BlueRidge COMMUNITY COLLEGE

BRCC CON ED BUILDING RENOVATION

180 W CAMPUS DR
FLAT ROCK, NC 28731

3202-200950

PLAN REVIEWER NOTES

1. SMALL-SCALE RENOVATION OF EXISTING BUILDING (ALTERATION - LEVEL 2).
2. WORK INCLUDES:
   SELECTIVE DEMOLITION OF WALL PARTITIONS AND FLOOR FINISHES.
   INSTALLATION OF NEW WALL PARTITIONS AND DOORS
   SELECTIVE UPDATED LIGHTING FIXTURES.
3. EXTENTS OF AREAS THAT ARE NOT IN SCOPE ARE INDICATED ON FLOOR PLAN SHEETS
4. OCCUPANT LOADS MAY BE FOUND ON LIFE SAFETY SHEET - G-101
5. MECHANICAL SYSTEM MODIFICATIONS ARE LIMITED TO NEW RESTROOM VENTILATION COMPLIANCE

PROJECT TEAM

LS3P ASSOCIATES LTD.
ARCHITECT

227 W TRADE STREET, SUITE 700
CHARLOTTE, NC 28202
704-333-6686 / 704-333-2926
CONTACT: JAIME HENDERSON, AIA

MSWG ENGINEERS
MECHANICAL,
ELECTRICAL, PLUMBING

4223 SOUTH BLVD
CHARLOTTE, NC 28209
704-527-2112
CONTACT: MARK ARRINGTON

16 MARCH, 2020

NORTH CAROLINA EXISTING BUILDING CODE - 2018 EDITION (APPENDIX B)

Name of Project: CONTINUING EDUCATION RENOVATION
Address: 180 W CAMPUS DR, FLAT ROCK, NC Zip Code 28731
Proposed Use: BUSINESS
Owner or Authorized Agent: PETER HEMANS Phone #: 828-694-1723 E-Mail: PETER@BLUERIDGE.EDU
Owned By: ☐ City/ County ☐ Private ■ State
Code Enforcement Jurisdiction ☐ City _____ ■ County HENDERSON ☐ State

PROJECT SUMMARY

Building description: Interior renovation of 7,200 SF of space within an existing administration building

Scope of work details: Work to include the renovation of existing office configuration (including finishes) and installation of new plumbing fixtures.

LEAD DESIGN PROFESSIONAL: LS3P ASSOCIATES, LTD.

DESIGNER	FIRM	NAME	LICENSE#	TELEPHONE#	E-MAIL
Architectural	LS3P Associates, LTD.	JOHN EDWARDS	8894	864 235 0405	JOHNEDWARDS@LS3P.COM
Civil	N/A				
Electrical	MSWG Engineers, Inc	MARK ARRINGTON	12490	704 527 2112	MARRINGTON@MSWG.COM
Fire Alarm	N/A				
Plumbing	MSWG Engineers, Inc.	CRAIG CHAMPION	17250	704 527 2112	CCHAMPION@MSWG.COM
Mechanical	MSWG Engineers, Inc.	CRAIG CHAMPION	17250	704 527 2112	CCHAMPION@MSWG.COM
Sprinkler-Standpipe	N/A				
Structural	N/A				
Retaining Walls >5' High	N/A				
Other					

2015 EDITION OF NC CODE FOR: ☐ New Construction ☐ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair ■ Renovation
CONSTRUCTED (date) 1975 **ORIGINAL USE(S)** (Ch. 3): BUSINESS
RENOVATED: (date) 2002 **CURRENT USE(S)** (Ch. 3): BUSINESS
PROPOSED USE(S) (Ch. 3): BUSINESS

BASIC BUILDING DATA

Construction Type: (check all that apply) ☐ I-A ■ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☐ II-B ☐ III-B ☐ V-B
Sprinklers: ■ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ■ No ☐ Yes Class: ☐ I ☐ II ☐ III **Wet** ☐ Dry
Fire District: ■ No ☐ Yes (Primary) **Flood Hazard Area:** ■ No ☐ Yes
Building Height: (feet) 28'-8"
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
2nd Floor	8,274	8,274	8,274
1st Floor	7,968	7,968	7,968
TOTAL	16,242	16,242	16,242

ALLOWABLE AREA

Occupancy:
Assembly ■ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
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 Occupancies:
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
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 ☐

Mixed Occupancy: ■ No ☐ Yes Separation: _____ Exception: _____
☐ Incidental Use Separation (508.2.5)
This separation is not exempt as a Non-Separated Use (see exceptions).
☐ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
☐ Separated Use (508.4) - 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) ALLOWABLE AREA PER TABLE 505	(C) AREA FOR OPEN SPACE INCREASE	(D) AREA FOR SPRINKLER INCREASE	(E) ALLOWABLE AREA UNLIMITED	(F) MAXIMUM BUILDING AREA
EXISTING BUILDING, NOT APPLICABLE							

[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. ___
b. (F) Total Building Perimeter = _____ (P).
c. Ratio (F/P) = ___ (F/P).
d. W = Minimum width of public way = ___ (W).
e. Percent of frontage increase ___ 5) x W/30= ___
[2] The sprinkler increase per Secti ___ s:
a. Multi-story building ___ = 200
b. Single story building ___ = 30
[3] Unlimited area applicable under ___ ns 507.
[4] Maximum Building Area = total number of stories in the building × E (506.4).
[5] The maximum area of open parking garages must comply with Table 406.3.5.
The maximum area of air traffic control towers must comply with Table 412.1.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type _____		Type _____	
Building Height in Feet		Feet = H + 20' =		
Building Height in Stories		Stories + 1= _____		

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE	WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
1ST FLOOR BUSINESS	1	1	-	1	2	N/A	-	1
2ND FLOOR BUSINESS	1	1	3	3	3	N/A	-	1

FIRE PROTECTION REQUIREMENTS
EXISTING BUILDING, NOT APPLICABLE

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING Req'd	RATING Provided (w/ Reduction)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame including columns, girders, trusses							
Bearing walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Roof construction Including supporting beams and joists							
Shaft Enclosures-Exit							
Shaft Enclosures-Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Tenant Separation							
Residential Use Separation							

N/A

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS G-101, G-102

Emergency Lighting:	☐ No	■ Yes
Exit Signs:	☐ No	■ Yes
Fire Alarm:	☐ No	■ Yes
Smoke Detection Systems:	☐ No	■ Yes ☐ Partial _____
Panic Hardware:	☐ No	■ Yes

LIFE SAFETY PLAN REQUIREMENTS
Life Safety Plan Sheet #: G-101
■ Fire and/or smoke rated wall locations (Chapter 7)
N/A ☐ Assumed and real property line locations
N/A ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
■ Existing structures within 30' of the proposed building
■ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
■ Occupant loads for each area
■ Exit access travel distances (1016)
■ Common path of travel distances (1014.3 & 1028.8)
■ Dead end lengths (1018.4)
■ Clear exit widths for each exit door
Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
■ Actual occupant load for each exit door
A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
■ Location of doors with panic hardware (1008.1.10)
N/A ☐ Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
■ Location of doors with electromagnetic egress locks (1008.1.9.8)
N/A ☐ Location of doors equipped with hold-open devices
■ Location of emergency escape windows (1029)
N/A ☐ The square footage of each fire area (902)
N/A ☐ The square footage of each smoke compartment (407.4)
Note any code exceptions or table notes that may have been utilized regarding the items above

SCHEDULE OF SPECIAL INSPECTION SERVICES

■ No special inspections required for this project ☐ Special inspections required

The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows:

☐ IT-1 Verification of Soils
☐ IT-2 Excavation and Fill
☐ IT-3 Piling and Drilling Piers
☐ IT-4 Modular Retaining Walls
☐ IT-5 Reinforced Concrete
☐ IT-6 Post Tension Slab
☐ IT-7 Pre-cast Concrete Erection
☐ IT-8 Pre-Stressed Concrete
☐ IT-9 Inspection of Pre-cast Fabricators
☐ IT-10 Inspection of Structural Steel
☐ IT-11 Structural Masonry
☐ IT-12 Welding
☐ IT-13 High Strength Bolts & Steel Framing Insp.
☐ IT-14 Spray Fire-Resistance Materials
☐ IT-15 Exterior Insulation and Finish System
☐ IT-16 Seismic Resistance
☐ IT-17 Smoke Control
☐ IT-18 Detention Basin
☐ IT-19 Special Cases

Check the above boxes for the special inspection required for this project and list below specific special inspections required under Chapter 17. For questions regarding Special Inspections please see www.Mecklenburgnc.com

LOT OR PARKING AREA

ACCESSIBLE PARKING (SECTION 1106)

TOTAL	TOTAL # OF PARKING SPACES REQUIRED	# OF ACCESSIBLE SPACES PROVIDED PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED

N/A

STRUCTURAL DESIGN

DESIGN LOADS: **EXISTING BUILDING, NOT APPLICABLE**
Importance Factors: Wind (Iw)= ___ Snow (Is)= ___ Seismic (Ie)= ___
Live Loads: Roof ___ psf Mezzanine ___ psf Floor ___ psf
Ground Snow Load: ___ psf
Wind Load: Basic Wind Speed ___ mph (ASCE-7) Exposure Category ___ Wind Base Shears (for MWFRS) Vx= ___ Vy= ___
SEISMIC DESIGN CATEGORY ☐ ___ ___
Provide the following Seismic Design ___
☐ Occupancy Category (Table ___
☐ Spectral Response Acceleration ___ Sa ___ %g
☐ Site Classification (Table 16 ___ ☐ C ☐ D ☐ E ☐ F
Data Sou ___ ☐ Presumptive ☐ Historical Data
Basic structural system (check one)
Bearing Wall ☐ Dual w/ Special Moment Frame
Building Frame ☐ Dual w/ Intermediate R/C or Special Steel
Moment Frame ☐ Inverted Pendulum
Seismic Base Shear Vx= ___ Vy= ___
Analysis Procedure ☐ Simplified ☐ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No
LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☐
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) ___ psf
Presumptive Bearing Capacity ___ psf
Pile size, type, and capacity ___

N/A

(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

ENERGY SUMMARY

ENERGY REQUIREMENTS: **EXISTING BUILDING, NOT APPLICABLE**
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs. annual energy cost for the proposed design.
Climate Zone: ☐ 3 ☐ 4 ☐ 5
Method of Compliance:
☐ Prescriptive (Energy Code)
☐ Performance (Energy Code)
☐ Prescriptive (ASHRAE 90.1)
☐ Performance (ASHRAE 90.1)
THERMAL ENVELOPE
Roof/Ceiling Assembly (each assembly)
Description of assembly: ___
U-Value of total assembly: ___
R-Value of insulation: ___
Skylights in each ass ___
U-Value of skylig ___
Total square foot ___
Exterior Walls (each asse ___ h assembly ___
Description of assem ___
U-Value of total asse ___
R-Value of insulation: ___
Openings (windows or doors with glazing)
U-Value of assembly: ___
Solar heat gain coefficient: ___
Projection Factor: ___
Door R-values: ___
Walls below grade (each assembly)
Description of assembly: ___
U-Value of total assembly: ___
R-Value of insulation: ___
Floors over unconditioned space (each assembly)
Description of assembly: ___
U-Value of total assembly: ___
R-Value of insulation: ___
Floor slabs on grade (each assembly)
Description of assembly: ___
U-Value of total assembly: ___
R-Value of insulation: ___
Horizontal/Vertical requirement: ___
Slab Heated: ___

N/A

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone **SEE MECHANICAL DRAWINGS**
winter dry bulb: ___
summer dry bulb: ___
Interior design conditions
winter dry bulb: ___
summer dry bulb: ___
relative humidity: ___
Building heating load: ___
Building cooling load: ___
Mechanical Spacing Conditioning System
Unitary
description of unit: ___
heating efficiency: ___
cooling efficiency: ___
size category of unit: ___
Boiler
Size category. If oversized, state reason ___
Chiller
Size category. If oversized, state reason ___
List equipment efficiencies: ___

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: **SEE ELECTRICAL DRAWINGS**
Energy Code: ☐ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance
Lighting schedule
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed
Additional Prescriptive Compliance
☐ 506.2.1 More Efficient Mechanical Equipment
☐ 506.2.2 Reduced Lighting Power Density
☐ 506.2.3 Energy Recovery Ventilation Systems
☐ 506.2.4 Higher Efficiency Service Water Heating
☐ 506.2.5 On-Site Supply of Renewable Energy
☐ 506.2.6 Automatic Daylighting Control Systems

GENERAL PROJECT NOTES

1. UNLESS OTHERWISE NOTED, DIMENSIONS ARE FROM COLUMN CENTERLINE, FACE OF METAL STUD, FACE OF MASONRY, AND FACE OF CONCRETE. DO NOT SCALE THE DRAWINGS.
2. METAL STUDS SHALL BE ATTACHED WITH TWO SCREWS AT 16" O.C. IN THE BOTTOM AND TOP TRACKS UNLESS DEFLECTION TRACKS ARE UTILIZED.
3. THE G.C. SHALL VERIFY ALL EXISTING CONDITIONS AND ADVISE THE ARCHITECT OF ANY DISCREPANCY PRIOR TO THE START OF WORK.
4. ALL PENETRATIONS THROUGH FLOOR SLABS SUCH AS PIPING, CONDUITS, ETC. SHALL BE SEALED WITH FIRE RATED MATERIALS AND SHALL SEAL AGAINST WATER PENETRATION.
5. ALL OUTSIDE CORNERS AND END GYPSUM WALL PARTITIONS SHALL HAVE METAL CORNER BEADS OR METAL TRIM, U.N.O.
6. PROVIDE FIRE TREATED WOOD BLOCKING OR SHEET METAL PLATES FOR ATTACHMENT OF WALL MOUNTED ACCESSORIES SUCH AS SHELVING, CASEWORK, ETC.
7. ENSURE THAT FINISH MATERIALS SUCH AS PAINT ARE COMPATIBLE WITH SEALANTS UTILIZED IN THE WORK.
8. ALL WALL MOUNTED DEVICES SUCH AS ELECTRICAL RECEPTACLE PLATES, ELECTRICAL SWITCH PLATES, FIRE ALARM STROBES, ETC. SHALL BE MOUNTED LEVEL AND PLUMB. WHERE DEVICES ARE ADJACENT TO ONE ANOTHER, THE TOP OF THE DEVICE SHALL ALIGN WITH THE ADJACENT DEVICE, U.N.O.
9. THE ENGINEERING DRAWINGS SUPPORT THE ARCHITECTURAL DRAWINGS IN DEFINING THE SCOPE OF WORK OF THE CONTRACT DOCUMENTS, DISCREPANCY BETWEEN THE ARCHITECTURAL AND ENGINEERING DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE COMMENCING THE WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE AND AT NO ADDITIONAL COST TO THE OWNER.
10. WHETHER OR NOT SPECIFICALLY INDICATED, ALL GLAZING SHALL BE TEMPERED WHEN WITHIN 18" OF THE FLOOR OR WITHIN 36" HORIZONTAL DISTANCE FROM ANY DOOR.
11. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

DRAWING SHEET INDEX

MATERIAL LEGEND

(NOT ALL MATERIALS APPLICABLE)

PLAN AND SECTION

EARTH
POROUS FILL (STONE OR GRAVEL)
ROCK
LIGHTWEIGHT CONCRETE (OR CONCRETE FILL)
STRUCTURAL CONCRETE (CAST IN PLACE, ETC.)
BRICK (COMMON OR FACE)
CONC. MASONRY UNITS (C.M.U.)
SPRAY-ON FIREPROOFING
BATT/LOOSE FILL INSULATION
EXTRUDED POLYSTYRENE
ACOUSTICAL TILE
GYPSUM WALLBOARD
CARPET AND PAD
PLASTER, CEMENT, SAND, GROUT
STEEL, IRON
ALUMINUM
WOOD (FINISH)
WOOD (ROUGH)
WOOD BLOCKING
PLYWOOD

ELEVATION

BRICK
CERAMIC TILE
CONCRETE / PLASTER / STUCCO
GLASS
SHINGLES/SIDING

GRAPHIC SYMBOL LEGEND

A — COLUMN GRID REFERENCE
DRAWING TITLE
A1 PLAN — 1/8" = 1'-0" — DRAWING SCALE
DRAWING LOCATION ON SHEET GRID
DRAWING NAME
A1 PLAN — NTS
DETAIL/PLAN KEY
A1 / A-201 — DETAIL LOCATION ON SHEET GRID; TERMINATION OF SECTION; SHEET IDENTIFIER FOR LOCATION OF DETAIL
REVISION INDICATION — 1 — REVISION NUMBER; AREA REVISED
CENTERLINE
TYPICAL DIMENSION INDICATOR — 9 1/2"
DOOR NUMBER — 201A
FLOOR ELEVATION — 1ST FLOOR

GLASS TYPE — A; SUBSYSTEM — W1; ENLARGED DETAIL INDICATOR
ROOM NAME & NUMBER — 0'-0" / ROOM NAME / 2201 / 150 SF
DETAIL LOCATION ON SHEET GRID — A1 / A101
SHEET IDENTIFIER FOR LOCATION OF DETAIL
SECTION KEYS
DIRECTION OF SECTION; BUILDING SECTION LOCATION ON SHEET GRID — A1 / A-201
SHEET IDENTIFIER FOR LOCATION OF SECTION
DIRECTION OF SECTION; WALL SECTION LOCATION ON SHEET GRID — A1 / A-201
TERMINATION OF SECTION
SHEET IDENTIFIER FOR LOCATION OF SECTION
ELEVATION KEY
ELEVATION LOCATION ON SHEET GRID — A1 / A-201
SHEET IDENTIFIER FOR LOCATION OF ELEVATION
DIRECTION OF ELEVATION

ABBREVIATIONS

A/C	AIR CONDITION(ING)	DEPT	DEPARTMENT	FOC	FACE OF CURB	LF	LINEAR FEET	PRKG	PARKING	TEL	TELEPHONE
ADMIN	ADMINISTRATION	DET	DETAIL	FOF	FACE OF FINISH	LVR	LOUVER	PSF	POUNDS PER SQUARE FOOT	TEMP	TEMPORARY
AFF	ABOVE FINISHED FLOOR	DF	DRINKING FOUNTAIN	FOM	FACE OF MASONRY	MAINT	MAINTENANCE	PSI	POUNDS PER SQUARE INCH	TFF	TOP OF FINISH FLOOR
ALT	ALTERNATE	DIA	DIAMETER	FOS	FACE OF SLAB	MATL	MATERIAL	PT	PAINT, POST-TENSIONED, PRE-TREATED	THK	THICKNESS
ALUM	ALUMINUM	DIAG	DIAGONAL	FOW	FACE OF WALL	MAX	MAXIMUM	PVC	POLYVINYL CHLORIDE (PLASTIC)	THRU	THROUGH
APPROX	APPROXIMATE(LY)	DIM	DIMENSION	FT	FOOT, FEET	MECH	MECHANICAL	QTR	QUARTER	TO	TOP OF
ARCH	ARCHITECT(URAL)	DIV	DIVISION	FTG	FOOTING	MEZZ	MEZZANINE	QTY	QUANTITY	TOB	TOP OF BEAM
AUTO	AUTOMATIC	DS	DOWNSPOUT	FURN	FURNISH, FURNITURE	MFG	MANUFACTURING	R	RADIUS, RISER	TOC	TOP OF CONCRETE, CURB
AUX	AUXILIARY	E	EAST	GA	GAGE	MFR	MANUFACTURER	RCP	REFLECTED CEILING PLAN	TOF	TOP OF FOOTING
AV	AUDIOVISUAL	EA	EACH	GALV	GALVANIZED	MIN	MINIMUM	RD	ROOF DRAIN	TOJ	TOP OF JOIST
BITUM	BITUMINOUS	EIFS	EXTERIOR INSULATION & FINISH SYSTEM	GC	GENERAL CONTRACTOR	MISC	MISCELLANEOUS	REF	REFRIGERATOR, REFERENCE	TOM	TOP OF MASONRY
BL	BUILDING LINE	EJ	EXPANSION JOINT	GYP BD	GYPSUM BOARD	MO	MASONRY OPENING	REQD	REQUIRED	TOP	TOP OF PARAPET
BLDG	BUILDING	EL	ELEVATION	GYP PLAS	GYPSUM PLASTER	MR	MOISTURE RESISTANT	RL	ROOF LEADER	TOS	TOP OF SLAB
BN	BULL NOSE	ELEC	ELECTRIC(AL)	HC	HANDICAP	MTD	MOUNTED	RM	ROOM	TOW	TOP OF WALL
BOS	BOTTOM OF STEEL	ELEV	ELEVATOR	HD	HEAVY DUTY	MTG	MOUNTING	RO	ROUGH OPENING	TRTD	TREATED
BOT	BOTTOM	ENCL	ENCLOSE(D)	HDWD	HARDWOOD	MTL	METAL	ROW	RIGHT OF WAY	TV	TELEVISION
CAB	CABINET	EOS	EDGE OF SLAB	HDWR	HARDWARE	N	NORTH	S	SOUTH	TYP	TYPICAL
CJ	CONTROL JOINT	EQ	EQUAL	HM	HOLLOW METAL	NIC	NOT IN CONTRACT	SC	SOLID CORE	UL	UNDERWRITERS LABORATORIES
CL	CENTER LINE	EQUIP	EQUIPMENT	HORIZ	HORIZONTAL	NOM	NOMINAL	SD	STORM DRAIN	UNO	UNLESS NOTED OTHERWISE
CLG	CEILING	EWC	ELECTRIC WATER COOLER	HT	HEIGHT	NON COMB	NON-COMBUSTIBLE	SECT	SECTION	VERT	VERTICAL
CLG HT	CEILING HEIGHT	EXIST	EXISTING	HVAC	HEATING, VENTILATION & AIR CONDITIONING	NTS	NOT TO SCALE	SF	SQUARE FEET	VEST	VESTIBULE
CLO	CLOSET	EXP JT	EXPANSION JOINT	ID	INSIDE DIAMETER	OC	ON CENTER	SIM	SIMILAR	VIF	VERIFY IN FIELD
CLR	CLEAR(ANCE)	EXT	EXTERIOR	INCL	INCLUDE(D), (ING)	OD	OUTSIDE DIAMETER	SPEC	SPECIFICATION	W	WEST, WIDE
CMU	CONCRETE MASONRY UNIT	F/F	FACE TO FACE	INFO	INFORMATION	OPP	OPPOSITE	SPKR	SPEAKER	W/	WITH
COL	COLUMN	FD	FLOOR DRAIN	INSUL	INSULATION	OPT	OPTION(AL)	SQ	SQUARE	W/O	WITHOUT
CONC	CONCRETE	FE	FIRE EXTINGUISHER	INT	INTERIOR	PCF	POUNDS PER CUBIC FEET	SS	STAINLESS STEEL	WW	WALL TO WALL
CONF	CONFERENCE	FEC	FIRE EXTINGUISHER CABINET	JAN CLO	JANITOR CLOSET	PLAM	PLASTIC LAMINATE	STD	STANDARD	WC	WATER CLOSET
CONT	CONTINUE. CONTINUOUS	FF EL	FINISH FLOOR ELEVATION	KIT	KITCHEN	PLF	POUNDS PER LINEAR FEET	STOR	STORAGE	WD	WOOD
CORR	CORRIDOR	FHC	FIRE HOSE CABINET	KO	KNOCKOUT	PLYWD	PLYWOOD	SUSP	SUSPENDED	WP	WORKING POINT, WATERPROOFING
CU FT	CUBIC FOOT	FIN FLR	FINISHED FLOOR	LAB	LABORATORY	PNL	PANEL	SYS	SYSTEM	WR	WATER REPELLENT
CU YD	CUBIC YARD	FLR	FLOOR, FILLER	LAM	LAMINATE	PR	PAIR	T	TREAD	WT	WEIGHT
DEMO	DEMOLISH			LAU	LAUNDRY	PREFAB	PREFABRICATED			WWF	WELDED WIRE FABRIC
				LAV	LAVATORY	PREFIN	PREFINISH			YD	YARD

