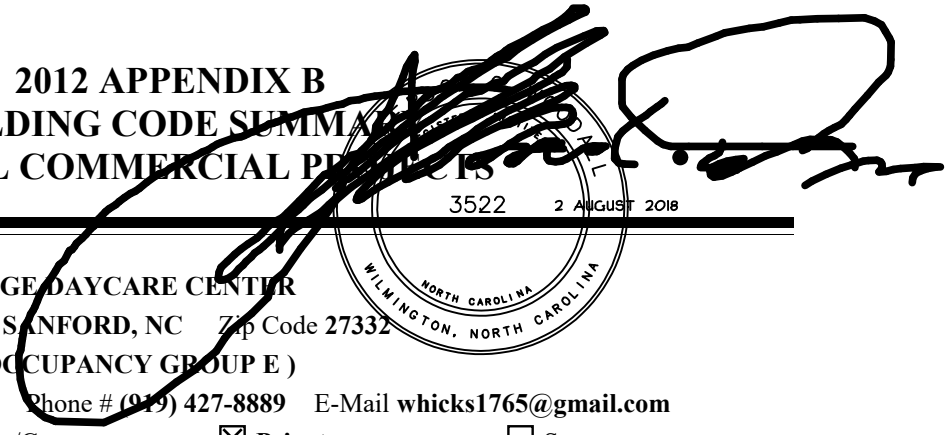
2012 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS



Name of Project: **TREE OF KNOWLEDGE DAYCARE CENTER**
Address: **622 BUFFALO LAKE ROAD, SANFORD, NC** Zip Code **27332**
Proposed Use: **DAYCARE CENTER (OCCUPANCY GROUP E)**
Owner/Authorized Agent: **BILL HICKS** Phone # **(919) 427-8889** E-Mail **whicks1765@gmail.com**
Owned By: ☐ City/County ☒ **Private** ☐ State
Code Enforcement Jurisdiction: ☒ **City - SANFORD** ☒ **County - HARNETT** ☐ State

LEAD DESIGN PROFESSIONAL: JEFFERSON C. WOODALL, ARCHITECT

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	**JCW, A**	**JCW**	**3522**	**(336) 689-1362**	**jeffersonwoodall@gmail.com**

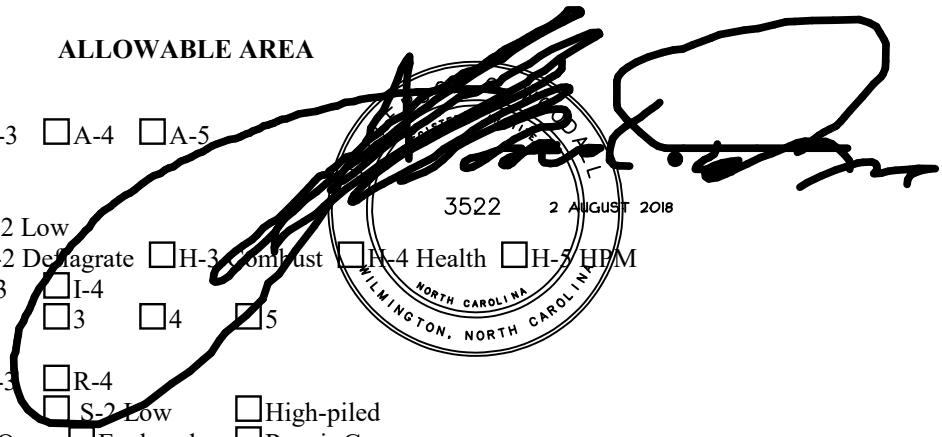
Civil **SITE PLAN PROVIDED BY OWNER**
Electrical **NOT APPLICABLE** – ANY CHANGES TO EXISTING ELECTRICAL SYSTEMS TO BE SUPPLIED BY NC LICENSED SUB-CONTRACTOR
Fire Alarm **TO BE SUPPLIED BY OWNER'S FIRE ALARM SYSTEM DESIGNER**
Plumbing **NOT APPLICABLE** – ANY CHANGES TO EXISTING ELECTRICAL SYSTEMS TO BE SUPPLIED BY NC LICENSED SUB-CONTRACTOR
Mechanical **NOT APPLICABLE** – ANY CHANGES TO EXISTING MECHANICAL SYSTEMS TO BE SUPPLIED BY NC LICENSED SUB-CONTRACTOR
Sprinkler-Standpipe **NOT APPLICABLE**
Structural **NOT APPLICABLE**
Retaining Walls >5' High **NOT APPLICABLE**
Other **NOT APPLICABLE**

