

Wastewater Feasibility Committee Report

Empire, Michigan
Final Draft

Committee Members

- Soni Aylsworth
- John Collins (chair)
- Chris Frey
- Teresa Howes
- Peter Schous
- Paul Skinner

Committee Tasking

- Review Empire wastewater practices and existing regulations
- Develop and execute a Wastewater Engineering Feasibility Study of the scope and costs of wastewater system options for the Village of Empire.
- Consider the “need” for wastewater option

Provide information to Village Council and Empire Community

Process

- Committee worked in an iterative and collaborative manner
- Over a dozen committee meetings attended by public
- Meetings with county health department and governmental administrators
- An engineering consultant analysis; feasibility and costs of different wastewater treatment scenarios
- A not-for-profit consultant financial analysis; translated system capital and operating costs into projected monthly costs to system customers

Contributors

Committee appreciation for the support, advice & contributions

- Empire village residents, members of the Empire community
- Village of Empire Council and staff
- Benzie-Leelanau District Health Department
- Michigan Department of Environmental Quality
- U.S. Department of Agriculture
- Gosling Czubak Engineers
- Michigan Rural Community Assistance Program (MI-RCAP).

Committee report addresses;

- Empire Wastewater Practices and Existing Regulations
- Wastewater Engineering Feasibility Study,
- Financial Analysis
- Needs Analysis
- Empire Moving Forward.

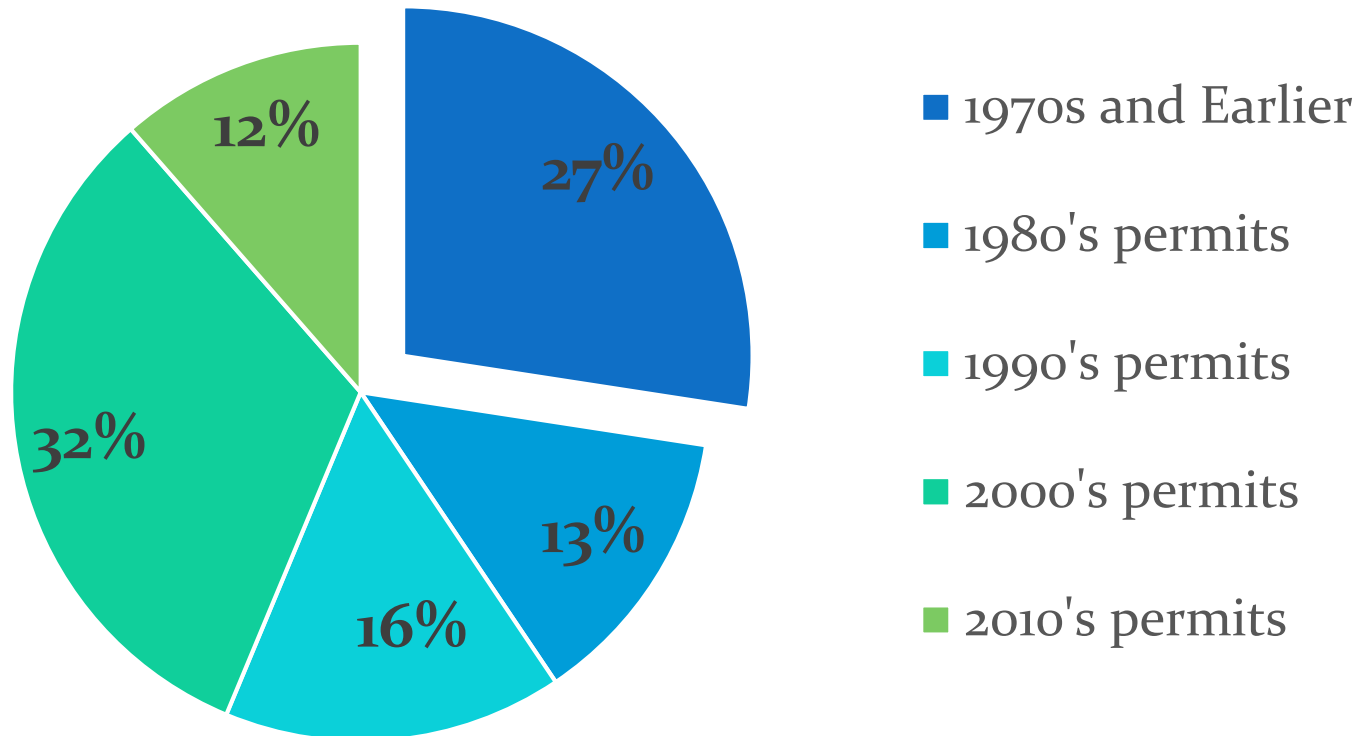
Empire Wastewater Practices and Existing Regulations

- Wastewater in the Village of Empire is managed in accordance with existing regulations and ordinances.
- Village wastewater permits were reviewed and a profile created for residential and commercial permits and practices.
- Over 350 septic systems exist in the village with 40% dating back earlier than 1990

Septic Systems Age Profile

Empire Septic Systems Age Profile Health Dept Records Review

350 Village Tax Parcels with Structures, 279 w/ Health Dept Septic Records



Residential Empire Wastewater Practices

- Residential wastewater is typically handled by individual septic tanks and discharge fields.
- New neighborhood utilizes a community collection and discharge field.
- In core village,
 - Septic systems in a concentrated area.
 - Relatively shallow water table and small lot sizes presents challenges and constraints.

