	E 32 Road	east of S 37 Road	Mar 2000		387

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Pri mary Road/ Major Street ADT	Local Road/ Minor Street ADT
			July 1996		800
Haring Charter Twp	E 32 Road	west of S 37 Road	July 1990		101
Haring Charter Twp	E 32 Road	50' east of N US-131	July 1996	1,770	
Haring Charter Twp	E 34 Road	west of S 37 Road	July 1996	6,854	
Haring Charter Twp	E 34 Road	east of S 39 Road	July 1984	2,174	
Haring Charter Twp	E 34 Road	west of S 39 Road	July 1996	5,442	
Haring Charter Twp	E 34 Road	west of S 39 Road	July 1996	3,050	
Haring Charter Twp	E 34 Road	east of N US-131	July 1996	6,356	
Haring Charter Twp	E 34 Road	east of N US-131	Aug 1999	7,276	
Haring Charter Twp	E 34 Road	west of N US-131	May 1986	4,000	
Haring Charter Twp	E 34 Road	west of N US-131	July 1996	8,389	
Haring Charter Twp	E 34 Road	west of N US-131	Aug 1999	8,770	
Haring Charter Twp	E 34 Road	west of N US-131	July 1984	3,189	
Haring Charter Twp	E 34 Road	east of S 43 Road	July 1984	2,404	
Haring Charter Twp	E 34 Road	west of S 49 Road	July 1996	4,888	
Haring Charter Twp	E 34 Road	west of S 49 Road	July 1996	5,767	
Haring Charter Twp	E 34 Road	west of Cecil Road	July 1984		607
Haring Charter Twp	E 34½ Road	east of N US-131	June 1984		55
Haring Charter Twp	E 34½ Road	east of S 37 Road	July 1996		81
Haring Charter Twp	E 34½ Road	east of S 37 Road	July 1990		307
Haring Charter Twp	E 34½ Road	20' west of S 39 Road	July 1984		1,109
Haring Charter Twp	E 34½ Road	east of N US-131	May 1984	4,249	
Haring Charter Twp	E 36 Road (E 13th)	east of S 39½ Road	May 1986	5,200	
Haring Charter Twp	E 36 Road (E 13th)	west of N US-131	July 1984	2,504	
Haring Charter Twp	E 36 Road (E 13th)	east of N US-131	May 1984	6,164	
Haring Charter Twp	E 36 Road	east of S 41 Road	July 1984		1,511
Haring Charter Twp	E 36 Road	east of S 43 Road	July 1984		642
Haring Charter Twp	E 36½ Road	east of S 45 Road	July 1996		1,175
Haring Charter Twp	E 36½ Road	east of Crosby	July 1996	808	
Haring Charter Twp	S 37 Road	south of E 28 Road	July 1990	676	
Haring Charter Twp	S 37 Road	150' N of E 32 Road (Selma)	July 1996	818	
Haring Charter Twp	S 37 Road	north of E 32 Road	Mar 2000	980	
Haring Charter Twp	S 37 Road	north of E 32 Road	June 2000	1,539	
Haring Charter Twp	S 37 Road	north of E 32 Road	July 1984	993	
Haring Charter Twp	S 37 Road	south of E 32 Road (Selma)	May 1986	1,125	
Haring Charter Twp	S 37 Road	north of E 34 Road (Selma)	July 1996		1,736
Haring Charter Twp	S 37 Road	south of E 34 Road	May 1986	800	
Haring Charter Twp	S 37 Road	south of E 34 Road (Selma)	July 1996		1,382
Haring Charter Twp	S 37 Road	south of E 34 Road	May 1984	838	
Haring Charter Twp	S 37 Road	north of E 36 Road (Selma)	July 1996	1,350	
Haring Charter Twp	S 37 Road	north of E 13 th Street	May 1986	2,200	
Haring Charter Twp	E 38 Road	east of M-115 (Clam Lake)	June 1984		534
Haring Charter Twp	S 39 Road	north of E 30½ Road	June 1984		613
Haring Charter Twp	S 39 Road	south of E 30½ Road	July 1990		977
Haring Charter Twp	S 39 Road	300' north of E 34 Road	July 1996		596
Haring Charter Twp	S 39 Road	north of E 34 Road	May 1986		2,100
Haring Charter Twp	S 39 Road	south of E 34 Road	July 1996		989
Haring Charter Twp	S 39 Road	south of E 34 Road	May 1984		873
Haring Charter Twp	S 39½ Road	north of E 36 Road	July 1996		1,498
Haring Charter Twp	S 39½ Road	north of E 13 th Street	Aug 1996		42
Haring Charter Twp	S 41 Road	south of E 30 Road	July 1990		136
Haring Charter Twp	S 41 Road	20' north of E 30½ Road	July 1990		182
Haring Charter Twp	S 41 Road	400' north of E 34 Road	July 1996		309
Haring Charter Twp	S 41 Road	north of E 34 Road	May 1984		662
Haring Charter Twp	S 41 Road	north of E 36 Road	July 1984		499
Haring Charter Twp	S 43 Road	south of E 34 Road	July 1984		836
Haring Charter Twp	S 43 Road	north of E 36 Road	June 1984		48
Haring Charter Twp	S 43½ Road	north of E 30 Road			

