District of North Vancouver
Fire and Rescue Services
2410 Dollarton Highway
North Vancouver, BC V7H 2Y1
DNV.org/fire

District of North Vancouver Fire and Rescue Services
Rezoning / Pre-Development Comments
General Information

The preliminary fire department review and comments address emergency service operational needs, emergency response requirements, and community service expectations. These comments should provide guidance for any future submission that considers a reliable level of emergency service through building design.

The District of North Vancouver Fire Services *(DNVFRS)* comments are intended to identify or address any unusual building configuration and, or design and provide possible solutions for a reasonable emergency response.

DNVFRS staff reserves the right to add additional comments based on future submissions. Specific comments may vary depending on the permit stage and detail of the plan submission, such as with the Building Permit application package.

Fire Apparatus and Building Access

A ***Fire Department Access Plan*** in conformance with the current BC Building Code and the *District of North Vancouver Fire and Rescue Services Development Application Requirements*
See DNVFRS - Development Application Requirements.docx
will need to be provided with the Building Permit submission. Fire department access lanes and response points shall be designed to accommodate necessary emergency response apparatus assignment for a complex of this size (*including the cumulative weight of the responding apparatus over parkade(s) if applicable*).
The fire department access plan should include auto-turn drawings for the Tower aerial fire apparatus *(largest aerial fire apparatus on the DNVFRS fleet)*, or this could also be submitted as a separate plan.
See DNVFRS - Largest Aerial Fire Apparatus Specifications.docx

The fire department access plan should also clearly identify emergency response points, typically located at the building's main entrance *(front face of the building)*, which provide direct access to the Central Alarm and Control Facility *(CACF)* in high-rise structures. Where applicable, it must also include access to stairways serving all floors, both above and below grade, coordinated with the sprinkler system as required. In addition, the plan should indicate the location of the fire department Siamese connection, lockbox, provide detailed site maps, fire alarm annunciators with graphic displays and incorporate the fire safety plan.

Fire Department Lockbox and Key Access

For all buildings, a minimum of one *(1)* 3-inch lockbox shall be provided, containing access keys and fobs, and shall be recessed into a concrete location approved by the fire department in accordance with the District of North Vancouver Fire & Rescue Services Bylaw.

Low-Rise Buildings *(Up to 6 Stories)* must provide two complete sets of firefighter access keys in the FD approved *3*-inch lockbox. The keys must be configured so they can be separated into two individual sets by a detachable key ring.

High-rise buildings, the primary fire department lockbox shall contain one *(1)* complete set of firefighter access keys for all common areas of the building. In addition, seven *(7)* complete sets of firefighter access keys shall be provided and maintained within the Central Alarm and Control Facility *(CACF)* room, secured in an approved lockbox accessible to the fire department. *See* DNVFRS - Fire Department Lockbox and Key Access Requirements.docx

Fire Access and Building Identification

The fire department access plan shall identify the location of all proposed fire hydrant(s), designated fire department emergency response points for each building, the location of fire alarm annunciators, travel distances to building entrances *(3–15 m)*, the location of fire department Siamese connections, and designated fire department access stairs. The access plan shall also include auto-turn analysis drawings for the tower aerial apparatus, which may be submitted as part of the plan or as a separate submittal.

Traffic signal pre-emption shall be provided where required as part of this project. The developer shall coordinate with the Authority Having Jurisdiction *(AHJ)*, including the Engineering Department and Fire Department, to determine specific requirements. Based on the identified needs, the developer shall submit a letter of intent to the District of North Vancouver *(DNV)* Engineering Department and Fire Department, as applicable.

Addressing designations shall be reviewed and approved by DNVFRS staff to ensure that emergency response agencies can efficiently identify and access the correct building or unit.

The proposed building name(s) should be reviewed for acceptance by DNVFRS staff to assist emergency response agencies locating the appropriate building and unit in the most efficient manner possible.

A stair numbering proposal shall be submitted to DNVFRS staff for review and approval. In high-rise buildings, the main stairs serving from the lobby to the floor above shall be designated as **Stair #1**, and the secondary exit stairs shall be designated as **Stair #2**. Stair numbers shall be posted both inside the stairwell and on the corridor side of the stairwell doors. Any crossover floors shall be clearly identified with signage inside the stairwell.

