CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

Proposed
977 Brighton Avenue Apartments
Portland, Maine

Statement of Fire Department Project Review Data

Attached is a preliminary Code Review of the proposed 977 Brighton Avenue Apartments (on the corner of Brighton Avenue and Wessix Street) to be developed, owned and managed by Avesta Housing of Portland.

In summary, the 40 1-BR unit Residential Apartment Building will be design to Type 5A construction (protected wood frame) requirements, 4 stories in height, protected by a monitored fire alarm and 13R sprinkler system. The building is approximately 44' at Brighton Avenue and 46' at the rear due to grade changes.

The building has a gross area of 30,736 SF approximately equally spread of four floors. In addition to the residential units, the remainder of the space included residential support and circulation spaces such as utility, laundry, community, rental office, telemed room, mail services, etc. There are not non-residential primary uses in the building.

Vehicle access to the building can be achieved by on three sides of the buildings and the forth side is easily accessible by foot. There is an existing fire hydrant on the corner of Brighton and Wessex and domestic/sprinkler water supply will likely come off Wessex Street. See site plans for size and location.

To date, hydrant flow data has not been secured to determine NFPA 1 location requirements.

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977 Brighton Ave Apartments **December 21, 2017**
Portland, ME

Code Analysis

Category	IBC 2009 Reference	IBC 2009 Code Requirements	NFPA 101 - 2009 Reference	NFPA 101 - 2009 Code Requirements	Proposed
Use Group	310.1	R-2 (Senior) Apartments	6.1.8.1.5	Residential - New Apartment Building	Apartments
Building Construction	Table 601	Type 5A - Combustible Protected Foundation - Concrete frost wall and slab Exterior walls - 2x6 wood frame with GWB finish. Exterior siding. Interior walls - Wood frame with GWB surfacing Roof - Wood trusses and EPDM Roof	NFPA 220	Construction Type V (111)	
Height & Area Limitations	Table 503	12,000 SF per floor 3 Stories / 50'			
Height Modifications	504.2	Sprinklered NFPA 13 - add 1 story and 20'			Sprinklered - NFPA13
Maximum allowable height		4 stories / 70'			4 stories / 48'-4" height from lowest grade to high point of roof
Area Modifications	506.3	Sprinklered NFPA 13 [I_s = 2]			
	506.2	Not Used			
	506.1	$\{A_t+[A_t x T_f]+[A_t x I_s]\} = A_a$ {12000+[NA]+[12000x2]} =36,000			
Maximum allowable area	506.1	36,000 SF Per Floor			1st Floor = 7,684 SF 2nd Floor = 7,684 SF 3rd Floor = 7,684 SF 4th Floor = 7,684 SF Total Area: 30,736 SF
Fire ratings	Table 602	Loadbearing Ext walls >30' = 1 hr Loadbearing Ext walls 10'-30' = 1 hr Nonloadbearing Ext walls >30' = 0 hr Nonloadbearing Ext walls 10'-30' = 1 hr			1 hour 1 Hour 0 hour 1 hour
Fire ratings - cont.	Table 1018.1	Exit access corridors - 1/2 hour (with sprinkler system)	30.3.6.1.2	Exit access corridors - 1/2 hour	1/2 hour
			30.3.6.2	Exit access corridor doors - 20-minute self-closing & latching	20 minute doors, spring hinges
	1022.1	Fire Enclosure of 4 story Vertical Exit Enclosures - 2 hour	30.2.2.1.2	Exits: 1 Hour (Sprinklered)	2 hour
	708.4	4 story Shafts & Elevator Hoistways - 2 hr	30.3.1.1.4	Shafts: 1 Hour (Sprinklered) and 1-hour doors	2 hour
	709.3	Dwelling Unit Separation - 1 hour	30.3.7.2	Dwelling Unit Separation - 1/2 hour	1 hour
	Table 601	Interior loadbearing walls - 1 hour			1 hour
	Table 601	Int. nonloadbearing walls - 0 hour			0 Hour
	Table 601	Floor Construction - 1 hour			1 hour
	Table 601	Roof construction - 1 hour			1 hour
	Table508.2.5	Boiler Rooms over 10 HP - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Boiler Rooms - 1 Hour and sprinkler	1 Hour & Sprinklered
	Table508.2.5	Waste Collection Room over 100 sf - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Trash Collection Rooms - 1 Hour and sprinkler	1 Hour & Sprinklered
	Table508.2.5	Laundry Rooms over 100 s.f. - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Laundries over 100 s.f. - 1 hour and sprinklers with smoke partitions	1 Hour & Sprinklered
	Table508.2.5	Storage Rooms over 100 s.f. - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Storage rooms outside of dwelling units - 1 hour OR sprinklers with smoke partitions	Sprinklered
Opening Protectives	Table 715.4	1/2 Hour Rated Exit access corridors - 20 min.	30.3.6.2	Exit access corridor doors - 20-minute self-closing & latching	20 min.

