



HIGH-RISE PREDESIGN CONFERENCE

Date: []

PROJECT INFORMATION		APPLICANT INFORMATION	
Project Name: 1370 Stewart St		Contact Person: Todd Coglon	
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Construction Application/Permit: #		Contact Email: bill.xu@perkinswill.com	
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PROVIDE BRIEF DESCRIPTION OF PROJECT SIZE AND OCCUPANCY:

A 45-story mixed-use tower with 440 residential dwelling units and approximately 18,632 sf of commercial/retail space. The tower will be constructed to an allowable maximum height of 440' above the average grade plane. Below-grade development will include 4 floor levels that will accommodate 117 parking stalls, storage for (440) bicycles, dedicated MEP spaces, an SCL vault, and other BOH spaces programmed to accommodate storage needs, and refuse/recycling collection. Amenity levels are located on Level 3 and Level 45.

Type 1-A building, fully sprinkled, R-2 (Primary), A-2, A-3, M, S-1, S-2

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 at <http://www.seattle.gov/sdci/codes>.

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://web6.seattle.gov/DPD/CAMS/CamList.aspx>.

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>
	<p>Proposal:</p> <p>The building is greater than 420 feet tall, so this section applies. Exit enclosures and elevator hoist way enclosures will comply with Section SBC 403.2.3.1 through 403.2.3.4. Fire service access elevators, exit enclosures and elevator hoist ways occur within the concrete shear core. Stair 1 will connect levels P4 – Mechanical Penthouse (MP). Stair 2 will connect P1 – Mechanical Penthouse. Both Stair 1 and Stair 2 will be enclosed with a combination of concrete and gypsum wallboard partitions meeting impact-resistant construction requirements of section 403.2.2. Stair 3 will be enclosed with a combination of concrete and masonry walls.</p>
Conference discussion & decisions:	
403.3* Automatic sprinkler system	<p><i>Key Items: Provide a sprinkler system in accordance with Section 903.3.1.1 and Seattle Fire Code (SFC) Section 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"> <i>1. Each floor sprinkler system shall be connected between standpipe risers.</i> <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> <i>3. Two four-way fire department connections serving the combination system shall be provided on separate streets well separated from each other.</i>

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	<p>4. At least one of the fire department connections shall be connected to the riser above a riser isolation valve.</p> <p>5. When a mid-level fire pump is required to meet pressure requirements, two pumps with the same rating shall be installed.</p> <p>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.</p> <p>7. The standpipe risers in each required stair shall be a minimum pipe size of 6 inches.</p> <p>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.</p> <p>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.</p> <p>See attached "Seattle Requirements for High-Rise Secondary Water Supply"</p> <p><i>Note: If schematic plans are available, please bring them to the conference.</i></p>
	<p>Proposal:</p> <p>The fire sprinkler and standpipe system will be designed and installed in accordance with Section 403.3 and as noted above. Two sets of two fire pumps will be provided to achieve the required 100 psi at the roof (Option 2).</p> <p>1. General:</p> <p>The design will follow nationally recognized fire protection standards and the requirements of the local building and fire codes. Means of Egress will be in accordance with NFPA. Egress systems designed per NFPA 101 are generally considered to meet or exceed the requirements of the IBC. All other Fire Protection features, such as occupancy, fire resistive construction, building size limitations, and opening protection will be provided in accordance with the IBC and comply with local Amendments.</p> <p>2. System design:</p> <p>a. City fire water supply: Two 8" water supplies with double check detector backflow preventers will be located on Levels P01 within the water entry room and P02 within the fire pump room.</p> <p>b. Fire protection systems including fire sprinkler, fire alarm and elevator control will be provided in accordance with referenced standards.</p> <p>c. Fire sprinkler systems will be provided throughout the building in accordance with NFPA 13, 14, 20 and insurance company requirements. A wet-pipe system will be provided with individual floor zones and distinct water flow alarms by zone. Quick response sprinklers will be utilized throughout. Office lobby areas will use concealed type heads. Heads in other areas with ceilings will be semi-recessed type. All piping will be Schedule 10 with roll groove Victaulic joints for mains and Schedule 40 steel with threaded fittings for branch piping.</p> <p>d. Each of the two tower egress stairs will contain 6-inch combined sprinkler/standpipe risers. A sprinkler valve assembly will be provided at each riser on each floor and sprinkler mains will connect between the combined risers. A hose valve will be provided on each intermediate landing. A 3-inch drain will be located adjacent to each combined riser to facilitate system testing and drainage. Additional stairwells will contain a 4-inch standpipe riser. The entire system will be designed to NFPA standards and will be hydraulically calculated. The loading dock area will be provided with a dry pipe sprinkler and standpipe system to prevent</p>

