

Construction & Development Procedures Guide



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WELCOME TO WINDSOR SEVERANCE FIRE RESCUE

Windsor Severance Fire Rescue (WSFR) is a fire protection district serving a 110-square mile service area that includes the towns of Windsor and Severance, as well as portions of unincorporated Weld and Larimer Counties. Originally founded on May 12, 1902, WSFR has continued to grow into the department that it is today. WSFR currently staffs four fire stations 24 hours a day, 365 days a year.

WSFR is an all-hazards emergency services agency, providing fire suppression; emergency medical services; basic and technical rescue; hazardous materials mitigation; fire prevention, inspection, and investigation; public education; and domestic preparedness, planning and response for approximately 60,000 residents. WSFR's core values of readiness, excellence, courage, and respect are applied by all members of the organization to provide the highest level of service possible to all citizens and guests of the communities served. WSFR stands by our mission statement of providing quality and compassionate care from our family to yours.

ABOUT THIS GUIDE

This Guide has been developed with the intent of clarifying the requirements of the IFC as adopted in our communities. Our goal in the construction and development review process is to assist property owners, construction contractors, and design professionals as they design and build properties that meet minimum life safety standards. We strive to ensure that all buildings are safe for the building owners, visitors, customers, as well as for firefighters. We do this through the consistent application of the adopted International Fire Code (IFC), national standards, county and municipal codes and standards, agency policies, and best management practices.

Within the WSFR jurisdiction, there are a variety of codes that are in place, as described below:

Town of Severance	2018 International Fire Code
Town of Windsor	2018 International Fire Code
Larimer County	2012 International Fire Code
Weld County	2018 International Fire Code

Free access to the International Fire Code can be found at the following website:

<https://codes.iccsafe.org/content/IFC2018>

The specific amendments adopted and enforced within each local municipality can be found on the WSFR website or in the Appendices of this document.

In addition to the International Fire Code, several standards published by the National Fire Protection Association (NFPA) are also enforced within the WSFR jurisdiction. Information on all NFPA standards can be found at the following website:

www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/Free-access

GETTING STARTED: PLANNING APPROVAL AND BUILDING PERMIT PROCESSES

For most proposed new residential and commercial developments, new buildings or building additions, the first step is the most important – receive approval from the municipal (town or county) planning and zoning department. This is usually accomplished when the developer submits all the required planning documents, plans, plats and other public improvement construction documents. These are reviewed by the municipal government for compliance with their planning and zoning rules before any building construction permits are issued.

Windsor Severance Fire Rescue review is also required for all planning documents and building permit submittals for projects within its jurisdiction to ensure compliance with the adopted International Fire Code. Before beginning any new development or construction project, the applicant (developer, general contractor, property owner, etc.) must contact the appropriate municipality to obtain planning approval as well as any required building permits.

Town of Severance (<https://www.townofseverance.org/>)

Community Development		970-381-7376
Building Department	Safebuilt	970-686-7511

Town of Windsor (<https://www.windsorgov.com/>)

Planning Department		970-674-2400
Building Department	Safebuilt	970-686-7511

Weld County (www.weldgov.com)

Planning and Building Department		970-400-6100
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Larimer County (www.larimer.org)

Planning Department		970-498-7679
Building Department		970-498-7700

It is also important to remember that additional municipal government requirements may apply to any given project or proposal, including but not limited to business license, liquor license, sign permit, and access permit. Please be sure to give complete and accurate information to the planning or building department staff so that nothing is missed during your application process. The applicant must provide all of the same documents to Windsor Severance Fire Rescue for review and documents must be provided electronically.

Windsor Severance Fire Rescue Life Safety Division: 970-686-2626

<http://www.wsfr.us/plan-review-application-and-fee-schedule/>

WHAT PLANS ARE REVIEWED BY WINDSOR SEVERANCE FIRE RESCUE ?

Fire code requires that WSFR performs plan review for the purpose of confirming, applying, and enforcing fire code requirements from the Preliminary Development Plan (PDP) stage, all the way through to Final Plat, to all types of proposed developments and construction projects, including but not limited to:

- a. Planned Unit Development (PUD)
- b. Commercial subdivisions
- c. Residential subdivisions
- d. Mixed-Use subdivision
- e. Special improvement districts
- f. Commercial business development
- g. Industrial parks
- h. Minor residential developments
- i. Multi-family developments
- j. Use by Special Review

In addition to development reviews, WSFR also reviews construction documents, plans, etc. and issues construction permits for any construction project being completed in all of the following proposed occupancies and/or buildings:

Assembly occupancies (A1 through A5)	Institutional occupancies (I1 through I4)
Business occupancies (B)	Mercantile occupancies (M)
Educational occupancies (E)	Residential occupancies (R1 through R4)
Factory/Industrial occupancies (F1 and F2)	Storage occupancies (S1 and S2)
High Hazard occupancies (H1 through H5)	Miscellaneous occupancies (U)

