

4. BUILDING SYSTEMS AND EMERGENCY EQUIPMENT

The following systems are installed at 2601 East Mall and play a key role in fire safety and emergency response. Occupants with assigned emergency roles should be familiar with their general purpose and locations, while operation of these systems is primarily intended for trained personnel only.

Fire Alarm Panel



Description

The fire alarm panel is the central control unit of the building's fire alarm system. It receives signals from fire detection devices and manual pull stations and activates audible and visual alarms to alert occupants of a potential fire.

The fire alarm system is monitored by an external monitoring service, which may notify the fire department when an alarm condition is detected. The panel may also interface with other building systems, such as ventilation controls, to help limit the spread of smoke within the building.

Technical Information

The fire alarm panel includes the following indicators and controls:

- Alarm (ALM) – Indicates an active alarm condition
- Supervisory (SUP) – Indicates a supervisory condition (e.g., valve tamper)

- Trouble (TBL) – Indicates a system fault or malfunction
- Signal Silence – Silences the panel's internal buzzer
- Acknowledge – Used by responding firefighters or authorized personnel
- General Alarm – Initiates building-wide evacuation
- System Reset – Resets alarm system components after an event
- Detection Zones – 14

Location

The fire alarm panel is located in Room MAPLE, the first room on the left after entering through the main entrance.

Refer to Section 7 – Floor Plans for the exact location of the fire alarm panel.

Smoke Detector



Description

A smoke detector is a fire protection device designed to activate when smoke or combustion products in the air reach a preset level, indicating a potential fire condition.

Technical Information

Smoke detectors are connected to the building's fire alarm system. When a detector activates, a signal is sent to the fire alarm panel, which then initiates the appropriate alarm response in accordance with the building's fire alarm configuration.

Location

Smoke detectors are installed at the top of the wing staircases on each side of the building, as well as in the mechanical room on the third floor.

Manual Pull Station



Description

Manual pull stations are devices used to manually activate the fire alarm system when a fire or smoke is observed.

Technical Information

When the pull station is activated, a signal is sent to the fire alarm panel, initiating the building alarm and evacuation sequence. Resetting pull stations and the fire alarm system is performed only by authorized personnel or responding fire services after the situation has been assessed.

Location

Manual pull stations are primarily located near emergency exits and in corridors leading to exits. Refer to Section 7 – Floor Plans for the exact location of the pull stations.

Fire Bell



Description

The fire bell is an audible warning device that alerts occupants when the fire alarm system has been activated and evacuation may be required.

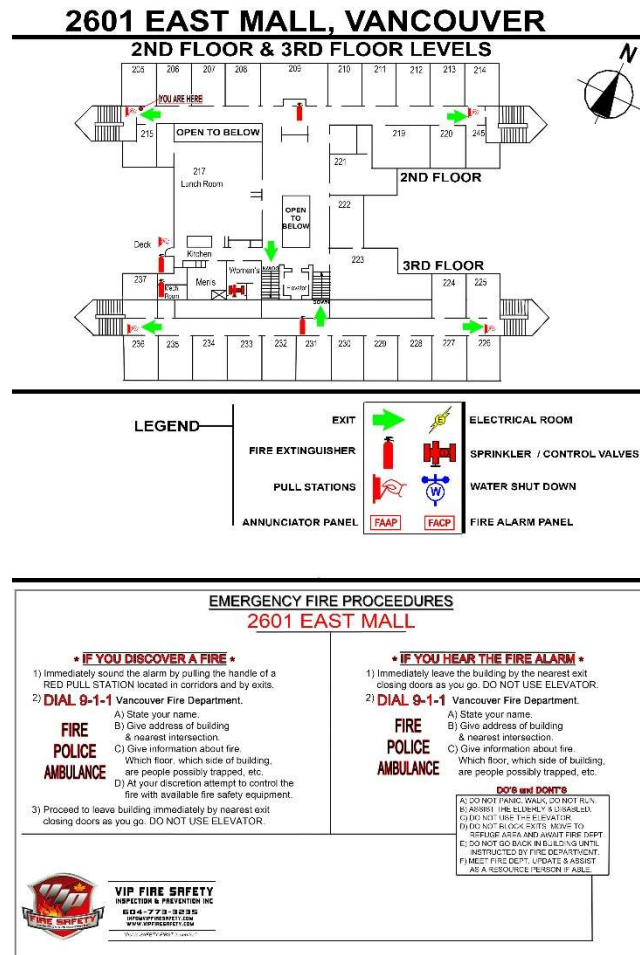
Technical Information

The fire bell activates automatically when the fire alarm system is triggered by detectors, sprinkler flow, or a manual pull station. It remains active until the fire alarm system is silenced and reset by authorized personnel.

