# ROLESVILLE TOWN HALL RENOVATIONS

## Rolesville, North Carolina

## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| AC | AIR CONDITIONING | FLR. | FLOOR | OPP | OPPOSITE |
| ACT | ACOUSTICAL CEILING TILE | FLUOR | FLUORESCENT | PL. | PLATE |
| ADJ | ADJUSTABLE/ ADJACENT | F.R.T. | FIRE RETARDANT TREATED | P-LAM | PLASTIC LAMINATE |
| A.F.F. | ABOVE FINISHED FLOOR | FT. | FOOT / FEET | PLWD | PLYWOOD |
| ALT | ALTERNATE | FURN | FURNISH | PR. | PAIR |
| ALUM. | ALUMINUM | GA. | GAUGE | PT. | PAINT |
| L | ANGLE | GALV. | GALVANIZED | R | RADIUS |
| ANOD. | ANODIZED | G.C. | GENERAL CONTRACTOR | REF. | REFRIGERATOR |
| APPROX. | APPROXIMATELY | GYP. BD. | GYPSUM WALL BOARD | REINF. | REINFORCING |
| ARCH. | ARCHITECTURAL | HCW | HOLLOW CORE WOOD | REQD. | REQUIRED |
| @ | AT | HDW | HARDWARE | REV | REVISION |
| BLDG. | BUILDING | HOR. | HORIZONTAL | R.O. | ROUGH OPENING |
| BLK'G | BLOCKING | HM | HOLLOW METAL | SCHED | SCHEDULE |
| CAB | CABINET | HT. | HEIGHT | SCW | SOLID CORE WOOD |
| CLR. | CLEAR | HVAC | HEATING, VENTILATING, AIR CONDITIONING | SD | SOAP DISPENSER |
| CLG | CEILING | | | SEAL | SEALANT |
| ℄ | CENTERLINE | IN. | INCH | SECT. | SECTION |
| CMU | CONCRETE MASONRY UNIT | INCL | INCLUDE | SHT | SHEET |
| COL. | COLUMN | INSUL. | INSULATION | SIM | SIMILAR |
| CONC. | CONCRETE | INSTL. | INSTALLATION | SM | SHEET METAL |
| CONST | CONTRUCTION | JT. | JOINT | STRUCT. | STRUCTURAL |
| CONT. | CONTINUOUS | LAM | LAMINATE | SQ. | SQUARE |
| CONTR | CONTRACTOR | LTG | LIGHTING | STD. | STANDARD |
| COORD | COORDINATE | MAT'L. | MATERIAL | STL. | STEEL |
| CPT | CARPET | MAX | MAXIMUM | STOR. | STORAGE |
| DTL. | DETAIL | MCJ | MASONRY CONTROL JOINT | SUSP | SUSPENDED |
| DIA. | DIAMETER | MDF | MEDIUM DENSITY FIBERBOARD | TEL | TELEPHONE |
| DIM. | DIMENSION | MECH. | MECHANICAL | TEMP | TEMPERED |
| DN | DOWN | MED | MEDICINE | TPH | TOILET PAPER HOLDER |
| DWG. | DRAWING | MANUF. | MANFACTURER | TYP. | TYPICAL |
| EA. | EACH | MISC. | MISCELLANEOUS | U.O.N. | UNLESS OTHERWISE NOTED |
| EL | ELEVATION (HEIGHT) | M.O. | MASONRY OPENING | VCT | VINYL COMPOSITION TILE |
| ELEC | ELECTRIC | MTD. | MOUNTED | VEN | VENEER |
| ELEV. | ELEVATION (VIEW) | MTL. | MATERIAL | VERT. | VERTICAL |
| EN | ENAMEL | N/A | NOT APPLICABLE | W | WEST / WATT / WIDTH |
| EQ. | EQUAL | N.I.C. | NOT IN CONTRACT | W/ | WITH |
| EXIST. | EXISTING | NOM | NOMINAL | W/O | WITHOUT |
| FB | FLAT BAR | N.T.S. | NOT TO SCALE | WC | WATER CLOSET |
| F.E. | FIRE EXTINGUISHER | O.C. | ON CENTER | WD. | WOOD |
| FIN. | FINISH | OPN'G. | OPENING | WR | WASTE RECEPTACLE |

## SYMBOLS

BRICK MASONRY WALL
CMU WALL
STUD WALL
100A ROOM NUMBER
100A DOOR NUMBER
A WINDOW MARK
DATUM INDICATOR
N NORTH INDICATOR
12 / 5 SLOPE INDICATOR
B GRID / COLUMN LINE
REVISION INDICATOR
SECTION No. / SHEET No. SECTION INDICATOR
DET. No. / SHEET No. INTERIOR ELEVATION INDICATORS
SHEET No. / A5 / Det. No.
DETAIL No. / SHEET No. DETAIL INDICATOR
F.E. FIRE EXTINGUISHER
WALL HUNG WATER CLOSET
TANK TYPE WATER CLOSET
HI-LO E.W.C. (ELEC. WATER COOLER)
WALL-MOUNTED LAVATORY
COUNTER-MOUNT LAVATORY

## GENERAL NOTES

SECTION A - GENERAL NOTES

01. ALL WORK FOR THIS PROJECT SHALL COMPLY WITH THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE FEDERAL OCCUPATIONAL SAFETY HEALTH ACT (OSHA), AND LOCAL BUILDING DEPARTMENT RULES AND REGULATIONS. ANYTHING SHOWN ON THESE DRAWINGS NOT IN ACCORDANCE WITH THESE RULES AND REGULATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, BEFORE PROCEEDING WITH ANY WORK.

02. WHERE THE TERMS "APPROVED EQUAL", "EQUAL TO", OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGEMENT OF THE ARCHITECT.

03. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND JOB CONDITIONS PRIOR TO BIDDING THE WORK AND SHALL REPORT TO THE ARCHITECT ANY DISCREPANCIES OR OMISSIONS WHICH WOULD INTERFERE WITH SATISFACTORY COMPLETION OF THE PROJECT.

04. UNLESS OTHERWISE NOTED, ALL DIMENSIONS SHOWN ARE FROM CENTERLINE TO CENTERLINE, CENTERLINE TO FACE OF WALL, OR FACE OF WALL TO FACE OF WALL.

05. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK BY ALL TRADES, INCLUDING THOSE PROVIDED AND DIRECTED BY THE OWNER.

06. ALL NEW MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S LATEST PRINTED SPECIFICATIONS AND WITH CODE REQUIREMENTS.

07. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR INSURING THE SUB-CONTRACTOR'S ARE BIDDING FROM A COMPLETE SET OF DRAWINGS. NO ADDS WILL BE APPROVED BY THE ARCHITECT DUE TO THE SUBS FAILURE TO COORDINATE BETWEEN ALL DRAWINGS.

SECTION B - CONSTRUCTION, QUALITY & WORKMANSHIP

01. ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, AND WHAT IS CALLED FOR BY EITHER WILL BE BINDING AS IF CALLED FOR BY ALL. ANY WORK SHOWN OR REFERRED TO ON ANY ONE SET OF DRAWINGS SHALL BE PROVIDED AS THOUGH SHOWN ON ALL RELATED DRAWINGS.

02. ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. MECHANICAL AND ELECTRICAL FIXTURES, FITTINGS, OUTLETS, ETC. WHEN SHOWN ON THE ARCHITECTURAL DRAWINGS ARE FOR LOCATION INFORMATION ONLY. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF THEIR WORK. ANY DISCREPANCY BETWEEN THE ARCHITECT AND CONSULTING ENGINEER'S DRAWINGS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION BY WRITTEN NOTIFICATION FOR CLARIFICATION. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE AND AT NO EXPENSE TO THE OWNER.

03. THE GENERAL CONTRACTOR SHALL, AS PART OF THIS CONTRACT, FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TRANSPORTATION AND INSURANCE NECESSARY TO PROPERLY EXECUTE AND COMPLETE THE WORK ACCORDING TO THE INTENT OF THE PLANS AND SPECIFICATION. THE GENERAL CONTRACTOR SHALL VERIFY ALL REQUIREMENTS FOR EXACT SIZE AND QUANTITY OF EQUIPMENT FURNISHED, INCLUDING REQUIREMENTS FOR MECHANICAL AND ELECTRICAL SERVICES, AND BE RESPONSIBLE FOR ALL ROUGH-IN CONNECTIONS.

04. THE CONSTRUCTION NOTES AND/ OR DRAWINGS ARE SUPPLIED TO ILLUSTRATE THE DESIGN AND GENERAL TYPE OF CONSTRUCTION DESIRED AND ARE INTENDED TO IMPLY THE FINEST QUALITY OF CONSTRUCTION, MATERIAL AND WORKMANSHIP THROUGHOUT. ALL ERRORS, OMISSIONS AND CLARIFICATIONS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING THE BID PHASE. ANY INFORMATION REQUESTED AFTER THE BID PHASE WILL BE ADDRESSED AS AN ARCHITECT'S SUPPLEMENTAL INFORMATION, WITH NO EXTENSION OF TIME OR MONEY.

05. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR THE USE OF ALL TRADES.

06. THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE DRAWINGS, THESE NOTES AND FIELD CONDITIONS BEFORE COMMENCING ANY WORK AND REQUEST CLARIFICATION.

07. THE GENERAL CONTRACTOR AND ANY OTHER CONTRACTOR INVOLVED IN THIS PROJECT SHALL TAKE NOTE THAT ANY COST CAUSED BY DEFECTIVE OR ILL-TIMED WORK AS A RESULT OF, BUT NOT LIMITED TO, INFERIOR WORKMANSHIP OR MATERIALS, IMPROPER SCHEDULING OR DELINQUENT ORDERING SHALL BE BORNE BY THE PARTY RESPONSIBLE THEREOF.

08. WHERE NEW EQUIPMENT IS BEING INSTALLED, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING BLOCKING IN WALLS AS REQUIRED BY THE EQUIPMENT MANUFACTURER.

09. ALL FLASHINGS SHALL BE DONE IN STRICT ACCORDANCE WITH THE FLASHING MANUFACTURER'S PUBLISHED SPECIFICATIONS AND DETAILS. THIS TO INCLUDE AMOUNT OF OVERLAP AND INSTALLATION OF DRIP EDGES, IF REQUIRED.

10. ALL FIRE-RATED WALLS SHALL BE PERMANENTLY IDENTIFIED PER BUILDING CODE. SIGNS OR STENCILS SHALL BE 6" MIN. IN HEIGHT WITH RED LETTERING. WORDING TO BE "1,2,3,4-HOUR RATED WALL, PROTECT ALL OPENINGS" OR SIMILAR.

## COLD-FORMED STEEL STUD FRAMING

1. ALL STRUCTURAL MEMBERS SHALL BE FORMED FROM CORRISION-RESISTANT STEEL CORRESPONDING TO THE REQUIREMENTS OF ASTM-A653, WELDS SHALL BE TOUCHED UP WITH A ZINC RICH PROTECTIVE PAINT FOR CORROSION RESISTANCE. STRUCTURAL STEEL STUDS SHALL HAVE A MINIMUM THICKNESS OF 33 MILS AND SHALL HAVE A MINIMUM YIELD STRENGTH 33 KSI.
2. PROVIDE VERTICAL DEFLECTION CONNECTION WITH MECHANICAL ATTACHMENT TO THE WEB OF ALL STUDS WHICH PASS BY THE STRUCTURE (FLOOR AND ROOF) OR ATTACH TO THE BOTTOM OF THE STRUCTURE.
3. UNLESS SUPERSEDED BY FINISH OR GLAZING SYSTEM MANUFACTURER'S MORE STRINGENT REQUIREMENTS (GENERAL CONTRACTOR TO COORDINATE), STUDS HAVE BEEN DESIGNED TO THE FOLLOWING MINIMUM REQUIREMENTS:
   - 3.1. BRICK VENEER L/600
   - 3.2. EXTERIOR INSULATION FINISH SYSTEM (EIFS) L/240
   - 3.3. STUCCO L/240
4. "C" SHAPED STUDS AND JOISTS SHALL HAVE A MINIMUM FLANGE OF 1 $\frac{3}{8}$" WITH A MINIMUM RETURN LIP OF $\frac{3}{8}$". TRACKS SHALL HAVE A MINIMUM OUTSTANDING LEG OF 1 $\frac{3}{8}$".
5. ALL STRUCTURAL MEMBERS SHALL BE CONTINUOUS FULL LENGTH, SPLICING OF MEMBERS IS NOT PERMITTED UNLESS SPECIFICALLY DETAILED BY ENGINEER.
6. SCREWS SHALL BE SELF DRILLING WITH A LENGTH THAT ENSURES THREE EXPOSED THREADS BEYOND PENETRATION OF THE JOINED MATERIAL. MINIMUM SCREW SPACING SHALL BE $\frac{3}{8}$". MINIMUM EDGE DISTANCE SHALL BE $\frac{3}{8}$".
7. METAL STUD BRIDGING IS REQUIRED AT 48" O.C. MAXIMUM UNLESS WALLS ARE SHEATHED ON BOTH SIDES.

## DESIGN TEAM

### ARCHITECT:


Baxter Armistead Architecture, PC
3206 Heritage Trade Drive, Suite 114
Wake Forest, North Carolina 27587
Ph.: (919) 554-1505


### PM&E ENGINEER:


Kilian Engineering
115-C Young Street
Henderson, North Carolina 27536
Ph.: (252) 438-8778; Fax: (252) 438-8741


## SHEET INDEX:


T-1 Cover Sheet/ Life Safety Plan
T-2 Code Summary Sheet

Architectural:
A-0.01 Demolition Plan
A-1.01 Floor Plan & Details
A-2.01 Reflected Ceiling Plan & Details
A-3.01 Door & Room Finish Schedules

Mechanical:
M-1 Mechanical Notes & Schedules
M-2 Mechanical Demo Plan & Mechanical Plan

Electrical:
E-1 Electrical Notes & Schedules
E-2 Lighting & Power Demo Plans
E-3 Lighting & Power Plans

Plumbing:
P-1 Plumbing Notes & Schedules
P-2 Sanitary & Supply Demo Plans
P-3 Sanitary & Supply Plans


## Life Safety Plan Legend

Egress Travel Path:
Distance Noted is Actual
(Allowable Distance is 200')

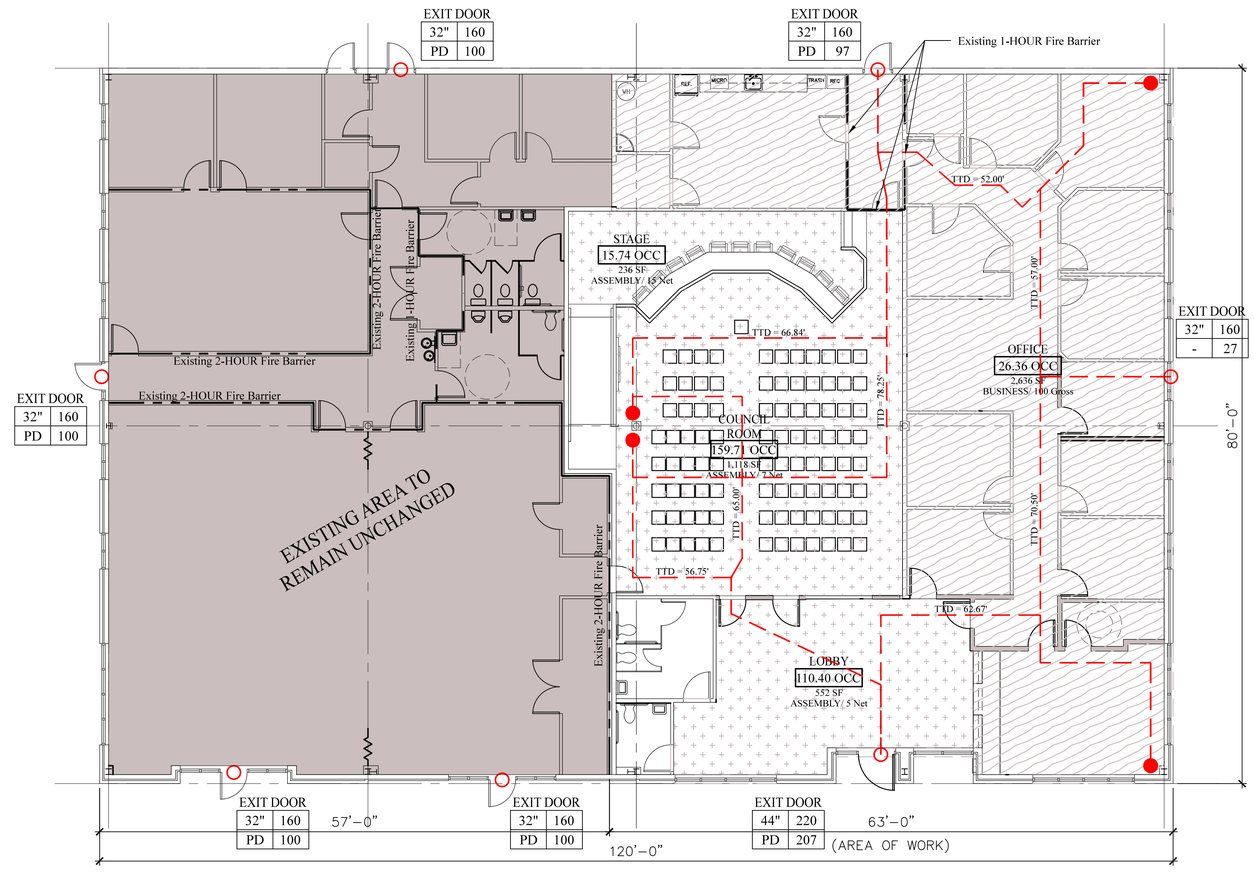
CTD = 25.00' (Common Travel Distance) — TTD = 75.00' (Total Travel Distance)

ROOM NAME
1 OCC — Occupancy Load
150 SF — Room Area
OCC Type/ SF per OCC — Occupancy Load Factor & Method
Occupancy Group

OCCUPANCY KEY:
Assembly Unconcentrated
Business
Mercantile
Storage Area

EXIT DOOR
32" | 160 — Exit Capacity (Width/ 0.2)
PD | 100 — Actual Load
PD - Panic Device Provided
HO - Hold Open Provided
Egress Width

EXIT STAIR
32" | 160 — Exit Capacity (Stair Width/ 0.3)
100 — Actual Load
Egress Width




D3 / T-1 LIFE SAFETY PLAN
SCALE: NONE


BAXTER ARMISTEAD
ARCHITECTURE, PC
3206 Heritage Trade Drive, Suite 112
Wake Forest, North Carolina 27587
Phone: (919) 554-1505



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Seals

BAXTER ARMISTEAD ARCHITECTURE, PC — REGISTERED ARCHITECTURAL CORPORATION — 51438 — NORTH CAROLINA — WAKE FOREST, N.C.

JOE ARMISTEAD — REGISTERED ARCHITECT — 9197 — NORTH CAROLINA — WAKE FOREST, N.C.

Sealed Date: 01/14/2020

Consultants

| No. | Revision | Date |
|---|---|---|
| 0 | Issued for Permitting/ Construction | 01/14/2020 |

| No. | Issued | Date |
|---|---|---|

File Name: XXXXXT-1.dwg — Drawn By: XXXXX

Client/ Project
Town of Rolesville/
TOWN HALL RENOVATIONS
Rolesville, North Carolina

Sheet Title
COVER SHEET

Project No. 19046 — Scale: AS NOTED
Revision: 0 — Drawing No.: T-1

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: Rolesville Town Hall Renovations
Address: 502 Southtown Circle, Rolesville, NC 27571
Owner or Authorized Agent: JG Ferguson Phone: 919-556-3506 Email: jg.ferguson@rolesville.nc.gov
Owned By: ( X ) City/ County ( ) Private ( ) State
Code Enforcement Jurisdiction: ( ) City _ (X) County Wake ( ) State

CONTACT:

| DESIGNER | FIRM | NAME | LICENSE | TELEPHONE | E-MAIL |
|---|---|---|---|---|---|
| Architectural: | Baxter Armistead Architecture, PC | Joe Armistead | 9197 | 919-554-1505 | joe@baxterarmistead.com |
| Civil: | | | | | |
| Electrical: | Kilian Engineering, Inc. | Jacob L. Hamilton | 048012 | 252-438-8778 | jhamilton@kilainengineering.com |
| Fire Alarm: | Kilian Engineering, Inc. | Jacob L. Hamilton | 048012 | 252-438-8778 | jhamilton@kilainengineering.com |
| Plumbing: | Kilian Engineering, Inc. | Jacob L. Hamilton | 048012 | 252-438-8778 | jhamilton@kilainengineering.com |
| Mechanical: | Kilian Engineering, Inc. | Jacob L. Hamilton | 048012 | 252-438-8778 | jhamilton@kilainengineering.com |
| Sprinkler-Standpipe: | | | | | |
| Structural: | | | | | |
| Precast: | | | | | |
| Trusses: | | | | | |
| Retaining Walls >5' High: | | | | | |
| Other: | | | | | |

(*Other* should include firms and individuals such as truss, precast, preengineered, interior designers, etc.)