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Pri mary Road/ Major Street ADT	Local Road/ Minor Street ADT
Haring Charter Twp	S 43½ Road	north of E 30½ Road	June 1984		24
Haring Charter Twp	S 45 Road	north of E 36½ Road	July 1984	1,260	
Haring Charter Twp	S 45 Road	north of M-55	May 1986	1,850	
Haring Charter Twp	Anna	north of E 34 Road	July 1996		217
Haring Charter Twp	Caecil	north of E 34 Road	July 1996		630
Haring Charter Twp	Crosby	north of E 36½ Road	July 1996	4,275	
Haring Charter Twp	Crosby	south of E 36½ Road	July 1996	4,545	
Haring Charter Twp	Holman	south of E 13 th Street	July 1996	1,948	
Haring Charter Twp	John R	north of E 13 th Street	June 1996		125
Haring Charter Twp	Meyer Ave	north of E 13 th Street	June 1996		101
Haring Charter Twp	Plett Road	south of E 34 Road	July 1996		4,283
Haring Charter Twp	Plett Road	north of E 13 th Street	July 1996		4,844
Haring Charter Twp	Sarah	north of E 34 Road	July 1996		235
Henderson Twp	M-55	near S 21 Road	MDOT 1999	1,900	
Henderson Twp	S 13 Road	300' north of M-55 (So Branch)	July 1990	190	
Henderson Twp	S 13 Road	400' south of M-55 (So Branch)	July 1990	139	
Henderson Twp	S 13 Road	300' north of W 48 Road (So Branch)	July 1990	121	
Henderson Twp	S 21 Road	south of W 38 Road	Sept 1996	44	
Henderson Twp	S 21 Road	south of W 46 Road	May 1997		92
Henderson Twp	S 21 Road	35' south of M-55	July 1990	155	
Henderson Twp	S 21 Road	150' north of M-55	July 1990	323	
Henderson Twp	S 23 Road	north of W 38 Road	Sept 1996	246	
Henderson Twp	S 23 Road	south of W 38 Road	Sept 1996		20
Henderson Twp	S 25 Road	south of W 38 Road	Sept 1996	360	
Henderson Twp	S 25 Road	south of W 40 Road	Sept 1996		369
Henderson Twp	S 25 Road	150' north of M-55 (Cherry Grove)	July 1990	509	
Henderson Twp	W 38 Road	east of S 23 Road	Sept 1996	170	
Henderson Twp	W 38 Road	west of S 23 Road	Sept 1996	163	
Henderson Twp	W 38 Road	east of S 25 Road	Sept 1996		52
Henderson Twp	W 38 Road	west of S 25 Road	Sept 1996		166
Henderson Twp	W 40 Road	east of S 25 Road	Sept 1996		83
Henderson Twp	W 40 Road	west of S 25 Road	Sept 1996		52
Liberty Twp	U.S.-131	at the north county line	MDOT 1999	6,400	
Liberty Twp	U.S.-131	north of Manton City	MDOT 1999	8,700	
Liberty Twp	E 2 Road	100' east of N US-131	July 1990	347	
Liberty Twp	E 10 Road	east of N US-131	Mar 2000	416	
Liberty Twp	E 10 Road	west of N US-131	Sept 2000		73
Liberty Twp	E 10 Road	west of N US-131	May 1986	260	
Liberty Twp	E 10 Road	west of N US-131	Mar 2000	322	
Liberty Twp	E 10 Road	east of N 41 Road	Aug 1998	382	
Liberty Twp	E 10 Road	west of N 41 Road	Aug 1998	420	
Liberty Twp	E 10 Road	west of N 41 Road	Mar 2000	349	
Liberty Twp	E 12 Road	west of N US-131	April 2000		311
Liberty Twp	E 12 Road	east of N 43½ Road	June 1984		237
Liberty Twp	E 12 Road	east of N 43½ Road	April 2000		461
Liberty Twp	E 14 Road	150' east of N 37 Road (Cedar Creek)	June 1990		273
Liberty Twp	E 14 Road	east of N 41 Road	Aug 1998		510
Liberty Twp	E 14 Road	east of N 41½ Road (Cedar Creek)	June 1984		424
Liberty Twp	E 14 Road	50' west of N US-131 (Cedar Creek)	May 1990		632
Liberty Twp	E 14 Road	west of N US-131	Dec 1994		556
Liberty Twp	E 14 Road	west of N US-131	Sept 1994		555
Liberty Twp	E 14 Road	west of N US-131	April 2000		497
Liberty Twp	E 14 Road	100' east of N 47½ Road (Cedar Creek)	July 1990	433	
Liberty Twp	E 14½ Road	east of N US-131	April 2000		986
Liberty Twp	N 37 Road	50' north of E 12½ Road (Greenwood)	July 1990		82
Liberty Twp	N 37 Road	300' south of E 12½ Road (Greenwood)	July 1990		239
Liberty Twp	N 37 Road	100' north of E 14 Road (Greenwood)	July 1990		245

