

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
**STUDY GUIDE OF TYPICAL EXAM CONTENT FOR WASTEWATER TREATMENT OPERATOR
CLASS L1 AND L2
CERTIFICATION EXAMINATION**

Written Examination

Exams are offered twice per year in May and November. Applicants must have, by the date of the exam, completed high school or equivalent and have at least one calendar year verifiable experience which is achieved by actual hands-on performance, or immediate supervision, of the duties involved in the routine required monitoring, operation, and control of the equipment and processes involved in a wastewater stabilization lagoon system. This experience must be in a Class L1 or L2 type facility for Class L1, but must be in a L2 type facility for Class L2. The Board Policy for minimum requirements can be found by going to Michigan.gov/WWCertification and clicking on "Municipal Wastewater Treatment Plant Operator Certification."

Applications for the written examinations are accepted not less than 45 days before the examination date. The exam announcements can be found on our website. The written examinations for Class A certification are developed from need-to-know exam questions. The design of the questions has been selected so that they are clear and not misleading or tricky.

No programmable calculators, electronic data storage devices, or communications devices will be allowed to be used during the examination.

No informational material (reference books, formula lists, etc.) is allowed into the examination. Examinees will be expected to know the formulas for the common calculations such as circumference, area, and volume. Examinees will be expected to be able to, without reference material, perform calculations related to flow and pumping rates, treatment loading and process control. Examinees for Class L2 may also be required to perform calculations involved in chemical addition, irrigation rates, and electrical power.

Examinees will be expected to know the basics of operation, control, and troubleshooting the lagoon wastewater treatment process. Examinees for Class L2 may also be expected to know the principles and practices of aeration, phosphorus removal, nitrification, and disinfection as these relate to lagoon wastewater treatment systems.

Examinees will be expected to know and be able to apply the principles of supervision that would be required of a superintendent of a Class L1 or L2 facility.

General Exam Makeup

The Class L1 and L2 written examinations are divided into two parts. Each part consists of multiple-choice type questions. Part 1 consists of 50 one-point questions and Part 2 consists of 25 two-point questions. Examinees will have 5.0 hours to complete the exam. The style of questions and number of questions may change without notice.

The composition of the exam is in four general areas with the approximate proportions as follows:

50% Operations, 15% Management, 25% Maintenance, and 10% Laboratory



Exam Content

Subject areas to be covered under each area may include, but are not limited to:

OPERATION

Basic Process Operation and Theory
Process Troubleshooting
Related Mathematics
Related Safety
Flow Measurement
Disinfection (L2 only)
Phosphorus Removal (L2 only)
Nitrification Process (L2 only)

LABORATORY

Basic Principles of All Routine Analyses
Sample Collection/Preservation
Evaluation of Lab Data

MAINTENANCE

Maintenance of Piping, Valves, and Pumps
Maintenance of Lift Stations
Maintenance of Flow Meters
Maintenance of Chemical Feed Equipment (L2 only)
Maintenance of Aeration Equipment (L2 only)

MANAGEMENT

Record Keeping
Reports
Legal Regulations (State and Federal)
Public Relations
Security/Emergency/Safety Regulations and Procedures

More information is available on our website at [Michigan.gov/WWCertification](https://www.michigan.gov/WWCertification). Please contact EGLE-WRD-OpCert@Michigan.gov if you have any questions.

For information or assistance on this publication, please contact the Water Resources Division through EGLE Environmental Assistance Center at 800-662-9278. This publication is available in alternative formats upon request.

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