2018 NC Building Code: ( ) New Building ( ) Addition ( X ) Renovation
( ) 1st Time Interior Completion
() Shell/ Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
() Phased Construction - Shell/ Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC Existing Building Code: Existing: ( ) Prescriptive ( ) Repair ( ) Chapter 14
Alteration: ( ) Level I ( ) Level II ( ) Level III
() Historic Property ( ) Change of Use

CONSTRUCTED: (date) _____ CURRENT OCCUPANCY(S) (Ch.3): _____
RENOVATED: (date) _____ PROPOSED OCCUPANCY(S) (Ch.3): _____

OCCUPANCY CATEGORY (Table 1604.5): Current: ( ) I ( ) II ( ) III ( ) IV
Proposed: ( ) I ( ) II ( ) III ( ) IV

BASIC BUILDING DATA
Construction Type: ( ) I-A ( ) II-A ( ) III-A ( ) IV ( ) V-A
( ) I-B ( ) II-B ( X ) III-B ( ) V-B
Sprinklers: ( X ) No ( ) Partial ( ) Yes ( )NFPA 13 ( ) NFPA 13R ( ) NFPA 13D
Standpipes: ( X ) No ( ) Yes Class ( ) I ( ) II ( ) III ( ) Wet ( ) Dry
Fire District: ( X ) No ( ) Yes Flood Hazard Area: ( ) No ( ) Yes
Special Inspections Required:: ( X ) No ( ) Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

**Gross Building Area Table**

| FLOOR | EXISTING (SQ FT) | NEW (SQ FT) | SUB-TOTAL |
|---|---|---|---|
| 3rd Floor | ( ) | ( ) | ( ) |
| 2nd Floor | ( ) | ( ) | ( ) |
| Mezzanine | ( ) | ( ) | ( ) |
| 1st Floor | (9,600) | ( ) | (9,600) |
| Basement | ( ) | ( ) | ( ) |
| TOTAL | (9,600) | ( ) | (9,600) |

ALLOWABLE AREA

Primary Occupancy Classification(s): Select One
Assembly ( ) A-1 ( ) A-2 ( X ) A-3 ( ) A -4 ( ) A-5
Business ( )
Educational ( )
Factory ( ) F-1 Moderate ( ) F-2 Low
Hazard ( ) H-1 Detonate ( ) H-2 Deflagrate ( ) H-3 Combust ( ) H-4 Health ( ) H-5 HPM
Institutional ( ) I-1 Condition ( ) 1 ( ) 2
( ) I-2 Condition ( ) 1 ( ) 2
( ) I-3 Condition ( ) 1 ( ) 2 ( ) 3 ( ) 4 ( ) 5
( ) I-4
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): Business
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 - List Code Sections): _____
Special Provisions: (Chapter 5 - List Code Sections: _____
Mixed Occupancy: ( ) No (X ) Yes Separation: ____ Hr. Exception:_____

(X) Non-Separated Mixed Occupancy (508.3.2) - 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 he entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

( ) Separated Mixed Occupancy (508.3.3) - 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.

*Actual Area of Occupancy A* / *Allowable Area of Occupancy A* + *Actual Area of Occupancy B* / *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 Increase (1,5) | (D) Allowable Area per Story or Unlimited (2,3) |
|---|---|---|---|---|---|
| 1 | A-3 | 4,750 | 9,500 | 4,750 | 14,250 |
| 1 | Business | 9,500 | 19,000 | 9,500 | 28,500 |
| - | - | - | - | - | - |
| - | - | - | - | - | - |
| - | - | - | - | - | - |

1 Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 400 ft (F)
b. Total Building Perimeter = 400 ft (P)
c. Ratio (F/P) = 1 (F/P)
d. W = Minimum width of public way = 20 ft (W)
e. Percent of frontage increase If = 100 [ F/P - 0.25 ] x W/30 = 50 (%)
2 Unlimited area applicable under conditions of Sections 507
3 Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2)
4 The maximum area of parking garages must comply with 406.5.4 The maximum area of air traffic control towers must comply with 412.3.1
5 Frontage increase is based on the unsprinklered area value in Table 506.2

**ALLOWABLE HEIGHT**

| | Allowable | Shown on Plans | Code Reference |
|---|---|---|---|
| Building Height in Feet (Table 504.3) | 55 | 22 | - |
| Building Height in Stories (Table 504.4) | 2 | 2 | - |

1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

**FIRE PROTECTION REQUIREMENTS**

| Building Element | Fire Separation Distance (Feet) | Rating REQ'D.* | Rating Provided (W/ Hr* 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 | - | 0 | 0 | - | - | - | - |
| East | - | 0 | 0 | - | - | - | - |
| West | - | 0 | 0 | - | - | - | - |
| South | - | 0 | 0 | - | - | - | - |
| Interior | - | n/a | n/a | - | - | - | - |
| Non-Bearing Walls and Partitions Exterior Walls | | | | | | | |
| North | | n/a | n/a | - | - | - | - |
| East | | n/a | n/a | - | - | - | - |
| West | | n/a | n/a | - | - | - | - |
| South | | n/a | n/a | - | - | - | - |
| Interior Walls and Partitions | | 0 | 0 | - | - | - | - |
| Floor construction, including supporting beams and joists. List construction type. | | n/a | n/a | - | - | - | - |
| Floor Ceiling Assembly | | n/a | n/a | - | - | - | - |
| Columns Supporting Floors | | n/a | n/a | - | - | - | - |
| Roof construction, including supporting beams and joists | | 0 | 0 | - | - | - | - |
| Roof Ceiling Assembly | | 0 | 0 | - | - | - | - |
| Columns Supporting Roof | | 0 | 0 | - | - | - | - |
| Shafts Enclosures - Exit | | n/a | n/a | - | - | - | - |
| Shafts Enclosures - Other | | n/a | n/a | - | - | - | - |
| Corridor Separation | | 1-Hour | 1-Hour | T-2 | U 419 | - | - |
| Occupancy/ Fire Barrier Separation | | 2-Hour | 2-Hour | T-2 | U 419 | - | - |
| Party/ Fire Wall Separation | | n/a | n/a | - | - | - | - |
| Smoke Barrier Separation | | n/a | n/a | - | - | - | - |
| Smoke Partition | | n/a | n/a | - | - | - | - |
| Tenant/ Dwelling Unit/ Sleeping Unit Separation | | n/a | n/a | - | - | - | - |
| Incidental Use Separation | | n/a | n/a | - | - | - | - |

* 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 (%) |
|---|---|---|---|
| - | - | - | - |
| - | - | - | - |

**LIFE SAFETY SYSTEM REQUIREMENTS**

**Emergency Lighting:** **( ) No** **( X )Yes**
**Exit Signs:** **( ) No** **( X )Yes**
**Fire Alarm:** **(X ) No** **( )Yes**
**Smoke Detection Systems:** **(X ) No** **( )Yes** **( ) Partial _____**
**Carbon Monoxide Detection:** **(X ) No** **( )Yes**

**LIFE SAFETY SYSTEM REQUIREMENTS**

**Life Safety Plan Sheet #: T-1**
**( X ) Fire and/ or smoke rated wall locations (Chapter 7)**
**( ) Assumed and real property line locations (if not on site plan)**
**( ) Exterior wall opening area with respect to distance to assumed property lines (705.8)**
**( X ) Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)**
**( X ) Occupant loads for each area**
**( X ) Exit access travel distances (1017)**
**( ) Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))**
**( ) Dead end lengths (1020.4)**
**( X ) Clear exit widths for each exit door**
**( X ) Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)**
**( X ) Actual occupant load for each exit door**
**( ) A separate schematic plan indicating where tire rated floor/ ceiling and/ or roof structure is provided for purposes of occupancy separation**
**( X ) 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)**
**( X ) 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 |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |

**ACCESSIBLE PARKING**
**(Section 1106)**

| Lot or Parking Area | Total # of Parking Spaces: Required | Total # of Parking Spaces: Provided | # of Accessible Spaces Provided: Regular Width 5' Access Aisle | Van Spaces with: 132" Access Aisle | Van Spaces with: 8' Access Aisle | Toatl # Accessible Provided |
|---|---|---|---|---|---|---|
| Main | See Civil Drawings | - | - | - | | - |
| - | - | - | - | - | | - |
| - | - | - | - | - | | - |
| Total | | | - | - | | - |

**OCCUPANT LOAD AND EXIT WIDTH**

| Use Group and/ or Space Designation | (a) Area(1) Sq.Ft. | (b) Area(1) per Occupant | (a/b) Number of Occupants | (c) Egress Width per Occupant (Table 1005.1): Stair | Egress Width: Level | Exit Width (in) (2,3,4,5) Required Width (Section 1005.1) (a/b) x c: Stair | Required Width: Level | Actual Width Shown on Plans: Stair | Actual Width: Level |
|---|---|---|---|---|---|---|---|---|---|
| Council Room | 1,118 | 7 | 159.71 | n/a | 0.2" | n/a | 31.94 | n/a | 32 |
| Stage | 236 | 15 | 15.74 | n/a | 0.2" | n/a | 3.15 | n/a | 32 |
| Lobby | 552 | 5 | 110.4 | n/a | 0.2" | n/a | 22.08 | n/a | 32 |
| Business | 2,636 | 100 | 26.36 | n/a | 0.2" | n/a | 5.27 | n/a | 32 |
| - | - | - | - | - | - | - | - | - | - |
| Community Space | (No Work this Area) | | 303 | - | - | - | - | - | - |
| Total # of Occupants | | | 616 | - | - | - | - | - | - |

(1) See Table 1004.1.1 to determine wheather net or gross area is applicable.
(2) Minimum stairway width (Section 1009.1); min. corridor width (Section 1017.2); min. door width (Section 1008.1.1)
(3) Minimum width of exit passageway (Section 1021.2)
(4) The loss of 1 means of egress shall not reduce the available capacity to less than 50 percent of the total required (Section 1005.1)
(5) Assembly occupancies (Section 1025)

**ASSEMBLY OCCUPANCY INFORMATION**
**This section for Assembly Use Area(s)**

| Space Description | Area - SF | Occupant Load Factor | Occupant Load | Exit Width | Exit Quantity |
|---|---|---|---|---|---|
| (Council Room) | (1,118) | (7 net) | (159.71) | (32) | (3) |
| (Stage) | (236) | (15) | (15.74) | (32) | (2) |
| (Lobby) | (552) | (5) | (110.4) | (48) | (1) |

**TOTAL 286**

**PLUMBING FIXTURE REQUIREMENTS**

| Use | | Water Closets: Male | Water Closets: Feamle | Water Closets: Unisex | Urinals | Lavatories: Male | Lavatories: Female | Lavatories: Unisex | Showers / Tubs | Drinking Fountains: Regular | Drinking Fountains: Accessible |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Assembly | Ratio | 1:125 | 1:65 | - | - | 1:200 | 1:200 | - | - | 1:500 | - |
| | Exist'g | 2 | 5 | - | 2 | 2 | 3 | - | - | 1 Hi-Lo | |
| | New | - | - | - | - | - | - | - | - | - | - |
| | Req'd | 2.46 | 4.74 | - | - | 1.54 | 1.54 | - | - | 1 Hi-Lo | |
| - | Ratio | - | - | - | - | - | - | - | - | - | - |
| | Exist'g | - | - | - | - | - | - | - | - | - | - |
| | New | - | - | - | - | - | - | - | - | - | - |
| | Req'd | - | - | - | - | - | - | - | - | - | - |

**SPECIAL APPROVALS**

Special Approval: (Local jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

_____

_____

NO NEW STRUCTURAL LOADS ARE IMPOSED ON EXISTING SYSTEM

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy 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 versus the annual energy cost for the proposed design.

Energy building envelope complies with code: ( X ) (If checked, the remainder of this section is not applicable.)

Exempt Building: ( ) Provide code or statutory reference: _____

Climate Zone: ( ) 3A ( ) 4A ( ) 5A

Method of Compliance:
Energy Code: ( ) Performance ( ) Prescriptive
ASHSAE 90.1: ( ) Performance ( ) Prescriptive
Other: ( ) Performance _____

THERMAL ENVELOPE: (Prescriptive method only)
Roof/ Ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Va
Skylig
Total s ...ights in each assembly: _____

EXISTING THERMAL EVELOPE TO REMAIN UNCHANGED

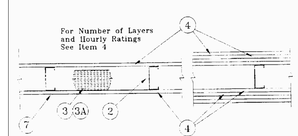
Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of skylight: _____
Solar heat gain coefficient: _____
projection factor: _____
Door R-Value: _____

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: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/ Vertical requirement: _____
slab heated: _____

**Design No. U419**
Non Bearing Wall Ratings—1, 2, 3 or 4 Hr (See Items 3 & 4)




1. **Floor and Ceiling Runners**—(Not shown)—Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
2. **Steel Studs**—Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
3. **Batts and Blankets***—(Required as indicated under Item 4)—Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

3A. **Batts and Blankets***—(Optional)—Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

4. **Wallboard, Gypsum***—Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal edge joints and horizontal butt joints on opposite sides of studs staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

**Wallboard Protection on Each Side of Wall**

| Rating | Min Stud Depth | No. Of Layers And Thickness Of Panels | Min Thickness Of Insulation (Item 3) |
|---|---|---|---|
| 1 | 3-1/2 | 1 layer, 5/8 in. thick | Optional |
| 1 | 2-1/2 | 1 layer, 1/2 in. thick | 1-1/2 in. |
| 1 | 1-5/8 | 1 layer, 3/4 in. thick | Optional |
| 2 | 1-5/8 | 2 layers, 1/2 in. thick | Optional |
| 2 | 1-5/8 | 2 layers, 5/8 in. thick | Optional |
| 2 | 3-1/2 | 1 layer, 3/4 in. thick | 3 in. |
| 3 | 1-5/8 | 3 layers, 1/2 in. thick | Optional |
| 3 | 1-5/8 | 2 layers, 3/4 in. thick | Optional |
| 3 | 1-5/8 | 3 layers, 5/8 in. thick | Optional |
| 4 | 1-5/8 | 4 layers, 5/8 in. thick | Optional |
| 4 | 1-5/8 | 4 layers, 1/2 in. thick | Optional |
| 4 | 2-1/2 | 2 layers, 3/4 in. thick | 2 in. |

**Canadian Gypsum Co.**—1/2 in. thick Type C, WRC or IP-X2; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC or IP-X2; 3/4 in. thick ULTRACODE or Type IP-X3
**United States Gypsum Co.**—1/2 in. thick Type C, WRC or IP-X2; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC or IP-X2; 3/4 in. thick ULTRACODE or Type IP-X3
**Yeso Panamericano SA de CV**—1/2 in. thick Type C, WRC or IP-X2; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC or IP-X2; 3/4 in. thick ULTRACODE or Type IP-X3.

5. **Fasteners**—(Not shown)—Type S or S-12 self-drilling, self-tapping steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 12 in. OC when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.
6. **Furring Channels**—(Optional, not shown, for single or double layer systems)—Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 panhead steel screws.
7. **Joint Tape and Compound**—Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer panels.
8. **Siding, Brick or Stucco**—(Optional, not shown) —Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.
9. **Caulking and Sealants***—(Optional, not shown)—A bead of acoustical sealant applied around the partition perimeter for sound control.

**United States Gypsum Co.**—Type AS
*Bearing the UL Classification Marking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JOE ARMISTEAD REGISTERED ARCHITECT 9197 NORTH CAROLINA WAKE FOREST, N.C.

Sealed Date: 01/14/2020

Consultants

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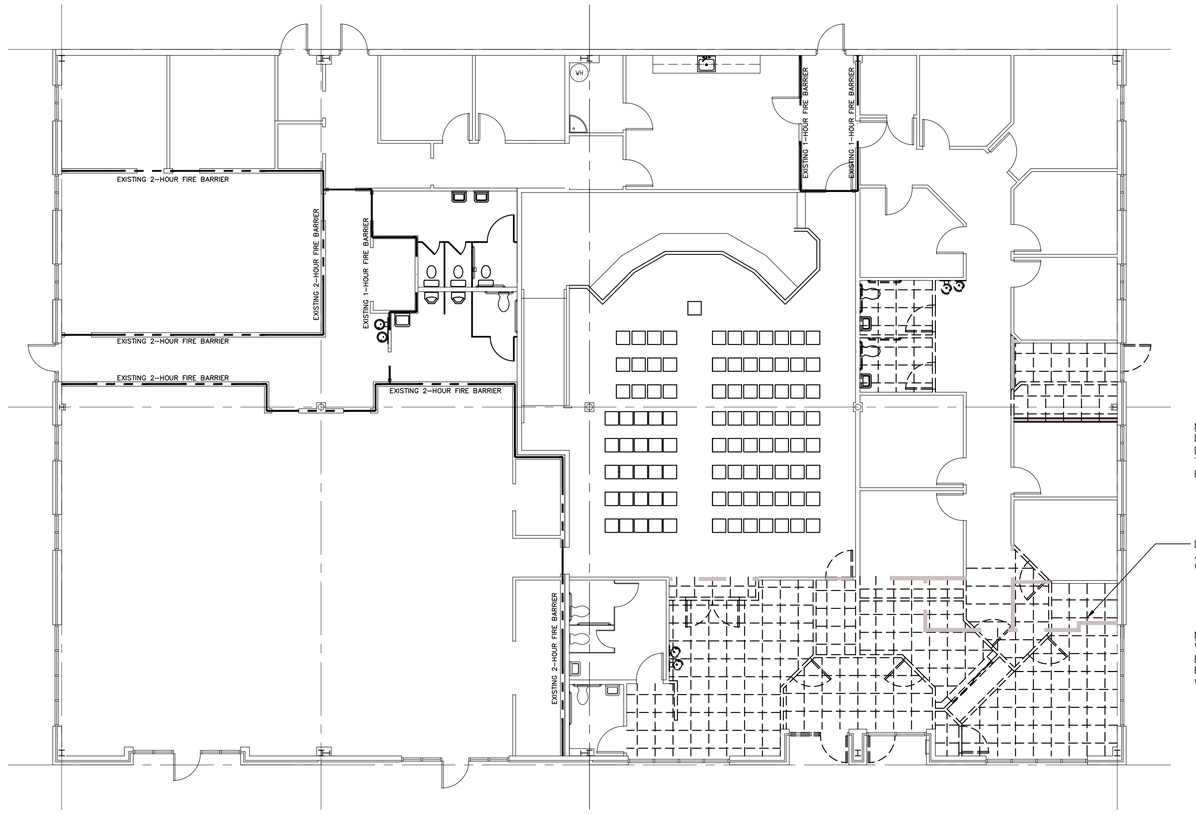
File Name: Drawn By

Client/ Project
Town of Rolesville/
TOWN HALL RENOVATIONS
Rolesville, North Carolina

Sheet Title
CODE SUMMARY

Project No. 19046
Scale AS NOTED
Revision 0
Drawing No. T-2




NOTE:
DASHED LINES REPRESENT WALLS, DOORS/ FRAMES, FIXTURES ETC. TO BE DEMOLISHED AND REMOVED. (TYP.)

DEMO EXISTING CEILING GRID AS INDICATED, COORDINATE WITH NEW WORK (TYP.)

NOTE:
WHERE POSSIBLE, SALVAGE EXISTING DOORS/ FRAMES TO BE REMOVED FOR REUSE WITH NEW PLAN. (TYP.)