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	Table 715.4	1 Hour Barriers - 45 min.			45 min.
	Table 715.4	1 Hour Shafts & Exits - 60 min.			60 min.
	Table 715.4	2 Hour Barriers - 90 min.			90 min.
Wired Glass Panels	Table 715.5.4	20 min. opening = Not limited			As required
		3/4 hour opening = 1296 sq in			As required
		1 and 1 1/2 hour opening = 100 sq in			As required
Fire Damper Rating	Table 716.3.2.1	Less than 3 hour rated assembly - 1-1/2 hour.			As required
Interior Flame Spread Index	Table 803.9	Required vertical exits and passageways - C	30.3.3.2	In exits - Class A	As required
	Table 803.9	Corridors providing exit access - C	30.3.3.2	Lobbies and corridors - Class A or B	As required
	Table 803.9	Rooms or enclosed spaces - C	30.3.3.2	Other Spaces - Class A, B or C	As required
			30.3.3.3.2	Exit enclosures and corridor floors - Not less than Class II	
Occupant Load	T 1004.1.1	Residential Occupancy = 1/200 GSF	T7.3.1.2	Residential Apartment occupant load = 1/200 SF	
	T 1004.1.1	Storage areas, mechanical equipment rooms = 1/300 GSF		Storage areas, mechanical equipment rooms = 1/500 GSF	
	T 1004.1.1	Assembly, Unconcentrated (Tables & Chairs) = 1/15 NSF		Assembly, Unconcentrated (Tables & Chairs) = 1/15 NSF	
		1st floor 6949 / 200 = 34.7		1st floor 6949 / 200 = 34.7	
		1st Community Room 735/15 = 49		1st Community Room 735/15 = 49	
		2nd floor 7684 / 200 = 38.4		2nd floor 7684 / 200 = 38.4	
		3rd floor 7684 / 200 = 38.4		3rd floor 7684 / 200 = 38.4	
		4th floor 7684 / 200 = 38.4		4th floor 7684 / 200 = 38.4	
		Total = 199		Total = 199	
Means of Egress					
	1005.1	Egress width per occupant @ stairways = 0.3" x 84 = 25.2"	T7.3.3.1	Egress width per occupant @ stairways = 0.3" x 76= 23"	(2) two stairs @ 50" = 100"
	105.1	Minimum stair width: 44" unless serving less than 50 occupants			
	1005.1	Egress width capacity per occupant @ doors and corridors = .2 x 84 = 16.8"	T7.3.3.1	Egress width capacity = 0.2" per occupant @ level components & ramps .2 x 76 = 15.2"	(Typ.) 36" Doors = 34" net clear opening
	1008.1.1	Minimum door opening width = 32"	7.2.1.2.3.2	Minimum door opening width = 32"	34"
	1014.3	Common path of travel < 125'	30.2.5.3.2	Common path of travel = 50' max. (sprinklered)	12'-6"
	T 1016.1	Length of travel < 250' (sprinklered)	30.2.6.4	Max travel from non-unit areas to exit = 250' (sprinklered)	73'-4"
	1018.2	Minimum corridor width = 44"	7.3.4.1	Minimum corridor width = 36"	57" Min
	1018.4	Dead ends < 50' w/ NFPA 13	30.2.5.4.2	Dead ends = 50' max (sprinklered)	25'-9"
	T 1021.1	Number of exits <500 occupants = 2	30.2.4	Minimum number of exits = 2	2
			30.2.6.2	Max travel within unit = 125'	35'-11"
			30.2.6.3.2	Max travel from unit entrance to exit = 200'	63'-0"
Emergency Lighting	1006.1	Emergency lighting is required except in dwelling units	30.2.9	Emergency lighting is required	Provided
	1011.1	Exit Signs are required	7.10.1.2	Exit Signs are required	Provided
Fire Suppression Systems	903.2.8	Sprinkler System Required	30.3.5	NFPA 13 or 13R Required	NFPA13 Provided
Standpipes	905.3	Class III Required			Provided
Extinguishment requirements	906	Portable fire extinguishers shall be installed as per NFPA 10 (IFC 2009)	30.3.5.12	Not Required	Provided
Fire Alarm Systems	907.2.9	Required	30.3.4.1	Required	Provided
			30.3.4.2	Manual initiation required	Provided
			30.3.4.2.3	Automatic initiation required	Provided
			30.3.4.3	Annunciators required	Provided

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	IBC 2009		NFPA 101 - 2009		
Category	**Reference**	**Code Requirements**	**Reference**	**Code Requirements**	**Proposed**
Smoke Detetectors	907.2.9.2	Required	30.3.4.5	Required within and outside every sleeping area	Provided in sleeping and living areas