

# Lillington Grace Church of the Nazarene

401 South Street, Lillington, N. C. 27546

May 18, 2020

Name of Project: LILLINGTON GRACE CHURCH OF THE NAZARENE  
 Address: 401 SOUTH STREET, LILLINGTON Zip Code: 27546  
 Proposed Use: CHURCH-RELIGIOUS  
 Owner or Authorized Agent: BRAD BYERS Phone #: 910-385-7763 E-Mail  
 Owned By:  City/County  Private  State  
 Code Enforcement Jurisdiction:  City:  County: HARNET

CONTACT: William A. Gold, P.E.  
 DESIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL  
 Architectural \_\_\_\_\_  
 Civil \_\_\_\_\_  
 Electrical \_\_\_\_\_  
 Fire Alarm \_\_\_\_\_  
 Plumbing \_\_\_\_\_  
 Mechanical \_\_\_\_\_  
 Sprinkler-Standpipe \_\_\_\_\_  
 Structural EXISTING STRUCTURE  
 Retaining Walls >6' High \_\_\_\_\_  
 Other\*\* (Life Safety): Meridian Engineering, P.A. William A. Gold 05262 252-522-2587 wgold2@sundentlink.net

\*\*FLOOR PLAN, APPENDIX B & LIFE SAFETY\*\*  
 2018 NC BUILDING CODE:  New Building  Shell/Core  1st Time Interior Completions  
 Addition  Phased Construction-Shell Core  
 2018 NC EXISTING BUILDING CODE:  Prescriptive  Alteration Level I  Historic Property  
 Repair  Alteration Level II  Change of Use  
 Chapter 14  Alteration Level III

CONSTRUCTED: (date) \_\_\_\_\_ CURRENT USE(S) (Ch. 3): \_\_\_\_\_ NOT IN USE  
 RENOVATED: (date) \_\_\_\_\_ PROPOSED USE(S) (Ch. 3): A3

OCCUPANCY CATEGORY (Table 1604.5): Current: \_\_\_\_\_ Proposed: II

BASIC BUILDING DATA  
 Construction Type:  I-A  II-A  III-A  IV  V-A  
 I-B  II-B  III-B  V-B

Sprinklers:  No  Partial  NFPA 13  NFPA 13R  NFPA 13D  
 Standpipes:  No  Class I  II  III  Wet  Dry  
 Primary Fire District:  No  Yes Flood Hazard Area:  No  Yes  
 Special Inspections Required:  No  Yes

FLOOR	EXISTING (sq. ft.)	NEW (sq. ft.)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	5,200		5,200
Basement			
TOTAL			5,200

ALLOWABLE AREA  
 Primary Occupancy Classification(s):  
 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  
 I-2 Condition  1  2  
 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 Occupancy Classification(s): \_\_\_\_\_  
 Incidental Uses (Table 509): \_\_\_\_\_  
 This separation is not exempt as a Nonseparated Use (see exceptions).  
 Special Uses (Chapter 4 - List Code Sections): \_\_\_\_\_  
 Special Provisions (Chapter 5 - List Code Sections): \_\_\_\_\_  
 Mixed Occupancy:  No  Yes Separation: 2 HR Hr. Exception: -  
 Non-Separated Use (508.3)  
 Separated Use (508.3) -- 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.  
 See one

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

$$\frac{3600/6000}{\text{SANCTUARY SIDE}} + \frac{1600/6000}{\text{FOYER SIDE}} = 0.87 \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE AREA PER STORY	(C) AREA FOR FRONTAGE INCREASE <sup>1</sup>	(D) ALLOWABLE AREA PER STORY OR UNLIMITED <sup>2,3</sup>
1	A-3	5,200	6,000	-	6,000

<sup>1</sup> Use most restrictive  
<sup>2</sup> Frontage area increases from Section 508.2 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) = 100 [(F/P) - 0.25] x W/30 = \_\_\_\_\_ (%)  
<sup>3</sup> Unlimited area applicable under conditions of Section 507.  
<sup>4</sup> Maximum Building Area=total number of stories in the building x D (maximum 3 stories) (506.2).  
<sup>5</sup> 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.  
<sup>6</sup> Frontage increase is based on the unsprinklered area value in Table 506.2.

BUILDING ELEMENT	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	Feet 5B	Feet 5B	Table 504.3
Building Height in Stories (Table 504.4)	Stories 2	Stories 1	Table 504.4

BUILDING ELEMENT	MIN. SEPARATION DISTANCE (FEET)	RATING PROVIDED	DETAILS AND SHEETS	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0				
Bearing Walls						
Exterior		N/A				
North		0				
East		0				
West		0				
South		0				
Interior						
Nonbearing Walls and Partitions						
Exterior Walls						
North		0	0			
East		0	0			
West		0	0			
South (Trent Road)		0	0			
Interior Walls and Partitions						
Floor Construction including supporting beams and joists						
Floor Ceiling Assembly						
Columns Supporting Roof						
Columns Supporting Floors						
Roof Construction including supporting beams and joists		0	0			
Roof Ceiling Assembly						
Floor Ceiling Assembly						
Shaft Enclosures - Exit	N/A	0	0			
Shaft Enclosures - Other	N/A					
Corridor Separation						
Occupancy/Fire Barrier Separation	2 HR			UL U-384 FLOOR TO BOTTOM OF ROOF DECK		
Party/Fire Wall Separation	N/A					
Smoke Barrier Separation	N/A					
Smoke Partition	N/A					
Tenant/Dwelling Unit/Sleeping Unit Separation	N/A					
Incidental Use Separation	N/A					

\* Indicate section number permitting reduction

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOW ON PLANS (%)
> 50'	UP/NS	UNLIMITED	< 5%

Emergency Lighting:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Exit Signs:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Fire Alarm:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Smoke Detection Systems:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partial
Panic Hardware:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

LIFE SAFETY PLAN REQUIREMENTS  
 Life Safety Plan Sheet # B-2  
 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 Use 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 [Tables 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 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 Classification I-2 (407.5)  
 Note any code exception or table notes that may have been utilized regarding the items above.

