2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: DRIVE-THRU ENCLOSURE FOR TOTAL SYSTEMS HEATING - COOLING
Address: 13341 NC HIGHWAY 210, SPRING LAKE, NC Zip Code 28390
Proposed Use: OFFICES
Owner or Authorized Agent: WILLIAM T. ALLEN Phone (910) 323-0191 E-Mail
Owned By: ☐ City/County ☑ Private ☐ State
Code Enforcement Jurisdiction: ☑ City FAYETTEVILLE ☐ County ☐ State NORTH CAROLINA

CONTACT: GEORGE M. ROSE, P.E.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	
Architectural					
Civil	GEORGE M. ROSE, P.E.	GEORGE M. ROSE, P.E.	1315	910-477-5822	george@gmrpe.com
Electrical	N/A	N/A			
Fire Alarm	N/A	N/A			
Plumbing	N/A	N/A			
Mechanical	N/A	N/A			
Sprinkler-Standpipe	N/A	N/A			
Structural :	N/A	N/A			
Precast:	N/A	N/A			
Retaining Walls >5' High	N/A	N/A			
Building	GEORGE M. ROSE, P.E.	GEORGE M. ROSE, P.E.	1315	910-477-5822	george@gmrpe.com

2018 NC CODE FOR: ☐ New Construction
☐ 1st Time Interior Completion
☐ Shell/Core
☐ Phased Construction – Shell/Core
☑ Renovation

2018 NC EXISTING BUILDING CODE: ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☑ Level II ☐ Level III
☐ Historic Property ☐ Change of Use

CONSTRUCTED: _____ ORIGINAL OCCUPANCY(S) (Ch. 3): _____
RENOVATED: _____ CURRENT OCCUPANCY(S) (Ch. 3): _____
RISK CATEGORY (table 1604.5) Current: ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☑ II ☐ III ☐ IV

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
Special Inspections Required: ☑ No ☐ Yes

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	RENOVATED (SQ FT)	SUB-TOTAL
6th Floor				
5th Floor				
4th Floor				
3rd Floor				
2nd Floor				
Mezzanine				
1st Floor	1,763	360 (ENCLOSURE AREA)		
Basement				
TOTAL		360		

TOTAL EXISTING + PROPOSED = 2,123 SQUARE FEET

ALLOWABLE AREA

Primary Occupancy Classification: SELECT ONE
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 Deflagerate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 CONDITION ☐ 1 ☐ 2
☐ I-2 CONDITION ☐ 1 ☐ 2
☐ I-3 CONDITION ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
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 OccupancY Classification(s): _____
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 – List Code Sections): _____
Special Provisions (Chapter 5 – List Code Sections): _____
Mixed Occupancy: ☐ No ☑ Yes Separation: 2 Hr. Exception: _____

☐ 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.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$
$$\_\_\_\_ + \_\_\_\_ = \_\_\_\_ \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	BUSINESS	2,123	9,000		

1 Frontage area increases from Section 506.3 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 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (minimum 3 stories) (506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4.
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40'	13' +-	
Building Height in Stories (Table 504.4)	2	1	

1 Provide code reference if the "Show on Plans" quantity is not based on Table 504.3 or 504.4.
2 The maximum height of air traffic control towers must comply with Table 412.3.1
3 The maximum height of open parking garages must comply with Table 406.5.4

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (w/ REDUCTION) *	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0					
Bearing walls Exterior							
North		N/A					
East		N/A					
West		N/A					
South		N/A					
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							
Roof construction including supporting beams and joists							
Roof ceiling Assembly							
Column supporting roof							
Shafts Enclosures – Exit							
Shafts Enclosures – Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Tenant/Dwelling Unit/Sleeping Unit Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENINGS CALCULATIONS

FIRE SEPARATION DISTANCE (FEET FROM PROPERTY LINES)	DEGREES OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Life Safety Plan Sheet #: G1
☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations (if not on the site plan)
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☑ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.2)
☑ Occupant loads for each area
☑ Exit access travel distance (1017)
☑ Common path of travel distances (1006.2.1 & 2006.3.2(1)
☑ Dead end lengths (1020.4)
☑ Clear exit widths for each exit door
☑ Maximum calculated occupant load capacity each exit door can accomodate based on egress width (1005.3)
☑ 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 and supporting construction for a fire barrier/fire partition/smoke barrier.
☑ Location of doors with panic hardware (1010.1.10)
☑ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of emergency escape windows (1030)
☐ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

Section/Table/Note	Title

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

ACCESSIBLE 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	VAN SPACES WITH 8' ACCESS AISLE	
		II EXISTING				
TOTAL						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING										
	NEW			N/A							
	REQUIRED										

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, SCO, 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 **North Carolina Energy Conservation 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.

