

APPENDIX B

BUILDING CODE SUMMARY (2018 North Carolina State Building Code)
 NAME OF PROJECT: RENOVATIONS TO GRACE BAPTIST CHURCH (SANCTUARY BUILDING - ALTERNATE S-2)
 ADDRESS: 1401 N. COLLEGE RD, WILMINGTON, NC 28405
 PROPOSED USE: A-3 (ASSEMBLY) E-MAIL: shawn@hostetlerarchitecture.com
 OWNER OR AUTHORIZED AGENT: ROGER HAYDEN PHONE: (910) 233-0404
 OWNED BY: CITY/COUNTY PRIVATE STATE
 CODE ENFORCEMENT JURISDICTION: CITY COUNTY

LEAD DESIGN PROFESSIONAL:

DESIGNER	HOSTETLER ARCHITECTURE, PLLC	NAME	LICENSE NO.	TELEPHONE NO.
ARCHITECTURAL	HOSTETLER ARCHITECTURE	SHAWN E. HOSTETLER	11926	(910) 612-1119
CIVIL	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	(XXX) XXX-XXXX
ELECTRICAL	MCDOWELL CONSULTING ENG.	GREGORY L. MCDOWELL	018518	(910) 270-3747
FIRE ALARM	MCDOWELL CONSULTING ENG.	GREGORY L. MCDOWELL	018518	(910) 270-3747
PLUMBING	MCDOWELL CONSULTING ENG.	STEVEN H. EVERHART	23933	(910) 270-3747
MECHANICAL	MCDOWELL CONSULTING ENG.	STEVEN H. EVERHART	23933	(910) 270-3747
SPRINK-STANDPIPE	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	(XXX) XXX-XXXX
STRUCTURAL	A STRUCTURAL GUY	JASON R. WADE	036807	(919) 451-0974
PRECAST	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	(XXX) XXX-XXXX
TRUSS	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	(XXX) XXX-XXXX
OTHER	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	(XXX) XXX-XXXX

YEAR EDITION OF CODE:
 2018 NORTH CAROLINA STATE BUILDING CODE
 NEW CONSTRUCTION RENOVATION (EXISTING BLDG) UPFIT ALTERATION ADDITION

BUILDING DATA (FROM SHELL BUILDING CONSTRUCTION 2012)

CONSTRUCTION TYPE: I-A I-B II-A II-B III-A III-B
 IV-A IV-B V-A V-B

MIXED CONSTRUCTION: NO PARTIAL YES TYPES _____
 NFPA 13R NFPA 13D

SPRINKLERS: NO YES CLASS 1 WET DRY CLASS COMBINED
 STANDPIPES: NO YES

FIRE DISTRICT: NO YES

BUILDING HEIGHT: 35'-0" FEET 2 NO. OF STOREY(S) UNLIMITED PER _____
 MEZZANINE: NO YES (EXISTING)
 HIGH RISE: NO YES CENTRAL REFERENCE SHEET NO. (IF PROVIDED) _____

GROSS BUILDING AREA:	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUBTOTAL
FLOOR			
6TH FLOOR			
5TH FLOOR			
4TH FLOOR			
3RD FLOOR			
2ND FLOOR	6,184 SF		6,184 SF
MEZZANINE:	N/A		
1ST FLOOR	24,753 SF		24,753 SF
BASEMENT	N/A		
TOTAL	30,937 SF		30,937 SF

ALLOWABLE AREA

PRIMARY OCCUPANCY:
 A-1 A-2 A-3 A-4 A-5 HIGH-HAZARD H-1 H-2 H-3 H-4
 BUSINESS EDUCATIONAL F-1 F-2 I-1 I-2 I-3 I-4 I-3 USE CONDITION 1 2
 H-5 INSTITUTIONAL I-1 I-2 I-3 I-4 I-3 USE CONDITION 1 2
 3 4 5
 MERCANTILE R-1 R-2 R-3 R-4 S-1 S-2 HIGH-PILED
 UTILITY AND MISCELLANEOUS P-1 P-2 P-3 P-4 OPEN ENCLOSED REPAIR

SECONDARY OCCUPANCY: NOT APPLICABLE

SPECIAL OCCUPANCY:
 S-2 ENCLOSED PARKING GARAGE W/S-2 OPEN PARKING ABOVE UNLIMITED HEIGHT FOR B, M, AND R
 PARKING BENEATH R R-2 TYPE IIA R-2 TYPE IIB OPEN PARKING BENEATH A, I, B, M AND R
 S-2 ENCLOSED PARKING WITH A, B, M OR R ABOVE

MIXED OCCUPANCY: NO YES SEPARATION: NOT APPLICABLE HR. EXCEPTION: NOT APPLICABLE

NON-SEPARATED MIXED OCCUPANCY (302.3.2 EXCEPTION)
 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 MIXED OCCUPANCY (303.1.203.2) - 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.