C2 / A-0.01 DEMOLITION PLAN
SCALE: 1/8"=1'-0"

DEMOLITION NOTES:

1. EXISTING WORK IS INDICATED IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION AND SHALL BE CHECKED IN THE FIELD BY EACH SUBCONTRACTOR. AS DEMOLITION PROCEEDS, CAREFUL MEASURMENTS SHALL BE MADE OF ALL WORK UNCOVERED TO WHICH NEW WORK MUST FIT, AND SHOP DRAWINGS FOR ALL FABRICATED MATERIALS SHALL BE COORDINATED WITH INFORMATION SO OBTAINED. NO EXTRA COSTS WILL BE ALLOWED FOR PREFABRICATION OF ANY MATERIALS WHICH ARE INCORRECTLY FABRICATED WITHOUT SUCH COORDINATION.
2. THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL PROTECTIONS AS REQUIRED BY GOVERNING AUTHORITIES, AND SHALL PROVIDE AND MAINTAIN PERMANENT OR TEMPORARY COVERED PASSAGEWAYS, BARRICADES OR OTHER STRUCTURES AS REQUIRED BY LAW OR AS REQUIRED IN ORDER TO PROTECT THE PUBLIC.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL OBSTRUCTIONS IN THE AREAS OF CONSTRUCTION, UNLESS SPECIFIED TO BE REMOVED BY OTHERS.
4. THE GENERAL CONTRACTOR SHALL MAKE SUCH EXPLORATIONS AND PROBES AS ARE NECESSARY TO ASCERTAIN ANY REQUIRED PROTECTIVE MEASURES BEFORE PROCEEDING WITH DEMOLITION AND REMOVAL GIVE PARTICULAR ATTENTION TO SHORING AND BRACING REQUIREMENTS SO AS TO PREVENT ANY DAMAGE TO EXISTING CONSTRUCTION.
5. THE GENERAL CONTRACTOR SHALL SHORE AND/OR UNDERPIN EXISTING WORK AS REQUIRED TO SAFELY INSTALL NEW WORK. THIS WORK SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR & NO ACT, DIRECTION OR REVIEW OF ANY SYSTEM OR METHOD BY THE ARCHITECT SHALL CHANGE OR AFFECT THE CONTRACTOR'S RESPONSIBILITY IN THIS MATTER.
6. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS & CONDITIONS AT THE SITE & REPORT ANY DISCREPANCY TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
7. ALL WORK SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL CODES & REGULATORY AGENCIES HAVING JURISDICTION IN THIS AREA.
8. ALL SECTIONS, DETAILS, MATERIALS, METHODS, ETC. SHOWN OR NOTED ON ANY PLAN OR SECTION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.
9. DEMOLITION, REMOVAL AND ALTERATION WORK SHALL BE AS SHOWN ON THE DRAWINGS. PERFORM SUCH WORK REQUIRED WITH DUE CARE, INCLUDING SHORING AND BRACING REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE THAT MAY BE CAUSED BY SUCH WORK TO ANY PART OR PARTS OF EXISTING STRUCTURES OR ITEMS DESIGNATED FOR REUSE. PERFORM PATCHING, RESTORATION, AND NEW WORK IN ACCORDANCE WITH APPLICABLE TECHNICAL REQUIREMENTS OF THE SPECIFICATIONS.
10. ASBESTOS CONTAINING MATERIALS (ACMs) ARE TO BE REMOVED WHERE INDICATED ON THIS PLAN AND ON THE ACM TEST REPORT INCLUDED IN THE PROJECT MANUAL. ACMs ARE TO BE REMOVED AND DISPOSED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR AND IN ACCORDANCE WITH STATE AND FEDERAL REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL:

1. PROVIDE ADEQUATE FIRE PROTECTION IN ACCORDANCE WITH LOCAL FIRE DEPARTMENT REQUIREMENTS.
2. LOCATE, MARK, PROTECT AND MAINTAIN ALL ACTIVE UTILITIES TO REMAIN. REPAIR OR REPLACE AT NO EXPENSE TO THE OWNER ALL SUCH DISTURBED IN EXECUTION OF WORK. COORDINATE ALL UTILITY WORK WITH UTILITY COMPANIES.
3. BE RESPONSIBLE FOR EXISTING AND/OR NEWLY INSTALLED MECHANICAL AND ELECTRICAL SYSTEM FROM TAKEOVER TO ACCEPTANCE AGAINST WEATHER OR PHYSICAL DAMAGE OR LOSS.
4. CONFINE ALL APPARATUS, THE STORAGE OF MATERIALS AND THE OPERATIONS OF WORKERS TO THE LIMITS INDICATED BY LAW, ORDINANCES, PERMITS OR DIRECTIONS OF OWNER. CONTRACTOR SHALL NOT UNREASONABLY ENCUMBER THE PREMISES WITH HIS MATERIAL, AND SHALL ENFORCE PROPER INSTRUCTIONS REGARDING SIGNS, ADVERTISEMENTS, FIRES AND SMOKING. CONTRACTOR SHALL NOT LOAD OR PERMIT ANY PART OF THE STRUCTURE TO BE LOADED WITH A WEIGHT THAT WILL ENDANGER ITS INTEGRITY.
5. SCHEDULE WORK WITH OWNER SO THAT WORK IS DONE AT TIMES WHICH WILL CAUSE MINIMUM INTERFERENCE WITH BUILDING ACTIVITIES.
6. COORDINATE DEMOLITION WORK WITH TRADES THAT WILL PERFORM NEW CONSTRUCTION WORK AND REQUIRED PATCH WORK OF EXISTING CONSTRUCTION IN THE IMMEDIATE AREAS WHERE DEMOLITION WORK IS TO BE DONE. DO NOT PERFORM DEMOLITION WORK UNTIL SUCH TRADES CAN IMMEDIATELY PERFORM THEIR WORK, OR MODIFICATIONS TO EXISTING, SHALL BE EXECUTED BY THE CONTRACTOR PERFORMING THE RESPECTIVE TRADE. THE GENERAL CONTRACTOR SHALL PROPERLY COORDINATE TRADES TO ASSURE PROPER OPENINGS AND OTHER REQUIREMENTS. DAMAGED AREAS SHALL BE PATCHED TO MATCH EXISTING ADJACENT SURFACE.

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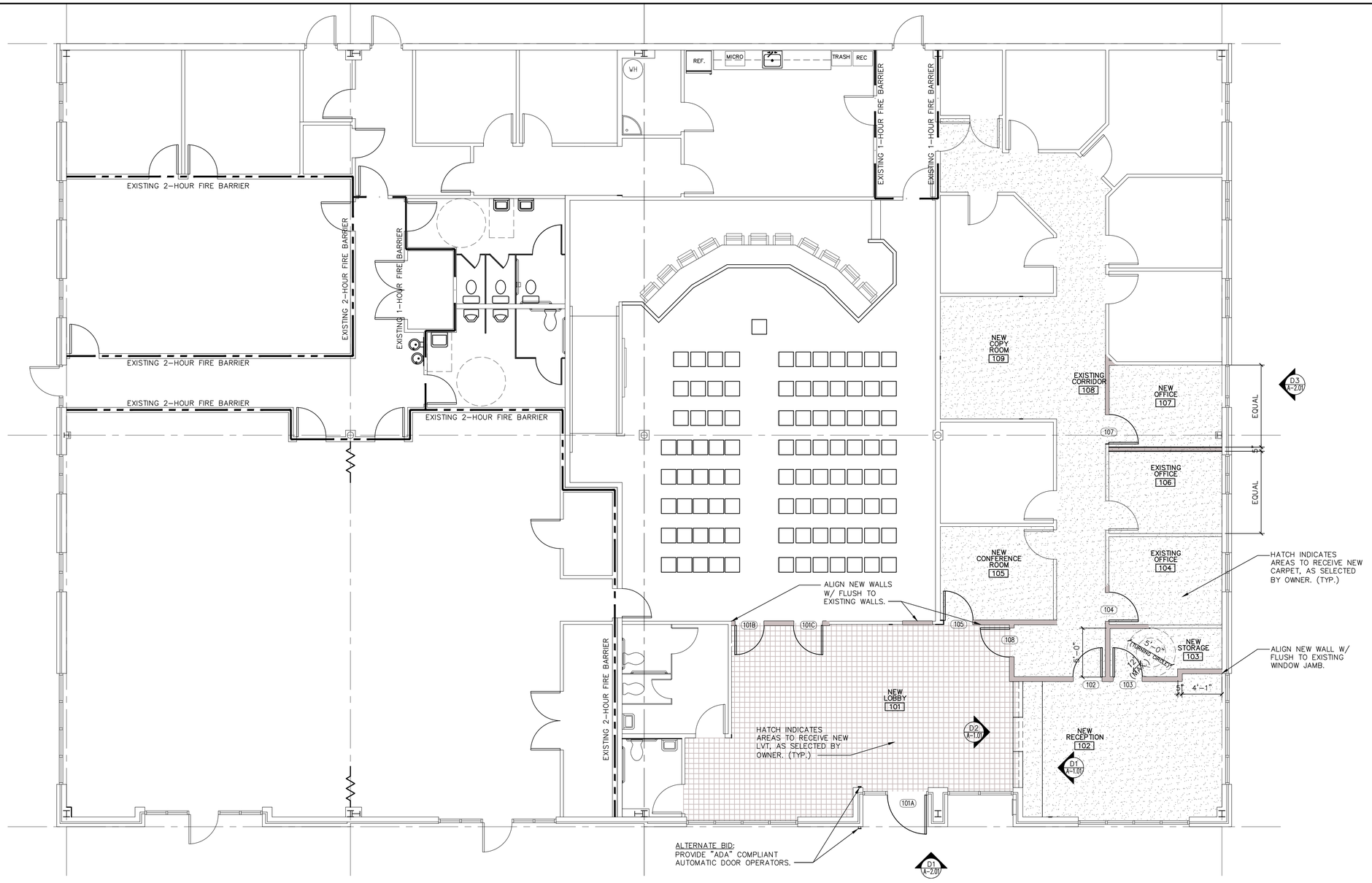
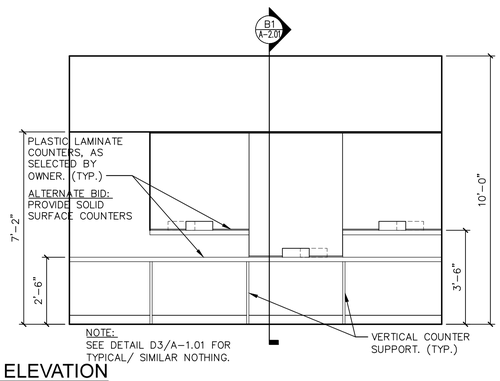
Sheet Title
DEMOLITION PLAN

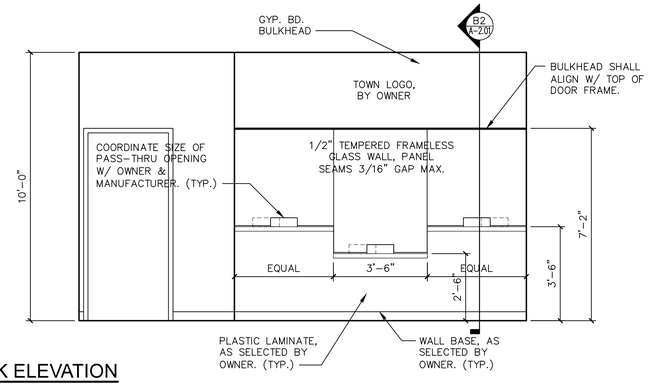
Project No. 19046
Scale AS NOTED
Revision 0
Drawing No. A-0.01




C1 A-1.01 FLOOR PLAN
SCALE: 3/16"=1'-0"




D1 A-1.01 CASEWORK ELEVATION
SCALE: 3/8"=1'-0"




D2 A-1.01 CASEWORK ELEVATION
SCALE: 3/8"=1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION & FIELD VERIFYING ALL EXISTING CONDITIONS. CONTRACTOR SHALL REVIEW ALL CONST. DOCUMENTS (ALL DISCIPLINES) PRIOR TO THE START OF CONST. & REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR CLARIFICATION.
2. ALL DIMENSIONS ARE NOMINAL UNLESS OTHERWISE INDICATED.
3. ALL DOORS IN NEW WALLS SHALL HAVE A 4" JAMB @ THE HINGE SIDE, UNLESS OTHERWISE NOTED.
4. IN ALL CASES MAINTAIN A 18" CLEAR SURFACE ADJACENT TO LATCH ON PULL SIDE OF DOORS & AN 12" CLEAR SURFACE ADJACENT TO LATCH ON PUSH SIDE OF DOORS IF DOOR IS PROVIDED WITH A CLOSER.
5. ALL CONSTRUCTION SHALL COMPLY WITH LOCAL JURISDICTION'S REGULATIONS AND THE NC STATE BUILDING CODES.
6. MOUNT ROOM IDENTIFICATION & DIRECTIONAL SIGNAGE WITH RAISED CHARACTERS & BRAILLE 60" AFF TO THE CENTER OF SIGN ON THE LATCH SIDE OF DOORS.
7. FIELD VERIFY ALL DIMENSIONS.
8. GEN. CONTRACTOR SHALL COORDINATE ALL ARCHITECTURAL DRAWINGS W/ WORK OF OTHER DISCIPLINES.
9. PROVIDE ADEQUATE BLOCKING FOR ALL WALL MOUNTED EQUIP.
10. PROVIDE ABC FIRE EXTINGUISHER(S) AS REQUIRED BY NCSBC, VERIFY SIZE, TYPE, QUANTITY AND LOCATIONS WITH LOCAL FIRE MASHALL PRIOR TO INSTALLATION.
11. ALL BUSINESS TRANSACTION COUNTERS SHALL BE A.D.A. COMPLIANT WITH MIN. 36" WIDE COUNTER @ 36" A.F.F. MAX.
12. PROVIDE BUILDING ADDRESS NUMBERS TO MATCH EXISTING BUILDING AND PER LOCAL. FIRE MARSHAL.
13. PROVIDE KNOX BOX PER LOCAL FIRE DEPT. DIRECTION.

WALL LEGEND:

1. INDICATES NEW 3 5/8" 25 GA. METAL STUD WALLS W/ 5/8" GYP.BD. EACH SIDE, STUDS @ 16" O.C. w/ SOUND BATT INSULATION TO UNDERSIDE OF ROOF DECK.
2. INDICATES EXISTING STUD WALLS
3. INDICATES EXISTING 1-HOUR RATED FIRE BARRIER.
4. INDICATES EXISTING 2-HOUR RATED FIRE BARRIER.

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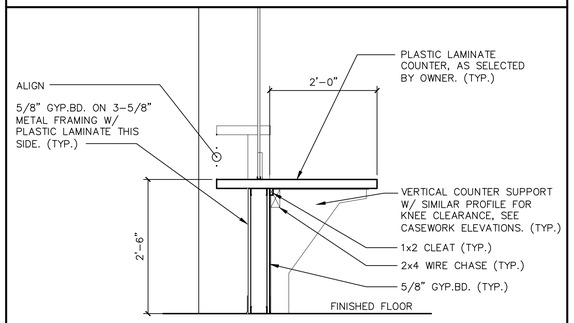
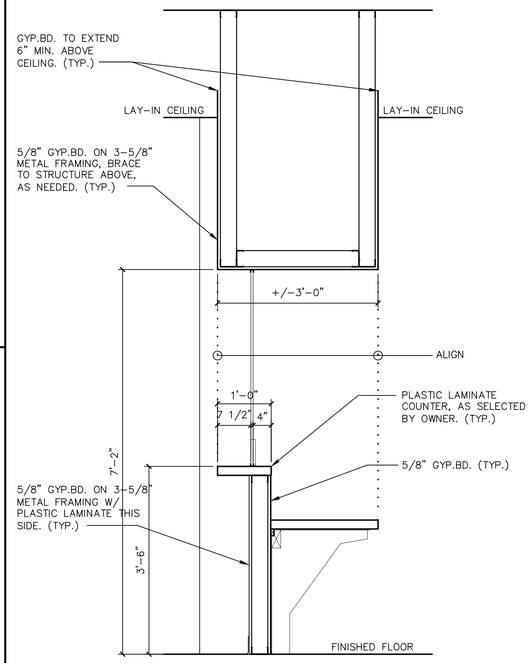
Sheet Title
RENOVATED FLOOR PLAN

Project No. 19046
Scale AS NOTED
Revision 0
Drawing No. A-1.01



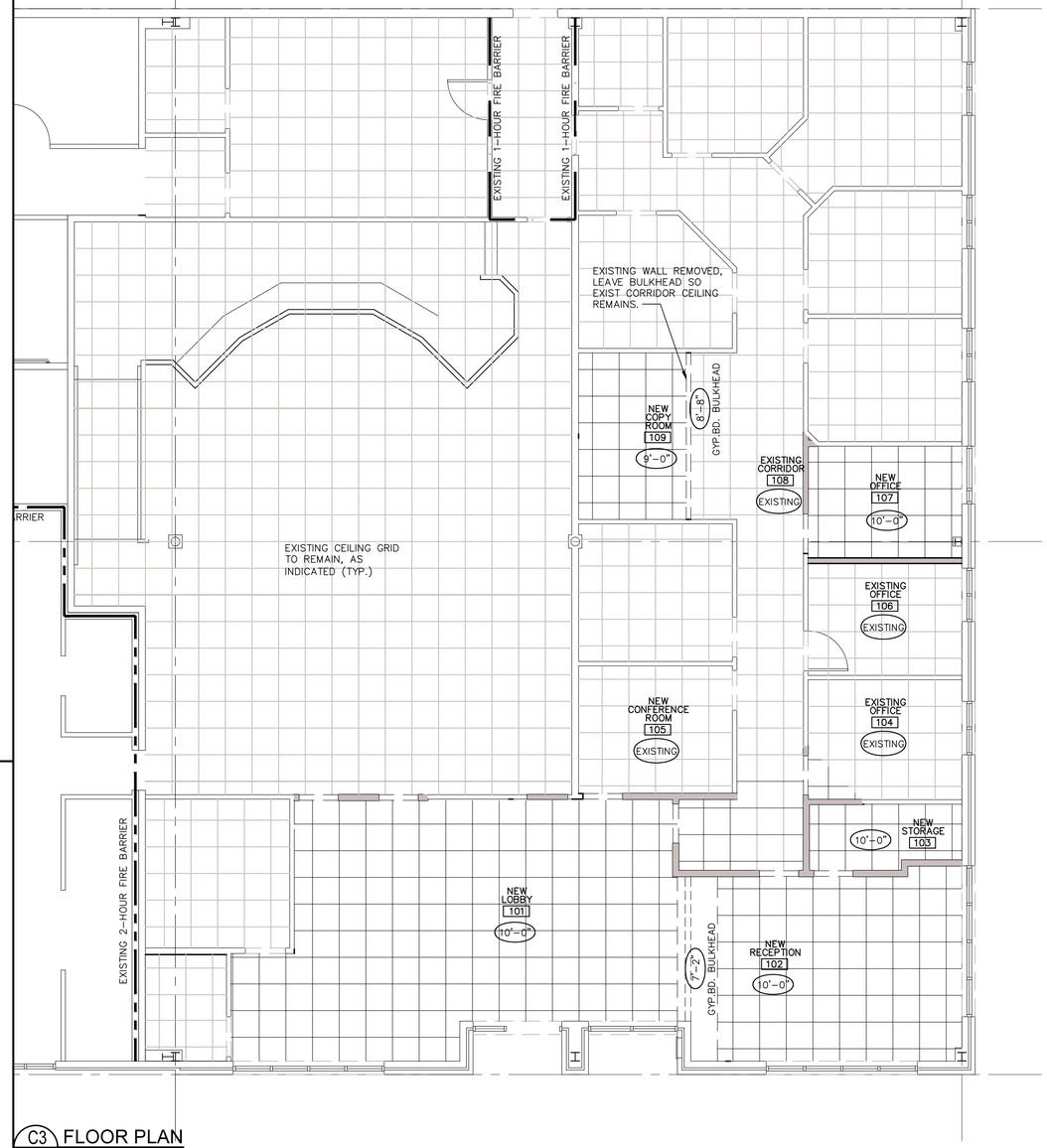

NOTE:
SEE CASEWORK ELEVATIONS FOR TYPICAL/ SIMILAR NOTING.

B1 A-2.01 CASEWORK SECTION
SCALE: 3/4"=1'-0"

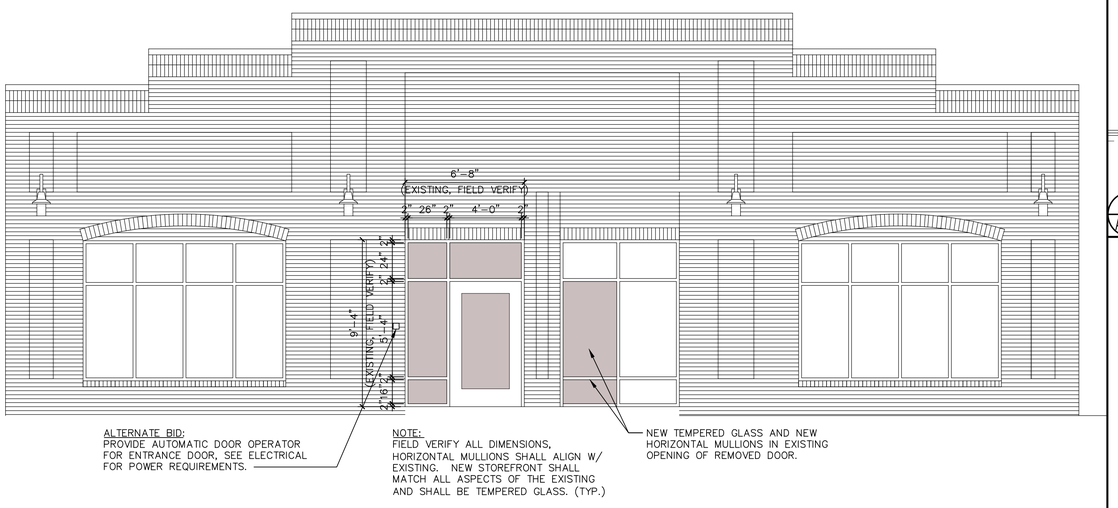



NOTE:
SEE CASEWORK ELEVATIONS FOR TYPICAL/ SIMILAR NOTING.

B2 A-2.01 CASEWORK SECTION
SCALE: 3/4"=1'-0"




C3 A-2.01 FLOOR PLAN
SCALE: 3/16"=1'-0"

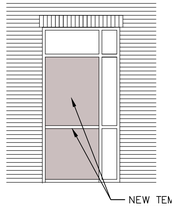



ALTERNATE BID:
PROVIDE AUTOMATIC DOOR OPERATOR FOR ENTRANCE DOOR, SEE ELECTRICAL FOR POWER REQUIREMENTS.

NOTE:
FIELD VERIFY ALL DIMENSIONS, HORIZONTAL MULLIONS SHALL ALIGN W/ EXISTING. NEW STOREFRONT SHALL MATCH ALL ASPECTS OF THE EXISTING AND SHALL BE TEMPERED GLASS. (TYP.)

NEW TEMPERED GLASS AND NEW HORIZONTAL MULLIONS IN EXISTING OPENING OF REMOVED DOOR.

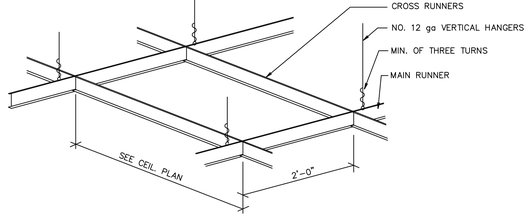
D1 A-2.01 PARTIAL ELEVATION (NEW STOREFRONT)
SCALE: 1/4"=1'-0"



NEW TEMPERED GLASS AND NEW HORIZONTAL MULLIONS IN EXISTING OPENING OF REMOVED DOOR.