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Primary Road/Major Street ADT	Local Road/Minor Street ADT
Liberty Twp	N 41 Road	south of E 10 Road	Aug 1998		111
Liberty Twp	N 41 Road	south of E 10 Road	Mar 2000		99
Liberty Twp	N 41 Road	north of E 14 Road	June 1984		634
Liberty Twp	N 41 Road	north of E 14 Road	Mar 2000		237
Liberty Twp	N 41½ Road	south of E 14 Road	Mar 2000		290
Liberty Twp	N 43 Road	north of E 14 Road	June 1984		201
Liberty Twp	N 43 Road	north of E 14 Road	April 2000		222
Liberty Twp	N 43½ Road	north of E 12 Road	June 1984		83
Liberty Twp	N 43½ Road	south of E 12 Road	June 1984		518
Liberty Twp	N 43½ Road	north of E 14½ Road	April 2000		598
Selma Twp	M-115	northwest of Cadillac City	MDOT 1999	7,200	
Selma Twp	E 13 th Street	east of E Lk Mitchell	Aug 1996	1,980	
Selma Twp	E 13 th Street	west of E Lk Mitchell	Aug 1996	1,880	
Selma Twp	E 13 th Street	west of 33½ Road	Aug 1996	1,916	
Selma Twp	S 25 Road	north of E 30 Road	July 1984		139
Selma Twp	S 25 Road	north of E 30 Road	Feb 1998		72
Selma Twp	S 25 Road	south of E 30 Road	July 1984		107
Selma Twp	S 25 Road	south of E 30 Road	Feb 1998		84
Selma Twp	S 25 Road	north of E 34 Road	Aug 1986		160
Selma Twp	S 25 Road	south of E 34 Road	June 1984		180
Selma Twp	S 25 Road	south of E 34 Road	Aug 1996		346
Selma Twp	S 25 Road	north of E 38 Road	June 1984		168
Selma Twp	S 27 Road	north of M-115	June 1984		119
Selma Twp	S 27 Road	north of E 30 Road	Feb 1998		25
Selma Twp	S 27 Road	south of E 30 Road	Feb 1998		52
Selma Twp	S 27 Road	north of E 34 Road	June 1984		134
Selma Twp	S 27 Road	north of E 34 Road	Aug 1996		176
Selma Twp	S 27 Road	south of E 34 Road	June 1984		105
Selma Twp	S 27 Road	south of E 34 Road	Aug 1996		150
Selma Twp	S 29 Road	north of M-115	May 1986	675	
Selma Twp	S 29 Road	north of E 34 Road	Aug 1996		64
Selma Twp	S 29 Road	south of E 34 Road	Aug 1996		5
Selma Twp	E 30 Road	east of S 25 Road	July 1984		32
Selma Twp	E 30 Road	east of S 25 Road	Feb 1998		163
Selma Twp	E 30 Road	west of S 25 Road	Feb 1998		189
Selma Twp	E 30 Road	east of S 27 Road	Feb 1998		170
Selma Twp	E 30 Road	west of S 27 Road	Feb 1998		163
Selma Twp	E 30 Road	west of S 37 Road	July 1996		54
Selma Twp	S 31 Road	north of E 34 Road	June 1984		83
Selma Twp	S 31 Road	north of E 34 Road	Aug 1996		81
Selma Twp	S 31 Road	south of E 34 Road	Aug 1996		41
Selma Twp	E 32 Road	east of S 27 Road	June 1984		284
Selma Twp	E 32 Road	150' west of M-115	July 1990		306
Selma Twp	E 32 Road	50' east of M-115	July 1990		227
Selma Twp	E 32 Road	east of S 31 Road	June 1984		197
Selma Twp	E 32 Road	150' west of S 37 Road	July 1990		804
Selma Twp	E 32 Road	west of S 37 Road	July 1996		122
Selma Twp	E 32 Road	west of S 37 Road	Mar 2000		700
Selma Twp	E 32 Road	west of S 37 Road	June 2000		720
Selma Twp	S 33½ Road	south of E 34 Road	June 1984	120	
Selma Twp	S 33½ Road	south of E 34 Road	Aug 1996	241	
Selma Twp	S 33½ Road	north of N Lk Mitchell Drive	May 1984	145	
Selma Twp	S 33½ Road	north of E 13 th Street	Aug 1996	223	
Selma Twp	E 34 Road	east of S 25 Road	June 1984	628	
Selma Twp	E 34 Road	east of S 25 Road	May 2000	1,423	
Selma Twp	E 34 Road	west of S 25 Road	Aug 1996	1,270	
Selma Twp	E 34 Road	east of S 27 Road	June 1984	648	

