2018 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 & 2)

| Name of Discipate NICHAIC COSE | IV DADTICLE CLILIDGE | A DOITION | | | | |
|--------------------------------|----------------------|-----------|--------------|--------|-------------------------|--------|
| Name of Project: NEILL'S CREE | K BAPTISH CHURCH | ADDITION | | | | |
| Address: 4200 NEILL'S CREEK F | OAD ANGIE | R, NC | | | Zip Code 27501 | |
| Owner/Authorized Agent: KEN | - Alexander | Phone# | 919-625-0963 | E-Mail | KENT@ALEXANDERDESIGNBUI | LD.COM |
| Owned By: | □City/County | | ☑ Private | | ☐ State | |
| Code Enforcement Jurisdiction: | □City | | | RNETT | | |
| | - | | | | | |

CONTACT:

| DESIGNER | FIRM | NAME | LICENSE# | TELEPHONE# | EMAIL |
|-------------------------|---------------------------|----------------|----------|--------------|-------------------------------|
| Architectural | Tony Johnson Architect | Tony Johnson | 4296 | 919-550-7717 | tony@tonyjohnsonarchitect.com |
| Civil | | | | | |
| Electrical | KILIAN ENGINEERING | MICHAEL KILIAN | 17304 | 252-438-8778 | mkilian@kilianengineering.com |
| Fire Alarm | | | | | |
| Plumbing | KILIAN ENGINEERING | MICHAEL KILIAN | 17304 | 252-438-8778 | mkilian@kilianengineering.com |
| Mechanical | KILIAN ENGINEERING | MICHAEL KILIAN | 17304 | 252-438-8778 | mkilian@kilianengineering.com |
| Sprinkler-Standpipe | | | | | |
| Structural | | | | | |
| Retaining Walls>5' high | | | | | |
| Other | | | | | |

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

2018 NC BUILDING CODE EDITION:

| New Building: | ☑ New building☐ First time interior completion (upfit)☐ Addition | ☐ Rennovation☐ Shell/Core☐ Phased Construction |
|---------------|--|--|
|---------------|--|--|

2018 EXISTING BUILDING CODE:

Check all that apply:

☐ Prescriptive Compliance ☐ Work Area Compliance ☐ Performance Compliance ☐ Change of Use ☐ Historic Property ☐ Addition ☐ Repair ☐ Relocated

Alteration: ☐ Level I (Renovation) ☐ Level II (Alteration) ☐ Level III (Reconstruction)

Constructed: (date)

Current Occupancy (S) (Ch. 3): NONE Renovated: (date) Proposed Occupancy (S) (Ch. 3): <u>A3 - ASSEMBLY / S1 - STOR</u>AGE

Risk Category (Table 1604.5):

BASIC BUILDING DATA:

Construction Type: | I-A | II-A | III-A | IV | V-A □ I-B □ II-B □ V-B

Mixed construction:

No □ Yes Types □ NFPA 13-07 □ NFPA 13R-07 □ NFPA 13D-07 ⊠No □ Yes □Partial ⊠No □ Yes Standpipes: Flood Hazard Area: ⊠ No ☐ Yes Primary Fire District:

✓ No

✓ Yes Special Inspections Required: ⊠No ☐ Yes

GROSS BUILDING AREA TABLE:

| Floor | Existing (sq.ft.) | New (sq.ft.) | Renovated (sq.ft.) | Sub-Total |
|-----------------------|-------------------|--------------|--------------------|-----------|
| 3 rd Floor | | | | |
| 2 nd Floor | | | | |
| Mezzanine | | | | |
| 1 st Floor | | 6,142 | | 6,142 |
| Basement | | | | |
| Total | | | | |
| | | | | 6.1.10 |

ALLOWABLE AREA: CHAPTER 5

OCCUPANCY

Primary Occupancy: Assembly 303 \square A-1 \square A-2 \square A-3 \square A-4 \square A-5

Business 304 ☐ B

Educational 305 🔲 E

Factory 306 ☐ F-1 Moderate ☐ F-2 Low

Hazardous 307 ☐H-1 Detonate ☐H-2 Deflagrate ☐H-3 Combust ☐H-4 Health ☐H-5 HPM

I-3 Use Condition \Box 1 \Box 2 \Box 3 \Box 4 \Box 5

Mercantile 309 ☐ M

Residential 310 \square R-1 \square R-2 \square R-3 \square R-4

☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage

Utility and Miscellaneous 312 🔲 U

Accessory Occupancies (<- 10%):

