# Building Plans

FOR

# Harmony Baptist Church

## NC HIGHWAY 210

## BUNN LEVEL , NC 28523


PREPARED FOR

RODNEY GREGORY, CONSTRUCTION CHAIRMEN
HARMONY BAPTIST CHURCH
BUNN LEVEL, NORTH CAROLINA
TELEPHONE 910-984-6932

ENGINEER

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## SHEET INDEX


COVER SHEET
CODE SHEET
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PLANNING DESIGN C. GREGORY BAGLEY ENGINEER MAPPING SURVEYING

## 2018 APPENDIX B
## BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
**(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: HARMONY BAPTIST CHURCH
Address: NC 27 HIGHWAY LILLINGTON Zip Code
Owner/Authorized Agent: GREG BAGLEY Phone # ( 919 ) 609 -0300 E-Mail CDB.GREG@GMAIL.COM
Owned By: Select one HARMONY BAPTIST CHURCH
Code Enforcement Jurisdiction: Select one LILLINGTON, NC

CONTACT:

| DESIGNER | FIRM | NAME | LICENSE # | TELEPHONE # | E-MAIL |
|---|---|---|---|---|---|
| Architectural | | | | ( ) | |
| Civil | C. Gregory Bagley, Engineer | Greg Bagley | 12276 | ( 919) 609-0300 | CDB.GREG@GMAIL.COM |
| Electrical | C. Gregory Bagley, Engineer | Greg Bagley | 12276 | ( 919) 609-0300 | CDB.GREG@GMAIL.COM |
| Fire Alarm | | | | ( ) | |
| Plumbing | C. Gregory Bagley, Engineer | Greg Bagley | 12276 | ( 919) 609-0300 | CDB.GREG@GMAIL.COM |
| Mechanical | C. Gregory Bagley, Engineer | Greg Bagley | 12276 | ( 919) 609-0300 | CDB.GREG@GMAIL.COM |
| Sprinkler-Standpipe | | | | ( ) | |
| Structural | | | | ( ) | |
| Retaining Walls >5' High | | | | ( ) | |
| Other | | | | ( ) | |

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

**2018 NC BUILDING CODE: Select one** NEW CONSTRUCTION

**2018 NC EXISTING BUILDING CODE: Select one** Select one Select one
CONSTRUCTED: (date) _____ CURRENT OCCUPANCY(S) (Ch. 3): VACANT
**RENOVATED:** (date) _____ PROPOSED OCCUPANCY(S) (Ch. 3): A2

RISK CATEGORY (Table 1604.5): Current: Select one Proposed: Select one

**BASIC BUILDING DATA**
Construction Type: Select one Y
Sprinklers: Select one Select one
Standpipes: Select one NONE
**Primary Fire District: Select one** NO **Flood Hazard Area: Select one** NO
**Special Inspections Required: Select one** N/A

**Gross Building Area Table**

| FLOOR | EXISTING (SQ.FT) | NEW (SQ.FT) | SUB-TOTAL |
|---|---|---|---|
| 3rd Floor | | | |
| 2nd Floor | | | |
| Mezzanine | | | |
| 1st Floor | | 5400 | 5400 |
| Basement | | | |
| TOTAL | | | 5400 |



### ALLOWABLE AREA

Primary Occupancy Classification(s): Select one Select one Select one Select one Select one Select one A-2
**Accessory Occupancy Classification(s):**
Incidental Uses (Table 509):
**Special Uses (Chapter 4 – List Code Sections):**
**Special Provisions: (Chapter 5 – List Code Sections):**
Mixed Occupancy: Select one Separation: Select one Exception:

Select one
Actual Area of Occupancy A + Actual Area of Occupancy B ≤ 1
Allowable Area of Occupancy A Allowable Area of Occupancy B

_____ + _____ + …… = _____ ≤ 1.00

| STORY NO. | DESCRIPTION AND USE | (A) BLDG AREA PER STORY (ACTUAL) | (B) TABLE 506.2.4 AREA | (C) AREA FOR FRONTAGE INCREASE1,5 | (D) ALLOWABLE AREA PER STORY OR UNLIMITED2,3 |
|---|---|---|---|---|---|
| 1 | KITCHEN/ASSEMBLY | 5400 | 23,000 | N/A | 23,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

1 Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = N/A (F)
b. Total Building Perimeter = N/A (P)
c. Ratio (F/P) = N/A (F/P)
d. W = Minimum width of public way = N/A (W)
e. Percent of frontage increase If = 100[F/P – 0.25] x W/30 = N/A (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4.
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

### ALLOWABLE HEIGHT

| | ALLOWABLE | SHOWN ON PLANS | CODE REFERENCE 1 |
|---|---|---|---|
| Building Height in Feet (Table 504.3) 2 | 55 | 25 | |
| Building Height in Stories (Table 504.4) 3 | 3 | 1 | |

1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
2 The maximum height of air traffic control towers must comply with Table 412.3.1 .
3 The maximum height of open parking garages must comply with Table 406.5.4.



### FIRE PROTECTION REQUIREMENTS

| BUILDING ELEMENT | FIRE SEPARATION DISTANCE (FEET) | RATING REQ'D | RATING PROVIDED (W/_____* REDUCTION) | DETAIL # AND SHEET # | DESIGN # FOR RATED ASSEMBLY | SHEET # FOR RATED PENETRATION | SHEET # FOR RATED JOINTS |
|---|---|---|---|---|---|---|---|
| Structural Frame, including columns, girders, trusses | | | | | | | |
| Bearing Walls | | | | | | | |
| Exterior | | | | | | | |
| North | | | | | | | |
| East | | | | | | | |
| West | | | | | | | |
| South | | | | | | | |
| Interior | | | | | | | |
| Nonbearing Walls and Partitions | | | | | | | |
| Exterior walls | | | | | | | |
| North | | | | | | | |
| East | | | | | | | |
| West | | | | | | | |
| South | | | | | | | |
| Interior walls and partitions | | | | | | | |
| Floor Construction Including supporting beams and joists | | | | | | | |
| Floor Ceiling Assembly | | | | | | | |
| Columns Supporting Floors | | | | | | | |
| Roof Construction, including supporting beams and joists | | | | | | | |
| Roof Ceiling Assembly | | | | | | | |
| Columns Supporting Roof | | | | | | | |
| Shaft Enclosures - Exit | | | | | | | |
| Shaft Enclosures - Other | | | | | | | |
| Corridor Separation | | | | | | | |
| Occupancy/Fire Barrier Separation | | | | | | | |
| Party/Fire Wall Separation | | | | | | | |
| Smoke Barrier Separation | | | | | | | |
| Smoke Partition | | | | | | | |
| Tenant/Dwelling Unit/ Sleeping Unit Separation | | | | | | | |
| Incidental Use Separation | | | | | | | |

* Indicate section number permitting reduction



### PERCENTAGE OF WALL OPENING CALCULATIONS

| FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES | DEGREE OF OPENINGS PROTECTION (TABLE 705.8) | ALLOWABLE AREA (%) | ACTUAL SHOWN ON PLANS (%) |
|---|---|---|---|
| 20' | UP, S | 70% | 70% |
| | | | |
| | | | |
| | | | |

### LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Select one NO
Exit Signs: Select one YES
Fire Alarm: Select one NO
Smoke Detection Systems: Select one YES
Carbon Monoxide Detection: Select one NO

### LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

- ☐ 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 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 |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | | | | 1 |

### ACCESSIBLE PARKING
(SECTION 1106)

| LOT OR PARKING AREA | TOTAL # OF PARKING SPACES REQUIRED | TOTAL # OF PARKING SPACES PROVIDED | # OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE | VAN SPACES WITH 132" ACCESS AISLE | VAN SPACES WITH 8' ACCESS AISLE | TOTAL # ACCESSIBLE PROVIDED |
|---|---|---|---|---|---|---|
| | 16 | 18 | | | | 2 |
| | | | | | | |
| TOTAL | 16 | 18 | | | | 2 |

### PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

| USE | | WATERCLOSETS MALE | WATERCLOSETS FEMALE | WATERCLOSETS UNISEX | URINALS | LAVATORIES MALE | LAVATORIES FEMALE | LAVATORIES UNISEX | SHOWERS / TUBS | DRINKING FOUNTAINS REGULAR | DRINKING FOUNTAINS ACCESSIBLE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPACE | EXIST'G | | | | | | | | | | |
| | NEW | | 1 | | | | | 1 | 1 | | |
| | REQ'D | | | | | | | | | | |

### SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, 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 reference design vs annual energy cost for the proposed design.