WSFR also performs plan review for the purpose of applying fire code requirements and issuing permits to the following types of mechanical, electrical, and hydraulic systems:

- a. Fire alarm systems
- b. Fire sprinkler systems
- c. Kitchen hood and duct systems
- d. Spray paint/finish booths
- e. Commercial cooking extinguishing/exhaust systems
- f. Clean-agent suppression systems
- g. Fire pumps
- h. Hazard control system
- i. Hazardous materials storage/use/dispensing systems
- j. High-piled storage systems

WSFR also performs plan review, applies fire code requirements and issues permits for tents/canopies, fireworks sales stands, indoor and outdoor fireworks displays, hazardous materials processes, hazardous materials storage, special events, mobile food vendors, and a wide variety of other areas, as addressed in the International Fire Code.

WHAT PLANS ARE REVIEWED BY WINDSOR SEVERANCE FIRE RESCUE ? (CONT.)

A complete code analysis is required to be done by a licensed architect or design professional prior to any permit being released by the fire department. This code analysis shall include the following:

- Applicable codes
- Project description
- Occupancy classification
 - Include justification and explain the reason for this classification (i.e.. Hazardous processes, manufacturing, extracting, business office, etc.)
- Type of construction
- Is the building sprinklered or not
- Allowable area increase calculations
- Allowable area calculations for building
- Allowable height and number of stories
- Egress requirements
- Occupant load
- Minimum number of exits for the occupant load
- Panic or Fire Exit Hardware being used
- Exit access (i.e.. travel distance)
- Dead end corridor length (if applicable)
- Will there be any racks or high piled storage (e.g., storage over 12 ft. in height)?
 - If yes, how tall and what will the commodities stored on them consist of?

Any other information that will assist with the plan review process or that is required by other town or county departments.

DEVELOPMENT DESIGN REQUIREMENTS

Windsor Severance Fire Rescue reviews information that is submitted for all proposed residential, commercial and/or mixed-use developments to ensure compliance with requirements of the International Fire Code and associated standards.

Approved fire apparatus access roads shall be required for every facility, building, and/or portion of a building hereafter constructed or moved into or within the jurisdiction. Fire apparatus access roadway grades shall not exceed 10 percent, and all intersections and turnarounds shall be level, with the exception of crowning for water run-off. Traffic calming devices shall be prohibited unless approved by the Fire Code Official. This includes but is not limited to speed bumps, speed humps, speed cushions, traffic circles, and neckdowns.

Number of Fire Apparatus Access Roads Required

Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads. Exceptions to this requirement include developments where all dwelling units are equipped throughout with an approved automatic fire sprinkler system or when the development plan includes a future second point of access, as approved by the Fire Code Official.

DEVELOPMENT DESIGN REQUIREMENTS (CONT.)

Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads. Projects having up to 200 dwelling units may have a single approved fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with approved automatic fire sprinkler systems.

Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between

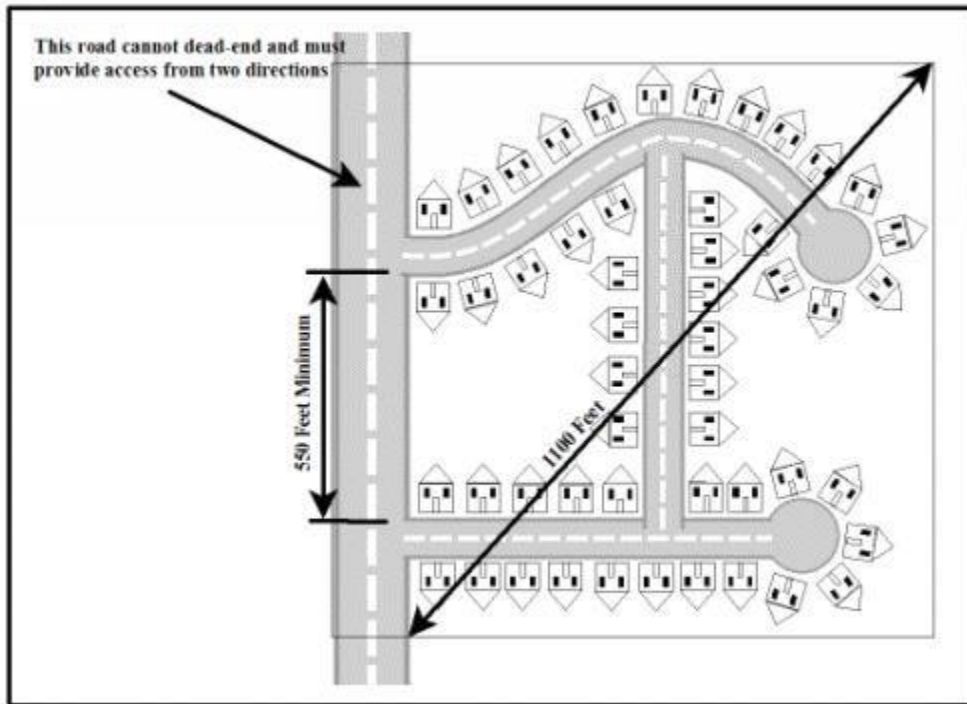


Figure 1: Separation of Multiple Access Roadways

Surface and Load Capacities

Fire apparatus access roads shall be of an all-weather surface (concrete, asphalt or other approved driving surface) that is easily distinguishable from the surrounding area and is capable of supporting not less than 85,000 pounds live load (gross vehicle weight). WSFR may require documentation from a registered engineer that the finished construction is in accordance with the approved plans or the requirements of the International Fire Code.

