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 o 408 ❑ 409 ❑ 410 ❑ 411 ❑ 412 ❑ 413 ❑ 414 ❑ 415 ❑ 416 ❑ 417 ❑ 418 ❑ 419 ❑ 420 ❑ 421 ❑ 422 o 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.

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

_____ + _____ + ... = _____ ≤ 1.00

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 $I_f = 100\,[F/P - 0.25] \times W/30$ = _____ (%)
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 × *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