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	<p>freezing. All dry piping will be Schedule 40 for corrosion control and monitored utilizing a nitrogen generator. A fire department connection and alarm bell will be provided at the building exterior.</p> <p>e. Two sets of two fire pumps shall be provided to achieve the required 100 psi at the roof. Each pair of pumps will serve one of the two fire protection pressure zones. The primary vertical turbine fire pumps will be located on P02 and a 33,000 gallon concrete fire protection storage tank will be located on P04. The intermediate horizontal split case type fire pump room shall be located on Level 25. The pumps shall be connected to emergency power through a transfer switch. The feeder serving these pumps shall be installed within a two hour rated shaft or provided with two hour rated protection and therefore, is ideally located adjacent to the emergency generator.</p> <p>f. Fire Pump Basis of Design:</p> <ol style="list-style-type: none"> 1) Primary - 250 hp, 1000 gpm at 250 psi with a 10 hp jockey pump 2) Intermediate – 200 hp, 750 gpm at 150 psi with 7.5 hp jockey pump
Conference discussion & decisions:	
403.4.2 Fire alarm systems	Key Items: <i>Fire alarm systems shall comply with Section 907.2.13. Describe proposed fire alarm system.</i>
	<p>Proposal:</p> <p>An automatic fire alarm system and smoke control system, and emergency voice/alarm communication system will be provided and will meet the requirements of the Fire Marshall. The Fire Alarm and Control Panel (FACP) will be a networked and addressable type with each initiating device annunciated as an individual zone. The FACP shall provide centralized control and annunciation of fire alarm zones. Area smoke detectors will be intelligent analog type to permit monitoring and calibration of smoke detector from the FACP.</p> <p>The system is to be hard wired to dedicated owner provided radio monitoring system.</p> <p>Manual pull station at the fire alarm command center.</p> <p>It will provide connection and reporting for the fire protection system.</p> <p>Stand-alone hard-wired devices (non-system smoke detectors and combination smoke/carbon monoxide alarms) will be installed in the dwelling units to meet Code.</p> <p>Low frequency alarms shall be provided in all Sleeping Areas as required by Code and AHJ.</p> <p>System devices for detection and/or annunciation will be provided in common areas, back of house areas, office areas, and Type A and Type B dwelling units.</p> <p>Stairwell doors shall tie into the Fire Alarm system. The Fire Alarm System shall unlock all stairwell doors during an Event as required by the Fire Marshall to allow firefighter access throughout the building.</p>

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	<p>Any exposed cabling shall be installed in conduit (EMT or GRC as required by Code).</p> <p>Back-up power shall be provided by system battery packs.</p> <p>Fully coordinated, color-coded plans showing proposed installation routes are to be submitted to the Architect for review and approval prior to the finalization of the Design/Build Contractor's design and/or submission of Fire Alarm drawings to the Authority Having Jurisdiction.</p> <p>The Electrical Contractor shall engage a factory-authorized representative to train the Owner's staff on the use, testing and maintenance of the Fire Alarm System.</p>
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Conference discussion & decisions:

403.4.4 Emergency voice/alarm communication systems	<p>Key Items: <i>An emergency voice/alarm communication system shall be provided in accordance with SFC Section 907.5.2.2.</i></p>
	<p>Proposal:</p> <p>An emergency voice communication system will be provided from the fire command center to the occupants of the building per NFPA 72.</p> <p>Emergency voice/alarm communication (paging) system will be integrated with the addressable Fire Alarm System in accordance with SFC Section 907.5.2.2. The Emergency voice/alarm communication system will be provided in accordance with SBC 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 instruction. Upon fire alarm initiation, the alarming floor plus the floor above and two floors below will be placed into alarm. Speakers throughout the building provide paging zones for elevator groups, exit stairways and at each floor.</p>

Conference discussion & decisions:

403.4.5 Emergency responder radio coverage	<p>Key Items: <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>Proposal:</p> <p>Conduit systems to accommodate radio signal booster will be incorporated in the design.</p> <p>An Emergency Responder Radio Communications System (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. The project will provide -99% floor area coverage for critical areas such as the fire command center,</p>

