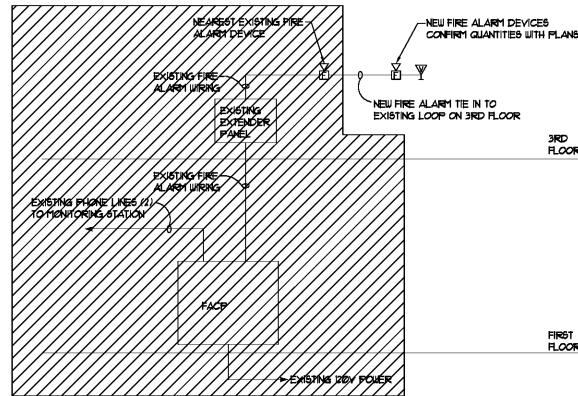


FIRE ALARM SYSTEM MATRIX	BUILDING SYSTEM OUTPUTS											CENTRAL COMM		
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE ALARM SIGNAL	ACTIVATE COMMON SUPPLEMENTAL SIGNAL	ACTIVATE COMMON SUPPLEMENTAL SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL	ACTIVATE ALARM SIGNAL		
MANUAL FIRE ALARM PULL BOXES	X	X			X	X	X	X	X	X	X	X		
BUILDING SMOKE DETECTOR	X	X			X	X	X	X	X	X	X	X		
DUCT SMOKE DETECTOR	X	X	X	X	X	X	X	X	X	X	X	X		
SPRINKLER WATER FLOW	X	X			X	X	X	X	X	X	X	X		
SPRINKLER TAMPER	X	X	X	X	X	X	X	X	X	X	X	X		
ELEV. EQ. ROOM SMOKE DETECTOR	X	X			X	X	X	X	X	X	X	X		
ELEV. EQ. ROOM HEAT DETECTOR	X	X			X	X	X	X	X	X	X	X		
ELEV. SHAFT HEAT DETECTORS	X	X			X	X	X	X	X	X	X	X		
1ST FLOOR ELEV. LOBBY SMOKE DETECTOR	X	X			X	X	X	X	X	X	X	X		
UPPER FLOOR ELEV. LOBBY SMOKE DETECTOR	X	X			X	X	X	X	X	X	X	X		
HOOD SUPPRESSION SYSTEM	X	X			X	X	X	X	X	X	X	X		
NOTIFICATION APPLIANCE CIRCUIT SHORT			X	X	X	X	X	X	X	X	X	X		
OPEN CIRCUIT			X	X	X	X	X	X	X	X	X	X		
GROUND FAULT			X	X	X	X	X	X	X	X	X	X		
FIRE ALARM AC POWER FAILURE	X	X	X	X	X	X	X	X	X	X	X	X		
FIRE ALARM SYSTEM LOW BATTERY	X	X	X	X	X	X	X	X	X	X	X	X		



**1** PARTIAL FIRE ALARM RISER  
NOT TO SCALE  
EXXX

FIRE ALARM GENERAL NOTES

- ALL NEW FIRE ALARM DEVICES SHALL BE ADA APPROVED. COORDINATE COLOR WITH ARCHITECT AND BASE BUILDING DEVICES TO MATCH BASE BUILDING SYSTEM MANUFACTURER. PROVIDE ANY ADDITIONAL POWER AMPLIFIERS REQUIRED FOR INSTALLATION OF NEW ADA APPROVED DEVICES.
- ALL FIRE ALARM DEVICES, INCLUDING SPEAKERS, VISUALS, SMOKE DETECTORS, ETC., SHALL BE CONNECTED TO THE BASE BUILDING FIRE ALARM SYSTEM BY A LICENSED FIRE ALARM CONTRACTOR. COORDINATE CONNECTIONS WITH SYSTEM MANUFACTURER.
- ALL DEVICES SHALL BE 110 CANDELA, UNLESS OTHERWISE NOTED.
- THE ENTIRE LENS OF WALL MOUNTED VISUAL FIRE ALARM DEVICES SHALL BE MOUNTED AT LEAST 80" A.F.F.
- COORDINATE FIRE ALARM SYSTEM SHUTDOWNS AND REPROGRAMMING WITH LANDLORD.
- ALL FIRE ALARM DEVICES SHALL BE WHITE UNLESS OTHERWISE NOTED OR REQUIRED.
- EVACUATION SIGNAL SHALL BE 3 PULSE TEMPORAL. IF STANDARD OFFICE BUILDING, IT SHALL BE 3 PULSE TEMPORAL FOLLOWED BY A VOICE EVACUATION SIGNAL IF BEING INSTALLED IN A HIGH-RISE BUILDING.
- THE FIRE ALARM SYSTEM APPLIANCE LAYOUT INDICATED ON SHEET E3.3 INDICATES NEW DEVICE PLACEMENT REQUIREMENTS FOR THIS TENANT UPFIT. NEW DEVICES SHALL BE INSTALLED INTO THE BASE BUILDING FIRE ALARM SYSTEM. PROVIDE ALL PROGRAMMING REQUIRED TO MAKE THE NEW DEVICES FUNCTIONAL AND ANY PROGRAMMING OR NEW EQUIPMENT REQUIRED TO MAKE ALL OF THE VISIBLE NOTIFICATION APPLIANCES ON THE ENTIRE FLOOR FLASH IN SYNCHRONIZATION.

