

**2009 APPENDIX B  
BUILDING CODE SUMMARY  
FOR ALL COMMERCIAL PROJECTS  
(EXCEPT 1 AND 2-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	_____	_____	_____	(____) _____	_____

2009 EDITION OF NC CODE FOR:  New Construction  Addition  Upfit  
 EXISTING:  Reconstruction  Alteration  Repair  
 CONSTRUCTED \_\_\_\_\_ ORIGINAL USE \_\_\_\_\_ RENOVATED \_\_\_\_\_ CURRENT USE \_\_\_\_\_

**BUILDING DATA**  
 Construction Type:  I-A  I-B  II-A  II-B  III-A  III-B  IV  V-A  V-B  
 Mixed construction:  No  Yes Types \_\_\_\_\_  
 Sprinklers:  No  Partial  Yes  NFPA 13  NFPA 13R  NFPA 13D  
 Standpipes:  No  Yes Class  I  II  III  Wet  Dry  
 Fire District:  No  Yes Flood Hazard Area:  No  Yes  
 Building Height: Feet \_\_\_\_\_ Number of Stories \_\_\_\_\_  
 Mezzanine:  No  Yes  
 Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6 <sup>th</sup> Floor	_____	_____	_____
5 <sup>th</sup> Floor	_____	_____	_____
4 <sup>th</sup> Floor	_____	_____	_____
3 <sup>rd</sup> Floor	_____	_____	_____
2 <sup>nd</sup> Floor	_____	_____	_____
Mezzanine	_____	_____	_____
1 <sup>st</sup> Floor	_____	_____	_____
Basement	_____	_____	_____
TOTAL	_____	_____	_____

**ALLOWABLE AREA**

- Primary 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  
 Utility and Miscellaneous  Parking Garage  Open  Enclosed  Repair Garage

**Secondary Occupancy:** \_\_\_\_\_

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

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

**Mixed Occupancy:**  No  Yes Separation: \_\_\_\_\_ Hr. Exception: \_\_\_\_\_

- Incidental Use Separation (508.2)

This separation is not exempt as a Non-Separated Use (see exceptions).

- Non-Separated 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.

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

$$\text{_____} + \text{_____} + \dots = \text{_____} \leq 1.00$$

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

<sup>1</sup> Frontage area increases from Section 506.2 are computed thus:

- Perimeter which fronts a public way or open space having 20 feet minimum width = \_\_\_\_\_ (F)
- Total Building Perimeter = \_\_\_\_\_ (P)
- Ratio (F/P) = \_\_\_\_\_ (F/P)
- W = Minimum width of public way = \_\_\_\_\_ (W)
- Percent of frontage increase  $I_f = 100 [ F/P - 0.25 ] \times W/30 = \text{_____} (\%)$

<sup>2</sup> The sprinkler increase per Section 506.3 is as follows:

- Multi-story building  $I_s = 200$  percent
- Single story building  $I_s = 300$  percent

<sup>3</sup> Unlimited area applicable under conditions of Sections Group B, F, M, S, A-3, A-4 (507);

Group A motion picture (507.10); covered mall buildings (402.6); and H-2 aircraft paint hangers (507.8).

<sup>4</sup> Maximum Building Area = total number of stories in the building x E (506.4).

<sup>5</sup> 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 _____	Feet = H + 20' = _____		
Building Height in Stories	Stories _____	Stories + 1 = _____	Stories	

## FIRE PROTECTION REQUIREMENTS

Life Safety Plan Sheet #, if Provided \_\_\_\_\_

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

### EXIT REQUIREMENTS

#### NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM <sup>2</sup> NUMBER OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS <sup>1,3</sup> (SECTION 1015.2)	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1015.1)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS

- <sup>1</sup> Corridor dead ends (Section 1017.3)  
<sup>2</sup> Buildings with single exits (Table 1019.2), Spaces with one means of egress (Table 1015.1)  
<sup>3</sup> Common Path of Travel (Section 1014.3)

### EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(a)	(b)	CALCULATED OCCUPANT LOAD (a=b)	(c)		EXIT WIDTH (in) <sup>2,3,4,5,6</sup>			
	AREA <sup>1</sup> sq. ft.	AREA <sup>1</sup> PER OCCUPANT (TABLE 1004.1.1)		EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a=b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL

- <sup>1</sup> See Table 1004.1.1 to determine whether net or gross area is applicable.  
<sup>2</sup> See definition "Area, Gross" and "Area, Net" (Section 1002)  
<sup>3</sup> Minimum stairway width (Section 1009.1); min. corridor width (Section 1017.2); min. door width (Section 1008.1)  
<sup>4</sup> Minimum width of exit passageway (Section 1021.2)  
<sup>5</sup> See Section 1004.5 for converging exits.  
<sup>6</sup> The loss of one means of egress shall not reduce the available capacity to less than 50 percent of the total required (Section 1005.1)  
<sup>6</sup> Assembly occupancies (Section 1025)

**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:

**Seismic Use Group** \_\_\_\_\_

**Spectral Response Acceleration**  $S_s$  \_\_\_\_\_ %g       $S_1$  \_\_\_\_\_ %g

**Site Classification** \_\_\_\_\_     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    \_\_\_\_\_ Modal

**Architectural, Mechanical, Components anchored?** \_\_\_\_\_

**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 \_\_\_\_\_

**PLUMBING FIXTURE REQUIREMENTS**

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

**ACCESSIBLE PARKING**

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 8' ACCESS AISLE	
<b>TOTAL</b>					

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## SPECIAL APPROVALS

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

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## 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 energy cost budget method, state the annual energy cost budget vs allowable annual energy cost budget.

### THERMAL ENVELOPE

#### Method of Compliance:

- Prescriptive    \_\_\_ % Glazed Wall Area  
 Performance     Energy Cost Budget

#### 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  
    shading coefficient  
    projection factor  
    low e required, if applicable  
Door R-Values

#### Walls adjacent to unconditioned space (each assembly)

Description of assembly  
U-Value of total assembly  
R-Value of insulation  
Openings (windows or doors with glazing)  
    U-Value of assembly  
    Low e required, if applicable  
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

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**ELECTRICAL SUMMARY**

**ELECTRICAL SYSTEM AND EQUIPMENT**

**Method of Compliance:**

Prescriptive       Performance       Energy Cost Budget

**Lighting schedule**

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  
total exterior wattage specified vs allowed

**Equipment schedules with motors (not used for mechanical systems)**

motor horsepower  
number of phases  
minimum efficiency  
motor type  
# of poles

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**MECHANICAL SUMMARY**

**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT**

**Method of Compliance**

Prescriptive       Energy Cost Budget

**Climate Zone** \_\_\_\_\_

**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

heat output of unit

cooling output of unit

Boiler

total boiler output. If oversized, state reason.

Chiller

total chiller capacity. If oversized, state reason.

**List equipment efficiencies**

**Equipment schedules with motors (mechanical systems)**

motor horsepower

number of phases

minimum efficiency

motor type

# of poles

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