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA (PERMITTED)	(C) AREA FOR OPEN SPACE INCREASE 1	(D) AREA FOR SPRINKLER INCREASE 2	(E) ALLOWABLE AREA OR UNLIMITED 3	(F) MAXIMUM BUILDING AREA 4
ONE	ASSEMBLY	24,753 GSF	EXISTING	EXISTING	N/A	N/A	EXISTING
TWO	EDUCATIONAL	6,184 GSF	EXISTING	EXISTING	N/A	N/A	EXISTING

¹OPEN SPACE AREA INCREASES FROM SECTION 506.2 ARE COMPUTED THIS:
 A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM WIDTH = 360 L.F. (F)
 B. TOTAL BUILDING PERIMETER = 645 L.F. (P)
 C. RATIO (F/P) = 1.0 (F/P)
 D. W = MINIMUM WIDTH OF PUBLIC WAY = 20' (W), BUT USE 30' BECAUSE W/30 CANNOT EXCEED 1.0
 E. PERCENT OF FRONTAGE INCREASE I = (360/645 - 0.25) X 30/30 = 30% THEREFORE, 1.30% X 7,000 SF = 9,100 SF

²THE SPRINKLER INCREASE FROM SECTION 506.3 IS AS FOLLOWS:
 A. MULTI-STORY BUILDING I = 200 PERCENT
 B. SINGLE-STORY BUILDING I = 300 PERCENT

³UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTIONS GROUP B, F, M, S, A-4 (507.1, 507.2, 507.3, 507.5); GROUP A MOTION PICTURE (507.8); MALLS (402.6); AND H-2 AIRCRAFT PAINT HANGERS (507.6).

⁴MAXIMUM BUILDING AREA = TOTAL NUMBER OF STORES IN THE BUILDING X E BUT NOT GREATER THAN 3 X E.

⁵THE MAXIMUM AREA OF PARKING GARAGES MUST COMPLY WITH 406.3.5. THE MAXIMUM AREA OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH 412.1.2.

ALLOWABLE HEIGHT

TYPE OF CONSTRUCTION	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
TYPE III-B	N/A	N/A	TYPE III-B	
BUILDING HEIGHT IN FEET	55 FEET	FEET= H + 20"	35 FEET	SECT. 504.2
BUILDING HEIGHT IN STORIES	2 STORIES	STORIES+1=	2 STORY	SECT. 504.2

CLASSIFICATION OF WORK:
 ALTERATION: LEVEL 1 (RENOVATION) LEVEL 2 (ALTERATION) LEVEL 3 (RECONSTRUCTION)

PROJECT COMPLIANCE:
 1. SECTION 803 - VERTICAL OPENING AT NARTHEX 5100 IS EXISTING, THE PROJECT MAINTAINS THE 1 HOUR RATING AT THE CORRIDORS.
 2. SECTION 804 - SPRINKLER SYSTEMS ARE NOT PRESENT OR REQUIRED
 3. SECTION 805 - DOES NOT APPLY TO SINGLE TENANT BUILDINGS ACCORDING TO 805.1
 4. SECTION 806 - THERE ARE NO ACCESSIBILITY REQUIREMENTS, NO ENTRANCES SERVING THE PRIMARY FUNCTION WERE ALTERED
 5. SECTION 807 - THE NEW STRUCT STEEL BETWEEN THE NARTHEX AND FOYER IS SIZED TO MEET CURRENT FLOOR LOADING REQUIREMENTS
 6. SECTION 808 - REFER TO THE ELECTRICAL DRAWINGS, ALL ALTERED LIGHT AND POWER ARE DESIGNED TO STANDARDS OF NFPA 70
 7. SECTION 809 - REFER TO THE MECHANICAL DRAWINGS, ALL ALTERED SPACES MEET CURRENT VENTILATION REQUIREMENTS
 8. SECTION 810 - ALTERATIONS HAVE NOT INCREASED THE OCCUPANCY OF THE BUILDING
 9. SECTION 811 - LEVEL 2 ALTERATIONS TO THE EXISTING BUILDING DO NOT REQUIRE COMPLIANCE WITH THE IECC 2012 ENERGY CODE, HOWEVER ALTERATIONS COMPLY WITH THE IECC.

