Managing Employee and Journeyman Sprinkler Fitter Examination Information Booklet

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Introduction

The examination is designed to measure how well a Managing Employee or a Journeyman Sprinkler Fitter knows the fundamentals of the trade and knowledge of applicable Minnesota Statutes, Minnesota Fire Protection Rules, Minnesota State Fire Code, and National Fire Protection Association standards.

Licensure and Certification Requirements

Minnesota Statutes, Chapter 299M, and Minnesota Rules, Chapter 7512, require the licensing and certification of the fire protection industry by the Minnesota Department of Public Safety. A fire protection system is defined as a sprinkler, standpipe, hose system, or other special hazard system for fire protection purposes only, that is composed of an integrated system of underground and overhead piping connected to a water source.

Licensure Requirements

Licensure is required for the following fire protection system-related jobs:

- **Fire Protection Contractor**: A person who contracts to sell, design, install, modify, alter, or inspect a fire protection system or its parts or related equipment.
- **Limited Fire Protection Contractor**: A person who performs fire protection-related work on premises or that part of premises owned and occupied by the contractor or leased by the contractor for a period of at least one year. No insurance or bond is required.
- **Designer Contractor**: A person who contracts to design a fire protection system or its parts or related equipment.

Exceptions to Licensure Requirements

The following individuals are **not** required to be licensed as a fire protection contractor:

- Persons who sell fire protection system parts or related equipment to a licensed contractor. Examples include sprinkler equipment manufacturers and distributors.
- Persons who install or service a special agent fire suppression system that is not connected to a potable water source. A special agent fire suppression system uses extinguishing agents other than water. Examples include dry chemical systems, carbon dioxide systems, halogenated and gaseous agent systems, foam systems, and wet chemical systems.
- Persons who are acting in an official capacity as a building official, fire official, or insurance inspector.
- Persons who are licensed as a plumber under Minnesota Statutes, section 326B.46, can sell, design, install, modify, or inspect a standpipe or hose system only.
- Persons who are licensed as a professional engineer under Minnesota Statutes, section 326.03, and competent in fire protection system design can perform activities authorized by the professional engineer license.
- Persons who are licensed as an alarm and communication contractor under Minnesota Statutes, section 326B.34, or a Minnesota-licensed electrical contractor under Minnesota Statutes, section 326B.33, can perform activities authorized by the alarm and communication contractor license or electrical contractor license.
- Persons who maintain a fire protection system. “Maintain" means the scheduled activities to keep a fire protection system operable and allows emergency repairs to correct an emergency impairment of a fire protection system until such time as permanent repairs can be done by a licensed fire protection contractor.

Certification Requirements

Certification is required for the following fire protection system-related jobs:

- **Managing Employee**: A person who is employed by a contractor, who meets the requirements for a managing employee as contained in Minnesota Rules, parts 7512.0600 to 7512.1300, and who supervises the performance of all fire protection-related work by the contractor.

- **Journeyman Sprinkler Fitter**: A person who is certified as competent to engage in installing, connecting, altering, repairing or adding to a fire protection system for and under the supervision of a fire protection contractor.
- **Limited Journeyman Sprinkler Fitter**: A person who is limited to working on premises or that part of the premises actually occupied by the journeyman's employer and owned by the employer or leased by the employer for a period of at least one year. A journeyman with a limited certificate is limited to working in areas of competence, as certified and documented by the journeyman's employer. A journeyman with a limited certificate may not perform fire protection-related work unless the journeyman is under the supervision of the employer's managing employee.

Eligibility

Candidates are eligible to sit for the examination, provided they are at least 18 years of age and have met all requirements listed in Minnesota Rules, part 7512.1300 for Managing Employees or part 7512.1700 for Journeyman Sprinkler Fitters.