D3 A-2.01 NEW STOREFRONT AT SIDE ENTRANCE
SCALE: 1/4" = 1'-0"

1. METAL SUSPENSION SYSTEM FOR ACOUSTICAL TILE AND LAY-IN PANEL CEILINGS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C635-87 FOR INTERMEDIATE DUTY SYSTEMS.
2. INSTALLATION OF METAL CEILING SUSPENSION SYSTEM FOR ACOUSTICAL TILE AND LAY-IN PANELS SHALL CONFORM TO THE REQUIREMENT OF ASTM C636-86.
3. MAIN RUNNERS @ 4'-0" O.C. CROSS RUNNERS @ 2'-0" O.C.
4. VERTICAL HANGERS TO BE MAX. 8" FROM WALLS




D4 A-2.01 TYPICAL LAY-IN CEILING DETAIL
SCALE: NOT TO SCALE


BAXTER ARMISTEAD
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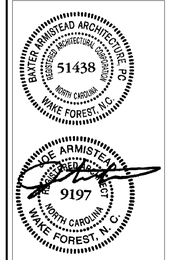
Seals




Sealed Date: 01/14/2020

Consultants

| No. | Revision | Date |
|---|---|---|
| 0 | Issued for Permitting/ Construction | 01/14/2020 |

| No. | Issued | Date |
|---|---|---|

XXXX A-1.dwg — XXXXX
File Name: — Drawn By

Client/ Project
Town of Roleville/
TOWN HALL RENOVATIONS
Roleville, North Carolina

Sheet Title
REFLECTED CEILING PLAN

Project No. 19046
Scale AS NOTED
Revision 0
Drawing No. A-2.01

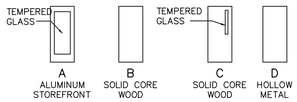
## DOOR SCHEDULE

| DOOR | | | | | | | | FRAME | | | HDWRE | SIGNAGE | THRESHOLD | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO. | TYP. | WIDTH | HEIGHT | THICK. | CONST. | MAT. | FINISH | MAT. | FINISH | DETAIL # | | | | |
| 101A | A | 4'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | I | – | – | – | MATCH EXISTING |
| 101B | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 101C | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 102 | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 103 | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 104 | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 105 | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 106 | NOT USED | | | | | | | – | – | – | – | – | – | – |
| 107 | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 108 | B | 3'–0" | 7'–0" | 1–3/4" | SC | WOOD | STAIN | HM | PAINT | II | – | – | – | MATCH EXISTING |
| 109 | NOT USED | | | | | | | – | – | – | – | – | – | – |

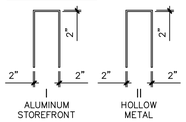
DOOR SCHEDULE NOTES:

01. ALL DOOR HARDWARE SHALL BE ADA COMPLIANT W/ LEVER TYPE HANDLES.
02. STYLE AND DOOR SIZES SHALL MATCH EXISTING DOORS IF APPLICABLE OR U.O.N.
03. FACT. INDICATED IN SCHEDULE STANDS FOR FACTORY.
04. SC INDICATED IN SCHEDULE STANDS FOR SOLID CORE.
05. HM INDICATED IN SCHEDULE STANDS FOR HOLLOW METAL.
06. ALL RATED DOORS TO HAVE SMOKE SEALS PER CODE, IF APPLICABLE.
07. "T" INDICATES TEMPERED GLASS.

DOOR TYPES:




FRAME TYPES:

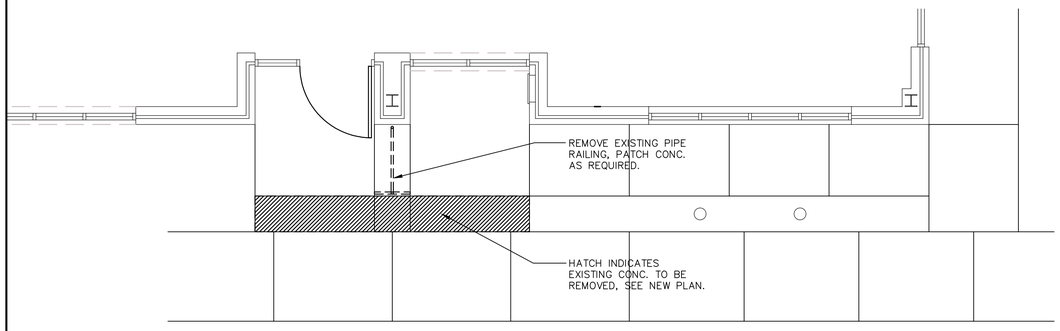



## ROOM FINISH SCHEDULE

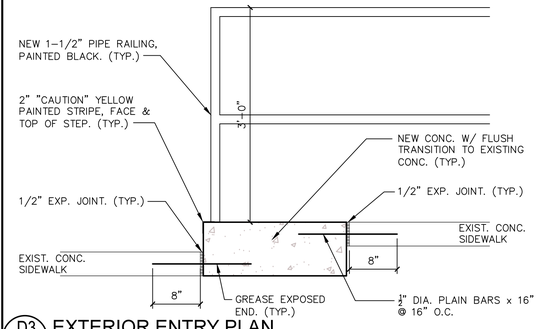
| ROOM | | FLOOR | | BASE | | WALLS | | CEILING | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NO. | NAME | MATERIAL | FINISH | MATERIAL | FINISH | MATERIAL | FINISH | MATERIAL | FINISH | HEIGHT | |
| 101 | NEW LOBBY | EXIST | LVT | RUBBER | FACT. | GYP. BD | PAINT | LAY–IN | FACT. | 10'–0" | MATCH EXIST |
| 102 | NEW RECEPTION | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | LAY–IN | FACT. | 10'–0" | MATCH EXIST |
| 103 | NEW STORAGE | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | LAY–IN | FACT. | 10'–0" | MATCH EXIST |
| 104 | EXISTING OFFICE | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | EXIST | – | EXIST | MATCH EXIST |
| 105 | NEW CONFERENCE | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | EXIST | – | EXIST | MATCH EXIST |
| 106 | EXISTING OFFICE | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | EXIST | – | EXIST | MATCH EXIST |
| 107 | NEW OFFICE | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | LAY–IN | FACT. | 10'–0" | MATCH EXIST |
| 108 | EXISTING CORRIDOR | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | EXIST | – | EXIST | MATCH EXIST |
| 109 | NEW COPY ROOM | EXIST | CARPET | RUBBER | FACT. | GYP. BD | PAINT | LAY–IN | FACT. | 9'–0" | MATCH EXIST |

ROOM FINISH NOTES:

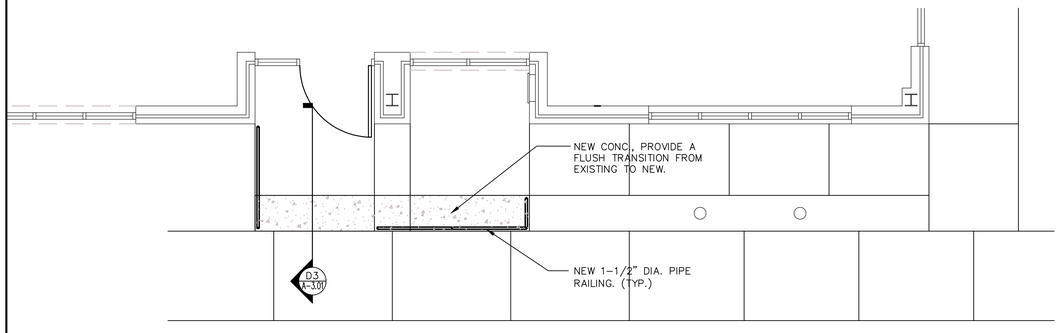
01. FACT. INDICATED IN SCHEDULE STANDS FOR FACTORY FINISH (TO BE SELECTED BY OWNER).
02. CONC. INDICATED IN SCHEDULE STANDS FOR CONCRETE.




C3 / A-3.01 EXTERIOR ENTRY DEMOLITION PLAN
SCALE: 1/4" = 1'-0"




D3 / A-3.01 EXTERIOR ENTRY PLAN
SCALE: 1/4" = 1'-0"




D3 / A-3.01 EXTERIOR ENTRY PLAN
SCALE: 1/4" = 1'-0"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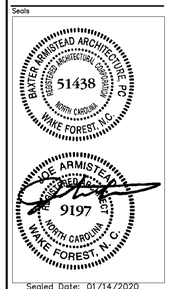
Seals

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|---|---|---|

File Name: XXXX A-1.dwg — Drawn By: XXXXX

Client/ Project

Town of Rolesville/
TOWN HALL RENOVATIONS

Rolesville, North Carolina

Sheet Title
DOOR/ ROOM FINISH SCHEDULES

Project No. 19046 — Scale AS NOTED

Revision 0 — Drawing No. A-3.01

| EXISTING SPLIT SYSTEM HEAT PUMP SCHEDULE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | MFG / MODEL # | NOMINAL CAPACITY | REF LINES | | MOTORS | | EFFICIENCIES | | | ELECTRICAL | | | WEIGHT | REMARKS |
| | | | GAS | LIQ | COMPRESSOR | COND. FAN | SEER | COP @ 17° | HSPF | V/PH | MCA | MOCP | | |
| | | TONS | | | NO. | NO. | EER | | | | | | LBS | |
| HP-2 | CARRIER / 25HBR336A | 3 | - | - | - | - | 13.0 | - | - | 208/1 | 22.1 | 35 | - | 1 |
| HP-3 | CARRIER / 25HBR342A | 3.5 | - | - | - | - | 13.0 | - | - | 208/1 | 27.4 | 40 | - | 1 |

| EXISTING SPLIT SYSTEM AIR HANDLER SCHEDULE | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | MFG / MODEL # | NOMINAL CAPACITY | AIR FLOW | | FAN MOTORS | | HEATING CAPACITY | | | COOLING CAPACITY | | | ELECTRICAL | | | WEIGHT | REMARKS |
| | | | SUPPLY | MIN. OA | SUPPLY | ESP | OUTPUT | AUX ELEC HEAT | | EAT WB/DB | TOTAL | SENSIBLE | V/PH | MCA | MOCP | | |
| | | TONS | CFM | CFM | NO. | in wg | MBH | kW | STAGES | °F | MBH | MBH | | | | LBS | |
| AHU-2 | CARRIER / FC4ONF036 | 3 | 1200 | SEE TABLE | 1 | .4 | 21.57 | 7.5 | 1 | 67/80 | 31.68 | 25.34 | 208/1 | 53.8 | 60 | - | 1 |
| AHU-3 | CARRIER / FC4ONF042 | 3.5 | 1400 | SEE TABLE | 1 | .4 | 25.15 | 7.5 | 1 | 67/80 | 38.81 | 30.33 | 208/1 | 53.8 | 60 | - | 1 |

1. UNIT IS EXISTING.

(T) THERMOSTAT LOCATION MOUNT AT 48" A.F.F.

(A/V) AUDIO VISUAL ANNUNCIATOR WITH RESET FOR DUCT DETECTOR, WALL MOUNT.

(S)--- DUCT DETECTOR

($CO_2$) $CO_2$ SENSOR LOCATION. INSTALL NEXT TO THERMOSTAT

| RATED WALL LEGEND |
|---|
| 1 HR RATED WALL |
| 2 HR RATED WALL |
| 3 HR RATED WALL |

| REGISTER & GRILLE SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| MARK | MFG | MODEL # | SIZE | MOUNTING | DESCRIPTION | NOTES |
| A | EXISTING | EXISTING | 24X24 | LAY-IN | PERFORATED SUPPLY DIFFUSER | 1-3 |
| R | EXISTING | EXISTING | 24X24 | LAY-IN | LAY IN RETURN GRILLE | 1,2 |

1. EXISTING
2. REPLACEMENT TO BE EQUIVALENT TO EXISTING BY TITUS, PRICE, METAL-AIRE, CARNES, NAILOR OR HART & COOLEY.
3. PROVIDE WITH FOIL LINED, MOLDED INSULATION BLANKET.

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT — ZONE 4

METHOD OF COMPLIANCE — PRESCRIPTIVE
THERMAL ZONE — ZONE 4A

EXTERIOR DESIGN CONDITIONS
- HEATING DESIGN DRY BULB — 23.1°F
- COOLING DESIGN DRY BULB — 91.7°F
- COOLING DESIGN WET BULB — 75.6°F

INTERIOR DESIGN CONDITIONS
- HEATING DESIGN DRY BULB — 70°F
- COOLING DESIGN DRY BULB — 75°F
- COOLING RELATIVE HUMIDITY — 50%

HEATING LOAD — 17,800 BTU/H

SENSIBLE COOLING LOAD — 25,400 BTU/H
LATENT COOLING LOAD — 4,900 BTU/H

MECHANICAL SPACING CONDITIONING SYSTEM:
- UNITARY — AIR COOLED DX
- DESCRIPTION OF UNIT(S)
- BOILER — N/A
- TOTAL BOILER OUTPUT — N/A
- CHILLER — N/A
- TOTAL CHILLER CAPACITY — N/A

EQUIPMENT EFFICIENCIES: — SEE SCHEDULES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS): — SEE SCHEDULES

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE AND 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT — ZONE 1

METHOD OF COMPLIANCE — PRESCRIPTIVE
THERMAL ZONE — ZONE 4A

EXTERIOR DESIGN CONDITIONS
- HEATING DESIGN DRY BULB — 23.1°F
- COOLING DESIGN DRY BULB — 91.7°F
- COOLING DESIGN WET BULB — 75.6°F

INTERIOR DESIGN CONDITIONS
- HEATING DESIGN DRY BULB — 70°F
- COOLING DESIGN DRY BULB — 75°F
- COOLING RELATIVE HUMIDITY — 50%

HEATING LOAD — 18,000 BTU/H

SENSIBLE COOLING LOAD — 24,900 BTU/H
LATENT COOLING LOAD — 8,500 BTU/H

MECHANICAL SPACING CONDITIONING SYSTEM:
- UNITARY — AIR COOLED DX
- DESCRIPTION OF UNIT(S)
- BOILER — N/A
- TOTAL BOILER OUTPUT — N/A
- CHILLER — N/A
- TOTAL CHILLER CAPACITY — N/A

EQUIPMENT EFFICIENCIES: — SEE SCHEDULES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS): — SEE SCHEDULES

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE AND 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

| Ventilation Calculation (Zone 4) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Room Name(s) | Zone Type | Area (sq.ft.) | Rp | Ra | Default Occupancy | Pz | Ez | Airflow to Zone (cfm) |
| Offices | Office Space | 817 | 5 | 0.06 | 5 | 4.09 | 0.8 | 1250 |
| | Corridors | 156 | 0 | 0.06 | 0 | 0.00 | 0.8 | 150 |
| | N/A | 0 | 0 | 0 | 0 | 0.00 | 0.8 | 0 |
| | N/A | 0 | 0 | 0 | 0 | 0.00 | 0.8 | 0 |
| | N/A | 0 | 0 | 0 | 0 | 0.00 | 0.8 | 0 |

K-12 School? No

Maximum Zp: 0.078
Ev: 1
Actual System Population: 12

Uncorrected Intake — 118 cfm
Outdoor Air Intake — *118 cfm*
Percent of Unit Air — 8%

| Ventilation Calculation (Zone 1) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Room Name(s) | Zone Type | Area (sq.ft.) | Rp | Ra | Default Occupancy | Pz | Ez | Airflow to Zone (cfm) |
| Main Entry | Main Entry/Lobby | 551 | 5 | 0.06 | 10 | 5.51 | 0.8 | 550 |
| Training Room | Meeting/Conference Room | 160 | 5 | 0.06 | 50 | 8.00 | 0.8 | 500 |
| Restrooms | N/A | 168 | 0 | 0 | 0 | 0.00 | 0.8 | 150 |
| | N/A | 0 | 0 | 0 | 0 | 0.00 | 0.8 | 0 |
| | N/A | 0 | 0 | 0 | 0 | 0.00 | 0.8 | 0 |

K-12 School? No

Maximum Zp: 0.13775
Ev: 1
Actual System Population: 20

Uncorrected Intake — 143 cfm
Outdoor Air Intake — *143 cfm*
Percent of Unit Air — 12%



GENERAL MECHANICAL NOTES:

ADMINISTRATIVE:

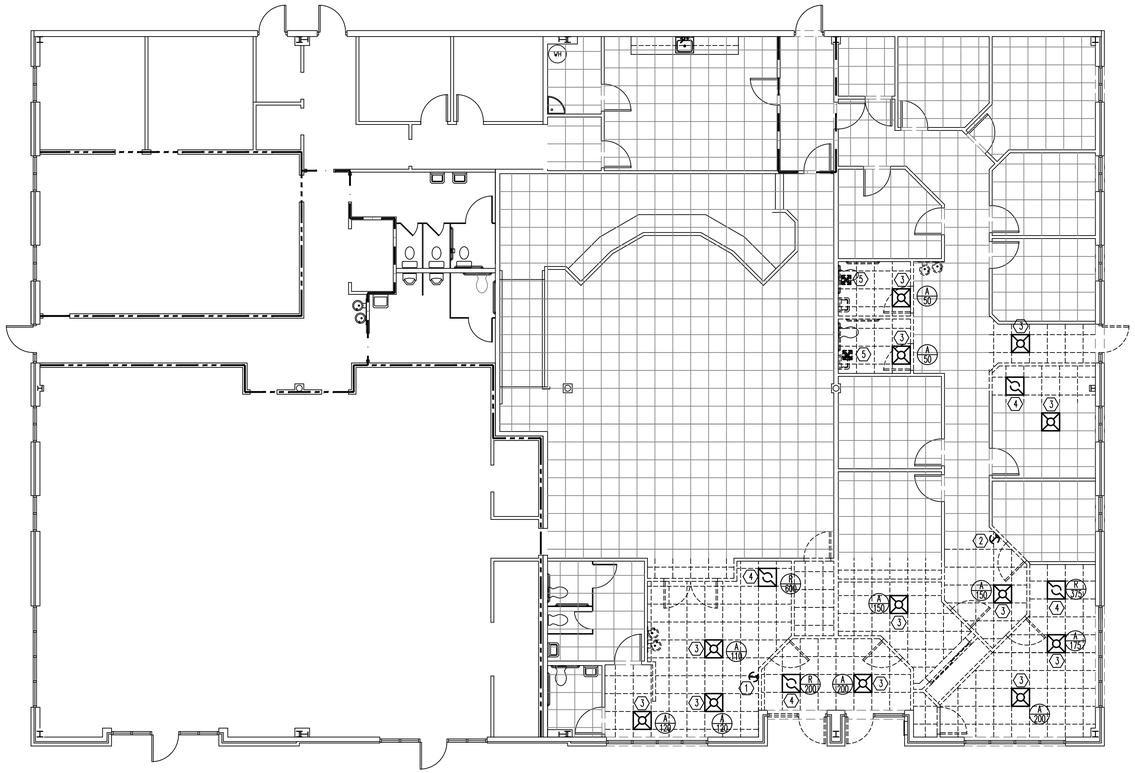
1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC – PLUMBING CONTRACTOR, EC – ELECTRICAL CONTRACTOR,
   MC – MECHANICAL CONTRACTOR, GC – GENERAL CONTRACTOR,
   FASC – FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.
3. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
6. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS–REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
9. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL COST TO THE OWNER. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES ARE USED TO CONVEY A GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTERS, GRILLES, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER.
11. THE MC SHALL VERIFY THE FUNCTIONALITY AND OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. REPLACE FILTERS, LEAK TEST AND RECHARGE REFRIGERANT LINES, REPLACE OR LUBRICATE BEARINGS, CHECK LINKAGES AND ACTUATORS, AND PERFORM OTHER MAINTENANCE SERVICE AS NECESSARY TO GET THE EQUIPMENT IN PROPER ORDER
12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.
13. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.
14. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED.
15. MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 10 FEET FROM ROOF EDGE.
16. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
17. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
18. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN.
19. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION.
20. ALL PIPING, WIRING, CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY. COORDINATE WITH OTHER TRADES ON LOCATIONS OF ALL PLENUMS.
21. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED SPLIT SYSTEM HEAT PUMPS AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. AIR-COOLED ROOFTOP PACKAGE HEAT PUMPS, GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. GAS FURNACES SHALL BE BY TRANE, CARRIER, OR YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
2. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY.
3. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P.
4. EXTERNAL DUCT INSULATION AND FACTORY-INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT THE SPECIFIED INSTALLED THICKNESS AND THE FLAME SPREAD AND SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS, IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES. THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES SHALL BE DETERMINED AS FOLLOWS:
   - 4.1. FOR DUCT BOARD, DUCT LINER AND FACTORY-MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.
   - 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.
   - 4.3. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO.
5. DUCT LINER MAY BE SUBSTITUTED FOR EXTERIOR DUCT WRAP. DUCT LINER INSULATION MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM C 1071, AND ASTM G 21. EXTERIOR DUCT R-VALUE SHALL BE R-8 AND INTERIOR R-VALUE SHALL BE R-6 IN ACCORDANCE WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE. NOMINAL DUCT SIZES SHALL BE ADJUSTED AS NECESSARY SO THAT FREE AREA DIMENSIONS ARE PRESERVED AS SHOWN ON THE PLANS. FABRICATION AND INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION FIBROUS GLASS DUCT LINER STANDARDS AND/OR SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT LINER SHALL HAVE A BLACK PIGMENTED MAT ON THE AIRSTREAM SIDE TO RESIST DAMAGE DURING INSTALLATION AND SERVICE. EDGES SHALL BE FACTORY COATED WITH BLACK PIGMENTED COATING TO COMPLY WITH SMACNA DCS REQUIREMENTS. ALL PORTIONS OF DUCT DESIGNATED TO RECEIVE DUCT LINER SHALL BE COMPLETELY COVERED WITH DUCT LINER. TRANSVERSE JOINTS SHALL BE NEATLY BUTTED AND THERE SHALL BE NO INTERRUPTIONS OR GAPS. THE BLACK PIGMENTED OR MAT FACED SURFACES SHALL FACE THE AIRSTREAM. DUCT LINER SHALL BE ADHERED TO THE SHEET METAL WITH 90 PERCENT COVERAGE OF ADHESIVE COMPLYING WITH REQUIREMENTS OF ASTM C 916. ALL EXPOSED LEADING EDGES AND TRANSVERSE JOINTS SHALL BE FACTORY COATED OR COATED WITH ADHESIVE DURING FABRICATION. DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS, EITHER WELD-SECURED OR IMPACT DRIVEN, WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. ADHESIVE BONDED PINS ARE NOT PERMITTED DUE TO LONG-TERM ADHESIVE AGING CHARACTERISTICS. LININGS SHALL BE INTERRUPTED AT THE AREA OF OPERATION OF A FIRE DAMPER AND AT A MINIMUM OF 6 INCHES UPSTREAM AND 6 INCHES DOWNSTREAM OF ELECTRIC RESISTANCE AND FUEL-BURNING HEATERS IN A DUCT SYSTEM. METAL NOSINGS OR SLEEVES SHALL BE INSTALLED OVER EXPOSED DUCT LINER THAT FACE OPPOSITE THE DIRECTION OF AIRFLOW. UPON COMPLETION OF INSTALLATION OF DUCT LINER AND BEFORE OPERATION IS TO COMMENCE, VISUALLY INSPECT SYSTEM AND VERIFY THAT THE DUCT LINER IS PROPERLY INSTALLED. OPEN ALL SYSTEM DAMPERS AND TURN ON FANS TO BLOW ALL SCRAPS AND OTHER LOOSE PIECES OF MATERIAL OUT OF THE DUCT SYSTEM. ALLOW FOR A MEANS OF REMOVAL OF SUCH MATERIAL.
6. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
7. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-86. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAT THOSE RECOMMENDED BY THE SEALANT MANUFACTURER.
8. ALL ADHESIVES AND SEALANTS SHALL HAVE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
9. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96.
10. FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181. FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS AND AIR CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED ASSEMBLY.
11. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL BE BY HART & COOLEY, PRICE, METAL-AIRE, NAILOR, OR CARNES.
12. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE 2018 NC MECHANICAL CODE.
13. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE GALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE WITH 1 INCH CLOSED CELL ARMAFLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION LINES USING 15 PERCENT SILVER SOLDER AND EVACUATE LINES TO 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE. PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL DIRECTORY FOR THE SPECIFIC ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES.

