

Plumbing license examination guide

April 2022

The information in this guide is provided by the Licensing Unit of the Minnesota Department of Labor and Industry (DLI) to ensure that applicants for personal plumbing licenses administered by the department understand basic qualifications, knowledge areas, examination criteria and format to enable them to successfully complete requirements to become licensed. Although this document contains a significant amount of detail, it should not be construed by applicants to be inclusive of all information necessary to successfully pass a license examination, and subsequently become licensed by the department. It is the applicant's responsibility to adequately prepare to successfully complete the license examination process.

The plumbing and water conditioning license exam is based on the 2020 edition of Minnesota Chapter 4714, Chapter 144, Chapter 325, and Chapter 326

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Examination

Purpose

Successfully completing a license examination provides evidence that the applicant possesses the necessary knowledge and expertise to be licensed in a specific profession or for a specific scope of work within a profession.

Licensing examinations are designed to assess the applicant's competence after they have completed their qualifying education, training and experience. License examinations are designed to assess higher level skills than academic examinations by assessing the applicant's ability to apply the competencies they gained from their education, training and experience in actual practice. Licensing examinations are intended to assure the public that the person passing an examination is qualified to practice within the scope of the license without causing harm to the public.

The purpose of this license examination guide is to provide applicants with awareness of knowledge areas covered by specific license examinations, question and examination format, degree of difficulty for specific license examinations, length of examination and length of time allowed to complete their examination.

General

1. Examination instructions are intended to be clear, concise and complete. No questions may be asked of the examination proctor (test administrator).
2. Examination questions and answer selections have been developed to be clear, concise and complete. Applicants should be able to understand the question without having to read the answer selections. No questions may be asked of the examination proctor (test administrator).
3. Examination questions relate to knowledge areas within the scope of the license.
4. Examination questions reasonably cover the knowledge areas within the scope of the license.
5. Examination questions relate to knowledge areas that are common. The examination knowledge areas are within the areas of work generally experienced by applicants for, or persons holding, the license.
6. Applicants are allowed to use the 2020 Minnesota Plumbing Code Chapter 4714 and an electronic calculator during their entire examination. All reference materials and a calculator are provided by the department. No other materials or electronic devices, including cell phones, are allowed in the building. Although reference materials are available for the entire examination, applicants should be adequately prepared and not rely on the provided reference materials to answer all questions. Most questions are intended to be answered without the applicant needing to refer to reference materials. A copy of the Minnesota Plumbing Code does not include tabs or other aids. The edition of the 2020 Minnesota Plumbing Code is the edition adopted as part of the state building code at the time the examination is administered. The edition of the 2020 Minnesota Plumbing Code is the most current adopted edition at the time the examination is administered. The electronic calculator is of the common desk type that includes addition, subtraction, multiplication, division, square root and percentage functions. The laws and rules booklet provided for the examination is in the department's current format and represents the laws and rules in effect at the time the examination is administered.

7. Applicants observed giving or receiving assistance from other applicants or outside parties will be automatically failed and required to submit a new application, including submission of required fees.
8. Applicants observed copying questions or making notes regarding questions will be automatically failed and required to submit a new application, including submission of required fees.
9. During their examination, applicants may leave the examination room to use the restroom but are not permitted to leave the building. Applicants leaving the building prior to completing and turning in their examination will be automatically failed and required to submit a new application, including submission of required fees.
10. In addition to being monitored by the on-site proctor, the examination room may be electronically monitored.
11. Examination materials, including completed examinations and scoring keys, are classified as nonpublic by Minnesota Statutes section 13.34. Applicants will only be provided with access to examination materials during the time they are being examined.

Question format

1. Examination questions are formatted in a manner that requires the applicant to demonstrate mastery of the knowledge area.
2. Questions that require calculations resulting in an absolute answer may not always include multiple-choice answers.
3. Variables in a question ensure that the appropriate knowledge area(s) or code rule(s) must be applied to arrive at the correct answer.
4. Multiple-choice answer selections for knowledge areas with multiple conditions or requirements are worded in a manner that requires the applicant to demonstrate knowledge of the subject matter and minimize the applicant's opportunity to select a correct answer(s) based on key words.
5. Questions requiring more than one multiple-choice answer selection are clearly identified, including the number of correct answer selections. This is a companion format to the negative-response format identified in 6 below.
6. Questions with a negative-response format such as "which of the following does not apply," are only used in limited instances. This is a companion format to the multiple-correct answer format identified in 5 above.
7. Negative response questions and questions requiring more than one multiple-choice answer are limited to: a list of conditions, a list of requirements, or a list of methods.
8. Incorrect multiple-choice answer selections are "plausible."
9. Questions may include extraneous information.
10. Unless stated otherwise in specific questions, all questions and related answers assume a single point.
11. As many as five variations of an examination may be administered on the same examination date.
12. Individual examinations are modified not less than three times each code cycle.
13. Examination questions and suggestions are accepted on an on-going basis from interested parties and become part of an examination question database from which examinations are created.
14. Some questions relate to code violations repeatedly made by license holders. Practical experience must be augmented by quality training to ensure the applicant's complete and accurate understanding of the subject matter.

Length of examination

1. The license examinations for master plumbing license consist of 300 points.
2. The license examination for the journeyworker plumbing license consists of 240 points.
3. The license examinations for the water conditioning master license consist of 65 questions.
4. The license examinations for the water conditioning journeyworker license consist of 60 questions.
5. Unless stated otherwise, all examination questions have the same point value. Partial points are not given. Either full-point credit or zero-point credit is awarded for each question.
6. The passing score for all examinations is 70%.
7. The time allowed to complete the master and journeyworker plumbers examination is 5 ½ hours.
8. The time allowed to complete the water conditioning examination is 3 hours.

Examination results

1. Examination results are mailed to applicants within two weeks of the examination. Examination results are not provided to applicants by telephone or e-mail.
2. Examination result letters mailed to applicants who passed their examinations will contain instructions about how to obtain their license.
3. Examination result letters mailed to applicants who failed their examinations will contain instructions about how to apply to retake the exam.

Examination review or appeal

1. Examinations with scores within 1 percentage point of passing are rechecked to ensure accuracy.
2. Written or oral reviews of individual examinations are not available to applicants. Applicants may provide written comment to the department's licensing unit about specific examination questions.
3. Applicants who fail any examination are prohibited from retaking the license examination for at least 30 days. The rank by authority or scope of work for licenses administered by the department are:
 - master plumber
 - journeyworker plumber
 - water conditioning master
 - water conditioning journeyworker

Sample questions

The sample questions are intended to identify the various question formats that are used in the examinations. The knowledge areas used in the sample questions may not be applicable to all classes of examination.

1. What type of backflow prevention cannot be used for the water supply to a commercial hot water heating system?

- A. Reduced pressure zone device
- B. Double check intermediate atmospheric valve
- C. Threaded hose connection meeting ASSE #1052
- D. Air gap

Answer: C

2. Floor drains for commercial kitchen sinks must not have which of the following installed?

- A. Cleanout
- B. Backwater valve
- C. Vent located within 5'0" of trap
- D. Vertical distance from outlet of drain to trap exceeding 24 inches.

Answer: B

3. What is the smallest pipe diameter a vent can have located underground?

- A. 1 ¼"
- B. 1 ½"
- C. 2"
- D. 2 ½"

Answer: A

4. Water meters shall be installed at least:

- A. 24 inches above the finished floor
- B. 6 inches above the finished floor
- C. 18 inches above the finished floor
- D. 12 inches above the finished floor

Answer: D

Formulas and sample calculations

The following information includes brief explanations and examples of formulas and calculations of basic water pipe sizing, drain, waste and vent sizing and storm water system sizing, and is **not** intended to be inclusive of all information applicants need to be familiar with to successfully perform plumbing work or receive a passing score. Examples of more complex calculations can be found in other resources. Knowledge gained through practical experience is generally not adequate to enable an applicant to pass a licensing examination. It is the responsibility of an applicant to adequately prepare themselves, either through formal training or informal, self-help training.

Pipe size the following example drawings:

Water distribution system using section Chapter 6

Drain, waste and vent system using section Chapter 7 and Chapter 9

Storm sewer system using Chapter 11

Sample diagrams are on the following pages.