UDS SHEET DESIGNATORS AND SHEET ORDER

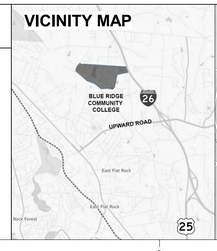
LEVEL 1 - DISCIPLINE DESIGNATORS
G GENERAL
H HAZARDOUS MATERIALS
V SURVEY / MAPPING
B GEOTECHNICAL
C CIVIL
L LANDSCAPE
S STRUCTURAL
A ARCHITECTURAL
I INTERIORS
Q EQUIPMENT
F FIRE PROTECTION
P PLUMBING
M MECHANICAL
E ELECTRICAL
T TELECOM
R RESOURCE

LEVEL 3 - SHEET TYPE DESIGNATORS
0 GENERAL / OVERALL
1 PLANS
2 ELEVATIONS
3 SECTIONS
4 LARGE SCALE VIEWS
5 DETAILS
6 SCHEDULES & DIAGRAMS
7 USER DEFINED
8 USER DEFINED
9 3D REPRESENTATIONS

LEVEL 4 - PLAN TYPE DESIGNATORS
0 DEMOLITION PLAN
1 CONSTRUCTION PLAN
2 REFLECTED CEILING PLAN
3 FINISH PLAN
4 FURNITURE PLAN
5 OUTLET LOCATION PLAN
6 EQUIPMENT PLAN
7 INTERIOR SIGNAGE
8 ACCESS FLOOR GRID PLAN
9 BUILDING AUTOMATION PLAN

A-121
LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 SEQUENCE

VICINITY MAP



AREA MAP

BlueRidge COMMUNITY COLLEGE
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227 WEST TRADE STREET SUITE 700
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JOHN R. EDWARDS REGISTERED ARCHITECT 8894 NORTH CAROLINA GREENVILLE, SC 03-16-2020

REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020

PROJECT INFORMATION SHEET

G-001

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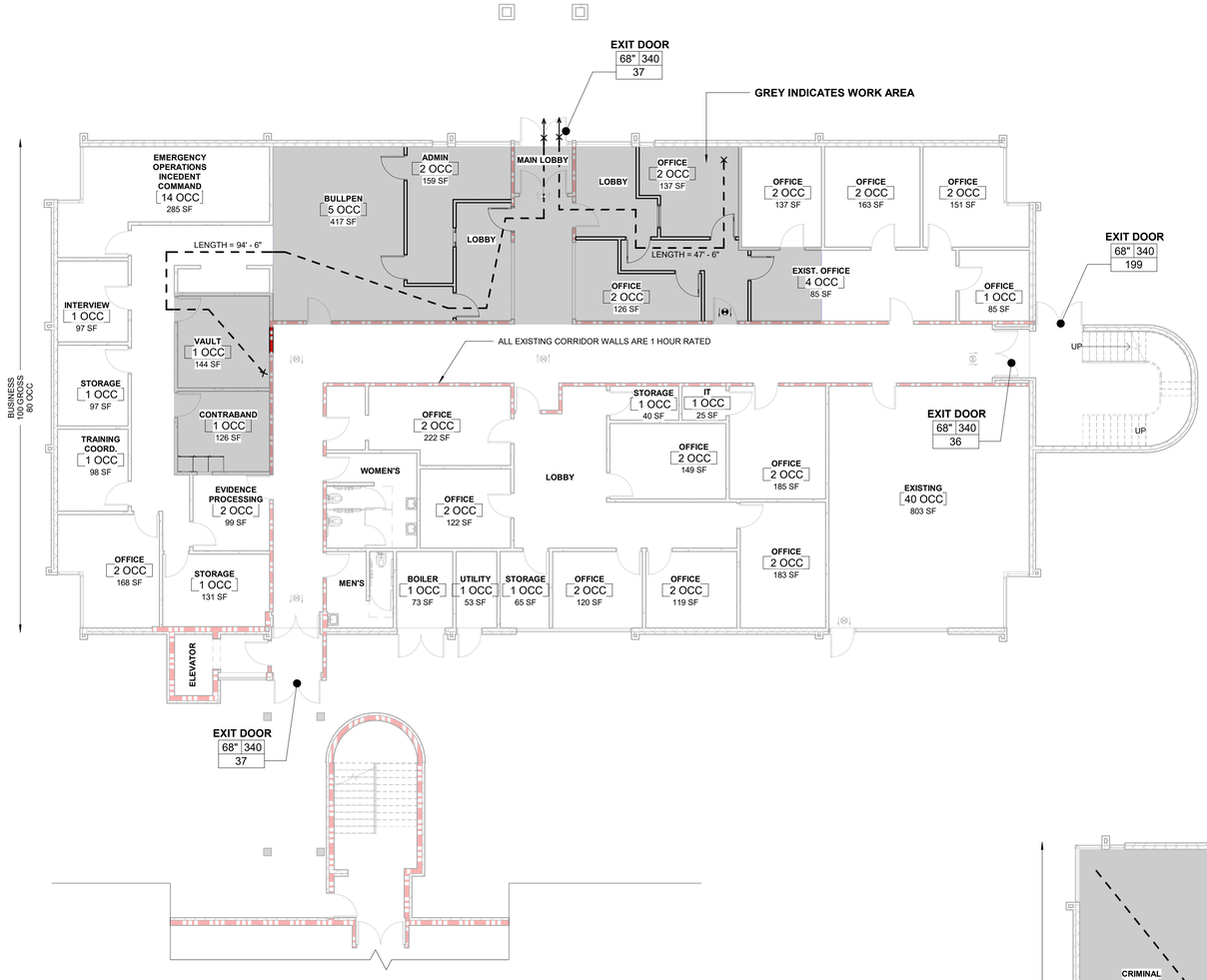
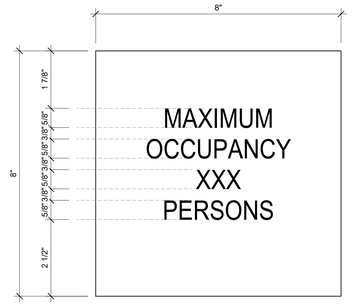
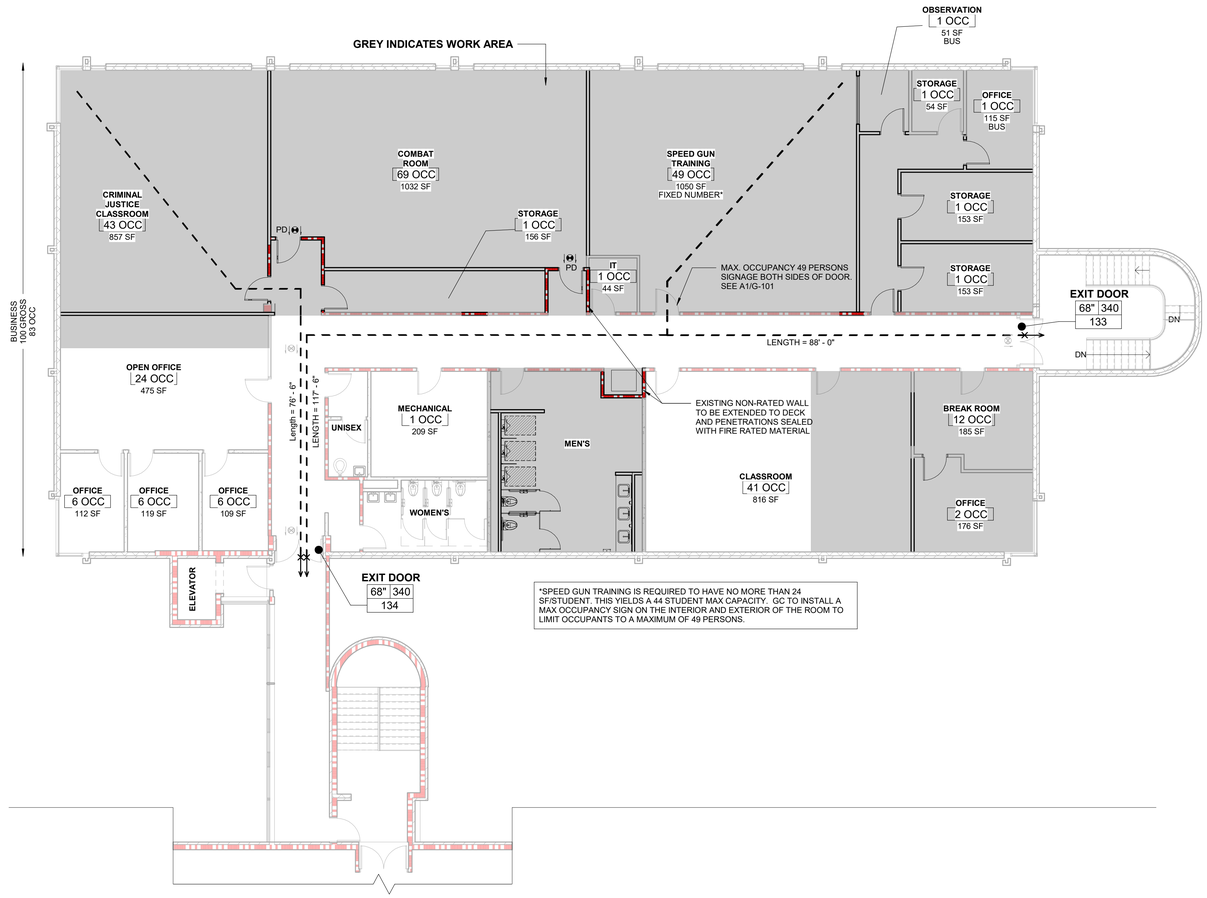


C1 FIRST FLOOR LIFE SAFETY PLAN
1/8" = 1'-0"



A1 MAXIMUM OCCUPANCY SIGNAGE
6" = 1'-0"



A2 SECOND FLOOR LIFE SAFETY PLAN
1/8" = 1'-0"

PARTITION LEGEND

1. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE A3NO, U.N.O.

- EXISTING PARTITION
- NON-RATED PARTITION TO CEILING
- EXISTING 1 HR. RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK (OR INFILL EXISTING DOOR OPENIN

LIFE SAFETY PLAN LEGEND

- EGRESS TRAVEL PATH: DISTANCE NOTED IS ACTUAL. ALLOWABLE DISTANCE IS 300'-0"
- ROOM NAME / 1 OCC — OCCUPANCY LOAD
- 150 SF — ROOM AREA
- OCC Type / SF per OCC — OCCUPANCY LOAD FACTOR AND METHOD
- OCCUPANCY GROUP
- EXIT DOOR: 34" | 170 — EXIT CAPACITY (DOOR EGRESS WIDTH / .2)
- 111 — ANTICIPATED LOAD
- EGRESS WIDTH
- EXIT STAIR: 48" | 160 — EXIT CAPACITY (STAIR EGRESS WIDTH / .3)
- 137 — ANTICIPATED LOAD
- EGRESS WIDTH
- HO — HOLD OPEN
- PD — PANIC DEVICE
- FEC — FIRE EXTINGUISHER CABINET WITH FIRE EXTINGUISHER
- EXIT SIGN

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03-16-2020

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LIFE SAFETY PLANS

G-101

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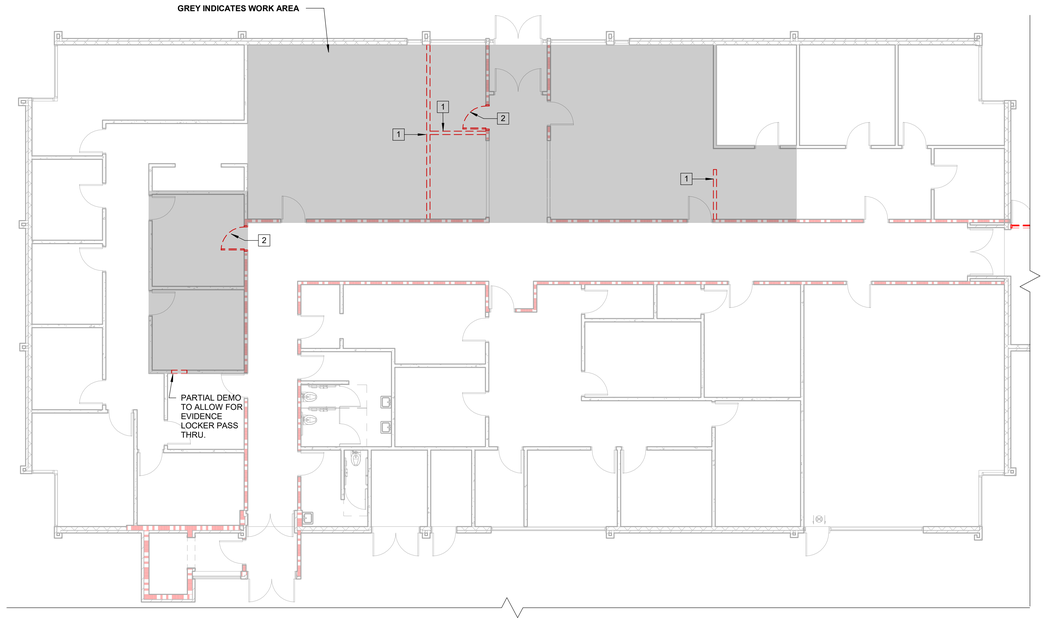
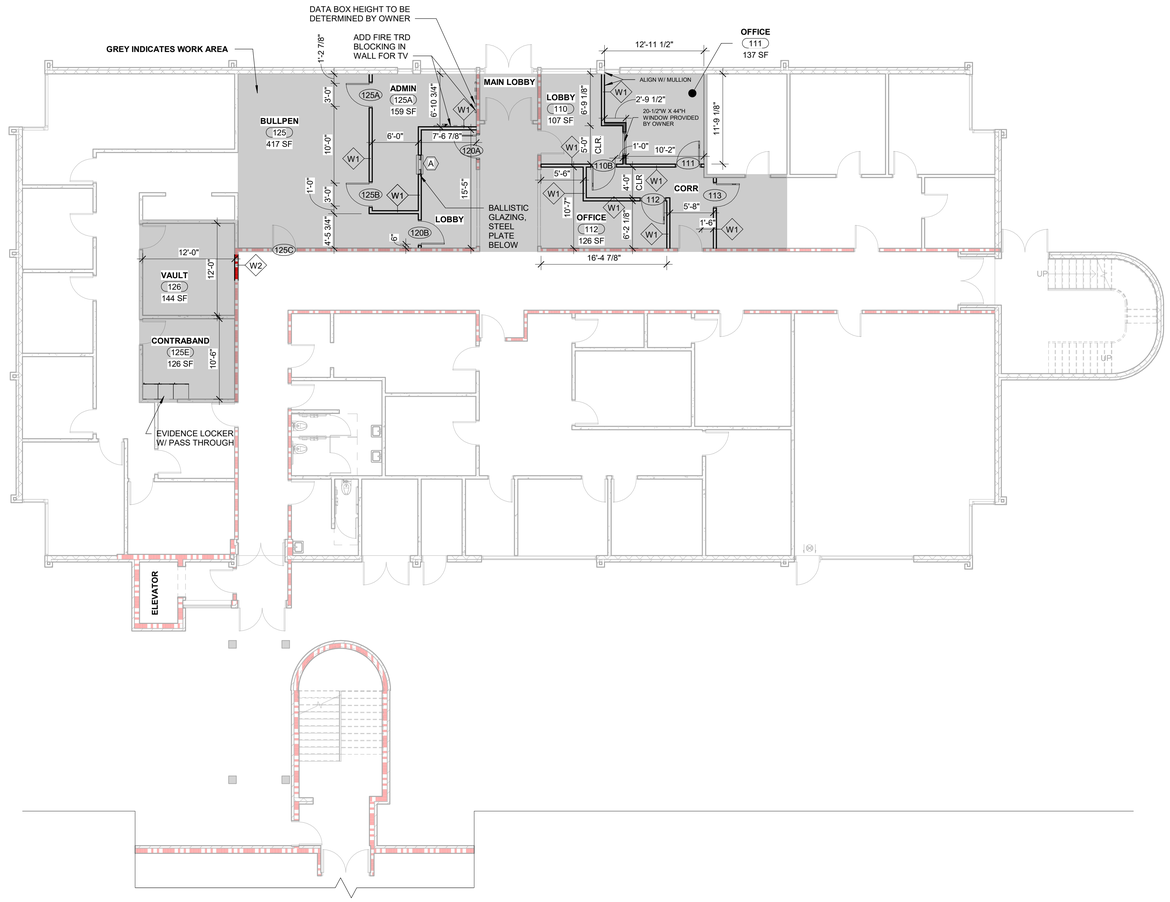


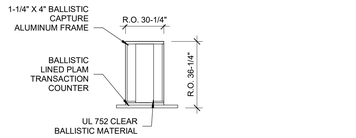
C1 FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"



C4 FIRST FLOOR PLAN
1/8" = 1'-0"

DEMOLITION KEY NOTES

1. REMOVE EXISTING WALL OR PORTION OF WALL AS INDICATED.
2. REMOVE EXISTING DOOR & FRAME. SALVAGE DOOR, FRAME & HARDWARE FOR REUSE.
3. REMOVE EXISTING FLOOR FINISH.
4. REMOVE EXISTING ABANDONED PLUMBING .
5. CORE SLAB AS REQUIRED FOR PLUMBING ROUTING. SEE PLUMBING DRAWINGS.
6. REMOVE ADHESIVE FROM WALL.



B6 BULLET PROOF GLASS ELEVATION A
1/4" = 1'-0"

DEMOLITION GENERAL NOTES

1. NUMBERED KEY NOTES DO NOT IMPLY SEQUENCE. CONTRACTOR TO PERFORM DEMOLITION WORK AS REQUIRED PER WORK SEQUENCE.
2. DEMOLITION DRAWINGS ARE INTENDED TO SHOW GENERAL AREAS OF DEMOLITION AS WELL AS GENERAL EXISTING CONDITIONS. THEY DO NOT SHOW ALL WORK WHICH MAY BE NECESSARY. COMPARE WITH DRAWINGS INDICATING NEW CONSTRUCTION.
3. EXISTING WORK TO REMAIN SHALL BE TEMPORARILY SECURED, BRACED AND STABILIZED UNTIL PERMANENT CONSTRUCTION IS IN PLACE.
4. VERIFY FIELD CONDITIONS PRIOR TO START OF DEMOTION/CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
5. ERECT BARRICADES, FENCES OR OTHER SECURABLE MEANS TO PREVENT UNAUTHORIZED ACCESS INTO CONSTRUCTION ZONES.
6. DO NOT ALLOW MATERIAL AND DEBRIS GENERATED BY DEMOLITION ACTIVITIES TO ACCUMULATE ON THE JOB SITE. REMOVE DAILY AND DISPOSE OF IN A LEGAL MANNER. NO ON-SITE SALE OR BURNING OF REMOVED ITEMS IS PERMITTED.
7. THE CONTRACTOR MUST MAINTAIN ADEQUATE SUPPORT INSULATION, WATERPROOFING, EMERGENCY LIGHTING, SECURITY, ALARMS, ETC. FOR ALL OR PART OF ITEMS WHICH ARE TO REMAIN.
8. TERMINATE AND CAP ANY UTILITY IN WALLS CEILINGS AND FLOORS TO BE REMOVED AND NOT INTENDED FOR REUSE.
9. PREPARE AND PATCH SURFACES THAT RECEIVE NEW FINISHES AS REQUIRED BY REMOVING OR RELOCATING DEVICES, WIRING OR OTHER APPURTENANCES NO LONGER APPROPRIATE FOR THE NEW USE OF THE ROOM.
10. MAINTAIN EXISTING FINISHES, OPERATIONAL CHARACTERISTICS, AND APPEARANCE OF ITEMS SCHEDULED TO REMAIN OR BE REUSED.

DEMOLITION LEGEND

- [1] DEMOLITION KEY NOTE
- EXISTING PARTITION
- EXISTING PARITION TO BE REMOVED
- EXISTING DOOR TO BE REMOVED

FLOOR PLAN SHEET NOTES

1. INTERIOR DIMENSIONS INDICATED ARE TO (FACE OF FINISH, FACE OF STUD, PARTITION CENTERLINE) AND CENTERLINES OF COLUMNS, UNO.
2. LOCATE DOOR OPENINGS 4" FROM NEAREST PERPENDICULAR WALL.
3. FIRE AND SOUND RATED WALLS / PARTITIONS TO BE CONSTRUCTED TIGHT TO STRUCTURE, PIPING, DUCTWORK AND OTHER PENETRATIONS. ALL WORK IS TO BE BRACED TO STRUCTURE ABOVE.
4. WHERE PARTITIONS OF DIFFERENT FIRE RATINGS INTERSECT, THE HIGHEST RATED PARTITION SHALL CONTINUE THROUGH. MAINTAIN PARTITION FIRE RATING BEHIND RECESSED FIRE EXTINGUISHER CABINETS.
5. INSTALL BLOCKING IN PARTITIONS FOR CASEWORK, WALL MOUNTED EQUIPMENT, TRIM AND RELATED CONSTRUCTION AS INDICATED IN THE SPECIFICATIONS.
6. SEE LIFE SAFETY PLANS FOR REQUIRED FIRE SEPARATION WALLS.
7. SEE SHEETS A-721 FOR FINISH FLOORING, TRANSITIONS, FINISH SCHEDULE.
8. PROVIDE SOUND ATTENUATION BLANKETS IN ALL NEW WALLS THAT ENCLOSE AN OFFICE OR OFFICE SUITE.