METHODS:

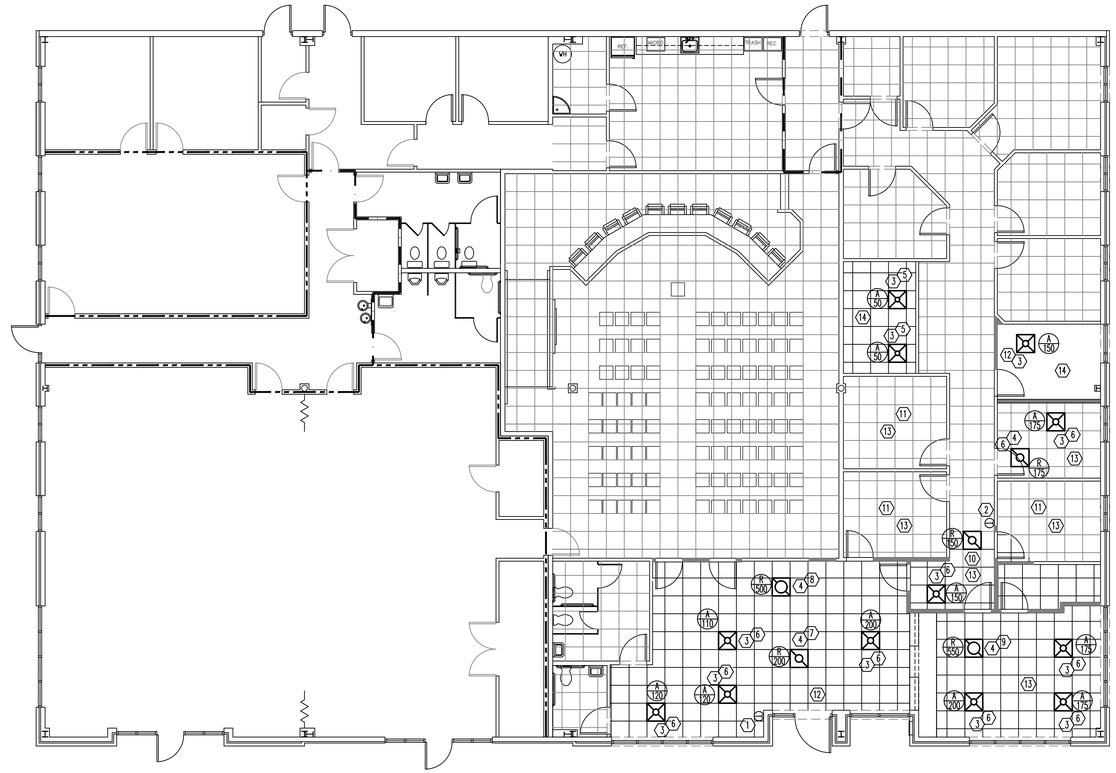
1. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL BE A MINIMUM R-6. COVERINGS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS, PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP, OR CERTAINTEED CORPORATION.
2. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE BLOCKED.
3. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.
4. DUCTS CONNECTING TO A FURNACE SHALL HAVE A CLEARANCE TO COMBUSTIBLES IN ACCORDANCE WITH THE FURNACE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. FOR STRUCTURES IN FLOOD HAZARD AREAS, DUCTS SHALL BE LOCATED ABOVE THE DESIGN FLOOD ELEVATION. DUCT SHALL NOT BE INSTALLED IN OR WITHIN 4 INCHES OF THE EARTH.
6. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.
7. CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES.
8. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE; MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
9. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING.
10. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS.
11. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE.
12. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE.
13. MC SHALL INSTALL FIRE DAMPERS AT EACH PENETRATION OF A RATED WALL AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED (UL 555), CURTAIN TYPE, WITH INTEGRAL FACTORY SLEEVE AND BLADES LOCATED OUTSIDE THE AIR STREAM. INSTALLATION OF ALL FIRE DAMPERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SECTION 607 OF THE 2018 NC MECHANICAL CODE. PROVIDE ACCESS PANELS FOR TESTING AND SERVICE AS NECESSARY. MC SHALL PROVIDE RADIATION DAMPERS AND THERMAL BLANKETS FOR ALL PENETRATIONS OF RATED CEILING ASSEMBLIES. RADIATION DAMPERS SHALL BE UL LABELED (UL 555C) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC INSTALLATION INSTRUCTIONS. FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND CEILING RADIATION DAMPERS SHALL BE BY RUSKIN, NAILOR, OR LLOYD INDUSTRIES.
14. MC SHALL INSTALL A SMOKE DETECTOR-UL LISTED FOR DUCT INSTALLATION (UL 268A) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECT



## HEX PLAN NOTES

1. REMOVE AND RETAIN EXISTING AHU-1 THERMOSTAT FOR RELOCATION.
2. REMOVE AND RETAIN EXISTING AHU-4 THERMOSTAT FOR RELOCATION.
3. EXISTING SUPPLY DIFFUSER FOR RELOCATION. REUSE EXISTING DUCT AS POSSIBLE.
4. EXISTING RETURN GRILLE FOR RELOCATION. REUSE EXISTING DUCT AS POSSIBLE.
5. DEMO EXISTING EXHAUST FAN.

MECHANICAL DEMO PLAN - SCALE: 1/8" = 1' 0" | 1



## HEX PLAN NOTES

1. RELOCATED THERMOSTAT FOR AHU-2
2. RELOCATED THERMOSTAT FOR AHU-3
3. RELOCATED SUPPLY DIFFUSER.
4. RELOCATED RETURN GRILLE.
5. CONNECT TO MAIN TRUNK DUCT WITH 6" DUCT.
6. CONNECT TO MAIN TRUNK DUCT WITH 8" DUCT.
7. CONNECT TO MAIN TRUNK DUCT WITH 10" DUCT.
8. CONNECT TO MAIN TRUNK DUCT WITH 14" DUCT.
9. CONNECT TO MAIN TRUNK DUCT WITH 16" DUCT.
10. NEW RETURN GRILLE TO CONNECT TO EXISTING MAIN RETURN DUCT VIA 8" DUCT.
11. BALANCE RETURN TO MATCH SUPPLY OF 175 CFM IN THIS ROOM.
12. MAINTAIN AIR IN ROOM ON AHU-2
13. MAINTAIN AIR IN ROOM ON AHU-3
14. MAINTAIN AIR IN ROOM ON AHU-4

## PLAN NOTE

1. PROVIDE TEST AND BALANCE REPORT TO OWNER FOR ALL MECHANICAL UNITS AFFECTED BY THIS JOB.

MECHANICAL PLAN - SCALE: 1/8" = 1' 0" | 2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Seals

NORTH CAROLINA PROFESSIONAL SEAL 038079 ENGINEER JACOB L. HAMILTON 1-14-20

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| No. | Revision | Date |
|---|---|---|
| - | - | - |
| - | - | - |
| - | - | - |

| LED LIGHT FIXTURE SCHEDULE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MARK | DESCRIPTION | LOUVER/LENS | LAMPS - SYLVANIA | | VOLTAGE | INPUT WATTAGE | MOUNTING | REMARKS | MFG | MODEL |
| | | | TYPE | CCT | | | | | | |
| A | EXISTING 2X4 TROFFER | - | FLOURSCENT | - | 120 | - | RECESSED | 2 | EXISTING | EXISTING |
| B | NEW LED 2X4 TROFFER | ACRYLIC | LED | 3500K | 120 | 29.83 | RECESSED | 3 | LITHONIA | 2GTL-4-40L-EZ1-LP835 |
| C | NEW LED DOWNLIGHT | - | LED | 3500K | 120 | 10.4 | RECESSED | 3 | LITHONIA | LDN6-35-10-L06-WR-LD-MVOLT-EZ1 |
| EXH | EXISTING EMERGENCY LIGHT / EXIT SIGN | - | - | - | 120 | - | SURFACE | 1,2 | EXISTING | EXISTING |

1. FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION.
2. EXISTING LIGHT FIXTURE
3. OR EQUAL BY COOPER OR DAY-BRITE LIGHTING

| PANEL A | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CKT | LOAD | BKR | LOAD kVA | PH | LOAD kVA | BKR | LOAD | CKT |
| 42 | SPACE | | 0.00 | A | 0.00 | | SPACE | 41 |
| 40 | SPACE | | 0.00 | B | 0.00 | | SPACE | 39 |
| 38 | SPACE | | 0.00 | C | 0.00 | | SPACE | 37 |
| 36 | SPACE | | 0.00 | A | 0.00 | | SPACE | 35 |
| 34 | SPACE | | 0.00 | B | 0.00 | | SPACE | 33 |
| 32 | SPACE | | 0.00 | C | 0.00 | | SPACE | 31 |
| 30 | SPACE | | 0.00 | A | 0.00 | | SPACE | 29 |
| 28 | SPACE | | 0.00 | B | 1.00 | 20/1 | SECURITY PANEL | 27 |
| 26 | SPACE | | 0.00 | C | 3.84 | 40/2 | AC A | 25 |
| 24 | COPY ROOM | 20/1 | 1.08 | A | 3.84 | | | 23 |
| 22 | CLERKS OFFICE MAP ROOM | 20/1 | 1.00 | B | 3.84 | 40/2 | AC B | 21 |
| 20 | MAYORS OFFICE | 20/1 | 1.00 | C | 3.84 | | | 19 |
| 18 | SPARE | 20/1 | 0.00 | A | 1.50 | 20/1 | WATER HEATER | 17 |
| 16 | SIGN | 20/1 | 0.50 | B | 0.36 | 20/1 | WATER COOLERS | 15 |
| 14 | RECEPTION OFFICE | 20/1 | 0.72 | C | 1.50 | 20/1 | HALL LIGHTS EM EXIT | 13 |
| 12 | OFFICE 2 & 3 | 20/1 | 1.44 | A | 1.50 | 20/1 | OFFICE LIGHTS | 11 |
| 10 | OFFICE 6 | 20/1 | 1.00 | B | 1.00 | 20/1 | MAP OFFICE DEDICATED | 9 |
| 8 | OFFICE 4 & 5 | 20/1 | 1.44 | C | 1.00 | 20/1 | RECPTS BACK | 7 |
| 6 | LIGHTS EM. EXIT | 20/1 | 1.50 | A | 0.50 | 20/1 | PHONE BOARD | 5 |
| 4 | HEAT #1 | 50/2 | 4.80 | B | 4.32 | 45/2 | HEAT #2 | 3 |
| 2 | | | 4.80 | C | 4.32 | | | 1 |
| | | | kVA | PH | AMPS | | | |
| | | | 11.4 | A | 95 | | | |
| | | | 17.8 | B | 149 | | | |
| | | | 22.5 | C | 187 | | | |

| | |
|---|---|
| VOLTAGE/PHASE | 208Y/120V,3P,4W |
| BUS RATING | 200A |
| MAIN CIRCUIT BREAKER RATING | MLO |
| AIC RATING | EXISTING |
| SERVICE ENTRANCE RATED | NO |
| ENCLOSURE | NEMA 1 |
| MOUNTING | SURFACE |

NEW CIRCUIT BREAKER

| NEC ELECTRIC DEMAND SUMMARY 208Y/120V,3P,4W | | | | | | | |
|---|---|---|---|---|---|---|---|
| EQUIPMENT | DEMAND FACTOR | kVA | | | LOAD kVA | NEC REFERENCE | NOTES/CALCULATIONS |
| | | A | B | C | | | |
| LIGHTING | 125% | 2.02 | 2.02 | 2.02 | 6.06 | 220.12 | 1385 SF X 3.5 VA/SF X 1.25 |
| RECEPTACLES < 10 kVA | 100% | 3.02 | 3.49 | 3.49 | 10.00 | 220.44 | |
| RECEPTACLES > 10 kVA | 50% | 0.00 | 0.87 | 0.67 | 1.54 | 220.44 | |
| HVAC | 100% | 3.84 | 12.96 | 16.80 | 33.60 | -- | BASED ON MCA |
| WATER HEATER | 125% | 1.50 | 0.00 | 0.00 | 1.50 | 422.13 | STORAGE TANK (120 GAL @ 125% |
| SIGN | 100% | | | | ###### | 220.14(F) | |
| DEMAND kVA PER PHASE | | 10.38 | 19.34 | 22.98 | | | |
| DEMAND AMPS PER PHASE | | 86 | 161 | 191 | | | |

THE CALCULATED LIGHTING LOAD EXCEEDS THE CONNECTED LIGHTING LOAD.

| LIGHTING SENSOR CONTROL LEGEND | | |
|---|---|---|
| MARK | DESCRIPTION | MODEL NUMBER |
| WC, WCH | Wireless Ceiling Mount | LRF2-OCR2B-P-WH |
| $MW | Maestro Wireless Switch | MRF2S-6S-DV-WH |
| $M | Maestro In Wall Switch | MS-OPS6MZ-DV-WH |
| RMJ, RMJH | 16A relay module | RMJ-16R-DV-B |
| HUB | Wireless 2 Button Switch | PJ-2B-GXX-YY |

GENERAL LIGHTING SENSOR NOTES:

1. INSTALL PICO SWITCHES IN LOCATIONS SHOWN.
2. ALL SWITCHES AND SENSORS TO BE WHITE
3. RMJ'S WITH A NUMBER ASSOCIATE WITH THE WALL OR CEILING MOUNT DEVICE WITH THE SAME NUMBER (IE RMJ1 ASSOCIATES WITH WW1, WC1, WH1 ETC.)
4. OR EQUAL BY WATTSTOPPER, OR HUBBELL

| LIGHTING DEVICE LEGEND | | |
|---|---|---|
| SYMBOL | DESCRIPTION | REMARKS |
| $ | SINGLE POLE WALL SWITCH | HEAVY DUTY, AC ONLY, COMMERCIAL GRADE GENERAL USE SNAP SWITCH COMPLYING WITH NEMA WD 6 AND WD 1. IVORY PLASTIC BODY WITH TOGGLE HANDLE. 120-277V, 20A. MEET FEDERAL SPECIFICATION W-S-896. |
| $D | DIMMER SWITCH | COMMERCIAL GRADE, 120V, 1500W |
| $W | WALL MOUNTED OCCUPANCY SENSOR | WATTSTOPPER DW-100 LINE VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC AND INFRARED. |
| $LV | LOW VOLTAGE SWITCH | WATTSTOPPER LVS-1 LOW VOLTAGE MOMENTARY CONTROL SWITCH. |
| $3 | 3 WAY SWITCH | 3-WAY TYPE SWITCH WITH SAME CHARACTERISTICS AS SINGLE POLE SWITCH ABOVE. |
| $$ | 2-SINGLE POLE SWITCHES | INDICATES BI-LEVEL SWITCHING. INNER LAMPS SWITCHED INDEPENDENTLY OF OUTER LAMPS. |
| OT | CEILING OCCUPANCY SENSOR | WATTSTOPPER, DT-300 LOW VOLTAGE OCCUPANCY SENSOR. 360° ULTRA SONIC AND INFRARED. |
| US | CEILING OCCUPANCY SENSOR | WATTSTOPPER, WT-2255 LOW VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC, 90 LINEAR FT COVERAGE. |
| SP | SWITCHING PHOTOSENSOR | WATTSTOPPER, LS-102, CONSULT OWNER FOR FOOT-CANDLE SET POINT. |
| P | POWER PACK | WATTSTOPPER, BZ-150 LOW VOLTAGE POWER PACK FOR CEILING PACK SENSORS. |
| J | JUNCTION BOX | GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC. |
| | EXHAUST FAN | VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE. |

| POWER DEVICE LEGEND | | |
|---|---|---|
| SYMBOL | DESCRIPTION | REMARKS |
| | DATA AND TELEPHONE JACK | PHONE/DATA OUTLET. EC TO INSTALL 3/4"C WITH PULL-STRING FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. JACKS AND COMMUNICATION CABLING BY OTHERS. |
| | DUPLEX RECEPTACLE | NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. |
| | QUAD RECEPTACLE | QUAD RECEPTACLE OF SAME CHARACTERISTICS AS DUPLEX TYPE ABOVE. |
| | DEDICATED RECEPTACLE | NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1 UNLESS OTHERWISE NOTED ON PLANS. VERIFY PLUG TYPE PRIOR TO PURCHASE & INSTALLATION. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. MAY BE EITHER SIMPLEX, DUPLEX, OR QUAD. |
| | DUPLEX FLOOR RECEPTACLE | DUPLEX RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION. |
| | QUAD FLOOR RECEPTACLE | QUAD RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION. |
| | FUSIBLE DISCONNECT SWITCH | HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS, FUSE ACCORDING TO NAMEPLATE DATA. |
| | DISCONNECT SWITCH | HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS. |
| J | JUNCTION BOX | GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC. |

| RATED WALL LEGEND |
|---|
| 1 HR RATED WALL |
| 2 HR RATED WALL |
| 3 HR RATED WALL |



GENERAL ELECTRICAL NOTES:

ADMINISTRATIVE:

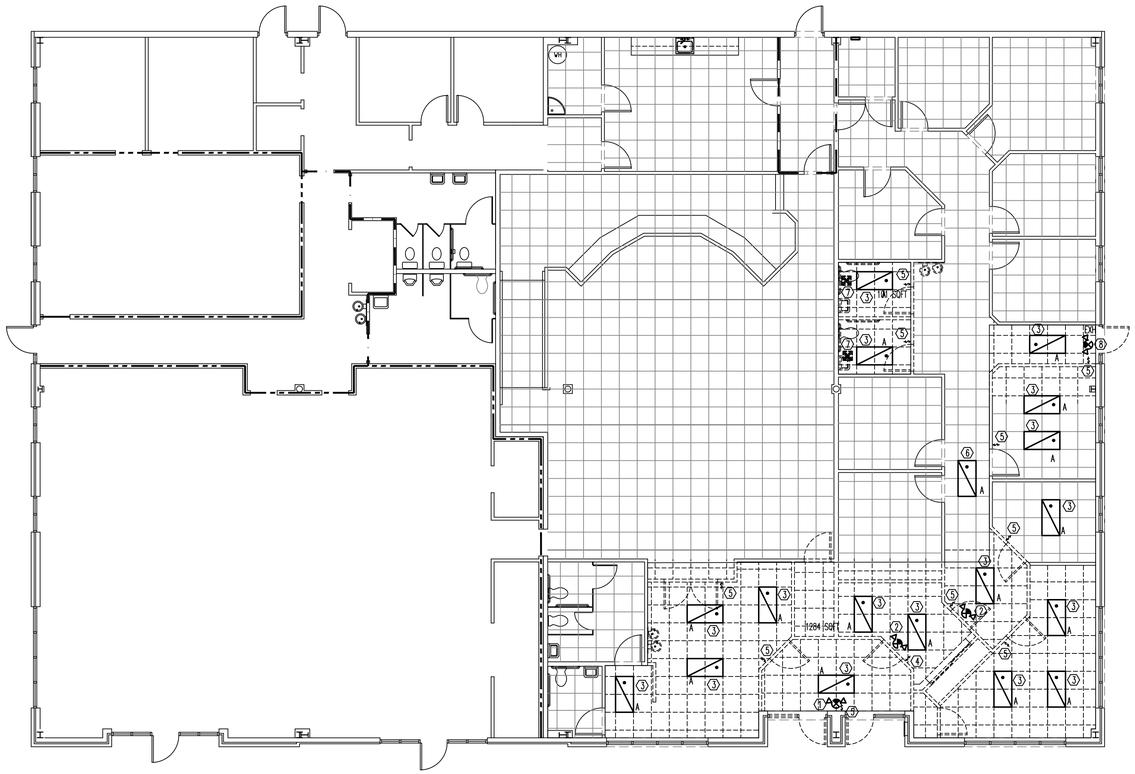
1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC – PLUMBING CONTRACTOR, EC – ELECTRICAL CONTRACTOR, MC – MECHANICAL CONTRACTOR, GC – GENERAL CONTRACTOR, FASC – FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS REQUIRED.
3. EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
4. WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING."
5. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
6. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS–REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION OF EQUIPMENT.
9. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
10. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250–122, SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON–ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS, PROVIDE ONE NEUTRAL AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.56 AS NECESSARY.
11. THE ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE BONDING OF THE FOOTING REBAR, SO THAT IT WILL BE IN PLACE AND READY AT TIME OF FOOTING INSPECTION.
12. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS' LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL RE–EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION.
13. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT. BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR, CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE.
14. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE THE FOLLOWING MATERIALS ARE RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES, INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS, AND TRANSFORMERS, WIRING AND ELECTRICAL EQUIPMENT, AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS), OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REQUIREMENTS CONCERNING HAZARDOUS WASTE.
15. ALL WORK SHALL CONFORM TO 2017 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

MATERIALS:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, RECEPTACLES, TERMINALS, ETC, UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AND METERING DETAILS. PRIOR TO ORDERING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT OR TRANSFORMER SIZE AND IMPEDANCE FROM THE UTILITY AND CONTACT THE ENGINEER IF THE VALUE EXCEEDS THE EQUIPMENT SPECIFIED. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER–HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER. RECESSED PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN SHALL PERMANENTLY LABEL EQUIPMENT PER NEC 110.24.
3. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN, LITTELFUSE, OR MERSEN.
4. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON, SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL.
5. CIRCUIT BREAKERS SHALL BE MOLDED–CASE, THERMAL MAGNETIC TYPE WITH QUICK–MAKE, QUICK–BREAK MECHANISM, COMMON TRIP ON MULTI–POLE BREAKERS, AND UL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM, OR SERIES RATED WITH THE BREAKER FEEDING THE PANEL FROM THE FACTORY.
6. ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
7. THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED THHN/THWN OR XHHW; ALL WIRING INSTALLED BELOW GRADE OR IN MOIST OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW INSULATION. INSULATION VOLTAGE RATING SHALL BE 600 VOLTS AND A MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY CERRO WIRE, INC, INDUSTRIAL WIRE & CABLE, INC, OR SOUTHWIRE COMPANY.
8. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING TYPE INSULATED BUSHING SHALL BE PROVIDED.
9. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR THE RESPECTIVE USE. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN. FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE. ALL BALLASTS SHALL BE UL LISTED AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS.
10. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O–Z/GEDNEY. COUPLINGS SHALL BE THREADED, SET–SCREW, OR COMPRESSION TYPE. INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT PERMITTED
11. EMT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE–AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI–AMERICAN NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC), ANSI C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI–AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND UL 1242.
12. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECX MANUFACTURING, INC, OR WHEATLAND TUBE COMPANY. FLEXIBLE METAL CONDUIT, LIQUID–TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI–FLEX COMPANY, OR INTERNATIONAL METAL HOSE.