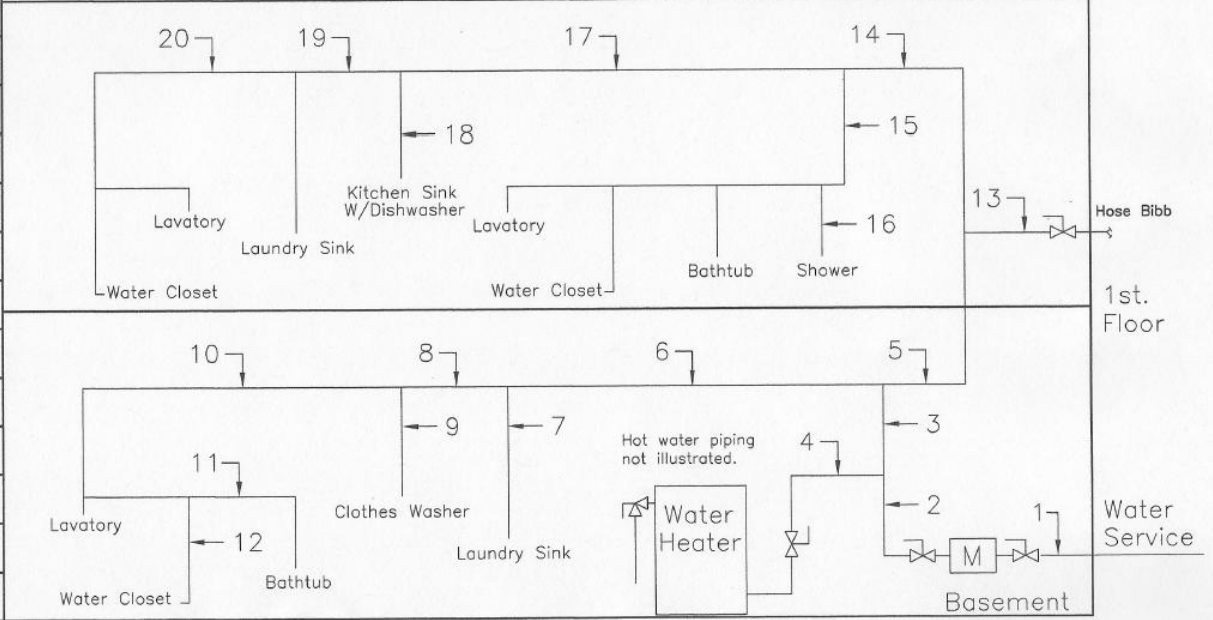
1	$\frac{31.5 \text{ FU}}{1"}$
2	$\frac{31.5 \text{ FU}}{1-1/4"}$
3	$\frac{31.5 \text{ FU}}{1-1/4"}$
4	$\frac{21.5 \text{ FU}}{1-1/4"}$
5	$\frac{18.5 \text{ FU}}{1"}$
6	$\frac{13 \text{ FU}}{1"}$
7	$\frac{1.5 \text{ FU}}{1/2"}$
8	$\frac{11.5 \text{ FU}}{1"}$
9	$\frac{4 \text{ FU}}{3/4"}$
10	$\frac{7.5 \text{ FU}}{3/4"}$
11	$\frac{4 \text{ FU}}{3/4"}$
12	$\frac{2.5 \text{ FU}}{3/4"}$
13	$\frac{2.5 \text{ FU}}{3/4"}$
14	$\frac{16 \text{ FU}}{1"}$
15	$\frac{9.5 \text{ FU}}{1"}$
16	$\frac{2 \text{ FU}}{1/2"}$
17	$\frac{6.5 \text{ FU}}{3/4"}$
18	$\frac{1.5 \text{ FU}}{1/2"}$
19	$\frac{5 \text{ FU}}{3/4"}$
20	$\frac{3.5 \text{ FU}}{3/4"}$

Practice Test L.W. House

WATER PIPE SIZING DIRECTIONS:

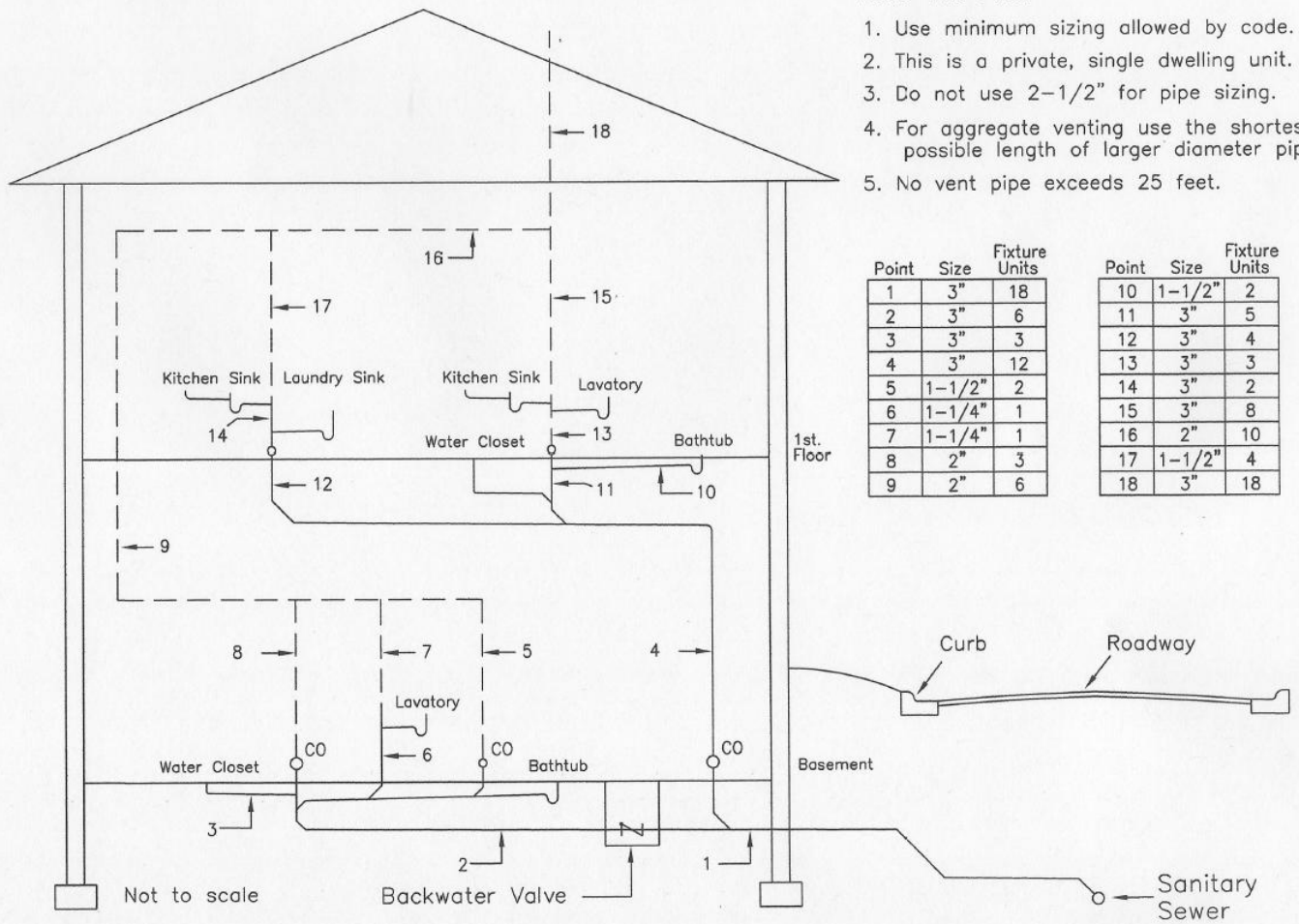
Follow 610.7 thru 610.10 and table 610.3 and 610.4 to size drawing.
 The total developed length of supply from water meter to most remote outlet is 150 feet.
 The difference in elevation between the water meter and the highest outlet is 18 feet.
 The pressure at the water meter ranges from 48 psi to 50 psi.
 Do not reduce sizing as allowed in foot note 3 of table 610.3.
 All fixtures are private use.
 Water Closets are 1.6 GPF Gravity Tank.

