



**City of Seattle  
Department of Construction and  
Inspections**

**HIGH-RISE PREDESIGN CONFERENCE  
Date: [ October 09, 2019 ]**

PROJECT INFORMATION		APPLICANT INFORMATION		
Project Name: 800 Alaskan		Contact Person: Tom Bartholomew		
Project Address: 800 Alaskan Way Seattle WA 98104		Contact Address: 1000 SECOND AVE #1800 SEATTLE, WA 98104		
Construction Application/Permit: 6742763-PH 815 Western Ave		Contact Email: tom.bartholomew@mac.com		
MUP Project: # 3033083-LU		Contact Phone & Fax: 206-409-4232		
<b>Conference Attendees</b>				
<b>Name</b>		<b>Company</b>	<b>Phone</b>	<b>Email</b>
Tom Bartholomew		Martin Selig Real Estate	206-409-4232	tom.bartholomew@mac.com
Rollie Dawson		Martin Selig Real Estate		msre.dawson@gmail.com
Andrew Nguyen		Perkins & Will	206-489-5986	Andrew.nguyen@perkinswill.com
Sarah Eddy		Perkins & Will	206-381-6064	Sarah.eddy@perkinswill.com
Jora Lehrman		KPFF	206-622-5822	Jora.lehrman@kpff.com
Peter Maniccia		PSF	206-602-1486	pmaniccia@psfmech.com
Kevin Marr		Patriot Fire Protection	253-926-2290	Kevinm@patriotfire.com
Rob Slabaugh		Slabaugh Consulting	425-286-9646	slabaughconsulting@gmail.com
Brian Jones		Sequoyah	425-814-5806	Brian.jones@sequoyah.com
Randy Stabnow		Auburn Mechanical	206-775-5844	randystabnow@auburnmechanical.com
		Seattle Fire Department		@seattle.gov
Ardel Jala		City of Seattle DCI	206-684-0573	Ardel.jala@seattle.gov

**PROVIDE BRIEF DESCRIPTION OF PROJECT SIZE AND OCCUPANCY:**

This Proposal is to build a new 15 story, 175' tall, 520,000 SF mixed use structure with 100 units and 238,000 SF of office, 20,051 SF of retail and three and a half below grade parking levels containing

approximately 275 vehicle stalls. Type IA construction.

The following section requires the applicant to demonstrate to the City that this project is in compliance with the high-rise building section, 403, of the Seattle Building Code. Be aware that Seattle has a significant number of amendments to the International Building Code – full text of each section is NOT reprinted here. You will be required to comply with all of the Seattle amendments\*.

\*Seattle amendments online:

[http://www.seattle.gov/dpd/codes/technical\\_codes/overview/](http://www.seattle.gov/dpd/codes/technical_codes/overview/)

Note: The use of a code alternate or interpretation requires an additional form unless the desired Code Alternate is published in the Seattle Building or Fire Code. For more information and the necessary form see TIP 318, Building Code Pre-submittal/Code Interpretation Conferences.” The Code alternate form is part of TIP 318. It can be found at:

<http://www.seattle.gov/dpd/publications>.

HIGH-RISE BUILDING CODE REQUIREMENTS – \* DENOTES SEATTLE AMENDMENT IN SECTION

Section 403 Highrise Buildings	
403.1.1* Predesign Conference	<i>Note: At least 60 days prior to application-arrange a predesign conference; provide documentation /appropriate analyses and schematic drawings two weeks prior to conference; approved predesign meeting minutes are required prior to permit application and shall be inserted into plans as part of the permanent permit record</i>
403.2.3* Structural Integrity of enclosures.	<i>Key Items: Exit enclosures and elevator hoistway enclosures in occupancy category III or IV buildings, all fire service access elevators, or all exit enclosures and elevator hoistways in buildings more than 420 feet in height shall comply with Sections 403.2.3.1 through 403.2.3.4.</i>
	<b>Proposal:</b> The proposed building is less than 420 feet in height and is in Risk Category II.
Conference discussion & decisions:	
403.3* Automatic	<i>Key Items: Provide a sprinkler system in accordance with Section 903.3.1.1 and Seattle Fire Code (SFC) Section</i>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