- Eligibility Criteria for Designer Contractors *(meets one of the following)*:
  - Has 10,000 hours of experience in designing, installing, modifying, or inspecting fire protection systems, or
  - Holds a Level IV certification by the National Institute for Certification in Engineering Technologies, in the field of fire protection, and in the subfield of automatic sprinkler system layout, or
  - Licensed as a professional engineer under Minnesota Statutes, section 326.03, and is competent in fire protection system design.
- Eligibility Criteria for Managing Employees *(meets one of the following)*:
  - Has 10,000 hours of experience in designing, installing, modifying, or inspecting fire protection systems, or
  - Holds a Level III or IV certification by the National Institute for Certification in Engineering Technologies, in the field of fire protection, and in the subfield of automatic sprinkler system layout, or
  - Licensed as a professional engineer under Minnesota Statutes, section 326.03, and is competent in fire protection system design.
- Eligibility Criteria for Journeyman Sprinkler Fitters *(meets one of the following)*:
  - Has 8,000 hours of experience in performing fire protection-related work, or
  - Has completed a sprinkler fitter program where the person was regularly engaged in learning the trade under the direct supervision of a licensed fire protection contractor or journeyman sprinkler fitter, while registered with a state or federal approval agency.

Acceptable Documentation

Candidates must provide documentation acceptable to the State Fire Marshal Division of their eligibility at the time of applying for the examination. The State Fire Marshal Division will verify the

proof from the documentation provided prior to issuing a confirmation letter. Below you will find a bulleted list of acceptable documentation for each type of examination:

- Acceptable Documentation for Designer Contractors and Managing Employees *(provide one of the following)*:
  - Hours of Experience:
    - Payroll records documenting at least 10,000 hours and attested to by the Company Owner.

      NOTE: W-2 records are **not** accepted, as they do **not** document the hours were "fire protection-related work".
  - Certification:
    - Copy of National Institute for Certification in Engineering Technologies (NICET) documenting appropriate level.
  - Licensed Engineers:
    - Copy of engineering license issued by the State of Minnesota.
- Acceptable Documentation for Journeyman Sprinkler Fitters *(provide one of the following)*:
  - Hours of Experience:
    - Payroll records documenting at least 8,000 hours and attested to by the Managing Employee.

      NOTE: W-2 records are not accepted, as they do not document that the hours were "fire protection-related work".
    - Pension reports documenting at least 8,000 hours.
    - Insurance benefit statement documenting at least 8,000 hours.
  - Completion of a Sprinkler Fitter Program:
    - Copy of certificate of completion from a sprinkler fitter program registered with a state or federal approval agency showing at least 8,000 hours in the program.
    - Statement of completion from a state or federal approval agency.

Example of Acceptable Payroll Records

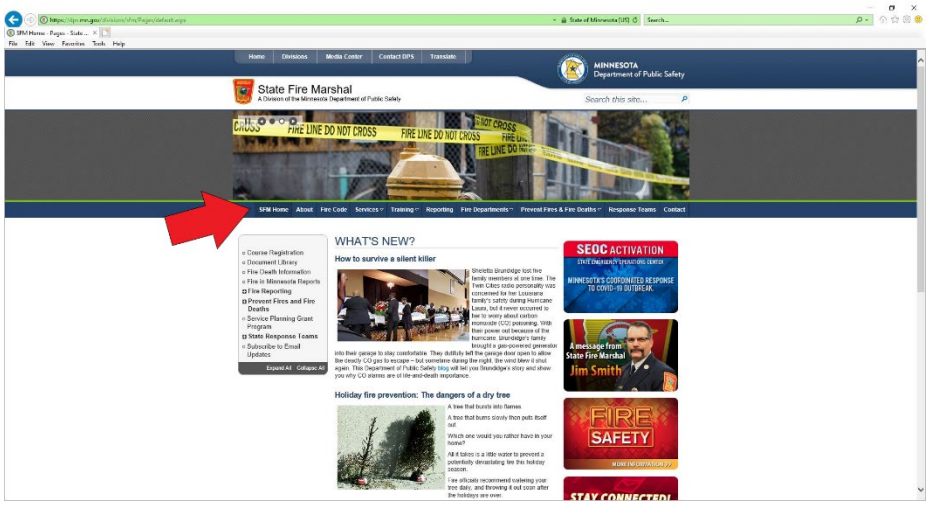
For payroll records, the State Fire Marshal Division requires a breakdown of hours worked showing the date, job name, type of work performed, and number of hours. Below you will find an example:

ABC Fire Sprinkler Company	Payroll Time Entry for John Doe		03/31/2021
Date	**Job**	**Type**	**Hours Worked**
03/22/2021	XYZ Building	Apprentice Fitter	8.00
03/23/2021	A-Z Apartments	Apprentice Fitter	7.00
03/24/2021	Main Street Offices	Apprentice Fitter	9.00
03/25/2021	123 Manufacturing	Apprentice Fitter	10.00
03/26/2021	1st Avenue School	Apprentice Fitter	16.00
03/29/2021	7th Street Theater	Apprentice Fitter	5.50