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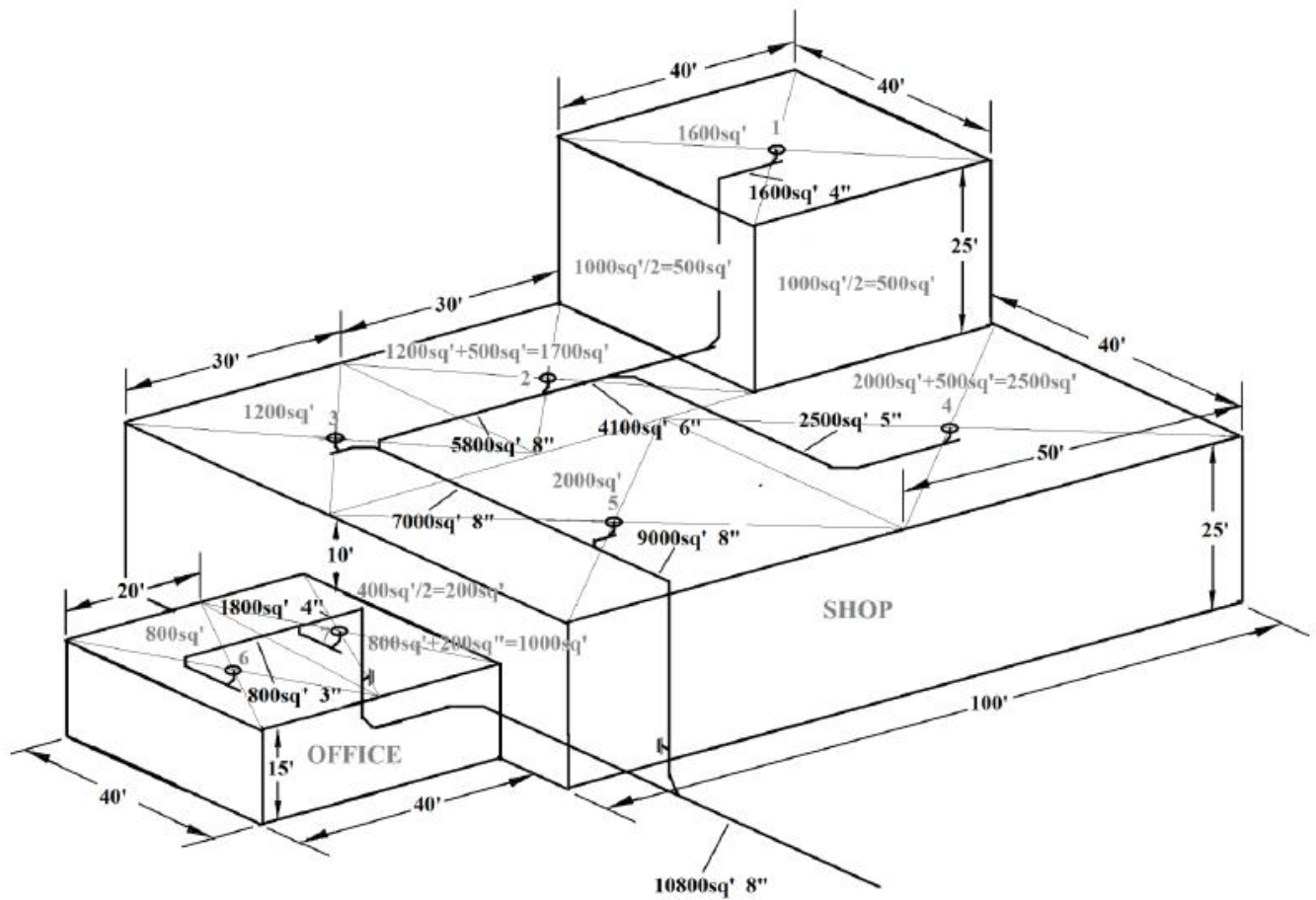
READ THIS FIRST

1. Use minimum sizing allowed by code.
2. This is a private, single dwelling unit.
3. Do not use 2-1/2" for pipe sizing.
4. For aggregate venting use the shortest possible length of larger diameter pipe.
5. No vent pipe exceeds 25 feet.



Point	Size	Fixture Units
1	3"	18
2	3"	6
3	3"	3
4	3"	12
5	1-1/2"	2
6	1-1/4"	1
7	1-1/4"	1
8	2"	3
9	2"	6

Point	Size	Fixture Units
10	1-1/2"	2
11	3"	5
12	3"	4
13	3"	3
14	3"	2
15	3"	8
16	2"	10
17	1-1/2"	4
18	3"	18



All piping in the ceiling of the office to be run at 1/4" inch per foot.

All piping in the ceiling of the shop area to be run at 1/8" inch per foot.

All underground piping to be run at 1/8" inch per foot.

Use Table 1101.7 for sizing horizontal rainwater piping.

Use Table 110.11 for sizing roof drains, leaders, & vertical rainwater piping.

The rain fall rate is based on 4 inches per hour (in/h).

ROOF DRAIN	1	2	3	4	5	6	7
PIPE SIZE	3"	3"	3"	4"	3"	3"	3"
SQUARE FEET	1600sq'	1700sq'	1200sq'	2500sq'	2000sq'	800sq'	800sq'

Examination knowledge areas

The following tables generally identify knowledge areas included in examinations by license type.

The department offers these study suggestions for the types of license examinations indicated. This study guide must not be construed to indicate that all questions will be from the knowledge areas indicated above or that all knowledge areas will be included in individual examinations. License applicants are expected to be familiar with all requirements that apply to the scope of the license they are applying for.

The examinations are identified by the following abbreviations:

- **MP - master plumber**
- **JP - journeyworker plumber**
- **WCM - water conditioning master**
- **WCJ - water conditioning journeyworker**
- **PLC - pipe laying certificate**

Examination knowledge areas

The following tables generally identify knowledge area included in examinations by license type

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Basic Plumbing Principles	X	X	X	X	X
Conformance with Code	X	X	X	X	X
Chapter 2, Definitions	X	X	X	X	X
Chapter 3, General Regulations	X	X	X	X	X
Applicability	X	X	X	X	X
Minimum Standards	X	X	X	X	X
Alternate Materials and Methods of Construction Equivalency	X	X	X	X	X
Flood Hazard Areas.	X	X	X	X	X
Alternative Engineered Design	X	X	X	X	X
Iron Pipe Size (IPS) Pipe	X	X	X	X	X
General	X	X	X	X	X
Disposal of Liquid Waste	X	X	X	X	X
General	X	X	X	X	X
Damage to Drainage System or Public Sewer	X	X	X	X	X
Unlawful Practices	X	X	X	X	X
Industrial Wastes	X	X			X
Detrimental Wastes	X	X	X	X	X
Safe Discharge	X	X	X	X	X
Location	X	X	X	X	X
System	X	X	X	X	X
Ownership	X	X	X	X	X
Improper Location	X	X	X	X	X
General	X	X	X	X	X

Knowledge areas	Class of license				
Workmanship	X	X	X	X	X
Engineering Practices	X	X	X	X	X
Concealing Imperfections	X	X	X	X	X
Burred Ends	X	X	X	X	X
Installation Practices	X	X	X	X	X
Sound Transmission	X	X	X	X	X

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Prohibited Fittings and Practices	X	X	X	X	X
Fittings	X	X	X	X	X
Drainage and Vent Piping	X	X			X
Waste Connection	X	X			X
Use of Vent and Waste Pipes	X	X			
Obstruction of Flow	X	X	X	X	X
Dissimilar Metals	X	X	X	X	X
Direction of Flow	X	X	X	X	X
Screwed Fittings	X	X	X	X	X
Use of Public Sewer and Water Systems Required	X	X	X	X	X
General	X	X	X	X	X
Protection of Piping, Materials, and Structures	X	X	X	X	X
General	X	X	X	X	X
Installation	X	X	X	X	X
Building Sewer and Drainage Piping	X	X	X	X	X
Corrosion, Erosion, and Mechanical Damage	X	X	X	X	X
Protectively Coated Pipe	X	X	X	X	X
Freezing Protection	X	X	X	X	X
Fire-Resistant Construction	X	X	X	X	
Waterproofing of Openings	X	X	X	X	
Steel Nail Plates	X	X	X	X	
Sleeves	X	X	X	X	X
Structural Members	X	X	X	X	X
Rodent proofing	X	X	X	X	X
Hangers and Supports	X	X	X	X	X

Knowledge areas	Class of license				
General	X	X	X	X	X
Material	X	X	X	X	X
Suspended Piping	X	X	X	X	
Alignment	X	X	X	X	X
Underground Installation	X	X	X	X	X
Hanger Rod Sizes	X	X	X	X	

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Trenching, Excavation, and Backfill	X	X			X
Trenches	X	X			X
Tunneling and Driving	X	X			X
Open Trenches	X	X			X
Excavations	X	X			X
Joints and Connections	X	X	X	X	X
Unions	X	X	X	X	X
Prohibited Joints and Connections	X	X	X	X	X
Increasesers and Reducers	X	X	X	X	X
General	X	X	X	X	X
Food-Handling Establishments	X	X			
General	X	X			
Test Gauges	X	X	X	X	X
General	X	X	X	X	X
Pressure Tests (10 psi or less)	X	X	X	X	X
Pressure Tests (greater than 10 psi to 100 psi)	X	X	X	X	X
Pressure Tests (exceeding 100 psi)	X	X	X	X	X
Pressure Range	X	X	X	X	X
Rehabilitation of Piping Systems	X	X			
General	X	X			
Chapter 4, Plumbing Fixtures and the Fixture Fittings	X	X			
General	X	X			
Applicability	X	X			
Quality of Fixtures	X	X			
Installation	X	X			