PARTITION NOTES

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3. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DUCTWORK PRIOR TO FABRICATION OF PARTITION WALLS
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5. WHERE STUDS EXTEND TO STRUCTURE AND GYPSUM WALLBOARD AND SOUND ATTENUATION BLANKETS EXTEND JUST ABOVE THE FINISH CEILING, CAP OFF PARTITION FINISHES WITH A RUNNER CHANNEL WHEN CEILING PLENUM IS USED AS A RETURN AIR PLENUM.
6. DIMENSIONAL CONFLICTS BETWEEN PARTITION TYPES AND THE ARCHITECTURAL FLOOR PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
7. SEE LIFE SAFETY PLANS FOR THE LOCATIONS OF FIRE-RATED PARTITIONS.
8. REFER TO UNDERWRITERS LABORATORIES, INC. FIRE RESISTANCE VOLUMES - CURRENT EDITION FOR SPECIFIC CONSTRUCTION REQUIREMENTS OF U.L. LISTED ASSEMBLIES.
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MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

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FIRST FLOOR PLAN

A-101

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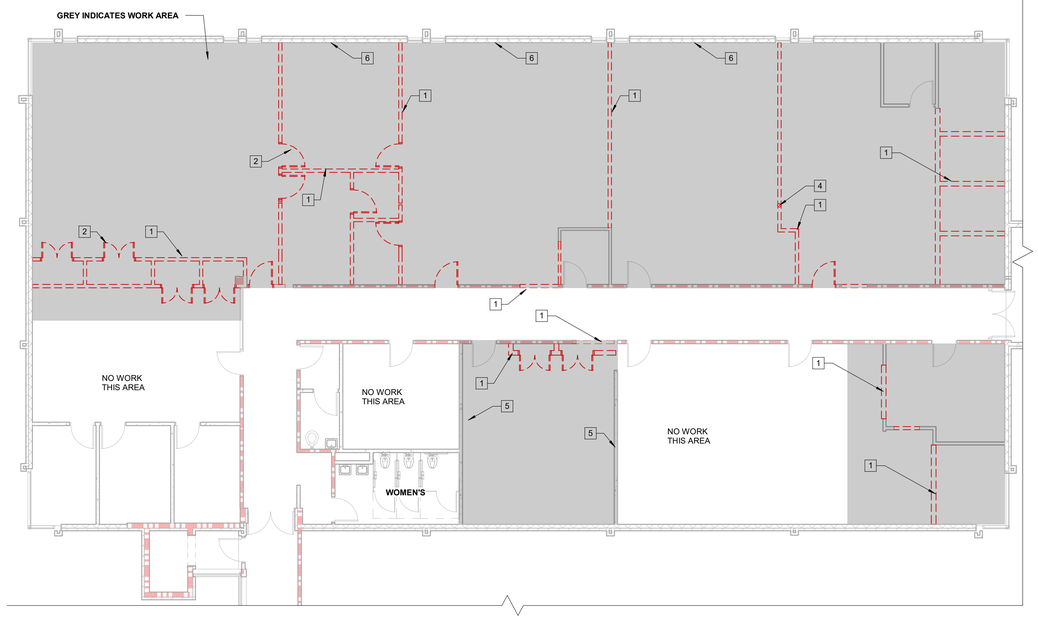
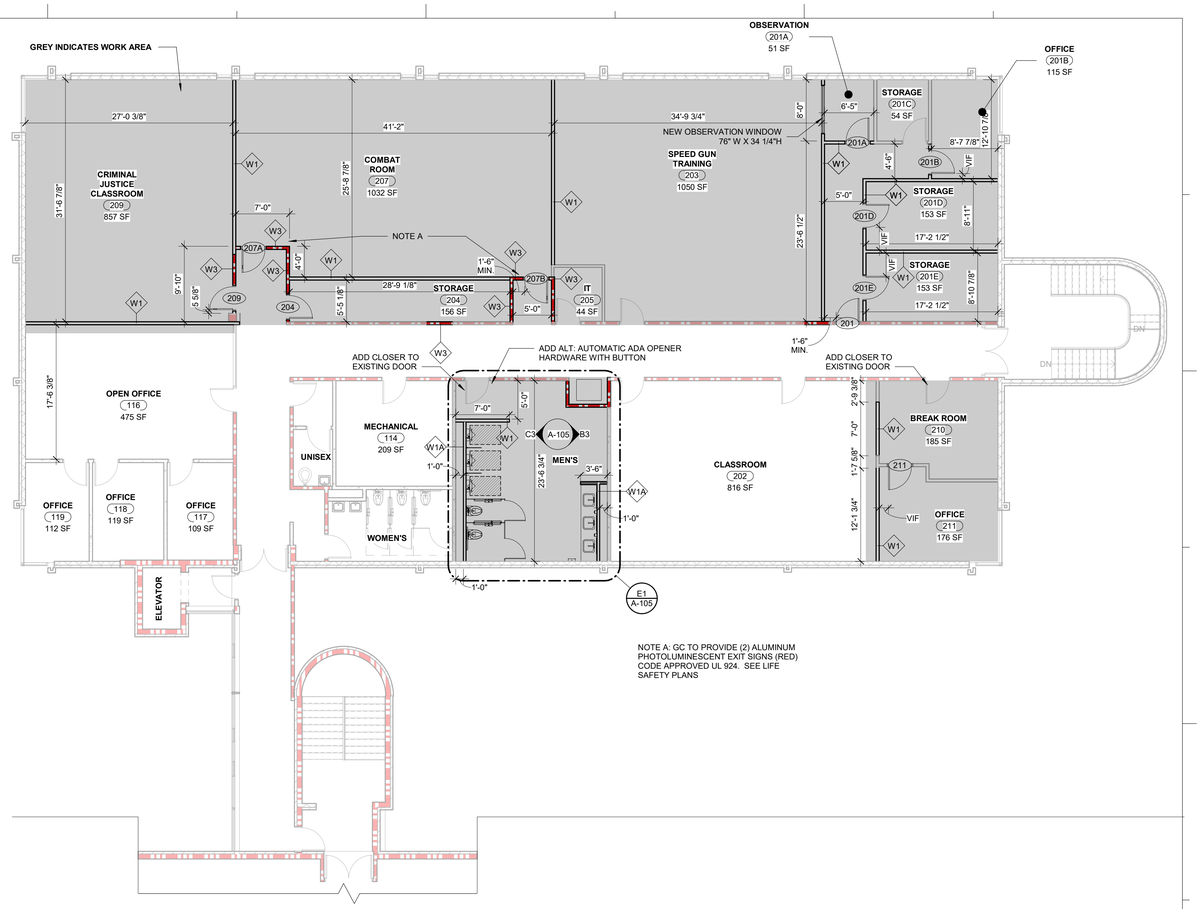


C1 SECOND FLOOR DEMO PLAN
1/8" = 1'-0"



C2 SECOND FLOOR PLAN
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- 1 HR. RATED PARTITION TO DECK (OR INFILL EXISTING DOOR OPENING)

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SECOND FLOOR PLAN

A-102

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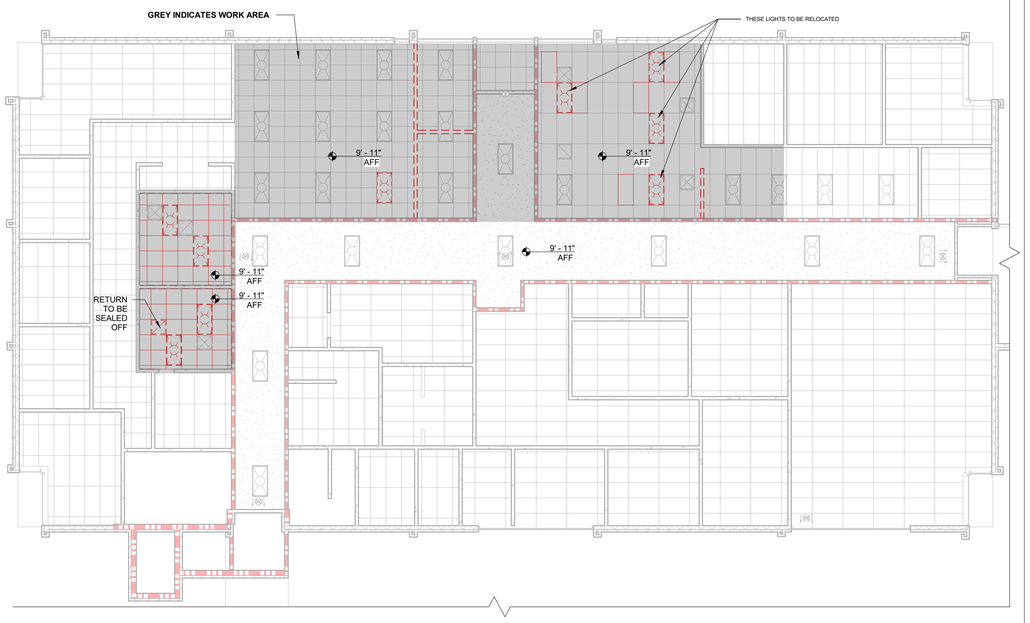
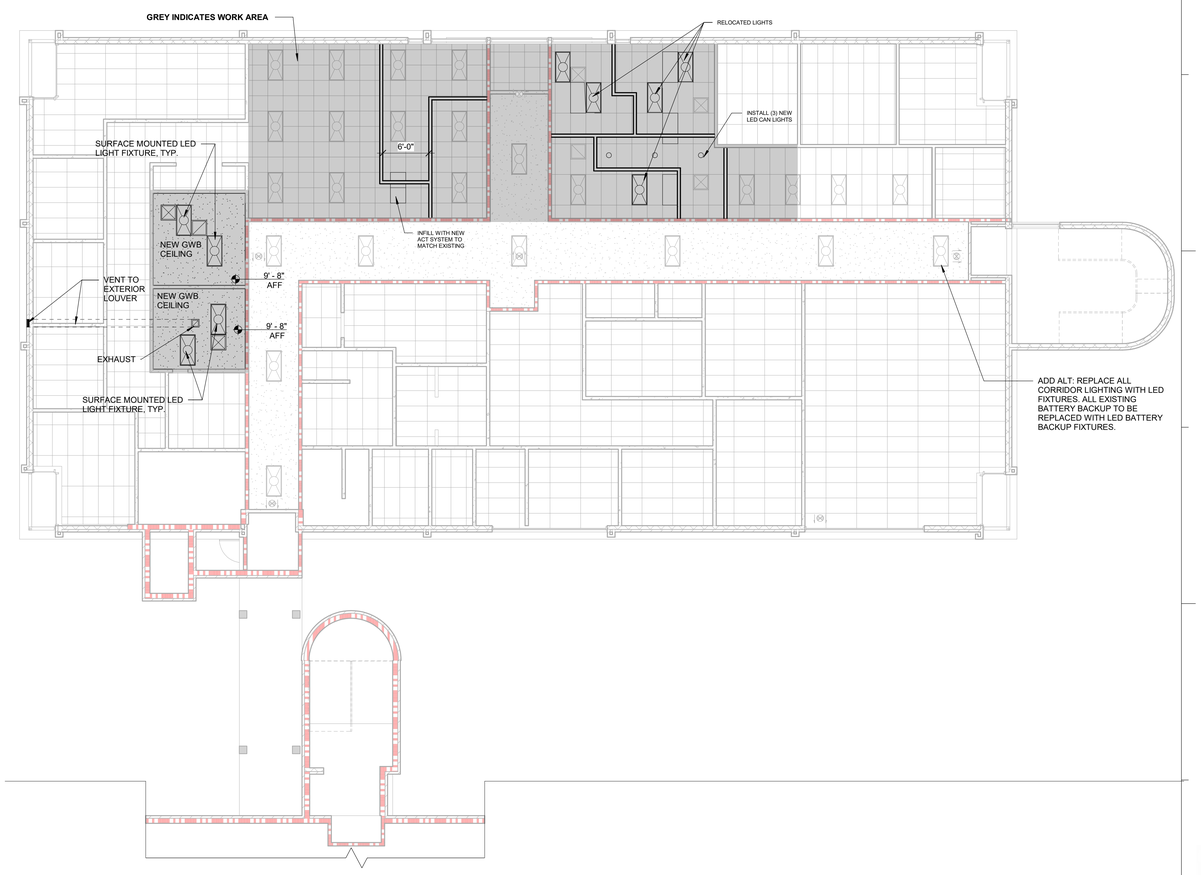


A1 FIRST FLOOR REFLECTED CEILING DEMO PLAN
1/8" = 1'-0"



A2 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

RCP LEGEND

- 2X2 LAY-IN CEILING TILE (EXISTING)
- GYPSUM BOARD
- EXPOSED STRUCTURE - PAINTED
- EXHAUST AIR GRILLE
- 1'-0" AFF — HEIGHT (FEET, INCHES) ABOVE FINISHED FLOOR, 9'-0" U.N.O.
- 1 X 4 FIXTURE
- 2 X 4 FIXTURE (LED WHERE INDICATED)
- LED CAN LIGHT
- SUPPLY AIR DIFFUSER
- RETURN AIR DIFFUSER
- EXHAUST FAN

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FIRST FLOOR RCP

A-103

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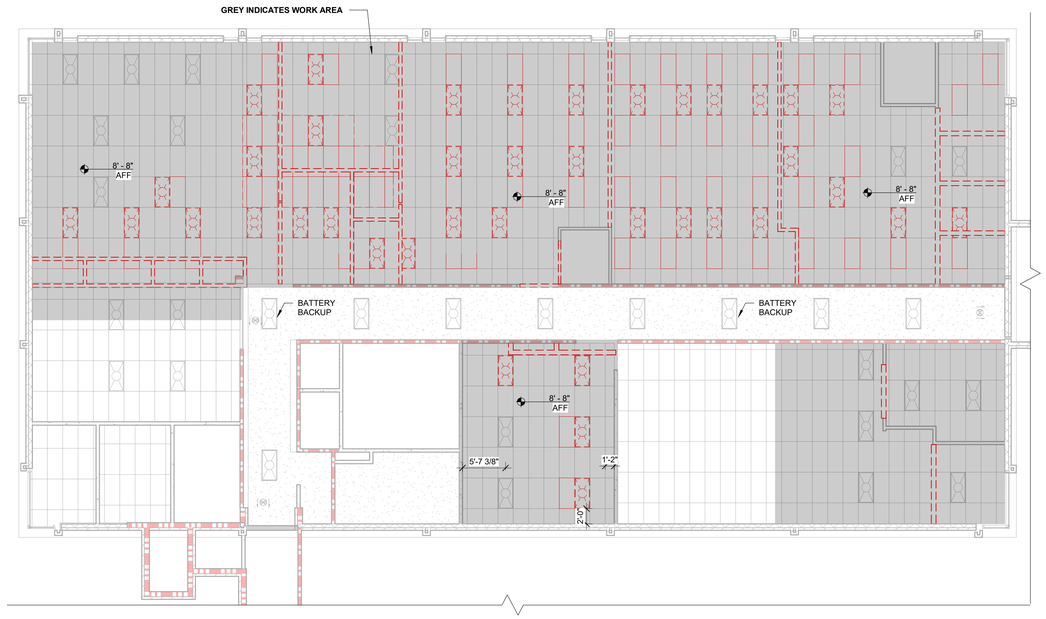
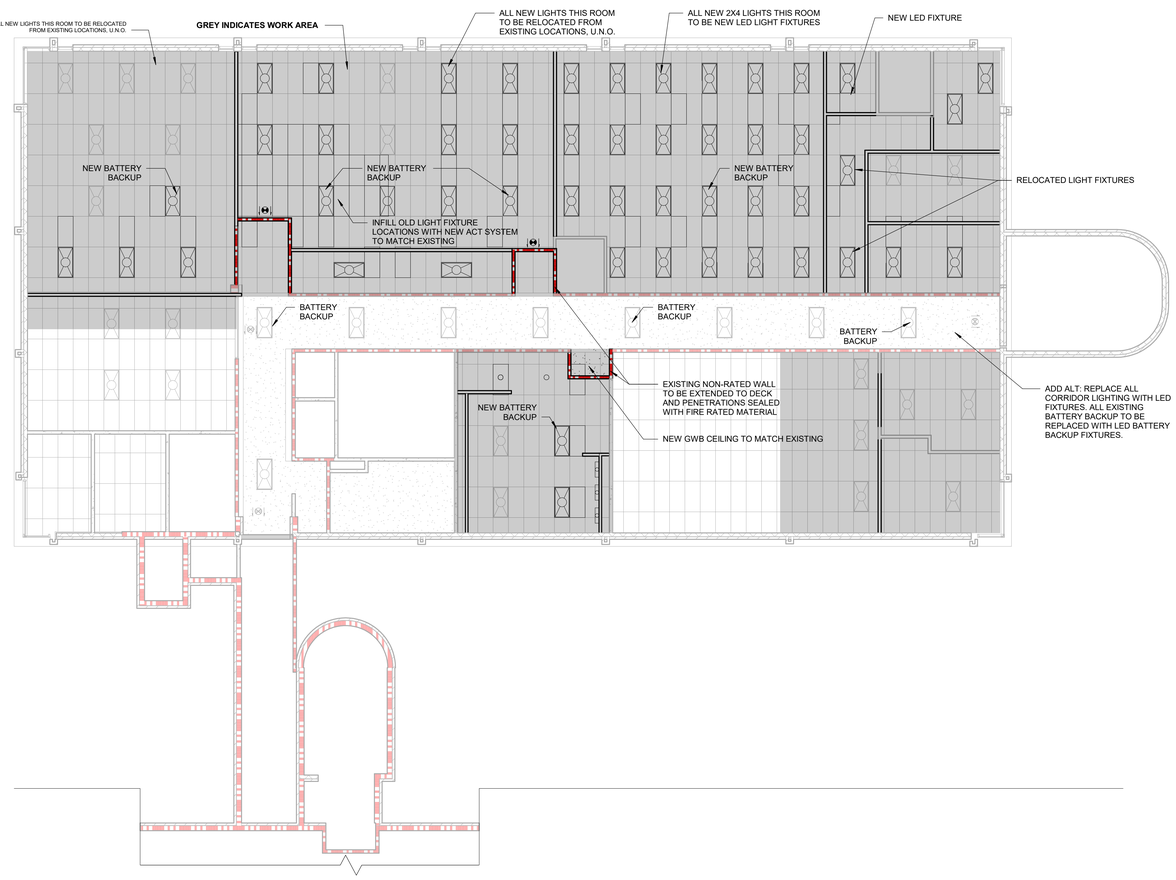


A1 SECOND FLOOR REFLECTED CEILING DEMO PLAN
1/8" = 1'-0"



A2 SECOND FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

RCP LEGEND

- 2X2 LAY-IN CEILING TILE (EXISTING)
- GYPSUM BOARD
- EXPOSED STRUCTURE - PAINTED
- EXHAUST AIR GRILLE
- 1'-0" AFF — HEIGHT (FEET, INCHES) ABOVE FINISHED FLOOR, 9'-0" U.N.O.
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- 2 X 4 FIXTURE (LED WHERE INDICATED)
- LED CAN LIGHT
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SECOND FLOOR RCP

A-104

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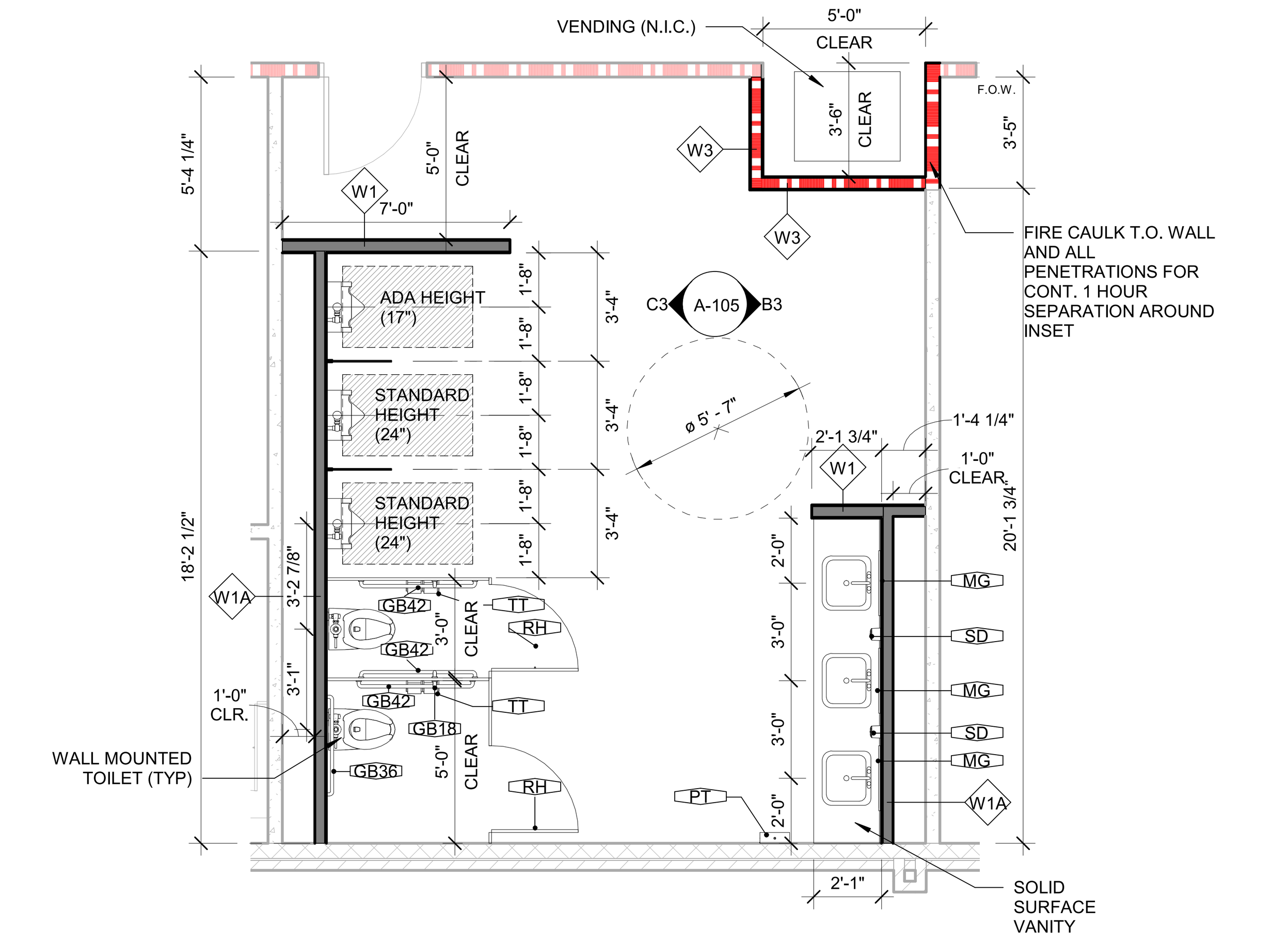
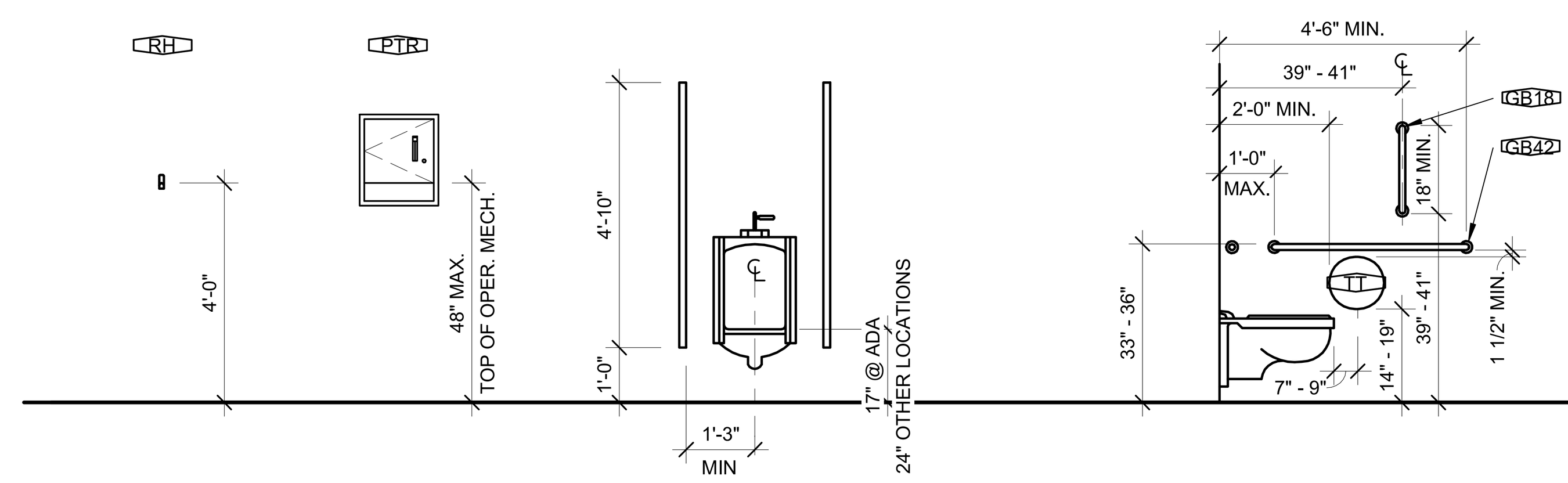