sprinkler system	<p><i>914.3.1. Provide a secondary water supply where required by Section 903.3.5.2. Describe proposed sprinkler system and secondary water supply. High-rise building sprinkler systems shall be combination standpipe/sprinkler systems incorporating the following features:</i></p> <ol style="list-style-type: none"> <li><i>1. Each floor sprinkler system shall be connected between standpipe risers.</i></li> <li><i>2. Shut-off valves, water-flow devices and check valves (or pressure reducing valves) shall be provided on each floor at the sprinkler system connection to each standpipe.</i></li> <li><i>3. Two four-way fire department connections serving the combination system shall be provided on separate streets well separated from each other.</i></li> <li><i>4. At least one of the fire department connections shall be connected to the riser above a riser isolation valve.</i></li> <li><i>5. When a mid-level fire pump is required to meet pressure requirements, two pumps with the same rating shall be installed.</i></li> <li><i>6. Dry-pipe sprinkler systems serving parking garages may use a separate two-way fire department connection. The dry-pipe sprinkler system shall be supplied by the on-site water tank.</i></li> <li><i>7. The standpipe risers in each required stair shall be a minimum pipe size of 6 inches.</i></li> <li><i>8. Two 2½-inch hose connections shall be provided on every floor level landing in every required stairway. If pressure reducing valves (PRV) are required, each hose connection shall be provided with its own PRV.</i></li> <li><i>9. The system shall be designed to provide a minimum flow of 300 gpm at a minimum pressure of 150 psi [maximum 205 psi at each standpipe connection] in addition to the flow and pressure requirements contained in NFPA 14.</i></li> </ol> <p><i>See attached "Seattle Requirements for High-Rise Secondary Water Supply"</i></p> <p><i>Note: If schematic plans are available, please bring them to the conference.</i></p>
	<p><b>Proposal:</b></p> <p>The project will comply with the <i>Key Items</i> as noted above.</p> <ol style="list-style-type: none"> <li>1. Water Supply: <ol style="list-style-type: none"> <li>A. There will be one new 6-inch fire service connected to the city water main in Western Avenue.</li> <li>B. The primary water supply is an indirect connection from the fire service line to the fire pump utilizing the water storage tank.</li> </ol> </li> </ol>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>The water storage tank will be refilled as allowed by <i>"Option 1 Single Fire Pump with Storage Tank Having Automatic Refill Features"</i> under the Seattle Requirements for High-Rise Secondary Water Supply near the end of this document.</p> <p>D. A secondary on-site water supply with a net usable volume of at least 33,000 gallons will be provided in accordance with SFC Section 914.3.2.</p> <p>E. The secondary water supply will be located on Parking Level P4.</p> <p>2. Fire Pump</p> <p>A. There will be one 750 GPM electric motor driven vertical turbine fire pump supplied from the city supply through the water storage tank.</p> <p>B. The fire pump will have a soft start controller with transfer switch that will be connected to the backup emergency power by the electrical contractor.</p> <p>C. The fire pump room will be located on Parking Level P3 and be constructed with 2-hour fire barriers in accordance with SBC Section 913.2.1.</p> <p>3. Standpipes</p> <p>A. Class 1 six-inch wet combination standpipes with two 2 ½" fire hose connections will be provided on each main floor level landing in every required stairway in accordance with SFC Section 914.3.1.1.</p> <p>B. The standpipes will be designed and sized to provide a minimum flow of 300 GPM at minimum 150 PSI at each standpipe connection in addition to the flow and pressure requirements contained in NFPA 14.</p> <p>C. The standpipes will be interconnected and an isolation valve for each standpipe will be provided.</p> <p>4. Fire Department Connections</p> <p>A. Two 4-way fire department connections serving the standpipe and sprinkler systems will be provided on separate streets well separated from each other.</p> <p>B. One FDC will be located on the north side of the building facing Marion Street; the other FDC will be located on the east side of the building facing Western Avenue.</p> <p>5. Parking Garage</p> <p>A. The parking garage levels will be protected with dry pipe sprinkler systems with standard response sprinklers. The dry pipe valves will be in the</p>
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\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>fire pump room on Level P3.</p> <p>B. The parking garage systems will be supplied from the fire pump system and will be supplemented from the two fire department connections.</p> <p>6. Office Levels</p> <p>A. Each office level of the building will have one wet pipe sprinkler zone with quick response sprinklers. Each floor zone will be connected between the two standpipe risers and be provided with shut off valves and water flow devices in accordance with SFC Section 914.3.1.1.</p> <p>B. Sprinkler protection will be provided or omitted under exterior projections in accordance with SFD Admin Rule 9.03.17, Sections 2.3, 2.4, and 2.5.</p> <p>7. Residential Levels</p> <p>A. Each residential level of the building will have one wet pipe sprinkler zone with residential type sprinklers. Each floor zone will be connected between the two standpipe risers and be provided with shut off valves and water flow devices in accordance with SFC Section 914.3.1.1.</p> <p>B. Sprinkler protection will be provided or omitted under exterior projections in accordance with SFD Admin Rule 9.03.17, Sections 2.3, 2.4, and 2.5.</p> <p>8. Individual Storage Units</p> <p>A. Protection of individual storage units in common use areas of the building will be provided in accordance with SFD Admin Rule 9.03.17, Section 2.9.</p> <p>9. Elevator Machine/Control Rooms</p> <p>A. Sprinklers, or omission of sprinklers in elevator machine rooms, control rooms, hoist ways and pits, will be in accordance with Joint Ruling DPD Director's Rule 7-2014, DPD Amendment 9/24/2015, and SFC Administrative Rule 9.06.14.</p> <p>10. Marion Street Bridge Connector</p> <p>A. Sprinkler protection will be omitted at the Bridge Connector as allowed by SFD Admin Rule 9.03.17, Section 2.3 Exception 1 and Section 2.4 Exception 1.</p> <p>11. Solar Photovoltaic Arrays</p> <p>A. Sprinkler protection will be omitted under the solar photovoltaic arrays on the roof as allowed by SFD Admin Rule 9.03.17, Section 2.7 Exceptions 1 &amp; 2.</p>
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\* Seattle amendment to IBC

