

APPENDIX B

**2012 BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS**

(EXCEPT ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES)

(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: _____
 Address: _____ Zip Code _____
 Proposed Use: _____
 Owner/Authorized Agent: _____ Phone # (____) ____ - _____ E-Mail _____
 Owned By: City/County Private State
 Code Enforcement Jurisdiction: City _____ County _____ State

LEAD DESIGN PROFESSIONAL: _____

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	_____	_____	_____	(____) _____	_____
Civil	_____	_____	_____	(____) _____	_____
Electrical	_____	_____	_____	(____) _____	_____
Fire Alarm	_____	_____	_____	(____) _____	_____
Plumbing	_____	_____	_____	(____) _____	_____
Mechanical	_____	_____	_____	(____) _____	_____
Sprinkler-Standpipe	_____	_____	_____	(____) _____	_____
Structural	_____	_____	_____	(____) _____	_____
Retaining Walls >5' High	_____	_____	_____	(____) _____	_____
Other	_____	_____	_____	(____) _____	_____

2012 EDITION OF NC CODE FOR: New Construction Addition Upfit
EXISTING: Reconstruction Alteration Repair Renovation
CONSTRUCTED: (date) _____ **ORIGINAL USE(S)** (Ch. 3): _____
RENOVATED: (date) _____ **CURRENT USE(S)** (Ch. 3): _____
PROPOSED USE(S) (Ch. 3): _____

BUILDING DATA

Construction Type: I-A II-A III-A IV V-A
 (check all that apply) I-B II-B III-B V-B
Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D
Standpipes: No Yes Class I II III Wet Dry
Fire District: No Yes (Primary) Flood Hazard Area: No Yes

Building Height: (feet) _____

Gross Building Area:

Floor	Existing (sq ft)	New (sq ft)	Subtotal
6th Floor	_____	_____	_____
5th Floor	_____	_____	_____
4th Floor	_____	_____	_____
3rd Floor	_____	_____	_____
2nd Floor	_____	_____	_____
Mezzanine	_____	_____	_____
1st Floor	_____	_____	_____
Basement	_____	_____	_____
TOTAL	_____	_____	_____

ALLOWABLE AREA

Occupancy:

- Assembly A-1 A-2 A-3 A-4 A-5
- Business
- Educational
- Factory F-1 Moderate F-2 Low
- Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
- Institutional I-1 I-2 I-3 I-4
- I-3 Condition 1 2 3 4 5
- Mercantile
- Residential R-1 R-2 R-3 R-4
- Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
- Utility and
Miscellaneous

Accessory Occupancies:

- Assembly A-1 A-2 A-3 A-4 A-5
- Business
- Educational
- Factory F-1 Moderate F-2 Low
- Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
- Institutional I-1 I-2 I-3 I-4
- I-3 Condition 1 2 3 4 5
- Mercantile
- Residential R-1 R-2 R-3 R-4
- Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
- Utility and
Miscellaneous

Accessory Occupancies:

- Furnace room where any piece of equipment is over 400,000 Btu per hour input
- Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
- Refrigerant machine room
- Hydrogen cutoff rooms, not classified as Group H
- Incinerator rooms
- Paint shops, not classified as Group H, located in occupancies other than Group F
- Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy
- Laundry rooms over 100 square feet
- Group I-3 cells equipped with padded surfaces
- Group I-2 waste and linen collection rooms
- Waste and linen collection rooms over 100 square feet
- Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
- Rooms containing fire pumps
- Group I-2 storage rooms over 100 square feet
- Group I-2 commercial kitchens
- Group I-2 laundries equal to or less than 100 square feet
- Group I-2 rooms or spaces that contain fuel-fired heating equipment

- Special Uses: 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417
 418 419 420 421 422 423 424 425 426 427

- Special Provisions: 509.2 509.3 509.4 509.5 509.6 509.7 509.8 509.9

continued

ALLOWABLE AREA—cont'd

Mixed Occupancy: No Yes Separation: _____ Hr. Exception: _____

Incidental Use Separation (508.2.5)

This separation is not exempt as a Nonseparated Use (see exceptions).

Nonseparated Use (508.3.2)

The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

Separated Use (508.3.3) - See below for area calculations

For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + = _____ ≤ 100

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 ⁵ AREA	(C) AREA FOR FRONTAGE INCREASE ¹	(D) AREA FOR SPRINKLER INCREASE ²	(E) ALLOWABLE AREA OR UNLIMITED ³	(F) MAXIMUM BUILDING AREA ⁴