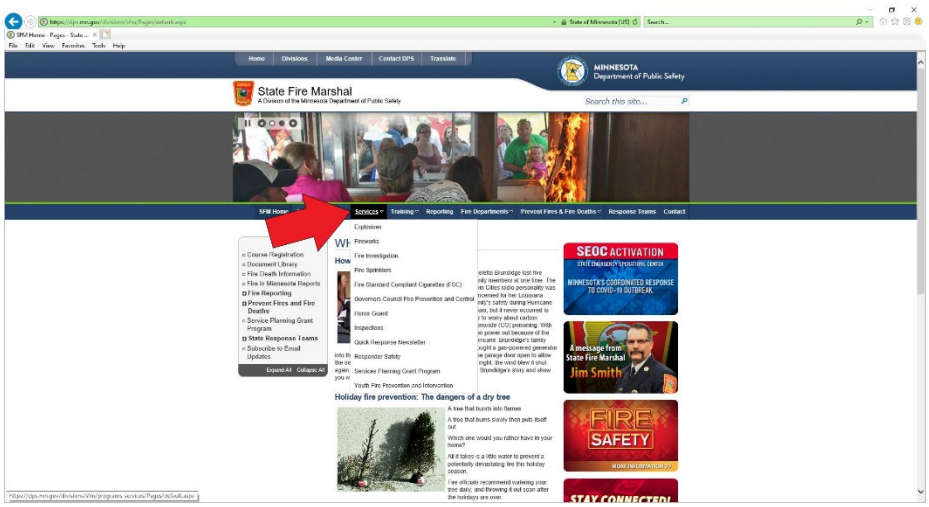
Obtaining Forms from Our Website

All examination forms may be obtained from our website at sfm.dps.mn.gov or by calling 651-201-7200. Here are the steps to obtain any form from our website:

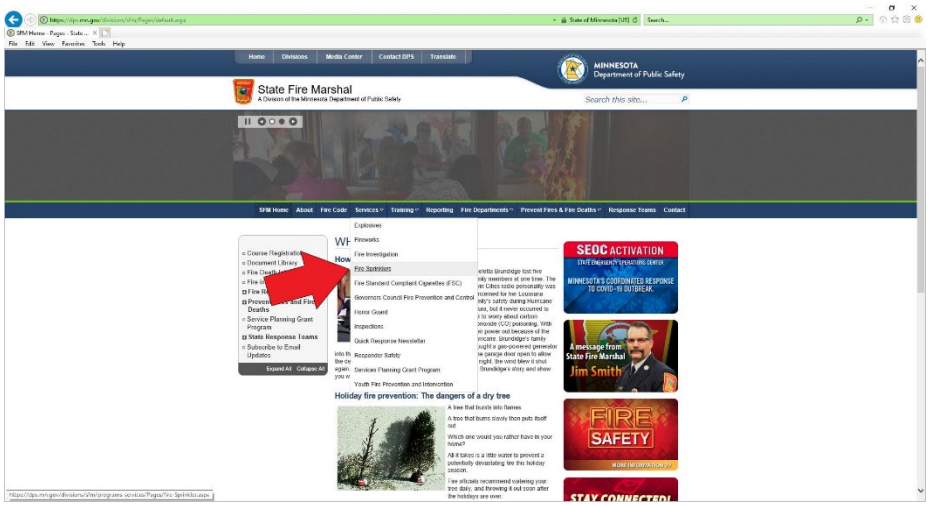
- Type “sfm.dps.mn.gov” (without the quotes) into your browser.
- Locate the menu bar that starts with SFM Home.