**Project Name: 800 Alaskan  
Permit  
number: 6742763-PH**

Conference discussion & decisions:	
403.4.2 Fire alarm systems	<i>Key Items: Fire alarm systems shall comply with Section 907.2.13. Describe proposed fire alarm system.</i>
	<p><b>Proposal:</b></p> <p>An automatic fire alarm system and smoke control system, an emergency voice/alarm communication system, and a fire department communication system will be provided. The fire alarm and control panel (FACP) will be the addressable type with each initiating device annunciated as an individual zone. The FACP shall provide centralized control and annunciation of fire alarm zones, and associated annunciation with interface to fire-fighter's smoke control panel for stairwell and hoistway smoke control. Area smoke detectors will be intelligent analog type to permit monitoring and calibration of smoke detector sensitivity from the FACP.</p> <p>Fire alarm system will be provided in accordance with Section 907.2.13. The system will be:</p> <p>An addressable Life Safety System will be provided which will include:</p> <ol style="list-style-type: none"> <li>1. Automatic smoke detection system in accordance with 907.2.13.1 and connected to an automatic fire alarm system.</li> <li>2. Area smoke detectors shall be located in each elevator machine / control room, in elevator lobbies, as required for in-wall fire/smoke dampers, and above fire alarm control panels and power supplies. Smoke control fans will be present for stairs and elevator pressurization. Activation of smoke detectors shall activate emergency voice/alarm communications systems. Duct smoke detection shall be installed in strict compliance with Section 907.3.1.</li> <li>3. Duct type smoke detectors at the inlet of all return air duct stub outs, at main return air plenums, and where required to operate a fire/smoke damper. Duct detectors to be supervisory signals.</li> <li>4. Speaker and strobes per the SFC and ADA. Sleeping areas to meet 520Hz requirements. Each tenant unit to be prewired for ADA strobes.</li> <li>5. Manual fire alarm box at fire command center.</li> <li>6. Automatic Sprinkler system in accordance with Section</li> </ol>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>903.3.1 shall be connected to the Life Safety System including connections to fire sprinkler system water flow and tamper switches, dry pipe system, pre-action system, smoke control fan status and kitchen hood fire suppression system.</p> <p>7. Fire department communication radio boost system (ERCCs) will be provided. Fire department communication system shall be in accordance with Section 907.2.13.2. SFD requires BDA/DAS in high-rise buildings and be connected to the emergency power system per CAM 5123.</p> <p>8. Emergency voice/alarm communication systems shall be designed and installed in accordance to NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound and alert tone and activate visible alarms and followed by voice instructions giving directions for general evacuation. The system shall operate on a minimum of the alarming floor, the floor above and the two floors below. Speakers and devices shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided for each elevator group, exit stairway, and floor. Emergency voice/alarm communication with pre-record messages and multiple channel calls capability.</p> <p>9. Alarm notification appliances in accordance with Section 907.5.2.1 in Group R areas shall emit a distinctive sound that is not be used for any purpose other than that of a fire alarm. The minimum sounds pressure levels shall be 75 dBA in Group R, 90dBA in mechanical rooms, and 60 dBA in all other occupancies. The audible alarm notification appliances shall provide a sound pressure level of 15 dBA above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building. Sleeping areas to meet 520Hz requirements.</p> <p>10. Visible alarm notification appliances in accordance with Section 907.5.2.3. Visible alarm notification appliances shall be provided in accordance with 907.5.2.3.1 through 907.5.2.3.4, and Administrative rule 9.09.07, Visible Alarm Notification Devices, and any future revisions of this adopted rule. Each tenant unit to be prewired for ADA strobes.</p> <p>11. Monitoring in accordance with 907.6.5. The Life safety system will be monitored by an approved supervising station in accordance with NFPA 72 per section 907.6.6 for High-rise buildings. In high-rise buildings, a separate zone by floor shall be provided for the alarm-initiating devices: smoke detectors, sprinkler waterflow devices, manual fire alarm boxes, other approved types of automatic fire detection devices or suppression systems. Monitoring of power and critical</p>
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\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>functions of the DAS with five monitory points required.</p> <p>12. Data Gathering to be provided as required.</p> <p>13. Annunciator and remote annunciators will be located at Building Engineering office and at the Fire Command Center. Remote annunciator at Building Engineering office to be display only.</p> <p>14. A single heat detection at the Seattle City Light transformer vault is required by SBC 907.2.13.1.1 and SCL Construction standard 07.51.00 item 14, and will be connected to the building fire alarm system.</p> <p>15. Wiring to be 2-hour protected to fire zone.</p>
Conference discussion & decisions:	
403.4.4 Emergency voice/alarm communication systems	<p><b>Key Items:</b> <i>An emergency voice/alarm communication system shall be provided in accordance with SFC Section 907.5.2.2.</i></p>
	<p><b>Proposal:</b> Emergency voice/alarm communication system will be provided in accordance with 2015 SBC Section 907.5.2.2. The system will be initiated by signal from any fire detector, sprinkler water flow, or manual pull station - which will automatically sound an alert tone followed by approved voice instructions. Upon fire alarm initiation, the alarming floor plus the floor above and two floors below will be placed into alarm; the rest of the floors will be placed into alarm if the event is not addressed by building security within a preset time. Speakers throughout the building provide paging zones for elevator groups, interior exit stairways, and at each floor.</p>
Conference discussion & decisions:	
403.4.5 Emergency responder radio coverage	<p><b>Key Items:</b> <i>Emergency responder radio coverage shall be provided in accordance with SFC Section 510. For information on emergency responder radio coverage systems, see SFD Client Assistance Memo (CAM) 5123.</i></p>
	<p><b>Proposal:</b> Emergency responder radio communications systems (ERRCS) will be provided in accordance with SFC Section 510 and CAM 5123. ERRCS using Distributed Antenna Systems (DAS) Technology will be provided; this system will support emergency responder two-way radio communications traffic in all spaces per code and SFD requirements. The associated system shall be capable of providing the frequencies necessary to meet the standards provisioned by the SFD.</p> <p>Th project will provide 90% floor area coverage for the radio</p>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH



	<p>system. 99% floor area coverage is required for the radio system for the following critical areas per SBC Section 510.4.1.2 exception: the fire command center, security operations center, fire pump room, interior exit stairs, exit passageways, elevator lobbies, standpipe cabinets, sprinkler section valve locations, and all mechanical room and communication spaces. The general building area coverage should be within the allowable tolerance but should not fall below a minimum of 90% floor area radio coverage.</p> <p>The DAS system headend equipment, the base station, and other main components will be located within an IDF on one of the upper levels. Floor space will be dedicated within the IDF rooms for the distributed DAS equipment cabinet and associated system components. The DAS system will utilize optical fiber backbone and horizontal coaxial cable to distributed antennas located throughout each floor areas based on the heat map study to determine coverage at each floor.</p> <p>The DAS system is required to operate on secondary power per NFPA 72 24.5.2.5.5.2 for a duration of 12 hours at 100 percent system operation capacity either by a dedicated storage battery or an automatic-starting engine generator serving a dedicated branch circuit for a duration of 12 hours at 100 percent system operations and have a dedicated storage battery that will operate the system for 2 hours at 100 percent.</p> <p>Pathway survivability of the system will be protected per section 4 of CAM 5123.</p>
Conference discussion & decisions:	
403.4.6 Fire command (Center)	<p><i>Key Items: Dedicated fire command center - provide details on the plans submitted for the pre-submittal conference. Requirements include (but are not limited to) approved location nearby and accessible to the fire service access elevators and minimum room size 200 sq. ft. with least dimension of 10 ft. See SFC Section 508.</i></p>
	<p><b>Proposal:</b></p> <p>FCC in accordance with SFC 508 will be located near the main entry to the building, minimum 200 SF and with 10' minimum least dimension. It will be separated from the remainder of the building with a 2-hr fire barrier in accordance to Section 707 and horizontal assembly in accordance with Section 711, and SFC 508.1.2. FCC plan layout shall be approved by the Fire Marshall, confirm that access to the FCC can be shared between the residential and office occupancy. The FCC shall comply with NFPA 72 and contain the features listed in SFC 508.1.6/SBC 911.1.6:</p> <ol style="list-style-type: none"> <li>1. The emergency voice/alarm communication system control</li> </ol>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>unit.</p> <ol style="list-style-type: none"> <li>2. The fire department communications system.</li> <li>3. Fire detection and alarm system annunciator.</li> <li>4. Annunciator unit visually indicating the location of the elevators and whether they are operational.</li> <li>5. Status indicators and controls for air distribution systems.</li> <li>6. Firefighter's control panel required by Section 909.16 of the 2015 Seattle Fire Code for smoke control systems installed in the building will not be provided. Instead, HOA fan control switches and associated status indicators will be included on the fire alarm control panel (FACP) in conjunction with a graphical cross section depiction of the building displaying the exit enclosures and elevators per 909.16 in lieu of a graphical depiction with HOA switches integrated within the graphic. (Refer to Key Items discussion under 403.5.4).</li> <li>7. Controls for unlocking stairway doors simultaneously.</li> <li>8. Sprinkler valve and water-flow detector display panels.</li> <li>9. Emergency and legally required power status indicators.</li> <li>10. A telephone for fire department use with controlled access to the public telephone system.</li> <li>11. Fire pump status indicators.</li> <li>12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access, and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions.</li> <li>13. An approved Building Information Card that contains , but is not limited to, the following information:</li> <li>14. Work table.</li> <li>15. Generator supervision devices, manual start and stop features.</li> <li>16. Public address system, where specifically required by other sections of this code.</li> <li>17. Elevator fire recall switch in accordance with ASME A17.1.</li> <li>18. Elevator emergency or standby power selector switch(es), where emergency or legally required standby power is provided.</li> </ol> <p>On-site fire protection water tank fill valve control switch, tank level indicators, tank low level alarm and tank fill signal</p> <p>The fire access elevators will be monitored at the Fire Command Center per SBC 403.6.1.6.</p>
Conference discussion & decisions:	