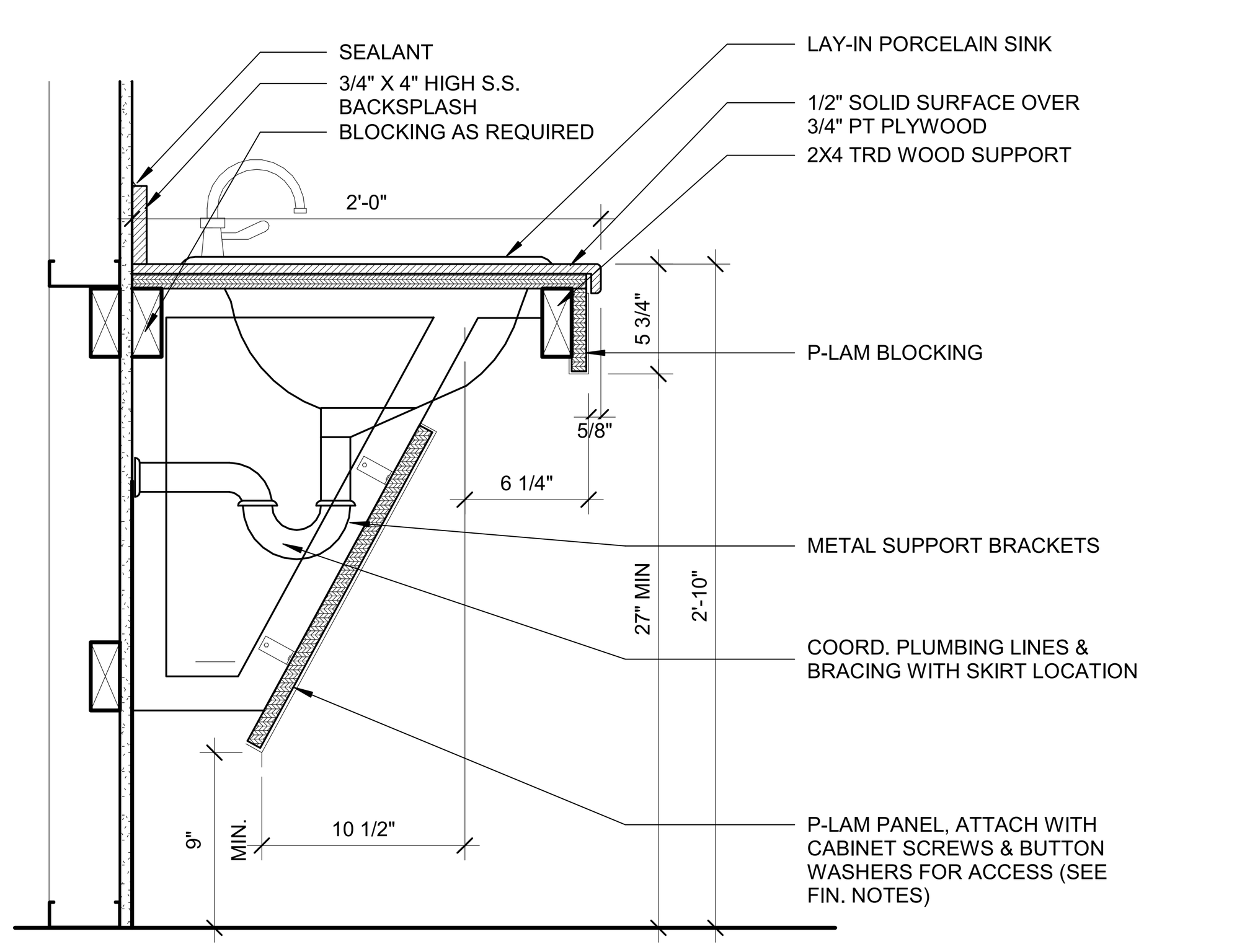
E1 ENLARGED PLAN - MEN'S RESTROOM
1/4" = 1'-0"

TOILET ACCESSORIES LEGEND

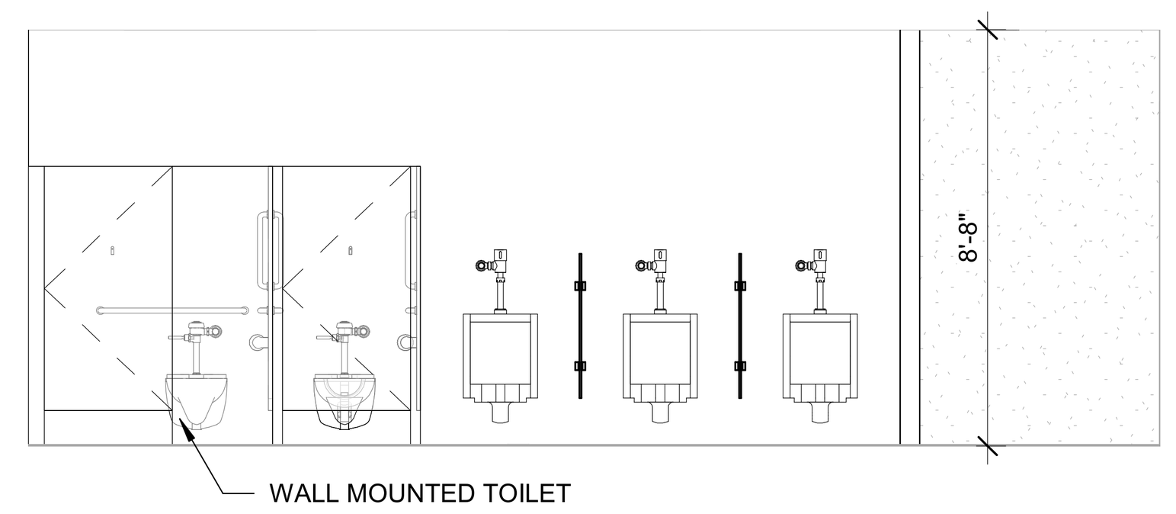
	DESCRIPTION
TT	TOILET TISSUE DISPENSER (OP / CI)
PT	PAPER TOWEL DISPENSER (OP / CI)
SD	SOAP DISPENSER (OP / CI)
GB36	36" GRAB BAR
GB42	42" GRAB BAR
GB18	18" VERTICAL GRAB BAR
MG	GLASS MIRROR UNIT
RH	ROBE HOOK



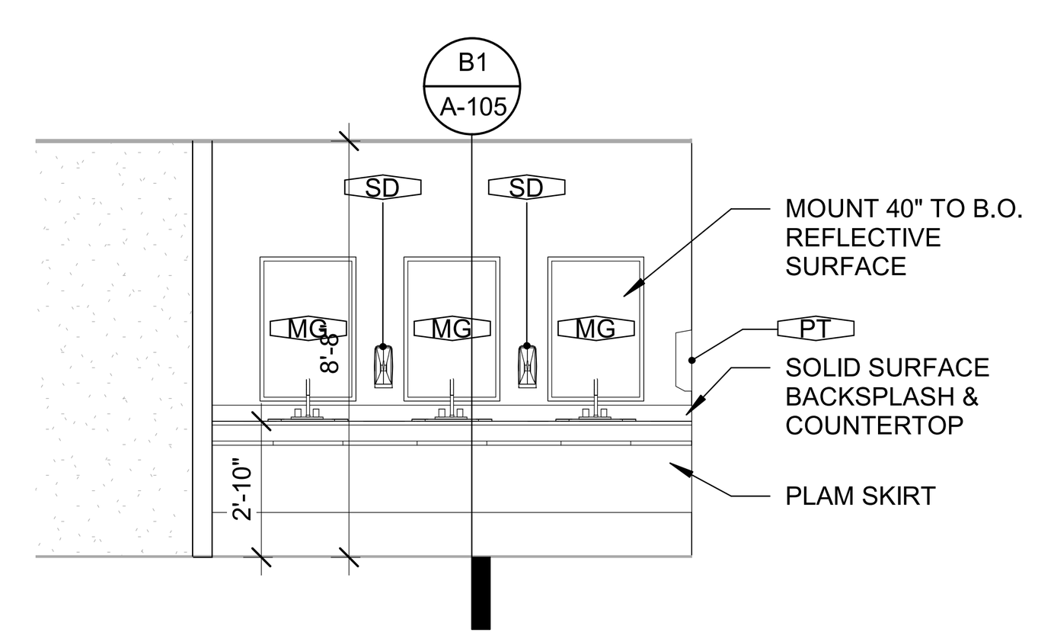
TYPICAL MOUNTING HEIGHTS
3/8" = 1'-0"



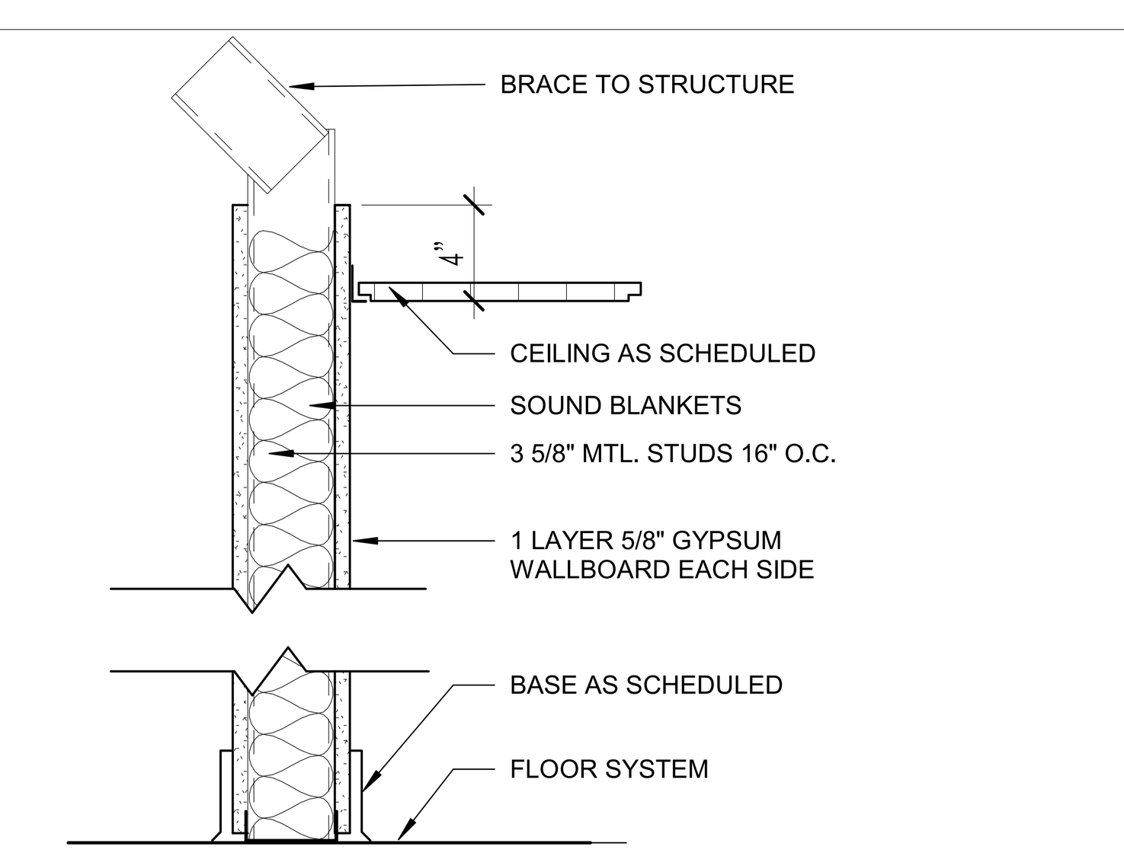
B1 SECTION THROUGH BATHROOM VANITY
1 1/2" = 1'-0"



C3 ENLARGED ELEVATION - MEN'S RESTROOM
1/4" = 1'-0"



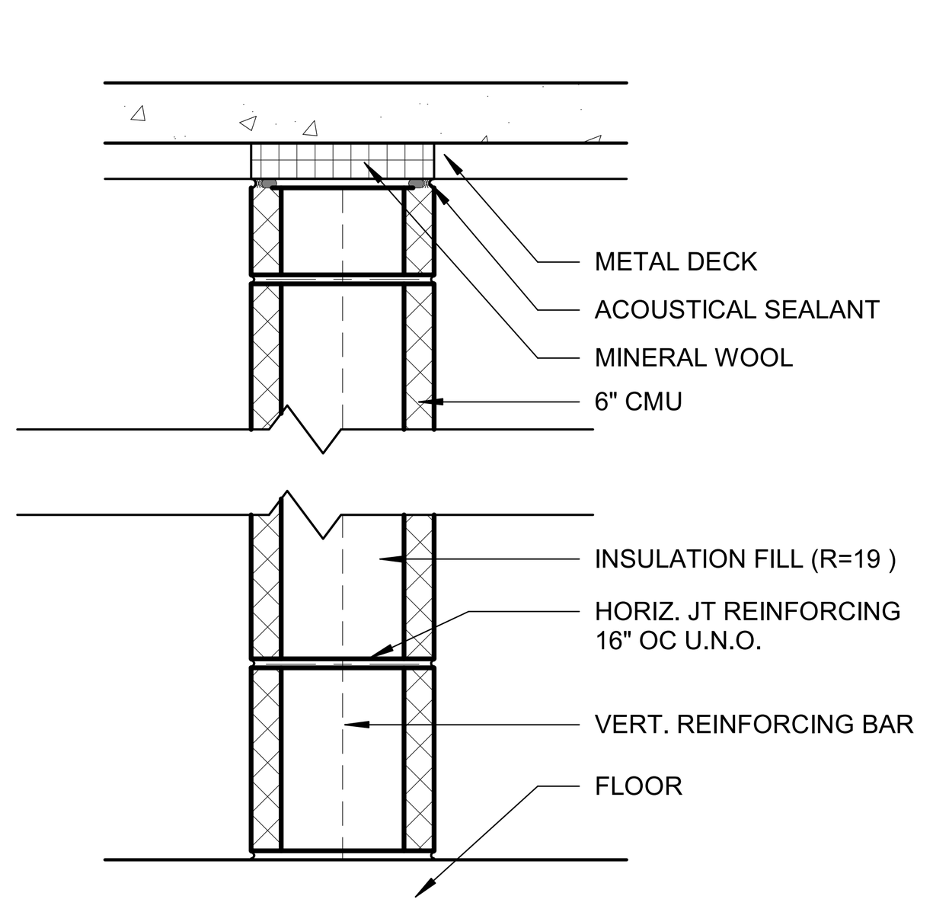
B3 ENLARGED ELEVATION - MEN'S RESTROOM
1/4" = 1'-0"



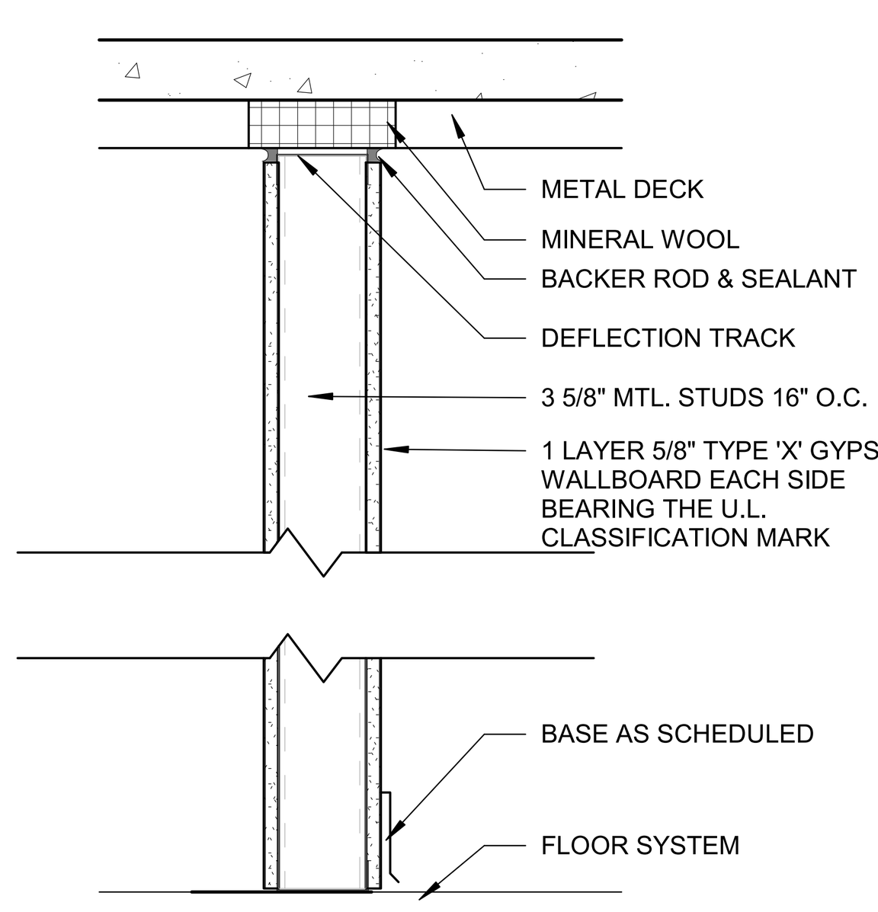
W1	FIRE RATING	UL TEST NO.	STC RATING - N/A
	N/A	N/A	N/A

W1A	FIRE RATING	UL TEST NO.	STC RATING - N/A
	N/A	N/A	N/A

W1A SAME AS W1 EXCEPT WITH 5/8" GYPSUM WALLBOAR ON EXTERIOR SIDE ONLY



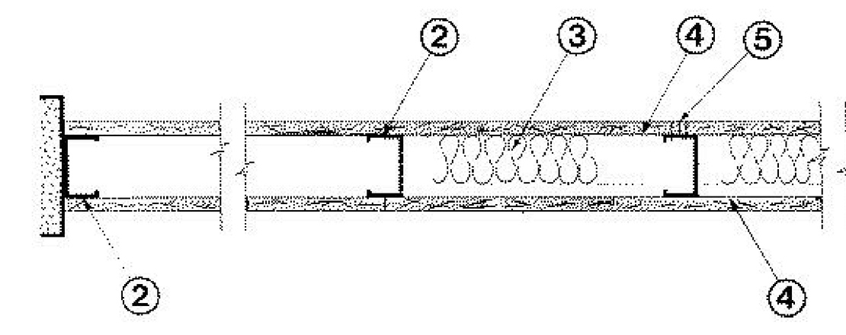
W2	FIRE RATING	UL TEST NO.	STC RATING - 47
	1 HOUR	U905	N/A



W3	FIRE RATING	UL TEST NO.	STC RATING - N/A
	1 HOUR	U465	N/A

Design No. U465

Nonbearing Wall Rating — 1 HR.



1. Floor and Ceiling Runners — (not shown) — Channel shaped runners, 3-5/8 in. wide (min), 1-1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

2. Steel Studs — Channel shaped, 3-5/8 in. wide (min), 1-1/4 in. legs, 3/8 in. folded back returns, formed from min No. 25 MSG galv steel spaced 24 in. OC max.

3. Batts and Blankets* — (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.
See Batts and Blankets (BZJZ) category for names of Classified companies.

3A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 3.0 lb/ft3. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3.

U S GREENFIBER L L C — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

3B. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 3) and Item 3A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

4. Gypsum Board* — 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to item 6 (resilient channels) or 6A (furring channels), wallboard is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

AMERICAN GYPSUM CO — Types AG-C, AGX-1
BEIJING NEW BUILDING MATERIALS PUBLIC
LTD CO — Type DBX-1.
BPB AMERICA INC — Types 1, EGRG, ProRoc Type X, ProRoc Type C.
BPB CANADA INC — ProRoc Type C, ProRoc Type X or ProRoc Type Abuse-Resistant.
CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
G-P GYPSUM CORP, SUB OF
GEORGIA-PACIFIC CORP — Types 5, 9, C, DAP, DD, DA, DGG, DS, GPFS6.
LAFARGE NORTH AMERICA INC — Types LGFC2, LGFC2A, LGFC6, LGFC6A, LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO — Types FSK, FSK-C, FSK-G, FSW-C, FSW-G, FSW, FSW-3 , FSW-5.
PABCO BUILDING PRODUCTS L L C, DBA
PABCO GYPSUM — Type PG-C or PG-9 .
PANEL REY S A — Type PRX.
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1
TEMPLE-INLAND FOREST PRODUCTS CORP — Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C.
UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4A. Gypsum Board* — (As alternate to Item 4) - Nom 5/8 in. thick 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. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
UNITED STATES GYPSUM CO — T ype AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4B. Gypsum Board* — (As an alternate to Items 4 or 4A) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

CANADIAN GYPSUM COMPANY — Types AR, IP-AR.
UNITED STATES GYPSUM CO — Types AR, IP-AR.
USG MEXICO S A DE C V — Types AR, IP-AR.

5. Joint Tape and Compound — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

6. Resilient Channel — (Optional-Not Shown) — 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 panhead steel screws.

6A. Steel Framing Members (Not Shown)* — As an alternate to Item 3, furring channels and resilient sound isolation clip as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.
b. Steel Framing Members* — Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips.

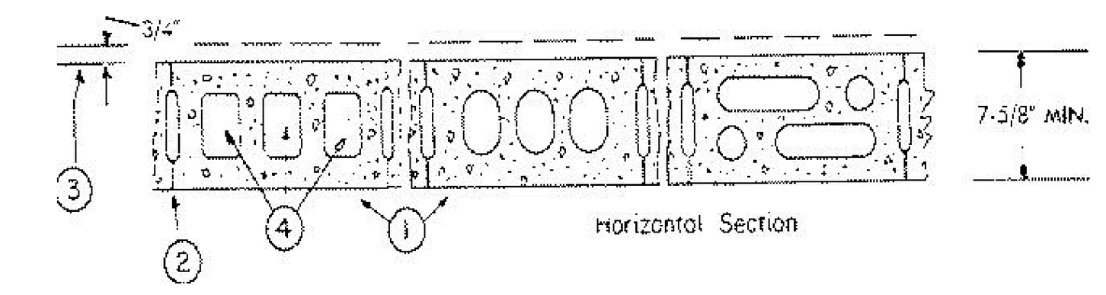
PAC INTERNATIONAL INC — Type RSIC-1.

*Bearing the UL Classification Mark

Last Updated on 2007-02-09

Design No. U905

Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR
Load Restricted for Canadian Applications — See Guide BXUV7



1. Concrete Blocks* — Various designs. Classification D-2 (2 hr). See Concrete Blocks category for list of eligible manufacturers.

2. Mortar — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

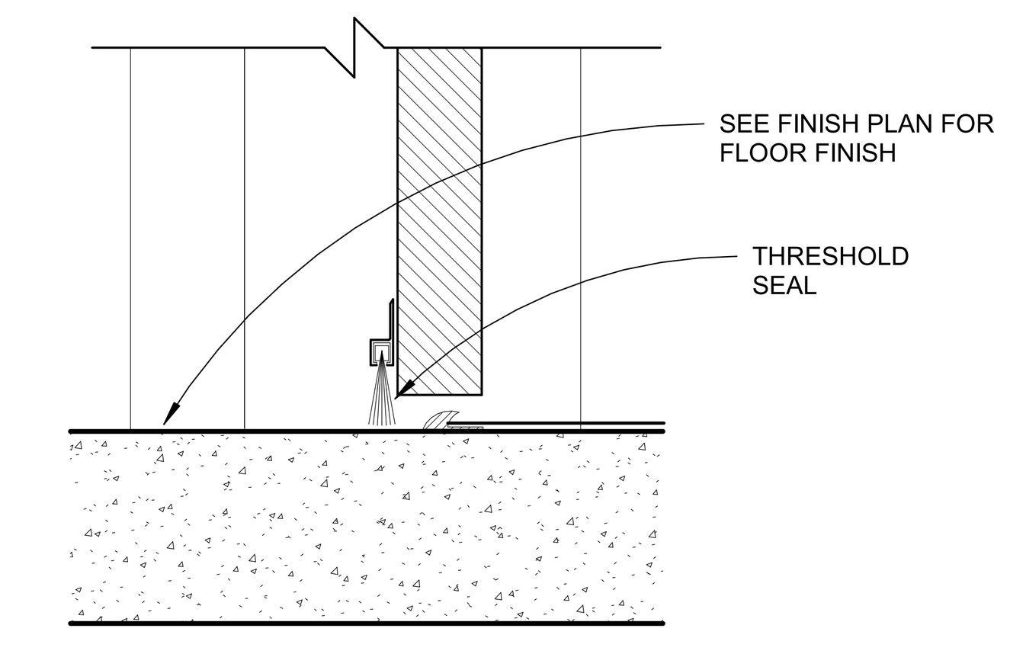
4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. Foamed Plastic* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).