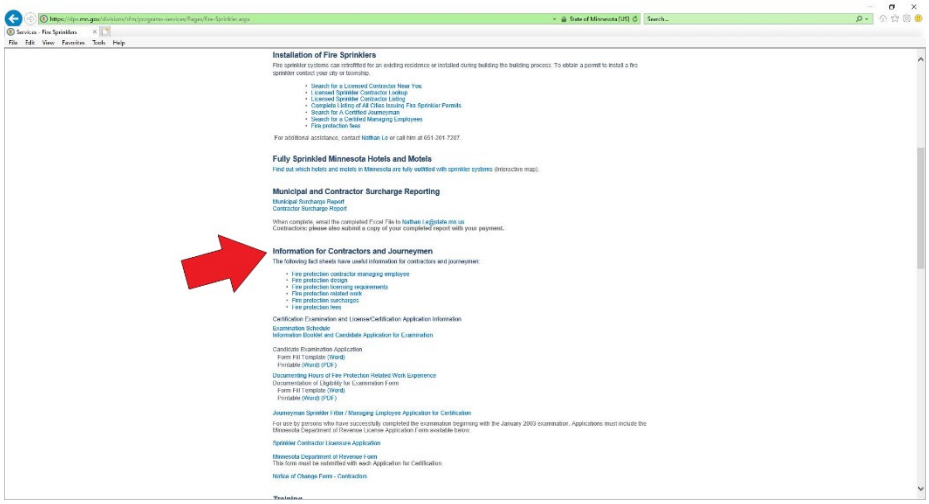
- From the menu bar, either mouse over or click on Services.



- From the list provided, click on Fire Sprinklers.



- Scroll down until you find the heading called Information for Contractors and Journeymen.



- Click on any of the links under that heading to download the file.

Application for Examination

Candidates who met the eligibility requirements may apply for the examination. Candidates must complete the following:

- Fill out the *Candidate Examination Application* form,
- Provide a check for $55.00, and
- If applicable, provide proof of acceptable documentation. If the proof is payroll records, then fill out the *Documentation of Eligibility for Examination* form. (Please refer to the Acceptable Documentation section for more information.)

Candidates can obtain the two forms listed above from our website by using the steps defined in the Obtaining Forms from Our Website section.

Application for Certification

Candidates who passed the examination may apply for their certificate. Candidates who passed the exam must complete the following:

- Fill out the *Journeyman Sprinkler Fitter / Managing Employee Application for Certification* form,
- Fill out the *Minnesota Department of Revenue* form, and
- Provide a check for $75.00.

Candidates who passed the examination can obtain the two forms listed above from our website by using the steps defined in the Obtaining Forms from Our Website section.

Examination Fee

The State Fire Marshal Division must receive the application before the cutoff date for the selected examination date. Candidates should submit the examination application early. Seating may be limited by room size. Registrations will be accepted on a first come first serve basis. Late or overflow applications will be scheduled for the next available examination. Failure to sign the application or check will result in the application being returned.

- The cost to take the examination is $55.00 per candidate (per Minnesota Statutes, section 299M.03, subdivision 4).
- Please make checks payable to: Minnesota State Fire Marshal Division
- Candidates may pay using: a personal check, a business check, a certified check, a cashier's check, or a money order.

Candidates with Special Needs

The State Fire Marshal Division complies with the *Americans with Disabilities Act.* If a physical or learning disability prevents a candidate from taking the examination under normal conditions, then special arrangements may be requested. The requesting candidate should submit documentation of the disability three weeks in advance of the scheduled examination to the State Fire Marshal Division to help determine the necessary special arrangements.

Confirmation Letters

The State Fire Marshal Division will send a confirmation letter to each candidate whose application was received and accepted before the examination deadline. The confirmation letter provides the specific date, time, and location of the examination.

Each approved candidate will be sent a confirmation letter approximately one week before the examination date via email. If no email address was provided, then a hardcopy of the letter will be mailed. If the confirmation letter was lost or not received by three business days before the examination, then the candidate should call the State Fire Marshal Division at 651-201-7200. The candidate must show a valid identification card with the confirmation letter.

Rescheduling

Once scheduled for an examination, the candidate must take the examination on the scheduled date. A candidate may request to reschedule by calling the State Fire Marshal Division no later than one

week before the scheduled examination. If space is available for the requested rescheduled date, then the examination can be rescheduled.

- Fees are **not** refundable unless the candidate submits a request no later than one week before the scheduled examination and the candidate will be removed from the scheduled examination.

Reapplying For the Examination

Candidates who do not pass the examination but wish to re-take the exam must reapply by submitting a new application along with the appropriate fee amount.