2012 EDITION OF NC CODE FOR: ☐New Construction ☐Addition ☐Upfit
EXISTING: ☐Reconstruction ☒**Alteration & Change of Occupancy** ☐Repair ☐Renovation
CONSTRUCTED: 1998 **ORIGINAL USE(S)** (Ch. 3)**: MEDICAL OFFICES (B OCCUPANCY)**
RENOVATED: UNKNOWN **CURRENT USE(S)** (Ch. 3)**: MEDICAL OFFICES (B OCCUPANCY)**
PROPOSED USE(S) (Ch. 3)**: DAYCARE (E OCCUPANCY)**

BASIC BUILDING DATA
Construction Type: ☐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:
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor	**NA**	**NA**	**NA**
5th Floor	**NA**	**NA**	**NA**
4th Floor	**NA**	**NA**	**NA**
3rd Floor	**NA**	**NA**	**NA**
2nd Floor	**NA**	**NA**	**NA**
Mezzanine	**NA**	**NA**	**NA**
1st Floor	**3503**	**0**	**3503**
Basement	**NA**	**NA**	**NA**
TOTAL	**3503**		**3503**

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: **NA** Exception: **NA**

☐ 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]
ONE	**DAYCARE**	**3503**	**9500**	**NA**	**NA**	**9500**	**9500**

[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

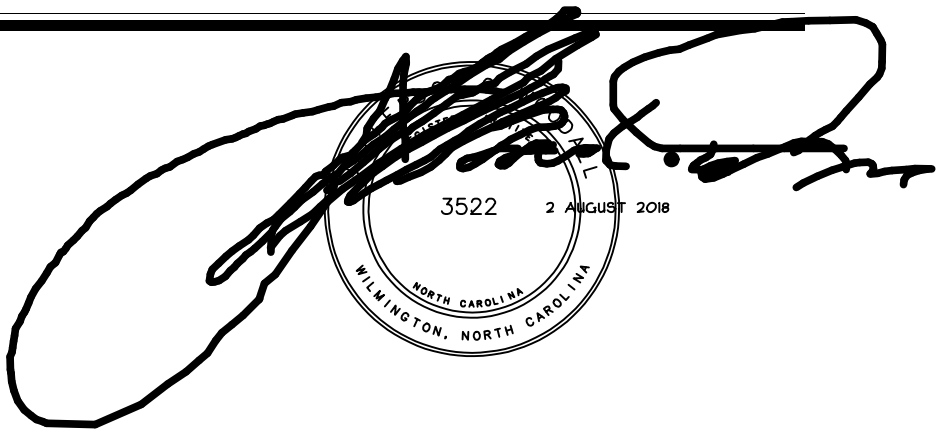
[3] Unlimited area applicable under conditions of Section 507.

[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 5B**		**Type 5B**	
Building Height in Feet	**40'-0"**	**NA**	**20'-0"**	
Building Height in Stories	**1**	**NA**	**1**	



