TOWN OF SUFFIELD

83 Mountain Rd, Suffield, CT 06078
www.suffieldct.gov

Fire Marshal

Plan review and inspections are conducted through a joint effort between the Building Department and the Fire Marshal's Office. The Fire Marshal Office and Building Department are located at 83 Mountain Road Suffield, CT 06078. Plans can be submitted to the Town of Suffield Building Department.

Design, Construction, and installation shall be in accordance with the appropriate Town Ordinances, Connecticut State Fire Safety Code, State of Connecticut Fire Prevention Code requirements, and Building codes.

Site Plan documents for new construction, renovations/alterations and or subdivisions both major and minor shall be submitted for review and approval prior to site preparation work beginning.

Fire Detection/Protection equipment submittals shall include at least one (1) complete set of documents. Fire detection/protection equipment and associated systems shall be a separate plan submittal and permit fee from Site and Building Plan submittals. Permits shall be issued for each individual plan submittal with all subsequent inspections and testing being conducted accordingly.

Fire Suppression/Alternative Fire Suppression submittals shall include at least one (1) complete set of documents. Fire Suppression/Alternative Fire Suppression equipment and associated systems shall be a separate plan submittal and permit fee from Site and Building Plan submittals. Permits shall be issued for each individual plan submittal with all subsequent inspections and testing being conducted accordingly.

Plans approved by the Fire Marshal's Office and Building Department give permission for installation of the fire protection system. Installations shall not begin without a permit. Final approvals are subject to field inspections. Any plan review approval issued by the Fire Marshal's Office does not release the contractor or property owner from the responsibility of full compliance with all applicable codes.

All installations shall be in accordance with the approved plans. Any deviations from

the plans shall be discussed with the Plan Reviewer for the project prior to making changes. Some changes will require SK Drawings submittal to the Fire Marshal's Office for additional approval.

Contractor performing fire detection or fire suppression work shall notify the Fire Marshal prior to schedule start date at evincent@suffieldct.gov. Failure of notification may result in permit rejection if work has started.

Site Plan Requirements

Site plan documents for construction projects shall contain the following information as applicable:

1. Project name and address,
2. Contact information,
3. North Arrow,
4. Property Lines,
5. Written Site Safety Plan,
6. Above and below ground utilities,
7. Fire Lanes and pavement marking specification, driving lane markings,
8. Anticipated fire flow requirements for building(s) and water availability,
9. Fire hydrant locations,
10. Fire service main size,
11. Gallons Per Minute from each hydrant with residual pressure,
12. Distance between fire hydrants,
13. Fire department connection locations,
14. Turning radius drawings and pavement driving lane markings,
15. Landscaping details including overhanging trees and shrubbery,
16. Building overhangs and drive-through locations along with height clearances,
17. Building entrance and exit locations,
18. Intended use of building and secondary uses,
19. Drawing shall be to scale,
20. Fire department access roads, shall be a minimum of 20-feet wide and unobstructed vertical clearance of not less than 14 feet,
21. Dead-end roads with an excessive of 150 feet in length shall provide an approved area for turning fire apparatus,
22. Fire department access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced to provide all-weather driving capabilities,
23. Fire apparatus access roads shall not have a slope greater than 10%

Any other items requiring fire department consideration

Building Plan Submittal Requirements

Construction documents for new and renovations/alterations construction shall be submitted for review and approval prior to work beginning. Construction, installation, and testing shall be in accordance with the appropriate Town of Suffield Ordinances, State Building/Fire Safety/Prevention Code requirements and NFPA Standards.

Building plan submittals shall contain the following information **but not limited to:**

1. Building Floor Plan(s)
2. Drawings shall be scaled and have a scale on the plan(s)
3. North arrow
4. Project name and address
5. Contact information
6. Intended occupancy use classifications and secondary uses
7. Life safety page