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance  
Prescriptive  Performance \_\_\_\_\_ Energy Cost Budget \_\_\_\_\_

Provide a standard riser diagram which indicates designated points for check metering. Provide a standard panel schedule description which identifies different enduse loads.

Standard riser diagram is on Sheet - EXXX  
Standard panel schedules are on - EXXX

Lighting Schedule

lamp type required in fixture	SEE LIGHTING FIXTURE SCHEDULE
number of lamps in fixture	SEE LIGHTING FIXTURE SCHEDULE
ballast type used in the fixture	SEE LIGHTING FIXTURE SCHEDULE
number of ballasts in fixture	SEE LIGHTING FIXTURE SCHEDULE
total wattage per fixture	SEE LIGHTING FIXTURE SCHEDULE
total interior wattage specified vs. allowed	
Office Occupancy: gross area of 5494 sq. ft.	
Per 2018 North Carolina Energy Code:	
Allowable	Specified

OFFICE (0.82 X 5494 SQFT) = 4505 WATTS 2963.12 WATTS

total exterior wattage specified vs. allowed  
NOT APPLICABLE (TENANT FIT-UP)

Equipment schedules with motors (not used for mechanical systems)  
motor horsepower NONE  
number of phases N/A  
minimum efficiency N/A  
motor type N/A  
# of poles N/A

ELECTRICAL DESIGNER STATEMENT

I hereby certify that the design of this building complies with the mechanical systems, service systems and equipment requirements of the 2018 North Carolina Energy Code.

