



Snohomish County
Planning and Development Services

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June 27, 2017

Mr Doug Luetjen - Karr Tuttle Campbell
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SEATTLE, WA 98104

BARRIER FREE & GENERAL REVIEW COMMENTS

1ST REVIEW OF THIS PROJECT

PROJECT TRACKING NUMBER 11 101457 LU
TAX ACCOUNT FILE NUMBER 270335-003-011-00

RE: MIXED USE / RETAIL / PARKING / STORAGE / APARTMENTS FOR:
BSRE / POINT WELLS DEVELOPMENT AT:
20500 RICHMOND BEACH DR NW, SHORELINE, WA 98117

| | |
|----------------------------|---|
| USE GROUP CLASSIFICATION | = A / B / M / S / R-2 |
| FLOOR AREA | = VARIES PER DESIGN |
| OCCUPANT LOAD | = VARIES BASED ON CHAPTER 10 OF THE BUILDING CODE |
| TYPE OF CONSTRUCTION | = UNKNOWN |
| RISK CATEGORY | = II & III ASSUMED |
| MONITORED SPRINKLER SYSTEM | = NFPA13 |
| FIRE ALARM SYSTEM | = NFPA72 |
| # OF REQUIRED EXITS | = VARIES PER BUILDING AND OCCUPANCY |
| FLOOR DESIGN LIVE LOAD | = 40 -125 PSF |

Dear Mr. Luetjen,

The plans for the above-described project have been reviewed for compliance with the 2015 International Building Code and have been **disapproved** for purposes of issuing a building permit. The following corrections and/or additions shall be incorporated into a set of working drawings, and two (2) complete sets shall be resubmitted for approval:

1. The comments in this letter were taken from the 2015 Body of Building code and associated codes. If this project is not submitted for review prior to July 1, 2019, it is likely that the building and associated code swill have changed. Should that occur, the documents submitted for review will need to be based on the building and associated codes that are enforced by the State of Washington and this jurisdiction at that time.

2. This letter is not intended to cover all possibilities of design that are appropriate to the construction of a project of this scope and size. It should however provide a flavor for the issues that are relevant for this project. When this project reaches the building design phase, please consult with Snohomish County for an update of the codes under which design is required.
3. All nonstructural and code compliant aspects of this project are to be done in accordance with the project architect, and the following codes:
 - 2015 International Building Code
 - 2015 International Fire Code
 - 2013NFPA13
 - 2013NFPA72
 - 2015 International Mechanical Code
 - 2015 Uniform Plumbing Code
 - 2009 ICC A117.1
 - 2015 Washington State Energy Code
4. “AREA, BUILDING”. = “The area included within surrounding exterior walls (or exterior walls and fire walls) exclusive of vent shafts and courts. **Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above.** Section 202.
5. Construction documents shall be dimensioned and drawn upon suitable material. Submittal documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and to show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations as determined by the building official. Section 107.2.1.
6. All fire-stop and penetration systems proposed for use must be detailed on the construction drawings. This does not simply mean providing a reference number. Providing a UL or GWB Manual number is not adequate. The specific detail with all required elements and installation information shown is required. Section 107.2.2. This section does not only apply to sprinkler and fire alarm systems. It also applies to passive systems such fire stops, membrane penetration protection, through penetration protection, fire-wall assemblies, horizontal fire-rated assemblies, etc.
7. Construction documents shall show in detail the location, construction, size and character of all portions of the means of egress including path of the exit discharge to the public way in compliance with the provisions of this code. Section 107.2.3.
8. Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. Such detail will include details about flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roofs, eaves or parapets, means of drainage, water-resistive membranes, and details around openings. Section 107.2.4.

9. The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distance from lot lines, established street grades and the proposed finish grades, as applicable. If the project is proposed in a flood hazard area, all pertinent information about the flood elevations shall also be provided. Section 107.2.5.
10. The Construction documents shall provide the information specified in Section 1603. Section 107.2.6
11. It shall be unlawful for any person, firm, or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure, or equipment regulated by this code, or cause same to be done in conflict with or in violation of any provisions of this code. Section 114.1.
12. Where terms are not defined in this code and are defined in the International Fuel Gas Code, International Fire Code, International Mechanical Code or Uniform Plumbing Code, such terms shall have the meanings ascribed to them as in those codes. Section 201.3.
13. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies. Section 201.4.
14. Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed in this section. A room or space that is intended to be used for more than one use or purpose, shall comply with all requirements that are applicable to each of the purposes for which the room or space will be occupied. Section 302.1.
15. HIGH-RISE BUILDING – is defined as “A building with an occupied floor level more than 75’ above the lowest level of fire department access”. Section 202.
16. The construction of high-rise buildings shall be in accordance with the provisions of Sections 403.2.1 through 403.2.4. Section 403.2.
17. The fire-resistance rating reductions listed in sections 403.2.1.1 and 403.2.1.2 shall be allowed in buildings that have sprinkler control valves equipped with supervisory initiating devices and water-flow initiating devices for each floor. Section 403.2.1.
18. For buildings not greater than 420’ in height the required fire resistance rating of the fire barriers enclosing vertical shafts, other than interior exit stairway and elevator hoistway enclosures is permitted to be reduced to one-hour where automatic sprinklers are installed within the shaft at the top and at alternate floor levels. Section 403.2.1.2.
19. For seismic considerations see Chapter 16. Section 403.2.2.
20. For high-rise buildings of Risk Category III or IV in accordance with Section 1604.5, and for all buildings that are more than 420’ in height, enclosures for interior exit stairways and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through 403.2.3.4. Section 403.2.3.

21. Buildings shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 403.3.3.
22. Each sprinkler system zone in buildings that are more than 420' in height shall be supplied by no fewer than two risers. Each riser shall supply sprinkler on alternate floors. Section 403.3.1.
23. Fire pumps shall be located in rooms protected in accordance with Section 913.2.1. Section 403.3.4.
24. The detection, alarm and emergency systems of high-rise buildings shall comply with Sections 403.4.1 through 403.4.8. Section 403.4.
25. Emergency responder radio coverage shall be provided in accordance with Section 510 of the International Fire Code. Section 403.4.5.
26. A fire Command Center complying with Section 911 shall be provided in a location approved by the fire department. Section 403.4.6.
27. To facilitate smoke removal in post-fire salvage and overhaul operations; buildings shall be equipped with natural or mechanical ventilation for the removal of products of combustion in accordance with subsection #1, #2, or #3 of this Section. Section 403.4.7.
28. A standby power system complying with Section 2702 and Section 3003 shall be provided for the standby power loads specified in Section 403.4.8.3. Section 403.4.8.
29. If the standby or emergency generator is located inside the structure, it shall be located in a dedicated room used only for that purpose and shall be enclosed by two-hour construction in accordance with Sections 707 or 711 or both. Section 403.4.8.1.
30. Standby power loads:
 - Power and lighting for the fire command center requested by Section 403.4.6
 - Ventilation and automatic fire detection equipment for smoke-proof enclosures
 - Elevators
 - Where elevators are provided in high-rise buildings as a part of the accessible means of egress, fire service access, or occupant self-evacuation.Section 403.4.8.3.
31. Emergency power loads:
 - Exit signs and "means of egress" illumination required by chapter 10.
 - Elevator car lighting
 - Emergency voice alarm communications systems
 - Automatic fire detection systems
 - Fire alarm systems
 - Electrically powered fire pumpsSection 403.4.8.4.

