



FIRE PROTECTION PROJECT SCOPE AND NARRATIVE REPORT

DERRY TRANSFER STATION
53 TRANSFER LANE
DERRY, NH 03038

NOVEMBER 21st, 2022

TABLE OF CONTENTS

Executive Summary.....	3
Building Information	4
Automatic Suppression System	4
Sprinkler System Layout.....	4
Sprinkler System Equipment	4
Fire Department Connection (FDC).....	4
System Piping.....	4
Sprinklers	5
System Monitoring.....	5
Tamper Switches.....	5
Flow Switches	5
System Testing and Control.....	5
End of Report.....	5

Executive Summary

SFC Engineering Partnership, Inc. (SFC) is providing sprinkler system design services to the Derry Transfer Station in Derry, NH. The intent of this project is to reconfigure the existing system's drainage to prevent continuous freezing of and damage to the piping. All work involved is to be in accordance with the applicable requirements of NFPA 13 - *Standard for the Installation of Sprinkler Systems* (2016 Edition). The building is currently protected throughout by an existing dry automatic sprinkler system which will remain as existing. It is not the intent of this project to alter or modify the level of protection or configuration provided by the sprinkler system. As the building is an existing occupancy, all work involved in this project will be in accordance with applicable portions of the following codes and standards:

- NH State Fire Code (Saf-C 6000), specifically:
 - 2016 NFPA 13: Standard for the Installation of Sprinkler Systems

Building Information

IBC Building “Use” Groups	Storage (S-1)
NFPA 101 Building Occupancy	Existing Moderate Hazard Storage
Number of stories above grade plane	1
Number of stories below grade plane	0
Square footage	~21,000 SF Footprint
Construction Type	II-B (IBC), II (000) (NFPA)
Suppression System	System to be modified as discussed in report.

Automatic Suppression System

As an S-1 Use Group (Moderate Hazard Storage), IBC Section 903.2.9 requires that sprinkler protection be provided where one of the following conditions exists:

1. The fire area exceeds 12,000 ft².
2. The fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 ft².
4. The area is used for the storage of commercial motor vehicles where the fire area exceeds 5,000 ft².
5. The occupancy is used for the storage of upholstered furniture or mattresses exceeding 2,500 ft².

As the building is measured to be approximately 21,000 ft² in area, the sprinkler system is required by code. The building is currently fully protected by an automatic sprinkler system designed in accordance with NFPA 13, 2016 Ed. as stated on the As-Built plans prepared by Superior Fire Protection dated 12/15/2015.

This system has been designed to protect the entire building which includes an Ordinary Hazard Group II classification as defined by NFPA 13. This classification of hazard requires that the water supply provides a density of 0.20 gpm/ft² over the remote area.

Sprinkler System Layout

The layout of the existing system will remain unchanged with the exception of the proposed drainage piping and associated auxiliary drains. All existing sprinklers will remain and the level of protection provided by the system will not be reduced or modified in anyway.

The proposed drainage piping will be Schedule 40 black steel listed for sprinkler system applications. Each set of two branchlines will be tied into one drainage pipe leading to the auxiliary drum drip assembly provided at the ground level where they will be readily accessible for use by the transfer station staff.

Sprinkler System Equipment

Fire Department Connection (FDC)

The existing connection to the fire department connection will not be modified.

System Piping

All aboveground piping shall be black steel. All steel piping shall be Schedule 40 with standard labeled, threaded fittings suitable for 175 -psig water working pressure. All piping is to be exposed piping and obstructions to other construction features and equipment shall be minimized throughout the building.

Sprinklers

The existing sprinklers provided within the building will remain installed as existing. The proposed modifications to the system will not affect the operations or hydraulics of the sprinklers.

System Monitoring

The sprinkler system will maintain any existing monitoring provided by the existing fire alarm system.

Tamper Switches

No control valves are expected to be installed or modified within the scope of these modifications.

Flow Switches

No flow switches are expected to be installed or modified within the scope of these modifications.

System Testing and Control

The sprinkler equipment will undergo an acceptance test in accordance with NFPA 13, to be performed by an approved testing company; this may be the installing contractor. Request for the acceptance test by the Derry Fire Department will be made in writing, to be received by the Fire Department at least five (5) working days prior to the date of testing.

End of Report