FIRE PROTECTION REQUIREMENTS:
 LIFE SAFETY PLAN SHEET NO. IF PROVIDED SHEET G100

	RATING REQ'D	W/SPRINKLER REDUCTION	DETAIL NO. AND SHEET NO.	DETAIL NO. FOR RATED ASSEMBLY SEE NO. 4	DESIGN NO. FOR RATED PENETRATIONS	DETAIL NO. FOR RATED JOINT SEE NO. 4
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES						
NONBEAR'G WALLS AND PARTITIONS						
EXTERIOR						
INTERIOR						
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS						
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS						

FIRE RATED ASSEMBLIES

	REQUIRED HOURLY	DETAIL NO. AND SHEET NO.	DESIGN NO. FOR RATED PENETRATIONS ⁴	DESIGN NO. FOR RATED ASSEMBLIES ⁴
INTERIOR WALLS:				
BEARING	0			
NON-BEARING	0			
CEILING-FLOOR ASSEMBLY:	0			
BEAMS:	0			
COLUMNS:	0			
CEILING-ROOF ASSEMBLY:	N/A			
SHAFTS-EXIT:	N/A			
SHAFTS-OTHER:	N/A			
CORRIDOR SEPARATION:	1	1/G201	HILT: W-L-7042	U.L. DESIGN: U305
OCCUPANCY SEPARATION:	N/A			
PARTY/FIRE WALL SEPARATION:	N/A			
SMOKE BARRIER SEPARATION:	0			
TENANT SEPARATION:	N/A			
AREA OF RESCUE ASSISTANCE:	N/A			
CONTROL AREA: (TABLE 414.2.2)	N/A			

FIRE PROTECTION REQUIREMENTS

LIFE SAFETY SYSTEM:
 EMERGENCY LIGHTING: NO YES
 EXIT SIGNS: NO YES
 SMOKE DETECTION SYSTEMS: NO YES
 PANIC HARDWARE: NO YES
 FIRE ALARM: NO YES

EXIT REQUIREMENTS:

DEAD END-PERMITTED: 20 FEET
 TRAVEL DISTANCE-PERMITTED: 200 FEET (SEE LIFE SAFETY PLAN FOR ACTUAL TRAVEL DISTANCES)

SPACE DESCRIPTION	AREA - SF	AREA PER OCCUPANT (TABLE 1004.1.1)	OCCUPANT LOAD	EXIT WIDTH (SECTION 1005.1) 140 X 0.2 = 28.167" (36" MIN.)	EXIT WIDTH SHOWN ON PLAN	EXIT QUANTITY
FIRST FLOOR	24,753	(EXISTING FIXED SEATING - 845)		36" (MIN.)		5 PROVIDED
SECOND FLOOR	6,184	20 CR/200 OFF.	180	180 X 0.3 = 54"	36" EXISTING 48" STAIR	2 PROVIDED

DESIGN LOADS:

CLASSIFICATION OF BUILDING: CATEGORY/USE GROUP V (I, II, III)

LIVE LOAD:
 ROOF: 20 PSF
 ATTIC: N/A PSF
 MEZZANINE: N/A PSF
 FLOOR: 40 PSF

SNOW LOAD:
 FLAT-ROOF LOAD: 10 PSF
 EXPOSURE FACTOR: 1.0
 IMPORTANCE FACTOR: 1.0

WIND LOAD:
 BASIC SPEED: 115 MPH
 EXPOSURE: II
 IMPORTANCE FACTOR: 1.0
 COMPONENTS AND CLADDING: "B"
 SITE CLASS: F

EARTHQUAKE LOAD:
 WIND BASE SHEARS (FOR MWFRS): Vx= 28.1K Vy= 39.2K

PLUMBING REQUIREMENTS: (NO PLUMBING ALTERATIONS)