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number:6742763-PH

<p>403.4.9 Emergency power systems</p>	<p><b>Key Items:</b> <i>Provide an emergency power system complying with Chapter 27 and Section 403.4.8. Include size, location and type of generator, fuel tank fill location, and vent terminations. See Director's Rule 8-2005 on protected above ground fuel tanks. System supervision with manual start and stop features shall be provided at the fire command Center. Provide a 2 hr. separation unless meeting the requirements for the exception for rooms within sprinklered parking garages per Section 909.11. Also see attached "Seattle Requirements for Generator Fuel Tanks" Provide location on the plans submitted for the pre-submittal conference.</i></p>
	<p><b>Proposal:</b> Emergency power will be provided per Section 2702 and Section 403.4.9. Emergency power for life safety/emergency loads (egress and emergency lighting, fire alarm, smoke management (fans and fire pumps) and legally required standby loads (selected elevators) will be provided by a diesel fuel generator located between P1 and P2 in the parking garage. Fuel tank fill location and vent terminations will be reviewed at pre-design conference.</p> <ol style="list-style-type: none"> <li>1. Emergency power shall be provided by a generator located on Level P1/P2 with a subbase diesel fuel tank conforming to Seattle requirements for generator fuel tanks. Per 2015 SBC 2702.1.4, Emergency and legally required standby power systems will provide power for a minimum duration of 8 hours for fire pumps and for a duration of 2 hours for all other emergency loads.</li> <li>2. The integral belly UL2085 rated tank will contain diesel fuel storage. Current fuel storage is planned for 8 hours of run time at full load. The tank will be provided in the same room as the generator.</li> <li>3. Per SBC section 403.4.9.2 exception 1-the generator will be located within the S-2 occupancy enclosed parking garage without a rating between the garage and the room for the walls adjacent to the parking garage. Exception 3 permits radiator ventilation air to be transferred to the adjacent garage.</li> <li>4. A diesel fuel fill station is located on the exterior of the building near the corner of at Western and Columbia Street, at least 5 feet from building openings and property lines in accordance with 2015 Seattle Fire Code, Section 5704.2.7.5.6. The vent pipe terminations shall be located at the exterior of the building 10 feet above the finished grade on Western Avenue and 5 feet from any opening per SFC 5704.2.7.3.3 One or more extinguishers of a rating not less than 20-B will be located within the storage area.</li> <li>5. Fuel line piping protection shall be separated from other areas of the building other than the generator room by an assembly that has a fire-resistance rating of not less</li> </ol>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number:6742763-PH

	<p>than 1-hour.</p> <p>The architectural plans submitted for permit will indicate the outlined Seattle requirements for High-rise generator fuel tanks for approval:</p> <ul style="list-style-type: none"> <li>• Location of emergency generator fuel tank</li> <li>• Location, routing and details of fuel fill station</li> <li>• Locations, routing, and details of vents including required clearances from operable openings</li> </ul>
Conference discussion & decisions:	
403.4.9.1* Emergency power loads	<p><b>Key Items:</b> <i>Provide emergency power to exit signs &amp; means of egress illumination; elevator car lighting; emergency voice/alarm communication; fire alarm and detection systems; emergency responder radio coverage system, power and lighting for mechanical equipment rooms and fire command center; fire pumps; ventilation &amp; fire detection in smokeproof enclosures; smoke control system; all fire service access elevators and one elevator per bank per Section 3016.6.</i></p>
	<p><b>Proposal:</b> Emergency power from the generator will support the loads identified in SBC Section 403.4.8.4, including:</p> <ul style="list-style-type: none"> <li>- Exit signs and means of egress illumination</li> <li>- Emergency voice/alarm communications systems</li> <li>- Automatic fire detection systems</li> <li>- Fire alarm systems</li> <li>- Electrically powered fire pumps</li> <li>- Power and lighting for mechanical equipment rooms and the Fire Command Center</li> <li>- Lighting for elevator cars, machine rooms, machine spaces and control rooms</li> <li>- Ventilation and cooling equipment for elevator machine rooms, machine spaces and control rooms</li> <li>- Smoke Control Systems</li> <li>- One elevator selected in each bank in accordance with SBC 3016.6, and all elevators will be transferable to emergency power</li> <li>- Fire service access and occupant evacuation elevators: <ul style="list-style-type: none"> <li>* operation of all fire service elevator cars</li> <li>* operation of all evacuation elevators until they are recalled</li> <li>* operation of all ambulance stretcher service elevators</li> <li>* elevator controller cooling equipment</li> <li>* elevator hoistway lighting for fire service access elevators only</li> <li>* emergency responder radio coverage</li> </ul> </li> </ul>
Conference discussion & decisions:	

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

403.5.1* Remoteness of interior exit stairways	<i>Key Item: Exit stairways shall be separated by not less than 30 feet or one-fourth the diagonal dimension whichever is less measured as straight line between nearest points of the exit enclosures. Primarily R occupancy buildings are allowed 15 feet.</i>
	<p><b>Proposal:</b> Exit stairways will be separated by the required distance. The R occupancy stairways are separated at a distance of 85'-0" which is greater than the required 15 feet (and one-fourth the diagonal dimension). The B occupancy stairways are separated at a distance of 109' which is greater than 30 feet (and one-fourth the diagonal dimension).</p> <p>In addition to the separation of exit stair requirements in Section 403.5.1, the design must comply with Mean of Egress requirements set forth in Chapter 10, Section 1007.</p>
Conference discussion & decisions:	
403.5.2 Additional exit stairway	<i>Key Items: For buildings other than Group R-2 that are more than 420 feet(128 m) in building height, one additional exit stairway meeting the requirements of Sections 1009 and 1022 shall be provided in addition to the minimum number of exits required by Section 1021.</i>
	<p><b>Proposal:</b> The proposed building is less than 420-feet in height, therefore this section does not apply.</p>
Conference discussion & decisions:	
403.5.3* Stairway door operation	<i>Key Items: Stairway doors must be capable of unlocking upon signal from fire command center and must unlock upon activation of fire alarm anywhere in building. Where stairway doors are not locked from the stairway side, wiring and/or conduit shall be installed to facilitate potential future installation of locking hardware.</i>
	<p><b>Proposal:</b> Stairways doors will be installed and shall operate and conform to SBC Section 403.5.3. Conduit rough in (no wiring) for future stairwell unlocking will be provided for doors that are currently not locked. Doors that are locked on the stairway side will simultaneously and automatically unlock without unlatching upon signal from the Fire Command Center. The stairway door unlock system will include the roof access hatches.</p>
Conference discussion & decisions:	