- Minnesota Rules, part 7512.2400, subpart 4, online. Accessed December 22, 2020 states: "An examinee who fails an examination one time may not repeat the examination for 60 days from the date of the failed examination. An examinee who fails the examination more than once may not repeat the examination for 180 days from the date of the failed examination."

Examination Day

Each examination begins promptly at the time shown on the candidate's confirmation letter. Candidates should plan to arrive early to check in.

- A candidate who does not appear for the scheduled examination will forfeit the examination fee and must reregister for another examination date.

Each candidate should bring the following items to the examination:

- Confirmation Letter,
- Government-issued photo identification (i.e. driver's license, military identification, passport, or state identification card),
- Two sharpened No. 2 pencils with erasers, and
- A silent, nonprinting, nonprogrammable calculator.

  NOTE: calculators capable of alphabetic entry are **not** allowed.

  NOTE: the Managing Employee examination will require performance of hydraulic calculations.

Examination Rules

The candidate should read this section very carefully to better understand the rules of the examination.

- Closed Book Examination: No reference books or materials, notes, or any other materials similar in content or intent in to be brought into the examination room.
- Calculators: A calculator is permitted only if it is silent, cordless, nonprinting, and is small enough to not infringe on other candidates' space. Programmable calculators, calculators with data-entry capabilities (i.e. keys with letters of the alphabet), construction calculators, or electrician calculators are not allowed in the examination room.
- Scratch Paper: Candidates will be given all the paper materials they need, including scratch paper; do not bring paper of any kind into the examination room.

- Note Taking: No part of the examination may be copied or reproduced in any manner nor can any part of the examination be removed from the examination room.
- Talking: Talking is not allowed in the examination room while the exam is being given.
- Smoking: Smoking is not allowed in any buildings or examination rooms being used. The proctor will direct requesting candidates to areas where smoking is permitted.
- Electronic Devices: Computers, pagers, alarm watches, cellphones, smartphones, personal radios, tape players, or similar recording devices are not to be used in the examination room.

Examination Questions

All examination questions are the property of the Minnesota State Fire Marshal Division. It is forbidden to copy, reproduce, record, distribute or display these questions by any means, in whole or in part, without our written permission.

- Proctors will not answer technical questions of any sort. Candidates who do not understand a question on the examination should answer the question to the best of their ability.
- If a candidate thinks there is an error in a question, then use the given Question Challenge Form. If one was not provided, then notify the proctor. A State Fire Marshal Division staff will review all the questions that were challenged.
- Candidates should answer all question. There is no penalty for guessing.

Examination Results

Candidates must receive a minimum score of 70% in order to pass the examination. Candidates will receive a softcopy of their results if they have provided a personal email address. All candidates will receive a hardcopy of their results by first-class mail.

- To ensure confidentiality, official scores will not be disclosed over the phone or sent by fax.

Reference Materials

The following references below were used to develop the examination questions. Some questions will be based off field experience and knowledge of trade practices; therefore, questions are not limited to these references. If a revised or updated version of any references (other than codebooks) become available before the examination date, then the updated reference will be applied to the examination question.

The Minnesota State Fire Code (MSFC) can be obtained by:

- Visiting our webpage at https://dps.mn.gov/divisions/sfm/fire-code/Pages/state-fire-code.aspx

All National Fire Protection Association (NFPA) standards can be obtained by:

- Visiting NFPA's website at https://www.nfpa.org, or
- Contact NFPA's Customer Contact Center, 11 Tracy Dr, Avon, MA 02322.

The examination references the following codebooks:

- Minnesota State Fire Code, 2020 Edition

The examination references the following standards:

- NFPA 13, 2016 Edition – *Standard for the Installation of Sprinkler Systems*
- NFPA 13D, 2016 Edition – *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*
- NFPA 13R, 2016 Edition – *Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies*
- NFPA 14, 2016 Edition – *Standard for the Installation of Standpipe and Hose Systems*
- NFPA 20, 2016 Edition – *Standard for the Installation of Stationary Pumps for Fire Protection*
- NFPA 22, 2018 Edition – *Standard for Water Tanks for Private Fire Protection*
- NFPA 24, 2016 Edition – *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*
- NFPA 25, 2017 Edition – *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*

The examination references the following Minnesota Statutes and Minnesota Rules:

- Minnesota Statutes, Chapter 299M – https://www.revisor.mn.gov/statutes/cite/299M
- Minnesota Rules, Chapter 7512 – https://www.revisor.mn.gov/rules/7512/

Examination Content

The examination questions are categorized into 22 difference topics, which allows the examinee to receive feedback after the testing process. Along with their overall test results, all test takers will receive their score for each individual category. This information should allow an individual to focus on the topics in which they performed poorly on.