Assembly 303 \square A-1 \square A-2 \square A-3 \square A-4 \square A-5

Business 304 ☐ B

Educational 305 🔲 E

Factory 306 ☐ F-1 Moderate ☐ F-2 Low Hazardous 307 ☐H-1 Detonate ☐H-2 Deflagrate ☐H-3 Combust ☐H-4 Health ☐H-5 HPM

I-3 Use Condition \Box 1 \Box 2 \Box 3 \Box 4 \Box 5

Mercantile 309 ☐ M

Residential 310 ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4

Storage 311 □S-1 Moderate □S-2 Low □High-piled ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage

Utility and Miscellaneous 312 🔲 U

INCIDENTAL USES:

☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input

Room 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 occupanices other than Group F

☐ Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy

☐ Laundry room 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 batter 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

☐ Room containing Life-Safety generator

☐ Room containing primary transformers

☐ 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 room 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

Actual Area of Occupancy A + Actual Area of Occupancy B Allowable Area of Occupancy A + Allowable Area of Occupancy B + < 1.00

Special Provisions: □510.2 □510.3 □510.4 □510.5 □510.6 □510.7 □510.8 □510.9

Mixed Occupancy: ☐No ☐ Yes Separation: ___0 Hr. Exception: 508.3.1

II OWARIE AREA

| ALLOWABLE AREA | | | | | | | |
|----------------|---------------------|---------------|-------------|----------|-----------|-----------|----------|
| | | А | В | С | D | Е | F |
| | | Building Area | T 11 5060 | Area for | Area for | Allowable | Maximum |
| | | Per Story | Table 506.2 | Frontage | Sprinkler | Area or | Building |
| Story Number | Description and Use | (Actual) | Area | Increase | Increase | Unlimited | Area |
| 1 | A3 - ASSEMBLY | 6,142 | 6,000 | 2,460 | | 8,460 | 8,460 |
| | | | | | | | |
| 1 | S-1 - STORAGE | 6,142 | 9,000 | 3,690 | | 12,690 | |

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= 222' - 6" (F) b. Total Building Perimeter= 335' - 8" (P)

c. Ratio (F/P)= .66 (F/P)
d. W=Minimum width of public way=

d. W=Minimum width of public way= 30 (W) e. Percent of frontage increase I(f)= [F/P-0.25]x W/30= 41 (%)

2. The sprinkler increase per Section 506.3 is as follows:

a. Multi-story building l(s)=200 percent b. Single story building I(s)=300 percent

3. Unlimited area applicable under conditions of Sections Group B, F, M, S, A-4 (507.3), A-3 (507.6); Group A motion picture (507.11); Covered Mall Buildings (507.12); and H-2 aircraft paint hangers (507.9).

4. Maximum Building Area=total number of stories in the building x E, But not greater than 3xE (506.4.1).

5. The maximum area of a single-use parking garage shall be permitted to comply with Table 406.3.5. The maximum area of air traffic control towers must comply with table 412.3.2.

ALLOWABLE HEIGHT: CHAPTER 5

| | Allowable (Table 504.3) | Increased for Sprinklers (506.3) | Shown on Plans | Code Reference |
|----------------------------|----------------------------|----------------------------------|----------------|----------------|
| Type of Construction | Type: | | Type: | |
| Building Height in Feet | Feet= 50' - 0" | Feet= H + 20'= | Feet= 22' - 5" | |
| Building Height in Stories | Stories= 2 | Stories + 1= | Stories= 1 | |

FIRE PROTECTION REQUIREMENTS: CHAPTER 6 (TABLE 601)

Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4

| | Fire | Rat | ing* | | | | |
|---|----------------------------------|----------|---------------------------------|-------------------------|-----------------------------------|--------------------------------------|---------------------------------|
| Building Element | Separation Distance (Feet) | Required | Provided (w/ * Reduction) | Detail # and Sheet # | Design # for Rated Assembly | Design # for Rated Penetration | Design # for Rated Joints |
| Structural frame, including | >30 | | | | | | |
| columns, girders, trusses | >30 | | | | | | |
| columns, girders, trusses Bearing Walls | | | | | | | |
| Exterior | | | | | | | |
| North | | | | | | | |
| East | | | | | | | |
| West | | | | | | | |
| South | | | | | | | |
| Interior | | | | | | | |
| Nonbearing walls and partitions | | | | | | | |
| Exterior walls (T602) | | | | | | | |
| North | >30 | 0 | | | | | |
| East | >30 | 0 | | | | | |
| West | >30 | 0 | | | | | |
| South | 16.38' | 0 | | | | | |
| Interior walls and partitions Floor Construction*** | | 0 | | | | | |
| | | | | | | | |
| ***including supporting beams | | 0 | | | | | |
| and joists | | | | | | | |
| Roof Construction including | | 0 | | | | | |
| supporting beams and joists | | U | | | | | |
| Shaft Enclosures- Exit | | | | | | | |
| Shaft Enclosures- Other | | | | | | | |
| Corridor Separation | | 0 | | | | | |
| Occupancy/ Fire Barrier Separation | | | | | | | |
| Party/ Fire Wall Separation | | | | | | | |
| Smoke Barrier Separation | | | | | | | |
| Tenant/ Dwelling Unit Separation | | | | | | | |
| Incidental Use Separation | | | | | | | |

PERCENTAGE OF WALL OPENING CALCULATIONS:

| Fire Separation Distance | Degree of Openings | Allowable Area | Actual Shown on Plans |
|----------------------------|-----------------------------|----------------|-----------------------|
| (Feet) From Property Lines | Protection (Table 705.8) | (%) | (%) |
| | | | |
| > 30' EAST ELEVATION | UNPROTECTED NON-SPRINKLERED | NO LIMIT | 2% |
| > 30' WEST ELEVATION | UNPROTECTED NON-SPRINKLERED | NO LIMIT | 3% |
| 16.38' SOUTH ELEVATION | UNPROTECTED NON-SPRINKLERED | 15% | 4% |
| > 30' NORTH ELEVATION | UNPROTECTED NON-SPRINKLERED | NO LIMIT | 2% |

LIFE SAFETY SYSTEM REQUIREMENTS: Chapters 9 and 10

Emergency Lighting: S1006 Exit Signs: S1011 □No ⊠Yes Fire Alarm: S907, NFPA 72-07 ⊠No □Yes ⊠No □Yes Smoke Detection Systems: S907 □Partial _ Carbon Monoxide Detection:

LIFE SAFETY PLAN REQUIREMENTS:

Life Safety Plan Sheet #, if Provided: A-0.4 ☐ Fire and/or smoke rated wall 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 lines (705.8) ☐ Existing structures within 30′ of the proposed building ⊠Occupancy types for each area as it relates to

occupant load calculation (Table 1004.1.2) ⊠Occupant loads for each area ⊠ Exit access travel distances (1017)

Common path of travel distances (1006.2.1 & 1006.3.2(1)) □ Dead end lengths (1020.4)

☑ Clear exit widths for each exit door Maximum calculated 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 structure is

provided for purposes of occupancy separation ☐ Location of doors with delayed egress locks and the

amount of delay (1010.1.9.7) _Location of doors with electromagnetic egress locks ☐ 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 Classification I-2 (407.5) □ 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 Req'd | Type A Units Provided | Type B Units Req'd | Type B Units Provided | Total Accessible Units Provided |
|-------------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------------------|
| | | | | | |

ACCESSIBLE PARKING REQUIREMENTS: (Section 1106)

| Lot or Parking Area | Total Number | of Parking Spaces | # of Accessi | ded | Total # Accessible | |
|---------------------|--------------|-------------------|-----------------|-------------|-----------------------|----------|
| | Required | Provided | Regular with 5' | Van Space | Access Aisle | Provided |
| | | | Access Aisle | 132" Access | 8' Access | |
| | | | | | | |
| | | | | | | |
| TOTAL | | | | | | |

