CITY OF NORTH MIAMI BEACH
BUILDING DEPARTMENT

Commercial Plan Review Guidelines

(Mechanical Review)

Project Address: _____

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Instructions for using this form:

1. This form provides a list of code requirements that must be verified by the Building Department before the issuance of a building permit.
2. Code references are to the 2007 Florida Building Code (unless otherwise noted). Suffixes identify the code volume as follows:

   Building (BI) - Existing (Ex) - Fuel/Gas (Gs) - Mechanical (Me) - National Electric Code (NEC) - Plumbing (PI) - Residential (Re)

3. Provide the drawing number (Dwg. No.) where compliance with the referenced code section may be verified or check the N.A. box whenever the code provision is not applicable.

General Requirement	Specific Code Requirement	Code Section(s)	Dwg. No.	N.A.	Other Information
General Regulations	Construction documents	106.3, 106.6 (BI)			
	Efficient utilization of energy	301.2 (Me), Ch. 13 (BI)			
	Equipment approval	301.3-301.6 (Me)			
	Prohibited location of fuel fired appliances	303.3 (Me)			
	Equipment installation	301.10,301.15,303.4, 306304.1304.7304.8 (Me) 301.8, 301.9, 305.1 (Gs) 301.10			
Energy Efficiency		Chapter 13 (BI)			
• Applicability	Commercial buildings	13-101.1 (BI)			
	Residential buildings	13-101.2 (BI)			
	Changes in occupancy	13-101.3 (BI)			
	Existing buildings	13-101.4 (BI)			
	Exempt buildings	13-101.5 (BI)			
	Building systems	13-101.6 (BI)			
• Compliance methods					
• Commercial Buildings		13-400 (BI)			Identify compliance method _____ Identify procedure: Prescriptive_____Performance_____
	Fenestrations	13-401.1, 13-401.2 (BI)			
	Walls	13-402.1, 13-401.2 (BI)			
	Doors	13-403.1,13-402.3 (BI)			
	Roof/ceilings	13-404.1, 13-404.2 (BI)			
	Floors	13-405.1, 13-405.2 (BI)			
	Air infiltration	13-406.1			
	Space cooling system	13-407.1, 13-407.2 (BI)			
	Space heating equipment	13-408.1, 13-408.2 (BI)			
	Ventilation systems	13-409.1, 13-409.2 (BI)			
	Air distribution system	13-410.1,13-410.2 (BI)			
	Pumps and piping	13-411.1,13-411.2 (BI)			
	Water heating system	13-412.1,13-412.2 (BI)			
	Electric power	13.413.1,13-413.2 (BI)			
	Motors	13-414.1,13-414.2 (BI)			
	Lighting	13-415.1,13-415.2 (BI)			

Compliance Methods (cont'd)					
• Residential Buildings (multi-familybuildings 3 stories or less)		13-600 (BI)			Identify compliance method _____ Identify procedure: Prescriptive____Performance_____
	Fenestrations	13-601.1,13-601.2 (BI)			
	Walls	13-602.1,13-602.2 (BI)			
	Doors	13-603.1,13-603.2 (BI)			
	Ceilings	13-604.1,13-604.2 (BI)			
	Floors	13-605.1,13-605.2 (BI)			
	Air infiltration	13-606.1,13-606.2 (BI)			
	Space cooling systems	13-607.1,13-607.2 (BI)			
	Space heating systems	13-608.1,13-608.2 (BI)			
	Ventilation systems	13-609.1,13-609.2 (BI)			
	Air distribution systems	13-610.1,13-610.2 (BI)			
	Piping	13-611.1,13-611.2 (BI)			
	Water heating systems	13-612.1,13-612.2 (BI)			
Ventilation	Ventilation required	401.1-401.2 (Me)			
	Exit enclosure ventilation	401.4 (Me) 1002(BI)			
	Outside air exhaust and intake location	401.5, 501.3, 918.6 (Me), 618.5 (Gs)			
	Outside opening protection	401.6 (Me)			
• Natural	Means of natural ventilation	402.1 (Me)			
	Minimum operable area	402.2 (Me)			
	Bathrooms exception	402.3.1 (Me)			
• Mechanical	Ventilation system	403.1 (Me)			
	Ventilation rate/outdoor air requirements	403.3, Table 403.3 (Me)			Refer to form CM-1 for calculation worksheet
	Transfer air	403.2.2 (Me)			
	System control	405.1. (Me)			
	Public garages	502.13 (Me)			