METHODS:

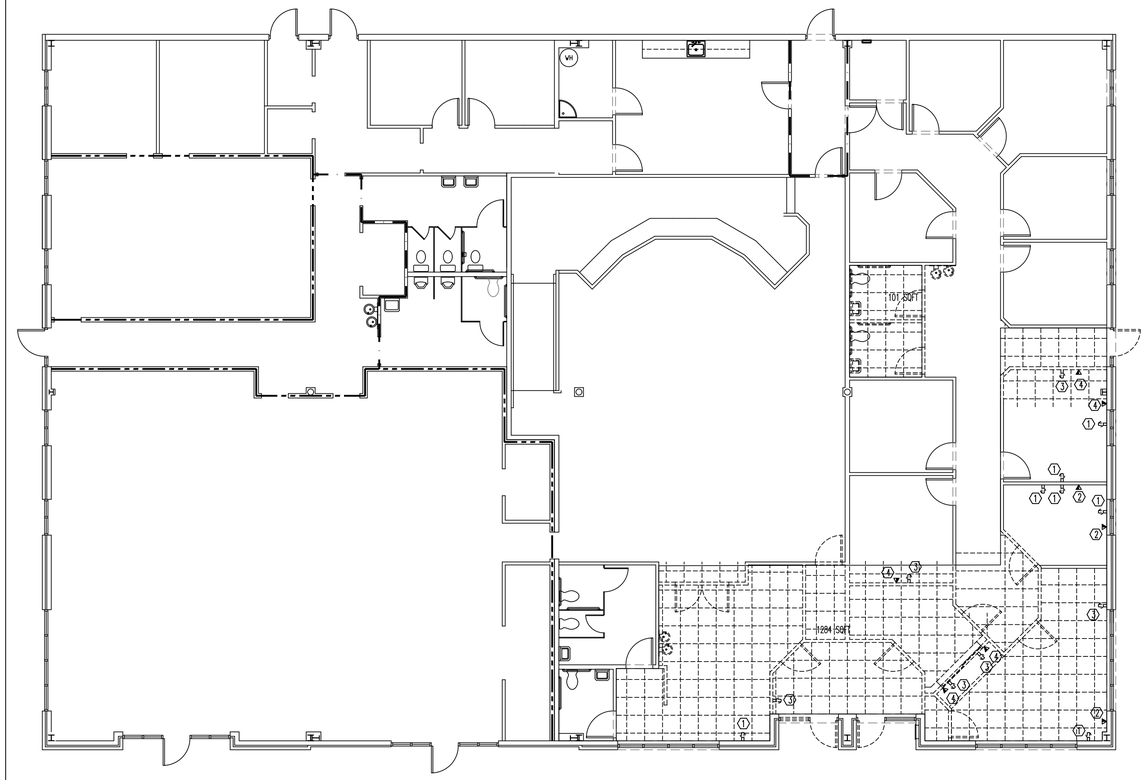
1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED IN THE CONTRACT. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI–WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI–WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS. DO NOT EXCEED THREE HOMERUNS PER CONDUIT. DO NOT INSTALL ISOLATED GROUND AND NON–ISOLATED GROUND CIRCUITS IN THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN SEPARATE CONDUITS.
2. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC 215.12. USE BLACK AND RED FOR PHASES A AND B RESPECTIVELY ON 120/240 VOLT SINGLE–PHASE SYSTEMS AND WHITE FOR THE NEUTRAL. USE BLACK, RED, AND BLUE FOR PHASES A, B, AND C RESPECTIVELY ON 208Y/120 VOLT THREE–PHASE Y SYSTEMS AND WHITE FOR THE NEUTRAL. ISOLATED GROUND WIRES SHALL BE GREEN WITH YELLOW BANDS OR STRIPES. USE BROWN, ORANGE, AND YELLOW FOR PHASES A, B, AND C RESPECTIVELY FOR 480Y/277 VOLT THREE–PHASE Y SYSTEMS AND GRAY FOR THE NEUTRAL ON 4 WIRE DELTA CONNECTED SYSTEMS WHERE THE MIDPOINT OF ONE PHASE WINDING IS GROUNDED, THE PHASE CONDUCTOR HAVING THE HIGHER PHASE TO GROUND VOLTAGE SHALL BE PERMANENTLY IDENTIFIED WITH AN OUTER FINISH THAT IS ORANGE IN COLOR; THIS IDENTIFICATION SHALL BE MADE AT EACH POINT WHERE A CONNECTION IS MADE. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING RETURN PLENUMS.
3. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID, MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY. SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE–ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).
4. MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER. INSTALL SWITCHES WITH ON POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120–277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI–GANG BOXES FOR COMPLIANCE WITH NEC 404.8(B).
5. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE–STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE–RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT.
6. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS, RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER. EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING. GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. SHOW WINDOW RECEPTACLES SHALL BE PROVIDED IN ACCORDANCE WITH 210.62 OF THE NEC. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6 AND WD 1.
7. LOCATIONS AND HEIGHTS OF ALL WALL–MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION.
8. CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED GROUND WIRES, AND EQUIPMENT GROUND WIRES AS LISTED ABOVE ARE CONTAINED IN THE CABLE. *** TYPE NM CABLE MAY BE USED FOR INTERIOR BRANCH CIRCUITS IN NORMALLY DRY LOCATIONS SUBJECT TO THE RESTRICTIONS OF NEC 334.10 AND 334.12. TYPE NM CABLE CONDUCTORS SHALL BE DERATED PER NEC 334.80. *** FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR LAY–IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE, AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6–8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS. UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS. RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT–TO–POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS INTO EACH




## PLAN HEX NOTES

1. EXISTING EMERGENCY LIGHT TO REMAIN AS IS.
2. REMOVE EXISTING EMERGENCY LIGHT FOR RELOCATION.
3. REMOVE EXISTING FIXTURE LIGHT FOR RELOCATION.
4. REMOVE EXISTING LIGHT SWITCH FOR RELOCATION.
5. REMOVE EXISTING LIGHT SWITCH
6. EXISTING LIGHT FIXTURE TO REMAIN AS IS.
7. DEMO EXISTING EXHAUST FAN.
8. DEMO EXISTING EXIT SIGN/EMERGENCY LIGHT COMBO.

LIGHTING DEMO PLAN - SCALE: 1/8" = 1' 0" | 1




## PLAN HEX NOTES

1. EXISTING POWER RECEPTACLE TO REMAIN AS IS.
2. EXISTING DATA JACK TO REMAIN AS IS.
3. REMOVE EXISTING POWER RECEPTACLE FOR RELOCATION.
4. REMOVE EXISTING DATA JACK FOR RELOCATION.

POWER DEMO PLAN - SCALE: 1/8" = 1' 0" | 2

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Seals

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JACOB L. HAMILTON 1-14-20

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA

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KE PROJECT NO.: 19510 Drawn By: JBT

Client/Project
Town of Rolesville
TOWN HALL
RENOVATIONS

Rolesville, North Carolina

Sheet Title
LIGHTING DEMO PLAN &
POWER DEMO PLAN

| Project No. | Scale |
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| 19046 | AS NOTED |
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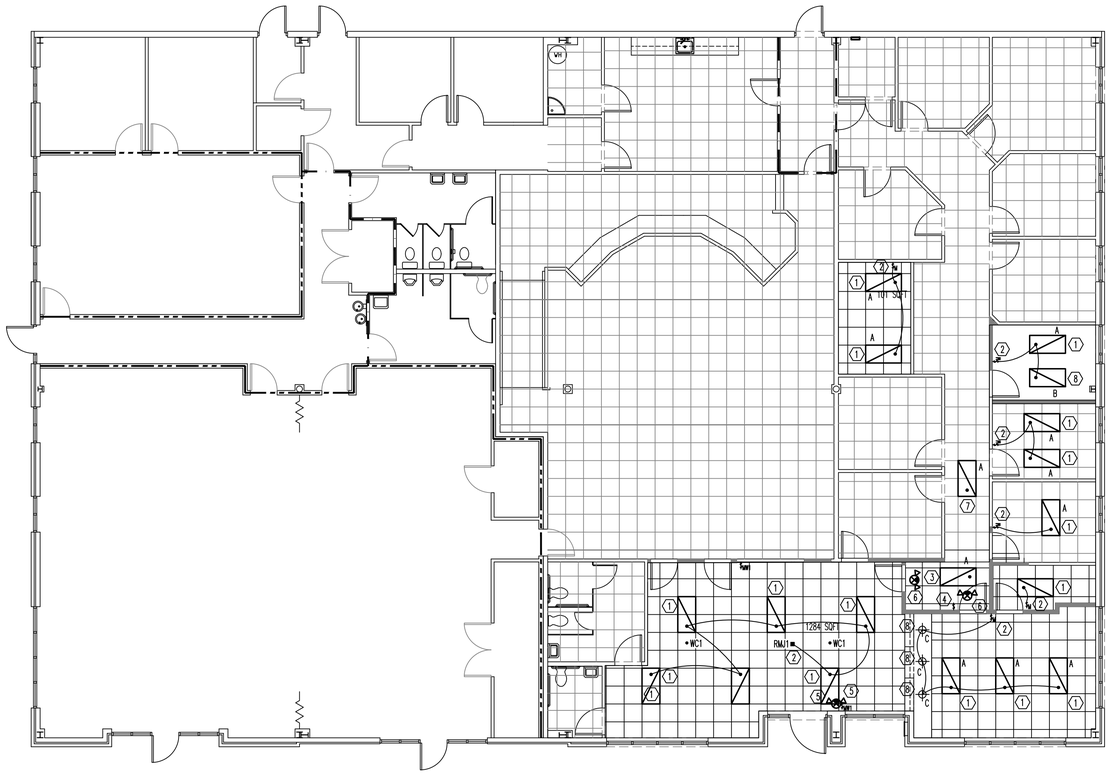
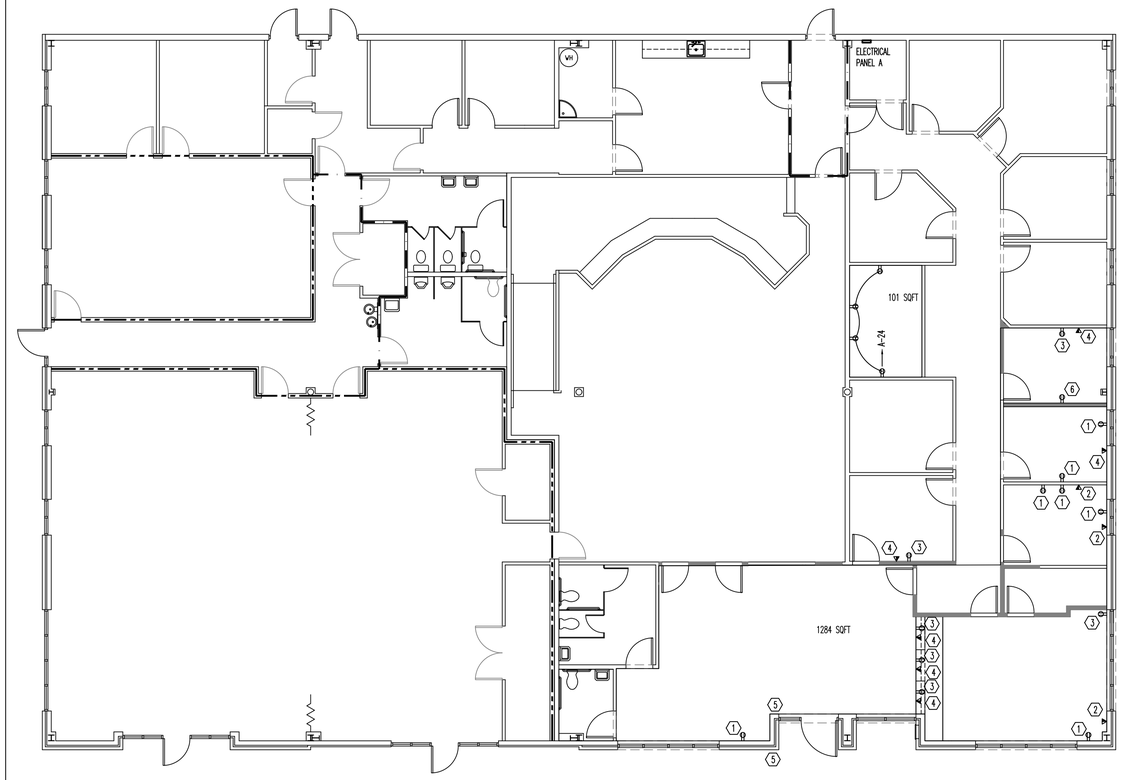



LIGHTING PLAN - SCALE: 1/8" = 1' 0" | 1

## PLAN HEX NOTES

1. NEW LOCATION FOR RELOCATED LIGHT FIXTURE.
2. RECONNECT LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT.
3. RECONNECT RELOCATED LIGHT FIXTURE TO EXISTING LIGHTING CIRCUIT AND CONTROLS.
4. RELOCATED LIGHT SWITCH TO CONTROL EXISTING LIGHTING CIRCUIT.
5. EXISTING EMERGENCY LIGHT TO REMAIN AS IS.
6. NEW LOCATION FOR RELOCATED EMERGENCY LIGHT.
7. EXISTING LIGHT FIXTURE TO REMAIN AS IS.
8. NEW LED LIGHT FIXTURE TO MATCH AESTHETICS OF EXISTING LIGHT FIXTURES.




POWER PLAN - SCALE: 1/8" = 1' 0" | 2

## PLAN HEX NOTES

1. EXISTING POWER RECEPTACLE TO REMAIN AS IS.
2. EXISTING DATA JACK TO REMAIN AS IS.
3. RELOCATED POWER RECEPTACLE TO REMAIN ON EXISTING CIRCUIT.
4. NEW LOCATION FOR RELOCATED DATA JACK.
5. BID ALTERNATE: PROVIDE PUSH BUTTON DOOR OPENER FOR EXTERIOR DOOR WITH PUSH BUTTONS LOCATED INSIDE & OUTSIDE. POWER FOR DOOR OPENER TO BE FEED FROM CIRCUIT #18 ON THE PANEL IN THE IT ROOM.
6. INSTALL NEW RECEPTACLE ON ROOM POWER CIRCUIT.

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Seals

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| No. | Revision | Date |
|---|---|---|
| - | - | - |
| - | - | - |
| - | - | - |

| PLUMBING FIXTURE SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| SYMBOL | FIXTURE | MANUFACTURER | FITTING | HW | CW | WASTE |
| P1 | TWO PIECE TANK TYPE WATER CLOSET | EXISTING | TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SCS34 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE. | - | 1/2" | 3" |
| P1H | TWO PIECE TANK TYPE ADA WATER CLOSET | EXISTING | TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SCS34 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE. TOP OF SEAT SHALL BE 17-19 INCHES AFF FOR ADA. LEVER MOUNTED ON WIDE SIDE FOR ADA | - | 1/2" | 3" |
| P2 | WALL MOUNT LAVATORY | EXISTING | VITREOUS CHINA LAVATORY WITH BACKSPLASH COMPLYING WITH ASME 112.19.2. TOP OF RIM SHALL BE 34 INCHES AFF FOR ADA. PROVIDE WITH LAV-GUARD PROTECTORS FOR SUPPLY AND DRAIN LINES. PROVIDE JR SMITH 0700 (CONCEALED ARMS) WITH 19" ARMS 0800 (WALL SUPPORT PLATE). USE MOEN 8430 FAUCET. | 1/2" | 1/2" | 2" |
| P3 | URINAL | EXISTING | VITREOUS CHINA, WALL-MOUNTED, ADA COMPLIANT, LOW CONSUMPTION WASHOUT URINAL COMPLYING WITH ASME 112.19.2. 0.5 GPF. SLOAN CROWN 186-0.5 FLUSHOMETER VALVE OR EQUAL BY ZURN OR TOTO. TOP OF RIM SHALL BE 17 INCHES AFF FOR ADA. | - | 3/4" | 2" |
| P5 | DRINKING FOUNTAIN | OASIS PGRACSL OR EQUAL BY ELKAY OR STERN WILLIAMS | ADA COMPLIANT FOR ADULT AND CHILD. 8.0 GPH OF 50°F WATER AT 90°F AMBIENT. PROVIDE ACCESSORY APRON FOR ADA COMPLIANCE AS NECESSARY | - | 3/8" | 2" |
| P5A | DRINKING FOUNTAIN | ELAKY LZWSDK | ADA COMPLIANT FOR ADULT AND CHILD, BOTTLE REFILLING STATION. | - | 3/8" | 2" |
| P6 | FLOOR DRAIN | EXISTING | ON GRADE EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, WEEP HOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, AND NO HUB OUTLET. PROVIDE TRAP PRIMER CONNECTION OPTION IF NOTED. | - | - | 3" |
| P11 | 1" RPZ BACKFLOW PREVENTER | WATTS LF909 QT OR EQUAL BY CONBRACO OR WILKINS | RPZ ASSEMBLY CONSISTING OF A PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED IN A ZONE BETWEEN TWO POSITIVE SEATING CHECK VALVES. THE ASSEMBLY SHALL INCLUDE TWO TIGHTLY CLOSING SHUTOFF VALVES BEFORE AND AFTER THE ASSEMBLY, TEST COCKS AND A PROTECTIVE STRAINER UPSTREAM OF THE FIRST SHUTOFF VALVE. THE ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1013 AND AWWA C511 | - | 1" | - |
| P13 | EXPANSION TANK | EXISTING | INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ | - | 3/4" | - |
| P14 | SINK SINGLE BOWL | EXISTING | TOP MOUNTED 18 GA STAINLESS STEEL. MAX BOWL DEPTH 6 INCHES FOR WHEEL CHAIR ACCESSIBILITY-USE DELTA FAUCET SET 340-WF OR EQUAL BY MOEN OR KOHLER. | 1/2" | 1/2" | 2" |
| P16 | MOP SINK | EXISTING | OUTSIDE DIMENSIONS OF 24X24X10. 10 INCHHIGH WALLS WITH NOT LESS THAN 1 INCH WIDE. STAINLESS STEEL DRAIN BODY DESIGNED TO PROVIDE FOR A CAULK CONNECTION OR QDC-3 JOINT TO A 3 INCH DRAIN PIPE. INCLUDE A COMBINATION DOME STRAINER AND LINT BASKET OF STAINLESS STEEL. PROVIDE 830-AA CHROME PLATED SERVICE FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4 INCH HOSE THREAD ON SPOUT. | 1/2" | 1/2" | 3" |
| P18 | THERMOSTATIC MIXING VALVE | EXISTING | ASSE STANDARD 1069 OR 1070 APPROVED WITH 1/2 INCH FEMALE NPT INLET AND OUTLET CONNECTIONS, BRASS BODY, AND INTEGRAL MOUNTING HOLES. TAMPER RESISTANT THERMOPLASTIC ENCLOSURE. SINGLE REPLACEABLE CARTRIDGE DESIGN. | 1/2" | 1/2" | - |
| P19 | DUAL CHECK VALVE W/ ATMOSPHERIC PORT | EXISTING | BODY AND ADAPTERS SHALL BE 316 STAINLESS STEEL CONSTRUCTION AND ALL RUBBER COMPONENTS SHALL COMPLY WITH FDA FOOD ADDITIVE REGULATIONS. ALL MATERIALS IN CONTACT WITH THE POTABLE WATER SHALL COMPLY WITH THE REQUIREMENTS OF THE SAFE DRINKING WATER ACT, PUBLIC LAW 93-523, NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS. STRAINER MANUFACTURED FROM NSF APPROVED ACETAL PLASTIC. | - | 3/8" | - |
| FCO | FLOOR CLEANOUT | EXISTING | EPOXY COATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET. | - | - | 4" |
| WCO | WALL CLEANOUT | EXISTING | CAST IRON CLEANOUT FERRULE WITH THREADED BRASS COUNTERSUNK CLEANOUT PLUG, STAINLESS STEEL ACCESS COVER, AND VANDAL PROOF STAINLESS STEEL SCREW | - | - | 4" |