**Existing building envelope complies with code: Select one**

Exempt Building: Select one Provide code or statutory reference:

Climate Zone: 4

**Method of Compliance: Select one**
(If "Other" specify source here) PERSCRIPTIVE

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: METAL ROOFING
U-Value of total assembly: .032
R-Value of insulation: CUMULATIVE R-30+
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: Brick Siding
U-Value of total assembly: .0625
R-Value of insulation: R-13+ R7.5
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: R-4 AS PER SECTION 502.2.4 TABLES 1,2,3
U-Value of total assembly: .25
R-Value of insulation: R- 4
Horizontal/vertical requirement: _____
slab heated: _____



## 2018 APPENDIX B
## BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
**STRUCTURAL DESIGN**
**(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)**

**DESIGN LOADS:**

**Importance Factors:** Snow (IS) Select one .87
Seismic (IE) Select one .8

**Live Loads:** Roof 20 psf
Mezzanine _____ psf
Floor 50 psf 100 PSF FOR COMMON PORCHES

**Ground Snow Load:** 15 psf

**Wind Load:** Ultimate Wind Speed 110 mph (ASCE-7)
Exposure Category Select one C

**SEISMIC DESIGN CATEGORY: Select one**
Provide the following Seismic Design Parameters: A
Risk Category (Table 1604.5) Select one I
**Spectral Response Acceleration SS** 2.2 %g S1 3.7 %g
Site Classification (ASCE 7) Select one C
Data Source: Select one PRESUMPTIVE
**Basic structural system Select one** BUILDING FRAME
**Analysis Procedure:** Select one SIMPLIFIED
**Architectural, Mechanical, Components anchored? Select one**

**LATERAL DESIGN CONTROL: Select one**

**SOIL BEARING CAPACITIES:**
Select one 2000 psf
Pile size, type, and capacity _____



## 2018 APPENDIX B
## BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
**MECHANICAL DESIGN**
**(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)**

**MECHANICAL SUMMARY**

**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT**

**Thermal Zone**
winter dry bulb: 20
summer dry bulb: 92

**Interior design conditions**
winter dry bulb: 20
summer dry bulb: 92
relative humidity: 70

**Building heating load:** 42050

**Building cooling load:** 51325

**Mechanical Spacing Conditioning System**
Unitary
description of unit: (2) SPLIT SYSTEMS
heating efficiency: 18 SEER
cooling efficiency: 42
size category of unit: 58000
Boiler N/A
Size category. If oversized, state reason.: _____
Chiller N/A
Size category. If oversized, state reason.: _____

**List equipment efficiencies:** 44 %



## 2018 APPENDIX B
## BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
**ELECTRICAL DESIGN**
**(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)**

**ELECTRICAL SUMMARY**

**ELECTRICAL SYSTEM AND EQUIPMENT**

**Method of Compliance: Select one** PERSCRIPTIVE

Lighting schedule (each fixture type) PER DRAWINGS
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 Efficiency Package Options**
**(When using the 2018 NCECC; not required for ASHRAE 90.1)**
- ☐ 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



**Project #:**
**Date:**
**Drawn/Design By:**
**Scale:**

**REVISIONS**

| No. | Date: | Remarks |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

NORTH CAROLINA PROFESSIONAL SEAL 24420 ENGINEER C. GREGORY BAGLEY

C. Gregory Bagley, Engineer
805 Cokesbury Road
Fuquay Varina, N.C. 27526
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Fax: (919) 552-6325