32. "Means of egress" in high-rise buildings shall comply with Sections 403.5.1 through 403.5.6. Section 403.5.
33. A telephone or other two way communication system connected to an approved constantly attended station shall be provided at not less than fifth floor in each stairway where the doors to the stairway are locked. Section 403.5.3.1.
34. Every required interior exit stairway serving floors more than 75' above the lowest level of fire department vehicle access shall be a smoke-proof enclosure in accordance with Section 909.20 and 1023.10. Section 403.5.4.
35. Luminous egress path markings shall be provided in accordance with Section 1025. Section 403.5.5.
36. Elevator installation and operation in high-rise buildings shall comply with Chapter 30 and Sections 403.6.1 and 403.6.2. Section 403.6.
37. In buildings with an occupied floor level more than 120' above the lowest level of fire department vehicle access, no fewer than two fire service elevators, or all elevators, whichever is less, shall be provided in accordance with section 3007. Each fire service access elevator shall have a capacity of not less than 3,500 pounds and shall comply with Section 3002.4. Section 403.6.1.
38. Where installed in accordance with Section 3008, passenger elevators for general public use shall be permitted to be used for occupant self-evacuation. Section 403.6.2.
39. If any of these structures are designed with atriums, those atriums must satisfy all relevant code design elements found in Section 404.
40. The underground portions of the buildings must incorporate any/all relevant design elements set forth in Section 405.
41. Vehicle barriers not less than 2' 9" in height shall be placed at the end of drive lanes, and at the end of parking spaces where the vertical distance from the floor of a drive lane or parking space to the ground or surface directly below is greater than 1'. Vehicle barriers shall comply with the loading requirements of Section 1607.8.3. Section 406.4.3.
42. Vehicle ramps shall not be considered as required exits unless pedestrian facilities are provided. Vehicle ramps that are utilized for vertical circulation as well as for parking shall not exceed a slope of 1:15 or 6.67%. Section 406.4.4.
43. Parking surfaces shall be of concrete or similar non-combustible and nonabsorbent materials.
44. The area of floor used for parking of automobiles or other vehicles shall be concrete or similar noncombustible, nonabsorbent materials and sloped to facilitate the movement of liquids to a drain or to the main vehicle entry. Section 406.4.5.

45. Children's play structures installed inside all occupancies covered by this code that exceed 10' in height and 150 square feet in area shall comply with Sections 424.2 through 424.5. Section 424.1.
46. The provisions of this Section shall apply to the construction of new buildings serving 'Group B', hotels and motels, and 'Group R-2' occupancies. Section 427.1, as amended by the State of Washington.
47. Where parking is provided, five percent of parking spaces shall be provided with electric vehicle charging infrastructure in compliance with Sections 427.3 427.4, and 427.5. When the parking calculation of percent served results in a fractional parking space, the applicant shall round up to the next whole number. Section 427.2.
48. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4" high with a minimum stroke width of .5". Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. When access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole, or other approved sign or means shall be used to identify the structure. Address identification shall be maintained. Section 501.2.
49. Unless otherwise specifically modified in Chapter 4 and this Chapter, building height, number of stories and building area shall not exceed the limits specified in Sections 504 and 506 based on type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. Building height, number of stories and building area provisions shall be applied independently. Section 503.1.
50. The height, in feet, and the number of stories in a building shall be determined based on the type of construction, occupancy classification and whether there is an automatic sprinkler system installed throughout the building. Section 504.1.
51. The height of unlimited building shall be designed in accordance with Section 507. Section 504.1.1.
52. The maximum height, in feet of a building shall not exceed the limits specified in Table 504.3. Section 504.3.
53. The maximum number of stories of a building shall not exceed the limits specified in Table 504.4. Section 504.4.
54. Each portion of a building shall be individually classified in accordance with Section 302.1. Where a building contains more than one occupancy group, the building or portion thereof shall comply with the applicable provisions of Section 508.2, 508.3 or 508.4, or a combination of these Sections. Section 508.1.

55. Accessory occupancies are those occupancies that are ancillary to the main occupancy of the building or portion thereof. Accessory occupancies shall comply with Section 508.2.1 through 508.2.5.4. Section 508.2.
56. Even where Table 509 permits an automatic fire-extinguishing system without a fire-barrier, the incidental accessory occupancies shall be separated from the remainder of the building by construction capable of resisting the passage of smoke. The walls shall extend from the top of the floor assembly to the underside of the ceiling that is a component of a fire-resistance-rated floor assembly or roof assembly above or to the underside of the floor or roof sheathing, deck or slab above. Doors shall be self or automatic closing upon detection of smoke in accordance with Section 716.5.9.3. Doors shall not have any air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA80. Walls surrounding the incidental accessory occupancy shall not have air transfer openings unless provided with smoke dampers in accordance with Section 710.7. Section 509.4.2.
57. Where two or more buildings are provided above the horizontal assembly separating a 'Use Group S-2' parking garage or building below from the buildings above in accordance with the special provisions in Section 510.2, 510.3, or 510.8, the buildings above the horizontal assembly shall be regarded as separate and distinct buildings from each other and shall comply with all other provisions of this code as applicable to each separate and distinct building. Section 510.9.
58. Cross laminated timber, used for floors, shall be not less than 4" in thickness. Cross laminated timber shall be continuous from support to support and mechanically fastened to one another. Cross laminated timber shall be permitted to be connected to walls without a shrinkage gap providing swelling or shrinking is considered in the design. Corbelling of masonry walls under the floor shall be permitted. Section 602.4.6.2.
59. Fire assemblies that serve multiple purposes in a building shall comply with all of the requirements that are applicable for each of the individual fire assemblies. Section 701.2.
60. Interior walls and partitions of nonsymmetrical construction shall be tested with both faces exposed to the surface, and the assigned fire-resistance rating shall be the shortest duration obtained from the two tests. Section 703.2.1.
61. Where there is an accessible concealed floor, floor-ceiling, or attic space, fire walls, fire barriers, fire partitions, smoke barriers, and smoke partitions or any other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling in the concealed space. Such identification shall:
- Be located within 15' of the end of each wall and at intervals not exceeding 30' measured horizontally along the wall or partition; and
 - Include lettering not less than 3" in height with a stroke not less than 3/8" in a color that contrasts with the background with the suggested wording:

"FIRE AND/OR SMOKE BARRIER"
"PROTECT ALL OPENINGS"

Section 703.7

62. Where columns are required to have protection to achieve a fire-resistance rating, the entire column shall be provided with individual encasement protection by protecting it on all sides for the full column height, including connections to other structural members, with materials having the required fire-resistance-rating. Where a column extends through a ceiling, the encasement protection shall be continuous from the top of the foundation or floor/ceiling assembly below through the ceiling space to the top of the column. Section 704.2.
63. Secondary members that are required to have protection to achieve a fire-resistance rating shall be protected by individual casement protection. Section 704.4.
64. Cornices, eave overhangs, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of Section 1406. Exterior egress balconies, stairways and ramps shall also comply with Sections 1019 and 1026 respectively. Projections shall not extend closer to the line used to determine fire separation distance than shown in Table 705.2. Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with this section. Section 705.2.
65. Combustible projections extending to within 5' of the line used to determine the fire-separation distance shall be of not less than 1-hour fire-resistance rated construction, Type IV construction, or as required by Section 1406.3. Section 705.2.3.
66. For the purposes of determining the required wall and opening protection and roof covering requirements, buildings on the same lot shall be assumed to have a property line between them. Where a new building is to be erected (placed) on the same lot as an existing, the location of the assumed imaginary line with relation to the existing building shall be such that the exterior wall and opening protection of the existing building meet the criteria set forth in Sections 705.5 and 705.8. Section 705.3
67. Interior structural elements that brace the exterior wall but are not located within the plane of the exterior wall shall have the minimum fire-resistance rating required in Table 601 for that structural element. Structural elements that brace the exterior wall but are located outside of the wall or within the plane of the exterior wall shall have the minimum fire-resistance rating required in Tables 601 and 602 for the exterior wall. Section 705.6.
68. Fire walls shall be designed and constructed to allow collapse of the structure on either side without collapse of the wall under fire conditions. Fire walls designed and constructed in accordance with NFPA 221 shall be deemed to comply with the Section. Section 706.2.
69. The fire-barriers or horizontal assemblies, or both, separating a single occupancy into different fire areas shall have a fire-resistance rating of not less than that indicated in Table 707.3.10. The fire-barriers or horizontal assemblies, or both, separating fire areas of mixed occupancies shall have a fire-resistance rating of not less than the highest value indicated in Table 707.3.10 for the occupancies under consideration. Section 707.3.10.