| PLUMBING LINES SIZING TABLE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| FIXTURE TYPE | OCCUPANCY | QTY | DRAINAGE FIXTURE UNITS | | WATER SUPPLY FIXTURE UNITS | | | | |
| | | | EACH | TOTAL | CW | HW | CW & HW | HW TOTAL | TOTAL |
| WATER CLOSET (FLUSH TANK) | PUBLIC | 7 | 4.00 | 28.00 | 5.00 | 0.00 | 5.00 | 0.00 | 35.00 |
| LAVATORY | PUBLIC | 6 | 1.00 | 6.00 | 1.50 | 1.50 | 2.00 | 9.00 | 12.00 |
| URINAL (3/4" FLUSH VALVE) | PUBLIC | 3 | 2.00 | 6.00 | 5.00 | 0.00 | 5.00 | 0.00 | 15.00 |
| DRINKING FOUNTAIN | PUBLIC | 2 | 0.50 | 1.00 | 0.25 | 0.00 | 0.25 | 0.00 | 0.50 |
| MOP SINK | PUBLIC | 1 | 2.00 | 2.00 | 2.25 | 2.25 | 3.00 | 2.25 | 3.00 |
| 3 COMPARTMENT SINK | PUBLIC | 1 | 2.00 | 2.00 | 2.25 | 2.25 | 3.00 | 2.25 | 3.00 |
| | | | | | | | | | |
| DEMAND FIXTURE | GPM | QTY | TOTAL GPM | | | | TOTAL DFU | 45.0 | |
| HOSE BIBBS | 5 | 1 | 5.00 | | | | TOTAL WSUs | 13.5 | 68.5 |
| | | | | | | | GPM | 16.75 | 34.55 |
| | | | | | | | OTHER FIXTURES' GPM | 0.00 | 5.00 |
| | | | | | | | TOTAL GPM | 16.75 | 39.55 |
| | | | | | | | | | |
| MINIMUM BUILDING DRAIN SIZE | EXISTING | EXISTING SIZES TO REMAIN | | | | | | | |
| MINIMUM WATER LINE SIZE | EXISTING | | | | | | | | |

LINETYPE LEGEND

140 D HOT WATER RECIRCULATING
140 D HOT WATER RETURN
COLD WATER SUPPLY
HOT WATER SUPPLY
GREASE LADEN LINE
SANITARY SEWER LINE
VENT LINE

RATED WALL LEGEND

1 HR RATED WALL
2 HR RATED WALL
3 HR RATED WALL

DO NOT TAP WATER LINE AHEAD OF RPZ.

| ABBREVIATIONS AND DEFINITIONS | |
|---|---|
| ABBREVIATION | DEFINITION |
| CWS | COLD WATER SUPPLY |
| HWS | HOT WATER SUPPLY |
| SAN | SANITARY SEWER |
| GL | GREASE LADEN |
| VTR | VENT TO ROOF |
| FPHB | FREEZE PROOF HOSE BIBB |
| IHB | INTERIOR HOSE BIBB |
| PC | PLUMBING CONTRACTOR |
| BFP | BACK FLOW PREVENTOR |
| AFF | ABOVE FINISHED FLOOR |
| RI | ROUGH IN |
| CRI | CONCEALED ROUGH IN |
| ID | INTERIOR DRAIN-STORM |
| DS | DOWNSPUT-STORM |
| SS | SOIL STACK - SANITARY |
| FD | FLOOR DRAIN |
| RD | ROOF DRAIN |
| FU | FIXTURE UNIT |
| PT | PLASTER TRAP |
| PU | PROCTO UNIT |
| OS&Y | OUTSIDE STEAM AND YOKE |
| WH | WATER HEATER |
| OSD | OPEN-SITE DRAIN |
| VS | VENT STACK (SANITARY) |
| SV | STACK VENT (SANITARY) |
| FCO | FLOOR CLEAN OUT |
| WCO | WALL CLEAN OUT |



GENERAL PLUMBING NOTES:

ADMINISTRATIVE:

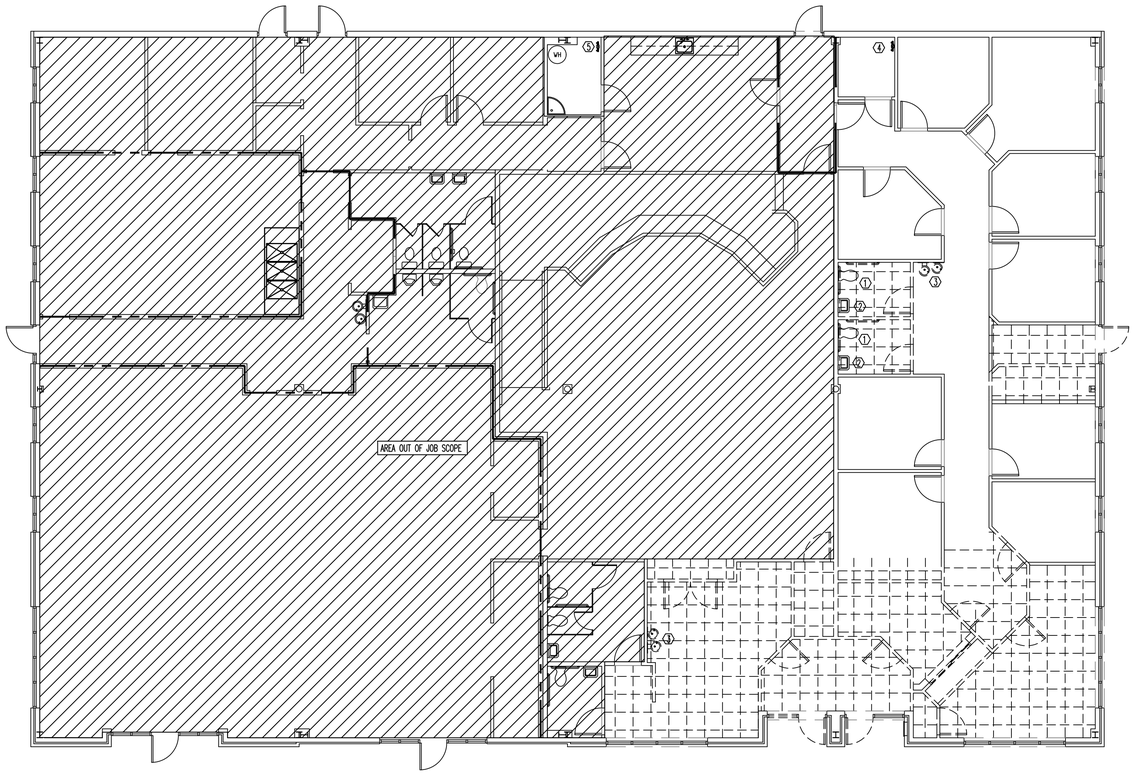
1. THE FOLLOWING ABBREVATIONS SHALL APPLY TO NOTES AND PLANS: PC – PLUMBING CONTRACTOR, EC – ELECTRICAL CONTRACTOR, MC – MECHANICAL CONTRACTOR, GC – GENERAL CONTRACTOR, FASC – FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
8. DO NOT SCALE THESE DRAWINGS–REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING.
10. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE. UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
11. THE PC SHALL PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED FLOOR/CEILING ASSEMBLIES AND RATED WALL ASSEMBLIES TO PRESERVE OR RESTORE THE FIRE RESISTANCE RATING. SEAL ALL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THE PROJECT.
12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
14. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
15. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL BE TYPE L COPPER WITH 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS. ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH. PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER. *** PC MAY USE PEX (ASTM F 877) WITH APPROVED FITTINGS (ASTM F 1807) WITH OWNER'S APPROVAL. *** CPVC PIPING (ASTM D 2846 OR ASTM F 441) WITH APPROVED FITTINGS (ASTM D 2846, ASTM F 438, OR ASTM F 439) MAY ALSO BE USED WHERE NOT LOCATED IN PLENUMS. ALL PLASTIC PIPE, FITTINGS, AND COMPONENTS SHALL BE THIRD PARTY CERTIFIED AS CONFORMING TO NSF 14. ALL PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF .25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL PEX OR CPVC PIPING IN RETURN AIR PLENUMS.
2. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET. ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED. VALVES SHALL BE BY NIBCO, WATTS, OR STOCKHAM.
3. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL-SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1; VAPOR RETARDER; WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING.
4. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
5. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE OF THE FIXTURE FITTING.
6. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510. ACCESS TO BACKFLOW PREVENTERS SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS OF THE APPROVED MANUFACTURER.
7. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS 75 FEET.
8. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN HEIGHT. DO NOT INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE.
9. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED; PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.
10. ALL PUMPS SHALL BE RATED FOR TRANSPORT OF POTABLE WATER. PUMPS IN AN INDIVIDUAL WATER SUPPLY SYSTEM SHALL BE CONSTRUCTED AND INSTALLED SO AS TO PREVENT CONTAMINATION FROM ENTERING THE WATER SUPPLY SYSTEM.

METHODS:

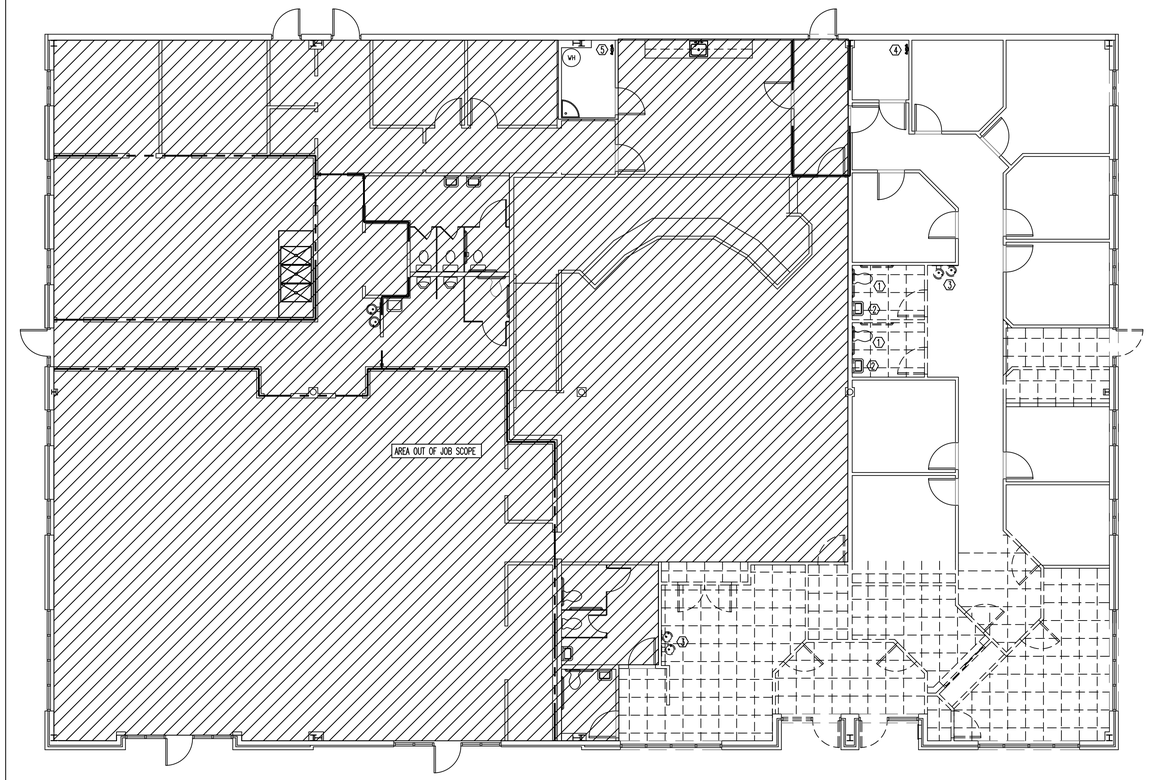
1. EXTEND DOMESTIC WATER PIPE FROM FIVE (5) FEET OUTSIDE THE BUILDING INTO THE BUILDING AS INDICATED ON THE PLANS AND INSTALL DOMESTIC WATER DISTRIBUTION PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRING THE SAME. WATER SERVICE PIPE AND THE BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE.
2. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER–PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE–AND MAINTAIN GRADIENT. EACH SUPPLY BRANCH LINE SERVING MORE THAN ONE FIXTURE SHALL HAVE A SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF EQUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP OF EVERY WATER DOWN-FEED PIPE. PROVIDE VALVE HANDLE EXTENSIONS AS NECESSARY FOR INSULATION.
3. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES, DEVICES, AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE. PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS. IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT. FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNELL, MASON, OR B-LINE.
4. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR–EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS–AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION–BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER.
5. THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12 INCHES BELOW FINISHED GRADE WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.
6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3.
7. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL.
8. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056. HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011, ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022.
9. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.
10. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED.
11. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.
12. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, EXTEND SANITARY SEWER PIPING TO 5 FEET OUTSIDE THE BUILDING AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR DRAINS, AND CLEANOUTS NECESSARY FOR A COMPLETE INSTALLATION.
13. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED. SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST FREEZING PER 305.6.1. WASTE AND SOIL LINES LEAVING THE BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES.
14. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE SLOPED AT 1/4 INCH PER FOOT MINIMUM. SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH PER FOOT MINIMUM.
15. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL BE INSTALLED TO RECEIVE THE FIXTURE HORN.
16. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING, BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED.
17. BASES OF




## PLAN HEX NOTES

1. DEMO AND CAP EXISTING WATER CLOSET SAN LINE.
2. DEMO AND CAP EXISTING LAVATORY SAN LINE.
3. REMOVE EXISTING DRINKING FOUNTAIN RETAIN EXISTING SAN LINE FOR REUSE BY NEW BOTTLE FILL STATION.
4. P.C. TO VERIFY THAT NOTHING IS FED FROM THIS RPZ. IF NOTHING IS FED FROM RPZ THEN DEMO RPZ, CAP DRAIN LINE, AND PATCH HOLE FROM DRAIN LINE TO EXTERIOR OF BUILDING.
5. REMOVE 1" RPZ FOR RELOCATION. DEMO RPZ DRAIN AND PATCH HOLE TO EXTERIOR.

SANITARY DEMO PLAN - SCALE: 1/8" = 1' 0" | 1




## PLAN HEX NOTES

1. DEMO AND CAP EXISTING WATER CLOSET CWS LINE.
2. DEMO AND CAP EXISTING LAVATORY CWS AND HWS LINE.
3. REMOVE EXISTING DRINKING FOUNTAIN RETAIN EXISTING CWS LINE FOR REUSE BY NEW BOTTLE FILL STATION.
4. P.C. TO VERIFY THAT NOTHING IS FED FROM THIS RPZ. IF NOTHING IS FED FROM THIS RPZ THEN DEMO RPZ, CWS LINES, AND CAP CWS LINE.
5. REMOVE 1" RPZ FOR RELOCATION. RETAIN EXISTING CWS LINES FOR RECONNECTION AFTER RELOCATION.

SUPPLY DEMO PLAN - SCALE: 1/8" = 1' 0" | 2

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NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JACOB L. HAMILTON 1-14-20

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RENOVATIONS

Rolesville, North Carolina

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SANITARY & SUPPLY DEMO
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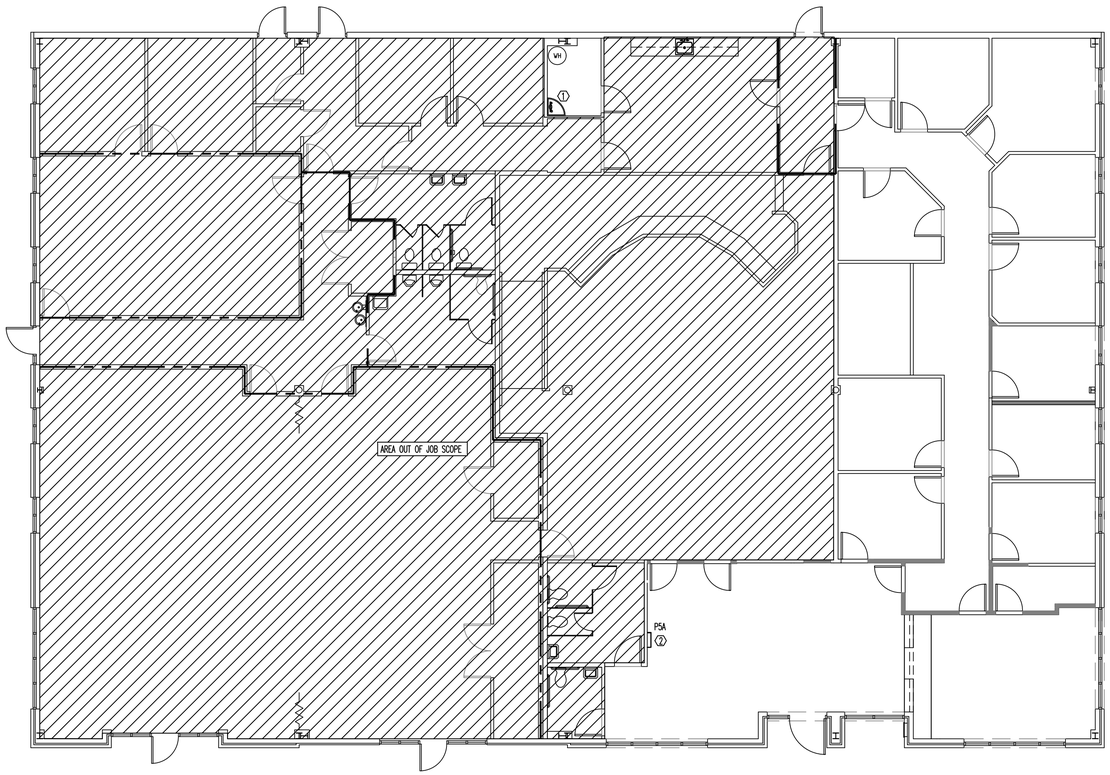
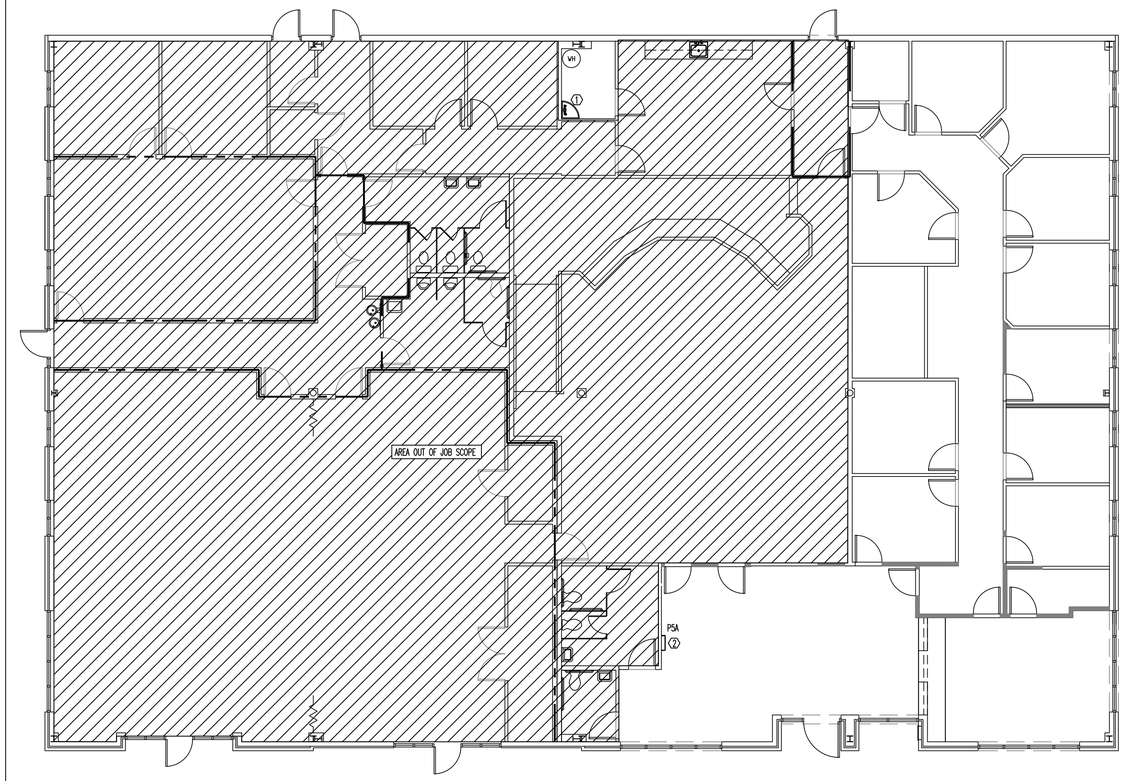



## PLAN HEX NOTES

1. RELOCATE 1" RPZ TO ABOVE THE MOP SINK. USE MOP SINK FOR DRAIN.
2. INSTALL NEW BOTTLE FILL STATION. CONNECT TO EXISTING SAN LINE.