Knowledge areas	Class of license				
Cleaning	X	X			
Joints	X	X			
Securing Fixtures	X	X			
Wall-Hung Fixtures	X	X			
Setting	X	X			
Flanged Fixture Connections	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Closet Rings (Closet Flanges)	X	X			
Securing Closet Flanges	X	X			
Securing Floor-Mounted, Back-Outlet Water Closet Bowls	X	X			
Supply Fittings	X	X			
Installation	X	X			
Design and Installation of Plumbing Fixtures	X	X			
Slip Joint Connections	X	X			
Future Fixtures	X	X			
Accessible Plumbing Facilities	X	X			
Fixtures and Fixture Fittings for Persons with Disabilities	X	X			
Exposed Pipes and Surfaces	X	X			
Waste Fittings and Overflows	X	X			
Waste Fittings	X	X			
Overflows	X	X			
Prohibited Fixtures	X	X			
Prohibited Water Closets	X	X			
Prohibited Urinals	X	X			
Miscellaneous Fixtures	X	X			
Special Fixtures and Specialties	X	X			
Water and Waste Connections	X	X			
Special Use Sinks	X	X			
Special Use Fixtures	X	X			
Zinc Alloy Components	X	X			
Lavatories	X	X			
Application	X	X			

Knowledge areas	Class of license				
Water Consumption	X	X			
Maximum Flow Rate	X	X			
Limitation of Hot Water Temperature for Public Lavatories	X	X			
Transient Public Lavatories	X	X			
Waste Outlet	X	X			
Overflow	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Showers	X	X			
Application	X	X			
Water Consumption	X	X			
Individual Shower and Tub-Shower Combination Control Valves	X	X			
Waste Outlet	X	X			
Finished Curb or Threshold	X	X			
Shower Compartments	X	X			
Lining for Showers and Receptors	X	X			
PVC Sheets	X	X			
Chlorinated Polyethylene (CPE) Sheets	X	X			
Sheet Lead	X	X			
Sheet Copper	X	X			
Tests for Shower Receptors	X	X			
Public Shower Floors	X	X			
Location of Valves and Heads	X	X			
Water Supply Riser	X	X			
Bathtubs and Whirlpool Bathtubs	X	X			
Waste Outlet	X	X			
Overflow	X	X			
Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs	X	X			
Backflow Protection	X	X			
Installation and Access	X	X			
Flexible PVC Hoses and Tubing	X	X			
Bidets	X	X			

Knowledge areas	Class of license				
Application	X	X			
Backflow Protection	X	X			
Limitation of Water Temperature in Bidets	X	X			
Water Closets	X	X			
Application	X	X			
Water Consumption	X	X			
Dual Flush Water Closets	X	X			
Flushometer Valve Activated Water Closets	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Water Closet Seats	X	X			
Personal Hygiene Devices	X	X			
Urinals	X	X			
Application	X	X			
Nonwater Urinals	X	X			
Backflow Protection	X	X			
Flushing Devices	X	X			
Flushometer Valves	X	X			
Flush Tanks	X	X			
Water Supply for Flush Tanks	X	X			
Overflows in Flush Tanks	X	X			
Dishwashing Machines	X	X			
Application	X	X			
Backflow Protection	X	X			
Drainage Connection	X	X			
Drinking Fountains	X	X			
Application	X	X			
Public Use Fountains	X	X			
Drainage Connection	X	X			
Location	X	X			
Emergency Eyewash and Shower Equipment	X	X			
Application	X	X			
Water Supply	X	X			
Installation	X	X			
Location	X	X			

Knowledge areas	Class of license				
Drain	X	X			
Faucets and Fixture Fittings	X	X			
Application	X	X			
Deck Mounted Bath/Shower Valves	X	X			
Handheld Showers	X	X			
Faucets and Fixture Fittings with Hose Connected Outlets	X	X			
Separate Controls for Hot and Cold Water	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Low-Pressure Water Dispenser	X	X			
Floor Drains	X	X			
Application	X	X			
Strainer	X	X			
Location of Floor Drains	X	X			
Food Storage Areas	X	X			
Floor Slope	X	X			
Elevator Pit Drain	X	X			
Garage and Parking Area Floor Drains	X	X			
Food Waste Disposers	X	X			
Application	X	X			
Drainage Connection	X	X			
Water Supply	X	X			
Sinks	X	X			
Application	X	X			
Water Consumption	X	X			
Pre-Rinse Spray Valve	X	X			
Waste Outlet	X	X			
Floor Sinks	X	X			
Application	X	X			
Strainers	X	X			
Minimum Number of Required Fixtures	X	X			
Required Minimum Number of Fixtures	X	X			
Trench Drains	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Chapter 5, Water Heaters	X	X			
Applicability	X	X			
Permits	X	X			
General	X	X			
Water Heater Requirements	X	X			
Clearance	X	X			
Listed Water Heaters	X	X			
Unlisted Water Heaters	X	X			
Pressure-Limiting Devices	X	X			
Temperature-Limiting Devices	X	X			
Temperature, Pressure, and Vacuum Relief Devices	X	X			
Oil-Burning and Other Water Heaters	X	X			
Water Heaters	X	X			
Safety Devices	X	X			
Oil-Fired Water Heaters	X	X			
Indirect-Fired Water Heaters	X	X			
Appliance and Equipment Installation Requirements	X	X			
Dielectric Insulator	X	X			
Seismic Provisions	X	X			
Appliance Support	X	X			
Structural Capacity	X	X			
Ground Support	X	X			
Drainage Pan	X	X			
Flammable Vapors	X	X			
Installation in Residential Garages	X	X			

Knowledge areas	Class of license				
Physical Damage	X	X			
Access from the Outside	X	X			
Installation Instructions	X	X			
Protection of Outdoor Appliances	X	X			
Accessibility for Service	X	X			
Clearance to Combustible Materials	X	X			
Appliances in Attics and Under-Floor Spaces	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Length of Passageway	X	X			
Width of Passageway	X	X			
Work Platform	X	X			
Lighting and Convenience Outlet	X	X			
Chapter 6, Water Heater Supply and Distribution	X	X	X	X	
Hot and Cold Water Required	X	X	X	X	
Applicability	X	X	X	X	
General	X	X	X	X	
Hot Water Required	X	X	X	X	
Hot Water Recirculation	X	X			
Identification of a Potable and Nonpotable Water System	X	X	X	X	
Potable Water	X	X	X	X	
Color and Information	X	X	X	X	
Alternate Water Sources	X	X	X	X	
Fixtures	X	X			
Outlets	X	X			
Unlawful Connections	X	X	X	X	
Prohibited Installation	X	X	X	X	
Cross-Contamination	X	X			
Backflow Prevention	X	X			
Approval by Authority	X	X			
Cross-Connection Control	X	X			
General	X	X			
Approval of Devices or Assemblies	X	X			
Backflow Prevention Devices, Assemblies, and Methods	X	X			

Knowledge areas	Class of license				
Air Gap	X	X			
Atmospheric Vacuum Breaker (AVB)	X	X			
Hose Connection Backflow Preventer	X	X			
Double Check Valve Backflow Prevention Assembly (DC)	X	X			
Pressure Vacuum Breaker Backflow Prevention Assembly (PVB)	X	X			
Spill-Resistant Pressure Vacuum Breaker (SVB)	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Reduced-Pressure Principle Backflow Prevention Assembly (RP)	X	X			
Double Check Detector Fire Protection Backflow Prevention Assembly	X	X			
Reduced Pressure Detector Fire Protection Backflow Prevention Assembly	X	X			
General Requirements	X	X			
Backflow Prevention Valve	X	X			
Testing	X	X			
Access and Clearance	X	X			
Connections	X	X			
Hot Water Backflow Preventers	X	X			
Integral Backflow Preventers	X	X			
Freeze Protection	X	X			
Drain Lines	X	X			
Prohibited Locations	X	X			
Specific Requirements	X	X			
Atmospheric Vacuum Breaker	X	X			
Ballcock	X	X			
Backflow Prevention	X	X			
Heat Exchangers	X	X			
Single-Wall Heat Exchanger	X	X			
Double-Wall Heat Exchanger	X	X			
Water Supply Inlets	X	X			
Protection from Lawn Sprinklers and Irrigation Systems	X	X			
Systems with Pumps	X	X			

Knowledge areas	Class of license				
Systems with Backflow Devices	X	X			
Systems with Chemical Injectors	X	X			
Outlets with Hose Attachments	X	X			
Water-Cooled Equipment	X	X			
Aspirators	X	X			
Steam or Hot Water Boilers	X	X			
Nonpotable Water Piping	X	X			
Beverage Dispensers	X	X			
Deck-Mounted and Equipment-Mounted Vacuum Breakers	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Protection from Fire Systems	X	X			
Fire Department Connection	X	X			
Chemicals	X	X			
Hydraulic Design	X	X			
Health Care or Laboratory Areas	X	X			
Special Equipment	X	X			
Potable Water Outlets and Valves	X	X			
Pure Water Process Systems	X	X			
Dialysis Water Systems	X	X			
Plumbing Fixture Fittings	X	X			
Swimming Pools, Spas, and Hot Tubs	X	X			
Chemical Dispensers	X	X			
Barometric Loop	X	X			
Installation of Testable Backflow Prevention Assembly	X	X			
Notification of Installation	X	X			
Testing and Maintenance	X	X			
Inspection and Records	X	X			
Notification of Removal	X	X			
Materials	X	X	X	X	
Pipe, Tube, and Fittings	X	X	X	X	
Lead Content	X	X	X	X	
Lead Content of Water Supply Pipe and Fittings	X	X	X	X	
Copper or Copper Alloy Tube	X	X	X	X	
Hard-Drawn Copper or Copper Alloy Tubing	X	X	X	X	
Flexible Connectors	X	X	X	X	