70. Fire-barriers shall extend from the top of the floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and be securely fastened thereto. Such fire-barriers shall be continuous through concealed spaces, such as the space above a suspended ceiling. Such fire-barriers shall be continuous through concealed space, such as the space above a suspended ceiling. Section 707.5.
71. Penetrations in fire barriers shall comply with Section 714. Section 707.7.
72. Penetrations into enclosures used for exit access stairways and ramps, interior exit stairways and ramps, and exit passageways shall be allowed only where permitted by Sections 1019, 1023.5 and 1024.6 respectively. Section 707.7.1.
73. The voids created at the intersection of a fire barrier and a non-fire-resistance-rated roof assembly or non-fire-rated exterior wall assembly shall be filled. An approved material or system shall be used to fill the void, and shall be securely fastened in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to retard the passage of fire and hot gasses. Section 707.9.
74. Openings in fire partitions, such as those between dwelling units, shall be protected in accordance with Section 716. Section 708.6. For one-hour fire partitions the opening protection needs to be equal to or better than 45-minute fire-rated assemblies. Table 716.5. Since there is no logical way to accomplish this where a tub or shower flange abuts a fire partition, the logical method of demonstrating code compliance is to not penetrate the required one-hour fire partition at all but to run the fire-resistive gypsum wall board to the floor behind the tub and/or shower flange before placing the tub or shower unit and then placing the required water board over the tub flange. Please provide a detail to demonstrate this procedure and provide detail bugs onto the floor plans to direct the user to the appropriate detail.
75. Horizontal assemblies shall be continuous without openings, except as permitted by this section and section 712. Section 711.2.2.
76. Where a horizontal assembly separates mixed occupancies, the assembly shall have a fire-resistance rating of not less than that required by Section 508.4 based on the occupancies being separated. Section 711.2.4.1.
77. Where a horizontal assembly separates a single occupancy into different fire areas, the assembly shall have a fire-resistance rating of not less than that required by Section 707.3.10. Section 711.2.4.2.
78. Shaft enclosures shall be constructed as fire-barriers in accordance with Section 707 or horizontal assemblies shall be constructed in accordance with 711, or both. Section 713.2.

79. Shafts that do not extend to the bottom of the building or structure shall comply with one of the following:
- They shall be enclosed at the lowest level with construction of the same fire-resistance rating as the lowest floor through which the shaft passes but not less than the rating required for the shaft enclosure
 - They shall terminate in a room having a use related to the purpose of the shaft. That room shall be separated from the rest of the building with a fire barrier constructed in accordance with Section 707 or 711 or both. The fire-resistance rating and opening protectives shall be at least equal to the protection required for the shaft enclosure.
 - They shall be protected by approved fire dampers installed in accordance with their listing at the lowest floor level within the shaft enclosure. There are three exceptions to this provision. Section 713.11.
80. A shaft enclosure that does not extend to the underside of the roof sheathing, deck or slab of the building shall be enclosed at the top with construction of the same fire-resistive rating as the top most floor penetrated by the shaft, but not less than the fire-resistive rating required by the shaft. Section 713.12.
81. A shaft enclosure containing a recycling or waste or linen chute shall not be used for any other purpose and shall be enclosed in accordance with Section 713.4. Openings into the shaft, from access rooms and discharge rooms shall be protected in accordance with this section and Section 716. Openings into chutes shall not be located in corridors. Doors into chutes shall be self-closing upon the actuation of a smoke detector in accordance with Section 716.5.9.3, except that heat-activated closing devices shall be permitted between the shaft and the discharge room. Section 713.13.1.
82. Access openings for waste or linen chutes shall be located in rooms or compartments enclosed by not less than 1-hour fire-barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with 711 or both. Openings into the access rooms shall be protected by fire-rated assemblies having a rating of not less than 45-minutes. Doors shall be self or automatic closing upon the detection of smoke in accordance with Section 716.5.9.3. Section 713.13.3.
83. Fire-doors shall be self- or automatic-closing in accordance with this section. Self-closing chute intake doors shall not fail in a “door open” position in the event of a closer failure. Section 716.5.9. This includes all fire-doors, whether 20-minute, 60-minute, or 90-minute. These doors must be equipped with a latch. Section 716.5.9.1.
84. Unless otherwise, specifically permitted, single fire doors and both leaves of pairs of fire doors shall be provided with an active latch bolt that will secure the door when it is closed. Section 716.5.9.1.
85. Chute intake doors shall be positive latching; remaining latched and closed in the event of latch spring failure during a fire emergency. Section 716.5.9.1.1.

86. Automatic-closing doors installed in the following locations shall be automatic-closing by the actuation of smoke detectors installed in accordance with Section 907.3 or by loss of power to the smoke detector or hold-open device. Section 716.5.9.3.
- Doors installed across a corridor
 - Doors installed in the enclosures of exit access stairways and ramps in accordance with Sections 1019 and 1023, respectively
 - Doors that protect openings in exits or corridors required to be of fire-resistive construction.
 - Doors that protect openings in walls capable of resisting the passage of smoke in accordance with Section 509.4.
 - Doors installed in smoke-barriers in accordance with Section 709.5.
 - Doors installed in fire-partitions in accordance with Section 708.6.
 - Doors installed in a fire-wall in accordance with Section 706.8.
 - Doors installed in shaft enclosures in accordance with Section 713.7.
 - Doors installed in refuse and laundry chutes and access and termination rooms in accordance with Section 713.13. Automatic-closing chute intake doors installed in refuse and laundry chutes shall also meet the requirements of Sections 716.5.9 and 716.5.9.1.1.
 - Doors installed in the walls for compartments of underground buildings in accordance with Section 405.4.2.
 - Doors installed in the elevator lobby wall of underground buildings in accordance with Section 405.4.3.
 - Doors installed in smoke partitions in accordance with Section 710.5.2.3.
87. Fire dampers shall be comply with the requirements of UL 555. Only fire dampers ceiling radiation dampers labeled for use in dynamic systems shall be installed in heating, ventilation and air-conditioning systems to operate with fans on during a fire. Section 717.3.1.
88. Fire Dampers, smoke dampers, combination fire-smoke dampers, ceiling radiation dampers, and corridor dampers, shall be provided at the locations prescribed in Sections 717.5.1 through 717.5.7 and 717.6. Where an assembly is required to have both fire dampers and smoke dampers, combination fire-smoke dampers or a fire damper and a smoke damper shall be provided. Section 717.5.
89. Duct and air transfer openings in fire-barriers shall be protected with approved fire dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate enclosures for interior exit stairways and ramps, and exit passageways except as permitted by Sections 1023.5 and 1024.6 respectively. Section 717.5.2.
90. Suspended acoustical ceilings shall be installed in accordance with the provisions of ASTM C 635 and ASTM C 636. Section 808.1.1.1.
91. Fire protection systems shall be installed, repaired, operated and maintained in accordance with this code, the International Fire Code. Section 901.2.
92. Fire sprinkler systems are required for all assembly occupancies where the fire area has an occupant load that exceeds 300 **OR** the assembly occupant load is on a level other than the level of exit discharge. Sections 903.2.1.1 through 903.2.1.4. Section 903.2.1.