Turning Radius

The minimum turning radius for all turns within a property or subdivision shall be 25 feet inside, 50 feet outside or must meet the B40 turning template.

DEVELOPMENT DESIGN REQUIREMENTS (CONT.)

Cul-de-Sac Requirements

If two fire apparatus access roads cannot be installed and a cul-de-sac exceeds 600 feet in length, all buildings beyond 600 feet from the entrance to the cul-de-sac, as measured from the roadway centerline, are required to be protected by an approved automatic fire sprinkler system.

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0 - 150	20	None required
151 - 500	20	120-foot hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac
501 - 750	26	120-foot hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac
Over 750		Special approval required

Table 1: Required Apparatus Turnarounds

Dead-End Roads

Dead-end roadways in excess of 150 feet in length shall be provided with an approved turnaround.

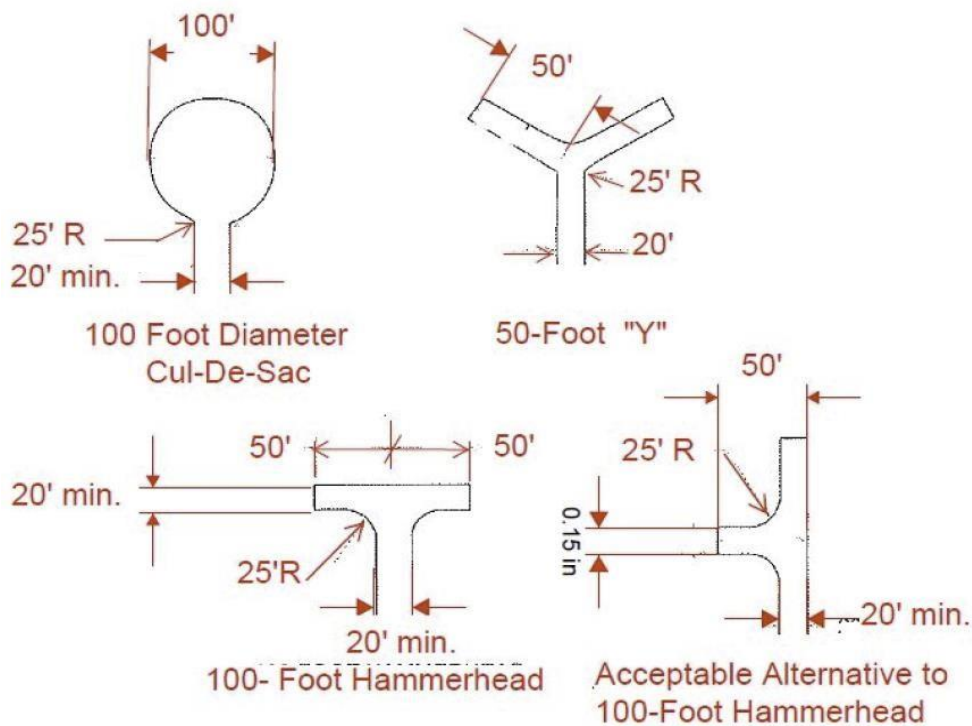


Figure 2: Turnarounds on Dead-End Access Roadways

Overhead Clearance

All fire apparatus access roads, including aerial fire apparatus access roads, shall have a minimum overhead clearance of 13 feet 6 inches.

Fire Apparatus Access Road Width

Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet, exclusive of shoulders, and an unobstructed vertical clearance of not less than 13 feet 6 inches. This includes public streets, private streets, private drives and parking lot drive aisles. An Emergency Access Easement may be required to be dedicated on non-public roadways.

Roads 20 to 26 feet wide shall be posted on both sides as a fire lane. Roads 26 to 32 feet wide shall be posted on one side as a fire lane.

Where serving two or fewer dwelling units and accessory buildings, the driving surface may be reduced to 12 feet, although the unobstructed width shall be 20 feet.

Aerial Fire Apparatus Access Roads

Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet, approval aerial fire apparatus access roads shall be provided. The highest roof surface is measured to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater. Aerial fire apparatus access roads shall have a minimum unobstructed driving surface width of 26 feet, in the immediate vicinity of the building. This includes public streets, private streets, private drives, and parking lot drive aisles. An Emergency Access Easement may be required to be dedicated on non-public roadways.