Knowledge areas	Class of license				
Cast-Iron Fittings	X	X	X	X	
Malleable Iron Fittings	X	X	X	X	
Previously Used Piping and Tubing	X	X	X	X	
Epoxy Coating	X	X	X	X	
Plastic Materials	X	X			
Tracer Wire	X	X			
Solder	X	X	X	X	

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Flexible Corrugated Connectors	X	X			
Water Heater Connectors	X	X			
Joints and Connections	X	X			
Copper or Copper Alloy Pipe, Tubing, and Joints	X	X	X	X	
Brazed Joints	X	X	X	X	
Flared Joints	X	X	X	X	
Mechanical Joints	X	X	X	X	
Mechanically Formed Tee Fittings	X	X	X	X	
Press-Connect Fittings	X	X	X	X	
Push Fit Fittings	X	X	X	X	
Soldered Joints	X	X	X	X	
Threaded Joints	X	X	X	X	
CPVC Plastic Pipe and Joints	X	X	X	X	
Mechanical Joints	X	X	X	X	
Push Fit Fittings	X	X	X	X	
Solvent Cement Joints	X	X	X	X	
Threaded Joints	X	X	X	X	
CPVC/AL/CPVC Plastic Pipe and Joints	X	X	X	X	
Solvent Cement Joints	X	X	X	X	
Mechanical Joints	X	X	X	X	
Push Fit Fittings	X	X	X	X	
Ductile Iron Pipe and Joints	X	X			
Mechanical Joints	X	X			
Push-On Joints	X	X			
Galvanized Steel Pipe and Joints	X	X	X	X	

Knowledge areas	Class of license				
Mechanical Joints	X	X	X	X	
Threaded Joints	X	X	X	X	
PE Plastic Pipe/Tubing and Joints	X	X	X	X	
Heat-Fusion Joints	X	X	X	X	
Butt-Fusion Joints	X	X	X	X	
Electro-Fusion Joints	X	X	X	X	
Socket-Fusion Joints	X	X	X	X	

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Mechanical Joints	X	X			
PE-AL-PE Plastic Pipe/Tubing and Joints	X	X	X	X	
Mechanical Joints	X	X	X	X	
Compression Joints	X	X	X	X	
PE-RT	X	X	X	X	
Mechanical Joints	X	X	X	X	
PEX Plastic Tubing and Joints	X	X	X	X	
Fittings	X	X	X	X	
Mechanical Joints	X	X	X	X	
Push Fit Fittings	X	X	X	X	
PEX-AL-PEX Plastic Tubing and Joints	X	X	X	X	
Mechanical Joints	X	X	X	X	
Compression Joints	X	X	X	X	
Polypropylene (PP) Piping and Joints	X	X	X	X	
Heat-Fusion Joints	X	X	X	X	
Mechanical and Compression Sleeve Joints	X	X	X	X	
Threaded Joints	X	X	X	X	
PVC Plastic Pipe and Joints	X	X			
Mechanical Joints	X	X			
Solvent Cement Joints	X	X			
Threaded Joints	X	X			
Stainless Steel Pipe and Joints	X	X	X	X	
Mechanical Joints	X	X	X	X	
Welded Joints	X	X	X	X	
Slip Joints	X	X			

Knowledge areas	Class of license				
Dielectric Unions	X	X	X	X	
Joints Between Various Materials	X	X	X	X	
Copper or Copper Alloy Pipe or Tubing to Threaded Pipe Joints	X	X	X	X	
Plastic Pipe to Other Materials	X	X	X	X	
Stainless Steel to Other Materials	X	X	X	X	
Valves	X	X	X	X	
General	X	X	X	X	

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Fullway Valve	X	X			
Multidwelling Units	X	X			
Multiple Openings	X	X			
Control Valve	X	X			
Accessible	X	X			
Multiple Fixtures	X	X			
Potable Water Supply Tanks	X	X			
General	X	X			
Potable Water Tanks	X	X			
Venting	X	X			
Overflow	X	X			
Valves	X	X			
Water Pressure, Pressure Regulators, Pressure Relief Valves, and Vacuum Relief Valves	X	X			
Inadequate Water Pressure	X	X			
Excessive Water Pressure	X	X			
Expansion Tanks, and Combination Temperature and Pressure-Relief Valves	X	X			
Pressure Relief Valves	X	X			
Discharge Piping	X	X			
Water-Heating Devices	X	X			
Vacuum Relief Valves	X	X			
Installation, Testing, Unions, and Location	X	X			
Installation	X	X			
Trenches	X	X			
Under Concrete Slab	X	X			

Knowledge areas	Class of license				
Testing	X	X	X	X	
Unions	X	X			
Location	X	X			
Water Supply Near Sources of Contamination	X	X			
Abutting Lot	X	X			
Low-Pressure Cutoff Required on Booster Pumps for Water Distribution Systems	X	X			
Disinfection of Potable Water System	X	X	X	X	
Water Hammer	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Mechanical Devices	X	X			
Water Meters	X	X			
Size of Potable Water Piping	X	X			
Pressure Loss	X	X			
Quantity of Water	X	X			
Sizing Water Supply and Distribution Systems	X	X			
Sizing per Appendices A and C	X	X			
Friction and Pressure Loss	X	X			
Conditions for Using Table 610.4	X	X			
Size of Meter and Building Supply Pipe Using Table 610.4	X	X			
Size of Branches	X	X			
Sizing for Flushometer Valves	X	X			
Sizing Systems for Flushometer Tanks	X	X			
Sizing for Velocity	X	X			
Copper Tube Systems	X	X			
Tubing Systems Using Copper Fittings	X	X			
Exceptions	X	X			
Water Conditioning Equipment	X	X	X	X	
Application	X	X	X	X	
Manufacture and Assembly	X	X	X	X	
Labeling	X	X	X	X	
Airgap Discharge	X	X	X	X	
Connection Tubing	X	X	X	X	
Sizing of Residential Softeners	X	X	X	X	
Isolation and Bypass	X	X	X	X	

Knowledge areas	Class of license				
Multipurpose Potable Water Piping Systems	X	X	X	X	
General	X	X	X	X	

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Chapter 7, Sanitary Drainage	X	X			
Part I – Drainage Systems	X	X			
Materials	X	X			
Drainage Piping	X	X			
Drainage Fittings	X	X			
Screwed Pipe	X	X			
Threads	X	X			
Type	X	X			
Continuous Wastes	X	X			
Lead	X	X			
Caulking Ferrules	X	X			
Soldering Bushings	X	X			
Fixture Unit Equivalentents	X	X			
Trap Size	X	X			
Intermittent Flow	X	X			
Continuous Flow	X	X			
Size of Drainage Piping	X	X			
Minimum Size	X	X			
Maximum Number of Fixture Units	X	X			
Sizing per Appendix C	X	X			
Fixture Connections (Drainage).	X	X			
Inlet Fittings	X	X			
Single Vertical Drainage Pipe	X	X			
Commercial Dishwashing Machines and Sinks	X	X			
Joints and Connections	X	X			

Knowledge areas	Class of license				
ABS and ABS Co-Extruded Plastic Pipe and Joints	X	X			
Mechanical Joints	X	X			
Solvent Cement Joints	X	X			
Threaded Joints	X	X			
Cast-Iron Pipe and Joints	X	X			
Caulked Joints	X	X			
Mechanical Joints and Compression Joints	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Copper or Copper Alloy Pipe (DWV) and Joints.	X	X			
Brazed Joints	X	X			
Mechanical Joints	X	X			
Soldered Joints	X	X			
Threaded Joints	X	X			
Galvanized Steel Pipe and Joints	X	X			
Mechanical Joints	X	X			
Threaded Joints	X	X			
Polyethylene (PE) Sewer Pipe	X	X			
Heat-Fusion Joints	X	X			
Butt-Fusion Joints	X	X			
Electro-Fusion Joints	X	X			
PVC and PVC Co-Extruded Plastic Pipe and Joining Methods	X	X			
Mechanical Joints	X	X			
Solvent Cement Joints	X	X			
Threaded Joints	X	X			
Stainless Steel Pipe and Joints	X	X			
Mechanical Joints	X	X			
Welded Joints	X	X			
Vitrified Clay Pipe and Joints	X	X			
Mechanical Joints	X	X			
Special Joints	X	X			
Slip Joints	X	X			
Expansion Joints	X	X			