DESIGN PLANNING SURVEYING MAPPING C. GREGORY BAGLEY ENGINEER

**CODE SHEET**

Client Name:
**HARMONY BAPTIST CHURCH**
**RODNEY GREGORY**
*Harnett County N.C.*

**Sheet Number**
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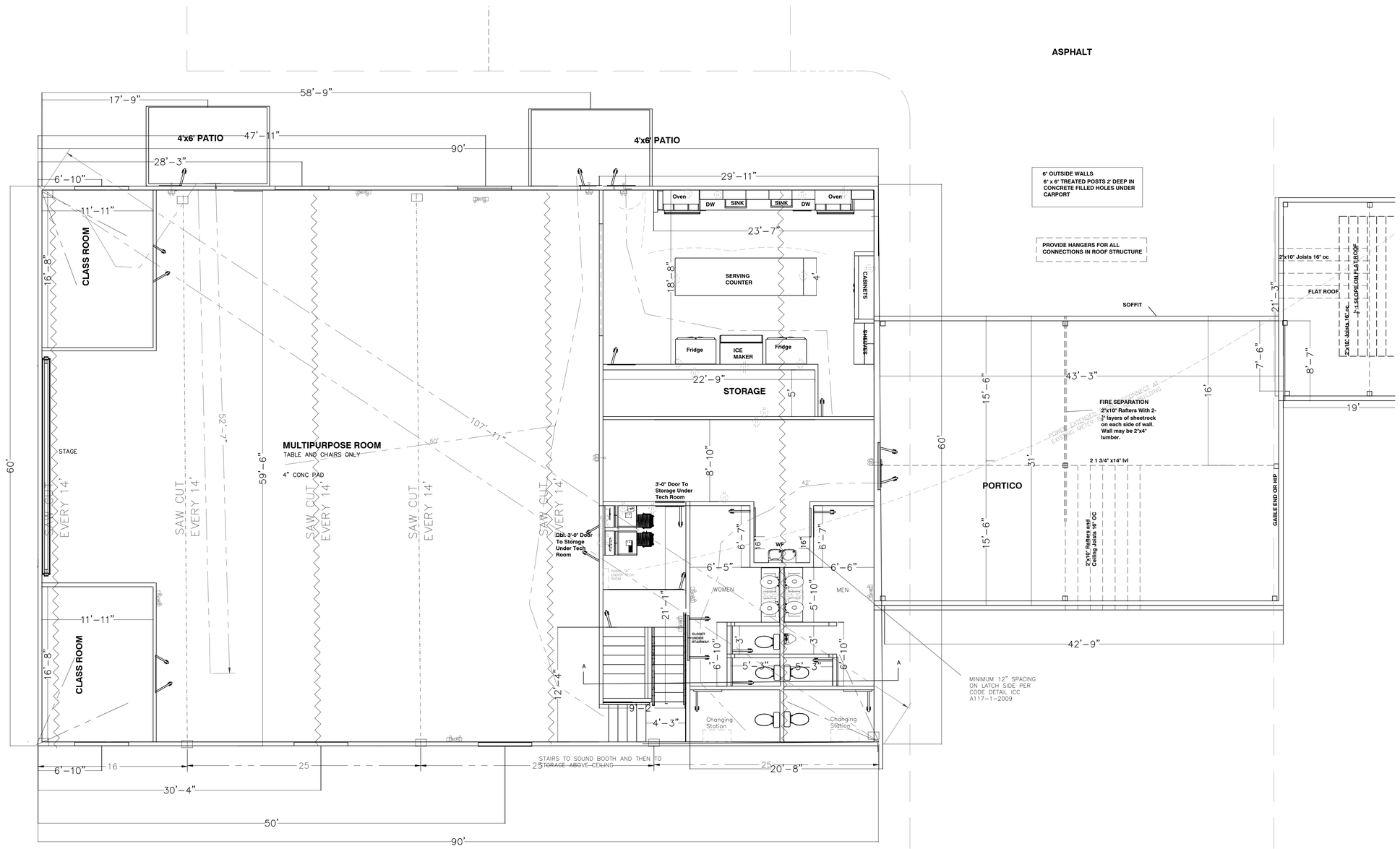
of 10




**LIFE SAFETY PLAN REQUIREMENTS**

Life Safety Plan Sheet #: _____

- ☐ 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)
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- ☒ Clear exit widths for each exit door
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- ☐ 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 exceptions or table notes that may have been utilized regarding the items above

DIAGONAL IS 107'-11''
DISTANCE BETWEEN EXIT
MAX =54' OR $\frac{1}{2}$ DIAGONAL
5 EXIT DOOR AT 35"/.32
= 546 OCCUPANTS CAN
BE EVACUATED.

## OCCUPANT LOAD

| LOCATION | TYPE | TABLE 1004.1 | AREA | OCCUPANCY |
|---|---|---|---|---|
| MULTIPURPOSE | A2 | 15 NET | 3660 SQ FT | 244 |
| KITCHEN | A2 | 200 GROSS | 478 SQ FT | 3 |
| CLASS | A2 | 15 NET | 352 SQ FT | 20 |
| STORAGE | A2 | 200 GROSS | 140 SQ FT | 1 |
| | | | TOTAL | 268 |

# LIFE SAFETY

$\frac{3}{16}$"=1'0"

Project #:

Date:

Drawn/Design By:

Scale:

**REVISIONS**

| No. | Date: | Remarks |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24420 C. GREGORY BAGLEY

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805 Cokesbury Road
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Office: (919)552-1600
Fax: (919) 552-6325

DESIGN CONSULTANTS PLANNING C. GREGORY BAGLEY ENGINEER MAPPING

LIFE SAFETY

Client Name:

HARMONY BAPTIST CHURCH
RODNEY GREGORY
Harnett County N.C.

Sheet Number

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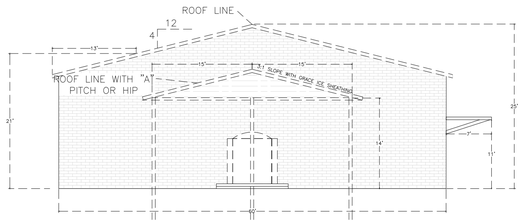
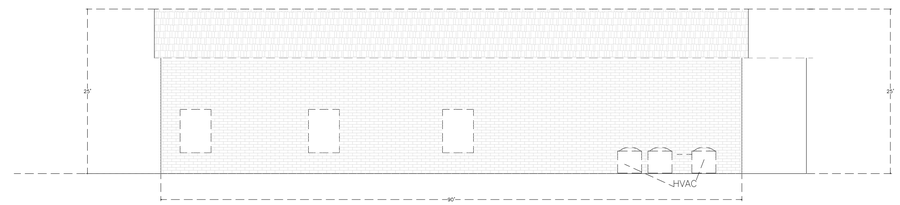
of 10



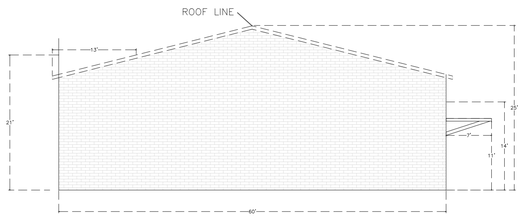

FRONT VIEW

BUILDING MATERIAL

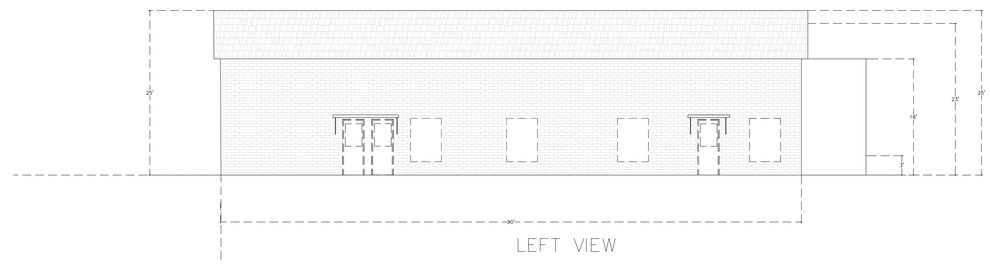
| | |
|---|---|
| METAL SIDING | BUTTER CREAM .026 GAUGE |
| METAL ROOF | .026 GALVALUME |
| BRICK | STANDARD GRAY SHALE |
| WINDOWS | BRONZE WITH GRAY TINT |
| DOOR | BRONZE WITH GRAY TINT |
| DOWN SPOUT | 6" DARK GRAY |



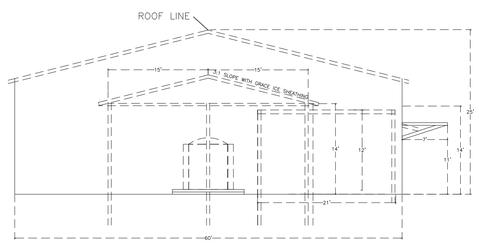

RIGHT VIEW




BACK VIEW




LEFT VIEW




ROOF VIEW

# ELEVATION

$\frac{3}{16}$"=1'0"

Project #:

Date:

Drawn/Design By:

Scale:

**REVISIONS**

| No. | Date: | Remarks |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

NORTH CAROLINA PROFESSIONAL SEAL 24420 ENGINEER C. GREGORY BAGLEY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DESIGN C. GREGORY BAGLEY ENGINEER PLANNING SURVEYING MAPPING

**ELEVATION**

Client Name:

**HARMONY BAPTIST CHURCH**
**RODNEY GREGORY**
*Harnett County N.C.*

Sheet Number

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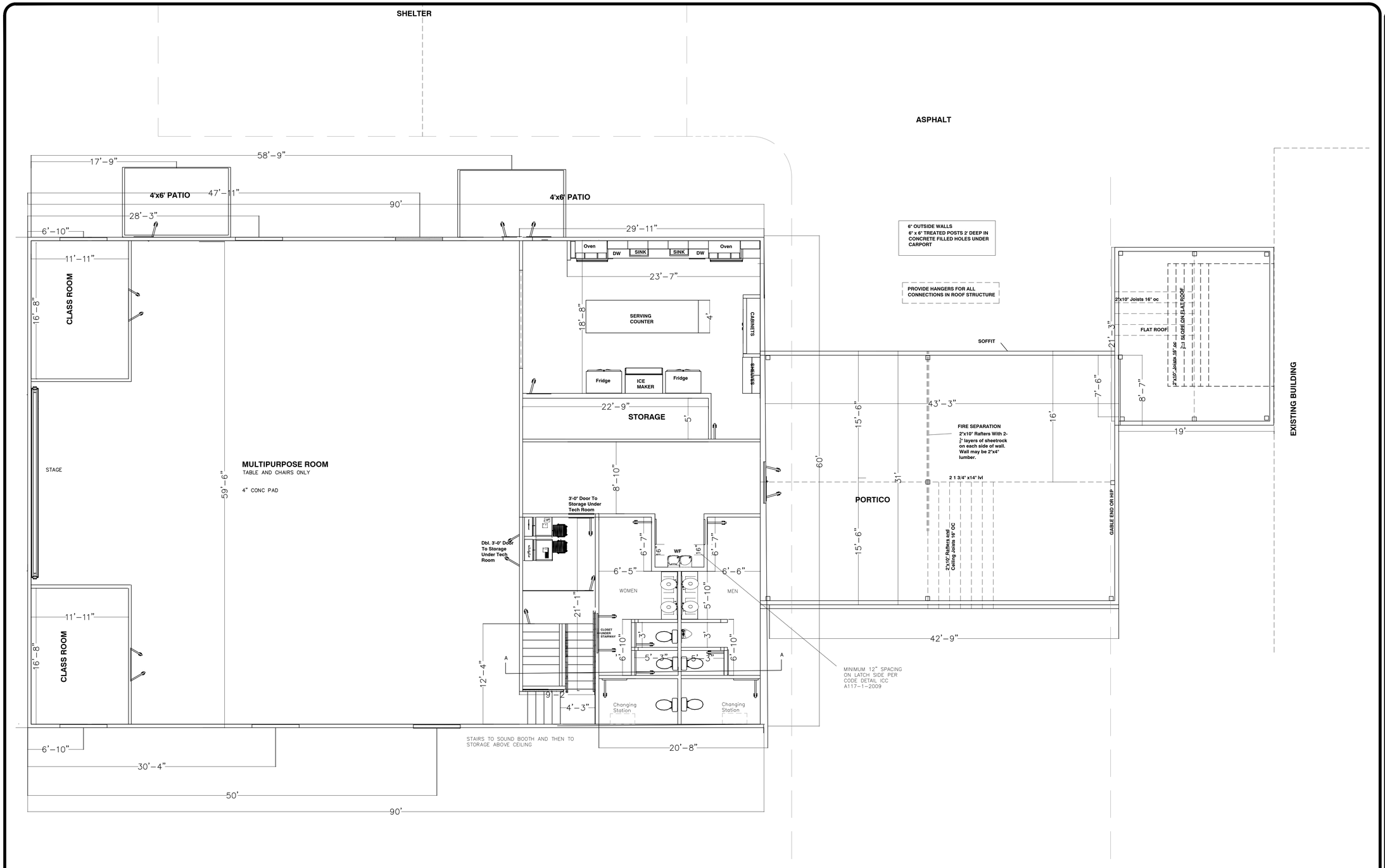


# TOP VIEW

3/16"=1'0"

Project #:

Date:

Drawn/Design By:

Scale:

**REVISIONS**

| No. | Date: | Remarks |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

NORTH CAROLINA PROFESSIONAL SEAL 24420 ENGINEER C. GREGORY BAGLEY

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DESIGN · CONSULTING · PLANNING · MAPPING
C. GREGORY BAGLEY ENGINEER

**FLOOR PLAN**

Client Name:

**HARMONY BAPTIST CHURCH**
**RODNEY GREGORY**
*Harnett County N.C.*

Sheet Number

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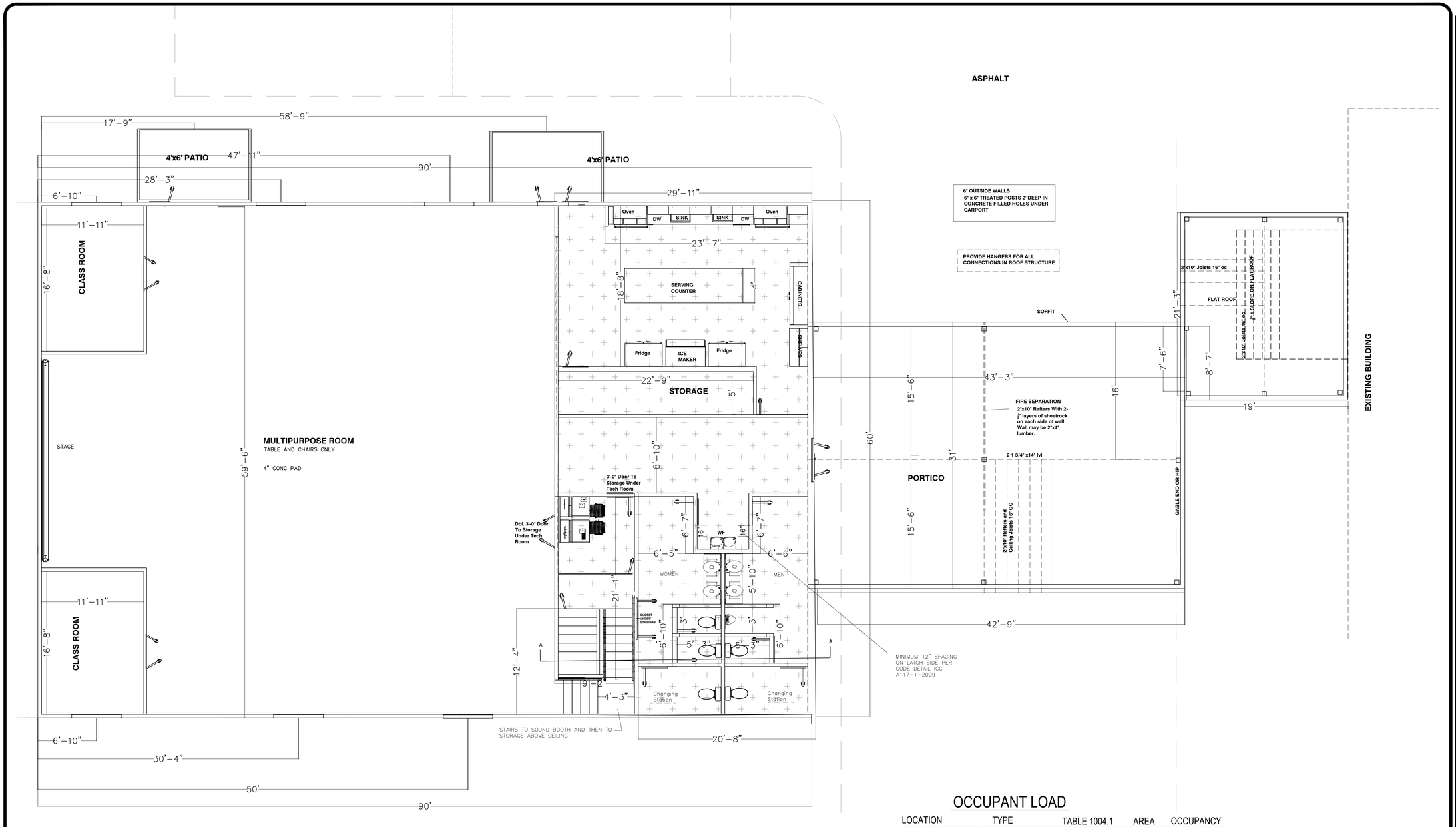


## OCCUPANT LOAD

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| STORAGE | A2 | 200 GROSS | 140 SQ FT | 1 |
| | | | TOTAL | 268 |