At least one of the required aerial fire apparatus access routes shall be located 15 – 30 feet from the building and shall be positioned parallel to at least one entire long side of the building that has openings suitable for firefighter entry into the building. Examples of openings are windows, balconies, smoke tower landings, etc. The side(s) of the building with aerial access shall be approved by the Fire Code Official.

DEVELOPMENT DESIGN REQUIREMENTS (CONT.)

Fire Apparatus Access Road Distance from Buildings

An approved fire apparatus access road shall be within 150 feet of all portions of the first story exterior wall of any building, as measured by an approved route around the exterior of the building. If the building has an automatic fire sprinkler system installed this can be increased to 300 feet.

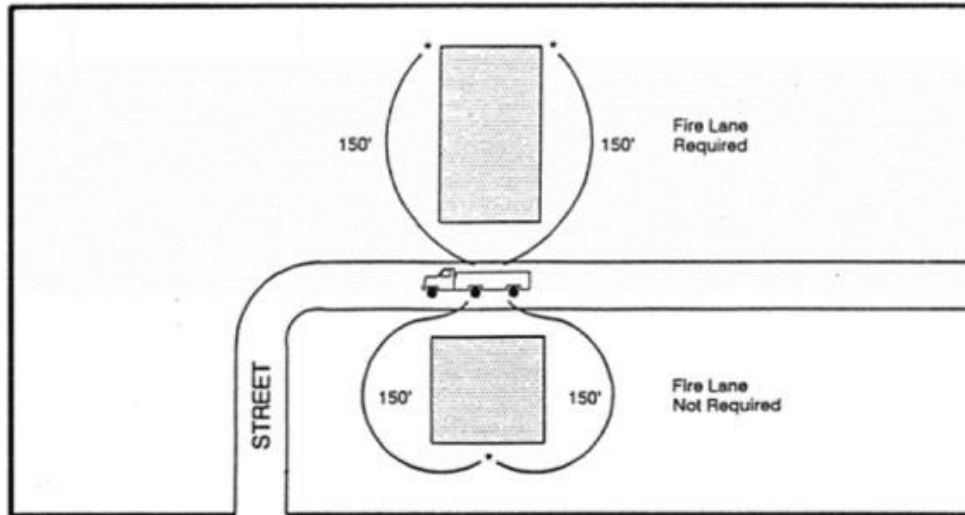


Figure 3: Fire Apparatus Access Road Distance from Buildings

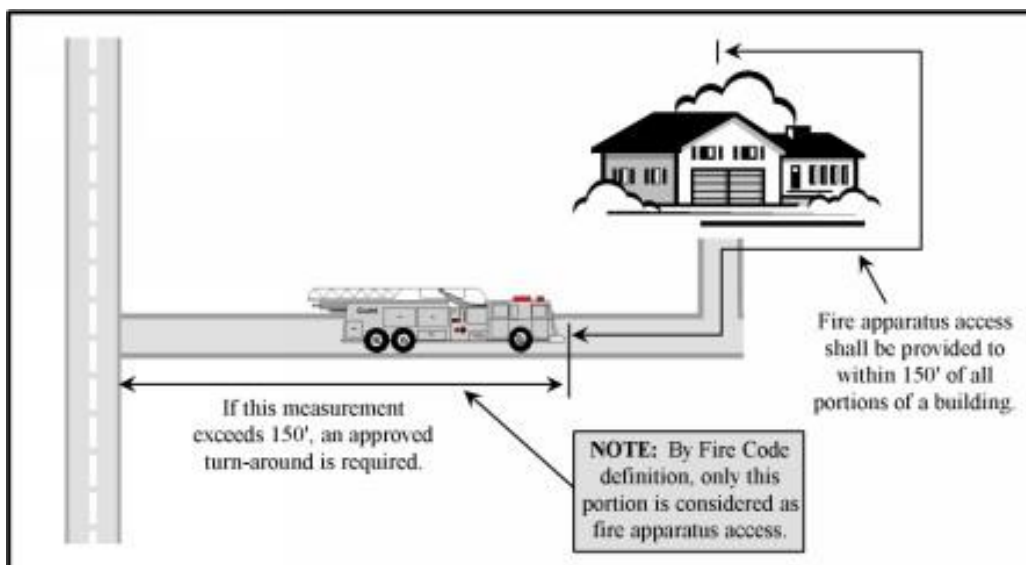


Figure 4: Dead-End Fire Apparatus Road

Fire Lane – No Parking Signs

Where required by the Fire Code Official, fire apparatus access roadway curbs have an approved Fire Lane – No Parking sign installed. Signs shall be installed and maintained by the property owner. Signs shall be installed with a clear space above grade level of seven (7) feet and shall be installed 45-degrees from the traffic flow line.