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number:6742763-PH

403.5.3.1* Stairway communication s system	<i>Key Items: In required stairways a telephone or other two-way communication system connected to an approved constantly attended station shall be provided at not less than every fifth floor in each exit stairway.</i>
	<p><b>Proposal:</b>  A Stair communications system will be provided in accordance with SBC Section 403.5.3.1, including telephone or other two-way communication system per SBC Section 1009.8 not less than every fifth level in each stairway, and connected to an approved and constantly monitored station.</p> <p>System will be connected to building 2-way communication system as required by SBC 1009.8 (not fire alarm communication)</p>
Conference discussion & decisions:	
403.5.3.2* Stairway penthouses	<p><i>Key Items: All required interior exit stairways shall terminate at a roof in a penthouse with a door complying with Sections 1008.1.1 and 1008.1.2. The building official is permitted to approve an alternate design at the pre-design conference. The intent is for all required stairways to have at least one door or approved penthouse alternate roof hatch that opens directly to the exterior on a roof level, and that all other roof levels may be accessed via stairs, ships ladders or alternating tread devices.</i></p> <p><i>See attached "Seattle High-rise Requirements for a Roof Hatch When Approved as a Penthouse Alternate"</i></p>
	<p><b>Proposal:</b> Exit Stair 1 and 2 extend to the roof through a hatch complying with "Seattle High-Rise Requirements for a Roof Hatch when approved as a Penthouse Alternate." The requested alternate is due to the proposal of a rooftop amenity level as allowed by the Zoning Code up to 15 ft above the maximum building height, but the Zoning Code does not allow stair penthouses (only elevator penthouses) above the roof of this rooftop features level. A stair penthouse would make impossible a rooftop amenity level as allowed by the Zoning Code. An oversized roof hatch with code compliant stairs with stairs continuing to the top of the hatch curb and required stair height clearances will be provided at each exit stairway as a proposed alternate access configuration. The roof hatch controls, with manual or electrified operation, shall be on the emergency power system.</p>
Conference discussion & decisions:	

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

<p>403.5.4* Smoke control in stair enclosures &amp; elevator hoistways</p>	<p><i>Key Items: Provide a smoke control system complying with Section 403.5.4. Every required exit stairway serving floors more than 75 feet above the lowest level of fire department vehicle access shall comply with Sections 909.20.5 and 1022.10. Elevator hoistways shall comply with Sections 909.21 and 713.14. Describe proposed smoke control system, include schematic location of fans and supply air intake and associated ductwork, design criteria used, injection points, use of other ventilation systems, equipment and related wiring protection, etc.</i></p> <p><i>For high-rise buildings that have a simple shaft configuration and utilize shaft pressurization for smoke control (i.e., no building-wide smoke control system), shaft pressurization fan status and controls using switches in accordance with Section 909.16.2 (or equivalent) may be installed on the main fire alarm control panel (FACP) in lieu of installing a dedicated fire-fighter's smoke control panel. The building graphics normally provided on the smoke control panel shall be laminated and mounted in the vicinity of the FACP for quick reference by emergency responders. See SDCI Director's Rule DR 7-2012, Testing of stairway and hoistway pressurization systems in high rise buildings at <a href="http://web6.seattle.gov/dpd/DirRulesViewer/Rule.aspx?id=7-2012">http://web6.seattle.gov/dpd/DirRulesViewer/Rule.aspx?id=7-2012</a></i></p>
	<p><b>Proposal:</b></p> <p>Exit stairways 1 and 2, along with (3) elevator hoistways servicing the office floors and the (3) elevator hoist ways servicing the residential floors of the tower, will be pressurized in accordance with SBC 403.5.4. Pressurization service for these components are provided by independent and dedicated fans located at the top of each vertical shaft of the stairways and hoist ways on the roof.</p> <p>The pressurization systems will comply with SBC 909.20.5 for stairways, and SBC 909.21 for elevator hoistways. Fans will be provided with emergency power, and supply air intakes will be a minimum of 20 feet from any exhaust outlet. A minimum of two smoke detectors will be installed in the supply air ducts to shut down the fan when both detectors activate. The pressurization systems will be activated by the fire alarm originating in any part of the building. Equipment, wiring, and ductwork located within the building will be separated by a 2-hr fire barrier in accordance with SBC 9019.20.5.6.3.</p> <p>Note: If deemed necessary or if required by code or Director's Rule to maintain a pressure differential between the exit enclosures and the interior of the building, a pressure relief</p>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH



system will be provided.

This project utilizes a simple shaft configuration and shaft pressurization for smoke control (i.e., no building-wide smoke control system), shaft pressurization fan status and controls using switches in accordance with Sec. 909.16.2 (or equivalent) will be installed on the main fire alarm control panel (FACP) in lieu of installing a dedicated fire-fighter's smoke control panel.

The building graphics normally provided on the smoke control panel shall be laminated and mounted in the vicinity of the FACP for quick reference by emergency responders.

#### Stairwell Pressurization and Relief:

1. Stairwell pressurization will be provided via a roof-mounted supply fan within an ducted down through the building in a shaft within the stair enclosure. Fresh air will be introduced on every third floor starting from the bottom. Stairwells shall be pressurized to not less than 0.1 inch of water and not more than 0.35 inches of water in the shaft relative to the building with the interior stair doors closed per SBC 909.20.5 for all levels of the shaft.
2. A relief air assembly consisting of a roof hood, barometric relief damper, manual volume damper and a normally (fail) open, powered closed damper shall be provided. The motorized damper will be powered closed and will open upon signal from the fire alarm system or building power failure. The manual damper will be set to allow 2500 cfm of flushing air. The fan shall maintain 0.10" WC in the stairwell during operation mode.