93. An automatic fire sprinkler system shall be provided for fire areas containing ‘Use Group A-2’ occupancies and intervening floors of the building where one of the following conditions exist:
- The fire area exceeds 5,000 square feet.
 - The fire area has an occupant load of 100, or more.
 - The fire area is located on a floor other than the level of exit discharge.
- Section 903.2.1.2.
94. An automatic fire sprinkler system shall be provided for fire areas containing ‘Use Group A-3’ occupancies and intervening floors where one of the following conditions exist:
- The fire area exceeds 10,000 square feet (Snohomish County Ordinance)
 - The fire area has an occupant load of 300 or more.
 - The fire area is located on a floor other than the level of exit discharge.
- Section 903.2.1.3.
95. An automatic fire sprinkler system shall be provided for fire areas containing ‘Use Group A-3’ occupancies and intervening floors where one of the following conditions exist:
- The fire area exceeds 10,000 square feet (Snohomish County Ordinance)
 - The fire area has an occupant load of 300 or more.
 - The fire area is located on a floor other than the level of exit discharge.
- Section 903.2.1.3.
96. An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes shall have additional sprinkler heads installed at alternate floors and at the lowest intake. IBC, Section 903.2.11.2.
97. An automatic fire sprinkler system shall be installed in all ‘Use Group M’ occupancies when more than 5,000 square feet of said occupancy is used for the display and sales of upholstered furniture. Section 903.2.7.4, as amended by the State of Washington.
98. An automatic fire sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a ‘Use Group R’ fire area. Section 903.2.8.
99. Sprinklers shall be installed throughout with an automatic sprinkler system in accordance with this section and NFPA13, except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2. Section 903.3.1.1.
100. Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels, and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit, with 7 exceptions. Section 903.4.
101. Class III standpipes shall be installed throughout buildings where the floor level of the highest story is located more than 30’ above the lowest level of fire department vehicle access, or where the floor level of the lowest story is more than 30’ below the highest level of fire department vehicle access. Section 905.3.1.

102. Portable fire extinguishers shall be installed in all of the following locations:
1. In Groups A, B, E, F, H, I, M, R-1, R-2, R-4 AND S occupancies.
Exception: In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in items 2 – 6 where each dwelling unit is provided with a portable fire extinguisher having a minimum rating of 1-A: 10-B: C.
 2. Within 30' of commercial cooking equipment.
 3. In areas where flammable or combustible liquids are stored, used or dispensed.
 4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315 of the International Fire Code.
 5. Where required by the International Fire Code sections indicated in Table 906.1.
 6. Special hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire official.
Section 906.1.
103. The size and distribution of portable fire extinguishers shall be in accordance with Sections 906.3.1 through 906.3.4. Section 906.3.
104. Fire extinguishers shall be located in conspicuous locations where they will be readily accessible and immediately available for use. These locations shall be along normal paths of travel unless otherwise approved by the fire marshal. Section 906.5.
105. Fire extinguishers shall have a 2A10BC rating and shall be placed in a manner that they are within a 75' travel distance from every portion of the tenant space. There shall be at least one fire extinguisher provided for each 3,000 square feet of floor area. Tables 906.3(1) and 906.3(2).
106. Construction documents for fire alarm systems shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that it will conform to the provisions of this code, the International Fire Code, and relevant laws, ordinances, rules and regulations as determined by the fire code official. Section 907.1.1.
107. Shop drawings (Construction documents) for the fire alarm system shall be submitted for review and approval prior to system installation. Construction documents shall include, **but not limited to**, all of the following where applicable to the system being installed:
- A floor plan **that indicates the use of all rooms**.
 - Locations of alarm-initiating devices.
 - Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
 - Design minimum audibility level for occupant notification
 - Location of fire alarm control unit, transponders, and notification power supplies
 - Annunciators.
 - Power connection.
 - Battery calculations.

- Conductor type and sizes.
- Voltage drop calculations.
- Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.
- Details of ceiling height and construction.
- The interface of fire safety control functions.
- Classification of the supervising station.

Section 907.1.2

108. A minimum of a NICET LEVEL III designer is required for Fire Alarm System designs. Section 907.10.2, as amended by the State of Washington.

109. A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. Section 907.2.

110. Single and multiple-station smoke alarms complying with UL217 are required in all 'Group R' occupancies and shall be installed in accordance with Section 907.2.11.1 through 907.2.11.4 and NFPA72. Section 907.2.11.

111. Duct smoke detectors complying with Section 907.3.1 shall be located as follows:

- In each main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2000cfm per minute. Such detectors shall be located in a serviceable area downstream of the last duct inlet.
- At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air conditioning system. IN Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return air riser carrying not more than 5,000cfm and serving not more than 10 air inlet openings.

Section 907.2.13.1.2.

112. Fire alarm systems and smoke alarms shall be installed in Group R-2 occupancies as required in Sections 907.2.9.1 through 907.2.9.3. Section 907.2.9.

113. In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit, notification appliance circuit power extenders, and supervising transmitting equipment. Section 907.4.1.

114. Visible fire alarm notification appliances shall be provided in public and common areas. Common use areas are commonly those areas where two or more person can be expected to gather or work. Section 907.5.2.3.1.

115. In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with Chapter 10 of ICC A117.1. Such capacity shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances. Section 907.5.2.3.4.
116. A zoning indicator panel and the controls shall be provided in an approved location. IBC, Section 907.6.3.1.
117. Fire alarm systems required by this chapter or by the International Fire Code shall be monitored by an approved supervising station in accordance with NFPA72. Section 907.6.5.
118. Emergency alarm systems (Carbon Dioxide) shall be provided where required for compliance with Section 5307.5.2 of the International Fire code shall be provided where it is required for compliance with Section 5307.5.2 of the International Fire Code. Section 908.7.
119. Smoke control system shall be supplied with standby power in accordance with Section 2702. Section 909.11.
120. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gears and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour fire-barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711 or both. The transfer to full standby power shall be automatic and within 60 seconds of the failure of the primary power source. Section 909.11.1.
121. Elements of the smoke control system relying on volatile memories or the like shall be supplied with uninterruptable power sources of sufficient duration to span 15-minute primary power interruption. Elements of the smoke controls system susceptible to power surges shall be suitably protected by condensers, suppressors, or other approved means. Section 909.11.2.
122. The stairway or ramp shaft shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of .10" of water in the shaft, relative to the vestibule with all the doors closed. Section 909.20.4.4.
123. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the vestibule is not required, provided that the interior exit stairway or ramp is pressurized to not less than .10" of water and not more than .35" of water in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Section 909.20.5.

124. The activation of the ventilating equipment required by the alternatives in section 909.20.4 and 909.20.5 shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smoke-proof enclosure. When the closing device for the stairway and ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3. Section 909.20.6.
125. Mechanical vestibule and stair and ramp shaft ventilation systems and automatic fire detection systems shall be powered by an approved standby power in accordance with Section 2702. Section 909.20.6.2.
126. Before the mechanical equipment is approved, the system shall be tested in the presence of the building official to confirm that the system is operating in compliance with these requirements. Section 909.20.6.3.
127. Vertical shafts shall be identified as required by Sections 914.1.1 and 914.1.2. Section 914.1.
128. Emergency responder radio coverage shall be provided in all new buildings in accordance with Section 510 of the International Fire Code. Section 916.1.
129. Buildings or portions of buildings thereof shall be provided with a “means of egress” system as required by this Chapter. The provisions of this Chapter shall control the design, construction and arrangement of “means of egress” components required to provide an approved “means of egress” from structures and portions thereof. Section 1001.1.
130. Means of Egress = “A continuous & unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit, and the exit discharge”. Section 202.
131. Structural elements, fixtures or furnishings (including drinking fountains, fire extinguishers, etc.) shall not project horizontally more than 4” over any walking surface between the height of 27” and 80” above the walking surface. Section 1003.3.3.
132. Every room or space used for assembly shall have the occupant load posted in a conspicuous place near the main exit or exit access doorway. Said sign shall be of an approved legible permanent design and be maintained by the owner. Section 1004.3.
133. Two exit access doorways are required in boiler, incinerator, and furnace rooms where the area is over 500 square feet and any fuel-fired piece of equipment exceeds 400,000btu’s input capacity. Section 1006.2.2.1.
134. Refrigeration machinery rooms or spaces having a floor area larger than 1000 square feet shall have not less than two exits or exit access doorways. Section 1006.2.2.2.