Gates

Gates that are installed to secure fire apparatus access roads shall comply with all of the following:

- Minimum unobstructed width of 20 feet
- Gates serving one- or two-family dwellings shall be a minimum of 12 feet in width
- Gates shall be set back a minimum of 30 feet from the intersecting roadway
- Gates shall be of the swinging or sliding type
- Manual operation shall be capable by one person
- Electric gate operators, when required, shall be listed in accordance with UL 325.
- Gate components shall be maintained in an operative condition at all times, or replaced or repaired when defective.
- Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.
- Electric gates shall be equipped with a means for operation by fire department personnel ([Knox Key Switch](#)). Private key pad is not acceptable.
- Manual opening gates may require a Knox padlock or Knox Box to ensure fire department access

Bridges and Elevated Surfaces

Where a bridge or an elevated surface is part of a fire apparatus road, either public or private, the bridge shall be constructed and maintained in accordance with the State of Colorado Department of Transportation and the American Association of State Highway and Transportation Officials *Standard Specification for Highway Bridges*. Bridges and elevated structures shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the Fire Code Official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs, or both shall be installed and maintained when required by the Fire Code Official. The design engineer may be required to provide written final approval of the bridge to WSFR after construction is completed. Maintenance of the bridge shall be the responsibility of the party(ies) that use the bridge for access to their property(ies). WSFR may at any time, for due cause, ask that a registered engineer inspect the bridge for structural stability and soundness at the expense of the property owner(s) the bridge serves.

DEVELOPMENT DESIGN REQUIREMENTS (CONT.)

Commercial Fire Sprinklers

All commercial buildings within our fire district are required to have a fully automatic fire sprinkler system if the square footage exceeds 5,000 sq. ft. Please see pages 7-11 of [2018 IFC Amendments](#) for further information. For all underground fireline inspections, installations, and permitting please see [Appendix D](#).

WATER DISTRICTS

The Windsor Severance Fire Rescue response area is served by six water districts. Each water district may have unique requirements for its service area. For additional information, please contact the water district that serves your project.

Town of Severance Public Works Department: 970-686-1218

<https://www.townofseverance.org/public-works>

Town of Windsor Public Works Department: 970-674-5400

<https://www.windsorgov.com/88/Public-Works>

Little Thompson Water District: 970-532-2096

www.ltwd.org

Fort Collins-Loveland Water District: 970-226-3104

<https://fclwd.com/>

North Weld Water District 970-356-3020

<https://nwcwd.org/>

Greeley Water District 970-350-9811

<http://greeleygov.com/services/ws/home>

FIREFIGHTING WATER SUPPLIES

Windsor Severance Fire Rescue reviews all submitted plans for compliance with the water supply requirements of the adopted fire code.

Access and Firefighting Water Supply During Construction

Approved fire apparatus access roadways and firefighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site.

Commercial and Multi-Family Building Fire Flow

The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be determined in accordance with Appendix B and Table B105.1, as displayed on the following page. The required fire flow for a building shall not exceed the available GPM in the water delivery system at 20 psi.

Exception: A reduction in required fire flow of up to 75 percent, as approved, is allowed when the building is equipped with an approved automatic fire sprinkler system installed in accordance with IFC 903.3.1.1 or 903.3.1.2. The resulting fire flow shall not be less than 1,500 GPM for the prescribed duration as specified in Table B105.1.

One- and Two-Family Dwelling Fire Flow

The minimum available fire flow for single-family dwellings and duplexes served by a municipal water supply shall be 1,500 gallons per minute. If the structure is 3,600 square feet or larger, the required fire flow shall be determined according to Table B105.1, as displayed on the following page.

Exception: A reduction in the required fire flow of 50 percent, as approved, is allowed when the building is equipped with an approved automatic fire sprinkler system.

Required Fire Flow for Rural Buildings

Required fire flows for buildings constructed in rural areas in which adequate and reliable water supply systems do not exist shall be calculated in accordance with National Fire Protection Association (NFPA) Standard 1142: *Standard on Water Supplies for Suburban and Rural Water Supplies*. Please contact the Fire Marshal's Office for special assistance and other requirements that may apply.

FIREFIGHTING WATER SUPPLIES (CONT.)

Fire Department Connection (FDC)

The fire sprinkler system's fire department connection (FDC) shall be a 5-inch Storz connection with a 30-degree downward angle for NFPA 13 systems, or a single 2.5-inch connection for an NFPA 13R system. A fire hydrant shall be located within 150-feet of a fire department connection (FDC), using an approved route without obstacles.

Fire hydrants and FDCs shall be located on the same side of the fire apparatus access roadway as the building being protected. The location of both the fire hydrant and the FDC shall be approved by the Fire Code Official.

A permanent sign shall be installed at the FDC that specifies fire sprinkler, sprinkler and standpipe, or standpipe. When an FDC serves multiple addresses and/or only portions of buildings (such as basement or standpipe), permanent signs shall be installed at the FDC identifying the location(s) served by the FDC.