#### Elevator Pressurization:

3. The central and service elevator shafts pressurization will be provided via shaft-mounted supply fans ducted into each elevator shaft near the rooftop. The fan shall pressurize the shaft to maintain 0.1 inch and a maximum of 0.25 inch water column compared to adjacent spaces at all floors per SBC 909.21.1.

#### Fire Alarm System interties:

4. Duct mounted smoke detectors will be required for activation of the fire/smoke dampers located at shaft

\* Seattle amendment to IBC

**Project Name: 800 Alaskan  
Permit  
number: 6742763-PH**



	penetrations. The sheet metal contractor will provide 5 L.F. of straight duct to allow for the detector installation.
Conference discussion & decisions:	
403.5.5 Luminous egress path markings	<i>Key Items: Luminous egress path markings shall be provided in accordance with Section 1025.</i>
	<p><b>Proposal:</b>  <u>Office group B occupancy:</u></p> <p>Luminous egress path markings will be provided in exit enclosures per SBC Section 1025, including markings at the lead edge of steps and landings, at handrails, at obstacles, and at doors from enclosures on Levels 1-8 containing Group B occupancy.</p> <p><u>Residential group R-2 occupancy:</u></p> <p>Luminous egress path markings are not required for R-2 occupancy (levels 09-14) and are not proposed at levels 9-14. Given that the penthouse/rooftop is accessory to the residential occupancy, even though it is A-3 occupancy, luminous egress path markings will not be provided at the penthouse level.</p> <p>Markings are not required within lobbies at the level of discharge, which serve as part of the exit path per SBC 1024.1 - exception 1.</p>
Conference discussion & decisions:	
403.6* Elevators	<i>Key Items: Elevator installation and operation in high rise buildings shall comply with Chapter 30 and Section 403.6. Buildings with stories over 160 feet above the lowest point of fire department vehicle access shall be provided with no less than two elevators served by separate machine rooms</i>
	<p><b>Proposal:</b>  The proposed high-rise building will be equipped with eight (8) elevators in six (6) separate hoistways (see sheet G02-09) and three (3) elevators serving limited lower parking level floors, and one (1) elevator from Marion Street bridge to the ground level.</p> <p><u>Residential (elevators 01-03):</u></p>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>(1) - 3,500 lb capacity passenger  (1) - 3,500 lb capacity passenger/Fire service access  (1) - 4,500 lb capacity passenger/gurney accessible/freight/fire service access  Elevators will have separate control rooms above the elevator overrun.</p> <p><u>Office (elevators 04-08):</u>  (1) 4,500 lb capacity passenger/gurney accessible/freight/fire service access  (1) 3,500 lb capacity passenger/fire service access  (3) 3,500 lb capacity passenger</p> <p>Elevators will have separate control rooms above the elevator overrun.</p> <p><u>Parking Garage from Office (elevators 09-10):</u>  (2) - 3,500 lb capacity passenger  Elevators shall have separate machine room located in the parking garage.</p> <p><u>Bridge Connection elevator (elevators 11):</u>  (1) - 3,500 lb capacity passenger  Elevators shall have separate machine room located in the parking garage.</p> <p>The elevators will be machine room-less traction elevators for the high-rise and hydraulic elevators for the parking garage and bridge connection. Elevator installation and operation will comply with Chapter 30 and Section 403.6.</p>
Conference discussion & decisions:	
403.6.1* Fire service access elevator	<p><i>Key Items: In buildings with occupied floor more than 120 ft. above the lowest level of fire department vehicle access, a minimum of two fire service access elevators shall be provided in accordance with Section 403. Indicate location of fire service access elevators, and how the water prevention requirements of Section 403.6.1.3 will be complied with. Sump capacity shall be 3000 gph per state code requirements. Note: Separate shafts, pressurizations systems, and machine rooms are not required for the two fire service access elevators.</i></p>
	<p><b>Proposal:</b></p> <p>All elevators will be machine room-less types distributed among four (4) separated hoistways. Two (2) hoistways serve the office portion of the building and two will serve the residential portion of the building. The project will assume no automatic fire sprinkler system within the elevator hoistways.</p>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<p>Two fire service access elevators serve each occupied level in the building where required. All fire service access elevators will be sized for a minimum of 3500 lb capacity and will comply with SBC Section 3016.12. The fire service access elevators will be provided to accommodate an ambulance stretcher.</p> <p>A total of four (4) fire service access elevators are proposed. Two fire service access elevators will be designated among the five elevators serving the occupied office (group B) levels above level 1. Two fire service access elevators will be designated among the three elevators serving the occupied residential (group R-2) levels above level 8. Floors below the lowest street level building entrance are not required to be served by fire service access elevators per SBC 403.6.1 - exception 2.</p> <p>Fire service access elevators will be served by separate control rooms per 403.6.1.1.</p> <p>Water infiltration into the fire service access elevator shafts will be prevented through the sloping of the lobby floors away from the elevator door thresholds at each fire access elevator lobby. Floor level changes will meet accessibility requirements. Lighting will be provided in each fire service access elevator shaft for the entire height of the hoistway per SBC 403.6.1.1. Elevator lobbies are not required to be enclosed because they are pressurized per SBC 403.6.1.5.2-exception. Stair enclosures with standpipes are adjacent to each side of the elevator lobby, and the fire service access elevators will be continuously monitored at the Fire Command Center per SBC 403.6.1.6.</p> <p>One sump and pump with emergency power will be provided in the hoistway of the Fire Service Access elevators with capacity for 3,000 gallons per hour per car. The sump pump piping will terminate in the garage drainage system.</p> <p>Elevators 1,2,3 will have a single pump at 150 gpm, served by emergency power. The sump will be 3.5'x3.5'x3.5'.</p> <p>Elevators 6 and 7 will have a single pump at 100 gpm, served by emergency power. The sump will be 3'x3'x3'.</p> <p>Elevators 4,5,8 and elevators 9,10 are non-FSA elevators and do not require pumps.</p>
<b>Conference discussion &amp; decisions:</b>	
403.7* Emergency operational plan	<p><i>Key Items: In accordance with SFC Section 404, the building is required to have a Fire Safety and Emergency Plan. SFC Section 9309 requires that a Fire Safety Director appointed by the building owner is responsible to oversee the preparedness and</i></p>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