135. The means of egress system serving any story and occupied roof be provided with the number of exits, or access to exits based on the aggregate occupant load served in accordance with this Section. The path of egress travel to an exit shall not pass through more than one adjacent story. Section 1006.3.
136. The means of egress serving a room or space shall be illuminated at all times the room or space is occupied. Section 1008.2.
137. If you so desire, this can be accomplished through the use of lights connected to occupancy sensing devices or perhaps low light photocell sensors. If you do not wish to use one of those systems, then these lights will need to be wired in a fashion so that they are on continuously. The means of egress illumination level shall be not less than 1 foot-candle at the walking surface. Section 1008.2.1.
138. **The power supply for the means of egress illumination shall normally be provided by the premises electrical system.** Section 1008.3.
139. **In the event of failure of normal power in rooms and spaces that require two or more means of egress, an emergency electrical system shall automatically illuminate the following areas:**
- Aisles
 - Corridors
 - Exit access stairways and ramps
- Section 1008.3.1.
140. In buildings that require two or more means of egress, an emergency electrical system shall automatically illuminate all of the following:
- Interior exit access stairways and ramps
 - Interior and exterior exit stairways and ramps
 - Exit passageways
 - Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.1.
 - Exterior landings as required by Section 1010.1.6 for exit doorways that lead directly to the exit discharge.
- Section 1008.3.2.
141. In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:
- Electrical equipment rooms
 - Fire command centers
 - Fire pump rooms
 - Generator rooms
 - Public restrooms with an area greater than 300 square feet
- Section 1008.3.3.
142. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle and a minimum at any point of 0.1 foot-candle. Section 1008.3.5.

143. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress. Section 1009.1.
144. Pivot or side-hinged swing doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons. Section 1010.1.2.1.
145. In building where a required accessible floor is four or more stories above or below a level of exit discharge, not less than one required accessible “means of egress” shall be an elevator complying with Section 1009.4. Section 1009.2.1.
146. In order to be considered a part of the accessible “means of egress” an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Chapter 27 and Section 3003. The elevator shall be accessed from an area of refuge complying with Section 1009.6. Section 1009.4.
147. Every required area of refuge shall be accessible from the space that it serves by an accessible “means of egress”. Section 1009.6.
148. Every required area of refuge shall have direct access to a stairway complying with Sections 1009.3 and 1023, or an elevator complying with Section 1009.4. Section 1009.6.2.
149. Areas of refuge shall be provided with a two-way communication system complying with Sections 1009.8.1 and 1009.8.2. Section 1009.6.5.
150. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. Section 1009.6.
151. Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this Section. Section 1010.1.
152. Egress doors shall be of the pivoted or side hinged swinging type. Section 1010.1.2.
153. Landings and/or floors are required at each side of each door. Landings must have a width not less than the width of the door. Sections 1010.1.5 and 1010.1.6. Landings shall have a length, in the direction of exit travel of not less than 60” to meet accessibility guidelines.
154. Thresholds at side-hinged swinging doorways shall not exceed .75” above the finished floor or landing for sliding glass doors serving dwelling units or .5” above the finished floor or landing for other doors. Section 1010.1.7.
155. Space between two doors in a series shall be not less than 48” minimum, plus the width of any door swinging into that space. Doors in a series shall either swing in the same direction or away from the space between doors. Section 1010.1.8

156. Egress doors shall be readily openable from the egress side without the use of a key or any special knowledge or effort. Section 1010.1.9.
157. Door handles, pulls, latches, locks, and other operating devices required to be accessible by Chapter 11 shall be installed between 34" and 48" above the floor surface and shall not require tight grasping, pinching or twisting of the wrist to operate. Sections 1010.1.9.1 and 1010.1.9.2.
158. In buildings housing use groups A having an occupant load of 300 or less, B, F, M, and S, and in places of religious worship, the main exterior door or pair of doors (and only those doors), are permitted to be equipped with key-operated devices PROVIDED:
- The locking device is readily distinguishable as locked
 - A readily visible sign is posted on the egress side on or adjacent to the door stating: **"THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED."**
 - With the understanding that the use of key-operated locking device is revocable by the building official for due cause.
- Section 1010.1.9.3.
159. Manually operated flush bolts or surface bolts are not permitted. Section 1010.1.9.4.
160. The unlatching of any door or door leaf, including the doors serving the secure area, shall not require more than one operation. If dead bolts are used, they must release when the door lever is activated. Section 1010.1.9.5. When that door lever is activated, the latch and any other locking hardware must activate at the same time permitting an instantaneous path of exit travel.
161. **Each door in the means of egress system** from a 'Group A' or 'Group E' occupancy, having an occupant load of 50 or greater, shall not be provided with a lock or latch unless it is panic hardware or fire exit hardware. Section 1010.1.10.
162. Gates used as a component of the means of egress shall conform to the applicable requirements for doors. Section 1008.2.
163. Stairways serving occupied portions of a building shall comply with the requirements of Sections 1011.2 through 1011.13. Alternating tread devices shall comply with Section 1011.14. Ships ladders shall comply with Section 1011.15. Ladders shall comply with Section 1011.16. Section 1011.1.
164. The required capacity of stairways shall be determined as specified in Section 1005.1, but the minimum width shall not be less than 44". See Section 1009.3 for accessible means of egress stairways. Section 1011.2.
165. Stair riser height shall be not less than 4" and not more than 7". The riser height shall be measured vertically between the nosings of the adjacent treads. The stair tread shall be not less than 11". Variation of risers and treads shall not exceed 3/8" from the smallest to the largest within any flight of stairs. Rectangular tread depths shall be 11" minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread nosing. Section 1011.5.2.

166. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8" in any flight of stairs. Section 1011.5.4.
167. Risers shall be solid and vertical or sloped under the tread above from the underside of the nosing above at an angle not to exceed 30° from the vertical. Section 1011.5.5.3.
168. There shall be a floor or landing at the bottom and top of each stairway. The width shall be not less than the width of the stairway they serve. Every landing or floor surface shall have a minimum width measured perpendicular to the direction of travel equal to the width of the stairway. Where the stairway has a straight run, the depth need not exceed 48". Section 1011.6.
169. There shall not be enclosed useable space under exterior exit stairways unless the space is completely enclosed in one-hour fire-resistance rated construction. The open space under exterior stairways shall not be used for any purpose. Section 1011.7.4.
170. The flight of stairs shall not have a vertical rise greater than 12' between floor levels or landings. Section 1011.8.
171. Stairways shall have handrails on each side and shall comply with Section 1014. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407. Section 1011.11.
172. In buildings four or more stories above grade plane, one stairway shall extend to the roof surface unless the roof has a slope steeper than four units vertical to 12 units horizontal. Section 1011.12.
173. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway. Section 1009.11.12.1
174. Where a roof hatch opening is located within 10' of the roof edge, such roof access or roof edge shall be protected by guards installed in accordance with the provisions of Section 1013. Section 1009.11.13.
175. Ramps used for accessible ingress and egress shall have a running slope not greater than 1 unit vertical in 12 units horizontal. Section 1012.2.
176. The slope measured perpendicular to the direction of travel on a ramp (cross slope) shall not be steeper than 1:48. Section 1012.3.
177. The maximum rise for any ramp run shall be 30". Section 1012.4.
178. The minimum width of a means of egress ramp shall not be less than that required for corridors by Section 1020.2. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36" minimum. Section 1012.5.1.
179. The landing length at the top and bottom of ramps shall be not less than 60" in the direction of travel. Section 1012.6.3.
180. The surface of ramps shall be of slip-resistant materials. Section 1012.7.1.