Fire Hydrant Flow Testing

Flow tests are often required prior to the design of fire sprinkler systems, or to verify adequate municipal water supply is available for new developments. The fire sprinkler system designer will schedule and complete the flow test in cooperation with the water provider. Windsor Severance Fire Rescue does not perform hydrant flow tests. To schedule a flow test, please contact the water provider. Approved documentation of the final test results shall be provided to WSFR prior to final approval of the water supply system.

TABLE B105.1(1)
REQUIRED FIRE FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

FIRE-FLOW CALCULATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
0-3,600	No automatic sprinkler system	1,000	1
3,601 and greater	No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2) at the required fire-flow rate
0-3,600	Section 903.3.1.3 of the <i>International Fire Code</i> or Section P2904 of the <i>International Residential Code</i>	500	1/2
3,601 and greater	Section 903.3.1.3 of the <i>International Fire Code</i> or Section P2904 of the <i>International Residential Code</i>	1/2 value in Table B105.1(2)	1

For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/m.

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE FLOW CALCULATION AREA (square feet)					FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
Type IA and IB ^a	Type IIA and IIA ^a	Type IV and V/A ^a	Type IIB and IIB ^a	Type V/B ^a		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	3
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	4
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the *International Building Code*.

b. Measured at 20 psi residual pressure.

Figure 5: Fire Flow Requirements for Buildings

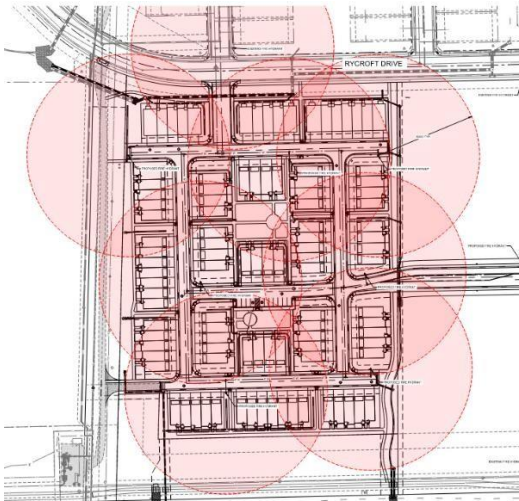
FIRE HYDRANTS

Fire Hydrant Number and Distribution

Multi-Family Residential: Hydrants shall be no more than 200 feet from structures and have a spacing of no more than 400 feet apart.

Residential: Hydrants shall be no more than 300 feet from structures and have a spacing of no more than 600 feet apart.

Commercial and Industrial: Hydrants shall be no more than 150 feet from structures and have a spacing no more than 300 feet apart.



FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS
1,750 or less	1
1,751–2,250	2
2,251–2,750	3
2,751–3,250	3
3,251–4,000	4
4,001–5,000	5
5,001–5,500	6
5,501–6,000	6
6,001–7,000	7
7,001 or more	8 or more ^c

The minimum number and distribution of fire hydrants available to serve a building shall not be less than that listed below. For 7,001 GPM and 8 or more hydrants the requirement is one hydrant for each 1,000 GPM or fraction thereof.

Undeveloped Areas

Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar problems, hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.

Considerations for Locating Fire Hydrants

Existing fire hydrants in areas are allowed to be considered to meet the required number of hydrants as approved. Hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are established to prevent obstruction of such roads.

Hydrants that are separated from the subject building by railroad tracks, bridges, arterial streets or differing grades shall not contribute to the required number of hydrants, unless approved by the Fire Code Official.

Hydrants that are separated from the subject building by interstate highways or divided highways shall not contribute to the required number of hydrants.

PLAN REVIEW PROCESS

A minimum of 10 business days is required to complete the review of submitted plans. Additional time may be necessary based upon the complexity of the projects and the completeness of submitted information.

Before beginning any new construction or remodel construction project, the general contractor should determine if fire alarms and/or fire sprinkler systems will be required for the project. If any fire protection system is required, a valid WSFR permit is required to begin construction.

The Applicant must submit electronic plans for review.

If a fire protection system contractor is proposing to make modifications to an existing fire protection system that is limited to affecting 10 or fewer devices, the permit submittal may include the WSFR Plan Review/Permit Application form and a "Letter of Scope" that specifically describes the modifications to be performed. Based on the amount of work to be completed, it may be possible to decrease the amount of supporting documentation to be submitted.

ADDRESSING AND STREET NAMES

The naming of streets and assignment of addresses is a responsibility of the municipality (town and/or county). Windsor Severance Fire Rescue reviews proposed street names and addresses as a "second set of eyes" to ensure that street naming and addressing conventions are followed. Additionally, this serves as a valuable opportunity to ensure that duplicate street names in different communities are avoided whenever possible.