In-Building Radio Amplification System

Radio Communication within the building is required for emergency response agencies (*i.e. police, fire ambulance, etc*.). Please plan for a building design that provides the capability to install building radio communications cabling and equipment within the building for emergency responders if an amplification system is required. A building radio amplification system may be required to enhance emergency radio communication inside the building and below grade. A design professional shall determine if a radio amplification system or other equipment will be required to provide emergency responder radio communication inside the building and below grade. A report of the findings shall be provided to DNVFRS along with an outline of the design of the proposed system (*if applicable*).
See DNVFRS - In-Building Radio Amplification Guideline Summary.docx

Important Note: ***All requirements in this guideline must be met in full and must also comply with the District of North Vancouver Fire Bylaw No. 8514.***

Fire & Life Safety Systems

A Code Compliance Report shall be provided to support the fire department pre-incident planning and plan review. The report shall include a sequence of operations for all fire and life safety systems, an analysis of anticipated alternative solutions, and a fire department access plan. The report should also identify any restrictions imposed by the design of the life safety systems on occupancy use.

Sprinkler & Standpipe Systems

A design professional shall confirm that the design of the water supply, volume and pressure, can be provided and maintained for both sprinkler and standpipe systems. Design professionals shall confirm that the North Shore Fire Department's apparatus pumping capabilities can meet the requirements of the design specifications. Include the hydraulic calculations, supply and demand, and hydraulic graphs of the sprinkler design areas.
The design professional shall provide detailed information on the sprinkler system design for all light industrial occupancies. The sprinkler system design shall establish the allowable types of business occupancies and activities within the spaces. Where the system is not designed to the criteria of Extra Hazard Group II, the design professional shall identify the classifications of occupancies and activities that are restricted. All proposed restrictions shall be submitted to DNVFRS for review, and a mitigation plan shall be developed to address such restrictions.

In accordance with *NFPA 14, Chapter 11 – System Acceptance (Sections 11.1 and 11.5),* standpipe systems shall be acceptance tested prior to occupancy to verify the required flow and pressure. Acceptance testing and all associated documentation shall be submitted to the Authority Having Jurisdiction (AHJ). Flow testing shall be conducted using an AHJ-approved method, and results shall be reflected on required standpipe signage where applicable. *All test records shall be completed, retained, and made available to the AHJ upon request.*
See DNVFRS - Development Site Water Supply Requirements.docx

Fire Alarm System

All fire alarm annunciator panels installed outdoors shall be listed, marked, and certified for the intended installation environment (indoor or outdoor) and location classification (dry, damp, or wet) in accordance with *ULC S52711*. Compliance shall also be demonstrated with the District of North Vancouver Information Bulletin dated April 23, 2018, titled *"Exterior Fire Alarm Annunciator Panels."* Fire alarm annunciator panels not certified for outdoor use shall be installed in an indoor environment in accordance with *ULC S52406* or *S527-11*. Compliance shall also be demonstrated with the Exterior Fire Alarm Annunciator Panels Guideline.
See DNVFRS - Exterior Fire Alarm Annunciator Panels Guideline.docx

Water Supply, Hydrant Locations, & FDC's

A permanent water supply shall be installed and made available prior to the commencement of construction to support the fire protection measures outlined in the Construction Fire Safety Plan. Coordination of the water supply installation shall occur early in the process with the Engineering Department. No construction above grade shall commence until the required water supply has been provided.
DNVFRS staff require a design professional to confirm that the available water volume and pressure meet the needed fire flow requirements for both protection systems and firefighting during the construction process.

The Fire Dept connection for a standpipe system or an automatic sprinkler system shall be located so that the distance from the Fire Dept connection to the fire hydrant does not exceed *45 m* and is unobstructed.

Fire Department Connections *(FDCs)* shall be interconnected to the building's water-based fire protection systems, including sprinklers and standpipes, and shall be located at primary response points as approved by DNVFRS staff. FDCs shall be installed at a height of *24–36* inches above grade in accordance with the District of North Vancouver Fire & Rescue Services Bylaw.