TOTAL SQ. FEET	FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT	TOTAL OCCUPANT LOAD FOR THE SPACE	RATIO MALE AND FEMALE	TOTAL MALE	TOTAL FEMALE
REFER TO PLUMBING DRAWINGS						
OCCUPANCY USE	WATER CLOSET M F	URINALS	LAVS.	SINKING FOUNTAINS		
REFER TO PLUMBING DRAWINGS					0	
BUILDING DRAIN SIZE	NUMBER OF DRAIN UNITS	WATER SERVICE SIZE	NUMBER OF WATER SERVICES	TOTAL FIXTURE UNIT LOAD		NOTES
REFER TO PLUMBING DRAWINGS						*PER SECTION 2802.2, EXCEPTION 2 (ADDITIONAL TOILET ROOM PROVIDED)

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 AND SHALL SIGN THE DESIGNER'S STATEMENT FOR THE APPROPRIATE PORTION, AS REQUIRED BY G.S. 143-151.33. IF ENERGY COST BUDGET METHOD, STATE THE ANNUAL ENERGY COST BUDGET VS. ALLOWABLE ANNUAL ENERGY COST BUDGET.

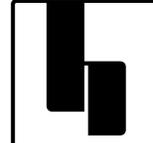
THERMAL ENVELOPE

METHOD OF COMPLIANCE: PRESCRIPTIVE PERFORMANCE ENERGY COST BUDGET

DESCRIPTION OF ASSEMBLY	
ROOF/CEILING ASSEMBLY	ASPHALT SHINGLES, 30# ROOF FELT, 5/8" PLYWOOD ROOF DECK, ENGINEERED ROOF TRUSS, 5/8" GYPSUM BOARD W/ BLOWN-IN FIBERGLASS INSULATION
U-VALUE OF TOTAL ASSEMBLY	.033
R-VALUE OF INSULATION	R30
SKYLIGHTS IN EACH ASSEMBLY	NOT APPLICABLE
U-VALUE OF SKYLIGHT	NOT APPLICABLE
TOTAL SF IN EACH ASSEMBLY	NOT APPLICABLE
EXTERIOR WALLS	VINYL/FIBER CEMENT SIDING, 7/16" ON WOOD STUDS W/ R19 FIBERGLASS BATT INSUL. 5/8" GYPSUM BOARD
U-VALUE OF TOTAL ASSEMBLY	.067
R-VALUE OF INSULATION	R19
OPENINGS (WINDOWS OR DOORS WITH GLAZING)	
U-VALUE OF ASSEMBLY	.32
SHADING COEFFICIENT	.26
PROJECTION FACTOR	0.00
LOW E REQ'D, IF APPLICABLE	YES
DOOR R-VALUES	
WALLS ADJACENT TO UNCONDITIONED SPACE (E.A.)	
DESCRIPTION OF ASSEMBLY	
U-VALUE OF TOTAL ASSEMBLY	NOT APPLICABLE
R-VALUE OF INSULATION	NOT APPLICABLE
OPENINGS (WINDOWS OR DOORS WITH GLAZING)	
U-VALUE OF ASSEMBLY	NOT APPLICABLE
LOW E REQ'D, IF APPLICABLE	NOT APPLICABLE
DOOR R-VALUES	NOT APPLICABLE
FLOORS SLAB ON GRADE	
DESCRIPTION OF ASSEMBLY	4" SLAB ON GRADE W/ 24" PERIMETER INSUL.
U-VALUE OF TOTAL ASSEMBLY	.1429
R-VALUE OF INSULATION	R15
HORIZ./VERT. REQUIREMENT	YES
SLAB HEATED	NO

DESIGNER STATEMENT:
 TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE THERMAL ENVELOPE REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, VOLUME X-ENERGY.

SIGNED: _____
 NAME: SHAWN E. HOSTETLER, A.I.A.
 TITLE: PRINCIPAL, KOT HOSTETLER ARCHITECTS, PLLC.



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CONSULTANTS

RENOVATIONS TO

GRACE BAPTIST CHURCH

WILMINGTON NORTH CAROLINA

HOSTETLER ARCHITECTURE STATE REGISTRATION



ARCHITECT OF RECORD SHAWN E. HOSTETLER 11926



CONSTRUCTION DOCUMENTS : 02.08.19

REVISIONS

MARK	DATE	DESCRIPTION
△		
△		
△		
△		

DRAWN BY: _____ PROJ. MGR: _____
SHEET CONTENT

SANCTUARY BUILDING APPENDIX B

JOB NO. 18013

SHEET G001