WSFR has agreed to abide by roadway naming standards designated in the Street Inventory System. These requirements can be found at: www.larimer.org/streets/

Building Identification

All new and existing buildings shall have approved address numbers, building numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. The color of the numbers shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum size and stroke width, related to the size of the structure. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

Address Numeral Size

New residential buildings that contain no more than two dwelling units shall have minimum 4-inch-high numbers with a minimum stroke width of ½ inch. Individual suite or unit addresses shall be displayed with minimum 4-inch-high numbers with a minimum stroke width of ½ inch.

New multiple family or commercial buildings shall have minimum 6-inch-high numbers with a minimum stroke width of one (1) inch.

ADDRESSING AND STREET NAMES (CONT.)

New buildings three or more stories in height, or with a floor area of 15,000 to 100,000 square feet, shall have minimum 8-inch-high numbers with a minimum stroke width of one (1) inch.

Buildings with a total floor area of greater than 100,000 square feet shall have minimum 12-inch-high numbers with a minimum stroke width of two (2) inches.

Where building setback exceeds 100 feet from the street or access road, additional numbers shall be displayed at the property entrance.

The Fire Code Official may require address numbers to be displayed on more than one side of the building and may require the street name to be displayed along with the address numbers.

Temporary Address Signs

Temporary address signs shall be installed at the entrance to construction sites in such a manner to be readily visible to vehicle traffic. These temporary address signs shall be approved by the Fire Code Official and shall contain, as a minimum, the address numerals. Temporary address signs may be required to contain the street name as well as the address numerals.

Street or Road Signs

Streets and roads shall be identified with approved signs. Temporary signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles. Signs shall be of an approved size, weather resistant, and shall be maintained until replaced by permanent signs.

KEY BOXES

Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life saving or firefighting purposes, the Fire Code Official is authorized to require a key box to be installed in an accessible location.

A Knox Box, <https://www.knoxbox.com/>, must be installed on all buildings within our fire district. WSFR will designate the approved location(s) for key box installation. More than one key box may be required to be installed due to the size or use of a structure. The number of required key boxes will be determined at the time of site or building permit review.

To ensure your Knox Box is keyed correctly, log onto <https://www.knoxbox.com/>. Under “Choose your local fire department agency” select “Colorado” as your location and “Windsor-Severance Fire District” as your local fire department. Then select if you want to purchase commercial or residential Knox Boxes.

The top of the key box shall be installed 60 to 72 inches above the finished grade.

CONTRACTOR LICENSING PROGRAM

All persons performing installation and/or repair of fire sprinkler systems are required to possess and maintain Registration with the State of Colorado Division of Fire Prevention and Control. This registration may be verified in the field by WSFR inspectors at any time.

GENERAL CONSTRUCTION AND FIRE PROTECTION SYSTEM PERMITS AND INSPECTIONS

Windsor Severance Fire Rescue (WSFR) will issue permits to Applicants after the plan review process has been completed. The Applicant shall be responsible for obtaining valid permits from the municipal jurisdiction (e.g., Town of Severance, Town of Windsor, or County) in addition to any WSFR required permits.

WSFR will perform inspections for all permits issued by the district. A final inspection from WSFR is required for the owner/occupant to obtain a Certificate of Occupancy (CO) or Letter of Completion, prior to occupying the building. Final inspections for WSFR building permit (general construction) and fire protection systems (fire alarm, fire sprinkler, commercial hood system) shall be scheduled for the same time and all applicable contractors must be present for testing and inspecting. For these multi-systems inspections, the general contractor or owner is responsible for coordinating with all involved sub-contractors and WSFR for attendance. For inspections that only involve fire protection systems, the fire protection system contractor shall be responsible for scheduling the inspection with WSFR.

Prior to scheduling any inspections, Contractors shall read all WSFR comments and/or conditions that were issued with the permit to ensure that all requirements have been met prior to scheduling the inspection.

The project address and permit number(s) must be provided when scheduling inspections.

To schedule an inspection with WSFR, call the Life Safety Division at (970)686-2626 at least 48 hours prior to the desired date and time of the inspection.

For all permit applications, the Applicant shall complete the appropriate permit application form and shall pay the appropriate non-refundable permit fee or deposit, as indicated on the WSFR Fee Schedule.

FEE SCHEDULE

Pursuant to Section § 32,1-1002(1)(e), CRS, and Resolution number 2018-03, Windsor Severance Fire Rescue's Board of Directors has adopted a fee schedule for all plans, permits, and other documents. The adopted fee schedule is included in this document as [Appendix E](#).

FIRE SPRINKLER PERMITS

Submittals for fire sprinkler system permits shall include the following information. This list is not intended to be inclusive of all requirements for a fire alarm submittal, but rather as a guide to indicate minimum requirements.

- Completed Plan Review/Permit Application form
- One (1) complete set of all electronic plans for the building and all systems
- PE or NICET Level III stamps on all plans
- Minimum of one (1) set of material cut sheets
- Hydraulic calculations
- State of Colorado sprinkler form
- Water supply information

Fire Department Connections (FDCs) shall be provided for all buildings with installed fire sprinkler systems. The FDC shall be a five (5) inch Storz connection with a 30-degree downward angle.