signed *Harrison Ward* date 6/19/19

Name HARRISON WARD  
Title Project Engineer

ELECTRICAL GENERAL NOTES

- ALL WORK THIS DIVISION SHALL COMPLY WITH ALL LOCAL BUILDING CODES, LAWS, REGULATIONS, ORDINANCES, AND THE REQUIREMENTS OF THE 2017 NATIONAL ELECTRICAL CODE. ALL WORK SHALL COMPLY WITH BASE BUILDING SPECIFICATIONS. OBTAIN A COPY OF SPECIFICATIONS FROM BUILDING MANAGER IF NECESSARY.
- THE CONTRACTOR SHALL KEEP A RECORD OF THE CHANGES WHICH ARE IN CONTACT WITH THESE DRAWINGS AND SPECIFICATIONS. AT THE COMPLETION OF HIS WORK HE SHALL SUBMIT "AS BUILT" PRINTS TO THE OWNER.
- DRAWINGS ARE GENERALLY DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EVERY FITTING AND DETAIL. ALL WORK SHALL BE INSTALLED SO THAT JUNCTION BOXES AND COMPONENTS WILL BE ACCESSIBLE FOR SERVICE.
- ALL SYSTEMS, EQUIPMENT, COMPONENTS, WORK, ETC. PROVIDED UNDER THIS DIVISION SHALL BE COVERED BY A ONE YEAR GUARANTEE STARTING AT THE TIME OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. ANY DEFECTS IN THE WORK, SYSTEMS, EQUIPMENT, OR COMPONENTS FOUND DURING THIS YEAR SHALL BE CORRECTED AT NO CHARGE. THE GUARANTEE SHALL INCLUDE PROVIDING ALL NECESSARY CUTTING, PATCHWORK, REPAIRING, ETC. TO MAKE THE WORK COMPLETE AND NEW.
- ALL CONDUIT MUST BE CONCEALED IN THE WALLS OR ABOVE THE CEILING UNLESS OTHERWISE NOTED. MINIMUM CONDUIT SIZE IS 1/2".
- ALL CONDUCTORS SHALL BE COPPER WITH TYPE "THIN" OR "THICK" INSULATION AND THE MINIMUM WIRE SIZE SHALL BE #12 A.W.G. WITH A 167 DEGREE TEMPERATURE RATING.
- ALL WORK MUST BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER ACCORDING TO GENERALLY ACCEPTED PRACTICES OF FIRST CLASS WORKSMANSHIP.
- FASTEEN ALL RECESSED LIGHTING FIXTURES TO STRUCTURE OR GRID PER N.E.C. 410.36.
- RECESSED INCANDESCENT FIXTURES SHALL BE SUPPORTED IN COMPLIANCE WITH N.E.C. 410.36.
- ALL PENETRATIONS THRU RATED WALLS, FLOORS AND CEILINGS SHALL BE FIRE STOPPED PER N.E.C. 300.21.
- PROVIDE ALL GROUNDING AS REQUIRED BY N.E.C.
- DEVICE MOUNTING HEIGHTS ARE TO BE MEASURED TO THE DEVICE CENTERLINE.
- ALL SWITCHES FOR FANS, LIGHTS, ETC. WHICH ARE SHOWN TO BE MOUNTED IN THE SAME GENERAL AREA SHALL SHARE A MULTI-GANG COVER PLATE AS REQUIRED.
- ALL CONDUIT SHALL BE 1/2" EMT WITH #12/11/10 AWG CONDUCTORS UNLESS OTHERWISE NOTED.
- PROVIDE #12AWG GND. FOR ALL MECHANICAL EQUIPMENT UNLESS SHOWN OTHERWISE. EQUIPMENT SHALL BE GROUNDED AT THE PANEL WHICH FEEDS THE EQUIPMENT.
- COORDINATE RECEPTACLE NEMA TYPE AND VOLTAGE WITH COPERS AND EQUIPMENT.
- PROVIDE A NEW DIRECTORY FOR ALL PANELS. CORRECTLY LABEL ALL CIRCUITS, PANELS AND SPACES IN ACCORDANCE WITH N.E.C. 408.4(A).
- PROVIDE A SEPARATE GREEN, INSULATED, #12AWG EQUIPMENT GROUNDING CONDUIT ROUTED WITH THE BRANCH CIRCUIT HOMERUN CONDUCTORS.
- WHERE WORK BY THE GENERAL CONTRACTOR (WALL REMOVAL, NEW WALL LOCATED, WALL OPENING, ETC.) RESULTS IN THE REMOVAL OF LOCATION OF REFEEDING ELECTRICAL DEVICES OR LIGHTING FIXTURES, THE ELECTRICAL CONTRACTOR SHALL DISCONNECT OR RECONNECT AS REQUIRED ALL ACTIVE DEVICES REMAINING ON THAT CIRCUIT SYSTEM.
- DEVICE BOXES IN RATED WALLS SHALL MEET SEVERAL BUILDING CODE SECTION 706.4.
- ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABEL LISTED BY AN AUTHORITY APPROVED THIRD PARTY TESTING AGENCY.
- DEDICATED RECEPTACLES RECEIVE VSS#2 DESIGNATION.
- OUTLET BOX SHALL NOT BE MOUNTED BACK TO BACK.
- BLANK END BOXES ARE NOT ALLOWED. UNLESS ANY EXISTING OUTLET OR TELE/DATA LOCATION NOTED OR SHOWN WITHIN THE SCOPE OF WORK IN THESE PLANS SHOULD BE REMOVED, PATCHED, AND REPAIRED.
- MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS PER N.E.C. 210.4(B).
- MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO PERMANENTLY CONNECTED FREESTANDING PARTITIONS SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANEL BOARD WHERE THE BRANCH CIRCUIT ORIGINATES PER N.E.C. 605.8.