Knowledge areas	Class of license				
Ground Joint, Flared, or Ferrule Connections	X	X			
Transition Joint	X	X			
Joints Between Various Materials	X	X			
Copper or Copper Alloy Pipe to Cast-Iron Pipe	X	X			
Copper or Copper Alloy Pipe to Threaded Pipe Joints	X	X			
Plastic Pipe to Other Materials	X	X			
Stainless Steel Pipe to Other Materials	X	X			
Changes in Direction of Drainage Flow	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Approved Fittings	X	X			
Horizontal to Vertical	X	X			
Horizontal to Horizontal	X	X			
Vertical to Horizontal	X	X			
Cleanouts	X	X			
Plug	X	X			
Approved	X	X			
Watertight and Gastight	X	X			
Location	X	X			
Cleaning	X	X			
Extension	X	X			
Interceptor	X	X			
Access	X	X			
Clearance	X	X			
Fittings	X	X			
Pressure Drainage Systems	X	X			
Countersunk Cleanout Plugs	X	X			
Hubless Blind Plugs	X	X			
Trap Arms	X	X			
Grade of Horizontal Drainage Piping	X	X			
General	X	X			
Gravity Drainage Required	X	X			
General	X	X			
Drainage of Fixtures Located Below the Next Upstream Manhole or Below the Main Sewer Level	X	X			

Knowledge areas	Class of license				
Backflow Protection	X	X			
Sewage Discharge	X	X			
Sewage Ejector and Pumps	X	X			
Discharge Line	X	X			
Size of Building Drains and Sewers	X	X			
Backwater Valves	X	X			
Drainage and Venting Systems	X	X			
Sump and Receiving Tank Construction	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Alarm	X	X			
Sump and Receiving Tank Covers and Vents	X	X			
Air Tanks	X	X			
Grinder Pump Ejector	X	X			
Discharge Piping	X	X			
Macerating Toilet Systems	X	X			
Sumps	X	X			
Discharge Piping	X	X			
Venting	X	X			
Suds Relief	X	X			
General	X	X			
Testing	X	X			
Media	X	X			
Water Test	X	X			
Air Test	X	X			
Negative Test	X	X			
Finished Plumbing	X	X			
Test Plugs or Caps	X	X			
Part II – Building Sewers	X	X			X
Sewer Required	X	X			X
Where Required	X	X			X
Private Sewage Disposal System	X	X			X
Public Sewer	X	X			X
Public Sewer Availability	X	X			X

Knowledge areas	Class of license				
Lot	X	X			X
Installation	X	X			X
Damage to Public Sewer or Private Sewage Disposal System	X	X			X
Unlawful Practices	X	X			X
Prohibited Water Discharge	X	X			X
Prohibited Sewer Connection	X	X			X
Commercial Food Waste Disposer	X	X			X

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Tanks	X	X			
Building Sewer Materials	X	X			X
Materials	X	X			X
Joining Methods and Materials	X	X			X
Existing Sewers	X	X			X
Markings	X	X			X
General	X	X			X
Size of Building Sewers	X	X			X
General	X	X			X
Grade, Support, and Protection of Building Sewers	X	X			X
Slope	X	X			X
Support	X	X			X
Protection from Damage	X	X			X
Cleanouts	X	X			X
Locations	X	X			X
No Additional Cleanouts	X	X			X
Building Sewer Cleanouts	X	X			X
Cleaning	X	X			X
Access	X	X			X
Manholes	X	X			X
Sewer and Water Pipes	X	X			X
Location	X	X			X
Building Sewer	X	X			X
Abutting Lot	X	X			X
Building Sewer Test	X	X			X

Knowledge areas	Class of license				
General	X	X			X
Recreational Vehicle Sanitary Disposal Station	X	X			X
Construction	X	X			X
Flushing Device	X	X			X
Drainage Pipe Sizes	X	X			X

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Chapter 8, indirect wastes	X	X			
General	X	X			
Applicability	X	X			
Air Gap or Air Break Required	X	X			
Food and Beverage Handling Establishments	X	X			
Size of Indirect Waste Pipes	X	X			
Walk-In Coolers	X	X			
Food-Handling Fixtures	X	X			
Connections from Water Distribution System	X	X			
Sterilizers	X	X			
Drip or Drainage Outlets	X	X			
Approvals	X	X			
General	X	X			
Indirect Waste Piping	X	X			
Materials	X	X			
Copper and Copper Alloys	X	X			
Pipe Size and Length	X	X			
Indirect Waste Receptors	X	X			
Standpipe Receptors	X	X			
Domestic or Culinary Type Fixtures Prohibited as Receptors	X	X			
Pressure Drainage Connections	X	X			
General	X	X			
Sterile Equipment	X	X			
General	X	X			
Appliances	X	X			

Knowledge areas	Class of license				
Non-Classed Apparatus	X	X			
Undiluted Condensate Waste	X	X			
Domestic Dishwashing Machine	X	X			
Cooling Water	X	X			
Drinking Fountains	X	X			
General	X	X			
Steam and Hot Water Drainage Condensers and Sumps	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
High-Temperature Discharge	X	X			
Sumps, Condensers, and Intercepting Tanks	X	X			
Cleaning	X	X			
Strainers	X	X			
Chemical Wastes	X	X			
Pretreatment	X	X			
Waste and Vent Pipes	X	X			
Joining Materials	X	X			
Access	X	X			
Permanent Record	X	X			
Chemical Vent	X	X			
Discharge	X	X			
Diluted Chemicals	X	X			
Waste and Vent	X	X			
Clear Water Wastes	X	X			
General	X	X			
Swimming Pools	X	X			
General	X	X			
Condensate Waste and Control	X	X			
Condensate Disposal	X	X			
Condensate Control	X	X			
Protection of Appurtenances	X	X			
Appliance Condensate Drains	X	X			
Point of Discharge	X	X			
Condensate Waste From Air-Conditioning Coils	X	X			

Knowledge areas	Class of license				
Plastic Fittings	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Chapter 9, Vents	X	X			
General	X	X			
Applicability	X	X			
Vents Required	X	X			
Trap Seal Protection	X	X			
Vents Not Required	X	X			
Interceptor	X	X			
Materials	X	X			
Applicable Standards	X	X			
Use of Copper or Copper Alloy Tubing	X	X			
Aboveground	X	X			
Prohibited Use	X	X			
Marking	X	X			
Changes in Direction	X	X			
Size of Vents	X	X			
Size	X	X			
Length	X	X			
Vent Pipe Grades and Connections	X	X			
Grade	X	X			
Horizontal Drainage Pipe	X	X			
Vent Pipe Rise	X	X			
Roof Termination	X	X			
Location of Opening	X	X			
Common Vertical Pipe	X	X			
Vent Termination	X	X			

Knowledge areas	Class of license				
Roof Termination	X	X			
Clearance	X	X			
Use of Roof	X	X			
Outdoor Installations	X	X			
Joints	X	X			
Lead	X	X			
Frost or Snow Closure	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Vent Stacks and Relief Vents	X	X			
Yoke Vent	X	X			
Wet Venting	X	X			
Vertical Wet Venting	X	X			
Size	X	X			
Vent Connection	X	X			
Horizontal Wet Venting for a Bathroom Group	X	X			
Vent Connection	X	X			
Size	X	X			
Trap Arm	X	X			
Water Closet	X	X			
Additional Fixtures	X	X			
Special Venting for Island Fixtures	X	X			
General	X	X			
Combination Waste and Vent Systems	X	X			
Where Permitted	X	X			
Approval	X	X			
Vents	X	X			
Size	X	X			
Vertical Waste Pipe	X	X			
Cleanouts	X	X			
Fixtures	X	X			
Circuit Venting	X	X			
Circuit Vent Permitted	X	X			
Multiple Circuit-Vented Branches	X	X			

Knowledge areas	Class of license				
Vent Size and Connection	X	X			
Slope and Size of Horizontal Branch	X	X			
Size of Multiple Circuit Vent	X	X			
Relief Vent	X	X			
Connection and Installation	X	X			
Fixture Drain or Branch	X	X			
Additional Fixtures	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Engineered Vent System	X	X			
General	X	X			
Minimum Requirements	X	X			
Chapter 10, Traps and Interceptors	X	X			
General	X	X			
Applicability	X	X			
Where Required	X	X			
Traps Protected by Vent Pipes	X	X			
Vent Pipes	X	X			
Fixture Traps	X	X			
Change of Direction	X	X			
Vent Pipe Opening	X	X			
Traps — Described	X	X			
General Requirements	X	X			
Slip Joint Fittings	X	X			
Size	X	X			
Traps	X	X			
Prohibited	X	X			
Movable Parts	X	X			
Trap Seals	X	X			
General	X	X			
Floor Drain Traps	X	X			
General	X	X			
Interceptors (Clarifiers) and Separators	X	X			
Where Required	X	X			