Location

Fire bells are installed throughout the building in common areas and near exits to ensure they are clearly audible in all occupied spaces.

Evacuation Plan



Description

Evacuation plans are posted on each floor to guide occupants during emergencies. These plans illustrate evacuation routes, exits, assembly areas, and other key information needed for safe evacuation and initial response.

Technical Information

Each evacuation plan includes:

- A floor layout of the building
- A “you are here” indicator
- Nearest emergency exits
- Designated muster point
- Basic evacuation procedures
- Emergency contact numbers
- A legend explaining symbols and pictograms

Evacuation plans are oriented to match the viewer's physical location, allowing occupants to easily identify their routes of evacuation.

Location

Evacuation plans are posted throughout the building, typically in common corridors, near stairwells, and in high-traffic areas on each floor.

Emergency Lighting



Description

Emergency lighting is a backup electrical system designed to provide illumination during a power outage, assisting occupants in leaving the building safely.

Technical Information

Emergency lighting activates automatically when normal building power is lost. Power is supplied to designated lighting fixtures through battery packs or emergency power sources along evacuation routes and exits. The required operating duration of the emergency lighting system is a minimum of 30 minutes.

Location

Emergency lighting fixtures are installed along exit routes, in common corridors, and at stairwells and fire exits throughout the building.

Exit Sign



Description

An exit sign is an illuminated safety sign that indicates the direction of the nearest emergency exit.

Technical Information

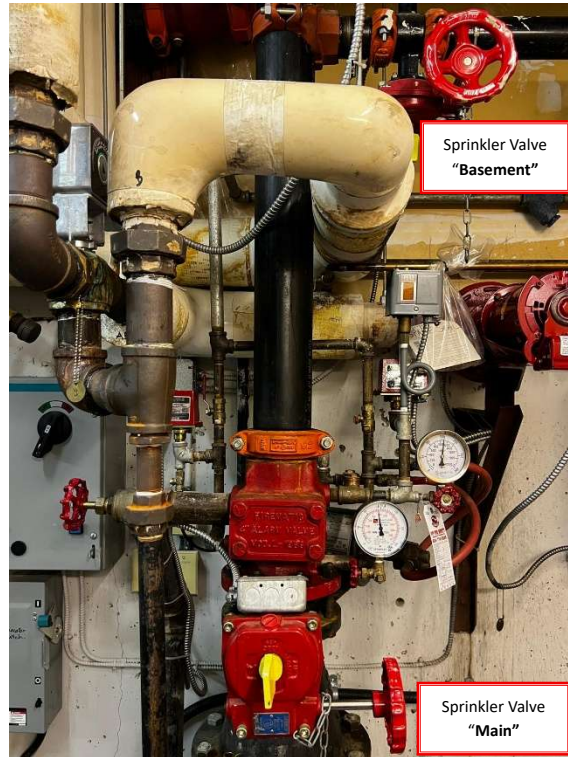
Exit signs are connected to the building's electrical system and are equipped with battery backup power. In the event of a power failure, the sign remains illuminated to guide occupants safely to exits.

Exit signs must remain visible and unobstructed at all times.

Location

Exit signs are installed above exit doors and along designated exit routes throughout the building.

Sprinkler System



Sprinkler Valve in the **ground floor women's washroom**, over the suspended ceiling.



Description

Automatic sprinkler systems consist of a fixed network of pipes connected to a water supply, with sprinkler heads installed throughout the building. Each sprinkler head is designed to activate when exposed to heat, discharging water directly over the affected area.

Technical Information

The sprinkler system operates automatically. When a sprinkler head reaches its preset temperature, it activates and releases water to suppress the fire. Activation also sends a signal to the fire alarm panel.

The building is protected by a wet pipe sprinkler system which contains water in the piping at all times.