- ARC-FLASH HAZARD WARNING SHALL BE PROMOTED ON ALL EQUIPMENT IN AFFECTED ELECTRICAL ROOMS PER N.E.C. 110.16.
- PROVIDE PLASTIC NAMEPLATE ON ALL PANELS (NEW AND EXISTING) INDICATING PANEL NAME AND SOURCE PER N.E.C. 408.4(B).
- ALL WIRING TERMINATIONS ARE ASSUMED TO BE 75°C C RATED, UNLESS NOTED OTHERWISE. ALL WIRING UNDER 100A IS BASED ON A 90°C C TERMINATION.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	ON CENTER MTG. HT.
	CONCEALED CONDUIT IN CEILING OR WALL	
	CONCEALED CONDUIT IN FLOOR OR UNDERGROUND	
	CIRCUIT HOMERUN TO PANEL; EACH ARROWHEAD = 1 CIRCUIT	
	NO. OF CONDUCTORS IN CONDUIT; EACH CROSSHATCH = 1 WIRE	
	FLEXIBLE CONDUIT OR S.O. CORD	
	EXPOSED CONDUIT	
	CONDUIT STUBBED UP OR TURNED DOWN	
	PLYWOOD BACKBOARD	
	SURFACE MOUNTED RACEWAY	
	MULTI OUTLET SURFACE MOUNTED RACEWAY	
	WALL MOUNTED SINGLE RECEPTACLE OUTLET	
	WALL MOUNTED DUPLEX RECEPTACLE OUTLET	
	WALL MOUNTED DUPLEX RECEPTACLE OUTLET - ABOVE COUNTER	AS REQUIRED
	WALL MOUNTED G.F.C.I. DUPLEX RECEPTACLE OUTLET - ABOVE COUNTER	AS REQUIRED
	WALL MOUNTED ISOLATED GROUND DUPLEX RECEPTACLE OUTLET	18"
	WALL MOUNTED DOUBLE DUPLEX RECEPTACLE OUTLET	18"
	WALL MOUNTED SPECIAL RECEPTACLE OUTLET	18"
	JUNCTION BOX	
	WALL MOUNTED COMBINATION DATA/VOICE OUTLET. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.	18"
	WALL MOUNTED DATA OUTLET. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.	18"
	WALL MOUNTED DATA OUTLET. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.	18"
	JUNCTION BOX FOR TV. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.	
	2 GANG JUNCTION BOX FOR AV, LOW-VOLTAGE WIRING BY OTHERS. PROVIDE JUNCTION BOX WITH 1-1/4" CONDUIT TO ABOVE CEILING, U.N.O.	
	JUNCTION BOX FOR CARD READER. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.	42"
	DOMA CAMERA (PROVIDED BY SECURITY CONTRACTOR)	
	WIRELESS ACCESS POINT, CEILING MOUNTED (BY OTHERS)	
	SPEAKER LOCATION (BY OTHERS)	
	POKE-THRU DEVICES WITH POWER, TELE/DATA, AV PER PLANS (SEE DRAWINGS FOR MODEL#)	
	POKE-THRU DEVICES WITH POWER AND TELE/DATA PER PLANS (SEE DRAWINGS FOR MODEL#)	
	POKE-THRU DEVICE TO MODULAR FURNITURE	
	JUNCTION BOX FOR POWER CONNECTION TO MODULAR FURNITURE. COORD. EXACT LOCATION WITH ARCH. PROVIDE ALL REQ. CONNECTIONS (THE # OF WORKSTATIONS TO BE POWERED ARE DENOTED BY A NUMBER NEXT TO THE POWER JUNCTION)	18"
	JUNCTION BOX FOR TELE/DATA CONNECTION TO MODULAR FURN. COORD. EXACT LOCATION WITH ARCH. PROVIDE 1-1/4" EMPTY CONDUIT WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING.	18"
	277/480 VOLT PANELBOARD	
	120/208 VOLT PANELBOARD	
	RECESSED MOUNTED 120/208 VOLT PANELBOARD TRANSFORMER	
	LIGHT FIXTURE	
	EXIT SIGN - CEILING/WALL MT.	
	LIGHT FIXTURE ON BATTERY BACKUP (60MIN, 1100 LUMEN)	
	WALL MOUNTED S.P.S.T. TOGGLE SWITCH	42"
	WALL MOUNTED 3-WAY TOGGLE SWITCH	42"
	WALL MOUNTED 4-WAY TOGGLE SWITCH	42"
	WALL MOUNTED DIMMER SWITCH (WATTAGE AS REQUIRED)	42"
	MOTION DETECTOR SWITCH W/ MANUAL OVERRIDE - WALL MOUNTED.	
	MOTION DETECTOR - CEILING MOUNTED	
	MOTOR RATED TOGGLE SWITCH	AS REQ'D.
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH	
	DISCONNECT SWITCH (FRAME/POLES/FUSE-IF REQUIRED)	
	MOTOR - NUMBER INDICATES HORSEPOWER (F=FRACATIONAL)	
	FIRE ALARM ADA APPROVED VISUAL ALARM - WALL MOUNTED	80" A.F.F.
	FIRE ALARM ADA APPROVED VISUAL ALARM - CEILING MOUNTED	80" A.F.F.
	FIRE ALARM ADA APPROVED AUDIO/VISUAL ALARM - WALL MOUNTED	80" A.F.F.
	FIRE ALARM ADA APPROVED AUDIO/VISUAL ALARM - CEILING MOUNTED	48" A.F.F.
	FIRE ALARM PULL STATION	
	SMOKE DETECTOR - CEILING MOUNTED	
	DUCT MOUNTED SMOKE DETECTOR	
	MAGNETIC DOOR HOLD DEVICE TO INTERLOCK WITH FIRE ALARM SYSTEM	
	FURNISHED BY OTHERS	
	ABOVE FINISHED FLOOR/ABOVE FINISHED GRADE	
	BELOW CEILING	
	ABOVE COUNTER	
	WEATHER PROOF	
	EXISTING/RELOCATED/NEW	
	GROUND FAULT INTERRUPTING CIRCUIT	
	EMPTY CONDUIT (PROVIDE PULLSTRING IN ALL EMPTY CONDUIT)	
	FUSE PER MANUFACTURER'S RECOMMENDATION	
	ISOLATED GROUND	