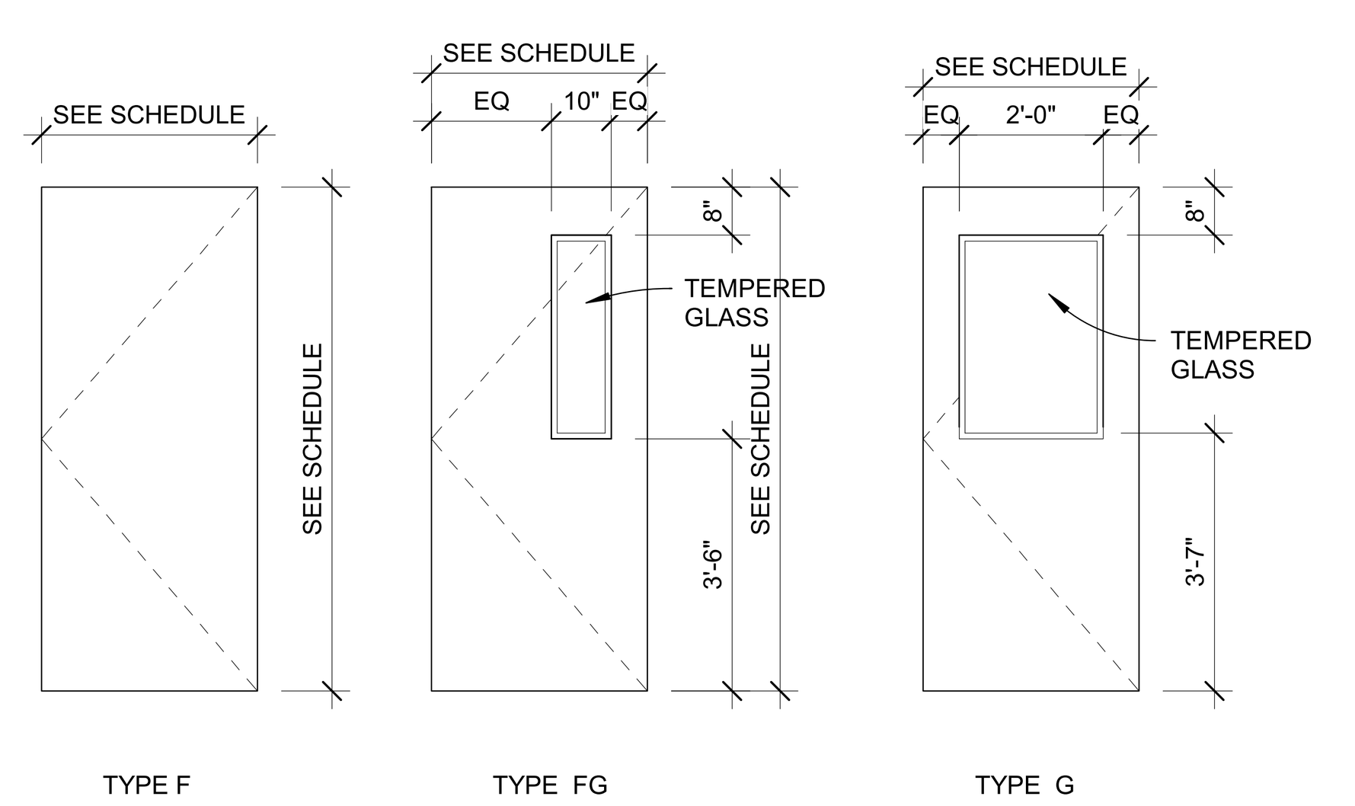
THE DOW CHEMICAL CO — Type Thermax

*Bearing the UL Classification Mark

Last Updated on 2004-03-17

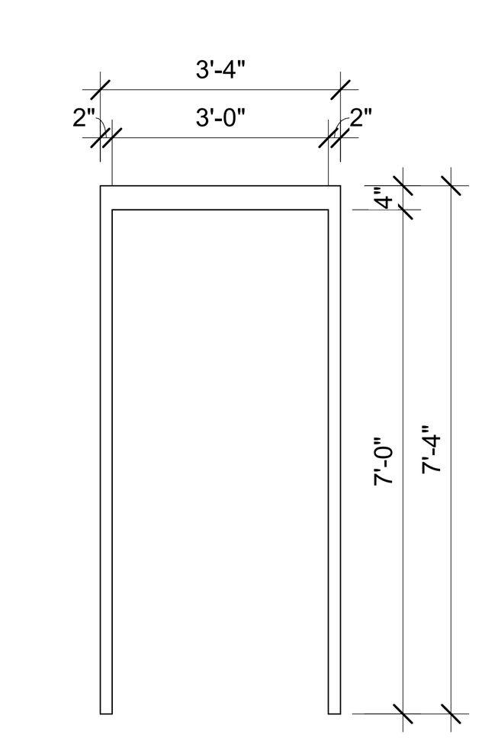


C6 HM DOOR SILL
3" = 1'-0"

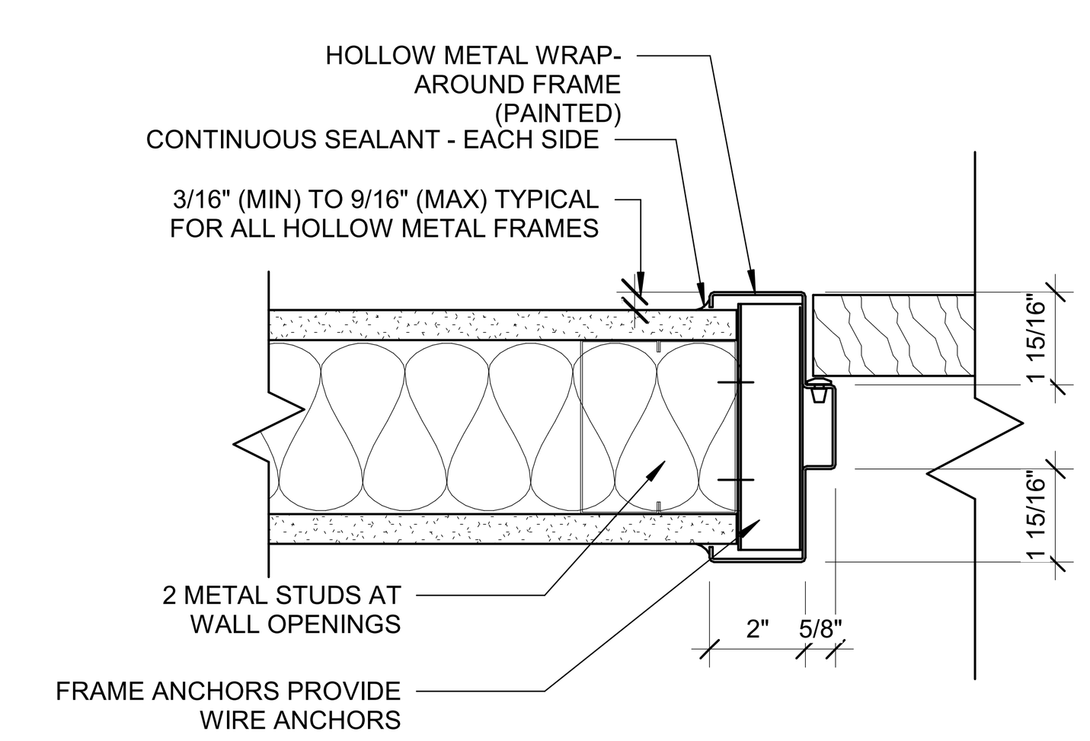


NOTE: GLASS TO BE RATED IF DOOR IS RATED PER SCHEDULE

DOOR TYPE LEGEND
3/8" = 1'-0"
NOTE: ALL NON-RATED DOORS ARE REUSED FROM EXISTING

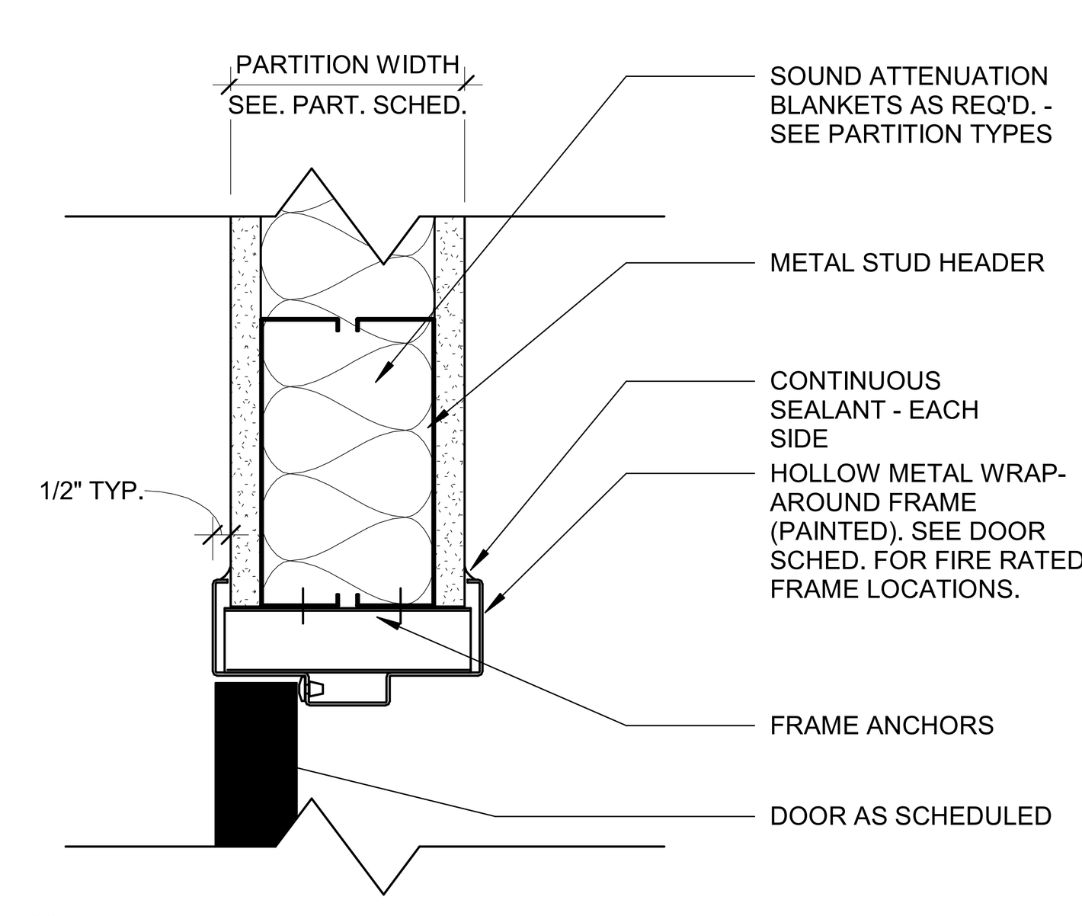


FRAME TYPE LEGEND
3/8" = 1'-0"



B6 HM DOOR JAMB
3" = 1'-0"

DOOR AND FRAME SCHEDULE									
DOOR NUMBER	DOOR					FRAME		Frame Type	REMARKS
	MATL	TYPE	FINISH	SIZE	LABEL	MATL	FINISH		
1ST FLOOR									
110B	WOOD	FG	STAIN	36" x 84"		HM	PTD	1	
111	WOOD	FG	STAIN	36" x 84"		HM	PTD	1	
112	WOOD	FG	STAIN	36" x 84"		HM	PTD	1	
113	WOOD	FG	STAIN	36" x 84"		HM	PTD	1	
120A	MTL	G		36" x 84"	45 MIN	HM		1	45 MIN RATED
120B	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
125A	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
125B	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
2ND FLOOR									
201	WOOD	F	STAIN	36" x 84"	45 MIN	HM	PTD	1	SELF CLOSER
201A	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
201B	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
201D	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
201E	WOOD	F	STAIN	36" x 84"		HM	PTD	1	
204	WOOD	F	STAIN	36" x 84"	45 MIN	HM	PTD	1	SELF CLOSER
207A	WOOD	FG	STAIN	36" x 84"	45 MIN	HM	PTD	1	SELF CLOSER / PANIC DEVICE
207B	WOOD	FG	STAIN	36" x 84"	45 MIN	HM	PTD	1	SELF CLOSER / PANIC DEVICE
209	WOOD	FG	STAIN	36" x 84"	45 MIN	HM	PTD	1	SELF CLOSER
211	WOOD	F	STAIN	36" x 84"		HM	PTD	1	



A6 HM HEAD DETAIL
3" = 1'-0"

BlueRidge COMMUNITY COLLEGE
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LS3P

110 WEST NORTH STREET SUITE 300
GREENVILLE, SOUTH CAROLINA 29601
TEL. 864.235.0405 FAX 864.233.4027
WWW.LS3P.COM

LS3P ASSOCIATES LTD. CERT. NO. 50417 CHARLOTTE, NORTH CAROLINA

JOHN R. EDWARDS 8894 NORTH CAROLINA GREENVILLE, SC
03-16-2020

MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020

PARTITION TYPES, DOOR SCHEDULE, ENLARGED RR

A-105

ISSUED FOR PERMIT

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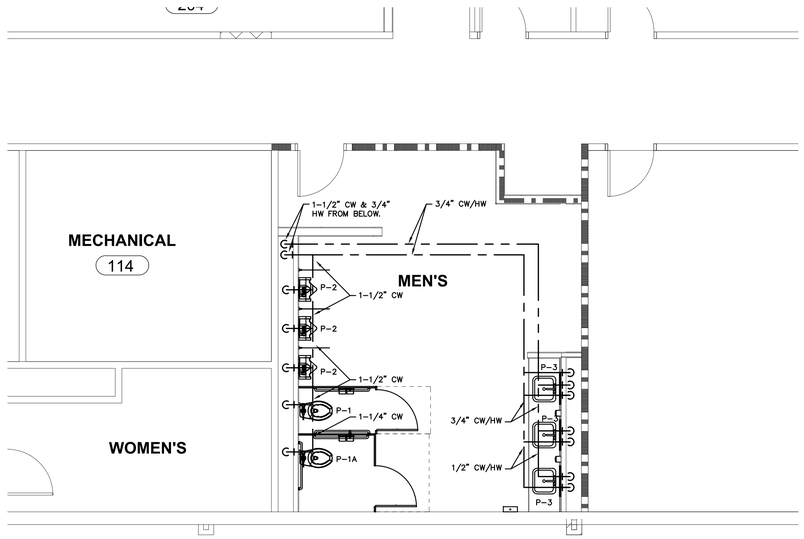
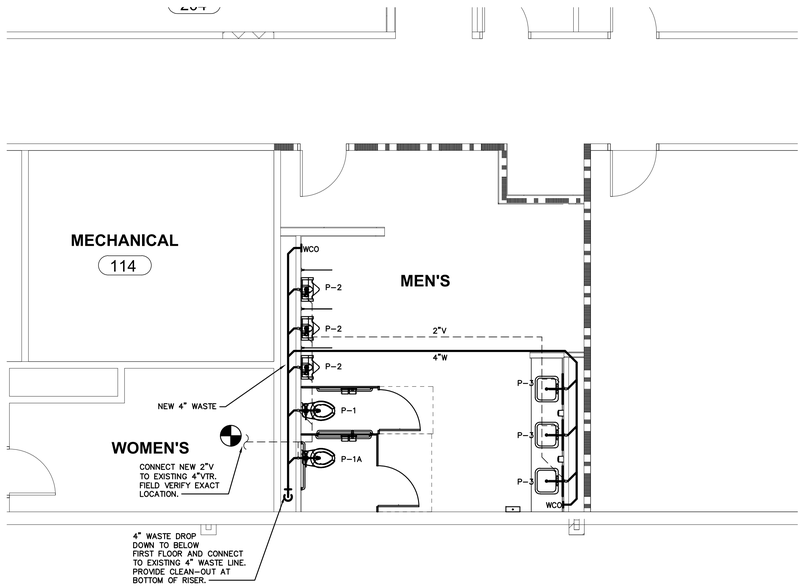
4/1/2020 5:06:13 PM



1 PLUMBING WATER FLOOR PLAN
SCALE: 1/4" = 1'-0"

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE DIMENSIONS



2 PLUMBING WASTE/VENT FLOOR PLAN
SCALE: 1/4" = 1'-0"

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE DIMENSIONS

BlueRidge COMMUNITY COLLEGE
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227 WEST TRADE STREET SUITE 700
CHARLOTTE, NORTH CAROLINA 28202
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McKNIGHT·SMITH WARD · GRIFFIN
ENGINEERS, INCORPORATED
PO Box 240826 · 4223 South Boulevard
Charlotte, NC
704/527-2112 19-300
NC LICENSE F-0595

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17250 CRAIG CHAMPION 03-14-2020

REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020
DRAWN BY: BPA
CHECKED BY: BSC

2ND FLOOR PLAN-PLUMBING

P-102

ISSUED FOR PERMIT

SCOPE

THE CONTRACTOR SHALL COORDINATE THE WORK AND EQUIPMENT OF THIS DIVISION WITH THE WORK AND EQUIPMENT SPECIFIED ELSEWHERE IN ORDER TO ASSURE A COMPLETE AND SATISFACTORY INSTALLATION. WORK SUCH AS EXCAVATION, BACKFILL, CONCRETE, FLASHING, WIRING, ETC., WHICH IS REQUIRED BY THE WORK OF THIS SECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE SECTION OF THE SPECIFICATIONS.

IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE".

THE WORD "PROVIDE" MEANS FURNISH, FABRICATED, COMPLETE, INSTALL, ERECT, INCLUDING LABOR AND INCIDENTAL MATERIALS NECESSARY TO COMPLETE IN PLACE AND READY FOR OPERATION OR USE THE ITEM REFERRED TO OR DESCRIBED HEREIN AND/OR SHOWN OR REFERRED TO ON THE CONTRACT DRAWINGS.

EQUIPMENT APPLICATION AND PERFORMANCE

THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL BE RESPONSIBLE TO SEE THAT EQUIPMENT SUPPLIED IS CORRECT FOR THE INTENDED APPLICATION AND WILL PERFORM WITHIN THE LIMITS OF CAPACITY, NOISE, LIFE EXPECTANCY, PRESSURE DROP AND SPACE LIMITATIONS INTENDED FOR THAT EQUIPMENT AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIFICATIONS. THE SHOP DRAWINGS SHALL SHOW THE CAPACITY AND OPERATING CHARACTERISTICS OF THE EQUIPMENT.

WHERE THE CONTRACTOR PROPOSES TO USE AN ITEM OF EQUIPMENT OTHER THAN THAT SPECIFIED OR DETAILED ON THE DRAWINGS, WHICH REQUIRES ANY REDESIGN OF THE STRUCTURE, PARTITIONS, FOUNDATIONS, PIPING, WIRING OR ANY OTHER PART OF THE MECHANICAL, ELECTRICAL, OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN, AND ALL NEW DRAWINGS AND DETAILING REQUIRED THEREFORE, SHALL BE PREPARED BY THE SUBCONTRACTOR AT HIS OWN EXPENSE AND SUBMITTED FOR APPROVAL BY THE ARCHITECT.

WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUANTITY AND ARRANGEMENT OF DUCTWORK, PIPING, WIRING, CONDUIT, AND EQUIPMENT FROM THAT SPECIFIED OR INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY SUCH DUCTWORK, PIPING, STRUCTURAL SUPPORTS, INSULATION, CONTROLLERS, MOTORS, STARTERS, ELECTRICAL WIRING AND CONDUIT, AND ANY OTHER ADDITIONAL EQUIPMENT REQUIRED BY THE SYSTEM, AT NO ADDITIONAL COST TO THE OWNER.

DIELECTRIC CONNECTIONS
DIELECTRIC CONNECTIONS SHALL BE USED AT ANY POINTS WITHIN THE PIPING SYSTEMS WHERE DISSIMILAR METALS MEET. CAREFUL ATTENTION SHALL BE GIVEN TO SUPPORT BRACKETS AND HANGERS TO SELECT PROPER MATERIALS TO AVOID DISSIMILAR METAL CONTACT AT THESE POINTS.

DUTIES OF CONTRACTOR

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS CALLED FOR IN THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS, AND MUST FURNISH THE APPARATUS COMPLETE IN EVERY RESPECT. ANYTHING CALLED FOR IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS OR SHOWN ON THE DRAWINGS AND NOT CALLED FOR IN THE SPECIFICATIONS MUST BE FURNISHED BY THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THE DETAILS OF THE CONSTRUCTION OF THE BUILDING. WORK UNDER THESE SPECIFICATIONS INSTALLED IMPROPERLY OR WHICH REQUIRES CHANGING DUE TO IMPROPER READING OR INTERPRETATION OF BUILDING PLANS SHALL BE CORRECTED AND CHANGED AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.

CONDITIONS SOMETIMES OCCUR WHICH REQUIRE CERTAIN CHANGES IN DRAWINGS AND SPECIFICATIONS. IN THE EVENT THAT SUCH CHANGES IN DRAWINGS AND SPECIFICATIONS ARE NECESSARY, THE SAME ARE TO BE MADE BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER, PROVIDING SUCH CHANGES DO NOT REQUIRE FURNISHING MORE MATERIALS, OR PERFORMING MORE LABOR THAN THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS DEMANDS. IT IS UNDERSTOOD THAT WHILE THE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE CONTRACTOR IS HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEM ACCORDING TO THE TRUE INTENT AND MEANING OF THE DRAWINGS. ANYTHING NOT ENTIRELY CLEAR IN THE DRAWINGS AND SPECIFICATION WILL BE FULLY EXPLAINED IF APPLICATION IS MADE TO THE ARCHITECT. SHOULD, HOWEVER, CONDITIONS ARISE WHERE IN THE JUDGMENT OF THE CONTRACTOR CERTAIN CHANGES WILL BE ADVISABLE, THE CONTRACTOR WILL COMMUNICATE WITH THE ARCHITECT AND SECURE HIS APPROVAL OF THESE CHANGES BEFORE GOING AHEAD WITH THE WORK.

THE RIGHT TO MAKE ANY RESPONSIBLE CHANGE IN LOCATION OF APPARATUS, EQUIPMENT, ROUTING OF PIPING UP TO THE TIME OF ROUGHING IN, IS RESERVED BY THE ARCHITECT WITHOUT INVOLVING ANY ADDITIONAL EXPENSE TO THE OWNER.

IT SHALL BE THE DUTY OF PROSPECTIVE CONTRACTORS TO VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH JOB CONDITIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF ADDITIONAL WORK NECESSITATED BY, OR CHANGES IN PLANS REQUIRED BECAUSE OF EVIDENT JOB CONDITIONS, THAT ARE NOT INDICATED ON THE DRAWINGS.

CODES, RULES, PERMITS AND FEES

ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

ALL MATERIALS AND EQUIPMENT FOR THE ELECTRICAL PORTION OF THE MECHANICAL SYSTEM SHALL BEAR THE APPROVAL LABEL, AND SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NORTH CAROLINA STATE BUILDING CODE, AND REQUIREMENTS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION.

COOPERATION WITH OTHER TRADES

THIS CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.

WHERE THE WORK OF THE CONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR MAY INTERFERE WITH THE WORK OF OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF SO DIRECTED BY THE ARCHITECT, THE CONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS AND SECTIONS AT A SUITABLE SCALE NOT LESS THAN 3/8" = 1'-0", CLEARLY SHOWING HOW HIS WORK IS TO BE INSTALLED IN RELATION TO THE WORK OF OTHER TRADES. IF THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATION WITH OTHER TRADES, OR SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE THE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.

THE CONTRACTOR SHALL FURNISH TO OTHER TRADES, AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, SETTING PLANS, AND SHOP DETAILS FOR THE PROPER INSTALLATION OF WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK.

SAFETY REQUIREMENTS

ALL SYSTEMS SHALL BE INSTALLED SO AS TO BE SAFE OPERATING AND ALL MOVING PARTS SHALL BE COVERED WHERE SUBJECT TO HUMAN CONTACT. ALL ROUGH EDGES OF EQUIPMENT AND MATERIALS SHALL BE MADE SMOOTH.

ALL SAFETY CONTROLS SHALL BE CHECKED UNDER THE SUPERVISION OF THE ARCHITECT'S REPRESENTATIVE AND EIGHT (8) COPIES OF TEST DATE SHOWING SETTING AND PERFORMANCE OF SAFETY CONTROLS SHALL BE SUBMITTED TO THE ARCHITECT. ALL PRESSURE VESSELS SHALL BE ASME STAMPED AND SHALL HAVE STAMPED RELIEF VALVES. WATER HEATERS SHALL BE PROVIDED WITH ASME STAMPED T & P RELIEF VALVE.