    - Delineate all fire rated walls and their type of fire barrier, partition, etc.
    - Exit signs (coordinated with electrical light plan)
    - Exits
    - Horizontal exits
    - Dimensions of corridors and aisles
    - Door and hardware schedule, including special locking devices
    - Boundary of all fire/smoke rated walls including those around atrium
    - Travel distance and common path, egress to exit(s), and to public way outside of building
    - Egress capacity calculations
    - Delayed egress or special locking location shown with appropriate symbols such as card readers, sensors, push to exit
    - Occupant loads calculated using Chapter 10, “Maximum Floor Area Allowances per Occupant” for each function on each floor. Where furniture seating creates a larger occupant load, list both and utilize greater of the two.
    - Total occupant load for each floor and the total occupant load for entire building.
    - Remoteness between required exits, exit access doors is clearly shown.
    - Any additional details or sections necessary to explain the life safety design intent.
    - Provide location of a room capacity sign when occupant load is 50 or grater at or near the main exit door from the room.
    - Show location of all fire extinguishers by type and size.

8. Fire Code Analysis Summary
9. Occupant load
10. Building Elevations and Topography
11. Fire rated assembly locations and specifications

12. Fire separation locations and specifications
13. Fire door locations and door specifications
14. Hazardous Materials storage array locations and specifications
15. Installation or Removal of Tanks for liquid motors fuels and LPG, LNG, CNG
    - The sizes and locations of tanks shall be indicated, tank specifications shall be included.
16. High-piled combustible storage and rack storage array details
    - Plans shall include drawings, diagrams and specifications on rack storage arrangements.
17. Flammable/Combustible Liquid Storage Rooms, Hazardous Materials Storage Rooms and Clean Room locations and specifications
18. Compressed Gas, Medical Gas Carbon Dioxide System piping diagrams
19. Electrical
20. Fire Suppression systems
21. Fire Detection systems
22. Cut sheets/specifications for appliances/equipment
23. Mechanicals
24. Emergency Responder Communication Coverage
25. Fire Command Center
26. Interior finishes
27. Structural
28. Knox Box location

New/Shell Building Requirements

Water Supply:

1. Current hydrant test shall be included in submittals
2. An ISO needed fire flow (NFF) calculation shall be completed for all non-sprinkled buildings, NFPA 13D and NFPA 13R Systems.
3. For non-sprinkled buildings - An approved fire hydrant shall be located within 800 feet from the most remote point of all buildings and measured "as an approved apparatus route as determined by the fire code official"
4. For sprinkled buildings - An approved fire hydrant shall be located within 600 feet from the most remote point of all buildings and measured "as an approved apparatus route as determined by the fire code official"
5. Fire department connections (FDCs) that serve standpipe systems shall be within 100 feet of a fire hydrant
6. The fire department connection (FDC) shall not be greater than 50 feet from a fire department access road.
7. Watermains that are 6 inches in diameter and serving a fire hydrant shall not exceed 800 feet in length.
8. Show an NFPA 13 FDC location within 200 feet of a fire hydrant as the truck travels.
9. Show an NFPA 13R FDC location within 200 feet of a fire hydrant as the truck travels.
10. Show all existing and new hydrant locations, including size of mains. Friction loss calculations shall be required for all new hydrant installations in a water-model format.
11. Buildings protected with an NFPA 13R sprinkler system shall be calculated, with a 50% credit allowance given on the NFF.
12. Include recent hydrant flow test (within the past 12 months) of the most remote hydrant at 20 psi
13. For all buildings being served by a fire pump the following must be provided. Pump information including but not limited to, pump driver details including manufacturer, horsepower, voltage, or fuel system details, rated capacity and location of pump.

Fire Sprinkler Protection

1. Provide the sprinkler design criteria based off the 48-hr. low hydrant test.
2. Show all FDC and hydrant locations.
3. Provide riser diagram and type of system.
4. Show the riser location.
5. Provide vertical elevation of each floor

*Fire sprinkler shop drawings are required for **all new systems.**

Fire Alarm Detection

1. Show all notification and initiating devices, note new-N, existing-E including candela ratings and the (FACP) location.
2. Provide the riser diagram including all devices and monitoring of all suppression systems.
3. Provide the matrix/sequence of operations.

*Fire alarm shop drawings are required for all new systems.

