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

Name Of Project: New Champs Convenience Store

Address: 8920 US HWY 401 N Fuquay- Varina, NC Zip Code: 27526

Owner Or Authorized Agent: Ankit Patel Ph#: 910-980-6049 Email: kcp162@gmail.com

Owned By: ☐ City / County ☒ Private ☐ State

Code Enforcement Jurisdiction: ☐ City ☒ County Harnett ☐ State

CONTACT: Robert J. Bracken, Jr. - P.E.

DESIGNER:	FIRM	NAME	LICENSE#	TELEPHONE#	E-MAIL
Engineer	RJB PE PA	RJ Bracken	NC 7291	(919) 774-6074	bjbracken@windstream.net
Civil					
Electrical	RJB PE PA	RJ Bracken	NC 7291	(919) 774-6074	bjbracken@windstream.net
Fire Alarm					
Plumbing	RJB PE PA	RJ Bracken	NC 7291	(919) 774-6074	bjbracken@windstream.net
Mechanical	RJB PE PA	RJ Bracken	NC 7291	(919) 774-6074	bjbracken@windstream.net
Sprinkler - Standpipe					
Structural					
Retaining Wall > 5' High					
Other					

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC CODE BUILDING CODE: ☒ New Building ☐ Addition ☐ Renovation

☐ 1st Time Interior Completion

☐ Shell / Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

☐ Phased Construction - Shell / Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14

Alteration: ☐ Level I ☐ Level II ☐ Level III

☐ Historic Property ☐ Change Of Use

CONSTRUCTION: (Date) _____ CURRENT OCCUPANCY (S) (CH. 3): _____

RENOVATED: (Date) _____ PROPOSED OCCUPANCY (S) (Ch.3): _____

OCCUPANCY CATEGORY (Table 1604.5) Current: ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☒ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ V-A
☐ 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 Flood Hazard Area: ☒ No ☐ Yes

Special Inspections Required: ☒ No ☐ Yes (Contact the local inspections jurisdiction for additional procedures and requirements)

FLOOR	Existing (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor		6,600 ft²	6,600 ft²
Basement			
TOTAL			6,600 ft²

ALLOWABLE AREA

Primary Occupancy (s): 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 Deflagate ☐ H-3 Combat ☐ 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 ☒ 9,000 ft²

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 Section): _____

Special Provisions: (Chapter 5 - List Code Sections): _____

Mixed Occupancy: ☒ No ☐ Yes Separation: ____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 (509.4) - 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.

$$\frac{\text{Actual Area Of Occupancy A}}{\text{Allowable Area Of Occupancy A}} + \frac{\text{Actual Area Of Occupancy B}}{\text{Allowable Area Of Occupancy B}} \leq 1.00$$

_____ + _____ = _____ ≤ 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] Frontage area increase 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) x W / 30 = _____(%)

[2] Unlimited area applicable under conditions of Section 507.

[3] Maximum Building Area = total number of stories in building x D (maximum 3 stories) 506.2

[4] The maximum Area of open parking garages must comply with Table 406.5.4 The Maximum area of air traffic control towers must comply with Table 412.3.1.

[5] Frontage increase is based on the unsprinklered area value in Table 506.2

ALLOWABLE HEIGHT			
	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40	25	T 504.3
Building Height in Stories (Table 504.4)	ONE	ONE	T 504.4

[1] Provide code reference if the "Shown on Plans" quality is not based on Table 504.3 or 504.4

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (IN SEQUENCE)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders & trusses							
Bearing walls							
Exterior							
North	35'+						
East	35'+						
West	35'+						
South	35'+						
Interior							
Nonbearing walls and partitions Exterior Walls							
North							
East							
West							
South							
Interior walls & partitions							
Floor construction including supporting beams & joist							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof construction including supporting beams & joist							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation		1HR		W-L-1195	V480		
Occupancy / Fire Barrier Separation							
Party / Fire Wall Separation							
Smoke Partition							
Tenant / Dwelling Unit							
Sleeping Unit Separation							
Incidental Use Separation							

* Indicates section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS NA

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

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 # LS-1

☐ Fire and / or smoke rated walls locations (Chapter 7)
☐ Assumed and real property line locations. (If not on site plan)
☐ Exterior wall opening area with respect to distance to assumed property line (705.8)
☒ Occupancy Use for each area as it relates to occupant load calculations (Table 1004.1.2)
☒ Occupant loads for each area.
☒ Exit access travel distance (1017)
☒ Common path of travel distance ((Tables 1006.2.1 & 1006.3.2.(1))
☐ Dead end lengths (1020.4)
☒ Clear exit widths for each door.
☒ Maximum calculations occupant load capacity each exit door can accommodate 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 structures provided for purpose of occupancy separation.
☐ Location of doors with panic hardware (1010.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of doors equipped with hold-open devices.
☐ Location of emergency escape windows (1030)
☐ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classifiostion I-2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above.

ACCESSIBLE DWELLING UNITS N/A
(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 SEE SITE PLAN
(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	

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	1	2			1	1				
	Required	1	1			1	1				

SPECIAL APPROVALS
Special Approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc. described below)
NONE

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute 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.