Commercial Wastewater Practices

- Commercial business wastewater solutions largely septic system based.
- Most existing businesses are “grandfathered”
 - systems do not meet current standards.
 - Regulations and small lot sizes prevent these meeting the current on-site standards.
 - A few businesses are forced to “pump and haul” waste to off-site treatment facilities.
- Development of vacant property requires site-specific wastewater solutions
 - can require additional land, costly treatment systems or limit potential uses.

POS (Point of Sale)

- Village of Empire POS ordinance has resulted in corrective actions taken for deficient systems.
- Empire ordinance differs from other more stringent community ordinances.
- No county POS ordinance.

Wastewater Engineering Feasibility Study:

- Conducted by Gosling Czubak Engineers
- Three scenarios of wastewater service areas
- Capital, and operations and maintenance costs for each scenario were estimated utilizing
 - Empire water data (to project wastewater quantities)
 - Village street layouts and infrastructure.

See pages 14-19 of committee report

Study Findings

- A village wastewater system is technically feasible
 - entire Village or
 - smaller geographic area)
- There are alternatives for collection and treatment systems depending on the specific service populations (Step or Gravity collection)
- Modular wastewater treatment systems
 - provide advanced treatment
 - require relatively small discharge field, 1-2 acres.

Study Findings

- Capital costs ranged from \$2-6M
- Operations and maintenance costs from \$70-160K per yr

See pages 14-19 of committee report

Financial Analysis

- Michigan Rural Community Assistance Program(MI-RCAP) non profit consultant
- Recommended USDA grant/loan financing typical for this size project
- Converted Capital, operating costs, wastewater quantities to projected monthly user costs.

User Costs

- Residential customers,
 - \$60-\$114/month estimated range for sample scenarios
- Commercial customers,
 - Costs based on business waste and volume

See pages 20-22 of committee report.

Needs Analysis

- Need for a Village or partial wastewater system involves many factors and considerations.
 - community need for businesses, public services and employment opportunities are considerations beyond this report.
 - committee did consider the environmental and economic need for a wastewater option.

Environmental Need:

- There is no regulatory environmental need compelling a village wastewater system.
- Although many existing systems do not meet current standards, they are “grandfathered” and operate in legal compliance.
- Core village area concentration of aging septic systems on relatively small lots over a shallow water table
 - minimally acceptable environmental and regulatory condition.
 - presents land use and environmental limitations going forward.
- A wastewater system, although not required, would provide environmental benefits of enhanced treatment and discharge quality.

Environmental Need:

- Village commended for on-going monitoring
 - Groundwater monitoring wells
 - South Bar Lake Assn monitoring
 - Village beach monitoring
 - Great Lakes Environmental Center (GLEC) studies
- Need to integrate monitoring and define scope of GLEC update
- Improve understanding of Environmental factors, interactions and effects

Economic Need:

Empire has a small number of year-round residents. However, it is Host to the Sleeping Bear National Lakeshore Visitors Center and many of the 2 million annual park/area visitors.