In the tables below, M stands for Managing Employee and J stands for Journeyman Sprinkler Fitter. If the box is checked, then there will be questions written for that topic.

- Category 1: Construction Documents

J	M	Topics
☒	☒	Understand relative authority of contracts, codes, standards, plans, AHJs, engineers, and contractors.
☐	☒	Understand application of insurance, bond, permits, licenses, etc.
☐	☒	Understand insurance requirements.
☐	☒	Identify and apply references to/between specifications, codes, standards, and contract documents and plans (e.g. hangers, painting, valves, cutting and patching, fire proofing).

- Category 2: Codes and Standards

J	M	Topics
☒	☒	Recognize the functions of, and hierarchy among, applicable codes, building codes, and standards.
☒	☒	Recognize the scope of NFPA standards and other codes applicable to water-based fire protection systems (13, 13R, 13D, 14, 20, 22, 25, MN Fire Code, etc.).
☒	☒	Identify the standards and codes that apply to various roles and functions related to fire protection systems.

- Category 3: Construction Drawings

J	M	Topics
☒	☒	Understand terms for construction, construction drawings, components, and symbols.
☒	☒	Interpret and use drawings dimensions.
☒	☒	Identify purposes and contents of building.
☒	☒	Evaluate building construction as it applies to layout.
☒	☒	Evaluate the fire protection system implications of spaces with limited access, such as combustible concealed spaces or crawl spaces.
☒	☒	Evaluate the fire resistance ratings of walls, ceilings, and enclosures for determination protection requirements.
☒	☒	Evaluate building construction as it applies to layout.
☒	☒	Evaluate complex or unusual building construction.
☒	☒	Identify significant features, construction, and operating characteristics of the facility to be protected.
☒	☒	Identify the impact of construction types on the selection and layout of sprinklers.
☒	☒	Recognize the impact of building features on system layout.
☒	☒	Identify special building features (e.g. concealed spaces, obstructions, unusual ceilings, irregular walls, etc.)
☒	☒	Evaluate and determine the adequacy of sprinkler systems and system requirements, including storage arrangements.
☒	☒	Recognize the implications of building construction for supporting the load of the fire protection system.

- Category 4: Construction Math

J	M	Topics
☒	☒	Understand and apply basic mathematical functions such as adding, subtracting, dividing, and multiplying whole numbers, fractions, and decimals, and their applications to construction.
☒	☒	Understand and apply basic geometry as applied to common shapes and forms.
☐	☒	Understand and apply advanced mathematical functions and formulas.
☐	☒	Understand and apply algebra to solve hydraulic equations.

- Category 5: Materials Handling

J	M	Topics
☒	☒	Understand and apply proper materials handling techniques and procedures.

- Category 6: Pipe / Tube – Aboveground

J	M	Topics
☒	☒	Identify types of steel pipe.
☒	☒	Identify types of plastic pipe.
☒	☒	Identify types of copper pipe.
☒	☒	Identify listing requirements/ limitations.
☒	☒	Apply proper preparation and installation techniques.
☒	☒	Apply proper testing techniques.

- Category 7: Pipe / Tube – Underground

J	M	Topics
☒	☒	Identify types.
☒	☒	Identify listing requirements/ limitations.
☒	☒	Apply proper preparation and installation techniques. (e.g. thrust blocks and restraints)
☒	☒	Apply proper testing and flushing techniques.

- Category 8: Hangers, Restraints, and Anchors

J	M	Topics
☒	☒	Identify types of hangers used in the installation of pipe, their characteristics and applications.
☒	☒	Understand procedures used to install fasteners and inserts.
☒	☒	Understand strength requirements of pipe hangers and building structure.
☒	☒	Understand and apply NFPA requirements.
☒	☒	Understand and apply manufacturers' technical requirements.
☒	☒	Determine location, spacing and sizing of hangers, bracings, and restraints.
☒	☒	Size trapeze hangers.