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this is not applicable)
Exempt Building: ☐ No ☐ Yes (Provide code or statutory reference): _____
Climate Zone: ☐ 3A ☐ 4A ☐ 5A
Method of Compliance: Energy Code ☐ Performance ☐ Perscriptive
ASHRAE 90.1 ☐ Performance ☐ Perscriptive
(If "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)
Roof / Ceiling (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylights: _____
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)
Wall be
Description of assembly: _____
U-Value of total assembly: _____
R - Value of insulation: _____
Floors over unconditional space (each assembly)
Description of assembly: _____
U - Value of total assembly: _____
R - Value of insulation: _____
Floor slab on grade
Description of assembly: _____
U - Value of total assembly: _____
R - Value of insulation: _____
Horizontal / vertical requirement: _____
Slab heated: _____

SEE ATTACHED COM-CHECK

STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

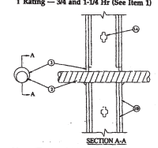
DESIGN LOADS:
Importance Factor: Snow (I_s) 1.0
Seismic (I_e) 1.0
Live Loads: Roof 20 psf
Mezzanine ____ psf
Floor 100 psf
Ground Snow Load: 15 psf
Wind Load: Basic Wind Speed 115 mph (ASCE-7)
Exposure Category B

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV
Special Response Acceleration S_s ____%g S_1 ____%g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
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 2000 psf
Pile size, type, and capacity _____

System No. W-L-1195
F Rating — 1 and 2 Hr (See Item 1)
T Rating — 3/4 and 1-1/4 Hr (See Item 1)



SECTION A-A

1. Wall Assembly — The 1 and 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
B. Gypsum Board* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 3-1/2 in.
The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 3/4 and 1-1/4 hr is for 1 and 2 hr rated assemblies, respectively.
2. Through Penetrating Product* — Flexible Metal Piping — Nom 2 in. diam (or smaller) steel flexible metal piping. Max one flexible metal piping to be installed concentrically or eccentrically within opening. The annular space between piping and periphery of opening shall be filled with fill, void or cavity material*. Sealant shall be installed at both sides of wall assembly. Insulation and jacketing may be removed on both sides of wall assembly.
OMEGA FLEX INC —TracPipe
3. Fill, Void or Cavity Materials* — Sealant — Min 5/8 an ness of fill material for 1 and 2 hr fire-rated wall assembl tively, applied within the annulus, flush with both surface An additional 1/2 in. diam bead of fill material applied at board/penetrant interface at point contact location on bot the wall.
JOHNS MANVILLE INTERNATIONAL INC —Pat *Bearing the UL Classification Mark

MECHANICAL SUMMARY
(PROVIDE IN THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SYSTEMS, SERVICES AND EQUIPMENT

Thermal Zone 4A
winter dry bulb: 20°
summer dry bulb: 94°

Interior design conditions:
winter dry bulb: 72°
summer dry bulb: 75°
relative humidity: 50%

Building heating load: 63,379 Btu

Building cooling load: 150,387 Btu

Mechanical Spacing Conditioning System
Unitary

description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
} SEE SHEET M-1

Boiler
Size category: If oversized, state reason: _____

Chiller
Size category: If oversized, state reason: _____

List equipment efficiencies: _____

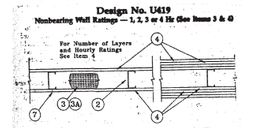
ELECTRICITY SUMMARY
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SYSTEM AND EQUIPMENT
Method of Compliance: Energy Code: ☐ Performance ☒ Prescriptive
ASHREA 90.1 ☐ Performance ☐ Prescriptive

Lighting schedule (Each fixture type)
lamp type required in fixture: _____
number of lamps in fixture: _____
ballast type used in the fixture: _____
number of ballast in fixture: _____
total wattage per fixture: _____
total interior wattage specified vs allowed: whole building or space by space
} SEE SHEET E-2
Allowable Watts: 8316
Actual Watts: 2717

Additional Efficiency Package Options
(When using the 2018 NCEC; not required for ASHREA 90.1)
☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On -Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air Systems
☐ C406.7 Reduced Energy Use in Service Water Heating

Design No. U419
Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 3 & 4)



1. Floor and Ceiling Runners — (Not shown) — Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
2. Steel Studs — Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
3. Batts and Blankets* — (Required as indicated under Item 4) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.
3A. Batts and Blankets* — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.
4. Gypsum Board* — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	3-1/2	1 layer, 5/8 in. thick	Optional

Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional

Appendix "B"

RECEIVED
By Regency Construction at 2:42 pm, Feb 20, 2024

REVISIONS	
NO.	DATE

A NEW CHAMPS CONVENIENCE STORE
U.S. HWAY 401 NORTH
Fuquay-Varina, North Carolina 27526

RJB, PE, PA
C-0269
Robert J. Bracken
ENGINEERING • SURVEYING
3768 Carbonton Road • Sanford, NC 27330

SCALE: 1/4" = 1'-0"

DRAWN BY: WRJ

DATE:

CHECKED BY: RJB

DWG. NUMBER:

JOB NUMBER:

SHEET NO:

APPENDIX 'B'

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 7291 ENGINEER ROBERT J. BRACKEN

9/26/22