	<i>initial response of a building's fire and life safety systems and building occupants to a fire alarm, in addition to conducting annual emergency evacuation drills. For more information, see SFD CAMs 5963 and 5982.</i>
	<b>Proposal:</b> Prior to the Certificate of Occupancy, a Fire Safety Director will be appointed by the Owner to work with the Seattle Fire Department in establishing an Operational plan for the building. The plan will comply with SBC Section 403.7 and SFC Section 404. Fire safety and evacuation plans will be maintained at the high-rise building in accordance with 2015 Seattle Fire Code, Section 404.2.1.
<b>Conference discussion &amp; decisions:</b>	
<b>Chapter 7</b>	
<b>712* Vertical openings</b>	<i>Key Items: The code limits the number of stories that can be in common atmosphere with one another without the required fire barrier separation between them. The plans submitted for the predesign meeting should show all architectural floor openings including those relating to escalators. If architectural floor openings reach the threshold meeting the definition of an atrium, the atrium code requirement shall be addressed. Note any garage elevators or duct system using the provisions of Section 712.</i>
	<b>Proposal:</b> The project proposes two vertical openings that are 5 stories in height (level 1 through level 5). Per SBC Chapter 2 an atrium is defined as "An opening connecting two or more stories other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning, or other equipment, which is closed at the top and not defined as a mall." The proposed is not considered an atrium as it is enclosed vertically on four sides and, does not connect to environments of adjacent spaces above, does not contain any building features such as stairs, elevators, etc., and does not penetrate floor assemblies. The vertical opening shall be protected in accordance to SBC section 713 and 714 for shaft enclosures and shall have a fire-resistance rating of no less than 2-hrs and a horizontal shutter enclosure at the bottom of at least 1.5-hr fire-resistive rating.  The enclosed parking garage on Level 1 is separated from other stories in the building. The vertical opening for the automobile ramp is permitted per SBC 712.1.10.1 and the garage will be constructed per SBC 406.6. The garage will be provided with mechanical ventilation in accordance with the International Mechanical Code and equipped with an automatic sprinkler system in accordance with SBC Section 903.2.10.
<b>Conference discussion &amp; decisions:</b>	

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

CHAPTER 10, MEANS OF EGRESS	
Chapter 10* General	<i>Key Items: Provide an exiting plan and describe any issues requiring interpretation or a code alternate or code modification. Indicate occupancy loads and load factors for all assembly type spaces. Clearly note all locations where exit access stairways are being proposed.</i>
Code Alternate/ Modification □ (form attached)	<b>Proposal:</b> Life safety floor plans will be reviewed at the pre-design conference, sheets G02-01 through G02-08. Exterior occupiable spaces are less than 750 sf, or have two means of egress. Please refer to life safety plans.
Conference discussion & decisions:	
CHAPTER 30, ELEVATORS	
3016.6* Elevator operation on emergency power - recall	<i>Key Items: Elevators shall comply with Sections 3016 through 3019 for hoistway smoke control, elevator operation on emergency power, general emergency operation requirements, and phase I and phase II recall requirements.</i>
	<b>Proposal:</b>  Main elevator recall to level 02, alternate to Level 03. Phase 1 recall operation to be per Section 3018; Phase 2 recall to be per Section 3019. <ul style="list-style-type: none"> <li>● Elevators will comply with Section 3016 for construction standards requirements</li> <li>● Elevators will comply with Section 3017 for emergency operation requirements</li> <li>● Elevators will comply with Section 3018 and 3019 for Phase I and II recall requirements.</li> <li>● Elevators will be pressurized to address smoke control. Therefore, hoist way venting is not required, and enclosed fire service elevator lobby is not required.</li> <li>● Elevators will comply with elevator operation on emergency power, general emergency operation requirements, and will allow for Phase 1 &amp; Phase 2 recall requirements.</li> <li>● The (4) fire service access elevators will be equipped with emergency power that will automatically transfer upon loss of power and receive automatic recall upon fire alarm activation.</li> <li>● The panel serving the lights for the cars, control rooms, and machine rooms will be fed from the generator.</li> <li>● The fire command center will be equipped with the elevator status panel.</li> <li>● In an event, the elevators will recall (1) at a time, but both may be operated at the same time. The generator will be sized for the (4) FSA elevators to operate simultaneously.</li> </ul>

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

Conference discussion & decisions:	
3020.1* & 3020.4* Construction of Hoistways, and machine and control rooms	<i>Key Items: Construction of hoistways and hoistway enclosures shall comply with ASME A17.1 Section 2.1 as amended.</i>
	<b>Proposal:</b> Hoistways and hoistway enclosures will be constructed per ASME A17.1 Section 2.1 as amended. All hoistways enclosures and machine/control rooms shall be 2-hr fire-resistive construction per SBC 713.1.
Conference discussion & decisions:	
<b>OTHER</b>	
Other	<i>Describe any significant interpretation requests or special conditions you wish to address including any issues requiring a code alternate or code modification.</i>
Code Alternate/Modification (form attached')	<b>Proposal:</b> See Table on following page.  [ ] [ ] [ ]
Conference discussion & decisions:	

Conf .Item	Code section	Discussion	Reviewer Comments	Reviewer
1.	SFC 913.2.1, SBC 2015 913.2.1, NFPA 20 4.12.2	Confirm fire department access route to pump room is acceptable.		
2.	SBC 3020	Marion St bridge - The project proposes a connection to the future Marion Street Bridge. A convenience elevator is proposed to connect the ground level to the bridge level at		

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

		the exterior of the building. The project proposes the elevator shaft is not rated as it does not penetrate any floors of the building and only serves the stops exterior to the building. Per SBC 3020 Section 2.1, hoistways that penetrate floors/ceiling assemblies shall be fire-resistance-rated enclosures. Elevator does not penetrate a floor/ceiling assembly and meets exceptions of Section 2.2 – does not connect more than 2 stories; does not open to a corridor in group I and R occupancies; does not open to a corridor on a nonsprinklered floors in any occupancy; is separated from floor openings serving other floors by construction conforming to required shaft enclosures; and is limited to one smoke compartment.		
3.	403.5.5, SBC 1025.1	SDCI to confirm if luminous markings are required at the penthouse level. 1025.1 requires luminous egress path markings for Group A occupancy, but not for R-2 occupancy given the A-3 occupancy at the penthouse is accessory to the R-2 occupancy.		
4.	403.5.3.2	Confirm if oversized roof hatch at stair is acceptable for access to roof and as a code alternate to a stair penthouse.		