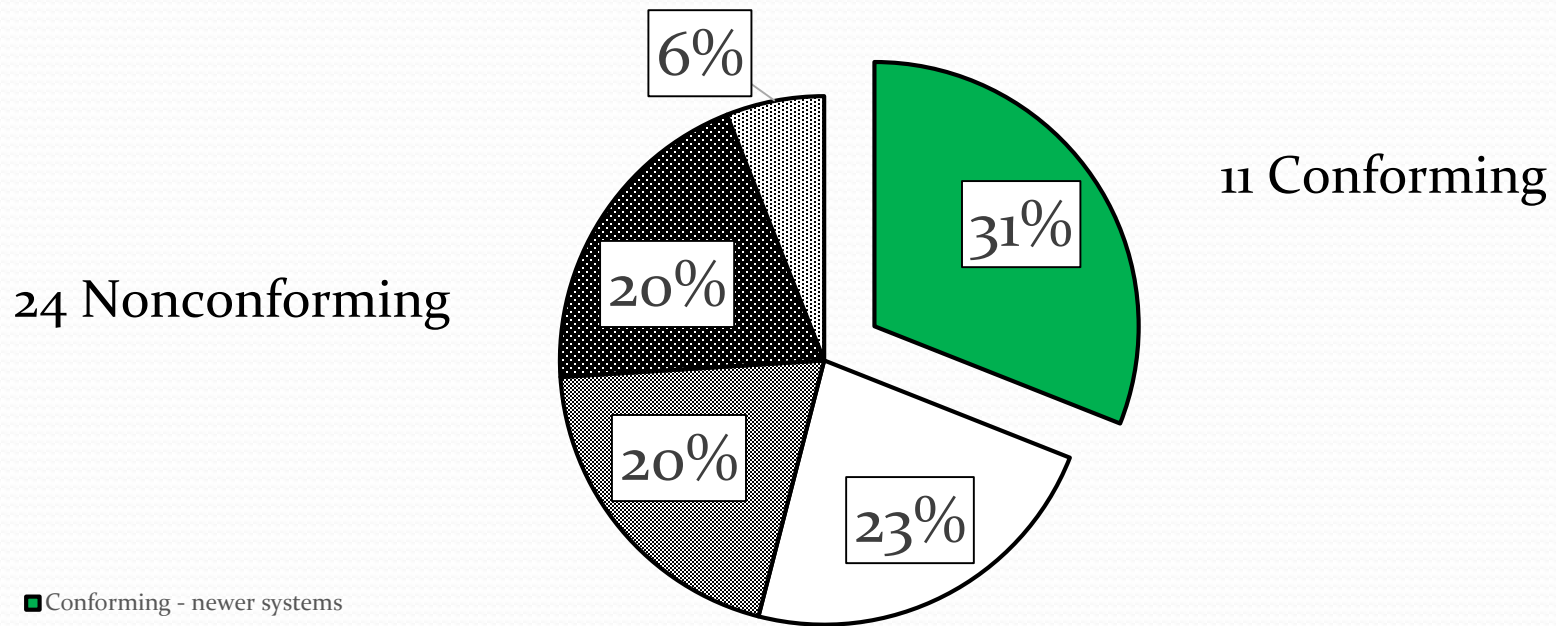
- The commercial need is in the context of serving both Empire residents and visitors.
- There is an economic need for a wastewater system
 - to maintain and support existing businesses
 - commercial development.

Review of Records

- Health Department records examined on
 - 35 parcels Empire's current business and public building base
- 69% (24 parcels)
 - non-conforming with today's septic regulations
 - restricted in how they can change due to land area and water usage.
- 31% (11 parcels) are conforming to the original building use but, cannot expand.

Commercial/Public Buildings

Empire Commercial / Public Buildings
35 Parcels in Commercial/Residential Zone



- Conforming - newer systems
- Non-conforming - no LBDHD record, 50+ yr old facility
- ⊗ Non-conforming - rebuilt within last 20 years, restricted usage
- ▒ Non-conforming - 25+ yrs old
- ⊠ Non-conforming - pump & haul disposal

Current Condition

- Village
 - Limitations on current operations and flexibility
 - Restricted to expand services and accommodate growth requiring increased water use
- Front Street Commercial district
 - limited ability to change and expand
 - Pedestrian friendly “walking downtown” limited in growth and developing new “boutique” small businesses
- M22, generally small parcels, and the land required for wastewater present barriers to use.

Wastewater Systems

- Support residential and commercial property use consistent with Village planning and zoning.
- Residential
 - support areas with difficult soils, ground water
 - eliminate “mounded” solutions
- Commercial
 - Eliminate barriers to development
 - For existing businesses, eliminate;
 - “grandfathered” exceptions
 - “pump and haul” practices.
 - could expand services or change uses.
- Increased commercial use will increase the Village tax base.

Empire Moving Forward

- Wastewater decisions must take into consideration many factors in addition to those considered by this committee.
- For this reason, the committee was tasked to not provide a recommendation regarding implementing a wastewater system

Our Village

- Empire has a unique and special urban and natural environment. Protecting and preserving this environment requires understanding the current conditions and managing change.
- Village government planning and zoning provides a blueprint for land use.
- Village infrastructure for water, gas, electricity, communications, and roads are meeting needs and are, in many cases, excellent.
- There is no village infrastructure or services for wastewater.

Our Village

- A village or partial wastewater system is feasible, offers benefits and presents financial challenges.
- The study considered three test case scenarios and financing structures typical with municipal systems.
- Other service area scenarios and financial structures could be considered to meet wastewater demands.
- Any successful approach will require a match of user requirements, correct environmental/collection treatment and sustainable affordable financing.

Moving forward, Village can take the following actions;

- Support continued planning and analysis of potential wastewater scenarios
- Understand and stay current on Village wastewater practices, impacts on the environment, and residential and commercial properties
- Support continued environmental monitoring, integration of efforts and analysis
- Be open to innovation and creative approaches

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