- Category 9: Fittings

J	M	Topics
☒	☒	Identify types of fittings. (e.g. threaded, grooved, flanged, welded, etc.)
☒	☒	Identify types of material. (e.g. cast iron, malleable, galvanized, plastic)
☒	☒	Understand and apply proper joining procedures.

- Category 10: General Purpose Valves

J	M	Topics
☒	☒	Identify the types and functions of valves.
☒	☒	Understand the general purpose of valves.
☒	☒	Ability to install, disassemble, service, and reassemble valves.

- Category 11: Ancillary Devices

J	M	Topics
☒	☒	Identify the types and functions of devices. (e.g. tamper and flow switches, gauges, etc.)
☒	☒	Understand the general purpose of devices.

J	M	Topics
☒	☒	Ability to install, disassemble, service, and reassemble devices.

- Category 12: Specialty Valves and Devices

J	M	Topics
☒	☒	Identify the types and functions of valves. (e.g. dry, preaction, deluge)
☒	☒	Understand the purpose of valves.
☒	☒	Understand the purpose of valve trim.
☒	☒	Identify the types and functions of devices. (e.g. quick-opening device)
☒	☒	Understand the purpose of device.
☒	☒	Understand the purpose of device trim.
☒	☒	Understand operating principles and characteristics of valve and components.
☒	☒	Understand requirements for arranging, installing, maintaining and inspecting of valve and components.
☒	☒	Understand activation methods of specialty valves.
☒	☒	Ability to install, disassemble, service, and reassemble devices and trim.

- Category 13: Sprinklers

J	M	Topics
☒	☒	Identify the types and functions of sprinklers.
☒	☒	Understand the purpose of types of sprinklers.
☒	☒	Understand and apply proper installation procedures.
☒	☒	Understand flow and performance characteristics.
☒	☒	Understand and apply manufacturers' technical requirements.
☒	☒	Understand and apply NFPA requirements.
☒	☒	Understand and apply proper handling techniques and procedures.
☒	☒	Understand methods for protection of sprinkler heads.
☒	☒	Determine coverage area and positioning of sprinklers for various occupancies and applications.
☒	☒	Select correct types of sprinklers. (e.g. based on occupancy and obstruction requirements)
☒	☒	Identify the characteristics and restrictions of various types of sprinklers.
☒	☒	Recognize limitations of application-specific sprinklers.
☒	☒	Recognize the impact of building features on sprinkler operation. (e.g. temperature, response time, water distribution, etc.)

- Category 14: Layout – Shop Drawings

J	M	Topics
☐	☒	Identify the codes and standards that apply to various roles and functions related to fire protection systems.
☐	☒	Evaluate and determine the adequacy of sprinkler systems and system requirements, including storage arrangements.
☐	☒	Properly identify and apply correct type of water-based system. (e.g. wet, dry, preaction, deluge)

J	M	Topics
☐	☒	Identify and layout piping configurations (e.g. tree, loop grid, etc.)
☐	☒	Determine appropriate applications of components for water-based systems.
☐	☒	Identify and layout basic components of sprinkler systems and their features.
☐	☒	Properly space sprinklers.
☐	☒	Properly match sprinkler system applications to different types of construction.
☐	☒	Recognize appropriate locations for sprinklers.
☒	☒	Identify and interpret sprinkler system component symbols.
☒	☒	Review and verify the layout and plans for a water-based system for compliance with codes and standards.

- Category 15: Hydraulic Calculations

J	M	Topics
☐	☒	Properly use hydraulic calculation terminology and relate it to the functions of water flow.
☐	☒	Understand elements of hydraulic calculations.
☐	☒	Understand hydraulic formulas (e.g. Hazen-Williams, Darcy-Weisbach, pressure loss or gain through elevation, pressure flow from orifice, equivalent length of fittings and valves)
☐	☒	Manually perform basic hydraulic calculations.
☐	☒	Determine the hydraulic remote area as defined by NFPA standards, including adjustments.
☐	☒	Determine whether the water supply is sufficient to meet the demand.
☐	☒	Research, interpret, and apply manufacturers' technical bulletins.
☐	☒	Review and verify the hydraulic calculations for compliance with codes and standards.
☐	☒	Understand application of pipe schedule design.