FIRE ALARM PERMITS

Submittals for fire alarm system permits shall include the following information. This list is not intended to be inclusive of all requirements for a fire alarm submittal, but rather as a guide to indicate minimum requirements:

- Completed Plan Review/Permit Application form
- One (1) complete set of all electronic plans for the building and all systems
- PE or NICET Level III stamps on all plans
- One (1) set of material cut sheets
- Voltage drop calculations
- Battery calculations
- Symbols list
- Sprinkler riser diagram

All fire alarm system wiring shall be red in color.

COMMERCIAL KITCHEN HOOD AND EXHAUST SYSTEMS

Any commercial cooking that produces grease-laden vapors must be performed beneath an approved hood system that includes fire suppression capabilities. Installation and/or modification of any commercial kitchen hood system requires WSFR plan review and permit prior to changes being made.

Commercial kitchen hood systems must meet the following requirements:

- Comply with NFPA 13, NFPA 17, and UL 300 standards, as well as adopted International Fire Code, International Building Code, International Mechanical Code, and any applicable local amendments and/or rules.
- Design plans must show interconnection for fuel supply and electrical shut-off, ventilation control, damper control, and associated ducting systems.
- All commercial kitchen hood systems must be electronically monitored by an approved fire alarm system as a dedicated zone.
- Appropriate Class K portable fire extinguishers properly mounted within 30 feet of the cooking location.
- A manual system actuator must be provided at least 10 feet, and not more than 20 feet, from the cooking location.

The following information shall be included with all permit submittal packages:

- Copy of the design/installation contractor's applicable state license/registration
- Completed WSFR Plan Submittal Application form with complete and correct project information
- Complete set of all material cut sheets
- Complete project plans to show all cooking locations, all suppression system information and all exhaust duct specifications.

Payment of the applicable WSFR Permit fees is due prior to issuance of the installation permit.

PUBLIC SAFETY RADIO AMPLIFICATION SYSTEM

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. Existing buildings shall be provided with approved radio coverage for emergency responders as required by Chapter 11 of the Fire Code.

Buildings and structures which cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with Federal Communication Commission (FCC) certified signal boosters, or other systems approved by the Fire Code Official in order to achieve the required adequate radio coverage. Public safety radio amplification systems shall be designed and installed in accordance with criteria specified in the International Fire Code and NFPA 72.

HAZARDOUS MATERIALS ANALYSIS

Proposed structures and sites that are intended to temporarily or permanently contain materials that pose a health and/or physical risk, as defined in the International Fire Code, and if used, stored or handled on site, must submit the following information at the time of building permit application:

1. Scope of all planned operations on site, both inside and outside of structures. This should include areas where all equipment will be temporarily or permanently installed.
2. Site and building plans that include the locations of operations, emergency equipment, all chemical storage and use areas and planned High-Hazard occupancy/control areas (if applicable). Indicate storage in tanks (above ground and underground) and on any racked storage system.
3. Materials documentation including:
 - Safety Data Sheets (SDS) for all materials. SDS cannot be dated older than 2016 and must include NFPA 704 hazard ranking information.
 - The quantities of every chemical in storage and use. Indicate if amounts in use are part of “use-open” (vapors may escape to the atmosphere) or “use-closed” systems (no vapors will escape to the atmosphere).
 - Container size.
4. All emergency planning documents for fire, chemical release (spill or leak), medical and explosion incidents.
5. All other information required as part of the Tactical Response Plan (TRP) WSFR will build for sites containing hazardous materials and operations.

Other permitting beyond the Hazardous Materials and Operations permit may be required depending on the evaluation of planned operations and storage by WSFR staff.

Detailed guidance about the program can be found in [Appendix A](#).

REQUIREMENTS DURING CONSTRUCTION AND/OR DEMOLITION

Please refer to Chapter 33 of the International Fire Code for additional information and specifications on fire safety during construction and demolition and NFPA 241 Standard for Safeguarding, Alteration, and Demolition Operations.

Vehicle Access and Water Supply

When fire apparatus access roads or water supply for fire protection is required to be installed for a project, such installation shall be completed and made serviceable prior to and during the time of construction except when approved alternative methods are provided. Approved vehicle access shall be provided to all construction and demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent Fire Department Connections (FDCs). Vehicle access shall be provided by either temporary or permanent roads that are capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available. An approved water supply for fire protection, either temporary or permanent, shall be available as soon as combustible materials arrive on site.

APPENDICES

[Appendix A - Hazardous Materials Worksheet](#)

[Appendix B - Plan Review/Permit Application Form](#)

[Appendix C - The Compliance Engine](#)

[Appendix D - Underground Fireline Requirements](#)

[Appendix E - WSFR Fee Structure](#)

[Appendix F - WSFR Fire District Fire Code Amendments](#)