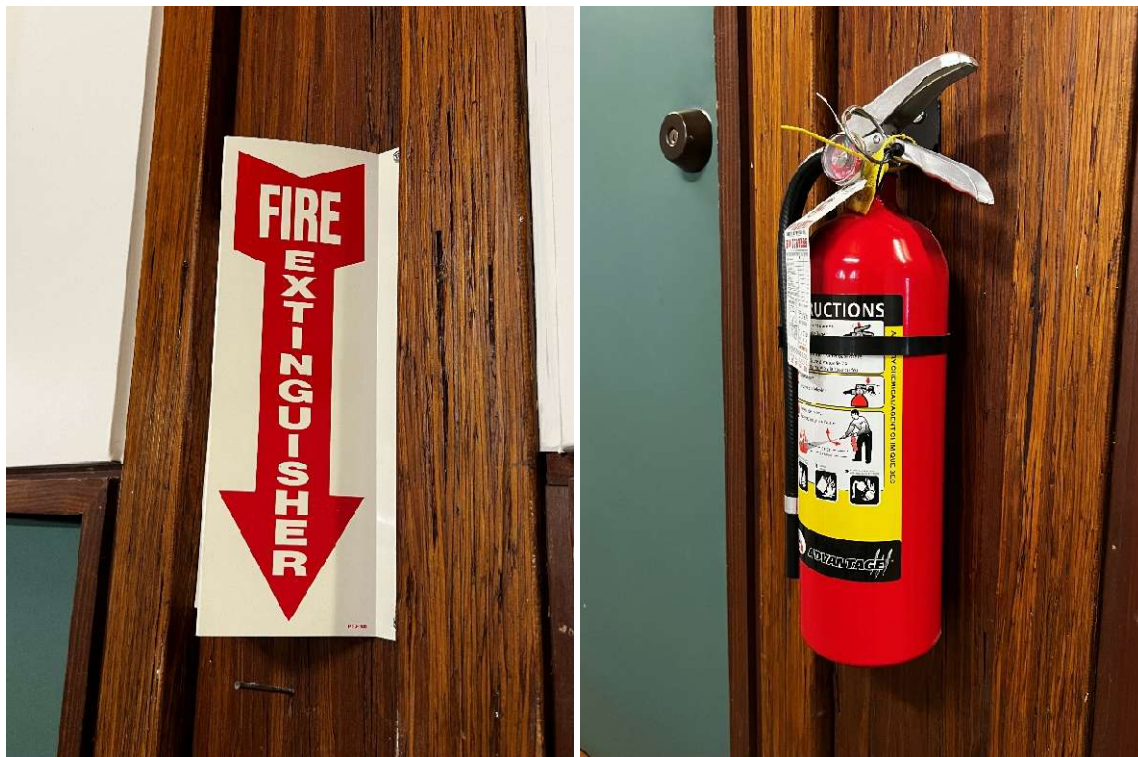
Sprinkler valves, piping, and equipment must always remain clear and accessible.

Location

The sprinkler control valves (“Main” and “Basement”) are located in the basement mechanical room.

The Main valve shuts off the water supply to all sprinklers in the building, whereas the Basement valve isolates the sprinkler system serving the basement area. The Main valve is connected to the sprinkler riser supplying sprinklers on all floors of the building. An additional control valve controlling the ground and second floor sprinkler zones is located in the ground floor women’s washroom. Refer to Section 7 – Floor Plans for system locations.

Portable Fire Extinguisher



Description

Portable fire extinguishers are handheld devices designed to control or extinguish small fires in their early stages by discharging a pressurized extinguishing agent.

Technical Information

Portable fire extinguishers should only be used by persons who have received training and only when it is safe to do so.

Before attempting to use an extinguisher:

- Alert nearby occupants.
- Activate the nearest manual pull station to initiate the fire alarm.
- Ensure you have a clear exit route behind you.

Use the PASS method:

- Pull the safety pin.
- Aim the nozzle at the base of the fire.
- Squeeze the handle.
- Sweep side to side.

Only attempt to extinguish small, contained fires. Do not fight large or spreading fires. If the fire cannot be controlled immediately, evacuate the area.

After using an extinguisher:

- Leave the building using the nearest safe exit.
- Proceed to the muster point.
- Remain there until further instructions are given.

Location

Portable fire extinguishers are located throughout common corridors and workshop areas. Refer to Section 7 – Floor Plans for exact locations.

Siamese Connection



Description

The Siamese Connection is located on the exterior of the building and allow firefighters to supply water directly to the sprinkler system and standpipes using fire department apparatus.

Technical Information

During a fire, firefighters connect hoses from their vehicles to the Siamese Connection to boost water pressure and support the building's fire protection systems. The connection must always remain clearly visible and accessible.

Signage is installed above the connection to identify the system it supports and, where applicable, the areas of the building it serves.

