General Fire Department requirements for new construction

Fire Hydrants

1. All fire hydrants shall have a maximum distance of 300' between fire hydrants (UDO 6.12.3 G). There shall be a maximum distance of 300' from a fire hydrant to a protected structure or property. This measurement is made by road way, the same as you would drive. Access roads shall be maintained for all seasons
2. Fire hydrants shall be no closer than 5' to a street curb.
3. A fire hydrant pumper connection (from the bottom of the outlet) shall have a maximum height of 24" and a minimum height of 18" from the finished grade.
4. The pumper connection shall face the street.
5. All fire hydrants shall be on a looped water main system. No dead end water mains are allowed without the specific approval of the City Engineer and the Fire Chief.
6. A structure with a fire suppression system shall have a fire hydrant located no closer to the building siamese than 30' and no farther than 50' from the siamese or the height of the building.
7. A fire hydrant for a cul-de-sac shall be located at the throat of the bulb, not in the bulb.

Fire Department Connections

1. All fire suppression systems shall have a Fire Department connection (Siamese).
2. All Fire Department connections shall be located from Fire Department recommendations.
3. Fire Department connections for a typical Sprinkler system shall be 2 – 2 ½" Siamese connection.
4. Fire Department connections for a high flow Sprinkler system such as an Early Suppression Fast Response (ESFR) system shall contact the Fire Department for the specific Fire Department connection type.
5. In the event that a Fire Department connection serves more than one occupancies, the Fire Department requires a weatherproof 7" X 7" sign placed 2" above the Fire Department connection. The wording of the sign shall be approved by the Fire Department. The lettering on the sign shall be black in color on a white background in ½" block lettering.

Elevator size requirement

1. At least one elevator must be of sufficient size and arrangement to accommodate a 24 inch by 84 inch ambulance stretcher in the horizontal position

Rapid entry system (Knox Box)

1. Any building equipped with an automatic sprinkler system or automatic fire detection system, or inaccessible as a result of security measures, shall provide a secure key box installed in a location accessible to the Fire department in case of emergency. (Mun. Code 9-1-7)
2. Key Lock Box required: Installation of a Key Lock Box systems on all new commercial and/or manufacturing/industrial properties and all existing commercial and/or manufacturing/industrial buildings which undergo remodel that would require the issuance of a building permit. In commercial structures that have multiple occupancies a Knox box shall be required for each storefront. In addition, a Knox box shall be required for multi-family residential structures that have restricted access through locked doors and have a common corridor for access to the living units. (ordinance 2005.94, 4-3-06)
3. Generally, a Knox box is designated for a single occupancy. However, under some circumstances, a Knox box may be shared by two occupancies, but may require signage identifying those occupancies affected.

4. **Knox box selection**: Generally, most businesses choose a box from the # 3200 series (see page 9 in the order form). Those boxes are large enough to accommodate up to 10 keys with small designation tags. Most businesses usually install 1-4 keys in their box. When choosing the Knox box you need to determine if you intend to flush mount or surface mount the box. Generally the flush mount style is for new construction and the surface mount style is for existing buildings. Both are very good and equally secure. Generally, for surface mount installations, most businesses have chosen the # 3265 or #3207 surface mount. For flush or recess mount type, most businesses have chosen #3274 or #3226.
5. **Knox Box installation:** Generally, the Knox Box is installed no lower than 4 feet and no higher than 5 feet to the finished grade and to the right of and within 4 foot of the main entry (front) door. However, building architectural features may adjust this general approach. If you need to deviate from the general installation requirements, please contact the Assistant Fire Chief – Administration so that he can come to your place of business so that we can determine the best location for installation.
6. Suggested keys to be placed in the Knox box – Generally, a master building key to all doors (including main entry) and the fire alarm panel key. The Fire Department needs access to all areas within the structure as well as any alarm panel codes. This can include: exterior entry door key, interior entry door key(s), alarm panel codes, alarm devices (pull station) key, and alarm panel key.
7. **Locking of business keys in the Knox Box:** Once the Knox box is installed, please contact the Fire Department and a Fire Department representative come to the facility and lock the keys in the Knox box. Please make sure that your keys are identified with a tag designating what doors the key will open (example - Grand Master – all doors, Main entry door, all interior doors, fire alarm panel, and fire alarm pull station keys) as well as any codes for your fire alarm panel.

Fire lane requirements

1. A 20’ wide fire lane may be required in the front of the structure.
2. If designated as a fire lane, the fire lane shall be posted.

Building address identification (Mun. Code 7-4-1)

1. Visible from street
2. Location of numerals
3. Numeral 2 ½” high, color

Marking of exterior entry doors

1. In certain occupancies, the Fire Department may require that exterior entry/exit man doors and overhead doors be marked inside and outside with a door number to facilitate fire department response operations in a low light or smoke condition environment.
2. The numerals shall be at least 12” in size with block lettering in a contrasting color to the doors

Street lay out

Fire Department guidelines for public and private cul-de-sac

1. All cul-de-sacs shall have a minimum diameter of 100 feet, curb to curb.
2. For a cul-de-sac with single family residences. 100 foot diameter, curb to curb with a maximum of a 36 foot diameter island. Parallel parking is permitted on the outside circumference only.
3. For a cul-de-sac with multi-family residences. 100 foot diameter, curb to curb with a maximum of a 36 foot diameter island. Parking is restricted.
4. For a cul-de-sac with multi-family residences. 110 foot diameter, curb to curb with a maximum of a 36 foot diameter island. Parallel parking is permitted on the outside circumference only.

When there is a request for a larger diameter for an island, there shall be a corresponding increase in the size of the cul-de-sac diameter curb to curb.

1. For example, a standard 100' diameter cul-de-sac with a 36 foot diameter island for single family residences and it is proposed to increase the size of the island to 41' (+5'), the diameter of the cul-de-sac shall be increased to 105 feet (+5'), curb to curb.
2. For example, a standard 110' diameter cul-de-sac with a 36 foot diameter island for multi-family residences and it is proposed to increase the size of the island to 41' (+5'), the diameter of the cul-de-sac shall be increased to 115 feet (+5'), curb to curb.

Sprinkler system

Sprinkler system review key points:

1. The area flow of the incoming municipal water system
2. The overall coverage area of the system
3. Location of the fire department connection, audible and visual alarms
4. Location of the nearest fire hydrant to the fire department connection
5. The flow calculations of the system, the number of sprinkler heads, the type and rating of heads
6. If the system has an area that is a anti-freeze, dry system, or ESFR (Early Suppression Fast Response) high volume
7. Location of OS&Y (Outside stem and yolk) or WPIV (wall post indicator valves), system riser(s) and other shut off valves
8. Location of inspectors test valve
9. Confirm control valves to be monitored
10. If there are any fire department hose connections, their location(s)
11. Identify location and setting of pressure reducing valves on fire department hose connections
12. Locations of entry/exit doors
13. If the sprinkler room has an entry door, consider additional Knox box at the entry point