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Primary Road/ Major Street ADT	Local Road/ Minor Street ADT
Selma Twp	E 34 Road	east of S 27 Road	Aug 1996	1,526	
Selma Twp	E 34 Road	west of S 27 Road	Aug 1996	1,404	
Selma Twp	E 34 Road	east of S 29 Road	Aug 1996	1,772	
Selma Twp	E 34 Road	east of S 31 Road	June 1984	724	
Selma Twp	E 34 Road	east of S 33½ Road	Aug 1996	1,758	
Selma Twp	E 34 Road	west of S 33½ Road	Aug 1996	1,672	
Selma Twp	E 34 Road	east of M-115	May 1986	1,300	
Selma Twp	E 34 Road	200' west of M-115	May 1986	1,195	
Selma Twp	E 34 Road	east of S 35 Road	June 1984	1,223	
Selma Twp	E 34 Road	west of S 35 Road	July 1996	2,970	
Selma Twp	S 35 Road	north of E 28 Road	April 2000		146
Selma Twp	S 35 Road	north of E 34 Road	June 1984		119
Selma Twp	S 35 Road	north of E 34 Road	July 1996		496
Selma Twp	S 35 Road	south of E 34 Road	July 1996		1390
Selma Twp	E 36 Road	west of M-115	June 1984	1,629	
Selma Twp	E 36 Road	east of M-115	May 1986	3,250	
Selma Twp	S 37 Road	150' north of E 32 Road (Haring)	July 1990	676	
Selma Twp	S 37 Road	south of E 32 Road (Haring)	June 1984	993	
Selma Twp	S 37 Road	south of E 32 Road	April 2000	1,314	
Selma Twp	S 37 Road	north of E 34 Road (Haring)	May 1986	1,125	
Selma Twp	S 37 Road	south of E 34 Road (Haring)	May 1986	800	
Selma Twp	S 37 Road	north of E 36 Road (Haring)	May 1984	638	
Selma Twp	E 38 Road	east of M-115	June 1984	2,083	
Selma Twp	E 38 Road	west of M-115	June 1984	590	
Selma Twp	Arbutus	west of W Lk Mitchell	Aug 1996		407
Selma Twp	E Division	east of M-115	July 1996	2,839	
Selma Twp	Fern Avenue	west of W Lk Mitchell	Aug 1996		208
Selma Twp	E Lk Mitchell Dr	south of E 36 Road	May 1984	396	
Selma Twp	E Lk Mitchell Dr	south of E 13 th Street	Aug 1996	639	
Selma Twp	W Lk Mitchell Dr	north of Fern	Aug 1996	1,528	
Selma Twp	W Lk Mitchell Dr	north of S Lk Mitchell	Aug 1996	185	
Selma Twp	N Lk Mitchell Dr	east of E 33½ Road	June 1984	1,471	
Selma Twp	N Lk Mitchell Dr	west of E 33½ Road	June 1984	1,413	
Selma Twp	N Lk Mitchell Dr	north of Peninsula Dr	Aug 1996	1,125	
Selma Twp	S Lk Mitchell Dr	south of W Lk Mitchell	Aug 1996		597
Selma Twp	Peninsula Dr	south of N Lk Mitchell	Aug 1996		148
Selma Twp	White Sands	east of N Lk Mitchell	Aug 1996		81
Slagle Twp	S 7½ Road	south of W 30 Road	June 1984		130
Slagle Twp	S 11½ Road	north of W 38 Road	June 1984	91	
Slagle Twp	S 13 Road	north of M-55	May 1999	292	
Slagle Twp	W 30 Road	west of M-37	May 1986	280	
Slagle Twp	W 30 Road	150' east of M-37	July 1990	625	
Slagle Twp	W 30 Road	west of S 11½ Road	June 1984	549	
Slagle Twp	W 30 Road	east of S 11½ Road	June 1984	616	
So Branch Twp	M-37	north of M-55	MDOT 1999	1,500	
So Branch Twp	M-37	south of M-55	MDOT 1999	2,100	
So Branch Twp	M-55	west of M-37	MDOT 1999	3,000	
So Branch Twp	M-55	east of M-37	MDOT 1999	2,800	
So Branch Twp	S 7 Road	south of M-55	May 1986	160	
So Branch Twp	S 7½ Road	100' north of W 48 Road	July 1990	95	
So Branch Twp	S 11½ Road	200' south of W 48 Road	July 1990	142	
So Branch Twp	S 13 Road	300' north of M-55 (Henderson)	July 1990	190	
So Branch Twp	S 13 Road	400' north of M-55 (Henderson)	July 1990	139	
So Branch Twp	S 13 Road	300' north of W 48 Road (Henderson)	July 1990	121	
So Branch Twp	W 48 Road	400' west of S 7½ Road	July 1990	120	
So Branch Twp	W 48 Road	500' west of S 13 Road	July 1990	239	
So Branch Twp	W 48 Road	east of S 13 Road	May 1986	180	