Sprinkler and standpipe zoning site/information graphics must be provided at every Fire Department Connection *(FDC)*. These graphics are to be submitted to DNVFRS staff for review and approval to ensure emergency responders can quickly and accurately identify the correct building, zone, and unit.

Where applicable, fire department connections shall clearly indicate whether they serve low-pressure or high-pressure systems. Signage must include both graphics and text identifying the required design operating pressures for the hydraulically most remote points of the low-pressure or high-pressure systems.
See DNVFRS - Fire Department Connection Signage Requirements.docx

Fire Safety Planning

Site addressing, floor numbering system, elevator numbering system, sprinkler zoning, fire alarm zoning and site graphics are to match and should be reviewed for acceptance by DNVFRS staff to assist emergency response agencies locating the appropriate building and unit in the most efficient manner possible. Sequential floor numbering is required "*skipping*" of floors such as number 13 will not be permitted.

A ***Construction Fire Safety Plan*** *(CFSP),* for the building is required by the BCBC and BCFC and is to be submitted to the Fire Department for review and approval *(fees are applicable)* prior to commencing construction, including 5.6 "Construction and Demolition Sites" of the BCFC and Part 8 "Safety Measures at Construction and Demolition Sites" of the BCBC. It is recommended that the plan is prepared and reviewed by a professional prior to submission. A copy of the Plan must be submitted to firesafetyplans@dnv.org.
See https://www.dnv.org/sites/default/files/edocs/fire-saftey-plan-guidelines.pdf

A report from a registered professional to address BCFC 5.6.1.2. Protection of Adjacent Buildings is required to be submitted with the Construction Fire Safety Plan. Ensure that it addresses any plans for phased occupancy.

All cranes on site must be registered through the *THARRP* program and clearly identified in your CFSP.

A ***Fire Safety Plan*** *(FSP)* for the occupancy of the building is required by the BCFC and is to be submitted to the Fire Department for review and approval *(fees are applicable)* prior to commencing occupancy. A copy of the Plan must be submitted to firesafetyplans@dnv.org.
See https://www.dnv.org/sites/default/files/edocs/Fire-safety-plan.pdf

Commercial Retail Unit (CRU's)

Where a CRU is equipped with commercial cooking equipment, ventilation and fire suppression systems shall be provided in accordance with the BC Building Code and NFPA 96. The design of CRUs shall accommodate exhaust fan location, discharge, and makeup air provisions, including the use of a rated shaft to the roof where required.
Horizontal ventilation and the use of nonrated silencers connected to Ecologizer units shall be prohibited in combustible construction. -rated silencers connected to
See DNVFRS - Classes of Cooking Operations Guidelines.docx

Commercial Kitchen Systems

- Fully comply with NFPA 96
- DNVFRS in conjunction with the DNV Building Inspector must witness a high-pressure ***water leak test*** on the *entire* exhaust duct system prior to any wrapping.

- DNVFRS, in conjunction with the DNV Building Inspector, must witness a ***full trip test*** on the wet chem suppression system, once all appliances are in their designed and dedicated positions.

Staff Training

The District of North Vancouver Fire and Rescue Services *(DNVFRS)* Training Division shall be provided with comprehensive instruction on all unique and site-specific features of the building. This training shall include, but is not limited to, smoke control systems, the Central Alarm and Control Facility *(CACF)*, fire and life safety systems, elevator recall operations and building communication systems.

Storage, Garbage and Enclosed Parking

Personal Storage Lockers - Personal storage locker design shall conform to NFPA 13 to prevent obstructions that could impair sprinkler system performance. Lockers shall be constructed of materials *(e.g., open mesh)* that provide full visual access to the contents.

Bike Storage Rooms - The DNV does *not* support or accept individual lockers within bike storage rooms. Bike racks shall be provided exclusively, consistent with the intended use of the space.

Enclosed parking – The DNV does *not* support or accept the use of enclosed private parking stalls in any underground parking facility.

Garbage Rooms - Garbage rooms shall be designed with sufficient capacity to accommodate garbage, recycling, and green waste facilities. Rooms undersized for intended use have resulted in ongoing BCFC violations and shall *not* be accepted.

Important Note: ***All requirements in this guideline must be met in full and must also comply with the District of North Vancouver Fire Bylaw.***

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District of North Vancouver Fire & Rescue Services