CONCEALED PIPE

IN GENERAL, ALL PIPES IN FINISHED SPACES SHALL BE RUN CONCEALED IN FLOORS, WALLS, PARTITIONS AND ABOVE CEILINGS. UNLESS OTHERWISE NOTED, ALL PIPE SHALL RUN INSIDE THE INSULATED PERIMETER OF THE BUILDING.

EXCAVATING AND BACKFILLING

IN BACKFILLING PIPE TRENCHES, APPROVED FILL SHALL FIRST BE COMPACTED FIRMLY AND EVENLY ON BOTH SIDES OF PIPE IN 6" LAYERS TO A DEPTH OF 12" OVER THE TOP OF THE PIPE. REMAINDER OF TRENCH SHALL BE BACKFILLED TO ESTABLISHED GRADE IN 6" LAYERS. COMPACT BETWEEN EACH LAYER WITH A HIGH-FREQUENCY VIBRATOR TAMPER SUCH AS DART SOIL COMPACTOR (AS MANUFACTURED BY DART MANUFACTURING COMPANY, DENVER, COLORADO). FILL SHALL BE COMPACTED TO DENSITY SPECIFIED UNDER EARTH WORK SECTION OF SPECIFICATIONS FOR SPECIFIED AREA THROUGH WHICH TRENCH PASSES. COMPACT FILL TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT ALL OTHER AREAS. EARTH BEARING PRESSURE AS INDICATED SHALL BE VERIFIED BY A TESTING LABORATORY, WHICH FOLLOWING THE CRITERIA SPECIFIED FOR FOUNDATION WALL TRENCH, ETC. IN THE EARTH WORK SECTION OF THE SPECIFICATIONS. THE REPORTS SHALL BE FORWARDED TO THE ARCHITECT FOR APPROVAL UNLESS OTHERWISE SPECIFIED, THE COST WILL BE BORNE BY THIS CONTRACTOR, BEFORE ANY WORK IS PERFORMED. IF THE EARTH BEARING PRESSURE IS LESS THAN THAT REQUIRED, THE CONTRACTOR SHALL NOT BEGIN ADDITIONAL WORK UNTIL NOTIFIED BY THE ARCHITECT TO DO SO. A COPY OF THE REPORT SHALL BE FORWARDED TO THE ARCHITECT IN TRIPLICATE.

PROTECTION

THE CONTRACTOR SHALL PROTECT ALL WORK AND MATERIAL FROM DAMAGE, AND SHALL BE LIABLE FOR ALL DAMAGE DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL ALL CONSTRUCTION IS FINALLY INSPECTED, TESTED AND ACCEPTED. HE SHALL PROTECT WORK AGAINST THEFT, INJURY OR DAMAGE; AND SHALL CAREFULLY STORE MATERIAL AND EQUIPMENT RECEIVED ON SITE WHICH IS NOT IMMEDIATELY INSTALLED. HE SHALL CLOSE OPEN ENDS OF WORK INCLUDING PIPE, DUCT, OR EQUIPMENT WITH TEMPORARY COVERS OR PLUGS DURING STORAGE AND CONSTRUCTION TO PREVENT ENTRY OF OBSTRUCTING MATERIALS OR DUST AND DEBRIS.

PROVIDE A PROTECTIVE COVERING OF NOT LESS THAN 0.004" THICK VINYL SHEETING (OR A SIMILAR APPROVED MATERIAL) TO BE USED IN COVERING ALL ITEMS OF EQUIPMENT, IMMEDIATELY AFTER THE EQUIPMENT HAS BEEN SET IN PLACE, (OR IF IN A PLACE OF STORAGE WITHIN THE BUILDING UNDER CONSTRUCTION) TO PREVENT THE ACCUMULATION OF DIRT, SAND, CEMENT, PLASTER, PAINT OR OTHER FOREIGN MATERIALS FROM COLLECTING ON THE EQUIPMENT AND/OR FOULING WORKING PARTS.

CLEANING

CLEAN FROM ALL EXPOSED INSULATION AND METAL SURFACES GREASE, DEBRIS OR OTHER FOREIGN MATERIAL.

CHROME PLATED FITTINGS, FIXTURES, PIPING AND TRIM SHALL BE POLISHED UPON COMPLETION.

EQUIPMENT SERVICEABILITY

ALL EQUIPMENT SHALL BE SERVICEABLE. ALL EQUIPMENT SHALL BE INSTALLED SO THAT IT CAN BE REMOVED. ALL EQUIPMENT IN OR CONNECTED TO PIPING SYSTEMS SHALL HAVE VALVES TO ISOLATE THIS EQUIPMENT FROM THE PIPING SYSTEM. THIS INCLUDES, BUT NOT NECESSARILY LIMITED TO CONTROL VALVES, WATER HEATERS, SENSORS, SWITCHES, PUMPS, TRAPS AND STRAINERS. UNIONS (SCREWED OR FLANGED) SHALL BE PROVIDED SO THAT ALL EQUIPMENT IS REMOVABLE.

ACCEPTANCE OF EQUIPMENT

CONTRACTOR SHALL MAKE ALL NECESSARY TESTS, TRIAL OPERATION BALANCING AND BALANCE TESTS, ETC., AS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER TO PROVE THAT ALL WORK UNDER THESE PLANS AND SPECIFICATION IS IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. OIL BURNERS, GAS BURNERS, AND WATER CHILLERS SHALL BE STARTED BY A REPRESENTATIVE OF THE EQUIPMENT MANUFACTURER. ALL COSTS OF THESE PROCEDURES SHALL BE BORNE BY THIS CONTRACTOR.

UPON COMPLETION OF ALL WORK THE SYSTEM SHALL BE TESTED TO DETERMINE IF ANY EXCESS NOISE OR VIBRATION IS APPARENT DURING OPERATION OF THE SYSTEM. IF ANY SUCH OBJECTIONS ARE DETECTED IN THE SYSTEM OR NOISY EQUIPMENT FOUND, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING SAME. DUCTS, PLENUMS AND CASINGS SHALL BE CLEANED OF ALL DEBRIS AND BLOWN FREE OF ALL PARTICLES OF RUBBISH AND DUST BEFORE INSTALLING OUTLET FACES. EQUIPMENT SHALL BE WIPED CLEAN WITH ALL TRACES OF OIL, DUST, DIRT AND PAINT SPOTS REMOVED. TEMPORARY FILTERS SHALL BE PROVIDED FOR ALL FANS THAT ARE OPERATED DURING CONSTRUCTION AND AFTER ALL CONSTRUCTION DIRT HAS BEEN REMOVED FROM THE BUILDING, NEW FILTERS SHALL BE INSTALLED. BEARINGS SHALL BE LUBRICATED AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. ALL CONTROL VALVES AND EQUIPMENTS SHALL BE ADJUSTED TO SETTING INDICATED. FANS SHALL BE ADJUSTED TO THE SPEED INDICATED BY THE MANUFACTURER TO MEET SPECIFIED CONDITIONS.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THE COMPLETE MECHANICAL SYSTEM AGAINST DEFECT DUE TO FAULTY MATERIALS, FAULTY WORKMANSHIP OR FAILURE DUE TO NEGLIGENCE OF THE CONTRACTOR. THIS GUARANTEE WILL EXCLUDE NORMAL WEAR AND TEAR, MAINTENANCE LUBRICATION, REPLACEMENT OF EXPENDABLE COMPONENTS, OR ABUSE. THE GUARANTEE PERIOD SHALL BEGIN ON THE DATE OF THE FINAL ACCEPTANCE AND SHALL CONTINUE FOR A PERIOD OF 12 MONTHS DURING WHICH TIME THE CONTRACTOR SHALL MAKE GOOD SUCH DEFECTIVE WORKMANSHIP AND MATERIALS AND ANY DAMAGE RESULTING THERE FROM, WITHIN A REASONABLE TIME OF NOTICE GIVEN BY THE OWNER.

TEST

ALL PIPING SHALL BE TESTED BEFORE COVERING IS APPLIED OR WORK CONCEALED, AND ALL LEAKS CORRECTED BY REMOVAL OF DEFECTIVE MATERIAL AND/OR MAKING UP NEW JOINTS. EQUIPMENT SHALL BE PROTECTED FROM TEST PRESSURE BY CAPPING LINES OR WITH VALVES DURING TEST. CAULKING OF PIPING WILL NOT BE PERMITTED AND WHERE EVIDENT OF CAULKING IS NOTED, THE JOINTS SHALL BE REMOVED FORM THE PIPING SYSTEM REGARDLESS OF WHETHER OR NOT IT IS LEAKING.

TEST ALL WATER PIPING AT 125 PSI.

TEST ALL WASTE AND VENT PIPING WITH A 10 FOOT HEAD.

STERILIZATION OF WATER PIPING SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATION 0601. AFTER THE PRESSURE TESTS HAVE BEEN MADE, THE SYSTEM SHALL BE FLUSHED WITH WATER. THE CHLORINATING MATERIAL SHALL BE LIQUID CHLORINE-WATER MIXTURE CALCIUM HYPOCHLORITE, SODIUM HYPOCHLORITE, OR CHLORINATED LIME-WATER MIXTURE. THE SOLUTION SHALL HAVE NOT LESS THAN 50 PPM AVAILABLE CHLORINE. THE DISINFECTING SOLUTION SHALL BE ALLOWED TO REMAIN IN THE SYSTEM FOR A MINIMUM PERIOD OF 24 HOURS. AFTER DISINFECTION, THE SYSTEM SHALL BE FLUSHED WITH CLEAN WATER UNTIL RESIDUAL CHLORINE CONTENT IS NOT GREATER THAN .02 PPM. AFTER THE SYSTEM IS FLUSHED, WATER SAMPLES SHALL BE TAKEN AND TESTED AT THE CONTRACTOR'S EXPENSE BY AN INDEPENDENT TESTING LAB AND REPORTS SHALL BE FURNISHED TO THE ENGINEER'S FOR APPROVAL. IF THE WATER IS FOUND UNSAFE FOR HUMAN CONSUMPTION, THE DISINFECTION PROCEDURE SHALL BE REPEATED.

PIPING

SOIL, WASTE, VENT AND DRAIN PIPING SHALL BE SOLID WALL PVC PLASTIC PIPE AND FITTINGS CONFORMING TO ASTM D 2665. JOINTS FOR PVC PIPE SHALL BE SOLVENT CEMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

COPPER – ALL PIPING SHALL BE HARD DRAWN COPPER TUBING ASTM B 88 TYPE "L" ABOVE GRADE, TYPE "K" BELOW GRADE.

FITTINGS FOR COPPER TUBING SHALL BE ANSI B16.18 OR B16.22 SOLDER JOINT FITTINGS. ENDS OF PIPE SHALL BE REAMED, PIPE AND FITTINGS CLEANED. USE ONLY 95-5 (95% TIN AND 5% ANTIMONY) SOLDER WITH NON-CORROSIVE FLUX.

WITH OWNER'S APPROVAL, PEX PIPING MAY BE USED FROM THE UNIT ISOLATION VALVE TO THE FIXTURES. PIPING SHALL BE SDR9 CROSSLINKED POLYETHYLENE MANUFACTURED USING THE ENGEL METHOD (PEX-A). THE MINIMUM DEGREE OF CROSS-LINKING SHALL BE BETWEEN 70-89% WHEN TESTED IN ACCORDANCE WITH ASTM D2765, METHOD B. PIPING SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F876 AND ASTM F877 AND TESTED FOR COMPLIANCE BY AN INDEPENDENT, THIRD-PARTY AGENCY. PIPING SHALL HAVE A MINIMUM MATERIAL DESIGNATION OF PEX 5106 AND SHALL COMPLY WITH NSF 14 AND NSF 61 AND BEAR THE "NSF-PW" MARKING. TEMPERATURE AND PRESSURE REQUIREMENTS SHALL BE IN ACCORDANCE WITH PPI TR-3: 73.4°F AT 80PSI, 180°F AT 100PSI AND 200°F AT 80PSI.

FITTINGS FOR PEX: ASTM F1960 COLD-EXPANSION FITTING MANUFACTURED FROM THE FOLLOWING MATERIAL TYPES

- UNS NO. C69300 LEAD-FREE (LF) BRASS
- 20% GLASS-FILLED POLYSULFONE AS SPECIFIED IN ASTM D6394
- UNREINFORCED POLYSULFONE (GROUP 01, CLASS 1, GRADE 2) AS SPECIFIED IN ASTM D6394
- POLYPHENYLSULFONE (GROUP 03, CLASS 1, GRADE 2) AS SPECIFIED IN ASTM D6394
- BLEND OF POLYPHENYLSULFONE (55-80%) AND UNREINFORCED POLYSULFONE (REM.) AS SPECIFIED IN ASTM D6394

REINFORCING COLD-EXPANSION RINGS SHALL BE MANUFACTURED FROM THE SAME SOURCE AS PEX-A PIPING AND MARKED "F1960". POTABLE WATER FITTINGS SHALL COMPLY WITH NSF 14 AND NSF 61 AND BEAR THE "NSF-PW" MARKING.

HANGERS

ALL PIPING SHALL BE SUPPORTED ON NOT LESS THAN 10' CENTERS AND WITHIN 30" OF EACH CHANGE OF DIRECTION EXCEPT THAT PIPING 1 1/4" SIZE AND SMALLER SHALL BE SUPPORTED ON 8' 0" CENTERS.

PIPE HANGERS SHALL BE SUPPORTED BY MEANS OF IRON HANGER RODS FROM THE BUILDING CONSTRUCTION OR FROM STRUCTURAL STEEL MEMBERS, AND IN AN APPROVED MANNER. WHERE REQUIRE, PIPING SHALL BE HUNG FROM ANGLE IRON CLIPS OR SUITABLE BRACKETS ATTACHED TO SIDES OF MASONRY CONSTRUCTION.

PIPE INSULATION

ALL WATER PIPING SHALL BE INSULATED WITH HEAVY DENSITY FIBERGLASS WITH AN ALL-SERVICE JACKET COMPOSED OF AN OUTER LAYER OF VINYL, FIBERGLASS SCRIM CLOTH, ALUMINUM FOIL, AND KRAFT PAPER, IN THAT ORDER, FROM OUTSIDE TO INSIDE OF PIPE COVERING. INSULATION THICKNESS SHALL BE 1" FOR ALL PIPING.

VALVES

BALL VALVES SHALL BE CAST RED BRONZE WITH TWO PIECE BODY, FULL PORT. WHEN INSTALLED IN INSULATED PIPING FURNISH EXTENDED TEE HANDLE. ALL ISOLATION VALVES INSTALLED ABOVE CEILINGS SHALL BE BALL VALVES.

SOIL, WASTE, VENT AND DRAIN PIPING SHALL BE SOLID WALL PVC PLASTIC PIPE AND FITTINGS CONFORMING TO ASTM D 2665. JOINTS FOR PVC PIPE SHALL BE SOLVENT CEMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

PLUMBING SPECIALITIES SCHEDULE

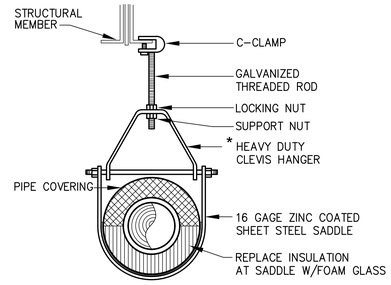
SYM	DESCRIPTION	MODEL NUMBER
HB	HOSE BIBB	WOODFORD #24 WITH LOOSE KEY ,CHROME PLATED, VACUUM BREAKER. (use #b24 for HB in box)
WCO	WALL CLEANOUT	ZURN Z-1446 W/STAINLESS STEEL COVER

EQUALS BY JOSAM, JAY R.SMITH, WADE, PRIER.

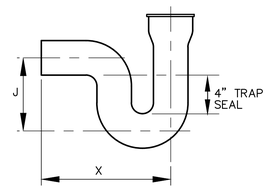
PLUMBING FIXTURE SCHEDULE

SYM	DESCRIPTION	CW	HW	W	V	MODEL NUMBER	REMARKS
P-1	WATER CLOSET (WALL HUNG)	1 1/4"	–	3"	2"	KOHLER "KINGSTON" K-4325; BENEKE 527SS SEAT; SLOAN ROYAL 115-1.6-YK FLUSH VALVE;	1,2,3,4,5 6,7
P-1A	WATER CLOSET (WALL HUNG ADA)	1 1/4"	–	3"	2"	KOHLER "KINGSTON" K-4325; BENEKE 527SS SEAT; SLOAN ROYAL 111 FLUSH VALVE FOR H/C	1,2,3,4,5 6,7
P-2	URINAL	3/4"	–	2"	2"	KOHLER "DEXTER" K-5016-ET W/SLOAN ROYAL 186-1 FLUSH VALVE	1,2,3,5
P-3	LAVATORY (COUNTER GRID)	1/2"	1/2"	2"	2"	KOHLER "FARMINGTON" K-2905-4; CHICAGO 802-665ABCP FAUCET; K-7607 SUPPLY; K-8998 TRAP, K-7129-A DRAIN.	1,8,9

1. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL FIXTURES.
2. PROVIDE CARRIERS FOR ALL WALL MOUNTED FIXTURES. FOR LAVATORIES: SINGLE HANGER FOR BLOCK WALLS; FOR GYPBOARD WALL, PROVIDE FLOOR-MOUNT ARM CARRIERS (CONCEALED OR EXPOSED PER MFR'S REQUIREMENTS).
3. EQUAL CHINA FIXTURE BY AMERICAN STANDARD, ZURN & SLOAN.
4. EQUAL TOILET SEAT BY BEMIS, OLSONITE & BENEKE.
5. EQUAL FLUSH VALVES BY ZURN & TOTO.
6. TOP OF FLUSH VALVE SHALL BE LOCATED MINIMUM 3" BELOW BOTTOM OF GRAB BAR. P.C. TO CUT OUTLET TUBE AS REQUIRED.
7. FLUSH VALVE MECHANISM SHALL BE LOCATED OPPOSITE OF HAND RAIL AS PER ADA REQUIREMENT.
8. EQUAL FAUCETS BY SYMMONS, DELTA, MOEN, ZURN & AMERICAN STANDARD.
9. PROVIDE INTEGRAL CHECK STOPS AT ALL WALL FAUCETS.



1 PIPE HANGER DETAIL
NTS



DEEP SEAL "P" TRAP

SIZE	X	J
2	9 1/2	6
3	12	7
4	14	8

2 MINIMUM TRAP DIMENSIONS
NTS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17250 CRAIG CHAMPION
03-16-2020

REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020
DRAWN BY: BPA
CHECKED BY: BSC

PLUMBING SCHEDULES, DETAILS, AND SPECIFICATIONS

P-201

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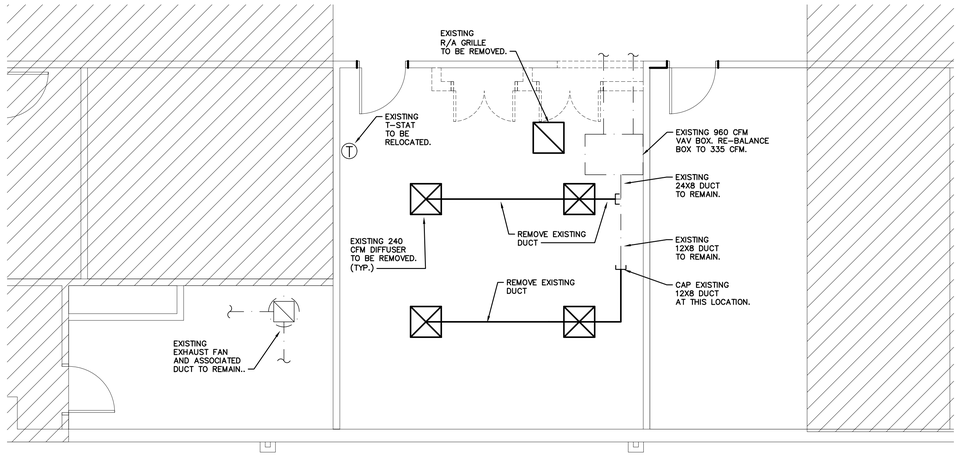
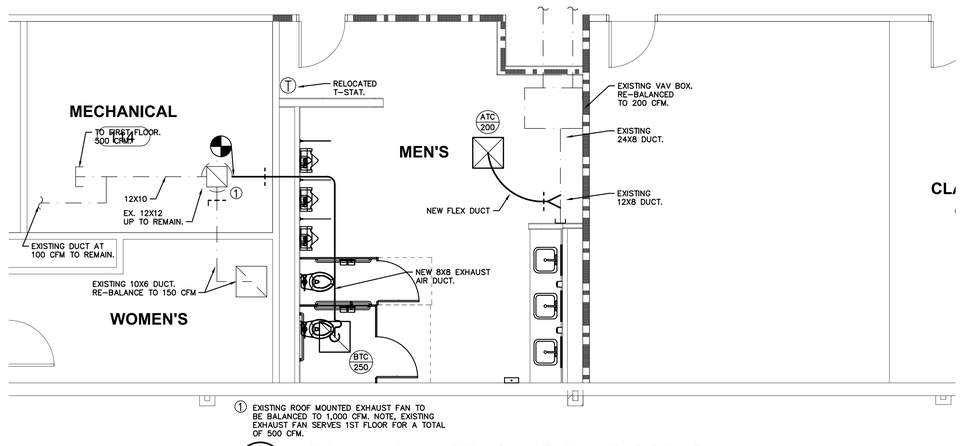


1 MECHANICAL DEMOLITION FLOOR PLAN
SCALE: 1/4" = 1'-0"

DEMOLITION LEGEND	
	EXISTING TO REMAIN IN USE OR BE ABANDONED
	EXISTING TO BE REMOVED
E	CAP DUCT



2 MECHANICAL RENOVATION FLOOR PLAN
SCALE: 1/4" = 1'-0"

RENOVATION LEGEND	
	NEW EQUIPMENT
	EXISTING

GRILLE & DIFFUSER SCHEDULE

SYM	*TYPE*	*USE*	*CFM RANGE*	*NECK SIZE*	*OVER-ALL SIZE*	*FINISH*	*FRAME*	*PRICE MODEL NO*	*REMARKS*
A--	LOUVER FACE	SUPPLY 4-WAY	SEE PLANS & RMK 5	RMK 5	RMK 4	OFF WHITE	RMK 3	SMDA	1-6
B--	PERF.	RETURN/ EXHAUST	SEE PLANS & RMK 7	RMK 7	RMK 4	OFF WHITE	RMK 3	PDDR	1-4, 7-10

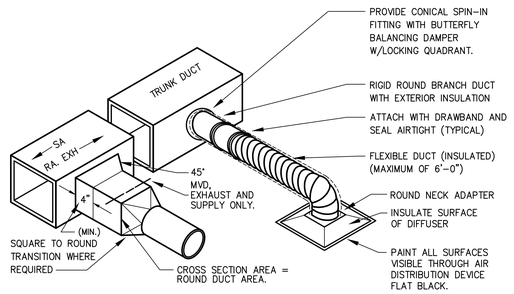
REMARKS
1. EQUALS: METALAIRE, TITUS, KRUEGER, TUTTLE & BAILEY, NAIL-OR, CARNES. SCHEDULE IS GENERAL, SOME MAY NOT BE USED. PAINT ALL INSIDE VISIBLE SURFACES FLAT BLACK.
2. SYMBOL EXPLANATION: XXXCFM = SYMBOL, FRAME (RMK 3), NECK (RMK 5,7)/CFM
3. FRAME TYPES:
S = FLUSH SURF. MTD.. PLASTER FRAME FOR CEILING MOUNTING.
T = T-BAR
E = DUCT MOUNTED: V-BEVELED DROP SURF. (TYPE "A" DIFFUSER)
D = DROPPED FRAME
NOTE: VERIFY FRAME/CEILING COMPATIBILITY.
4. OVERALL SIZE: LAY-IN = 2'x2', OTHER GRILLES = NECK + 2"+/-.
5. LOUVER FACE SUPPLY NECK SIZES

NO.	ROUND NK SIZE	CFM	NO.	SQUARE NK SIZE	CFM
A	6"	100	H	6x6	125
B	8"	175	I	9x9	280
C	10"	275	J	12x12	500
D	12"	400	K	15x15	780
E	14"	535	L	18x18	1125
F	16"	700	M	21x21	1530
G	18"	885	N	24x24	2000

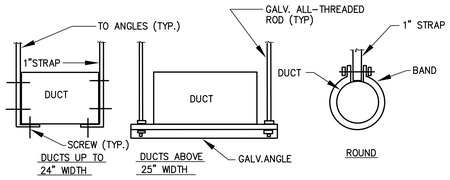
NOTE: VERIFY CFM / NECK SIZE.
6. ADJUSTABLE: HORIZONTAL/VERTICAL - "PIANO HINGE" DEVICE.
7. "B" & "E" EXH/RETURN NECK SIZES ("E" = SQ. NK. ONLY)

NO.	ROUND NK SIZE	CFM	NO.	SQUARE NK SIZE	CFM
A	6"	100	G	8x8	220
B	8"	175	H	10x10	345
C	10"	275	I	12x12	500
D	12"	400	J	14x14	680
E	14"	535	K	16x16	885
F	16"	700	L	18x18	1125
NOTE: VERIFY CFM / NECK SIZE.			M	22x22	1680
			N	22x46	2600

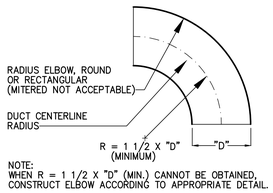
8. NO NECK SIZE INDICATES NON-DUCTED, LAY-IN PANEL.
9. OBD IF USED AS SUPPLY OR EXHAUST.
10. ALL ALUM. CONSTRUCTION (INCLUDING BACKPAN) IF SHOWN ON PLANS.