1. Frontage area increases from Section 506.2 are computed thus:

a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)

b. Total Building Perimeter = _____ (P)

c. Ratio (F/P) = _____ (F/P)

d. W = Minimum width of public way = _____ (W)

e. Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30 = \text{_____ } (\%)$

2. The sprinkler increase per Section 506.3 is as follows:

a. Multi-story building $I_s = 200$ percent

b. Single story building $I_s = 300$ percent

3. Unlimited area applicable under conditions of Section 507.

4. Maximum Building Area = total number of stories in the building $\times E$ (506.4).

5. The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type _____		Type _____	
Building Height in Feet		Feet = H + 20' = _____		
Building Height in Stories		Stories + 1 = _____		

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQ'D	PROVIDED (W/ _____ REDUCTION)				
Structural Frame Including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Roof Construction Including supporting beams and joists							
Shaft Enclosures — Exit							
Shaft Enclosures — Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Tenant Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

- Emergency Lighting: No Yes
- Exit Signs: No Yes
- Fire Alarm: No Yes
- Smoke Detection Systems: No Yes Partial _____
- Panic Hardware: No Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

- Fire and/or smoke rated wall locations (Chapter 7)
- Assumed and real property line locations
- Exterior wall opening area with respect to distance to assumed property lines (705.8)
- Existing structures within 30 feet of the proposed building
- Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
- Occupant loads for each area
- Exit access travel distances (1016)
- Common path of travel distances (1014.3 & 1028.8)
- Dead end lengths (1018.4)
- Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- Location of doors with panic hardware (1008.1.10)
- Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
- Location of doors with electromagnetic egress locks (1008.1.9.8)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1029)
- The square footage of each fire area (902)
- The square footage of each smoke compartment (407.4)
- Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBILITY PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH		
				132" ACCESS AISLE	8' ACCESS AISLE	
TOTAL						

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I_w) _____
 Snow (I_s) _____
 Seismic (I_E) _____
Live Loads: Roof _____ psf
 Mezzanine _____ psf
 Floor _____ psf
Ground Snow Load: _____ psf
Wind Load: Basic Wind Speed _____ mph (ASCE-7)
 Exposure Category _____
 Wind Base Shears (for MWFRS) $V_x =$ _____ $V_y =$ _____

SEISMIC DESIGN CATEGORY:

A B C D

Provide the following Seismic Design Parameters:

Occupancy Category (Table 1604.5) I II III IV
Spectral Response Acceleration S_s _____ %g S_1 _____ %g
Site Classification (Table 1613.5.2) A B C D E F
 Data Source: Field Test Presumptive Historical Data

Basic structural system (check one)

Bearing Wall Dual w/Special Moment Frame
 Building Frame Dual w/Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum

Seismic base shear: $V_x =$ _____ $V_y =$ _____

Analysis Procedure: Simplified Equivalent Lateral Force Dynamic

Architectural, Mechanical, Components anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:

Field Test (provide copy of test report) _____ psf
 Presumptive Bearing capacity _____ psf
 Pile size, type, and capacity _____

SPECIAL INSPECTIONS REQUIRED: Yes No

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE	WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/ TUBS	DRINKING FOUNTAINS	
	MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
SPACE	EXISTING							
	NEW							
	REQUIRED							

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

ENERGY SUMMARY

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design versus the annual energy cost for the proposed design.

Climate Zone: 3 4 5

Method of Compliance:

- Prescriptive (Energy Code)
- Performance (Energy Code)
- Prescriptive (ASHRAE 90.1)
- Performance (ASHRAE 90.1)

THERMAL ENVELOPE

Roof/ceiling Assembly (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
 Skylights in each assembly: _____
 U-Value of skylight: _____
 total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
 Openings (windows or doors with glazing)
 U-Value of assembly: _____
 Solar heat gain coefficient: _____
 projection factor: _____
 Door *R*-Values: _____

Walls below grade (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
 Horizontal/vertical requirement: _____
 slab heated: _____

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone

winter dry bulb: _____
 summer dry bulb: _____

Interior design conditions

winter dry bulb: _____
 summer dry bulb: _____
 relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System

Unitary

description of unit: _____
 heating efficiency: _____
 cooling efficiency: _____
 size category of unit: _____

Boiler

Size category. If oversized, state reason.: _____

Chiller

Size category. If oversized, state reason.: _____

List equipment efficiencies: _____

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:

Energy Code: Prescriptive Performance
 ASHRAE 90.1: Prescriptive Performance

Lighting schedule (each fixture type)

lamp type required in fixture
 number of lamps in fixture
 ballast type used in the fixture
 number of ballasts in fixture
 total wattage per fixture
 total interior wattage specified vs. allowed (whole building or space by space)
 total exterior wattage specified vs. allowed

Additional Prescriptive Compliance

- 506.2.1 More Efficient Mechanical Equipment
- 506.2.2 Reduced Lighting Power Density
- 506.2.3 Energy Recovery Ventilation Systems
- 506.2.4 Higher Efficiency Service Water Heating
- 506.2.5 On-site Supply of Renewable Energy
- 506.2.6 Automatic Daylighting Control Systems