Exhaust Systems					
• Required systems	General	401.7, 502.1, 502.2, 502.5, 502.10, 502.11, 502.14-502.17 (Me)			
	Battery-charging areas	502.3, 502.4 (Me)			
	Application of flammable finishes	502.9 (Me)			
	Hazardous materials	502.7-502.9 (Me)			
	Motor vehicle operation	502.13 (Me)			
	Motors and fans	503 (Me)			
	Clothes dryer exhaust	504 (Me), 613 (Gs)			
	Domestic kitchen exhaust equipment	505 (Me)			
	Hazardous exhaust systems	505. 510 (Me)			
	Dust, stock and refuse conveyor systems	511 (Me)			
	Sub slab soil exhaust systems	512 (Me)			
	Smoke control systems				
	• Where required	402.9, 404.4-404.6 ,405.5, 405.8, 405.9, 408.8,410.3.7.2 (BI), 513.1 (Me) Section 513 (Me)			
	• Design requirements	909.1-909.4 (BI), 513.2 (Me)			
	• Smoke barriers	909.5 (BI), 513.5 (Me)			
	• Control methods of smoke migration	909.6-909.8 (BI) 716 (BI) 513.6-513.8 (Me)			
	• Detection and control systems	909.12-909.18 (BI)			
	• Smoke proof enclosures	909.20 (BI)			
	• Underground buildings	909.21 (BI)			
	Smoke and heat vents	910 (BI)			
• Commercial Kitchen Grease Ducts and Exhaust Equipment	Exhaust fans	506.5.1 (Me) NFPA 96			Commercial Kitchens
	Duct materials	506.3.1 (Me)			
	Duct design and velocity	506.3.4, 507.13.2 (Me)			
	Duct construction	506.2, 506.3.3, 506.3.4, 506.3.8 (Me)			
	Cleanouts	506.3.8 (Me)			

• *Commercial Kitchen* Grease *Ducts and Exhaust Equipment* (cont'd)					
	Duct enclosure	506.3.10, 507.10 (Me)			
	Clearance to combustibles	506.3.6 (Me)			
	Exhaust outlets	506.3.12 (Me)			
• Commercial Kitchen Type I Hoods	Where required	507.1, 507.2 (Me)			
	Factory-built commercial kitchen hoods	507.1, 304.1 (Me)			
	Hood construction	507.4, 507.6, 507.8, 507.16 (Me)			
	Clearance to combustibles	507.9 (Me)			
	Grease filters	507.11 (Me)			
	Canopy-type hoods	507.12, 507.13 (Me)			
	Noncanopy-type hoods	507,14, 507.15 (Me)			
	Make-up Air	508 (Me)			
• Commercial Kitchen Type II Hoods and Ducts	Where required	507.2 (Me)			
	Duct construction	507.5 (Me)			
	Hood construction	507.5, 507.6, 507.7.2 (Me)			
	Design	507.13.4 (Me)			
• Fire Suppression Systems	Where required	509.1 (Me)			
	Type of system	904,5,904,6, 904.8, 904.10, 904.11 (BI)			
	Actuation and interconnection	904.11, 904.11.1 (BI)			
Duct Systems	Plenums, general	602.1, 602.2, 602.3 (Me)			
	Air movement in corridors	716.5.4.1 (BI)			
	Duct construction and insulation	603.1-603.4 604 (Me)			
	Flexible air ducts and air connections	603.5 (Me)			
	Duct installation	603.6-603.15 (Me)			
	Air filters	605 (Me)			
	Duct smoke detectors	606 (Me)			
	Fire and smoke dampers	302.2, 607 (Me)			