Knowledge areas	Class of license				
Approval	X	X			
Design	X	X			
Relief Vent	X	X			
Location	X	X			
Maintenance of Interceptors	X	X			
Discharge	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Slaughterhouses, Packing Establishments, etc	X	X			
Slaughterhouses	X	X			
Minimum Requirements for Auto Wash Racks	X	X			
General	X	X			
Commercial and Industrial Laundries	X	X			
General	X	X			
Bottling Establishments	X	X			
General	X	X			
Grease Interceptors	X	X			
General	X	X			
Trapped and Vented	X	X			
Maintenance	X	X			
Food Waste Disposers and Dishwashers	X	X			
Hydromechanical Grease Interceptors	X	X			
Capacity	X	X			
Vent	X	X			
Gravity Grease Interceptors	X	X			
General	X	X			
Waste Discharge Requirements	X	X			
Toilets and Urinals	X	X			
Inlet Pipe	X	X			
Design	X	X			
Location	X	X			
Interceptors	X	X			
Business Establishment	X	X			

Knowledge areas	Class of license				
Access	X	X			
Construction Requirements	X	X			
Sizing Criteria	X	X			
Abandoned Gravity Grease Interceptors	X	X			
FOG (Fats, Oils, and Greases) Disposal System.	X	X			
Purpose	X	X			
Components, Materials, and Equipment	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Sizing and Installation	X	X			
Performance	X	X			
Sand Interceptors	X	X			
Discharge	X	X			
Authority Having Jurisdiction	X	X			
Construction and Size	X	X			
Separate Use	X	X			
Oil and Flammable Liquid Interceptors	X	X			
Interceptors Required	X	X			
Design of Interceptors	X	X			
Maintenance	X	X			
Chapter 11, Storm Drainage	X	X			
General	X	X			
Applicability	X	X			
Where Required	X	X			
Storm Water Drainage to Sanitary Sewer Prohibited	X	X			
Material Uses	X	X			
Copper and Copper Alloys	X	X			
Conductors	X	X			
Leaders	X	X			
Underground Building Storm Drains	X	X			
Building Storm Sewers	X	X			
Subsoil Drains	X	X			
Expansion Joints Required	X	X			

Knowledge areas	Class of license				
Subsoil Drains	X	X			
Discharge	X	X			
Sump	X	X			
Splash Blocks	X	X			
Backwater Valve	X	X			
Open Area	X	X			
Building Subdrains	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Areaway Drains	X	X			
Window Areaway Drains	X	X			
Filling Stations and Motor Vehicle Washing Establishments	X	X			
Paved Areas	X	X			
Roof Drainage	X	X			
Primary Roof Drainage	X	X			
Secondary Drainage	X	X			
Location	X	X			
Engineered System	X	X			
Cleanouts	X	X			
Rain Leaders and Conductors	X	X			
Rainwater Sumps	X	X			
Traps on Storm Drains and Leaders	X	X			
Where Not Required	X	X			
Trap Size	X	X			
Method of Installation of Combined Sewer	X	X			
Leaders, Conductors, and Connections	X	X			
Protection of Leaders	X	X			
Combining Storm with Sanitary Drainage	X	X			
Roof Drains	X	X			
Applications	X	X			
Dome Strainers Required	X	X			
Roof Drain Flashings	X	X			
Lead Flashing	X	X			

Knowledge areas	Class of license				
Copper Flashing	X	X			
Size of Leaders, Conductors, and Storm Drains	X	X			
Vertical Conductors and Leaders	X	X			
Size of Horizontal Storm Drains and Sewers	X	X			
Reduction in Size Prohibited	X	X			
Side Walls Draining onto a Roof	X	X			
Values for Continuous Flow	X	X			
General	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Controlled-Flow Roof Drainage	X	X			
Application	X	X			
Setback Roofs	X	X			
Siphonic Roof Drainage System	X	X			
General Requirements	X	X			
Design Criteria	X	X			
Sizing	X	X			
Design	X	X			
Roof Drain Bodies	X	X			
Water Accumulation	X	X			
Pipe Size and Cleanouts	X	X			
Horizontal Pipes	X	X			
Plans and Specifications	X	X			
Markings	X	X			
Transition Locations	X	X			
Required Submissions	X	X			
Proof of Suitability	X	X			
Testing	X	X			
Written Certification	X	X			
Testing	X	X			
Testing Required	X	X			
Methods of Testing Storm Drainage Systems	X	X			
Water Test	X	X			
Air Test	X	X			
Exceptions	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Chapter 16, Nonpotable Rainwater Catchment Systems	X	X			
General	X	X			
Applicability	X	X			
System Design	X	X			
Permit	X	X			
Component Identification	X	X			
Maintenance and Inspection	X	X			
Operation and Maintenance Manual	X	X			
Minimum Water Quality Requirements	X	X			
Material Compatibility	X	X			
System Controls	X	X			
Separation Requirements	X	X			
Abandonment	X	X			
Nonpotable Rainwater Catchment Systems	X	X			
General	X	X			
Plumbing Plan Submission	X	X			
System Changes	X	X			
Connections to Potable or Reclaimed (Recycled) Water Systems	X	X			
Initial Cross-Connection Test	X	X			
Sizing	X	X			
Rainwater Catchment System Materials	X	X			
Rainwater Catchment System Color and Marking Information	X	X			
Design and Installation	X	X			
Rainwater Storage Tanks	X	X			

Knowledge areas	Class of license				
General	X	X			
Construction	X	X			
Location	X	X			
Above Grade	X	X			
Below Grade	X	X			
Drainage and Overflow	X	X			
Animals and Insects	X	X			
Marking	X	X			

Knowledge areas	Class of license				
	MP	JP	WCM	WCJ	PLC
Storage Tank Venting	X	X			
Pumps	X	X			
Roof Drains	X	X			
Water Quality Devices and Equipment	X	X			
Freeze Protection	X	X			
Debris Removal	X	X			
Signs	X	X			
General	X	X			
Commercial, Industrial, and Institutional Restroom Signs	X	X			
Equipment Room Signs	X	X			
Inspection and Testing	X	X			
General	X	X			
Supply System Inspection and Test	X	X			
Cross-Connection Inspection and Testing	X	X			
Discovery of Cross-Connection	X	X			
Inspection	X	X			
Chapter 4716m Plumber Licensing and Apprentice Registration					
Definitions	X	X	X	X	
Examinations and Licensing of Plumbers	X	X			
License Applications	X	X			
Expiration of Licenses	X	X			
Registration of Plumbers Apprentice	X	X			
Water Conditioning			X	X	

Knowledge areas	Class of license				
Minnesota Rules Chapter 1300 Administrative					
Administration	X	X			
Plumbing	X	X			
Miscellaneous Statutes Related to the Minnesota Plumbing Code					
Plumbing	X	X			
Water Conditioning			X	X	

A brief summary of your rights under The Americans With Disabilities Act

Introduction

The Americans with Disabilities Act (ADA) covers “public entities.” The Minnesota Department of Labor and Industry is a public entity covered by the ADA. The department may not refuse to allow a person with a disability to take the examination simply because the person has a disability. It must permit persons with disabilities to take the examination in an integrated setting unless separate or different measures are necessary to ensure equal opportunity. It must eliminate unnecessary eligibility standards or rules that deny individuals with disabilities an equal opportunity to take the examination.

Who is covered?

The ADA provides comprehensive civil rights protection for “qualified individuals with disabilities.” An “individual with a disability” is a person who:

- 1) has a physical or mental impairment that substantially limits a “major life activity,”
- 2) has a record of such an impairment, or
- 3) is regarded as having such a impairment.

“Major life activities” include functions such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning and working. Individuals who currently engage in the illegal use of drugs are not protected by the ADA when an action is taken on the basis of their current illegal use of drugs.

A “qualified” individual with a disability is one who meets the essential eligibility requirements for the examination. The department is not required to take any action that would result in a fundamental alteration in the nature of the examination or an undue financial and administrative burden. However, the department must take any other action, if available, that would not result in a fundamental alteration or undue burdens but would ensure that individuals with disabilities receive the benefits or services.

What is required?

The department is required to make reasonable modifications in any policies, practices and procedures that deny equal access to individuals with disabilities, unless a fundamental alteration in the examination would result. To do so, it must furnish auxiliary aids and services when necessary to ensure effective communication, unless an undue burden or fundamental alteration would result. The department may not place special charges on individuals with disabilities to cover the costs of measures necessary to ensure nondiscriminatory treatment, such as making modifications required to provide program accessibility or providing qualified interpreters. Finally, it must operate the examination so that, when viewed in its entirety, it is readily accessible to and usable by individuals with disabilities.

Integration of individuals with disabilities into the mainstream of society is fundamental to the purposes of the ADA. The department may not provide the examination to individuals with disabilities through programs that are separate or different, unless the separate programs are necessary to ensure that the benefits and services

are equally effective. Even when separate programs are permitted, an individual with a disability still has the right to choose to participate in the regular program. The department cannot require an individual with a disability to accept a special accommodation or benefit if the individual chooses not to accept it.

Questions?

If you have any questions about the ADA, we encourage you to call the United States Department of Justice ADA information line at 202-514-0301 (voice) or 202-514-0381/0383 (TTY).