## DOOR SCHEDULE

| | LOCATION | TYPE | SIZE | KEY |
|---|---|---|---|---|
| 1 | EXTERIOR | H.M. FRAME AND METAL DOOR | 36"x84" | Y |
| 1A | EXTERIOR | H.M. FRAME AND M.D. w/ PANIC HDWARE (4) | 36"x84" | Y |
| 2 | MEN | H. M. DOOR w/ WOOD PANEL | 36"x84" | Y |
| 3 | WOMEN | H.M. DOOR w/ WOOD PANEL | 36"x84" | Y |
| 4 | HALL DOOR | H.M. DOOR w/ 4" SITE GLASS | 72"x84" | Y |
| 5 | INTERIOR | H.M. FRAME AND METAL DOOR (5) | 36"x84" | Y |

## BUILDING SQ. FOOTAGE

| LOCATION | TYPE | AREA |
|---|---|---|
| MULTIPURPOSE | HEATED | 3660 SQ FT |
| KITCHEN (No Commercial) | HEATED | 558 SQ FT |
| CLASS | HEATED | 384 SQ FT |
| STORAGE | HEATED | 140 SQ FT |
| PORCHES | UN-HEATED | 1750 SQ FT |
| UPPER STORAGE | UN-HEATED | 1637 SQ FT |

# FLOOR PLAN

$\frac{3}{16}$"=1'0"

Project #:

Date:

Drawn/Design By:

Scale:

REVISIONS

| No. | Date: | Remarks |
|---|---|---|
| 1 | | |
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24420 C. GREGORY BAGLEY

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805 Cokesbury Road
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DESIGN SURVEYING MAPPING PLANNING C. GREGORY BAGLEY ENGINEER

FLOOR PLAN

Client Name:
HARMONY BAPTIST CHURCH
RODNEY GREGORY
Harnett County N.C.

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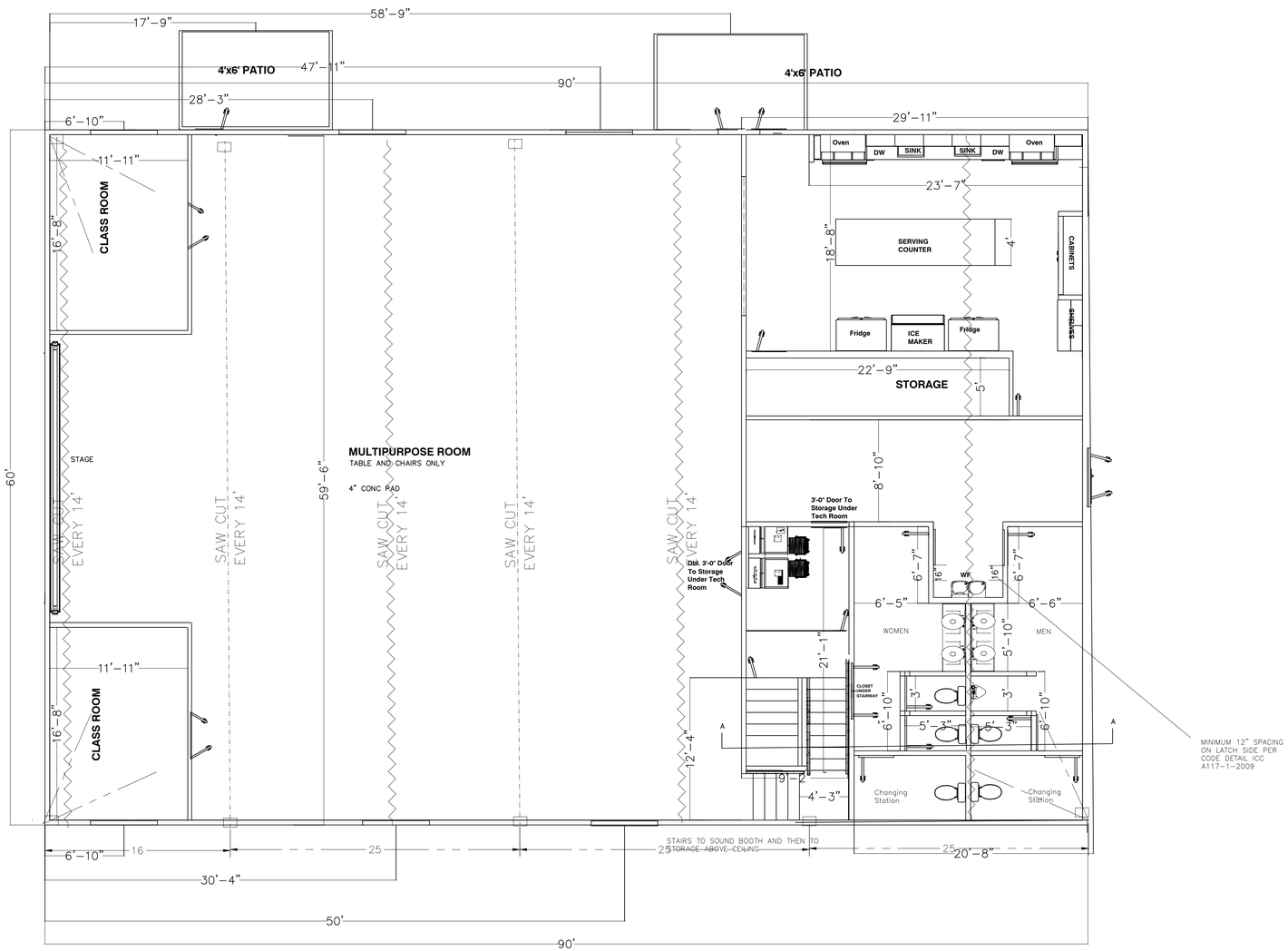
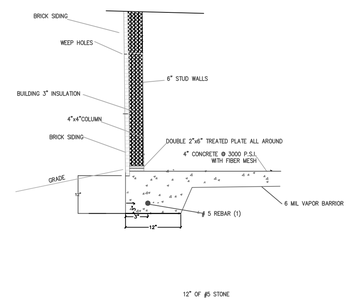
of 10




FOOTING TURN-DOWN

# FOUNDATION

$\frac{3}{16}$"=1'0"

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PLANNING DESIGN C. GREGORY BAGLEY ENGINEER SURVEYING MAPPING

**FOUNDATION**

Client Name:

**HARMONY BAPTIST CHURCH**
**RODNEY GREGORY**
*Harnett County N.C.*

Sheet Number

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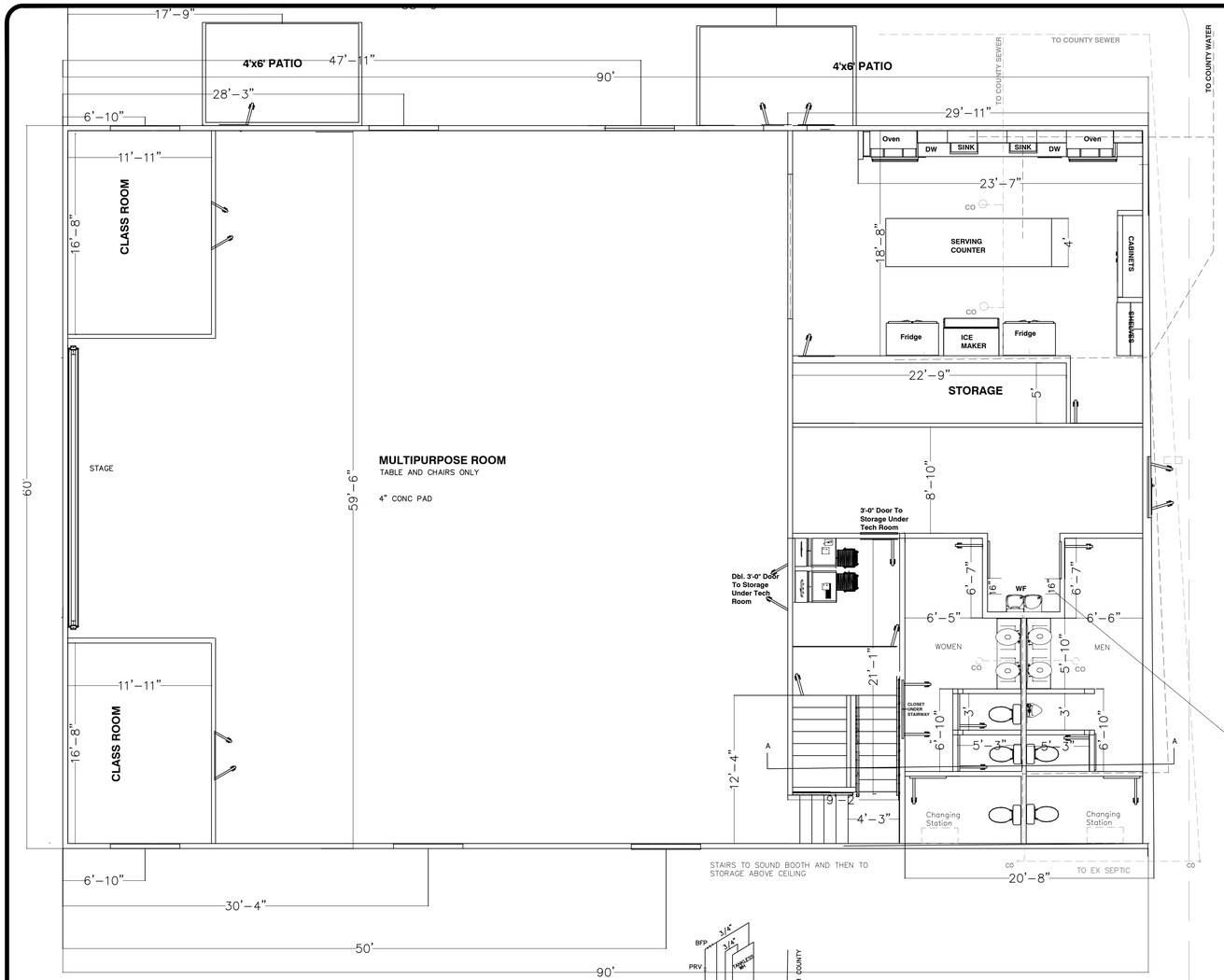
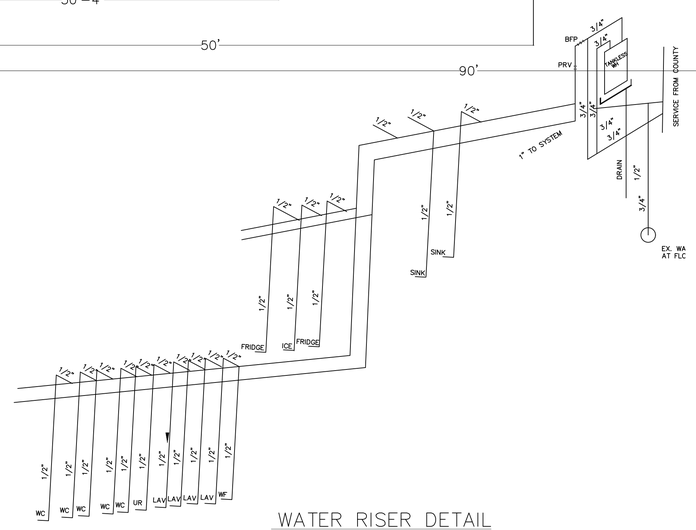
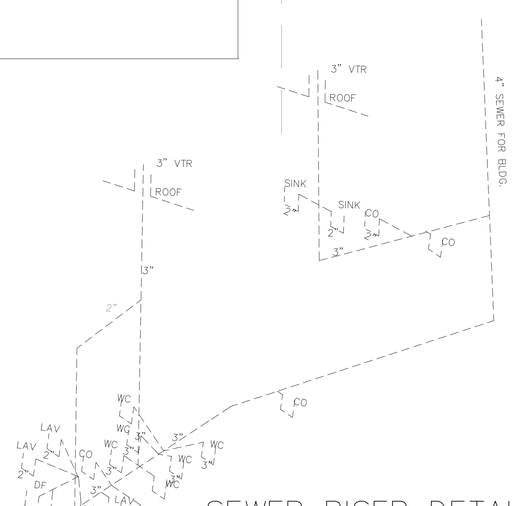



WATER RISER DETAIL

NO SCALE




SEWER RISER DETAIL

NO SCALE

# PLUMBING

$\frac{3}{16}$"=1'0"

Project #:

Date:

Drawn/Design By:

Scale:

REVISIONS

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DESIGN PLANNING SURVEYING MAPPING C. GREGORY BAGLEY ENGINEER

PLUMBING PLAN

Client Name:

HARMONY BAPTIST CHURCH
RODNEY GREGORY
Harnett County N.C.

Sheet Number

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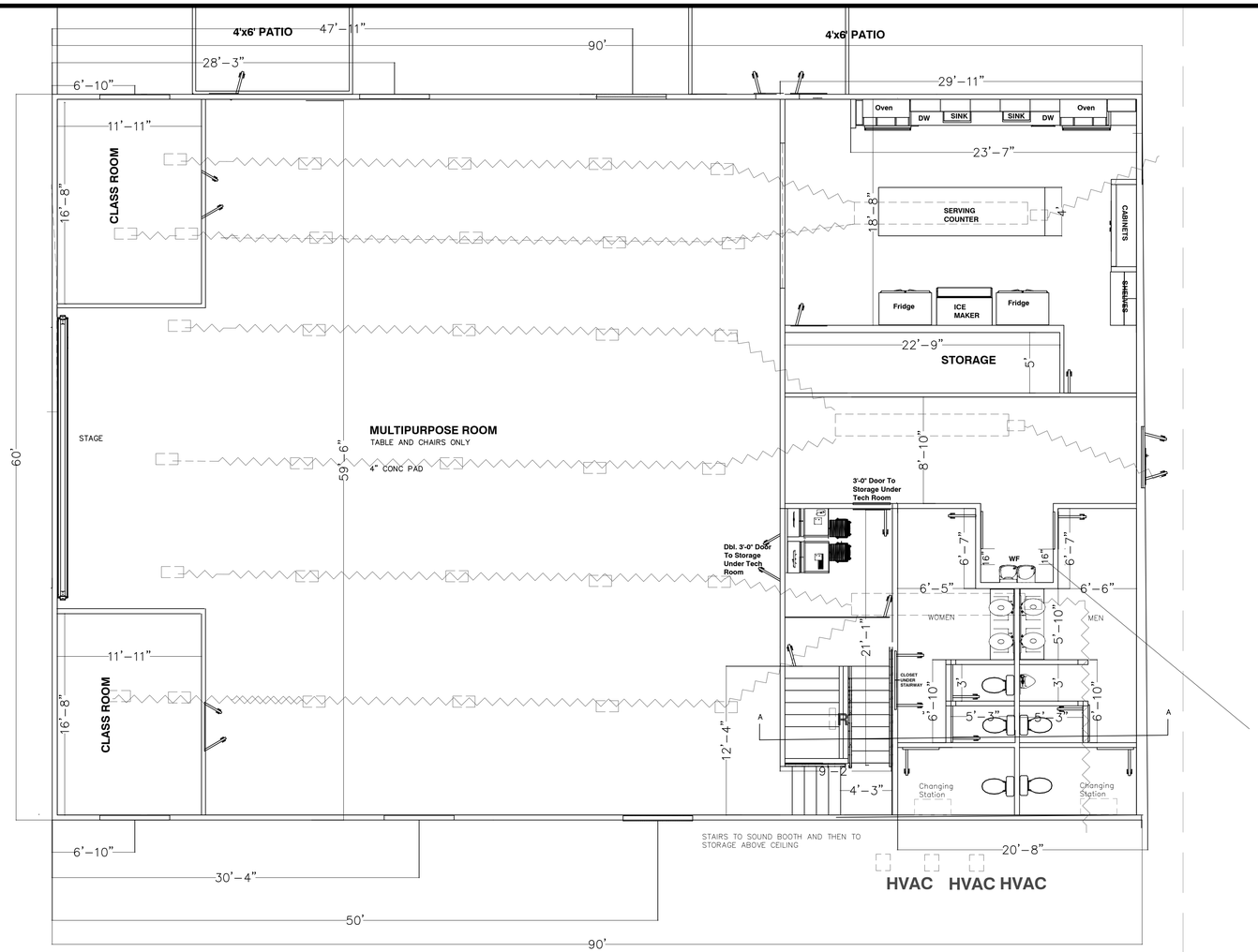