Opening Protection	Penetration by air ducts and air transfer openings fire rated exterior walls	704.14 (BI)			
Combustion Air					
• Inside Air	Unusually tight construction	202 (Me)			
	Unconfined space	202, 702.1(Me) 304.5.1 (Gs)			
	Openings and adjacent spaces	707.1(Me), 304.10 (Gs)			
• Outdoor Air	Openings (number and location	703.1, 703.1.1 (Me) 304.11 (Gs)			
	Size of direct, horizontal or vertical openings	703.1.2 (Me) 304.10 (Gs)			
• Combined Use of Inside and Outdoor Air	Openings (number and location)	704,1, 704.1.1 (Me) 304.7 (Gs)			
	Ratio of direct, horizontal or vertical openings	702 (Me), 304 (Gs)			
	Ratio of interior spaces, prorating of inside and outdoor air	304 (Gs)			
• Other	Forced combustion air supply	708 (Me), 304.9 (Gs)			
	Direct connection/direct vent	708 (Me), 304.1 (Gs)			
	Combustion air ducts	706 (Me)			
	Opening obstructions, location and protection	709 (Me), 304.2 (Gs)			
Chimneys and Vents					
• Vents (gas-fired appliances)	Where required	503.2, 503.3 (Gs)			
	Approval	502.1 (Gs)			
	Vent application	502.3, 503.4 (Gs)			
	Insulation	502.4-502.6 (Gs)			
	Gas vent termination	503.6.3,503.6.6,503.6.8 503.8 (Gs)			
	Minimum vent height	503.6.7 (Gs)			
	Single wall vent	503.7 (Gs)			
	Sizing of venting system for single gas appliance	503.6.9, 504.2 (Gs)			
	Sizing of venting system for two or more gas	504.3 (Gs)			
	Multistory gas vents	503.6.10 (Gs)			

Chimneys and Vents (cont'd)					
• Connectors (gas-fired appliances)	Materials, size, location	503.10.2, 503.10.3.1, 503.10.3.2, 504.2.10 (Gs)			
	Connectors serving multiple appliances	503.10.3, 503.10.4, 504.3.2-504.3.4, 504.3.19 (Gs)			
	Installation	503.10.9-503.10.11, 503.10.15-503.10.16, 503.13-503.15 (Gs)			
• Vents (appliances other than gas-fired)	Approval	802.1 (Me)			
	Vent application	802.2 (Me)			
	Sizing and installation	802.3, 802.7, 802.8 (Me)			
	Vent terminations	802.4, 802.5, (Me)			
	Minimum vent heights	802.6 (Me)			
	Multistory vents	801.19 (Me)			
• Connectors (All appliances except gas-fired appliances)					
	Size/location	803.2, 803.3 (Me)			
	Connectors serving two or more appliances	803.7 (Me)			
	Construction	803.8, 803.9 (Me)			
	Installation	803.5, 803.6, 803.10 (Me)			
• Direct vent, integral vent, mechanical vent and ventilation/exhaust hood venting	Direct vent	804.1 (Me), 503.2.3, 503.8, 505.1 (Gs)			
	Appliances with integral vents	804.2 (Me), 503.2.9, 505.1 (Gs)			
	Mechanical draft systems	804.3 (Me)			
	Ventilation/exhaust hood venting	503.3.4, 505.1 (Gs)			
• Factory-built chimneys					
	Approval and installation	805 (Me), 503.5.1, 506.1 (Gs)			
	Solid fuel appliances	805.2 (Me)			
	Factory-built fireplaces	805.3(Me)			