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	<p>fire pump room, exit stairs, exit passageways, elevator lobbies, standpipe cabinets and sprinkler section valve locations. The general building area coverage will be within the allowable tolerance in accordance with SFC 510.4.1 of (a minimum of 90% floor area radio coverage).</p> <p>The DAS system will utilize optical fiber backbone with horizontal coaxial cable to the distributed antennas throughout each floor are. The DAS radio base station and other headend equipment will be powered from two independent power sources per SFC 510.4.2.3. The system shall simplify and rebroadcast over the DAS a clear, low noise, RF audio signal for public safety networks. Upon commissioning, the DAS shall provide coverage for the Emergency Responder's frequencies per their guidelines.</p>
Conference discussion & decisions:	
403.4.6 Fire command (Center)	<p>Key Items: <i>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>Proposal:</p> <p>Dedicated Fire Command Center will be provided per NFPA 72; reference the Level 2 floor plan for location and access. The space will be a minimum of 200 square feet in area, with a minimum width of 10 feet. The space will be separated from adjoining space by not less than a 2-hour fire rated barrier per SFC 508.1.2, and contain the features outlined in SBC 911.1.5. The fire service access elevators will be continuously monitored at the Fire Command Center per SBC 403.6.1.7.</p> <p>The Fire Command Center will include the following:</p> <ul style="list-style-type: none"> Emergency voice/alarm communication system control unit. Fire department communication system. Fire detection and alarm system annunciator panels. Annunciator unit visually indicating the location of the elevators and whether they are operational. Status indicators and controls for air distribution system. Fire fighter's control panel required per Section 909.16 for smoke control installed in the building. Controls for unlocking stairways doors simultaneously. Sprinkler valve and water flow detector display. Emergency and stand-by power status indicator. Telephone for fire department use with controlled access to the public telephone system. Fire pump status indicators. <p>Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection system, firefighting equipment and fire department access, and location of fire walls, fire barriers, fire</p>

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	partition, smoke barriers and smoke partitions.
Conference discussion & decisions:	
403.4.9 Emergency power systems	<p>Key Items: <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>Proposal:</p> <p>A 1000kVA/800kW emergency generator will be provided and located in a separate 2hr rated room on Level P4 of the parking garage. This will also provide power to the fire pump, elevators and their associated equipment/devices. System supervision will be provided in Fire Command Center. See the Electrical Single-Line diagram for additional information.</p> <p>Emergency Generator:</p> <p style="padding-left: 40px;">All life safety fans will be connected to the emergency generator system.</p> <p style="padding-left: 40px;">Central air conditioning/heating, and non-critical fans will be disengaged during emergency situations.</p> <p style="padding-left: 40px;">Emergency power will be provided at the Energy Management Control System (EMCS) central computer and remote hubs.</p> <p style="padding-left: 40px;">Per the Washington State Fire code and NFPA 110 and 111, all combustion air and cooling air to and from the generator room shall be discharge directly to or taken directly from the outdoors.</p>
Conference discussion & decisions:	
403.4.9.1* Emergency power loads	<p>Key Items: <i>Provide emergency power to exit signs & 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 & 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>Proposal:</p> <p>Emergency power from the generator will support the loads identified in SBC 403.4.9.1 including;</p> <p style="padding-left: 40px;">Exit signs and means of egress illumination Elevator car lighting Emergency voice/alarm communication systems Fire alarm and detection systems Fire pumps</p>

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	<p>Power and lighting for mechanical equipment rooms and the Fire Command Center</p> <p>Lighting for the Elevator Machine Rooms and Machine Spaces Fire Service Access hoist ways</p> <p>Ventilation and automatic fire detection equipment for the pressurized exit stairways</p> <p>Smoke control systems</p> <p>One elevator selected in each bank in accordance with SBC 3016.6, and all elevators will be transferred to emergency power.</p> <p>Fire Services Access Elevators</p>
Conference discussion & decisions:	
403.5.1* Remoteness of interior exit stairways	<p>Key Item: <i>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>
	<p>Proposal:</p> <p>Proposal is an R occupancy and the two exit stairways on the residential floors will be separated not less than 15 feet. The design will also comply with Means of Egress requirements set forth in Chapter 10, section 1021.</p>
Conference discussion & decisions:	
403.5.2 Additional exit stairway	<p>Key Items: <i>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>
	<p>Proposal:</p> <p>The primary occupancy is R-2. Additional stairway is not required.</p>
Conference discussion & decisions:	
403.5.3* Stairway door operation	<p>Key Items: <i>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>
	<p>Proposal:</p> <p>Stairwell doors shall tie into the Fire Alarm system. The Fire Alarm System shall unlock all stairwell doors during an Event as required by the Fire Marshall to allow firefighter access throughout the building.</p> <p>Stairway doors will be capable of unlocking upon signal from the fire command center. The stairway door unlock system will include the roof access doors and any hatches. Door hardware is planned to be electric locks and not electric strikes.</p>

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Conference discussion & decisions:	
403.5.3.1* Stairway communications system	<p>Key Items: <i>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>
	<p>Proposal:</p> <p>A stair communications system will be provided in accordance with SBC 403.5.3.1, including telephone or other two-way communication system no less than every fifth level in each exit stairway, and connected to an approved and constantly monitored station and fire command center.</p> <p>System will be connected to the building two-way communication system as required by SBC 1007.8.</p>
Conference discussion & decisions:	
403.5.3.2* Stairway penthouses	<p>Key Items: <i>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>Proposal:</p> <p>All required interior exit stairways will terminate at the roof of the penthouse with a door complying with Sections 1008.1.1 and 1008.1.2</p>
Conference discussion & decisions:	
403.5.4* Smoke control in stair enclosures & elevator hoistways	<p>Key Items: <i>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</i></p>