PLUMBING FIXTURE REQUIREMENTS: Chapter 29 (Table 2902.1)

| Occupancy Use Group and/or Space Designation | | | Waterclose | ets | Urinals Plum-Sec. | | Lavatories | , | Showers/ | Drinking Plum- | Fountains Sec. (410) |
|--|-------------------|------|------------|--------|----------------------|------|------------|--------|----------|-------------------|-------------------------|
| ariu/or | space Designation | Male | Female | Unisex | (419.2) | Male | Female | Unisex | Tubs | Regular | Accessible |
| Space | Existing | | | | | | | | | | |
| | New | 2 | 3 | 1 | 1 | 2 | 2 | 1 | | | |
| | Req'd | 2 | 3 | 0 | 0 | 1 | 1 | 0 | | | |
| | | | | | | | | | | | |

SPECIAL APPROVAL: 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 design vs annual energy cost for the proposed design. Existing building envelope complies with code: ☐ No ☐ Yes

Exempt Building: ☐ No ☐ Yes Climate Zone: ☐ 3A ☐ 4A ☐ 5A

Method of Compliance: ☐ Prescriptive (Energy Code)

☐ Prescriptive (ASHRAE 90.1) ☐ Performance (Energy Code) 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 skylight in each assembly:

Exterior Walls (each assembly) Description of assembly:

U-Value of total assembly: R-Value of insulation:

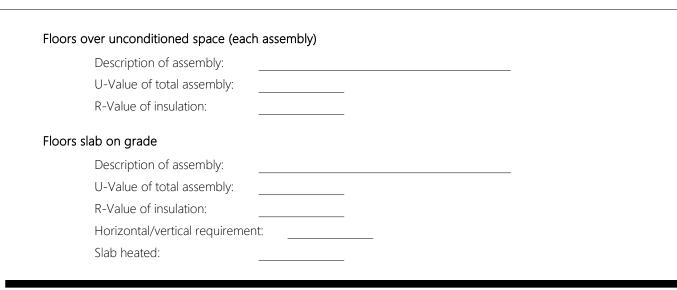
Openings (windows or doors with glazing) U-Value of assembly:

Solar heat gain coefficient: Projection factor:

Walls Below Grade (each assembly)

Door R-Value:

Description of assembly: U-Value of total assembly: R-Value of insulation:



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

DESIGNS LOADS:

| Importance Factors: | Snow (I _S) Seismic (I _E) | | □ .80 □ 1.0 | □ 1.0 □ 1.25 | □ 1.1 □ 1.5 | □ 1.2 |
|------------------------|---|-------|----------------|-----------------|----------------|--------------|
| Live Loads: | Roof (live & snow) | | | | | (psf) |
| | Mezzanine | | | | | (psf) |
| | Floor | | | | | (psf) |
| Ground Snow Load: | | (psf) | | | | |
| Wind Load: | Basic Wind Speed | | | | | (mph ASCE 7) |
| | Exposure Category | | □В | ПСГ | 1 D | |

SEISMIC DESIGN CATEGORY:

Provide the following Seismic Design Parameters: Risk Category (Table 1604.5) Spectral Response Acceleration Ss ______%g S1 _____%g Site Classification (ASCE 7)

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 Architectural, Mechanical, Components Anchored?

Yes

No

LATERAL DESIGN CONTROL: ☐ Earthquake ☐ Wind SOIL BEARING CAPACITIES: Field Test (provide copy of test report) Presumptive Bearing Capacity Pile Size, Type, and Capacity SOIL BEARING CAPACITIES:

2018 APPENDIX B

☐ Yes ☐ No

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT 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:

List equipment efficiencies:

heating efficiency: cooling efficiency: size category of unit: Size category. If oversized, state reason: Chiller Size category. If oversized, state reason: _____

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

ELECTRICAL SUMMARY ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: 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); total exterior wattage specified vs. allowed

Additional Efficiency Package Options

(When using the 2018 NCECC; not required for ASHRAE 90.1) ☐ C406.2 More Efficient HVAC Equipment Performance ☐ C406.3 Reduced Lighting Power Density ☐ C406.4 Enhanced Digital Lighting Controls ☐ C406.5 On-Stie Renewable Energy ☐ C406.6 Dedicated Outdoor Air System ☐ C406.7 Reduced Energy Use in Service Water Heating

1 I

H P S O

02-06-2020