Location

The Siamese Connection is installed on the exterior wall to the left of the main building entrance.

Fire Department Lock Box



Description

A Fire Department Lock Box (FD Box) is a secure exterior key box installed at the building entrance to provide emergency responders with access to the building during an emergency.

Technical Information

The FD box contains building access keys and other critical keys required for emergency response (e.g., fire alarm panel key).

The FD box can only be opened by the fire department using a proprietary key. This allows emergency responders to enter the building quickly without forcing doors, reducing delays and property damage.

Location

The FD Box is installed at the main entrance of the building.

Fire Pump



Description

The fire pump supplies additional water pressure to support the building's fire sprinkler system during a fire.

Technical Information

The fire pump starts automatically when water flow is detected in the sprinkler system. Its purpose is to ensure adequate water pressure for fire suppression throughout the building. The pump operates independently of normal building power and is driven by a diesel engine.

Location

The fire pump is located outdoors at the northwest side of the yard at 2665 East Mall, housed within a dedicated enclosure known as the "Fire Pump House".

Public Announcement (PA) System



Description

The PA system allows authorized personnel to broadcast voice messages throughout the building during emergencies.

Technical Information

Messages spoken into the PA system microphone are broadcast through speakers across the facility, allowing instructions to be heard by occupants in multiple areas at the same time. The PA system is connected to an Uninterrupted Power Supply (UPS), enabling it to continue operating for an extended period during a power outage.

Location

The PA system control point is located inside the side service door just next to the electrical room in the basement.

Water Supply System



Description

The building's water supply system provides potable (drinking) water for normal building operations and supports the automatic sprinkler system.

Technical Information

The main water inlet supplies water to both domestic fixtures (e.g. washrooms and cafeteria taps) and the building's fire protection systems. Shutting off this inlet will stop water service to the entire building.

Location

The main water inlet is located inside the mechanical room in the basement. Refer to Section 7 – Floor Plans for the exact location of the mechanical room.

Electrical Power System



Description

Electrical power is delivered from BC Hydro through UBC's network and distributed throughout the building via the main electrical system. It supports both daily building operations and life safety systems, such as the fire alarm and emergency lighting.

Technical Information

The electrical room contains the main switch and distribution panels. Access to this room, as well as operation or isolation of electrical systems, is restricted to qualified electricians only.

In the event of a power outage, the building is supported by multiple backup systems:

- Emergency Lighting: Battery-backed emergency lighting provides illumination along exit routes and corridors for evacuation.
- Fire Alarm System: The fire alarm panel and its components have dedicated batteries, providing approximately 48 hours of backup power.
- IT Generator: A backup generator supplies power to the computer server room to maintain critical IT services.
- Pilot Plant Generator: A separate generator supplies power to pilot plant equipment during outages.

These backup systems help maintain life safety functions and critical operations during power failures.

Location

The electrical room is located in the basement. There is a switch over to backup generators located in the basement mechanical room. Refer to Section 7 – Floor Plans for the exact location of the electrical room.

Ventilation System

Description

The ventilation system supplies fresh air and provides heating and cooling throughout the building to maintain indoor comfort and air quality. During a confinement, the system can be adjusted or shut down to help limit the movement of contaminated air into occupied areas.

Technical Information

Under normal operation, the ventilation system draws in outdoor air through rooftop units, conditions it through the air handling units (AHUs), and distributes it throughout the building via ductwork. Heating and cooling are provided as required to maintain indoor conditions.

During a confinement or air-quality emergency, ventilation may be reduced or stopped by the Building Supervisor, under the direction of the Emergency Measures Coordinator, to help prevent outside contaminants (e.g., smoke or chemical vapours) from entering the building.

Location

Air conditioning units are located on the roof of the building. The main AHU is located in the mechanical room on the third floor. Unit heaters are installed throughout work areas. Refer to Section 7 – Floor Plans for the exact location of the mechanical room.

Elevator



Description

The elevator is used to transport occupants between floors during normal building operations.

Technical Information

The elevator is equipped with:

- An emergency alarm button, which alerts building personnel when activated.
- An emergency phone, allowing trapped occupants to communicate with designated personnel responsible for coordinating emergency response and assistance.

In the event of a fire alarm, power failure, or other emergency, elevators must not be used because they may stop operating or become unsafe.

Location

The building has one elevator located to the left upon entering through the main entrance. Refer to Section 7 – Floor Plans for the exact location.