Existing building envelope complies with code: ☐ No ☑ Yes (the remainder of this section is not applicable)

Existing building: ☐ No ☐ Yes (Provide Code or Statury reference)

Existing building: No Yes (Provide Code or Statury reference)

Climate Zone: ☐ 3A ☑ 4A ☐ 5A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(if "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: EXISTING UNCHANGED
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: WOOD STUD WALLS WITH BRICK VENEER
U-Value of total assembly:
R-Value of insulation: -
Openings (windows or doors with glazing)
U-Value of assembly: 0.29
Solar heat gain coefficient: 0.30
UA-Value of assembly: 37
Projection factor: 0.44
Door R-Values: 3.5

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors over unconditioned space (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floor slab on grade
Description of assembly: MONLITHIC SLAB
U-Value of total assembly: 0.17
R-Value of insulation: -
Horizontal/Vertical requirement: -
R-Value of insulation: -
Slab Heated: -

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_S) 1.0
Snow (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine _____ psf
Floor 100 psf

Ground Snow Load: 10 psf

Wind Load: Ultimate Wind Speed 120 mph (ASCE-7)
Exposure Category _____

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 (ASCE 7) ☐ A ☐ B ☐ C ☑ D
Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
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 _____ psf

SHELL VARIABLE FORM (for all spaces – see plan)
(THIS SECTION REQUIRED FOR ALL SHELL, ALTERATIONS TO SHELL AND INTERIOR COMPLETION PROJECTS)

Check each applicable line to match scope of work. Edit as necessary to provide clear detail of installation.

Mechanical
☐ No work
☐ Equipment set☐ with☐ without power
☐ Trunk line installed☐ with☐ without outlets
☐ Gas Line
☐ Install complete operational system
Other _____

Plumbing
☐ No work
☐ Install water service and sewer
☐ Install building drain ☐ and☐ or water distribution ☐main with ☐ without branches
☐ Install complete plumbing system
Other ☐ ROUGH-INS ARE INCOMPLETE, ADD'L IN-SLAB WORK IS REQUIRED.
WATER SERVICE IS EXISTING (PRESENTLY INSTALLED).

Sprinkler
☐ Install complete sprinkler system

Building
☐ Install slab ☐ partial☐ complete
☐ Install demising walls
☐ Install interior partitioning ☐ partial☐ complete
☐ Install Ceilings
☐ White box (additional interior completion permits are required for Certificate of Occupancy and power)
Other _____

Electrical
☐ House panel
☐ Service laterals to meter centers/panels located on buildings
☐ Demise wall and ceilings only
☐ Conduit, duct, raceway in slab
☐ Power and lighting circuits to "J" Box
☐ Install light fixtures
☐ Install☐ Heat/Air☐ Elevator☐ Generator☐ Parking lot lighting
☐ Install complete system

Other ☐ SUITE PANEL AND SERVICE ARE EXISTING (PRESENTLY INSTALLED).
Please provide full information on any alternate methods and means incorporated into the design of this project. Provide specific details and incorporate into plan submittal any supporting documents or agreement

SPECIAL INSTRUCTIONS (CHAPTER 17)

SPECIAL INSPECTIONS SHALL BE CONDUCTED ON ALL PROJECTS THAT FALL WITHIN BUILDING CATEGORIES AND/OR CONTAIN ELEMENTS SUBJECT TO SPECIAL INSPECTIONS AS PRESCRIBED BY REVISED SECTION 1704.

To schedule a required pre-construction meeting with the City of Fayetteville, please call Doug Maples at (910) 433-1703. The main line number for the Development Services Center is (910) 433-1701.

List whom will inspect the required special inspections:
Fabricator of load bearing components
Soil tests
Concrete, caissons, piles, piers, pre-cast
Post tension concrete
Modular construction
Steel and connections, welds, bolts, anchors
Fire spray tests
Smoke control
Seismic, wind designs, Quality Assurance
Retaining walls
Masonry
Wood
Alternate Methods
EIFS
Other (describe)
Other (describe)
Owner or agent _____

SPECIAL APPROVALS:

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

NONE

COUNTY OF HARNETT
2018 APPENDIX B
BUILDING CODE SUMMARY
for:

DRIVE-THRU ENCLOSURE
TOTAL SYSTEMS HEATING - COOLING

13341 NC HIGHWAY 210
SPRING LAKE, NORTH CAROLINA
28390

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 1315 GEORGE M. ROSE
1-10-22

BC