- NOTES:  
1. COORDINATE LOCATION AND SPECIFIC MOUNTING HEIGHT WITH ARCHITECT.  
2. MOUNTING HEIGHTS SHALL BE AS INDICATED IN THE LEGEND UNLESS OTHERWISE NOTED ON THE PLANS.

Order Plans @

PROJECT TYPE	
<input type="checkbox"/> New Construction (C405)	<input type="checkbox"/> Addition (C502)
<input checked="" type="checkbox"/> Alterations (C503)	

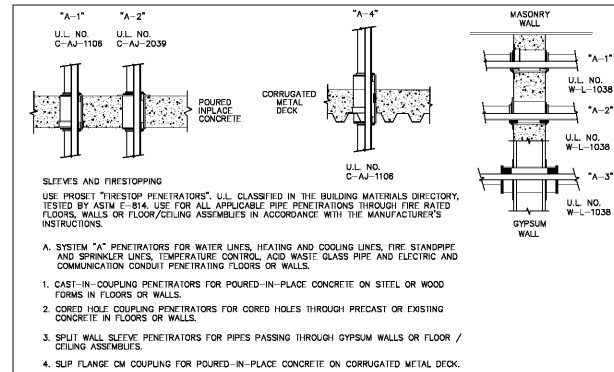
When 'New Construction' is selected, indicate NCECC Section C406 method of compliance below. If project is other than 'New Construction', compliance with referenced section is 'N/A'.  
Unless specifically exempt below, the contractor shall obtain the services of a NC licensed engineering professional to perform all required commissioning services of all lighting and lighting control systems in the project scope in compliance with NCECC Section C408.

NCECC 2018 SECTION C406 -- COMPLIANCE STATEMENT	Method of Compliance
a. C406.1.1 More Efficient HVAC Performance	_____
b. C406.1.2 Reduced Lighting Power Density	_____
c. C406.1.3 Enhanced Lighting Controls	_____
d. C406.1.4 On-Site Supply of Renewable Energy	_____
e. C406.1.5 Dedicated Outdoor Air System	_____
f. C406.1.6 Higher Efficiency Service Water Heating	_____

Refer to the following sheet for demonstration of compliance: N/A

NCECC 2018 SECTION C408 -- SYSTEM COMMISSIONING	Exempt (For Alterations only per NCECC C503.1 Exemption 2.g.)
<input type="checkbox"/> Exempt (For Alterations only per NCECC C503.1 Exemption 2.g.)	_____

Refer to 2018 NCECC Appendix C1 for required statement of system commissioning to be presented to the AHJ at final inspections.



FIRESTOP PENETRATOR DETAILS

**NOVUS**  
*always new*  
1950 ABBOTT STREET, STE 605  
CHARLOTTE, NC 28205  
704-373-3101  
FAX 704-373-3103  
WWW.NOVUSARCHITECTS.COM

**carrie frye**  
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BWA JOB # 2019-0958

**BRA**  
06.18.19

BR+A  
300 West Summit  
Office Bldg

300 West Summit Ave.  
Suite #310  
Charlotte, NC 28203

PROJECT NUMBER: 19-018  
CONSTRUCTION ISSUE: 6.20.2019

LEGENDS, NOTES, AND DETAILS  
SCALE: AS NOTED

**E0.1**