Municipality	Road Name	Location of Traffic Count	Date of Traffic Count	Highway/Primary Road/Major Street ADT	Local Road/Minor Street ADT
So Branch Twp	W 48½ Road	west of S M-37	May 1986	310	
So Branch Twp	W 48½ Road	300' east of S M-37	July 1990	288	
So Branch Twp	W 50 Road	west of S 11½ Road	May 1986		245
Springville Twp	M-115	In Mesick Village	MDOT 1999	4,400	
Springville Twp	M-115	northwest of Mesick Village	MDOT 1999	5,100	
Springville Twp	M-37	south of Mesick Village	MDOT 1999	2,700	
Springville Twp	N 7¼ Road	north of W 24 Road	June 1984		118
Springville Twp	N 9 Road	300' north of M-115	July 1990	581	
Springville Twp	N 11 Road	20' north of W 14 Road	July 1990		367
Springville Twp	N 11 Road	south of Manistee River	May 1986		300
Springville Twp	N 11 Road	south of W 16 Road	May 1984		388
Springville Twp	W 14 Road	west of M-115 (Wexford)	May 1986	490	
Springville Twp	W 14 Road	500' west of N 11 Road (Wexford)	July 1990		69
Springville Twp	W 16 Road	west of N 7 Road	May 1984		257
Springville Twp	W 16 Road	west of M-115	May 1986		260
Springville Twp	W 22½ Road	east of N 11 Road	May 1984		166
Springville Twp	W 22½ Road	@ Walter Maser's Mailbox	July 1990		227
Springville Twp	W 22½ Road	west of N 3¼ Road	Aug 1999		91
Springville Twp	W 26 Road	west of N M-37	Aug 1999		279
Springville Twp	Hodenpyl Road	east of N M-37	June 1984		195
Springville Twp	Hodenpyl Road	@ West County Line	July 1990	591	
Springville Twp	Old N M-37	300' south of M-115	July 1990	1,229	
Springville Twp	south of N 18 Rd	south of N 18 Road	May 1984		155
Springville Twp	M-42 & M-115 Connector		May 1984		2,211
Wexford Twp	M-37	north of Mesick	MDOT 1999	6,800	
Wexford Twp	N 1 Road	north of M-115	May 1984	204	
Wexford Twp	N 1 Road (Harlan)	north of M-115	August 1999	267	
Wexford Twp	N 1 Road	south of M-115	May 1984	86	
Wexford Twp	W 2 Road	west of N 9 Road	May 1984	804	
Wexford Twp	W 4 Road	150' east of N 7 Road	July 1990		141
Wexford Twp	W 4 Road	west of N 9 Road	May 1984		188
Wexford Twp	W 4 Road	300' west of M-37	July 1990	295	
Wexford Twp	W 6 Road	west of M-37	May 1984		69
Wexford Twp	N 7 Road	south of W 8 Road	May 1984		72
Wexford Twp	W 8 Road	east of N 11 Road	May 1984		43
Wexford Twp	N 9 Road	south of W 2 Road	May 1984	402	
Wexford Twp	N 9 Road	north of W 4 Road	?/1998		1,441
Wexford Twp	N 9 Road	150' south of W 4 Road	July 1990	421	
Wexford Twp	N 9 Road	south of W 8 Road	May 1984	441	
Wexford Twp	W 10½ Road	west of M-37	May 1984		96
Wexford Twp	N 11 Road	south of W 10 Road	May 1984		85
Wexford Twp	N 13 Road	north of W 2½ Road	May 1984	856	
Wexford Twp	W 14 Road	west of M-115 (Springville)	May 1986	490	
Wexford Twp	W 14 Road	west of M-115	April 1999		509
Wexford Twp	W 14 Road	500' west of N 11 Road (Springville)	July 1999		69

various geographic areas. This is why the City cannot readily serve those previously opted out districts since proper infrastructure is not in place. I also think in the third paragraph when there is discussion pertaining to the City of Cadillac treating the respective "participating sewer districts" until 2017, that it would be helpful to actually identify these by number. "Participating sewer service districts" is also mentioned in the second to the last paragraph on this same page and again I think it would be helpful to identify these by number.

Page 305: The discussion which centers on the store not being allowed to connect to the sewer because "... the store was outside the sewer service boundary, even though the road frontage portion of the Meijer store is within the sewer district" is not entirely accurate. The City's position from the beginning was that the part of the store which was in the sewer district would be allowed service, and that part which was out would not be allowed service. The way this part of the paragraph reads, it appears that the original position of the City was to completely deny sewer service. As you know, this case was basically resolved consistent with the City's position.

Page 305: The second full paragraph discusses the subdivision in Cherry Grove Township. By way of clarification, it should be noted that this situation was the first time that Wexford DPW did not ask up front for service outside of an accepted sewer district. There have been written requests in the past for service outside of a sewer service district which were denied in accordance with longstanding City policy. Therefore, the approach utilized by the county DPW in this case was not consistent with the past practice of making a request for the extension of services outside of a district. The way this paragraph reads currently, it appears that this was the first time that this type of a scenario had arisen, and this is not historically accurate. The county DPW was very familiar with the City's position prior to this event.

Page 306: The paragraph which discusses the City's appeal does not clearly articulate the full reason for the need to appeal. One of the main reasons that we have consistently maintained our position that we should only have to accept sewage from districts which were selected for service by the townships many years ago centers on our ability to physically collect and treat the waste. Again, as mentioned previously, once certain districts were not accepted by the townships, the EPA then took grant money away from the City of Cadillac which had been earmarked towards improvements necessary to service these districts. To simply allow service in these areas 25 years after the fact completely fails to recognize the laws of physics and the need for infrastructure to service these areas. We see this as a key point which needs to be included to clarify the City's position.

Page 307: The first full paragraph pertaining to the importance to the City of Cadillac of accepting waste only from designated sewer districts does an excellent job of putting this issue into lay terms, however, I think the Judge Peterson decision, as it pertains to consistently and fairly applying the policy should also be mentioned here as well.

The cost to accommodate districts 3, 5 and part of 11 would now be enormous. The funds which would have been available in 1977 to accommodate the said districts are not available now. To force the City 20 years later to receive sewage from old districts 3, 5 and part of 11 (which were eliminated by township resolutions) would be inequitable, costly and unjust. Clearly now, lines would have to be built, lift stations constructed and sewer pipe revamped, all at great cost.