181. Ramps having a rise greater than 6" shall have handrails on both sides that comply with Section 1014. Section 1012.8. That requirement applies whether the ramp is inside or outside the structure.
182. Edge protection complying with Section 1012.10.1 or 1012.10.2 shall be provided on each side of ramp runs and at each side of ramp landings. Section 1012.10.
183. Exit and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. Access to exits shall be marked by readily visible exit signs in cases where the exit or path of egress travel is not immediately visible to the occupants. Exit sign placement shall be such that no point in an exit access corridor is more than 100' or the listed viewing distance for the sign, whichever is less. Section 1013.1.
184. A tactile sign stating **EXIT** in visual characters, raised characters and Braille and complying with ICC A117.1 shall be provided adjacent to each door:
- Leading to an area of refuge
 - Leading to an exterior area for assisted rescue
 - To each exit stairway or ramp
 - To an exit passage
 - To the exit discharge.
 - Section 1013.4.
- This is a totally different and separate requirement from the requirement found in Section 1013.1.
185. A tactile sign stating **EXIT** in visual characters, raised characters and Braille and complying with ICC A117.1 shall be provided adjacent to each door:
- Leading to an area of refuge
 - Leading to an exterior area for assisted rescue
 - To each exit stairway or ramp
 - To an exit passage
 - To the exit discharge.
 - Section 1013.4.
- This is a totally different and separate requirement from the requirement found in Section 1013.1.
186. Exit signs shall be illuminated at all times. Sections 1013.5 and 1013.6.2.
187. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90-minutes in case of primary power loss, the sign illumination shall means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. Section 1013.6.3.
188. Handrails serving stairways, ramps, stepped aisles, and ramped aisles shall be adequate in strength and attachment in accordance with 1607.8. Handrails required for stairways by Section 1011.11 shall comply with Sections 1014.2 through 1014.9. Handrails required for ramps by Section 1012.8 shall comply with Sections 1014.2 through 1014.8. Section 1014.1.
189. Handrail height shall be measured above the stair tread nosings at a uniform height of not less than 34" and not more than 38". Section 1014.2.

190. Handrails with a circular cross section shall have an outside diameter of not less than 1 ¼" and not more than 2". If the handrail is not circular, it shall have a perimeter dimension of at least 4" and not more than 6 ¼" with a maximum cross section of 2". Section 1014.3.
191. Handrails shall be continuous without interruption by newel posts or other obstructions. Section 1014.4.
192. Handrails shall not rotate within their fittings. Section 1014.5.
193. Where handrails are not continuous between stair flights or ramp runs, the handrails on both sides shall extend horizontally at least 12" beyond (in the direction of travel, not wrapped around a corner) the top riser and continue to slope for the depth of at least one tread beyond (in the direction of travel, not wrapped around a corner) at the bottom riser. Section 1014.6.
194. Clear space between a handrail and a wall or other surface shall be a minimum of 1 ½". The handrail shall be free of any sharp or abrasive elements. Section 1014.7.
195. Projections by handrails or other items into the required width of stairs shall be not exceed 4 ½" at or below the handrail height. Section 1014.8.
196. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, aisles, stairs, ramps, landings, etc. where said walking surface is more than 30" higher than the surface or grade below. Guard and attachment strength shall be in accordance with Section 1607.8. Section 1015.2.
197. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements of 1607.7, complying guards shall also be located along glazed sides of open-sided walking surfaces. Section 1015.2.1.
198. Guards shall be not less than 42" high measured as follows:
- From the adjacent walking surface;
 - On stairs, from the line connecting the leading edges of the tread nosings; and
 - On, ramps, from the ramp surface at the guard
- Section 1015.3
199. Required guards shall not have openings which allow the passage of a sphere 4" in diameter from the walking surface to the required guard height. Section 1015.4.
200. The triangular openings in guards formed where the riser, tread, and bottom rail of the guard converge shall not be permitted to be large enough to allow the passage of a 6" sphere. Section 1015.4, exception #2.
201. Guards shall be provided where various components that require service are located within 10' of a roof edge or open side of a walking surface that is greater than 30" above a floor, roof or grade below. Section 1015.6.

202. Guards shall be provided where a roof hatch opening is located within 10' of a roof edge or open side of a walking surface and such edge is 30" or more above the floor, roof or grade below. Section 1015.7.
203. In 'Use Group R-2' and 'Use Group R-3' occupancies, one and two-family, and multiple family dwellings, where the opening of the sill portion of an operable window is located more than 72" above the finish grade or other surface below, the lowest part of the clear opening of the window shall be at a height of 36" above the finished floor surface of the room in which the window is located. Section 1015.8.
204. Travel distance within the exit access portion of the means of egress system shall be in accordance with this section. Section 1017.1.
205. Exit access travel distance shall not exceed the values given in Table 1017.2. Section 1017.2.
206. The proper method of determining exit path of travel distance is to measure from the most remote area, room or building through the exit system using 90° angles so as to compensate for unknown placement of furniture in any given room. Section 1017.3.
207. Travel distance on exit access stairways shall be a measurement taken on a plane parallel and tangent to the stair tread nosings and in the center of the stairway and landings. Section 1017.3.1.
208. Corridors shall be fire-resistance rated in accordance with Table 1020.1. The corridor walls required to be fire-resistance rated shall comply with Section 708 for fire-partitions. Section 1020.1.
209. The required capacity of corridors shall be determined as specified in Section 1005.1; but the minimum width shall not be less than that specified in Table 1020.2. Section 1020.2.
210. Fire-resistant-rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms. Where the path of exit travel within a fire-resistance-rated corridor includes travel along unenclosed exit access stairways or ramps, the fire-resistance-rating shall be continuous for the length of the stairway or ramp and for the length of the connecting corridor on the adjacent floor leading to the exit. Section 1020.6.
211. Interior exit stairways and interior exit ramps serving as an exit component in a means of egress system shall comply with the requirements of this Section. Interior exit stairways and ramps shall be enclosed and lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1024, except as permitted in Section 1028.1. An interior exit stairway shall not be used for any purpose other than as a means of egress and a circulation path. Section 1023.1.