SANITARY PLAN - SCALE: 1/8" = 1' 0" | 1




## PLAN HEX NOTES

1. RECONNECT EXISTING RELOCATED 1" RPZ TO EXISTING CWS LINES.
2. INSTALL NEW BOTTLE FILL STATION CONNECT TO EXISTING CWS.

SUPPLY PLAN - SCALE: 1/8" = 1' 0" | 2

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NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JACOB L. HAMILTON 1/14/20

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Town of Rolesville /
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RENOVATIONS

Rolesville, North Carolina

Sheet Title
SANITARY & SUPPLY PLANS

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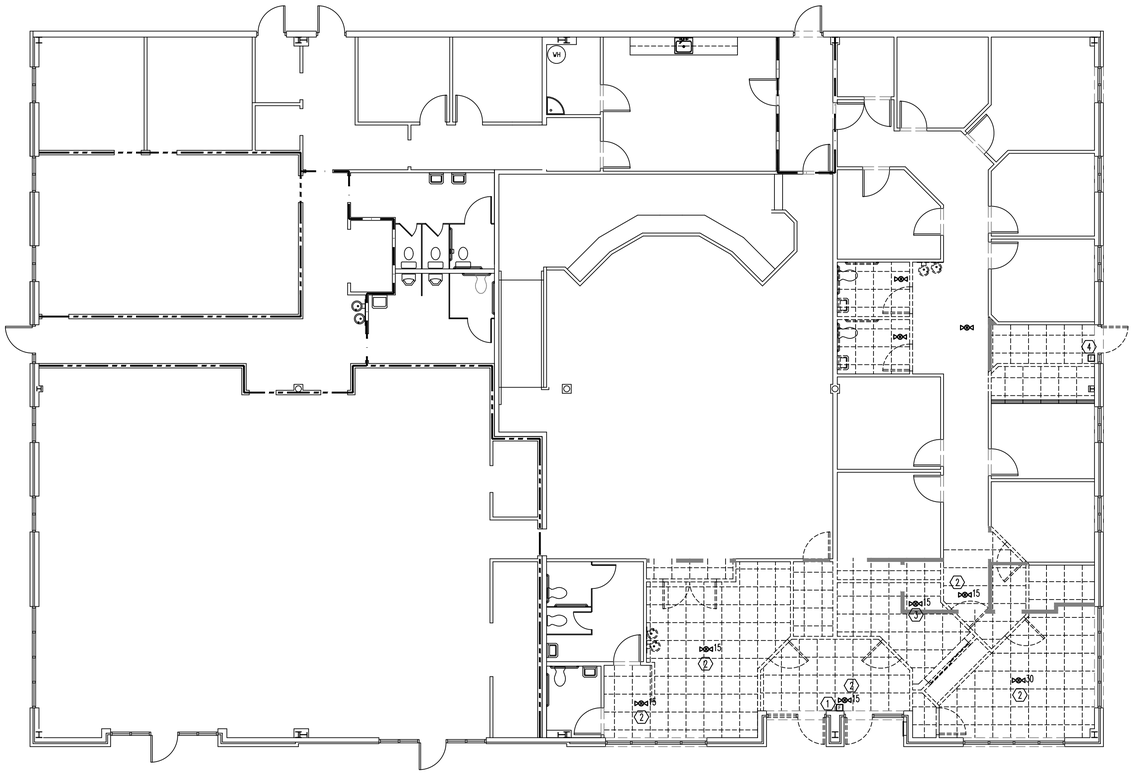
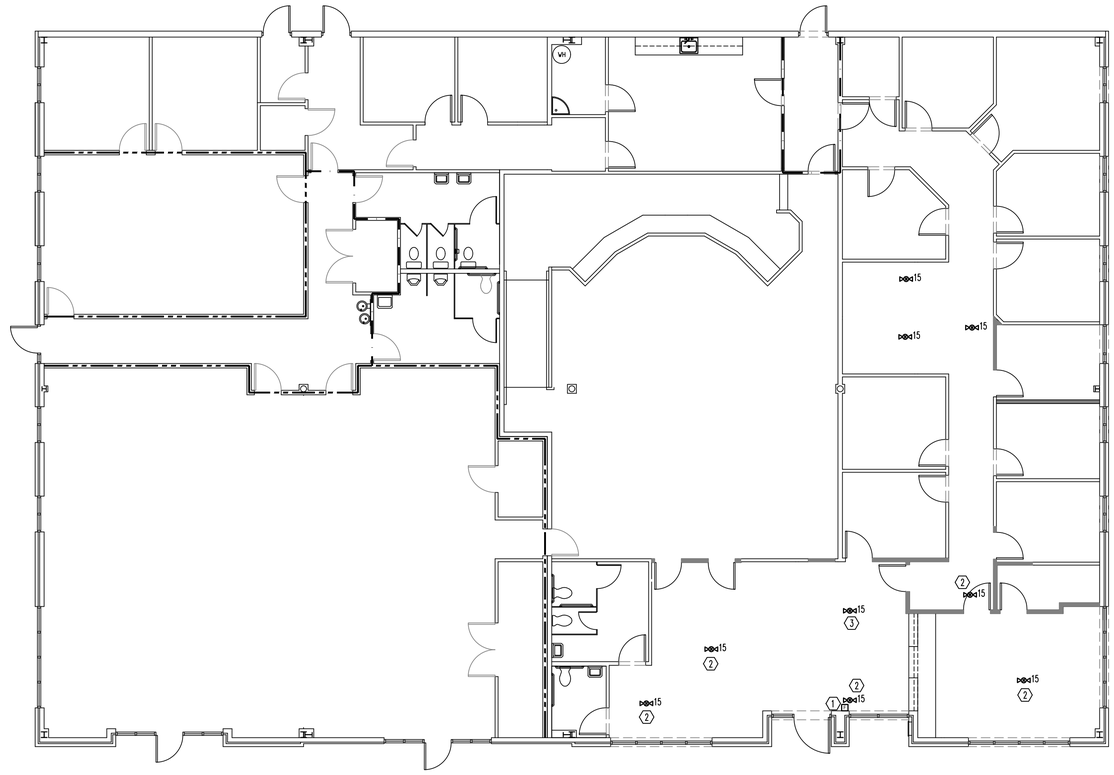


FIRE ALARM DEMO PLAN - SCALE: 1/8" = 1' 0" | 1



FIRE ALARM PLAN - SCALE: 1/8" = 1' 0" | 2

## PLAN HEX NOTES

1. EXISTING PULL STATION TO REMAIN AS IS.
2. EXISTING CEILING HORN STROBE TO REMAIN AS IS. FIRE ALARM CONTRACTOR TO VERIFY CANDELA RATING.
3. EXISTING HORN STROBE TO BE RELOCATED. FIRE ALARM CONTRACTOR TO VERIFY CANDELA RATING.
4. DEMO EXISTING PULL STATION.

| RATED WALL LEGEND | |
|---|---|
| 1 HR RATED WALL | |
| 2 HR RATED WALL | |
| 3 HR RATED WALL | |

## PLAN HEX NOTES

1. EXISTING PULL STATION TO REMAIN AS IS.
2. EXISTING CEILING HORN STROBE TO REMAIN AS IS. FIRE ALARM CONTRACTOR TO VERIFY CANDELA RATING.
3. NEW LOCATION FOR RELOCATED EXISTING HORN STROBE. FIRE ALARM CONTRACTOR TO VERIFY CANDELA RATING.

## WIRE REQUIREMENTS

NAC CIRCUITS – 16/2, SOLID, FPLP WIRE
DATA CIRCUITS – 18/2, SOLID, FPLP WIRE

## FIRE ALARM GENERAL NOTES

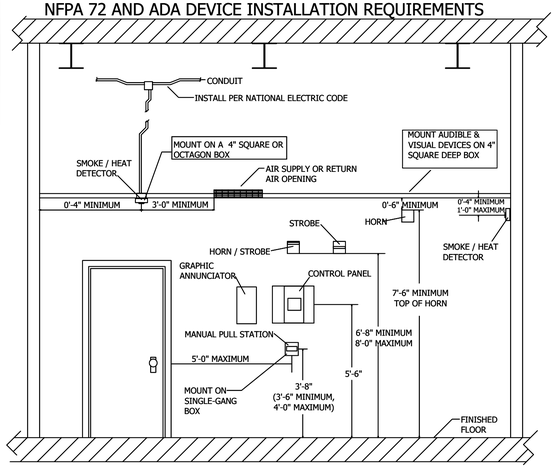
1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC – PLUMBING CONTRACTOR, EC – ELECTRICAL CONTRACTOR,
   MC – MECHANICAL CONTRACTOR, GC – GENERAL CONTRACTOR,
   FASC – FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL.
3. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, ETC, AS NECESSARY FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
4. THESE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL MINOR DETAILS AND EXACT LOCATIONS. THE FASC SHALL ALLOW FOR ADJUSTMENTS TO ACCOMMODATE INTERFERENCES BOTH PLANNED AND ENCOUNTERED AND SHALL INCLUDE SUCH CONTINGENCIES IN THEIR BID.
5. THE SUCCESSFUL FIRE ALARM BIDDER SHALL PROVIDE CONSTRUCTION DOCUMENTS TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL INCLUDING ALARM CONTROLS AND TROUBLE SIGNALING EQUIPMENT, ANNUNCIATION, POWER CONNECTIONS, BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, CONDUCTOR TYPES AND SIZES, LOCATIONS OF INITIATING AND NOTIFICATION APPLIANCES, AND MANUFACTURERS, MODEL NUMBERS, AND LISTING INFORMATION FOR ALL EQUIPMENT, DEVICES AND MATERIALS.
6. ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 72 AND APPLICABLE SECTIONS OF NFPA 70 AND 13.
7. CONDUIT, CONDUCTORS, BOXES, AND HANGERS SHALL BE THE SAME AS THOSE SPECIFIED IN THE ELECTRICAL SYSTEM.
8. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR UL LABEL OR EQUIVALENT WHERE APPLICABLE.
9. THE FIRE ALARM SYSTEM SHALL BE OF THE ADDRESSABLE TYPE WITH EACH INITIATING DEVICE REPORTING INDIVIDUALLY TO THE FIRE ALARM CONTROL PANEL. ONLY THE MANUFACTURER OR AN AUTHORIZED DISTRIBUTOR WHO STOCKS SPARE COMPONENTS FOR THE ENTIRE SYSTEM SHALL CONNECT, PROGRAM, OR TEST THE ADDRESSABLE FIRE ALARM SYSTEM. ALL TECHNICIANS PERFORMING SUCH WORK SHALL BE TRAINED AND INDIVIDUALLY CERTIFIED BY THE MANUFACTURER FOR THE MODEL OF SYSTEM BEING INSTALLED. COPIES OF THEIR CERTIFICATION SHALL BE AVAILABLE UPON REQUEST. THE MANUFACTURER OR AUTHORIZED DISTRIBUTOR SHALL STORE THE COMPLETE PROGRAMMING FOR THE ADDRESSABLE SYSTEM ON A COMPUTER DISK OR DISKETTE OR OTHER MEDIA AND ARCHIVE APPROPRIATELY. A COPY OF THE PROGRAM SHALL BE MADE AVAILABLE TO THE OWNER WHEN THE SYSTEM IS COMMISSIONED. THE MANUFACTURER OR AUTHORIZED DISTRIBUTOR SHALL MAINTAIN SOFTWARE VERSION RECORDS ON THE SYSTEM INSTALLED AND PROVIDE FREE UPGRADES IF THE MANUFACTURER RELEASES A NEW VERSION OF THE SOFTWARE DURING THE WARRANTY PERIOD. PROVIDE A SYSTEM FUNCTION MATRIX THAT GIVES THE FIRE ALARM CONTROL PANEL RESPONSE FOR EACH INITIATING DEVICE.
10. THE SYSTEM SHALL BE NOMINAL 24VDC, NON-CODED, AND SUPERVISED (INCLUDING CONTROL CIRCUITS). ALL EQUIPMENT SUPPLIED MUST BE LISTED FOR ITS PARTICULAR USE AND INSTALLED IN ACCORDANCE WITH ANY INSTRUCTIONS APPLICABLE TO ITS LISTING.
11. THE SYSTEM SHALL BE ELECTRICALLY SUPERVISED FOR OPEN OR GROUND FAULT CONDITIONS IN DETECTION, ALARM, AND CONTROL CIRCUITS. THE REMOVAL OF ANY DETECTION DEVICE, ALARM APPLIANCE, PLUG-IN RELAY, SYSTEM MODULE, OR STANDBY BATTERY CONNECTION SHALL ALSO ACTIVATE A TROUBLE SIGNAL. THE FIRE ALARM SIGNAL SHALL OVERRIDE TROUBLE SIGNALS, BUT THE PRE-ALARM TROUBLE SIGNAL SHALL REAPPEAR WHEN THE PANEL IS RESET.
12. PROVIDE EACH SIGNALING LINE CIRCUIT WITH A MINIMUM OF 20 PERCENT SPARE ADDRESSES FOR FUTURE USE.
13. THE CONNECTIONS BETWEEN INDIVIDUAL ADDRESSABLE MODULES AND THEIR CONTACT TYPE INITIATING DEVICES MUST BE SUPERVISED.
14. THE FIRE ALARM CONTROL PANEL (FACP) POWER SUPPLY MUST HAVE A CONTINUOUS RATING ADEQUATE TO POWER ALL DEVICES AND FUNCTIONS IN FULL ALARM CONTINUOUSLY. BATTERIES MUST MEET THE APPROPRIATE NFPA CAPACITY REQUIREMENTS. THE FACP SHALL INCLUDE AN ALARM SILENCE SWITCH AND SHALL BE EQUIPPED WITH THE SUBSEQUENT ALARM RESOUND FEATURE. THE ALARM SILENCING AND RESET FEATURE SHALL NOT REVERSE AIR HANDLING UNITS SHUTDOWN. A SUPERVISED "HVAC SYSTEM SHUTDOWN" SWITCH MUST BE PROVIDED IN THE FACP WITH ITS "NORMAL" POSITION INDICATED.
15. ALL CONNECTIONS MADE AT THE FACP MUST BE BY THE MANUFACTURER'S AUTHORIZED FACTORY TRAINED PERSONNEL (NOT THE ELECTRICAL CONTRACTOR).
16. PERMANENT WIRE MARKERS SHALL BE USED TO IDENTIFY ALL CONNECTIONS AND TERMINATIONS FOR EACH CIRCUIT. ALL FIRE ALARM JUNCTION BOXES SHALL BE SPRAYED RED AND LABELED "FIRE ALARM." TERMINAL BLOCKS SHALL BE PROVIDED IN ALL JUNCTION BOXES WHERE CONNECTIONS ARE MADE. IDENTIFICATION AT SPLICES SHALL INDICATE WHICH CONDUCTOR LEADS TO THE FACP.
17. THE FOLLOWING COLOR SCHEME SHALL BE USED FOR SYSTEM CONDUCTORS:

| | | |
|---|---|---|
| 17.1. | INITIATING CIRCUITS (OTHER THAN SMOKE) | RED & WHITE |
| 17.2. | INITIATING CIRCUITS (SMOKE DETECTION) | VIOLET & GRAY |
| 17.3. | NOTIFICATION APPLIANCE CIRCUITS | BLUE & BLACK |
| 17.4. | AIR HANDLING SHUT DOWN CIRCUITS | YELLOW |
| 17.5. | DOOR CONTROL CIRCUITS | ORANGE |
| 17.6. | ELEVATOR CIRCUITS | BROWN |

18. LOW VOLTAGE WIRING SHALL NOT BE INSTALLED IN ANY RACEWAY CONTAINING POWER OR LINE VOLTAGE CONTROL WIRING. WITHIN THE FACP, ANY AC CONTROL WIRING SHALL BE PROPERLY SEPARATED FROM OTHER CIRCUITS AND THE ENCLOSURE SHALL BE LABELED TO ALERT SERVICE PERSONNEL TO THE HAZARD.
19. DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS AND AS DETAILED. WHENEVER POSSIBLE, DEVICES SHOULD BE CENTERED ON SPACES OR LOCATED ABOVE OTHER OUTLETS. SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN THREE (3) FEET OF AN HVAC SUPPLY OR RETURN. INSTALL WALL MOUNTED SMOKE DETECTORS A MAXIMUM OF TWELVE (12) INCHES FROM CEILING.
20. PROVIDE A PERMANENT MARKER ON EACH DEVICE INSTALLED INDICATING THE DEVICE NUMBER AND ADDRESSABLE LOOP NUMBER. PROVIDE THE SAME INFORMATION INSIDE THE BOX FOR EACH DEVICE.
21. ALL HVAC EQUIPMENT SHALL SHUTDOWN UPON ACTIVATION OF ANY FIRE ALARM DEVICE.
22. WATER FLOW SWITCHES, VALVE TAMPER SWITCHES, AND PRESSURE SWITCHES SHALL BE PROVIDED AND INSTALLED BY THE SPRINKLER CONTRACTOR, CONNECTED BY THE ELECTRICAL CONTRACTOR, AND SUPERVISED BY THE FACP.
23. TESTING SHALL INCLUDE ALL TESTS REQUIRED FOR THE ELECTRICAL SYSTEMS IN addition TO TESTING AND CERTIFICATION BY THE FIRE ALARM SYSTEM SUPPLIER. PROVIDE INSTRUCTION MANUALS TO OWNER PERSONNEL.
24. FASC SHALL VERIFY THAT ALL VISIBLE NOTIFICATION DEVICES ARE SYNCHRONIZED PER NFPA 72.
25. VERIFY DECIBEL LEVELS ARE MINIMUM 60 DBA AND MAXIMUM 120 DBA THROUGHOUT THE ZONE; ADJUST DEVICES AS NECESSARY. MAINTAIN MINIMUM 100 DBA IN EQUIPMENT AND MECHANICAL ROOMS.
26. DEVICES MUST MEET SURVIVABILITY REQUIREMENTS OF THE NFPA AS APPLICABLE.
27. THE AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.

FIRE ALARM NOTES | 3

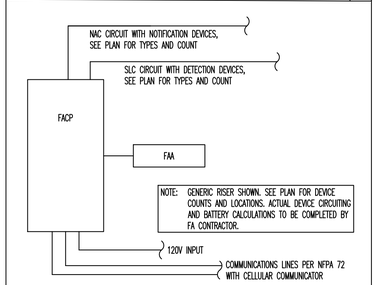
## NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS




FIRE ALARM DETAILS - NOT TO SCALE | 4

| NFPA 170 SYMBOL GUIDE | |
|---|---|
| SYMBOL | DESCRIPTION |
| FACP | FIRE ALARM CONTROL PANEL |
| FAA | FIRE ALARM ANNUNCIATOR |
| WF | WATER FLOW SWITCH |
| VS | VALVE SUPERVISORY SWITCH (TAMPER SWITCH) |
| | HEAT DETECTOR/SENSOR (RATE OF RISE) |
| F | PULL STATION / FIRE ALARM |
| S | SMOKE DETECTOR/SENSOR (DEFAULT PHOTOELECTRIC TYPE) |
| SS | SMOKE ALARM (SINGLE STATION)(RESIDENCE) |
| S | DUCT SMOKE DETECTOR (NFPA 72, SECTION 17.7.5.5) |
| | AUDIBLE ONLY APPLIANCE (WALL MOUNTED)(BEL LOUTSIDE SPRINK RM.) |
| FC | VISUAL ONLY APPLIANCE (WALL MOUNTED) |
| FC | AUDIBLE/VISUAL APPLIANCE (WALL MOUNTED) |
| FC | VISUAL ONLY APPLIANCE (CEILING MOUNTED) |
| | AUDIBLE ONLY APPLIANCE (CEILING MOUNTED) |
| FC | AUDIBLE/VISUAL APPLIANCE (CEILING MOUNTED) |
| | END OF LINE RESISTOR |

FIRE ALARM SCHEDULES | 5




FIRE ALARM RISER - NOT TO SCALE | 6

## OVERALL MATRIX

### FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

SYSTEM OUTPUTS — FACP ANNUNCIATION: ACTUATE COMMON LAMP SIGNAL INDICATOR; ACTUATE AUDIBLE & LAMP SIGNAL; ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR; ACTUATE AUDIBLE SUPERVISORY SIGNAL; ACTUATE COMMON TROUBLE SIGNAL INDICATOR; ACTUATE AUDIBLE TROUBLE SIGNAL. NOTIFICATION: ACTUATE GENERAL EVACUATION SIGNAL; ACTUATE SELECTIVE EVACUATION SIGNAL; ACTUATE ALL-CALL PAGE; ACTUATE FIRE ALARM RELAY; ACTUATE SUPERVISORY RELAY; ACTUATE TROUBLE RELAY. REQUIRED FIRE SAFETY CONTROL: ACTUATE ELEVATORS TO RETURN TO GROUND FLOOR; ACTUATE ELEVATORS TO RETURN TO SPECIFIED FLOOR; ACTUATE ELEVATORS TO SPECIFIED FLOOR; ACTUATE ELEVATORS TO SPECIFIED FLOOR; ACTUATE ELEVATORS