STRUCTURAL DESIGN  
 DESIGN LOADS: \*\*\* NOTE: EXISTING UNITS BY EAST COAST MODULAR\*\*\*  
 Importance Factors: Wind (I<sub>w</sub>) 1.0  
 Snow (I<sub>s</sub>) 1.0  
 Seismic (I<sub>e</sub>) 1.0  
 Live Loads: Roof 30 psf  
 Mezzanine psf  
 Floor 125 psf  
 Ground Snow Load: 15 psf  
 Wind Load: Basic Wind Speed 90 mph (ASCE-7-16)  
 Exposure Category B  
 \*\*\* NOTE: EXISTING UNITS BY EAST COAST MODULAR\*\*\*

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<sub>s</sub> \_\_\_\_\_ %g S<sub>1</sub> \_\_\_\_\_ %g  
 Site Classification (ASCE 7)  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  
 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 \_\_\_\_\_

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
N/A							

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE SPACES PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	13' ACCESS AISLE	8' ACCESS AISLE	
TOTAL						

SEE SITE PLAN BY OTHERS

USE	WATERCLOSETS			LAVATORIES			SHOWERS			DRINKING FOUNTAINS		
	MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX	TUBS	REGULAR	ACCESSIBLE	REGULAR	ACCESSIBLE	
EXISTING	2	3	1	2	2	3	1	1	1	1	1	
NEW												
REQUIRED	2	3	1	2	2	3	1	1	1	1	1	

SPECIAL APPROVALS  
 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 referenced design versus the annual energy cost for the proposed design.  
 Existing Building Envelope complies with Code:  (If checked, the remainder of this section is not applicable).  
 Exempt Building:  Provide Code or Statutory Reference:

EXISTING MODULAR UNITS  
 Climate Zone:  3A  4A  5A  
 Method of Compliance:  Performance  Prescriptive  
 ASHRAE 90.1:  Performance  Prescriptive  
 Other:  Performance (specify source)

THERMAL ENVELOPE: (Prescriptive method only)  
 Roof/Ceiling Assembly (each assembly)  
 Description of Assembly: METAL ROOF WITH R-19 INSULATION  
 U-Value of Total Assembly: 0.052  
 R-Value of Insulation: R19 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: 2X4 WOOD STUDS  
 U-Value of Total Assembly: 0.077  
 R-Value of Insulation: R13 R-Value of Insulation:  
 Openings (windows or doors with glazing)  
 U-Value of Assembly: 0.61  
 Solar heat gain Coefficient: NA  
 Projection Factor: YES  
 Door R-Values: 0.07  
 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: 2X10 WOOD JOISTS  
 U-Value of Total assembly: 0.087  
 R-Value of Insulation: R15 R-Value of Insulation:  
 Floors Slab on Grade (each assembly)  
 Description of Assembly:  
 U-Value of Total Assembly:  
 R-Value of Insulation:  
 Horizontal/Vertical Requirement:  
 Slab Heated:

Walls below grade (each assembly) NONE  
 Description of Assembly  
 U-Value of Total Assembly  
 R-Value of Insulation  
 Floors Over Unconditioned Space (each assembly) NONE  
 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  
 MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT  
 Thermal Zone Zone 4A  
 winter dry bulb 16 F  
 summer dry bulb 94 F  
 Interior design conditions  
 winter dry bulb 72 F  
 summer dry bulb 75 F  
 relative humidity 50  
 Building heating load 670M BTUH  
 Building cooling load 35.0 TONS  
 Mechanical Spacing Conditioning System  
 Unitary  
 description of unit  
 heating efficiency  
 cooling efficiency  
 size category of unit  
 Boiler  
 Size category.. If oversized, state reason: N/A  
 Chiller  
 Size category.. If oversized, state reason: N/A  
 List equipment efficiencies  
 motor horsepower N/A Less Than 1 HP  
 number of phases 1Ø  
 minimum efficiency 12 Seer  
 motor type Inverter Cond. Motors  
 number of poles N/A

ELECTRICAL SUMMARY  
 ELECTRICAL SYSTEM AND EQUIPMENT SEE ELECTRICAL DRAWINGS  
 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 Existing Fixtures & Lights  
 ballast type used in fixture Existing Fixtures & Lights  
 number of ballasts in fixture Existing Fixtures & Lights  
 total wattage per fixture Existing  
 total interior wattage specified vs. allowed Existing  
 total exterior wattage specified vs. allowed Existing  
 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

D-1 APPENDIX 'B'	SITE PLAN BY OTHERS
S-1 FOUNDATION PLAN	
B-1 FLOOR PLAN	
B-2 LIFE SAFETY	

REVISIONS

DATE	MARK	DESCRIPTION

A P P E N D I X " B "

Lillington Grace Church of the Nazarene  
 401 South Street  
 Lillington, N. C. 27546

CONSULTING ENGINEER  
 Meridian Engineering, P.A.  
 809 Rhem Street, Kinston 28501  
 P.O. Box 1291, Kinston N.C. 28503  
 Phone 1-252-522-2587  
 Fax 1-252-522-2501

DRAWN BY VDS SCALE  
 FILE LILLINGTON GRADE CHURCH NOTED  
 APPVD. BY WAG  
 DATE 5-18-20  
 DRAWING NUMBER APPENDIX "B"  
 1