## HVAC

### MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT

| | |
|---|---|
| METHOD OF COMPLIANCE | PRESCRIPTIVE |
| THERMAL ZONE | III |
| EXTERIOR DESIGN CONDITIONS | |
| winter dry bulb | 16 F |
| summer dry bulb | 92 F |
| INTERIOR DESIGN CONDITIONS | |
| winter dry bulb | 70 F |
| summer dry bulb | 74 F |
| relative humidity | 50 % |
| BUILDING HEATING LOAD | 75000/150000 BTU |
| BUILDING COOLING LOAD | 123000 BTU |
| MECHANICAL SPACE CONDITIONING SYSTEMS | |
| Unitary | |
| description of unit | DX COOLING/HEAT |
| heating efficiency | 12.2 IEER |
| cooling efficiency | 12.2 IEER |
| heating output of units | 60750 BTU |
| cooling output of units | 119,000 BTU |
| LIST EQUIPMENT EFFICIENCIES | SEE SCHEDULE |
| EQUIPMENT SCHEDULES WITH MOTORS | SEE SCHEDULE |

### OUTSIDE AIR CALCULATIONS

| | CFM/PERSON | TOTAL CFM |
|---|---|---|
| 50 CLIENTS | 5 | 250 |
| | | 250 |

USE 8" FLEX FOR OUTSIDE DUCT TO EACH UNIT

TOTAL CFM PRODUCED = 7200
(30) 8" VENTS
30 VENTS @ 220 CFM / VENT
= 6600 CFM OUTPUT
STATIC PRESSURE = 0.1in-wg

### HVAC EQUIPMENT NOTES

USE (3) 14 SEER UNITS HEAT PUMP.
UNIT TO BE ON CONC SLAB OUTSIDE BUILDING.
3/4" CONDENSATE LINE WITH P-TRAP ROUTED TO OUTSIDE AND FASTENED TO WALL.
OUTSIDE AIR INTAKE TO BE ROUTED UP WALL FRAMING AND TERMINATED ABOVE ROOF.
INTAKE MUST BE A MINIMUM OF 10' FROM OUTLET OR EXHAUST.
MOUNT PROGRAMMABLE THERMOSTAT ON WALL 48" AFF. AS PER ADA REQUIREMENTS
BATHROOM FANS TO BE 125 CFM WITH 4" DUCT.
DISCHARGE EXHAUST OUTSIDE OF BUILDING.
USE 8" FLEX FOR OUTSIDE AIR INTAKE DUCT

### GENERAL HVAC NOTES

PROVIDE ELECTRIC HEAT PUMP – SEE BELOW
MIN REQUIREMENTS TO BE MET AS NOTED ABOVE MET FROM NOTES ABOVE
LOCATE PROGRAMMABLE THERMOSTATS AS NEEDED FOR PROPER EFFECT
FANS SHALL RUN CONTINUOUSLY DURING OCCUPANCY TO PROVIDE OUTIDE AIR.
DUCT DETECTORS REQUIRED ON ALL UNITS
REMOTE ALARM INDICATOR DEVICES (RAIDS) REQUIRED FOR EACH UNIT AND TO BE INSTALLED NEAR UNIT NO MORE THAN 72" AFF
DUCT SMOKE DETECTORS TO OPERATE GLOBALLY, ie WHEN ONE DETECTOR ACTIVATES, ALL AIR HANDLING UNITS SHUT DOWN.

### HVAC EQUIPMENT SCHEDULE

UNITS
3-5 TON UNITS ON GROUND
1-5 TON MINI SPLIT MITSUBISHI
RUUD UNITS # RKKL-B120CL15E
GAS HEAT PACKAGE UNITS

DUCT
USE 0 41-20 INDORE SYSTEM
SMOKE DETECTORS EACH UNIT

ECONOMISERS
USE AXR-RDCN13 ECONOMISERS ON EACH UNIT PER CODE

### CALCULATE UNIT INPUT

*Total Power Input = 88,610 ÷ 1,650*
*= 10,511 Watts*

### GAS PIPING TABLE

*CHAPTER 4 OF NC FUEL GAS CODE TABLE 4.02.4(3)*

# MECHANICAL

$\frac{3}{16}$"=1'0"

Project #:

Date:

Drawn/Design By:

Scale:

**REVISIONS**

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DESIGN C. GREGORY BAGLEY ENGINEER CONSULTANTS PLANNING MAPPING

**MECHANICAL PLAN**

Client Name:

**HARMONY BAPTIST CHURCH**
**RODNEY GREGORY**
*Harnett County N.C.*

Sheet Number

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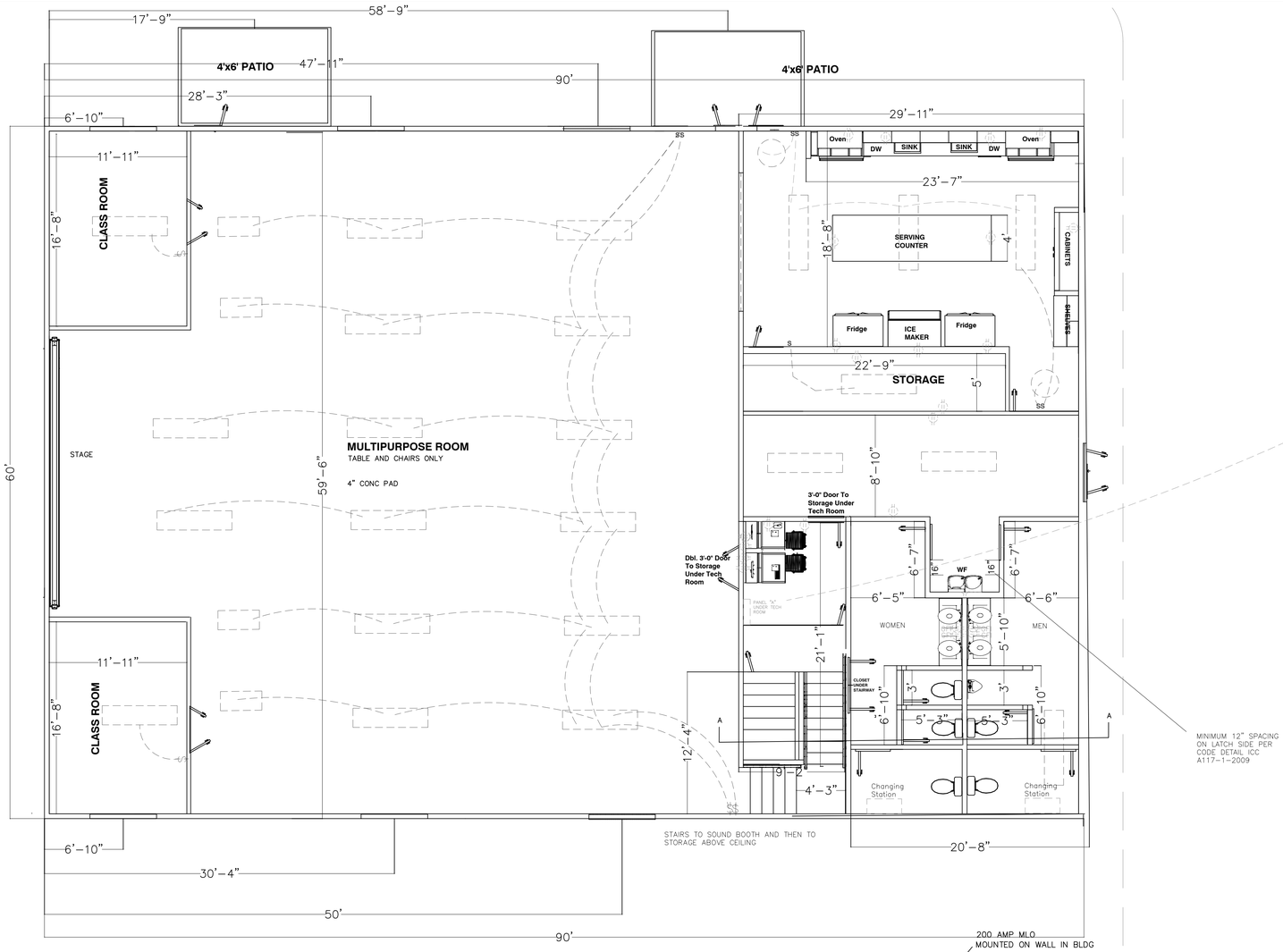


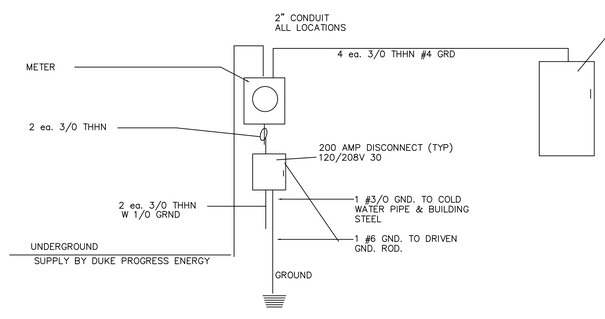


ELECTRICAL DIAGRAM

**PANEL B**

400 AMP SERVICE PANEL
VOLTAGE 208/120V 3 PHASE : 4 WIRE

| DEVICE SIZE | DEVICE AMPS TRIP | DEVICE POLES | BRANCH CIRCUIT DESCRIPTION | CKT | PH A | PH B | PH C | PH A | PH B | PH C | CKT | BRANCH CIRCUIT DESCRIPTION | DEVICE POLES | DEVICE AMPS TRIP | DEVICE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 20 | 1 | RECEPT | 1 | | | | 11 | | | 2 | RECPT. | 1 | 20 | 12 |
| 12 | 20 | 1 | RECEPT | 3 | 11 | | | | 11 | | 4 | RECPT. | 1 | 20 | 12 |
| 14 | 20 | 1 | RECEPT | 5 | | 11 | | | | 11 | 6 | RECPT. BATH GFI | 1 | 20 | 12 |
| 12 | 20 | 1 | RECEPT | 7 | 11 | | | | 11 | | 8 | RECEPT | 1 | 40 | 10 |
| 12 | 40 | 1 | RANGE/OVEN | 9 | | 20 | | | | 20 | 10 | RANGE/OVEN | 1 | 40 | 14 |
| 10 | 40 | 2 | HVAC | 11 | 22 | | | | | 22 | 12 | | 1 | 30 | 10 |
| 10 | 30 | 1 | | 13 | | 11 | | 22 | | | 14 | | 1 | 30 | 10 |
| 10 | 20 | 1 | DW | 15 | | 11 | | | 22 | | 16 | DW | 1 | 20 | 12 |
| 14 | 20 | 1 | LIGHTING | 17 | | | 7 | 7 | | | 18 | BATH FAN | 1 | 20 | 14 |
| 14 | 20 | 1 | LIGHTING | 19 | 7 | | | | | 7 | 20 | LIGHTING | 1 | 20 | 14 |
| 14 | 20 | 1 | LIGHTING BATH | 21 | | 7 | | | 32 | | 22 | HVAC | 2 | 40 | 10 |
| | | | | 23 | | | | | | 32 | 24 | | 2 | 40 | 10 |
| 10 | 40 | 2 | HVAC | 25 | | | 32 | 22 | | | 26 | WATER HTR. | 1 | 30 | 12 |
| 10 | 40 | 2 | | 27 | 32 | | | | | | 28 | | | | |
| | | | | 29 | | | | | | 7 | 30 | | 1 | 20 | 14 |
| 14 | 20 | 1 | SIGN | 31 | 7 | | | | 7 | | 32 | EXIT | 1 | 20 | 14 |
| | | | | 33 | | 16 | | | 21 | | 34 | | | | 10 |
| | | | | 35 | | | 16 | | | 21 | 36 | | | | 10 |

TOTAL 101 78 55 62 94 111

| LOAD CALCS. | | | |
|---|---|---|---|
| LOAD | CONN (KVA) | DEMAND FACTOR | DEMAND LOAD |
| LIGHTING | 5 | 125% **** | 6.25 |
| RECEPT. | 8.4 | 1ST 10 KV – 100% REM –50% | 8.4 |
| HVAC | 50 | 100% | 50 |
| SIGN | 1.2 | 125% **** | 1.5 |
| | | 125% | |
| | | 125% | |
| | | 125% | |
| | | 125% | |
| | | 125% | |
| | | | |
| | | | |
| TOTAL | 64.6 | TOTAL | 70.29 |

| LIGHTING LOAD CALCS. | | | | |
|---|---|---|---|---|
| AREA TYPE | MIN WATTS | SQ FT | REQUIRED | PROVIDED |
| BATH | 3.5 | 64 | 224 | 240 |
| SANCTUARY | 1.5 | 1400 | 2100 | 3000 |

# ELECTRICAL

$\frac{3}{16}$"=1'0"

200 AMP M.L.O. PANEL 120/208V 30

Project #:
Date:
Drawn/Design By:
Scale:

REVISIONS

| No. | Date: | Remarks |
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DESIGN ENGINEERING PLANNING MAPPING C. GREGORY BAGLEY ENGINEER

**ELECTRICAL PLAN**

Client Name:
**HARMONY BAPTIST CHURCH**
**RODNEY GREGORY**
*Harnett County N.C.*

Sheet Number
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