Information about the examinations and availability of alternative arrangements for persons with disabilities

General information

If you are a person with a disability, you have certain rights under the ADA. A summary of these rights is on the back of this sheet. It is not meant to be complete. If you have any questions about your rights under the ADA, call the United States Department of Justice ADA Information Line, at 202-514-0301 (voice) or 202-514-0381/0383 (TTY).

About the examinations

A copy of the License Examination Guide is at dli.mn.gov/business/get-licenses-and-permits/license-exam-guides.

Examinations are held weekly, generally every Wednesday at the Department of Labor and Industry, 443 Lafayette Road N., St. Paul, MN 55155. The building is accessible to persons with physical disabilities.

Instructions for scheduling and appearing for an examination are included in the letter that is sent to approved applicants.

Alternative arrangements

The ADA requires this agency to make “reasonable accommodations” for applicants with disabilities in giving the examinations. If you are a person with a disability which may affect your ability to enter the examination facility or to take any portion of the examination, the ADA may require the agency to provide alternative examination arrangements. We are not required to do so if we are unaware of your need for alternatives. Based on the above description of the examination facilities and the examination itself, we ask that you inform us of any alternative arrangements you may require to take an examination. Please describe in detail.

(Use additional paper if necessary and attach to this form)

SIGNATURE _____ DATE _____

IF YOU ARE REQUESTING ALTERNATIVE ARRANGEMENTS BASED ON A DISABILITY, PLEASE SUBMIT THIS FORM WITH YOUR APPLICATION FOR EXAMINATION FORM.

Examination schedule/scheduling examinations

Before anyone may schedule an examination date, the individual's examination application must be approved by DLI. There are no exceptions.

Dates scheduled by individuals without written approval of their application will be rejected and not scheduled. Individuals retesting after a failed exam must apply for another examination date.

Detailed exam dates, location and scheduling information can be accessed at dli.mn.gov/business/get-licenses-and-permits/license-exam-schedule.

Applicants must schedule their examinations ahead of time. Walk-ins are not permitted to take an examination. Applicants may reschedule their examination one time. Applicants that fail to appear for a rescheduled examination as well as applicants that fail their examination must submit a new application and examination fee before being approved for examination or reexamination.

All examination types administered at the St. Paul office begin at 8:30 a.m. and end at 2 p.m. All examination types are allotted 5½ hours for completion. All applicants should arrive at the examination site not later than 30 minutes before their scheduled starting time. A picture I.D. must be presented by all applicants when they appear for examination.

Note: Food and drink are permitted during the exam.

View directions to the Department of Labor and Industry in St. Paul at dli.mn.gov/about-department/about-dli/office-locations-and-phone-numbers.

Qualifications for license applicants

Military experience

Applicants may receive experience credit for performing work in the military. Applicants with military experience should include a copy of their DD214 discharge documents with their application.

Practical experience/experience requirements by license type

Minnesota Rules 4716.0020 identifies allowable experience credit, situations under which experience is acceptable to the department, and experience requirements for all license categories. Applicants are encouraged to review these requirements prior to submitting an application. Application/examination fees for applicants that do not qualify for examination are not refundable.

Obtaining licenses through reciprocal agreements

Minnesota has established reciprocal licensing agreements with some other states whereby applicants may obtain license in the participating states if they obtained their license by examination in the participating states.

Qualifying conditions include the following:

1. The applicant must meet the qualifications for license examination in the state they are making application.
2. The applicant must not have failed the same or greater class of license examination in the state application is made.
3. The applicant must have obtained the same or greater class of license in the first state by examination at the state level (the license must not have been obtained through a reciprocal agreement or grandfather clause with a city or other political subdivision).
4. The applicant must have received an examination score equal to or greater than required in the state application is made.
5. The applicant must have held the license for at least one year in the first state.
6. The applicant's license must be current and in good standing in the first state.
7. The applicant must not be under any order to deny, suspend, or revoke any class of license in Minnesota.
8. The applicant must submit an application and examination fee with the application.
9. Upon approval, the applicant must submit the required license fee to be issued the license applied for.
10. Upon obtaining the license, the applicant (licensee) must meet all continuing education and renewal requirements to maintain the license.

Continuing education requirements

Upon obtaining a license, the license holder must earn minimum continuing education credits to renew and maintain a license.

Holders of licenses that have fixed terms are not required to meet any continuing education requirements in their first pro-rated term but must earn sixteen hours in all subsequent terms.

Continuing education credits may be used for renewal of more than one class of license but may only be used once for each class of license. Continuing education credits in excess of those required for renewal and earned prior to expiration of a license do not carry over to the next license term.

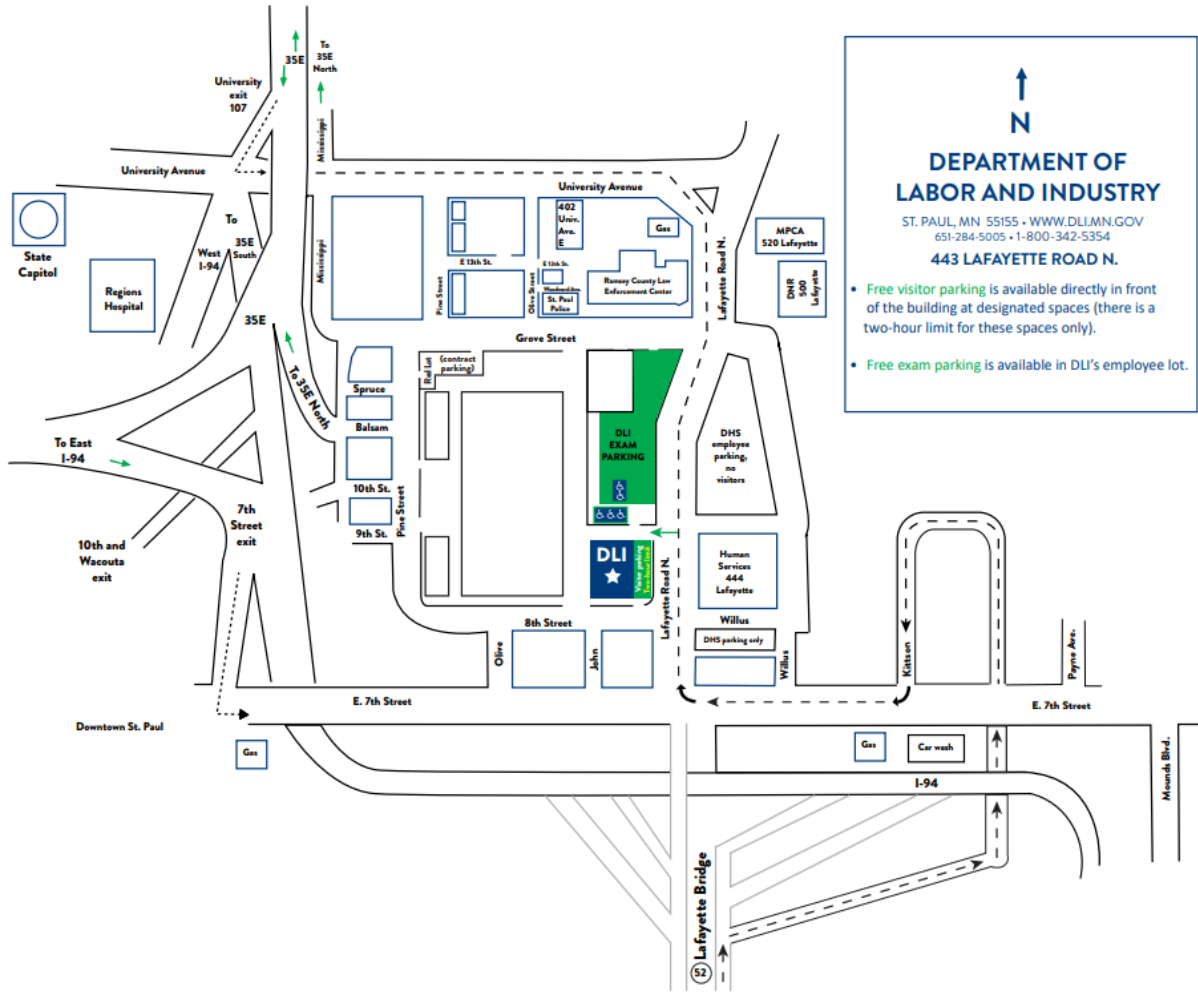
Continuing education credit is only received for verified attendance/completion of programs granted department approval. Continuing education credit may be received by attending programs approved in other states where the programs meet department requirements.

Personal license and examination application

Personal license applications may be downloaded at dli.mn.gov/workers/plumbers.

Upon request this document can be made available in alternative formats for people with disabilities.

Map and parking



Parking

- Free, two-hour visitor parking is available in front of the building at designated spaces.
- Free exam parking is available in DLI's employee lot.
- Visitors are required to sign-in and register your vehicle (with license plate information) when you enter the building.