5 DUCT TAKE-OFF DETAIL
NTS



4 DUCTWORK HANGER DETAIL
NTS



3 RADIUS ELBOW DETAIL
NTS

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NC LICENSE F-0595

NORTH CAROLINA PROFESSIONAL ENGINEER CRAIG CHAMPION 17250
03-16-2020

REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020
DRAWN BY: BPA
CHECKED BY: BSC

2ND FLOOR PLAN- MECHANICAL, SCHEDULES, AND DETAILS

M-102

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SCOPE

THE CONTRACTOR SHALL COORDINATE THE WORK AND EQUIPMENT OF THIS DIVISION WITH THE WORK AND EQUIPMENT SPECIFIED ELSEWHERE IN ORDER TO ASSURE A COMPLETE AND SATISFACTORY INSTALLATION. WORK SUCH AS EXCAVATION, BACKFILL, CONCRETE, FLASHING, WIRING, ETC., WHICH IS REQUIRED BY THE WORK OF THIS SECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE SECTION OF THE SPECIFICATIONS.

IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE".

THE WORD "PROVIDE" MEANS FURNISH, FABRICATED, COMPLETE, INSTALL, ERECT, INCLUDING LABOR AND INCIDENTAL MATERIALS NECESSARY TO COMPLETE IN PLACE AND READY FOR OPERATION OR USE THE ITEM REFERRED TO OR DESCRIBED HEREIN AND/OR SHOWN OR REFERRED TO ON THE CONTRACT DRAWINGS.

EQUIPMENT APPLICATION AND PERFORMANCE

THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL BE RESPONSIBLE TO SEE THAT EQUIPMENT SUPPLIED IS CORRECT FOR THE INTENDED APPLICATION AND WILL PERFORM WITHIN THE LIMITS OF CAPACITY, NOISE, LIFE EXPECTANCY, PRESSURE DROP AND SPACE LIMITATIONS INTENDED FOR THAT EQUIPMENT AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIFICATIONS. THE SHOP DRAWINGS SHALL SHOW THE CAPACITY AND OPERATING CHARACTERISTICS OF THE EQUIPMENT.

WHERE THE CONTRACTOR PROPOSES TO USE AN ITEM OF EQUIPMENT OTHER THAN THAT SPECIFIED OR DETAILED ON THE DRAWINGS, WHICH REQUIRES ANY REDESIGN OF THE STRUCTURE, PARTITIONS, FOUNDATIONS, PIPING, WIRING OR ANY OTHER PART OF THE MECHANICAL, ELECTRICAL, OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN, AND ALL NEW DRAWINGS AND DETAILING REQUIRED THEREFORE, SHALL BE PREPARED BY THE SUBCONTRACTOR AT HIS OWN EXPENSE AND SUBMITTED FOR APPROVAL BY THE ARCHITECT.

WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUANTITY AND ARRANGEMENT OF DUCTWORK, PIPING, WIRING, CONDUIT, AND EQUIPMENT FROM THAT SPECIFIED OR INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY SUCH DUCTWORK, PIPING, STRUCTURAL SUPPORTS, INSULATION, CONTROLLERS, MOTORS, STARTERS, ELECTRICAL WIRING AND CONDUIT, AND ANY OTHER ADDITIONAL EQUIPMENT REQUIRED BY THE SYSTEM, AT NO ADDITIONAL COST TO THE OWNER.

DIELECTRIC CONNECTIONS
DIELECTRIC CONNECTIONS SHALL BE USED AT ANY POINTS WITHIN THE PIPING SYSTEMS WHERE DISSIMILAR METALS MEET. CAREFUL ATTENTION SHALL BE GIVEN TO SUPPORT BRACKETS AND HANGERS TO SELECT PROPER MATERIALS TO AVOID DISSIMILAR METAL CONTACT AT THESE POINTS.

DUTIES OF CONTRACTOR

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS CALLED FOR IN THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS, AND MUST FURNISH THE APPARATUS COMPLETE IN EVERY RESPECT. ANYTHING CALLED FOR IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS OR SHOWN ON THE DRAWINGS AND NOT CALLED FOR IN THE SPECIFICATIONS MUST BE FURNISHED BY THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THE DETAILS OF THE CONSTRUCTION OF THE BUILDING. WORK UNDER THESE SPECIFICATIONS INSTALLED IMPROPERLY OR WHICH REQUIRES CHANGING DUE TO IMPROPER READING OR INTERPRETATION OF BUILDING PLANS SHALL BE CORRECTED AND CHANGED AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.

CONDITIONS SOMETIMES OCCUR WHICH REQUIRE CERTAIN CHANGES IN DRAWINGS AND SPECIFICATIONS. IN THE EVENT THAT SUCH CHANGES IN DRAWINGS AND SPECIFICATIONS ARE NECESSARY, THE SAME ARE TO BE MADE BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER, PROVIDING SUCH CHANGES DO NOT REQUIRE FURNISHING MORE MATERIALS, OR PERFORMING MORE LABOR THAN THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS DEMANDS. IT IS UNDERSTOOD THAT WHILE THE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE CONTRACTOR IS HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEM ACCORDING TO THE TRUE INTENT AND MEANING OF THE DRAWINGS. ANYTHING NOT ENTIRELY CLEAR IN THE DRAWINGS AND SPECIFICATION WILL BE FULLY EXPLAINED IF APPLICATION IS MADE TO THE ARCHITECT. SHOULD, HOWEVER, CONDITIONS ARISE WHERE IN THE JUDGMENT OF THE CONTRACTOR CERTAIN CHANGES WILL BE ADVISABLE, THE CONTRACTOR WILL COMMUNICATE WITH THE ARCHITECT AND SECURE HIS APPROVAL OF THESE CHANGES BEFORE GOING AHEAD WITH THE WORK.

THE RIGHT TO MAKE ANY RESPONSIBLE CHANGE IN LOCATION OF APPARATUS, EQUIPMENT, ROUTING OF PIPING UP TO THE TIME OF ROUGHING IN, IS RESERVED BY THE ARCHITECT WITHOUT INVOLVING ANY ADDITIONAL EXPENSE TO THE OWNER.

IT SHALL BE THE DUTY OF PROSPECTIVE CONTRACTORS TO VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH JOB CONDITIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF ADDITIONAL WORK NECESSITATED BY, OR CHANGES IN PLANS REQUIRED BECAUSE OF EVIDENT JOB CONDITIONS, THAT ARE NOT INDICATED ON THE DRAWINGS.

CODES, RULES, PERMITS AND FEES

ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

ALL MATERIALS AND EQUIPMENT FOR THE ELECTRICAL PORTION OF THE MECHANICAL SYSTEM SHALL BEAR THE APPROVAL LABEL, AND SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NORTH CAROLINA STATE BUILDING CODE, AND REQUIREMENTS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION.

COOPERATION WITH OTHER TRADES

THIS CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.

WHERE THE WORK OF THE CONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR MAY INTERFERE WITH THE WORK OF OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF SO DIRECTED BY THE ARCHITECT, THE CONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS AND SECTIONS AT A SUITABLE SCALE NOT LESS THAN 3/8" = 1'-0", CLEARLY SHOWING HOW HIS WORK IS TO BE INSTALLED IN RELATION TO THE WORK OF OTHER TRADES. IF THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATION WITH OTHER TRADES, OR SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE THE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.

THE CONTRACTOR SHALL FURNISH TO OTHER TRADES, AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, SETTING PLANS, AND SHOP DETAILS FOR THE PROPER INSTALLATION OF WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK.

SAFETY REQUIREMENTS

ALL SYSTEMS SHALL BE INSTALLED SO AS TO BE SAFE OPERATING AND ALL MOVING PARTS SHALL BE COVERED WHERE SUBJECT TO HUMAN CONTACT. ALL ROUGH EDGES OF EQUIPMENT AND MATERIALS SHALL BE MADE SMOOTH.

ALL SAFETY CONTROLS SHALL BE CHECKED UNDER THE SUPERVISION OF THE ARCHITECT'S REPRESENTATIVE AND EIGHT (8) COPIES OF TEST DATE SHOWING SETTING AND PERFORMANCE OF SAFETY CONTROLS SHALL BE SUBMITTED TO THE ARCHITECT. ALL PRESSURE VESSELS SHALL BE ASME STAMPED AND SHALL HAVE STAMPED RELIEF VALVES. WATER HEATERS SHALL BE PROVIDED WITH ASME STAMPED T & P RELIEF VALVE.

CONCEALED PIPE

IN GENERAL, ALL PIPES IN FINISHED SPACES SHALL BE RUN CONCEALED IN FLOORS, WALLS, PARTITIONS AND ABOVE CEILINGS. UNLESS OTHERWISE NOTED, ALL PIPE SHALL RUN INSIDE THE INSULATED PERIMETER OF THE BUILDING.

PROTECTION

THE CONTRACTOR SHALL PROTECT ALL WORK AND MATERIAL FROM DAMAGE AND SHALL BE LIABLE FOR ALL DAMAGE DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL ALL CONSTRUCTION IS FINALLY INSPECTED, TESTED AND ACCEPTED. HE SHALL PROTECT WORK AGAINST THEFT, INJURY OR DAMAGE; AND SHALL CAREFULLY STORE MATERIAL AND EQUIPMENT RECEIVED ON SITE WHICH IS NOT IMMEDIATELY INSTALLED. HE SHALL CLOSE OPEN ENDS OF WORK INCLUDING PIPE, DUCT, OR EQUIPMENT WITH TEMPORARY COVERS OR PLUGS DURING STORAGE AND CONSTRUCTION TO PREVENT ENTRY OF OBSTRUCTING MATERIALS OR DUST AND DEBRIS.

PROVIDE A PROTECTIVE COVERING OF NOT LESS THAN 0.004" THICK VINYL SHEETING (OR A SIMILAR APPROVED MATERIAL) TO BE USED IN COVERING ALL ITEMS OF EQUIPMENT, IMMEDIATELY AFTER THE EQUIPMENT HAS BEEN SET IN PLACE, (OR IF IN A PLACE OF STORAGE WTHIN THE BUILDING UNDER CONSTRUCTION) TO PREVENT THE ACCUMULATION OF DIRT, SAND, CEMENT, PLASTER, PAINT OR OTHER FOREIGN MATERIALS FROM COLLECTING ON THE EQUIPMENT AND/OR FOULING WORKING PARTS.

CLEANING

CLEAN FROM ALL EXPOSED INSULATION AND METAL SURFACES GREASE, DEBRIS OR OTHER FOREIGN MATERIAL.

CHROME PLATED FITTINGS, FIXTURES, PIPING AND TRIM SHALL BE POLISHED UPON COMPLETION.

EQUIPMENT SERVICEABILITY

ALL EQUIPMENT SHALL BE SERVICEABLE. ALL EQUIPMENT SHALL BE INSTALLED SO THAT IT CAN BE REMOVED. ALL EQUIPMENT IN OR CONNECTED TO PIPING SYSTEMS SHALL HAVE VALVES TO ISOLATE THIS EQUIPMENT FROM THE PIPING SYSTEM. THIS INCLUDES, BUT NOT NECESSARILY LIMITED TO CONTROL VALVES, WATER HEATERS, SENSORS, SWITCHES, PUMPS, TRAPS AND STRAINERS. UNIONS (SCREWED OR FLANGED) SHALL BE PROVIDED SO THAT ALL EQUIPMENT IS REMOVABLE.

ACCEPTANCE OF EQUIPMENT

CONTRACTOR SHALL MAKE ALL NECESSARY TESTS, TRIAL OPERATION BALANCING AND BALANCE TESTS, ETC., AS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER TO PROVE THAT ALL WORK UNDER THESE PLANS AND SPECIFICATION IS IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. OIL BURNERS, GAS BURNERS, AND WATER CHILLERS SHALL BE STARTED BY A REPRESENTATIVE OF THE EQUIPMENT MANUFACTURER. ALL COSTS OF THESE PROCEDURES SHALL BE BORNE BY THIS CONTRACTOR.

UPON COMPLETION OF ALL WORK THE SYSTEM SHALL BE TESTED TO DETERMINE IF ANY EXCESS NOISE OR VIBRATION IS APPARENT DURING OPERATION OF THE SYSTEM. IF ANY SUCH OBJECTIONS ARE DETECTED IN THE SYSTEM OR NOISY EQUIPMENT FOUND, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING SAME. DUCTS, PLENUMS AND CASINGS SHALL BE CLEANED OF ALL DEBRIS AND BLOWN FREE OF ALL PARTICLES OF RUBBISH AND DUST BEFORE INSTALLING OUTLET FACES. EQUIPMENT SHALL BE WIPED CLEAN WITH ALL TRACES OF OIL, DUST, DIRT AND PAINT SPOTS REMOVED. TEMPORARY FILTERS SHALL BE PROVIDED FOR ALL FANS THAT ARE OPERATED DURING CONSTRUCTION AND AFTER ALL CONSTRUCTION DIRT HAS BEEN REMOVED FROM THE BUILDING, NEW FILTERS SHALL BE INSTALLED. BEARINGS SHALL BE LUBRICATED AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. ALL CONTROL VALVES AND EQUIPMENTS SHALL BE ADJUSTED TO SETTING INDICATED. FANS SHALL BE ADJUSTED TO THE SPEED INDICATED BY THE MANUFACTURER TO MEET SPECIFIED CONDITIONS.

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GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THE COMPLETE MECHANICAL SYSTEM AGAINST DEFECT DUE TO FAULTY MATERIALS, FAULTY WORKMANSHIP OR FAILURE DUE TO NEGLIGENCE OF THE CONTRACTOR. THIS GUARANTEE WILL EXCLUDE NORMAL WEAR AND TEAR, MAINTENANCE LUBRICATION, REPLACEMENT OF EXPENDABLE COMPONENTS, OR ABUSE. THE GUARANTEE PERIOD SHALL BEGIN ON THE DATE OF THE FINAL ACCEPTANCE AND SHALL CONTINUE FOR A PERIOD OF 12 MONTHS DURING WHICH TIME THE CONTRACTOR SHALL MAKE GOOD SUCH DEFECTIVE WORKMANSHIP AND MATERIALS AND ANY DAMAGE RESULTING THERE FROM, WITHIN A REASONABLE TIME OF NOTICE GIVEN BY THE OWNER. REFRIGERATION COMPRESSORS SHALL HAVE A FIVE (5) YEAR WARRANTY.

DUCTWORK

DUCTWORK SHALL BE CONSTRUCTED OF ZINC COATED SHEET STEEL AND SHALL CONFORM TO THE 1ST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS -METAL AND FLEXIBLE, 1985 AS FOLLOWS:

RECTANGULAR DUCT: 1" W.G. PRESSURE CLASS – TABLE 1-4.

ROUND DUCT: 2" W.G. PRESSURE CLASS – TABLE 3-2.

ALL DUCTWORK MUST BE SEALED IN ACCORDANCE WITH SEAL CLASS C AS DEFINED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS–METAL AND FLEXIBLE, 1985.

DUCT HANGERS AND SUPPORTS SHALL CONFORM TO THOSE SHOWN IN TABLES 4-1 AND 4-2 OF SMACNA HVAC DUCTWORK 1985, 1ST EDITION.

DUCT INSULATION

INSULATION SHALL BE OWENS-CORNING, CERTAIN-TEED/ST. GOBAIN, MANVILLE OR APPROVED EQUIVALENT. ADHESIVES SHALL BE AS MANUFACTURED BY 3-M FOSTER OR INSULATION MANUFACTURER. INSULATION SHALL HAVE COMPOSITE (INSULATION, JACKET AND ADHESIVE) FIRE AND SMOKE HAZARD RATING AS TESTED BY ASTM E-84, NOT EXCEEDING FLAME SPREAD -25 AND SMOKE DEVELOPED -50.

ALL VAPOR BARRIERS AND JOINTS SHALL BE SEALED TO PREVENT CONDENSATION. CLEAN AND DRY ALL DUCTWORK BEFORE INSTALLING INSULATION. ALL WELD JOINTS SHALL BE WIRE BRUSHED AND GIVE ONE (1) COAT OF RED LEAD BEFORE INSULATING. STAPLES WILL NOT BE PERMITTED IN INSULATION.

ALL SUPPLY AIR DUCTS UNLESS NOTED OTHERWISE ON PLANS SHALL BE INSULATED BY WRAPPING WITH 2" THICK, ¾-LB. DENSITY FIBERGLASS WITH VAPOR BARRIER JACKET WITH JOINTS OVERLAPPED A MINIMUM OF TWO INCHES. INSULATION SHALL BE ADHERED TO DUCT WITH NON-COMBUSTIBLE INSULATION BONDING ADHESIVE APPLIED IN 4" STRIPS, 8" ON CENTER. ALL JOINTS SHALL BE SECURED WITH FLARE DOOR STAPLES ON 3" CENTERS THROUGH ALL LAPS OVER DUCT TAPE.

DUCTWORK EXPOSED TO WEATHER SHALL BE INSULATED AS FOLLOWS: SEAL ALL JOINTS WITH HARD CAST SEALER, APPLY 2" THICK POLYSTYRENE INSULATION (MIN R-8), COVER WITH TWO (2) INDIVIDUAL LAYERS OF GLASSFAB AND WHITE MASTIC. PAINT TO MATCH BACKGROUND COLOR. IN LIEU OF MASTIC AND PAINTING, DUCT MAY BE COVERED WITH ALUMINUM JACKET.

CONTROLS

SPLIT SYSTEM HEAT PUMPS SHALL BE CONTROLLED BY MANUFACTURER SUPPLIED SEVEN DAY PROGRAMMABLE THERMOSTATS.

EXHAUST FANS SHALL BE INTERLOCKED WITH LIGHT SWITCH.

REFRIGERANT PIPING

CONNECT SPLIT SYSTEM AIR HANDLING UNITS TO HEAT PUMPS WITH REFRIGERANT PIPING, TYPE "K" HARD DRAWN COPPER "ACR" TUBING WITH WROUGHT COPPER SWEAT FITTINGS. ALL JOINTS ARE TO BE MADE WITH HARD SOLDER SUCH AS "SIL-FOS" OR "SILVER SOLDER."

PIPE INSULATION – REFRIGERANT SUCTION PIPING – FLEXIBLE FOAMED ELASTOMERIC PLASTIC TUBING WITH A DENSITY OF 6 LBS./CF, K OF 0.27 @ 70 DEGREES F., SELF-EXTINGUISHING, AND A WATER VAPOR TRANSMISSION OF LESS THAN 0.05 PERM IN., FLAME SPREAD RATING 25 OR LESS, SMOKE DEVELOPED RATING OF 50 OR LESS (ASTM E84-75).

CONDENSATE DRAIN PIPING

ALL DRAIN LINES SHALL BE TYPE K COPPER CONFORMING TO ASTM D 2665. DRAINS SHALL BE RUN IN A NEAT MANNER AS SHOWN.

TESTING AND BALANCING

WORK SHALL BE PERFORMED BY TECHNICIANS COMPETENT IN THE TRADE OF TESTING AND BALANCING ENVIRONMENTAL SYSTEMS AND SHALL BE DONE IN AN ORGANIZED MANNER UTILIZING APPROPRIATE TEST AND BALANCE FORMS. ALL EQUIPMENT SHALL BE BALANCED TO WITHIN +/– 10% OF THE SCHEDULED VALUE.

INSTRUMENTS FOR USE IN THE TEST AND BALANCING PROCEDURES SHALL BE OF FIRST QUALITY AND BE ACCURATELY CALIBRATED AT THE TIME OF USE. ALL FIELD INSTRUMENTS USED IN THE BALANCE SHOULD HAVE BEEN CALIBRATED AT LEAST WITHIN THE PREVIOUS THREE MONTHS.

STARTING DATE FOR MECHANICAL SYSTEM SHALL BE SCHEDULED WELL IN ADVANCE OF EXPECTED COMPLETION DATE AND SHALL BE ESTABLISHED A MINIMUM OF TWO WEEKS PRIOR TO ACCEPTANCE DATE. THE SYSTEM SHALL BE IN FULL OPERATION WITH ALL EQUIPMENT FUNCTIONAL PRIOR TO ACCEPTANCE DATE.

PERFORMANCE READINGS SHALL BE TAKEN AND RECORDED ON ALL AIR DISTRIBUTION DEVICES AND THE SYSTEM SHALL BE BALANCED OUT PRIOR TO ACCEPTANCE. BALANCING OF THE SYSTEM SHALL BE ACCOMPLISHED WITH DUCT DAMPERS AND ONLY MINOR ADJUSTMENTS MADE WITH GRILLE DAMPERS. RECORD AND SUBMIT RESULTS IN TABLE FORM ALONG SIDE OF SCHEDULED QUANTITIES.

ALL UNITS SHALL BE CHECKED OUT THOROUGHLY AND THE INFORMATION RECORDED ON EACH MACHINE. CHECK SHEETS SHALL BE INCLUDED IN OPERATING AND MAINTENANCE INSTRUCTIONAL MANUAL.

BlueRidge COMMUNITY COLLEGE
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NORTH CAROLINA PROFESSIONAL SEAL 17250 ENGINEER CRAIG CHAMPION
03-16-2020

REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020
DRAWN BY: BPA
CHECKED BY: BSC

MECHANICAL SPECIFICATIONS

M-201

ISSUED FOR PERMIT

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SYMBOL SCHEDULE

GENERAL SYMBOLS	
SYMBOL	DESCRIPTION
———	CONDUIT RUN CONCEALED ABOVE CEILINGS OR IN WALLS.
- - - - - - -	CONDUIT RUN CONCEALED IN OR BELOW FLOORS OR UNDERGROUND.
—·—·—	CONDUIT RUN EXPOSED.
———o	CONDUIT TURNING UP
———•	CONDUIT TURNING DOWN
———■	SQUARE ON CONDUIT SYMBOL INDICATES THAT CIRCUIT CONTINUES BUT NOT SWITCHLEG.
———▶▶▶	HOMERUN TO PANEL AND CIRCUIT(S) DESIGNATED. ARROW(S) INDICATE QUANTITY OF CIRCUITS.
ⓙ	JUNCTION BOX PER N.E.C.
◇1	SPECIAL NOTE, NUMERALS IDENTIFY, SEE SCHEDULE.

