2012 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS

Classrooms

(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

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

MODULAR BUILDING PLAN NUMBER: DBI-7288

Name of Project: _____

Address: _____ Zip Code _____

Proposed Use: EDUCATIONAL

Owner/Authorized Agent: _____ Phone # (____) ____ - ____ E-Mail _____

Owned By: ☐ City/County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☐ City_____ ☐ County_____ ☐ State

LEAD DESIGN PROFESSIONAL: JAMES. E. BRADLEY NC PE# 05889

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): _____

BASIC BUILDING DATA

Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ■ 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) 15

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor			
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor		8,750 SF	
Basement			
TOTAL		8,750 SF	

HARNETT COUNTY CENTRAL PERMITTING
APPLICATION # 17500
JOB NAME Shawtown Woods
DATE PLANS RECEIVED 9.22.17
SITE PLANS APPROVED 9.22.17
APPROVED BY B Sutton

these are town of Lillington but I added to our FM stuff.

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 ☐

Incidental Uses (Table 508.2.5):

☐ 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

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

☐ Incidental Use Separation (508.2.5)

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

☐ Non-Separated Use (508.3)
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 (508.4) - 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	CLSRM.	8,750 SF	8,750 SF	-	-	-	8,750 SF

[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 x 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 V-B		Type V-B	
Building Height in Feet	40	Feet = H + 20' = _____	15	
Building Height in Stories	2	Stories + 1 = _____	1	

FIRE PROTECTION REQUIREMENTS

THE EXTERIOIR WALLS ARE NOT FIRE RATED. PER BUILDING DESIGN PARAMETERS NOTE 10 ON THE COVERSHEET OF THE PLANS, THE BULDING MUST BE INSTALLED WITH THE FIRE SEPARATION DISTANCES REQUIRED BY TABLE 602 AND SECTION 705.3.

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		N/A					
Bearing Walls		N/A					
Exterior		N/A					
North		N/A					
East		N/A					
West		N/A					
South		N/A					
Interior		N/A					
Nonbearing Walls and Partitions Exterior walls		N/A					
North		N/A					
East		N/A					
West		N/A					
South		N/A					
Interior walls and partitions		N/A					
Floor Construction Including supporting beams and joists		N/A					
Roof Construction Including supporting beams and joists		N/A					
Shaft Enclosures - Exit	N/A	N/A					
Shaft Enclosures - Other	N/A	N/A					
Corridor Separation		1	-		1		
Occupancy Separation	N/A	N/A					
Party/Fire Wall Separation	N/A	N/A					
Smoke Barrier Separation	N/A	N/A					
Tenant Separation	N/A	N/A					
Incidental Use Separation	N/A	N/A					

* 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 #: NOT INCLUDED WITHIN THE MODULAR BUILDING PLAN SET. TO BE PROVIDED BY THE PERMIT APPLICANT.

☐ 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' 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)

NOT APPLICABLE

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

ACCESSIBLE PARKING
(SECTION 1106)

NOT APPLICABLE: PROVIDED BY SITE DESIGNER

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	VAN SPACES WITH 8' ACCESS AISLE	
TOTAL						

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors:

Wind	(I_W)	1.0
Snow	(I_S)	1.0
Seismic	(I_E)	1.0

Live Loads:

Roof	20	psf
Mezzanine	-	psf
Floor	40	psf

Ground Snow Load: 30 psf

Wind Load: Basic Wind Speed 110 mph (ASCE-7)
Exposure Category C
Wind Base Shears (for MWFRS) Vx = 26,251 Vy = 54,078

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 53.7 %g S_1 28.5 %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 = 12,564 V_Y = 13,352

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 2000 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	5	5	0	5	5		1	1
	REQUIRED	7	7	0	3	3		2	2

SPECIAL APPROVALS

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

STAFF BATHROOM PROVIDED

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 vs 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)

(Compliance verified by Comcheck, and not prescriptive tables in code)

THERMAL ENVELOPE

Roof/ceiling Assembly (each assembly)

Description of assembly: WD JOISTS/TRUSSES/RAFTERS, PLYWD./OSB DECK, INSUL., CEILING
U-Value of total assembly: 0.021
R-Value of insulation: R-49
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)

Description of assembly: WOOD STUD @ 16" OC, GWB, INSUL.
U-Value of total assembly: 0.067
R-Value of insulation: R-19
Openings (windows or doors with glazing)
U-Value of assembly: 0.45
Solar heat gain coefficient: 0.25
projection factor: _____
Door R-Values: 0.292

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: WD. JOIST, PLYWD. DECKING, INSUL.
U-Value of total assembly: 0.033
R-Value of insulation: R-30

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: 20
summer dry bulb: 93

Interior design conditions

winter dry bulb: 72
summer dry bulb: 78
relative humidity: 50

Building heating load: 480,153 btuh

Building cooling load: 245,362 btuh

Mechanical Spacing Conditioning System

Unitary
description of unit: PACKAGED TERMINAL AC UNITS
heating efficiency:
cooling efficiency:
size category of unit: (10) 3.5 TON UNITS
Boiler
Size category. If oversized, state reason.:
Chiller
Size category. If oversized, state reason.:

List equipment efficiencies: 9.0 EER (SPVAC)

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