212. Enclosures for interior exit stairways and ramps shall be constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with 711, or both. Interior exit stairways and ramp enclosures shall have a fire-resistance rating of not less than two-hours where connecting four stories or more and one hour where connecting less than four-stories. Basements shall be considered as stories when determining fire-resistance requirements. Interior exit stairways shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed two-hours. Section 1023.2.
213. An interior exit stairway and ramp shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent person from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1013. Section 1023.8.
214. A sign shall be provided at each floor landing in an interior exit stairway connecting more than three stories designating the floor level, the terminus at top and the bottom of the interior exit stairway and the identification of the stairway. The sign shall also state the story of, and direction to the exit discharge and the availability of roof access from the interior exit stairway for the fire department. The sign shall be located 5' above the floor landing in a position that is readily visible when the doors are in the open and closed positions. In addition to the stairway identification sign, a floor level sign in visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the into the corridor that identifies each floor level. Stairway identification signs shall comply with all requirements itemized in Section 1023.9.1. Section 1023.9.
215. At landing in interior exit stairways where two or more doors lead to the floor level, any door with direct access to an enclosed elevator lobby shall be identified by signage located on the door or directly adjacent to the door stating "Elevator Lobby". Section 1023.10.
216. Where required by Section 403.5.4 or 405.7.2, interior exit stairways and ramps shall be smoke-proof enclosures in accordance with Section 909.20. Section 1023.11.
217. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1, except those portions of ICC A117.1 amended by this section. Section 1101.2. Please review all elements of your design to ensure that they are in compliance. This compliance needs to be fully demonstrated in the construction drawings.
218. The technical criteria in Chapters 3 through 9, Sections 1002, 1003 and 1006 and chapter 11 of this standard makes sites, facilities. Buildings, and elements accessible to and useable by people with such disabilities as the inability to walk, difficulty in walking, reliance on walking aids, blindness and visual impairments, deafness and hearing impairment, incoordination, reaching and manipulation impairment, lack of stamina, difficulty interpreting and reacting to sensory extremes of physical size. The intent of these sections is to allow a person with a physical disability to independently get to, enter, and use a site, facility, building or element. ICC A117.1, Section, 101.
219. The minimum width of an exterior route of travel is 44". Section 1101.2.1, as amended by the State of Washington.

220. At least one accessible route within the site shall be provided from public transportation stops, accessible parking, accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served. Section 1104.1.
221. Within a site, at least one accessible route of travel shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on that same site. Please clearly demonstrate the accessible route of travel. Section 1104.2.
222. When a building or portions of a building is required to be accessible, at least one accessible route of travel shall be provided to each portion of the building, to accessible building entrances connecting accessible pedestrian walkways and the public way. Section 1104.3.
223. Accessible routes shall coincide with or be located in the same area as a general circulation path. Where the circulation path is interior, the accessible route shall also be interior. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces. Section 1104.5.
224. In addition to accessible entrances required by Sections 1105.1.1 through 1105.1.6, not fewer than 60% of all public entrances shall be accessible. Section 1105.1.
225. Where provided, direct access for pedestrians from parking structures to building or facility entrances shall be accessible. Section 1105.1.1.
226. The number of accessible barrier free parking spaces required shall be based on the total number of parking spaces provided on site. Where more than one parking facility is provided on site, the number of accessible parking spaces required shall be calculated separately for each parking facility. Section and Table 1106.1.
227. Where parking is provided, within or beneath a building, accessible parking spaces shall also be provided within or beneath a building. Section 1106.2.4.
228. One of every six barrier free stalls provided shall be designed and installed as a “VAN” accessible barrier free parking stall. Section 1106.5.
229. Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. Accessible parking shall be dispersed among the various types of parking facilities provided. Section 1106.6.
230. Car parking spaces shall be 96” in width and Van parking spaces shall be 132” in width. ICC A117.1, Section 502.2.
231. Car and Van parking spaces shall have an adjacent access aisle complying with Section 502.4. ICC A117.1, Section 502.4.
232. Access aisles serving car and van parking spaces shall be 60” minimum in width. ICC A117.1, Section 502.4.2.

233. Access aisles shall extend the full length of the parking spaces they serve. ICC A117.1, Section 502.4.3.
234. Access aisle shall be marked so as to discourage parking in them. ICC A117.1, Section 502.4.4.
235. Parking spaces and access aisles shall comply with Section 302 and have surface slopes not to exceed 1:48. Access aisles shall be at the same level as the parking spaces they serve. ICC A117.1, Section 502.5.
236. Where accessible parking spaces are required to be identified by signs, the signs shall include the International symbol of accessibility complying with Section 703.6.3.1. Signs identifying Van parking spaces shall contain the designation "VAN ACCESSIBLE". Signs shall be placed so the bottom of the sign is not less than 60" above the floor or surface level of the parking space. ICC A117.1, Section 502.7.
237. A vertical clearance of 98" minimum shall be provided at the following locations:
- Parking spaces for vans.
 - The access aisles serving parking spaces for vans.
 - The vehicular routes serving parking spaces for vans.
- ICC A117.1, Section 502.8.
238. All dwelling units on site shall be considered to determine the required number of 'Type A' units. Accessible and 'Type A' units shall be apportioned among efficiency dwelling units, single bedroom units, and multiple bedroom units, in proportion to the number of such units provided in the building. Section 1107.6.2.1.1, as amended by the State of Washington.
239. Where there are four or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling unit and every sleeping unit intended to be so occupied shall be a 'Type B' unit. Section 1107.6.2.2.2.
240. Each (EVERY) toilet room and bathing room shall be accessible, (to other than able-bodied persons.) In other words they must meet all provisions of the barrier free accessibility code. Section 1109.2. The toilet rooms shall be in accordance with the 2015 International Building Code, the 2009 ICC A117.1 Accessible Design Manual, and the Washington State Amendments thereto. At least one of each type of fixture, element, control or dispenser in each accessible toilet room or bathing room shall be accessible. Please provide all detailing to demonstrate 100% code compliance, including, but not necessarily limited to elevations for the accessible showers demonstrating compliance with requirements for shower heads, seats and grab bar placement and requisite dimensions. This will include fully dimensioned elevation and plan views all elements in the toilet rooms.
241. When the occupant load exceeds 30, not less than one drinking fountain for the first 150 occupants shall be provided. When the occupant load exceeds 150, one additional drinking fountain is required for each 500 occupants. Section 2902.5.1, as amended by the State of Washington.

242. Where drinking fountains are provided on an exterior site, on a floor, or within a secured area, the drinking fountains shall be provided in accordance with Sections 1109.5.1 and 1109.5.2. Section 1109.5.
243. Where drinking fountains are provided, no fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirement for standing persons. Exceptions:
- A single drinking fountain that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.
 - Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30" minimum above the floor.
 - Section 1109.5.1
 - Please provide an elevation view of the proposed drinking fountains to demonstrate code compliance.
244. Construction documents shall show the size, section and relative locations of structural members with floor levels, column centers, and offsets dimensioned. The design loads and other information pertinent to the structural design required by Sections 1603.1.1 through 1603.1.9 shall be indicated on the construction drawings. Section 1603.1.
245. The design load-bearing values shall be shown on the construction drawings. Section 1603.1.6.
246. Structural systems and members thereof shall be designed to have adequate stiffness to limit deflections and lateral drift. See Section 1212.1 of the ASCE7-10 for drift limits applicable to earthquake loading. Section 1604.3.
247. The deflection of reinforced concrete structural members shall not exceed that permitted by ACI 318. Section 1604.3.2.
248. Load effects on structural members and their connections shall be determined by methods of structural analysis that take into account equilibrium, general stability, geometric compatibility, and both short and long term material properties. The total lateral force shall be distributed to the various vertical elements of the lateral force resisting system in proportion to their rigidities, considering the rigidity, of the of the horizontal bracing system, or diaphragm. Section 1604.4.
249. Each building or structure shall be assigned a risk category in accordance with Table 1604.5. Where a referenced standard specifies an occupancy category, the risk category shall not be taken as lower than the occupancy category specified therein. Where the referenced standard specifies that the assignment of a risk category be in accordance with ASCE7, Table 1.5-1, Table 1604.5 shall be used in lieu of ASCE7, Table 1.5-1. Section 1604.5.
250. Buildings and other structures, and portions thereof, shall be provided with anchorage in accordance with Sections 1604.8.1 through 1604.8.3, as appropriate. Section 1604.8.