My specific comments as they pertain to the Fact Book are as follows:

- It appears to me that probably the most basic aspect of this history which is not included in the summary would be the opinion issued by Judge Peterson on July 9, 1985 pertaining to a lawsuit which was brought by Haring Township and various individual plaintiffs who were seeking declaratory judgment to require that the City must furnish water and sewer services to any property in the township that is adjacent to public water and sewer mains, and to enjoin the City's policy of requiring annexation as a condition for furnishing City water and sewer services to Haring Township residents. In granting the City's motion for summary disposition, the court ruled that such a policy (water and sewer services will be provided outside of the City limits only through annexation) on the part of the City of Cadillac is lawful and consistent with public policy. The consistent application of this policy in a manner which is not arbitrary or unreasonable was a key part of this ruling. Therefore, we believe that this case is very important in framing the City's longstanding position with regard to the provision of utility services outside of the corporate City limits.

- Page 302, list of Cadillac area sewer districts: Obviously there has been much discussion pertaining to the status of the majority of these districts, and while the document attempts to address this question by stating, "... included for possible sewer services by the appeals court..." it appears that this explanation should be expanded to more clearly reflect the problems associated with servicing these districts. Actually, this issue is fairly well discussed on page 307 through the review a similar problem, that being providing sewer services outside of a sewer service district. In other words, the same challenge that is raised in providing sewer services outside of a planned district also exists for those districts that were opted out by the townships years ago, since proper infrastructure and treatment plant expansions were never undertaken when these districts were dropped. Therefore, I would suggest that for those districts that are described under the current status column as having possible sewer service via the appeals court, further explanation associated with physical limitations in servicing these areas also be included on this chart so as to properly frame the debate associated with servicing these areas.

- Page 304: There is much discussion associated with "participating sewer service districts." I am assuming that this verbiage pertains to only those districts which were authorized by township resolution through the 1975 Facilities Master Plan. This should be more clearly stated, and perhaps we actually need a formal definition to identify what is meant by "participating sewer service districts." This is a crucial point since it must be clearly understood that when action was taken to remove some of the original sewer service districts from the project, the City then lost grant dollars which had been slated to make improvement to our collection system which would be necessary to service these

Page 307, second full paragraph: I believe that the very last part of the last line goes beyond a historical explanation, and appears to include editorial comments instead of fact. While it is true that the City should protect sewer capacity first for its own taxpayers, the decision to "sell or agree to provide that capacity elsewhere" is clearly that type of a decision reserved for the legislative authority of elected officials. I do not believe that the author has any standing to make this determination on behalf of the City of Cadillac. It is solely the City's responsibility and obligation to determine if there is excess capacity in our system, and if such capacity exists, what should be done with it over time.

Page 307, third paragraph: It is stated that the city has "implied" renewal of the sewage treatment service agreement in 2017 would not be automatic or may not happen. Further, this paragraph goes on to state, "Simply shutting off the Wexford DPW sewer collectors from City treatment services is not really likely and would probably not withstand a public health court challenge." Again, this appears to be an editorial comment, and is not within the context of what appears to be the intent of this paper, that being to provide a historical perspective on this situation. There have been some discussions pertaining to what may happen in 2017, and also how the courts may react to various actions. However, I do not believe that this paragraph adequately addresses this situation, and if it is the county's desire to more fully discuss this scenario, much more work will need to be put into this type of a summary. Clearly the last line associated with "irresponsibly higher fees" goes well beyond what it appears this fact book is attempting to accomplish.

Page 307, fourth full paragraph: This paragraph concludes with a sentence talking about no agreement being reached. Perhaps it would be helpful to explain the position of each party at the end of these negotiations. I certainly would not attempt to speak on behalf of any of the townships, but can clearly indicate that the City of Cadillac has offered to adopt an urban growth boundary solution similar to Midland.

Page 307, fifth paragraph: This paragraph talks about at what point agreement was not reached and centers on the issue of annexation. However, the issue is bigger than annexation from the City's perspective, and we should have a statement included at this point which talks about equity in taxation. This has been the City's main concern associated with all of these discussions, and comprehension of this issue is absolutely necessary for anyone who reads this document, so as to be able to understand the City's major concern.

Page 307: The last paragraph attempts to identify what the township's perspective on the greater discussion has been throughout the negotiations. However, I think it is also appropriate to insert the City's position that equity in taxation must be addressed in any agreement so as to create a level playing field which does not harm the City of Cadillac's future tax base.

Page 307, chart which identifies issues surrounding PA 425 Agreements and Sewer Service: I think it would be helpful where the issue is identified on the top line to identify that the positions which are outlined are those from the township's perspective

and from the City's perspective, and also it would be helpful to footnote the source of these perspectives since some of the included statements are fairly direct i.e., "... City is difficult to work with." Certainly we would not share this opinion. However, we also recognize that this paper is attempting to explain the various perspectives of all parties, and therefore I think it should be clearly stated as to where these impressions have been developed.