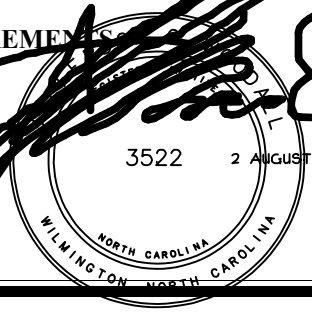
FIRE PROTECTION REQUIREMENTS

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	NA	0	NA	NA	NA	NA	NA
Bearing Walls							
Exterior							
North	>30'-0"	0	NA	NA	NA	NA	NA
East	>30'-0"	0	NA	NA	NA	NA	NA
West	>30'-0"	0	NA	NA	NA	NA	NA
South	>30'-0"	0	NA	NA	NA	NA	NA
Interior	NA	0	NA	NA	NA	NA	NA
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions	NA	0	NA	NA	NA	NA	NA
Floor Construction Including supporting beams and joists	NA	0	NA	NA	NA	NA	NA
Roof Construction Including supporting beams and joists	NA	0	NA	NA	NA	NA	NA
Shaft Enclosures - Exit	NA	NA	NA	NA	NA	NA	NA
Shaft Enclosures - Other	NA	NA	NA	NA	NA	NA	NA
Corridor Separation	NA	NA	NA	NA	NA	NA	NA
Occupancy Separation	NA	NA	NA	NA	NA	NA	NA
Party/Fire Wall Separation	NA	NA	NA	NA	NA	NA	NA
Smoke Barrier Separation	NA	NA	NA	NA	NA	NA	NA
Tenant Separation	NA	NA	NA	NA	NA	NA	NA
Incidental Use Separation	NA	NA	NA	NA	NA	NA	NA

* 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

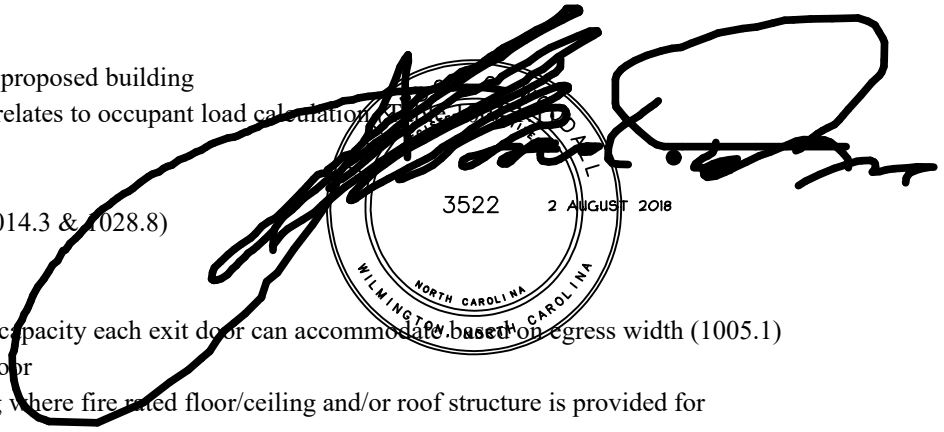


LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: **LIFE SAFETY PLAN NOT REQUIRED BY LOCAL CODE ENFORCEMENT**

☐ 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
- ☐ 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
NOT APPLICABLE							

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	
NORTH OF BUILDING	**18 SEE CALCULATIONS BELOW**	**18**			**1**	**1**
1 SPACE / 300 GFA + 6 SPACES FOR DROP-OFF = 18 SPACES REQUIRED						
TOTAL	**18**	**18**			**1**	**1**

STRUCTURAL DESIGN

(NOT APPLICABLE – NO CHANGE TO EXISTING STRUCTURAL SYSTEMS)

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) Vx = _____ Vy = _____

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

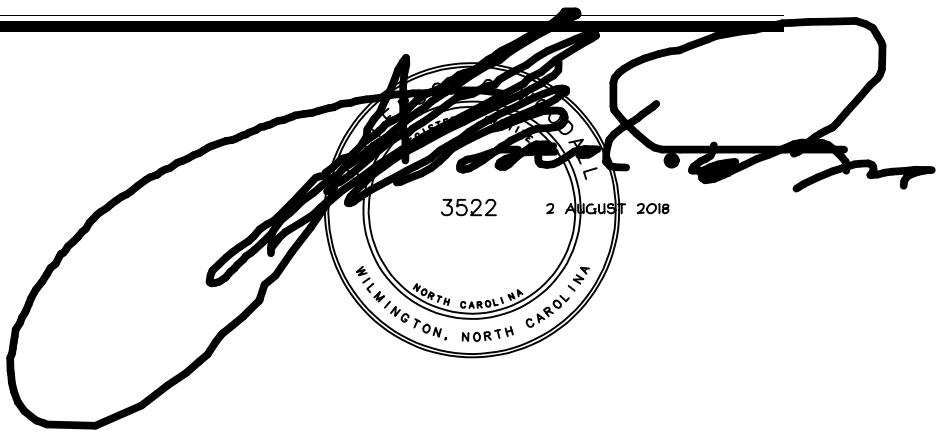
PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
SPACE	EXISTING	**2**	**2**	**0**	**2**	**2**	**0**	**0**	**0**
	NEW	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	REQUIRED	**2**	**2**	**0**	**2**	**2**	**0**	**PROVIDED IN KITCHEN**	

