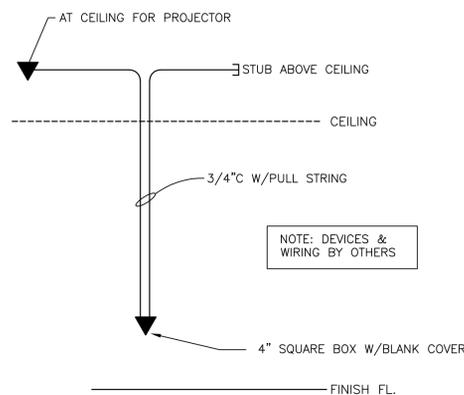


ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
————	CONDUIT
-----	CONDUIT UNDERFLOOR OR UNDERGROUND
	ARROW INDICATES HOMERUN, TICKMARKS: NEUTRAL, PHASE, GND.
	POWER PANEL
	DATA/COMM OUTLET
	JUNCTION BOX
	EXISTING OR BY OTHERS
	LIGHT FIXTURE
	ABOVE FINISHED FLOOR
	DUPLEX RECEPT, ABOVE COUNTER
	WEATHERPROOF, GROUND FAULT
	DUPLEX RECEPT VIDEO OUTLET HEIGHT
	VIDEO OUTLET



TYPICAL DATA/COMM OUTLET  
NTS

**DETAILED ELECTRICAL SPECIFICATIONS**

**SCOPE:** FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND SUPERVISION NECESSARY TO INSTALL COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEM IN THE BUILDING AS FURTHER DESCRIBED ON THE ELECTRICAL CONTRACT DRAWINGS.

SUPPLY ALL MATERIALS, FITTINGS AND HARDWARE NECESSARY FOR COMPLETE OPERATING SYSTEMS WITHIN THE OBVIOUS INTENT OF THE DRAWINGS. NO ATTEMPT HAS BEEN MADE TO DETAIL OR LIST EACH AND EVERY ITEM OF MATERIAL. THE ELECTRICAL CONTRACTOR IS CAUTIONED TO READ THE ENTIRE PROJECT DRAWINGS AND SPECIFICATIONS TO ASSURE HIMSELF OF A THOROUGH KNOWLEDGE OF BUILDING CONSTRUCTION, STRUCTURAL RESTRICTIONS TO ELECTRICAL CONTRACT WORK AND TO ASSURE THAT NO REFERENCE ANYWHERE IN THE PROJECT DRAWINGS AND SPECIFICATIONS TO WORK BY THE ELECTRICAL CONTRACTOR IS OVERLOOKED.

**CODES, PERMITS AND INSPECTIONS:** THE LATEST EDITION OF THE STATE BUILDING CODE WHICH INCLUDES THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE IS HEREBY MADE A PART OF THIS SPECIFICATION. CODE REQUIREMENTS SHALL TAKE PRECEDENCE OVER THESE SPECIFICATIONS WHERE THE CODE REQUIREMENTS EXCEED THAT OF THE SPECIFICATIONS. HOWEVER, THE SPECIFICATIONS SHALL BE FOLLOWED WHERE THEY EXCEED CODE REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, OBTAIN THE SERVICES OF THE LOCAL ELECTRICAL INSPECTOR TO MAKE ALL REQUIRED DURING CONSTRUCTION AND COMPLETED ELECTRICAL SYSTEM INSPECTIONS.

**MATERIALS AND WORKMANSHIP:** ALL MATERIAL BUILT INTO THIS PROJECT SHALL BE NEW OF EQUIVALENT OR BETTER QUALITY THAN THAT SPECIFIED. SPECIFIC NAMES AND CATALOG NUMBERS USED HEREIN ARE TO ESTABLISH THE ITEM FUNCTION, ARRANGEMENT AND QUALITY REQUIRED AND ARE NOT INTENDED TO RESTRICT COMPETITION. ALL MATERIALS SHALL BE UL LISTED AND LABELED FOR THE PARTICULAR APPLICATION AS USED ON THIS PROJECT.