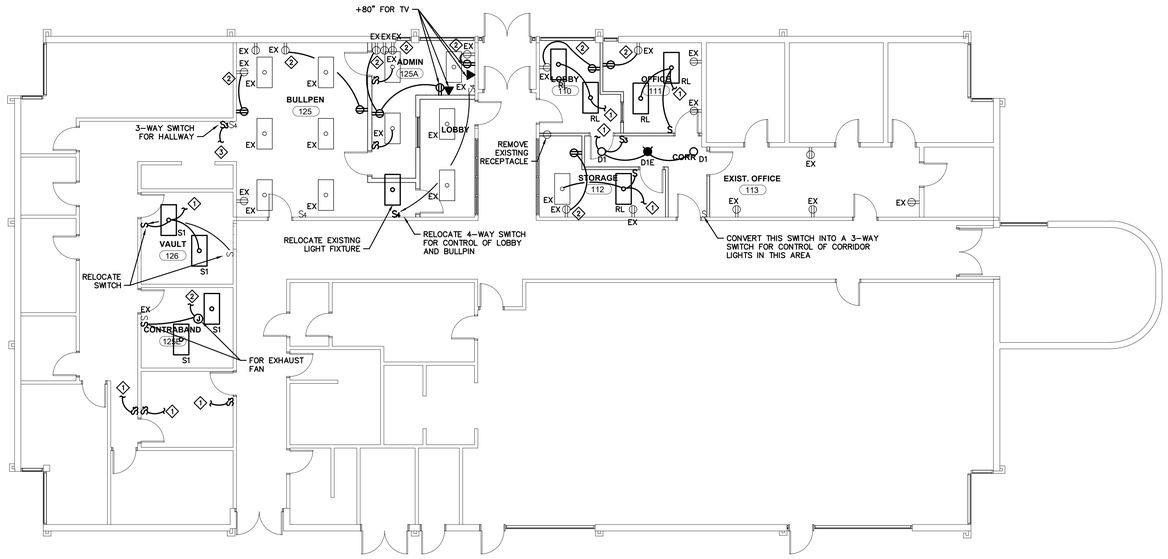
LIGHTING	
SYMBOL	DESCRIPTION
▭	LED OR FLUORESCENT LIGHTING FIXTURE, DRAWN TO SCALE.
○	COMPACT FLUORESCENT, LED OR HID LIGHTING FIXTURE, CEILING MOUNTED.
●	COMPACT FLUORESCENT, LED OR HID LIGHTING FIXTURE, CONNECTED TO AN EMERGENCY CIRCUIT OR EMERGENCY BALLAST.
⌑	COMPACT FLUORESCENT, LED OR HID LIGHTING FIXTURE. UTILIZED AS A NIGHT–LIGHT. CONNECT TO THE UNSWITCHED LEG OF THE CIRCUIT.
▣	COMPACT FLUORESCENT, LED OR HID LIGHTING FIXTURE. CONNECTED TO AN EMERGENCY CIRCUIT OR EMERGENCY BALLAST. CONNECT TO THE UNSWITCHED LEG OF THE CIRCUIT.

DISTRIBUTION	
SYMBOL	DESCRIPTION
▬	ELECTRICAL PANELBOARD, FLUSH MOUNTED.
▬	ELECTRICAL PANELBOARD, SURFACE MOUNTED.

FIRE ALARM SYSTEM	
SYMBOL	DESCRIPTION
⊠	FIRE ALARM SYSTEM VISUAL ONLY NOTIFICATION APPLIANCE DEVICE. PROVIDE SYNCHRONIZED STROBES WHERE 2 OR MORE STROBES ARE LOCATED IN ONE ROOM OR VISIBLE FROM ONE LOCATION.
S	LIGHT SWITCH, SINGLE–POLE,
S_3	LIGHT SWITCH, 3–WAY,
(OS)	OCCUPANCY SENSOR, CEILING MOUNTED. PROVIDE WITH 10 FEET WHIP TO ALLOW FIELD ADJUSTMENT OF LOCATION. COORDINATE EXACT LOCATION WITH MANUFACTURERS RECOMMENDATION.
⇉	DUPLEX RECEPTACLE, 125V, 3–WIRE GROUNDING TYPE.
⇉GFI	DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING.
▼	WALL OUTLET FOR TELECOMMUNICATIONS. PROVIDE 1"EC TO ABOVE ACCESSIBLE CEILING SPACE.

LIGHTING FIXTURE SCHEDULE – LITHONIA VOLUMETRIC

TYPE	DESCRIPTION	VOLT.	LAMPS							DRIVER/BALLASTS		WATTS	MOUNTING	MANUF. CATALOG NO.
			QTY	TYPE	BULB	BASE	TEMP	CRI	LUMENS	QTY	TYPE			
S1	2'X4' SURFACE MOUNTED LED TROFFER. GRID TYPE FOR LAY–IN CEILING. HOUSING AND REFLECTORS ARE DIE FORMED COLD ROLLED STEEL, ACRYLIC LINEAR PRISMATIC DIFFUSER, CONTOUR SHIELDING, WHITE POWDER COAT FINISH. 3000 LUMENS NOMINAL.	120	–	LED	–	–	3500 K	80	3470	1	0–10V DIMMING DRIVER	26.4	CEILING, RECESSED	LITHONIA #2ALLS4–30L EQUALS BY WILLIAMS, METALUX OR APPROVED EQUAL
S1E	2'X4' SURFACE MOUNTEDLED TROFFER. GRID TYPE FOR LAY–IN CEILING. HOUSING AND REFLECTORS ARE DIE FORMED COLD ROLLED STEEL, ACRYLIC LINEAR PRISMATIC DIFFUSER, CONTOUR SHIELDING, WHITE POWDER COAT FINISH. 3000 LUMENS NOMINAL. PROVIDE WITH 1400 LUMEN BATTERY PACK.	120	–	LED	–	–	3500 K	80	3470	1	0–10V DIMMING DRIVER	26.4	CEILING, RECESSED	LITHONIA #2ALLS4–30L–EL14L EQUALS BY WILLIAMS, METALUX OR APPROVED EQUAL
D1	LED RECESSED DOWNLIGHT, 6 INCH DIAMETER HOUSING, SELF–FLANGED TRIM STYLE, CLEAR APERTURE/TRIM COLOR, SEMI–SPECULAR FINISH, DIMMING DRIVER.	120	–	LED	–	–	3500 K	80	2000	1	0–10V DIMMING DRIVER	23	CEILING, RECESSED	GOTHAM #EVO6 SERIES OR APPROVED EQUAL
D1E	LED RECESSED DOWNLIGHT, 6 INCH DIAMETER HOUSING, SELF–FLANGED TRIM STYLE, CLEAR APERTURE/TRIM COLOR, SEMI–SPECULAR FINISH, DIMMING DRIVER. PROVIDE WITH 10 WATT EMERGENCY BATTERY PACK,	120	–	LED	–	–	3500 K	80	2000	1	0–10V DIMMING DRIVER	23	CEILING, RECESSED	GOTHAM #EVO6–FL SERIES OR APPROVED EQUAL
RL	EXISTING LIGHT FIXTURE RELOCATED AS A PART OF THIS WORK. CLEAN RELAMP AND REINSTALL AS INDICATED. REFER TO ARCHITECTURAL DEMOLITION RCP FOR LIGHT FIXTURES TO BE RELOCATED.													



1 OVERALL FIRST FLOOR PLAN – ELECTRICAL

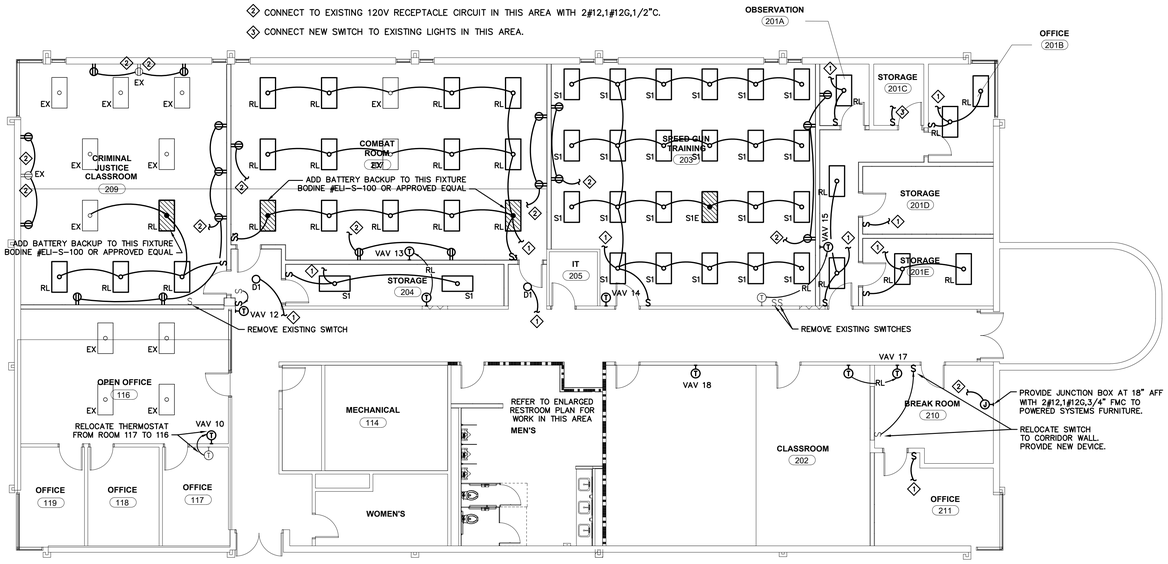
SCALE: 1/8" = 1'–0"

NOTES:

1. CONNECT TO EXISTING LIGHTING CIRCUIT IN THIS AREA WITH 2#12,1#12G,1/2"C.
2. CONNECT TO EXISTING 120V RECEPTACLE CIRCUIT IN THIS AREA WITH 2#12,1#12G,1/2"C.
3. CONNECT NEW SWITCH TO EXISTING LIGHTS IN THIS AREA.

DEMOLITION LEGEND

RV – EXISTING TO BE REMOVED
RL – EXISTING TO BE RELOCATED
EX – EXISTING TO REMAIN
RP – EXISTING TO BE REPLACED



2 OVERALL SECOND FLOOR PLAN – ELECTRICAL

SCALE: 1/8" = 1'–0"

NOTES:

1. CONNECT TO EXISTING LIGHTING CIRCUIT IN THIS AREA WITH 2#12,1#12G,1/2"C.
2. CONNECT TO EXISTING 120V RECEPTACLE CIRCUIT IN THIS AREA WITH 2#12,1#12G,1/2"C.
3. CONNECT NEW SWITCH TO EXISTING LIGHTS IN THIS AREA.

DEMOLITION LEGEND

RV – EXISTING TO BE REMOVED
RL – EXISTING TO BE RELOCATED
EX – EXISTING TO REMAIN
RP – EXISTING TO BE REPLACED

ABBREVIATIONS

A	AMPERES	KW	KILOWATTS
ACC	ARMORED CLAD CABLE	LFNC	LIQUIDTIGHT FLEXIBLE NON–METALLIC CONDUIT
AFF	ABOVE FINISHED FLOOR	LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
AFG	ABOVE FINISHED GRADE	LVC	LOW VOLTAGE CONTROL CABINET
ANN	FIRE ALARM ANNUNCIATOR CABINET	MCB	MAIN CIRCUIT BREAKER
C	CONDUIT	MCC	METAL CLAD CABLE
CB	CIRCUIT BREAKER	MLO	MAIN LUGS ONLY
CKT	CIRCUIT	MTD	MOUNTED
CLG	CEILING	NMC	NON–METALLIC CLAD CABLE
DN	DOWN	PB	PULLBOX
DW	DISHWASHER	PNL	PANELBOARD
EC	EMPTY CONDUIT	PRS	PROGRAM RAPID START
EMT	ELECTRICAL METALLIC TUBING	PS	PROGRAM START
ENT	ELECTRICAL NON–METALLIC TUBING	PWR	POWER
EWC	ELECTRIC WATER COOLER	REC	RECEPTACLE
FACP	FIRE ALARM CONTROL PANEL	RMC	RIGID METAL CONDUIT
FMC	FLEXIBLE METAL CONDUIT	RS	RAPID START
G	GROUND	SC	FIRE ALARM PULL STATION
GFI	GROUND FAULT INTERRUPTER	SW	SWITCH
HOA	HAND OFF AUTOMATIC	SWBD	SWITCHBOARD
HP	HORSEPOWER	TTB	TELEPHONE TERMINAL BOARD
HPF	HIGH POWER FACTOR	TEL	TELEPHONE
HX	HIGH REACTANCE	TV	TELEVISION
IG	ISOLATED GROUND	TYP	TYPICAL
IMC	INTERMEDIATE METAL CONDUIT	V	VOLTS
IS	INSTANT START	VP	VAPOR PROOF
JB	JUNCTION BOX	W	WALL MOUNTED
KVA	KILOVOLT–AMPERES	WG	WIRE GUARD
FFN	FUSE PER NAMEPLATE	WP	WEATHER PROOF
		XFMR	TRANSFORMER

MOUNTING HEIGHTS

(DISTANCE FROM FINISHED FLOOR TO CENTER OF DEVICE UNLESS OTHERWISE NOTED)

RECEPTACLE	
GENERAL	18" AFF. (UNLESS OTHERWISE NOTED)
ABOVE COUNTER TOP	44" AFF. (UNLESS OTHERWISE NOTED)
LIGHT SWITCH	46" AFF. (UNLESS OTHERWISE NOTED)
TELECOMMUNICATIONS	
GENERAL	18" AFF. (UNLESS OTHERWISE NOTED)
ABOVE COUNTER TOP	44" AFF. (UNLESS OTHERWISE NOTED)
WALL	46" AFF. (UNLESS OTHERWISE NOTED)
TELEVISION	
FIRE ALARM	
PULL STATION	46" AFF. (UNLESS OTHERWISE NOTED)
AUDIBLE/STROBE COMBINATION OR STROBE DEVICE ONLY	80" AFF. TO BOTTOM OF APPLIANCE

ELECTRICAL SPECIFICATIONS

1. PROVIDE ALL WORK AND MATERIALS REQUIRED FOR A COMPLETE AND WORKMANLIKE INSTALLATION AS SHOWN BY THE THE DRAWINGS AND SPECIFIED HEREIN.
2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, STATE, AND LOCAL CODES. ELECTRICAL MATERIALS SHALL BE NEW AND SHALL COMPLY WITH ALL APPLICABLE NEMA, U.L., ANSI, OSHA, AND ICEA STANDARDS.
3. PERFORM ALL CUTTING AND PATCHING NECESSARY FOR THE PROPER INSTALLATION OF THIS WORK AND REPAIR ANY DAMAGE DONE AS A RESULT OF THIS WORK.
4. AN ELECTRICAL INSPECTION CERTIFICATE SHALL BE ISSUED BY THE AUTHORITIES HAVING JURISDICTION BEFORE WORK WILL BE APPROVED FOR FINAL PAYMENT.
5. ALL ELECTRICAL CONDUIT AND CONDUCTORS WHICH ARE ABANDONED SHALL EITHER BE REMOVED COMPLETELY OR MECHANICALLY AND ELECTRICALLY SECURED. BACK BOXES OF OUTLETS AND SWITCHES SHOWN TO BE REMOVED FROM THE WALLS REMAINING SHALL BE REMOVED AND THE WALL PROPERLY PATCHED. ALL EXISTING ELECTRICAL OUTLETS NOT SHOWN TO BE REMOVED SHALL BE RECONNECTED. ALL MATERIALS AND EQUIPMENT NOTED TO BE REUSED IN THE NEW WORK SHALL BE CLEANED AND, IF NECESSARY, REPAIRED AND SHALL BE STORED AND PROTECTED ON THE SITE. ALL REUSED FIXTURES SHALL BE RELAMPED. PROVIDE OUTLET BOX EXTENSIONS WHERE NEW WALL FINISHES REQUIRED ADDITIONAL OUTLET BOX DEPTH. RELOCATE ANY EXISTING CONDUITS, CONDUCTORS, FIXTURES, AND OUTLETS WHERE REQUIRED BY THIS WORK.
6. ALL CONDUCTORS SHALL BE COPPER, TYPE THHN/THWN, AND SOLID OF #10, #12, AND #14 AWG AND STRANDED FOR #8 AWG AND LARGER. BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG. CONDUCTORS SHALL BE COLOR CODED BLACK/RED/BLUE FOR 120/208 VOLT SYSTEMS. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET. NO SPLICES SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES. SPLICES SHALL BE MADE BY TWISTING SECURELY AND FASTENING WITH U.L. LISTED, PRESSURE–TYPE TWIST ON INSULATED–WIRE CONNECTORS OF THE SAME TEMPERATURE RATING AS THE CONDUCTORS. SPLICES TO LIGHT FIXTURE LEADS SHALL BE MADE WITH PLASTIC WIRE NUTS.
7. ALL WIRING SHALL BE IN CONDUIT. WHERE CONCEALED WIRING SHALL BE METAL CLAD (MC) CABLE UNLESS OTHERWISE NOTED. WHERE EXPOSED, WIRING SHALL BE IN ELECTRICAL METALLIC TUBING (EMT), I–INCH TRADE SIZE MINIMUM. WHERE EMT IS USED, FITTINGS SHALL BE THREADLESS–COMPRESSION TYPE GALVANIZED STEEL. WHERE FLEXIBLE METAL CONDUIT IS USED, CONNECTORS SHALL BE T & B NYLON–INSULATED "TITE–BITE".
8. OUTLET BOXES SHALL BE GALVANIZED SHEET STEEL. FIXTURE OUTLET BOXES ON CEILINGS SHALL NOT BE LESS THAN 4 INCHES OCTAGONAL OUTLET BOXES ON NEW GYPSUM DRYWALL WALLS SHALL BE 4 INCHES SQUARE WITH SQUARE–CUT COVER EXTENSIONS.
9. SWITCHES AND RECEPTACLES SHALL BE SPECIFICATION GRADE BY ARROW–HART, GENERAL ELECTRIC, BRYANT, OR HUBBELL. PLATES SHALL BE 302 STAINLESS STEEL.
10. TELEPHONE SYSTEM CONDUIT SHALL BE 1–INCH TRADE–SIZE MINIMUM, UNLESS OTHERWISE NOTED. EXTEND TO ABOVE CEILING AND TERMINATE WITH PLASTIC BUSHING. PROVIDE PULLCORD.
11. OUTLET AND JUNCTION BOXES SHALL BE CAST TYPE WITH THREADED HUBS. BOXES AND ENCLOSURES LARGER THAN 5 INCHES SQUARE SHALL BE NEMA 12.
12. ALL CONDUIT SHALL BE RUN AS HIGH AS POSSIBLE, PARALLEL WITH STRUCTURAL MEMBERS, SUPPORTED ON APPROVED TYPES OF GALVANIZED TRAPEZES, HANGERS, OR STRAPS.
13. LIQUID–TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR EQUIPMENT CONNECTIONS, BUT NOT AS A WIRING METHOD OTHERWISE.
14. A CONTINUOUS GREEN GROUND WIRE SHALL BE RUN WITH EACH CIRCUIT.
15. SHOP DRAWINGS SHALL BE SUBMITTED FOR DRY–TYPE TRANSFORMERS AND PANELBOARDS.
16. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR PANELBOARDS.
17. UPDATE PANEL DIRECTORY TO REFLECT ALL CHANGES REQUIRED BY THIS WORK.

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NORTH CAROLINA 12490 ENGINEER REGISTERED PROFESSIONAL
3·16·2020

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REVISIONS:

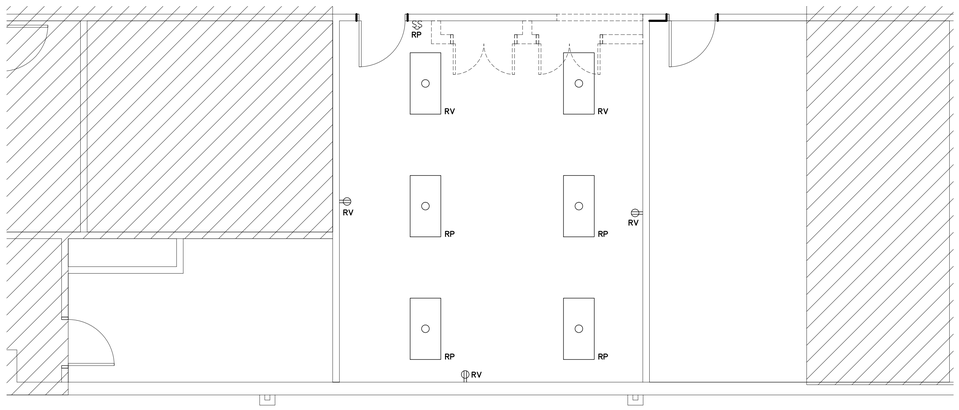
No.	Description	Date

PROJECT: 3202-200950
DATE: 16 MAR 2020
DRAWN BY: BPA
CHECKED BY: BSC

1ST & 2ND FLOOR ELECTRICAL PLANS

E-101

ISSUED FOR PERMIT

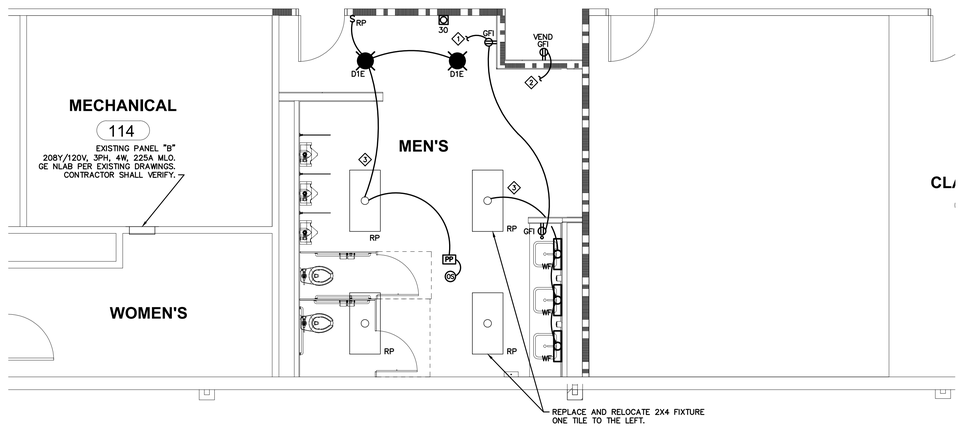


1 SECOND FLOOR ENLARGED RESTROOM DEMOLITION PLAN – ELECTRICAL

SCALE: 1/4" = 1'-0"

DEMOLITION LEGEND

RV – EXISTING TO BE REMOVED
RL – EXISTING TO BE RELOCATED
EX – EXISTING TO REMAIN
RP – EXISTING TO BE REPLACED



2 SECOND FLOOR ENLARGED RESTROOM RENOVATION PLAN – ELECTRICAL

SCALE: 1/4" = 1'-0"

NOTES:

1. CONNECT TO EXISTING RECEPTACLE CIRCUIT IN THIS SPACE (PANEL B, CIRCUIT 16 PER EXISTING DRAWINGS) WITH 2#12,1#12G,1/2"C.
2. CONNECT TO EXISTING RECEPTACLE CIRCUIT IN THIS SPACE (PANEL B, CIRCUIT 1 PER EXISTING DRAWINGS) WITH 2#12,1#12G,1/2"C.
3. CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT IN THIS SPACE (PANEL B, CIRCUIT 9 PER EXISTING DRAWINGS) WITH 2#12,1#12G,1/2"C.

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 12490 MARK P. ARRINGTON
2-13-2020

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REVISIONS:

No.	Description	Date

PROJECT: 3202-200950
DATE: 13 MAR 2020
DRAWN BY: BPA
CHECKED BY: BSC

SECOND FLOOR ENLARGED RESTROOM PLANS

E-102

ISSUED FOR PERMIT

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