251. Structural members, systems, components, and cladding shall be designed to resist forces due to earthquakes and wind, with consideration for overturning, sliding and uplift. Continuous load paths shall be provided for transmitting these forces to the foundation. Section 1604.9.
252. Guards shall be designed to resist a **single concentrated load of 200 pounds applied at any direction at any point along the top**, and have attaching devices and supporting structure to transfer the loading to the appropriate elements of the structure. Section 1607.8.1.1.
253. Guard **components shall be designed to resist a horizontally applied load of 50PSF**. Such area shall be calculated to include any/all openings and spaces between rails. Section 1607.8.1.2.
254. Buildings, structures, and parts thereof shall be designed to withstand the minimum wind loads prescribed herein. Decreases in wind loads shall not be made for the effect of shielding by other structures. Section 1609.1.
255. Every Structure, and portion thereof, including non-structural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE7-10, excluding Chapter 14, and appendix 11A. The seismic design category for a structure is permitted to be determined in accordance with Section 1613 or ASCE 7. Section 1613.1.
256. Each building and structure shall be assigned to the more severe seismic design category in accordance with Table 1613.3.5(1) or 1613.5.5(2). Section 1613.3.5.
257. Where special inspections and test are required by Section 1705, the registered design professional in responsible charge is required to prepare a statement of special inspections in accordance with Section 1704.3.1 for submittal by the applicant with Section 1704.2.3. Section 1704.3.
258. The statement of special inspections is required to identify all of the elements noted in Section 1704.3.1. Section 1704.3.1.
259. A minimum number of plumbing fixtures are required for each structure in accordance with Table 2902.1, as amended by the State of Washington. Section 2902.1.
260. The structural engineer needs to include a design criteria sheet in the structural calculation package. Said sheet needs to detail all design loads and all information about the materials used to resist those loads. The design criteria for the site are:
- Wind Speed - 110MPH Basic Wind Speed / Risk II & III Category Buildings and other Structures / ASCE7-10, Figure 26.5-1A
 - Wind Exposure Category - To be determined by the engineer after making a site visit / in this location it is likely to be a minimum of Category C and possible Category D
 - Site Classification - 'Must be determined through a geotechnical report
 - Soil bearing Capacity - Must be determined through a geotechnical report
 - Frost depth - 18" below grade
 - Seismic Design Category - 'D'
 - Snow Load - 25PSF Minimum **Roof Design Snow**

261. Elevator Machine Rooms, machinery spaces that contain the driving machine and control room or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent ventilation or air-conditioning system to protect against the overheating of the electrical equipment. Ventilation systems shall use outdoor make-up air. The system shall service the equipment space only, and shall be capable of maintaining the temperature and humidity within the range established by the manufacturer's specifications. Where no manufacturer's specifications are available, the equipment space temperature shall be maintained at no less than 55°F and no more than 90°F. Section 3005.2, as amended by the State of Washington.
262. The elevator machine room serving a pressurized elevator hoistway shall be pressurized upon activation of a heat or smoke detector located in the elevator machine room. Section 3005.3.
263. Elevator Machine Rooms, control rooms control spaces and machinery spaces outside of but attached to a hoistway that have openings into the hoistway shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with 711, or both. The fire-resistance rating shall not be less than the required rating of the hoistway enclosure served by the machinery. Openings in the fire-barriers shall be protected with assemblies having a fire-protection rating not less than that required for the hoistway enclosure doors. Section 3005.4.
264. Where elevator hoistways, elevator machine rooms, control rooms and control spaces containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with NFPA72, Section 6.16.4. Elevator Shutdown shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means of disconnect shall not be self-resetting. The activation of automatic sprinklers outside the hoistway, machine room, machinery space, control room or control space shall not disconnect the main line power supply. Section 3006.5.
265. Daylight responsive controls complying with Section C405.2.4.1 shall be provided to control all electric lights within daylight zones. WSEC, Section 402.4.2.1.
266. All building entrances shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time. The exterior envelope of conditioned vestibules shall comply with the requirements for a conditioned space. WSEC Section C402.5.7.

267. Occupancy sensors shall be installed in all of the following locations:

- Classrooms/Lecture and Training Rooms
- Conference/Meeting and Multi-purpose Rooms
- Copy and Print Rooms
- Lounges
- Employee Lunch and Break Rooms
- Private offices
- Restrooms
- Storage Rooms
- Janitorial Closets
- Locker Rooms
- All other spaces 300 square feet or less and enclosed by floor to ceiling height partitions
- Warehouse Spaces

These automatic control devices shall be installed to automatically turn off lights within 30-minutes of all occupants leaving the space, and shall either be manual on or shall be controlled to automatically turn the lighting on to not more than 50% power.

Exception:

- Full automatic on controls shall be permitted to control lighting in public corridors, stairways, restrooms, primary building entrance areas and lobbies, and areas where manual on operation would endanger the safety or security of the room or the building occupants.
- Shall incorporate a manual control to allow occupants to turn lights off.
- WSEC, Section C405.2.1.

268. Daylight responsive controls complying with Section C405.2.4.1 shall be provided to control lighting in daylight zones in the following spaces:

- Sidelight Daylight Zones as defined in Section C405.2.4.2 with more than 2 general lighting fixtures within the primary and secondary sidelight daylight zones.
- Toplight Daylight Zones as defined in Section C405.2.4.3 2 with more than 2 general lighting fixtures within the primary and secondary daylight zones.
- Section C405.2.4.

269. Where required, daylight responsive controls shall be provided within each space for control of lights within that space, and shall comply with all of the following:

- Lights in primary daylight zones shall be controlled independently of lights in the secondary daylight zone in accordance with Section C405.2.4.2.
- Lights on toplight daylight zones in accordance with Section C405.2.4.3 shall be controlled independently of lights in sidelight daylight zones.
- Daylight responsive controls within each space shall be configured so that they can be calibrated from within that space by authorized personnel.
- Calibration mechanisms shall be readily accessible
- Daylight responsive controls shall be configured to completely shut off all controlled lights in that zone.
- Lights in sidelight daylight zones in accordance with Section C405.2.4.2 facing different cardinal orientations shall be controlled independently of each other.
- Incorporated time delay circuits to prevent cycling of light level changes of less than three minutes.
- The maximum area a single daylight responsive control device serves shall not exceed 2500 square feet.

- Occupant over-ride capability of daylight dimming controls is not permitted, other than a reduction of light output from the level established by the daylighting controls.
- Section C405.2.4.1.

270. Daylight responsive controls shall be configured to automatically reduce the power of general lighting in the daylight zone in response to available daylight, while maintaining uniform illumination in the space through one of the following methods:

- Continuous dimming using dimming ballasts/dimming drivers and daylight sensing automatic controls. The system shall reduce lighting power continuously to less than 15% of rated power at maximum light output.
- Stepped dimming using multi-level switching and daylight sensing controls. The system shall provide a minimum of two steps of uniform illumination between 0 and 100% of rated power at a maximum light output. Each step shall be in equal increments of power, plus or minus 10%.

General lighting within daylight zones in office, classrooms, laboratories, and library reading rooms shall use the continuous dimming method. Stepped dimming is not allowed as a method of daylight zone control in these spaces. Section C405.2.4.1.1.

271. As previously stated, the comments in this letter will undoubtedly fall short of addressing all potential code issues that will likely need to be addressed to complete a code compliant design for the proposed structures. The intent of this letter is to provide some degree of illumination as to the complexity involved in meeting the building codes and associated code required for a successful completion of this project. Please consult the entire body of codes that are being enforced by this jurisdiction for information contained therein for the projected date of submittals.

If I may be of any further assistance to you regarding the above items, you may contact me at 425)262-2683, or e-mail: VMcKinney@co.snoco.org

Sincerely,



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cc: Fire Marshal's Office
Commercial Building Inspector