**CONDUCTORS:** ALL CONDUCTORS SHALL BE COPPER (#10 AWG AND SMALLER SHALL BE SOLID, AND #8 AWG AND LARGER STRANDED) WITH THHN/THWN INSULATION, INSTALLED IN CONDUIT OR APPROVED CABLE ASSEMBLY. NM CABLE SHALL NOT BE USED. CONDUCTORS SHALL BE #12 AWG MINIMUM EXCEPT WITHIN LIGHT FIXTURES, LOW VOLTAGE CONTROLS OR COMMUNICATION/FIRE ALARM EQUIPMENT. CONDUCTOR COLOR CODE SHALL CONFORM TO THE NEC. CONDUCTORS SHALL BE CONTINUOUS FROM TERMINAL TO TERMINAL OR PULL BOX TO PULL BOX. JOINTS SHALL BE MADE WITH IDEAL "WIRENUTS."

**RACEWAYS:** RACEWAYS SHALL BE UL LISTED ELECTRICAL METALLIC TUBING (EMT) WITH THREADED STEEL HEXAGONAL COMPRESSION FITTINGS - NEITHER INDENTOR TYPE OR DIE METAL FITTING WILL BE ACCEPTED. CONDUIT UNDER THE FLOOR SLAB AND UNDER GROUND OUTSIDE THE BUILDING MAY BE PVC. FITTINGS IN EMT SHALL BE WEATHER TIGHT (THOMAS AND BETTS SERIES #5123 WITH NYLON INSULATED THROATS), BENDS SHALL BE FACTORY FABRICATED OR MADE "COLD" WITH BENDING TOOL, FREE OF KINKS OR RESTRICTIONS. NO SINGLE BEND SHALL BE IN EXCESS OF 90 DEGREES. THERE SHALL BE NO MORE THAN THE EQUIVALENT OF THREE (3) 90 DEGREE BENDS IN A GIVEN RACEWAY FROM PULL BOX TO PULL BOX. RIGID RACEWAY THREADS SHALL BE CUT STRAIGHT AND TRUE - PIPE ENDS SHALL BE REAMED AND SMOOTHED INSIDE AND OUT.

**SUPPORT** 1-1/2 INCH AND LARGER CONDUIT 10 FEET O/C OR LESS, AND 1 INCH AND SMALLER 6 FEET O/C MAXIMUM. RACEWAYS SHALL BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH BOLTS, SCREWS, STRAPS, HANGER RODS AND BRACKETS. ALL METALLIC HARDWARE SHALL BE GALVANIZED OR CADMIUM PLATED. NAILS, WIRE AND/OR PERFORATED STRAPS WILL NOT BE ACCEPTED.

**BOXES AND DEVICES:** ALL BOXES, PANELS AND EQUIPMENT SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE AND SHALL NOT DEPEND ON THE FEEDER RACEWAYS FOR SUPPORT. ALL ITEMS SHALL BE CAREFULLY ALIGNED SO THAT COVERS WILL FINISH FLUSH AND STRAIGHT. ALL UNUSED KNOCKOUTS SHALL BE CLOSED WITH BLANKING DEVICES. BOXES IN CONCRETE OR MASONRY SHALL BE 3-1/2 INCH DEEP (MINIMUM) SQUARE 16 GAUGE GALVANIZED STEEL - STEEL CITY SERIES GW. BOXES INSTALLED IN WOOD PARTITIONS SHALL BE STEEL CITY 3-1/2 INCH DEEP GANGABLE SQUARE CORNER TYPE.

**GROUNDING:** THE ELECTRICAL SYSTEM AND ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. GREEN EQUIPMENT GROUND WIRE SHALL BE USED WITH ALL FEEDERS AND BRANCH CIRCUITS.