Page 307, chart pertaining to issues surrounding PA 425 Agreements and Sewer Service; Regional Utilities Section: Under the township side of the chart it is stated that the court opinion indicates the City must provide sewer service to districts one through eleven. However, it should be highlighted that no infrastructure is currently in place to service those districts which were not originally authorized by the townships, which greatly complicates the discussion. Also under the City side of this section, the statement that the City will not regionalize is too broad and should be clarified to state that we would not regionalize without addressing the tax equity issue. Again, the City's position is that we cannot give up the benefits of higher density associated with cityhood, i.e., cheap utility services, without passing on the full cost of density which is related to the other municipal services that are funded through the higher tax rate within the City of Cadillac. To do otherwise would be devastating to the long-term stability of this community.

Page 308, continuing on the chart: It is indicated under the Tax Sharing column that the City will sign a PA 425 Agreement which makes a township whole, "... recognizing costs to the township are reduced because services are no longer provided to the territory in question." This seems to add some confusion to this issue. It appears that if we make a township whole in the context of recognizing costs to the township are reduced, that somehow making the township "whole" is less than the position the township would be in before the PA 425 Agreement. I think it would be clear to say that we will simply make a township whole so that they receive the same amount of property tax revenue that they would have received had the property remained in the township, regardless of what savings they receive on top of this as a result of no longer having to provide services.

Page 308, continuing with the chart, under the Annexation column: It is indicated that the townships will not sign a public 425 Agreement that includes a transfer of land to the City, "ever." This is not accurate given that there is already one 425 Agreement in place which includes a transfer of land, and also there is another 425 Agreement in the final stages of negotiations that also provides for this type of a land transfer.

Page 309, second full paragraph which talks about Mr. Pierson's observations, some of which focuses on the sentence, "... but as long as the City does not really think a regional system will happen or does not place value on a the [sic] greater community having a regional sewer system, the City might continue to demand annexation with sewer service": We do not believe that this accurately portrays our position at all. I am not sure where Mr. Pierson obtained that observation from, or if it is just a generic statement associated with his history in other areas, but the City of Cadillac certainly is not acting based on a belief that there will not be a regional system. We are acting based upon what we believe to be in the best interests of our residents, with equity being the

Mike, I want to thank you for the opportunity to review this summary. As you can see, this history is very long and complicated, and the county is to be commended for attempting to portray this situation as accurately as possible. I realize that some of these comments are certainly based on the perspectives of the various individuals involved, but I do believe it appropriate for you to hear directly from us with regard to our perceptions as they pertain to this matter. None of these comments should in any way be taken as a lack of desire on the part of the City of Cadillac to cooperate on this matter in working towards a resolution which is acceptable to all parties. Obviously, our first charge is to protect the interests of the City of Cadillac taxpayers, and that is certainly what we believe the current policy does for the community. However, we are open to new thoughts, and if we can identify win-win scenarios, we are more than willing to put the time and effort into that activity.

Please feel free to contact me should you have any questions regarding this matter, and again thank you for the opportunity to comment.

Sincerely,

Peter D. Stalker
City Manager

PDS/lk

central issue. We certainly do place value on regionalizing municipal services in general, but it must benefit all parties. Without equity in taxation, regionalization would not be in the best interests of our residents.

Page 309, the final paragraph about exploring other technology for possible solutions: It should be clarified that some of these ideas have been explored. However, to focus on ways to reduce the cost of providing infrastructure necessary to serve these various areas with the City treatment plant misses the greater concern of equity in taxation as identified above.

Page 310, at the top: Again, continuing with the last paragraph on page 309, exploring ideas not previously raised, it appears that the comment that use of PA 425 Agreements without land reverting to the City is more common than one may think, is clearly an attempt to promote that concept. That is fine if that is the intent of this paper, but again I was under the impression that this is a historical analysis. However, if we are going to talk about this concept, I think it only appropriate to talk about some conclusions which have recently been released by the Department of Agriculture Economics at Michigan State University through a study which analyzes 425 Agreements in general and specifically those which do not include land transfers to the City in question. Obviously, we believe that these types of agreements will be very troublesome in the future, and this belief and concern is clearly reiterated via the report released by Mr. Lyn Harvey of the above-mentioned department in October 2000. On page 11 of the report entitled Summary of Conditional Land Transfer Agreements, I would quote Mr. Harvey as follows: "For the parties to the 39 percent of the agreements that call for the transferred land to revert to the original jurisdiction upon expiration of the agreement, the potential for significant confusion exists." Further in Mr. Harvey's summary he states that a lot of open questions are associated with many of these agreements, and most do not address these issues. He concludes with the following: "It is safe to assume that parties to these contracts have set themselves up for major legal battles forty or 50 years from now." This is exactly why the City of Cadillac is not desirous of entering into any 425 Agreement that allows for the reversion of the property at the end of the agreement to the township. Again, it would seem appropriate to include this information if we are going to talk about this type of a 425 Agreement.

Page 310, footnote 292, which relates to the potential to develop a policy to contract city services outside of the city: It should be clarified that this has been discussed many times in the past. However, the City's review of this matter has found that any type of a contractual agreement which attempts to collect fees in lieu of taxes, so as to address the previously mentioned equity in taxation issue, is very problematic. Contractual arrangements are subject to litigation, and we are aware of scenarios where these contracts have been put in place and have been overturned after utilities have been extended. Obviously, this is a great concern for the City of Cadillac. Therefore, we believe that the enforceability of these contracts is a major stumbling block, and should be identified in this discussion. If there is a way to create a sense of permanence with these contracts, we would certainly be willing to discuss this matter further.