Specific Appliances, Fireplaces and Solid Fuel-Burning Equipment	Factory-built fireplaces	903 (Me)			
	Pellet fuel-burning appliances	904 (Me)			
	Fireplace stoves and room heaters	905 (Me)			
	Factory-built barbecue appliances	906 (Me)			
	Decorative appliances, in vented fire places	602, 604 (Gs)			
	Log lighters	603 (Gs)			
	Incinerators and crematories	907 (Me), 606. 607 (Gs)			
	Cooling towers, evaporative condensers and fluid coolers	908 (Me)			
	Vented wall furnaces	909 (Me)			
	Floor furnaces	910 (Me)			
	Duct furnaces	911 (Me), 610 (Gs)			
	Direct fired gas air heaters	611, 612 (Gs)			
	Infrared radiant heaters	912 (Me)			
	Clothes dryers	913 (Me), 613, 614 (Gs)			
	Illuminating appliances	628 (Gs)			
	Sauna heaters	914 (Me)			
	Engine and gas turbine-powered equipment and appliances	915 (Me), 616 (Gs)			
	Pool and spa heaters	916 (Me), 617 (Gs)			
	Cooking appliances	917 (Me), 623 (Gs)			
	Forced-air warm-air furnaces	918 (Me), 618 (Gs)			
	Conversion burners	919 (Me), 619 (Gs)			
	Unit heaters	920 (Me), 620 (Gs)			
	Vented room heaters	921 (Me), 621-622 (Gs)			
	Kerosene and oil-fired stoves	922 (Me)			
	Small ceramic kilns	923 (Me)			
	Stationary fuel cell power plants	924 (Me), 623-633 (Gs)			
	Refrigerators	625 (Gs)			
	Gas fired toilets	626 (Gs)			
	AC equipment	627 (Gs)			

Boilers, Water Heaters and Pressure Vessels	Water heaters	1002 (Me), 624 (Gs)			
	Pressure vessels	1003 (Me)			
• Boilers	Approval	1004.1 (Me) 631 (Gs)			
	Working clearance	1004.3 (Me)			
	Boiler connections	1005 (Me)			
	Safety and pressure relief valves and controls	1006 (Me)			
	Low-water cutoff	1007 (Me)			
	Steam blow off valve	1008 (Me)			
	Hot water expansion tank	1009 (Me)			
	Gauges	1010 (Me)			
Refrigeration	Factory-built equipment	1101.2 (Me)			
	Refrigerant system classification	1103.3 (Me)			
	Refrigerant classification	1103.1 (Me)			
	Occupancy classification	1103.2 (Me)			
	Quantity and application of refrigerant	Table 1104.3.2, 1104.3 (Me)			
	Machinery room, general requirements	1105 (Me)			
	Machinery room, special requirements	1106 (Me)			
	Refrigerant piping	1107 (Me)			
Hydronic Piping	Materials	1202 (Me)			
	Joints and connections	1203(Me)			
	Pipe insulation	1204 (Me)			
	Valves	1205 (Me)			
	Piping installation	1206 (Me)			
	Transfer fluid	1207 (Me)			
	Embedded piping	1209 (Me)			
Fuel Oil Piping and Storage	Store system	1301.2 (Me)			
	Materials	1302 (Me)			
	Joints and connections	1303 (Me)			
	Fuel oil system installation	1305 (Me)			
	Oil gauging	1306 (Me)			
	Fuel oil valves	1307 (Me)			

OUTDOOR AIR REQUIREMENTS
FORM CM-1

A	B	C	D	E	F	G
Location	Area (ft^2)	Estimated Occupant Load (persons/1,000 ft)	Calculate Occupant Load	Required Outdoor Air (cfm/person or cfm/ ft^2)	Total Required Outdoor Air2	Actual Outdoor Air (cfm)

[1] B x C/1000

[2] D x E or B x E, As Applicable

CODE OF MIAMI-DADE COUNTY, FLORIDA CHAPTER 8 SEC. 8-10. PERMITS

HVAC DESIGN REQUIREMENTS

HVAC DESIGN REQUIRES	YES	NO
DUCT SMOKE DETECTOR		
FIRE DAMPER (S)		
SMOKE DAMPER (S)		
FIRE RATED ENCLOSURE		
FIRE RATED ROOF/ FLOOR CEILING ASSEMBLY		
FIRE STOPPING		
SMOKE CONTROL		