**LIGHTING FIXTURES:** LIGHTING FIXTURES AND LAMPS SHALL BE PROVIDED AND INSTALLED AS PER SCHEDULE. ALL FIXTURES SHALL BE CLEANED ON COMPLETION OF INSTALLATION.

**TESTS:** THE CONTRACTOR SHALL MEGGER ALL BUSWAYS, CABLES AND CONTROL CONNECTIONS TO PROVE INSULATION RESISTANCE IS OF ACCEPTABLE VALUE.

**ELECTRICAL SUMMARY**

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:

Energy Code:  Prescriptive  Performance

Lighting schedule

lamp type required in fixture See Fixture Schedule  
 number of lamps in fixture See Fixture Schedule  
 ballast type used in the fixture See Fixture Schedule  
 number of ballasts in fixture See Fixture Schedule  
 total wattage per fixture See Fixture Schedule

total interior wattage specified vs allowed NO NET LIGHTING LOAD ADDED  
 total exterior wattage specified vs allowed N/A - EXISTING

Additional Efficiency Package Options

- 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 System
- C406.7 Reduced Energy Use in Service Water Heating
- N/A EXISTING/RENOVATION

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building complies with the requirements of Section C405 of the 2018 North Carolina State Energy Code.

SIGNED:

NAME: Gregory McDowell

TITLE: Professional Engineer



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**CONSULTANTS**

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 NC LICENSE NO. C-2546



RENOVATIONS TO

GRACE BAPTIST CHURCH

WILMINGTON  
 NORTH CAROLINA

LIGHTING FIXTURE SCHEDULE								
MARK	TYPE	MOUNTING	MANUFACTURER CATALOG NO.	BALLAST (QT) TYPE	LAMPS (QT) TYPE	TOTAL WATTS	VOLTS	REMARKS
A	BASKET TROFFER	LAY-IN	DAYBRITE 2EVG43LB40-4D-UNV-DIM		LED	41	120	
B	2'x2' BASKET TROFFER	LAY-IN	DAYBRITE 2EVG38LB40-2D-UNV-DIM		LED	33	120	
C	DOWNLIGHT	RECESSED	LIGHTOLIER P6RD10NZUVA P6RD840VB P6RDCC		LED	10	120	
D	DOWNLIGHT	RECESSED	LIGHTOLIER P6RD25NZUVA P6RD840VB P6RDCC		LED	35	120	
E	EMERGENCY	SURFACE	ISOLITE IMR12-50-WW		MR16-12W		120	90 MIN BATTERY
ER	REMOTE EMERGENCY	SURFACE	CHLORIDE PLEMXX		INCLUDED			MATCH "EX" BATTERY VOLTAGE UL WET LABEL FINISH SELECTED
EX	EXIT/EM COMBO	UNIVERSAL	CHLORIDE VCRW		LED (EXIT) INCLUDED (EM)	5	120	90 MIN BATTERY
F	WRAPAROUND	SURFACE	DAYBRITE OWL440840UNV-DIM		LED	37	120	
G	SHOWER	SURFACE	LIGHTOLIER SLS83510		LED	15	120	UL WET LABEL
H	DOWNLIGHT	RECESSED	LIGHTOLIER P6RRUP6RDL25835CLZ 10U		LED	25	120	
K	DOWNLIGHT	RECESSED	LIGHTOLIER P6RRUP6RDL35835CLZ 10U		LED	37	120	
L	LINEAR	RECESSED	FINELITE HP4R-4'-5-35F-UNV VF-SC		LED	37	120	
M	CHANDELIER	SUSPENDED	CORBETT LIGHTING GRAFFITY 154-49		9) 50W G9 LED EQUIVALENT	450	120	

CONSTRUCTION DOCUMENTS : 2.8.19

REVISIONS		
MARK	DATE	DESCRIPTION
△		
△		
△		
△		

DRAWN BY: RSG PROJ. MGR: GLM

**SHEET CONTENT**

ELECTRICAL SCHEDULES, NOTES & DETAILS

JOB NO. 18013 SHEET E100