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

## Seattle Requirements for High-Rise Secondary Water Supply

**Water Tank:** An automatic secondary on-site water supply storage tank shall be provided for high-rise buildings in accordance with **SFC Sec. 903.3.5.2**, and meet the requirements of NFPA 22 and the following:

### **OPTION 1 Single Fire Pump with Storage Tank Having Automatic Refill Features**

#### **Tank Refill Lines:**

Dual automatic refill lines, each capable of refilling the tank at a minimum rate of 150 percent of the fire pump(s) capacity, shall be installed. Ref: NFPA 20 - 4.31.3.1.1

A manual tank fill bypass designed for and capable of refilling the tank at a minimum rate of 150 percent of the fire pump(s) capacity shall be provided. Ref: NFPA 20 - 4.31.3.1.3

**Tank Fill Valves and Control Systems:** The two automatic refill lines shall have separate automatic tank fill valves that are listed for fire service and arranged for automatic operation. Each automatic tank fill valve shall be provided with a separate approved means of actuation such as float assemblies, pressure sensors, etc. that are supervised by the fire alarm system. The status of the valves (i.e., 'open', 'closed') shall be indicated at the valves and in the Fire Command Center (FCC).

The tank shall be kept filled, and the water level shall never be more than 4 inches below the designated fire service level. Ref: NFPA 22 - 14.4.3

**Tank Level Indicators:** Two tank level indicators are required, one located in the FCC and another in the immediate vicinity of the tank fill valves. The tank level indicator monitoring shall be provided through the fire alarm system in accordance with NFPA 72.

Two separate and distinct signals shall be initiated: one indicating

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number:6742763-PH



that the required water level has been lowered or raised (off-normal), and the other indicating restoration. Ref: NFPA 72 - 17.16.3.1

The off-normal signal shall be initiated when the water level falls three inches or rises three inches. Ref: NFPA 72 - 17.16.3.2.1

**Tank Low Level Alarm:** Separate and distinct tank low level audible and visible alarms shall be provided in the FCC and in the vicinity of the tank fill valves, and activate when the tank water level drops below 50% capacity. The tank low level monitoring shall be provided through the fire alarm system in accordance with NFPA 72. The signaling devices shall be clearly labeled "Water Tank Low Level Alarm" or equivalent. An independent silence switch shall be provided for the tank low level alarms in the immediate vicinity of the alarm devices.

**Tank Overflow Protection:** An approved means to prevent the tank from overflowing into the building shall be provided. Where an automatic shutoff valve is provided, it shall be listed for fire service and have dual (redundant) means of actuation such as two float assemblies, pressure sensors, etc. that are supervised by the fire alarm system. The valve shall be supervised by the fire alarm system and status (i.e., 'open', 'closed') indicated at the valve and in the FCC.

**Pump By-pass:** A full size by-pass shall be installed around the storage tank and the fire pump in accordance with NFPA 20. The by-pass shall be installed on the supply side of the tank fill valves and connected to the system on the downstream side of the fire pump and any sprinkler system pressure regulating valves installed on feed mains.

#### OPTION 2: Two Fire Pumps and Storage Tank Without Automatic Refill Features

The primary fire pump shall be supplied by a dedicated fire service main and the secondary fire pump supplied from the storage tank. The pumps shall operate at the same rated flow capacity and at similar discharge pressures. When using Option 2, automatic refill of the

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

tank is not required.

The means to fill the tank shall be sized to fill the tank in a maximum time of 8 hours. Ref: NFPA 22 - 14.4.2

The tank shall be kept filled, and the water level shall never be more than 4 inches below the designated fire service level. Ref: NFPA 22 - 14.4.3

**Tank Level Indicator:** A tank level indicator is required in the immediate vicinity of the tank fill valve.

**Pump By-pass:** A full size by-pass shall be installed around the primary fire pump in accordance with NFPA 20. The by-pass shall be connected to the system on the downstream side of any sprinkler system pressure regulating valves installed on feed mains.

### Seattle Requirements for High-Rise Generator Fuel Tanks

Ensure that the as a minimum the following information is provided on the on the architectural plan submittals:

1. Provide detail on plans indicating type of tank (i.e., UL-142, UL-2085, or other type of tank), type of fuel, and how much will be stored on-site.
2. Provide detail on plan (plan and elevation views) showing the location of the diesel fill connection, located on the exterior of the building, at least 5 feet from building openings and property lines in accordance with SFC Section 5704.2.7.5.2.
3. Provide details on plans indicating location (plan and elevation views) and routing of normal vent for diesel tank (manifolding of normal vents is not allowed) in accordance with SFC Section 5704.2.7.3.3.

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number:6742763-PH

4. Provide details on plans indicating location and routing of emergency vents diesel tanks (manifolding of emergency vents is not allowed) in accordance with SFC Section 5704.2.7.4.

**Seattle Requirements for Protection of Wiring Required by Section 909.11**

1. Power and control wiring that serves the pressurization and other smoke control equipment, regardless of voltage, shall have fire-resistance-rated protection (rated cable, installation in shafts, embedment, etc.) of at least two hours. Exception: Fire-resistance rating is not required for wiring serving a generator in an unprotected area in a garage that is separated from the rest of the building by 2 hour-rated construction.
2. Where wiring protection is provided by installing in a rated shaft, protection of wiring is required between the fire command center and the shaft.
3. Protection of wiring is not required for rooftop or penthouse wiring where installed outside the building envelope or in a penthouse that is not required to be protected.
4. Protection is not required for HVAC fans used to exhaust intermittent floors.
5. Protection is not required for the dampers on the HVAC equipment unless dedicated for shaft pressurization.
6. Wiring required to have 2-hour protection can be in a shaft with other wiring. The "independent route" requirement in Section 909.11 means separate raceway from normal power.

**Seattle High-Rise Requirements for a Roof Hatch When Approved as a Penthouse Alternate**

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH

1. Roof hatch dimensions shall be a minimum of 3'-0" wide x 12'-0" long.
2. Roof hatch shall be installed with a snow sensors/heating cables system.
3. Roof hatch shall be motorized with a remote pushbutton station located at the base of the top stair landing leading to the hatch.
4. Roof hatch electrical system shall be on building emergency power.
5. Provide switch in the Fire Command Center that unlocks the electro-magnetic locks on the hatch doors.
6. Interlock electromagnetic locks on hatch doors with fire alarm system to unlock automatically on any fire alarm signal.
7. Ensure code compliant stairs and height for stairs is met where the stair leads to the hatch.
8. Roof hatch shall be operable from the roof.

\* Seattle amendment to IBC

Project Name: 800 Alaskan  
Permit  
number: 6742763-PH