4. Design Professional shall provide information as required in NFPA 72 and other standards

Standpipe Systems

1. Provide the type of system and note "wet" or "dry".
2. FDC location shall be within 100- feet of an approved hydrant and with-in 50 feet of access road.
3. Hose valves shall be on all floor landings, NOT intermediate landings. Additional hose valves are required where the most remote portion of a floor or area exceeds 200 feet from a hose connection for a sprinkled building, or 150 feet for a non-sprinkled building.
4. Provide vertical standpipe riser diagram to include stair elevation diagram (isometric view).
5. (1) 2 1/2" inlet will be provided per 250 gpm. of required standpipe demand.

****Design per NFPA 14***

6. Hydraulic Design for Manual Standpipes:

Alternative Suppression Systems

1. Engineer to provide the design criteria and type of system being used.
2. Provide detail of the fire suppression system being installed. The details shall include size, length, and arrangement of connected piping. Description and location of nozzles.
3. Provide information pertaining to the location and function of detection devices, operating devices, auxiliary equipment, and electrical circuitry.
4. Provide cut sheets of new equipment.

Emergency Responder Radio Coverage (ERRC)

1. All new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building.
2. The in-building 2-way emergency responder communication coverage system shall be designed in accordance with applicable standards
3. Amplification systems and components. Buildings and structures that cannot support the required level of in-building 2-way emergency responder communication coverage shall be equipped with systems and components to enhance the radio signals and achieve the required level of emergency communication coverage specified in standards. Emergency communication systems utilizing radio-frequency-emitting devices and cabling shall be approved by the fire code official. Prior to installation, all RF-emitting devices shall have the certification of the radio licensing authority and be suitable for public safety use.
4. Technical criteria. The fire code official shall maintain a document providing the specific technical information and requirements for the in-building 2- way emergency responder communication coverage system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, the effective radiated power of radio sites, the maximum propagation delay in microseconds, the applications being used and other supporting technical information necessary for system design.
5. Standby power. In-building 2-way emergency responder communication coverage systems shall be provided dedicated standby power or provided with 2-hour standby batteries and connected to the facility generator power system in accordance with standards. The standby power supply shall be capable of operating the in-building 2- way emergency responder communication coverage system. at 100-percent system capacity for a duration of not less than 12 hours.
6. Signal booster requirements. If used, signal boosters shall meet the following requirements:
    a. All signal booster components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4-type waterproof cabinet.
    b. Battery systems used for the emergency power source shall be contained in a 3R or higher- rated cabinet.
    c. Equipment shall have FCC or other radio licensing authority certification

and be suitable for public safety use prior to installation.

d. Where a donor antenna exists, isolation shall be maintained between the donor antenna and all inside antennas to not less than 20dB greater than the system gain under all operating conditions.
e. Active RF emitting devices used in in-building 2-way emergency responder communication coverage systems shall have built-in oscillation detection and control circuitry.

7. The installation of amplification systems or systems that operate on or provide the means to cause interference on any in-building 2- way emergency responder communication coverage network shall be coordinated and approved by the fire code official.
8. System monitoring. The in-building 2-way emergency responder communication coverage system shall be monitored by a listed fire alarm control unit, or when approved by the fire code official, shall sound an audible signal at a constantly attended on-site location. Automatic supervisory signal shall include the following:
    a. Loss of normal AC power supply.
    b. System battery charger(s) failure.
    c. Malfunction of the donor antenna(s).
    d. Failure of active RF-emitting device(s).
    e. Low-battery capacity at 70-percent reduction of operating capacity.
    f. Failure of critical system components.
    g. The communications link between the fire alarm system and the in-building 2-way emergency responder communication coverage system.
    h. Oscillation of active RF-emitting device(s)
9. Additional frequencies and change of frequencies. The in-building 2- way emergency responder communication coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC or other radio licensing authority.
10. Design documents. The fire code official shall have the authority to require “as-built” design documents and specifications for in-building 2- way emergency responder communication coverage systems. The documents shall be in a format acceptable to the fire code official.

11. Radio communication antenna density. Systems shall be engineered to minimize the near-far effect. In-building 2-way emergency responder communication coverage system designs shall include sufficient antenna density to address reduced gain conditions.

Gates and Access Controlled Fencing

1. Must be a minimum width of 20 feet for undivided entry/exit or 16 feet for divided entry/exit.
2. All gates shall have a Knox Box or Knox Switch for fire department access.
3. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed, and installed to comply with the requirements of ASTM F2200.