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	<p><i>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 http://web6.seattle.gov/dpd/DirRulesViewer/Rule.aspx?id=7-2012</i></p>
	<p>Proposal:</p> <p>A smoke control system will be provided for the building that meets all of the above requirements.</p> <p>Stairwell Pressurization and Relief:</p> <p style="padding-left: 40px;">All tower stairwells are to be pressurized per the Seattle Building Code. Airflow will be provided via ducted air shafts within the stairwell fire-rated enclosure. Ductwork to be sized at 3,000 fpm and distributed evenly at every third floor.</p> <p style="padding-left: 40px;">Stairs (over 75' above-grade and 30' below-grade): 500 cfm/floor + 2,500 cfm relief + 15% safety factor (include VFDs with shaft grounding system)</p> <p style="padding-left: 40px;">Barometric relief vent to be provided within the stairwell. The vent shall be provided with three equally sized barometric relief dampers, each being balanced at different relief pressures of 0.15 in.wg.,</p> <p>Elevator Pressurization:</p> <p style="padding-left: 40px;">The tower is provided with multiple elevator shafts requiring pressurization.</p> <p style="padding-left: 40px;">Elevator hoist ways (over 75' tall for floors served): 1,000 cfm/door + additional 2,000 cfm/door ground level + 15% safety factor (include VFDs with shaft grounding system)</p> <p style="padding-left: 40px;">Supply air to the hoistways will be a maximum of 20 floors per fan to reduce shaft sizes at the maximum airflow rate.</p>
Conference discussion & decisions:	
403.5.5 Luminous egress path markings	<p>Key Items: <i>Luminous egress path markings shall be provided in accordance with Section 1024.</i></p>
	<p>Proposal:</p> <p>Luminous egress path markings will be provided in exit enclosures per SBC 1024, including markings at the lead edges of steps and landings, at handrails, at obstacles and at doors from the enclosures.</p> <p>Emergency luminaires shall be provided such no point along the egress path has a minimum illuminance of less than 1 foot candle (fc) under both emergency and non-emergency conditions.</p> <p>Additional emergency luminaires shall be provided in the MEP equipment rooms, Elevator Machine Room, Common Room, and public restrooms.</p>
Conference discussion & decisions:	
403.6*	<p>Key Items: <i>Elevator installation and operation in high rise buildings shall comply</i></p>

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Elevators	<i>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>Proposal:</p> <p>Shown on the SD plans are four passenger-configured and one service-configured elevators serving all floors. (note these on plans). The machines and controllers for the two FSAE will be housed in separate machine rooms.</p>
Conference discussion & decisions:	
403.6.1* Fire service access elevator	<p>Key Items: <i>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>Proposal:</p> <p>One of the passenger elevators will be 4,000 lbs. with center-opening doors to accommodate an emergency stretcher. The 4,000 lbs. service-configured elevator will also fit a stretcher. The two cars would be the designated FSAE elevators. The fire sprinkler water will be drained away from the entrance sills in the fire service elevator lobbies. The hoistway will have lighting the full height of the building to a level of 1ftc, and the pit will have a sump pump capable of 3,000 gph.</p>
Conference discussion & decisions:	
403.7* Emergency operational plan	<p>Key Items: <i>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 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></p>
	<p>Proposal:</p> <p>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 403.7 and SFC Section 404.</p>
Conference discussion & decisions:	
Chapter 7	
712* Vertical openings	<p>Key Items: <i>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></p>
	<p>Proposal:</p>

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	There are no areas of the proposal with shared atmospheres
Conference discussion & decisions:	
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 <input type="checkbox"/> (form attached)	Proposal: There are no means of egress issues requiring interpretation or a code alternate. See sheets provided for exiting 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>
	Proposal: Elevators will comply with SBC Section 3016 for construction standard requirements, SBC Section 3017 for emergency operation requirements and SBC Sections 3018 & 3019 for Phase I & II recall requirements. All elevator hoist ways will be pressurized to address smoke control with emergency of legally required standby power. Only Fire Service elevators get automatic recall from fire alarm activation. Per SBC 3018 Phase I emergency recall operation shall be provided for all elevators with fully automatic open and close power operated doors.
Conference discussion & decisions:	
OTHER	
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/	

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Modification <input type="checkbox"/> (form attached)	Proposal: Confirmation that the project does not need the occupant evacuation lobby on Level 45 (Primary occupancy is R-2).
Conference discussion & decisions:	

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

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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 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

* Seattle amendment to IBC

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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 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.
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 amendment to IBC

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.

* Seattle amendment to IBC

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**

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.

* Seattle amendment to IBC

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8. Roof hatch shall be operable from the roof.