SPECIAL APPROVALS

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

(NONE REQUIRED – VERIFY WITH LOCAL CODE ENFORCEMENT OFFICIALS)



ENERGY SUMMARY

(NOT APPLICABLE – NO CHANGE TO EXISTING THERMAL ENVELOPE)

Climate Zone: ☐3 ☒**4A** ☐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)

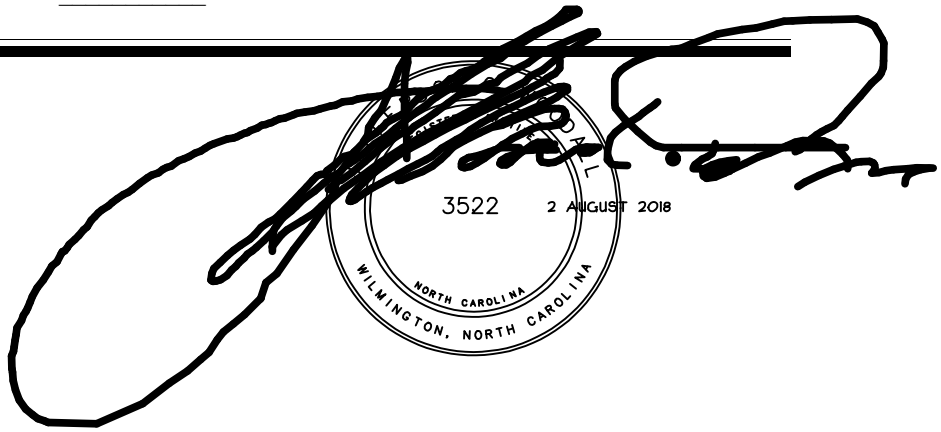
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

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

(NOT APPLICABLE – MINOR CHANGES TO EXISTING MECHANICAL SYSTEMS TO BE PERFORMED BY NC LICENSED MECHANICAL SUB-CONTRACTOR)

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: _____

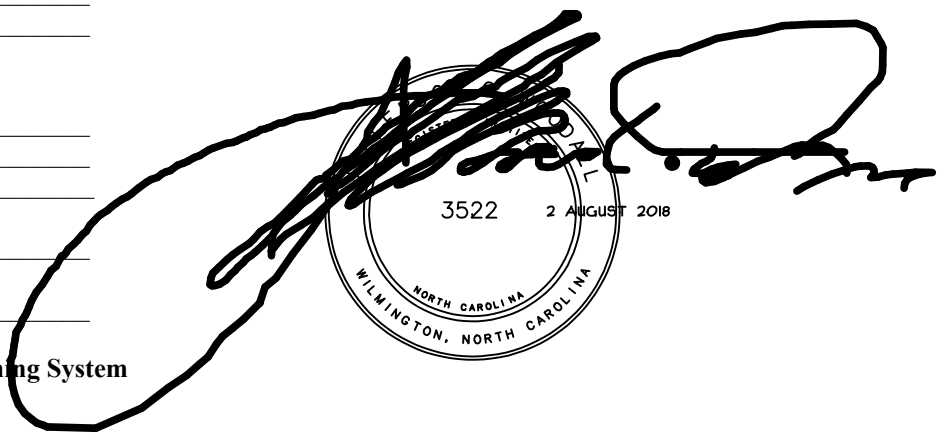
Mechanical Spacing Conditioning System

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

(NOT APPLICABLE – MINOR CHANGES TO EXISTING ELECTRICAL SYSTEMS TO BE PERFORMED BY NC LICENSED ELECTRICAL SUB-CONTRACTOR)

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