- Category 16: Water Supply

J	M	Topics
☐	☒	Recognize federal, state, and jurisdictional requirements for water supply.
☐	☒	Identify and understand different water supplies for automatic sprinkler systems.
☐	☒	Perform flow test procedures.
☐	☒	Interpret flow test results and plot results on a graph.
☒	☒	Apply proper testing and flushing techniques.
☒	☒	Identify and understand different types of water storage.
☒	☒	Identify and understand the purposes and components of various types of tanks.
☒	☒	Recognize tank exposures. (e.g. freezing, fire, etc.)
☐	☒	Select the type of tanks, proper materials, pumps, and piping and apply to the system layout.

- Category 17: Fire Pumps

J	M	Topics
☒	☒	Identify various types of fire pumps, their features, and applications.

J	M	Topics
☒	☒	Understand and identify the components and types that make up a fire pump.
☒	☒	Properly lay out and install the components of a fire pump system.
☐	☒	Properly size a fire pump.
☐	☒	Ability to convert pressure ratings from psi to feet of head and vice versa.
☒	☒	Understand how to set and align a fire pump.
☒	☒	Understand different types of and requirements for fire pump controller.
☒	☒	Able to perform acceptance testing of fire pumps.
☒	☒	Able to perform a mechanical check of a fire pump system, measure the flow of a system, and identify potential causes for a malfunctioning fire pump.

- Category 18: Standpipe Systems

J	M	Topics
☒	☒	Identify the different types and classifications of standpipes.
☐	☒	Understand requirements and procedures for sizing standpipes hydraulically and by schedule.
☒	☒	Identify types of hose valves and adapters.
☒	☒	Identify, test, and adjust a pressure-reducing valve (PRV).
☒	☒	Understand the requirements for standpipes for buildings under construction.
☒	☒	Properly lay out and install the components of a standpipe system.
☒	☒	Understand the installation requirements of a combined sprinkler-standpipe system.

- Category 19: Commissioning of Systems

J	M	Topics
☒	☒	Understand and perform prescribed acceptance tests.
☒	☒	Complete the required documentation.

- Category 20: Inspection, Testing, and Maintenance

J	M	Topics
☒	☒	Understand and apply system testing and inspection procedures prescribed in NFPA 25.
☒	☒	Understand periodic inspections of sprinkler system components. (e.g. 5-year internal inspection)
☒	☒	Understand proper application of internal pipe inspections and obstruction investigations.
☒	☒	Understand the specific considerations for specialty valves and systems.
☒	☒	Complete the required documentation.

- Category 21: Statutes and Rules

J	M	Topics
☒	☒	Understand and apply Minnesota statutes regulating fire protection industry licensing.
☒	☒	Understand and apply Minnesota administrative rules regulating fire protection systems.

J	M	Topics
☐	☒	Understand and apply Minnesota statutes and administrative rules regulating the fire protection contractor.
☐	☒	Understand and apply Minnesota statutes and administrative rules regulating the managing employee.
☒	☒	Understand and apply Minnesota statutes and administrative rules regulating the journeyman.
☒	☒	Complete the required documentation.

- Category 22: Definitions

J	M	Topics
☒	☒	Identify, by name and by function, devices and components associated with various fire sprinkler systems.
☒	☒	Identify and understand terminology as used in MN State Fire Code and NFPA Standards.
☐	☒	Identify and understand building construction elements.

Example Questions

The following are examples and are intended to illustrate the type of questions that appear on the examination. These example questions will not appear on any examination. Candidates are encouraged to read all four possible answers before selecting one.

1. According to NFPA 13, what is the maximum area of protection for standard pendent or upright sprinklers in a hydraulically calculated system classified as light hazard?

   (A) 100 sq. ft.
   (B) 200 sq. ft.
   (C) 225 sq. ft.
   (D) 400 sq. ft.

2. Provisions shall be made to indicate the flow of water in a sprinkler system under all of the following conditions **EXCEPT**

   (A) movement in the system due to a surge.
   (B) a leak equal to the output of the smallest sprinkler in the system.
   (C) discharge by one or more sprinklers.
   (D) flow of water equal to the output of the largest sprinkler in the system.

3. A full flow trip test of each dry pipe valve should take place either when the system is altered, or every

   (A) 6 months.
   (B) 1 year.
   (C) 2 years.
   (D) 3 years.

Answer Key: (1) C, (2) A, (3) D