Appendix C10: Wexford County Buildout Detail

THIS presents detail, by zoning district of the Wexford County Buildout, to a total population of almost a half million. The buildout resulting in 498,374 population is based on the following calculations.

"Buildable acres" means the total acres in the zoning district minus undevelopable lands (wetlands, public lands, areas that do not perc in places without public sewer, development restriction (conservancy lands), lakes, rivers, etc.)

"Number of Houses" is the buildable acres multiplied by the allowable density in that zoning district.

"Ultimate Population" is calculated with the assumption of 2.5 people per house, or dwelling unit.

Zoning Jurisdiction	Municipality	Zoning District	Buildable Acres	Number of Houses	Ultimate Population
Buckley Village Zoning Board (a.k.a. Village Council)	Buckley Village	Agricultural	660.67	661	1,653
		Central Business	47.7	0	0
		General Residential	290.44	2,530	6,325
		Light Residential	46.25	0	0
Buckley Village Total			1,045	3,191	7,978
Cadillac City Planning Commission	Cadillac City	Auxiliary Business District	8.39	366	918
		Central Business	15.84	140	357
		General Business	105.17	0	0
		General Industrial	100.04	0	0
		Light Industrial	422.02	0	0
		Mobile Home Park	49.01	534	1,335
		Multiple Family-1	83.48	1,009	2,529
		Multiple Family-2	58.11	845	2,115
		Office Service	77.83	0	0
		One-Family Residential Mobile	58.54	425	1,075
		One-Family Residential-1	553.58	1,926	4,833
		One-Family Residential-2	512.07	2,477	6,223
		One-Family Residential-3	211.62	1,528	3,856
		One-Family Residential-4	56.70	410	1,041
		Parks and Open Space	25.03	0	0
		Tourist Service-1	3,368.65	0	0
		Tourist Service-2	40.42	0	0
Two-Family Residential	18.54	223	558		
Vehicular Parking	2.15	0	0		
Cadillac Total			5,767.2	9,883	24,840
Cedar Creek Township Zoning Board	Cedar Creek Township	Commercial	73.84	15	38
		Forest-Agriculture	17,138.53	17,138	42,847
		Residential	443.53	773	1,936
Cedar Creek Total			17,655.91	17,926	44,821
Haring Township Planning Commission	Haring Charter Township	Agriculture	3,955.37	3,955	9,892
		Commercial	847.44	0	0
		Forest/Recreational	5,963.07	1,193	2,989
		Industrial	177.54	0	0
		Residential	1,370.94	2,390	5,978
Haring Township Total			12,951.72	8,648	21,634

Zoning Jurisdiction	Municipality	Zoning District	Buildable Acres	Number of Houses	Ultimate Population
Not zoned	Harrietta Village Total		535.81	1,945	4,863
Manton City Planning Commission	Manton City	Central Business District	24.23	0	0
		Commercial	19.80	0	0
		Industrial	45.20	0	0
		Low Density Residential	195.28	0	0
		Medium Density Residential	253.91	737	1,844
		Mixed Residential	42.84	233	583
		Multiple Family Residential	17.32	33	83
		Public	6.02	0	0
	Residential/Commercial	39.40	137	343	
Manton City Total		643.99	1,423	3,561	
Mesick Village Zoning Board (a.k.a. Village Council)	Mesick Village	Industrial	105.44	0	0
		Residential	361.67	1,969	4,923
		Commercial	63.86	0	0
		Residential-1	23.83	130	325
	Mesick Village Total		554.80	2,099	5,248
Springville Township Zoning Board	Springville Township	Agriculture/Residential	512.44	513	1,283
		Commercial	122.11	0	0
		Forest/Recreational	12,455.06	12,454	31,140
		Light Industrial	56.31	0	0
		Residential	584.77	585	1,465
		Resort/Residential	340.57	341	853
		Industrial	46.50	0	0
	Springville Township Total		14,117.76	13,893	34,741
Wexford County Planning Commission	Antioch Township	Agricultural-Residential	6,796.90	6,797	16,993
		Commercial-1	77.57	0	0
		Forest-Recreational	4985.04	4,986	12,467
		Residential	57.06	125	313
		Resort-Residential	121.06	264	660
		Antioch Township Total	12,037.63	12,172	30,433
	Boon Township	Agricultural-Residential	6,117.74	6,118	15,296
		Commercial-1	12.98	0	0
		Forest-Recreational	3,220.95	3,219	8,054
		Boon Township Total	9,351.67	3,219	8,054
	Cherry Grove Township	Agricultural-Residential	4,584.97	4,586	11,466
		Commercial-1	31.73	0	0
		Forest-Recreational	3,748.46	3,747	9,371
		Residential	244.20	532	1,331
		Resort-Residential	1,659.51	3,614	9,036
		Cherry Grove Township Total	10,268.77	12,479	31,204
	Clam Lake Township	Agricultural-Residential	13,620.57	13,622	34,057
		Commercial	0.03	0	0
		Commercial-1	79.03	0	0
		Commercial-2	111.67	0	0
		Forest-Recreational	2390.16	2,390	5,976
		Office-Service	75.67	0	0
		Residential	505.59	1,101	2,753