ABBREVIATIONS

#	POUND OR NUMBER
&	AND
@	AT
ACP	ACOUSTICAL CEILING PANEL
AD	AREA DRAIN
ADJ	ADJUSTABLE
AF	ACCESS FLOORING SYSTEM
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
ALUM	ALUMINUM
APROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASB	ASBESTOS
ASPH	ASPHALT
AWP	ACOUSTIC WALL PANEL
AXON	AXONOMETRIC
BA	BASE
BC	BACK OF CURB
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BR	BULLET RESISTANT
BTB	BACK TO BACK
C	CHANNEL
CA	CARPET
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENTIOUS
CER	CERAMIC
CI	CAST IRON
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CONCRETE
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CPT	CARPET
CS	CEILING SYSTEM
CT	CERAMIC TILE
CTR	CENTER
CTSK	COUNTERSUNK
(D)	DEMOLISH
DBL	DOUBLE
DEMO	DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DM	DECORATIVE MASONRY
DN	DOWN
DO	DOOR OPENING
DR	DOOR
DS	DOWNSPOUT
DWG	DRAWING
DWR	DRAWER
(E)	EXISTING
E	EAST
EA	EACH
EEOR	ELECTRICAL ENGINEER OF RECORD
EGD	EXPERIENTIAL DESIGN
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION
ELVTR	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
EPNL	ELECTRICAL PANEL
EQ	EQUAL
EQPT	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXG	EXISTING
EXT	EXTERIOR
F/A	FIRE ALARM
FA	FABRIC
FAB	FABRIC
FB	FLAT BAR
FC	FACE OF CURB
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIN	FINISH
FL	FLOOR
FLSHG	FLASHING
FLUOR	FLUORESCENT
FO	FACE OF
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUDS
FPRF	FIREPROOFING
FRP	FIBERGLASS REINFORCED PLASTIC
FRT	FIRE RETARDANT TREATED
FT	FOOT / FEET / FINISH TRANSITION
FTG	FOOTING
FURR	FURRING
FUT	FUTURE
FWP	FABRIC WALL PANEL
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GD	GRADE
GF	GLAZING FILM
GL	GLASS / GLAZING
GND	GROUND
GR	GROUT
GWB	GYPSUM BOARD
GYP	GYPSUM
HB	HOSE BIB
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HPC	HIGH PERFORMANCE COATINGS
HR	HOUR
HT	HEIGHT
ID	INSIDE DIAMETER (DIM)
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
JT	JOINT
KIT	KITCHEN
L	ANGLE
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LKR	LOCKER
LT	LIGHT
MAX	MAXIMUM
MC	MEDICINE CABINET
ME	METAL
MECH	MECHANICAL
MEMB	MEMBRANE
MEOR	MECHANICAL ENGINEER OF RECORD
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
MUL	MULLION
(N)	NEW
N	NORTH
NAT	NATURAL
NC	NOISE CRITERION (NOISE LEVEL LIMIT)
NIC	NOT IN CONTRACT
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OCC	OCCUPANCY
OD	OUTSIDE DIAMETER (DIM)
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
OTS	OPEN TO STRUCTURE
PA	PAINT
PC	PERFORMANCE COATING
PERP	PERPENDICULAR
PG	PROTECTIVE GUARDS
PL	PLASTIC LAMINATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLUMB	PLUMBING
PLWD	PLYWOOD
PP	POWER POLE
PR	PAIR
PRCST	PRECAST
PT	PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTD/R	COMBINATION PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
PVB	POLYVINYL BUTYRAL
PVC	POLYVINYL CHLORIDE (PLASTIC)
QT	QUARRY TILE
(R)	RELOCATE
RAD	RADIUS
RD	ROOF DRAIN
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCED
REQ'D	REQUIRED
RESIL	RESILIENT
RF	RESILIENT FLOORING
RM	ROOM
RO	ROUGH OPENING
RWL	RAIN WATER LEADER
S	SOUTH
S/D	SOAP DISPENSER
S/S	STAINLESS STEEL
SAB	SOUND ATTENUATION BLANKET
SAFB	SOUND ATTENUATION FIRE BLANKET
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCHED	SCHEDULE
SD	STATIC DISSIPATIVE
SEC	SECURITY
SECT	SECTION
SEOR	STRUCTURAL ENGINEER OF RECORD
SF	SPECIAL FINISH / SQUARE FOOT / SQUARE FEET
SFRM	SPRAY FIRE-RESISTIVE MATERIAL
SG	SAFETY GLAZING
SH	SHELF
SHT	SHEET
SHTG	SHEATHING
SHWR	SHOWER
SIM	SIMILAR
SLT	SEALANT
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SOB	SYMBOL ON BACKGROUND
SPEC	SPECIFICATION
SQ	SQUARE
SS	SOLID SURFACE MATERIAL
SSD	SEE STRUCTURAL DRAWINGS
SSK	SERVICE SINK
ST	STONE
STA	STATION
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
T	TREAD
T&G	TONGUE AND GROOVE
TB	TOWEL BAR
TBD	TO BE DETERMINED
TCOM	TELECOMMUNICATION
TEL	TELEPHONE
TER	TERRAZZO
THK	THICK
TI	TILE
TOC	TOP OF CONCRETE
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TR	TRANSITION
TV	TELEVISION
TYP	TYPICAL
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UR	URINAL
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VNR	VENEER
W	WEST
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET / WALL COVERING
WD	WOOD
WF	WOOD FLOORING
WLD	WELDED
WO	WHERE OCCURS
WP	WATERPROOF
WP	WALL PANELING
WRB	WEATHER RESISTANT BARRIER
WS	WOOD SOLID
WT	WEIGHT / WINDOW TREATMENT
WV	WOOD VENEER

GENERAL NOTES

1. CONTRACT DOCUMENTS
THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS CALLED FOR BY ANY WILL BE AS BINDING AS IF CALLED FOR BY ALL. THE CONTRACT DOCUMENTS CONVEY THE DESIGN INTENT FOR THE PROJECT. THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS AND SHALL COORDINATE THE WORK OF THE DOCUMENTS WITH THE WORK OF VENDOR PROVIDED INFORMATION ASSOCIATE WITH THE PROJECT. THE CONTRACTOR SHALL DISTRIBUTE COMPLETE CONTRACT DOCUMENTS TO PARTIES RESPONSIBLE FOR PERFORMING THE WORK SO THAT NO PARTY RECEIVES LIMITED INFORMATION.

2. COORDINATION OF THE WORK
THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REVIEW AND VERIFICATION OF THE CONTRACT DOCUMENTS, FIELD CONDITIONS, VENDOR DESIGN DRAWINGS INCLUDING DELEGATED DESIGN WORK BY OTHERS, AND DIMENSIONS FOR ACCURACY AND FOR CONFIRMING THE WORK IS CONSTRUCTIBLE PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL COORDINATE THE WORK WITH THE BUILDING OWNER SO AS NOT TO DISTURB OR CAUSE DAMAGE TO OTHER TENANT SPACES OR BUILDING AREAS. THE CONTRACTOR SHALL SECURE A CURRENT COPY OF PUBLISHED CONSTRUCTION/CONTRACTOR BUILDING GUIDELINES AND REGULATIONS FROM THE BUILDING MANAGEMENT AND COMPLY. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF RECORD IN WRITING OF CONFLICTS AND OBTAIN A WRITTEN CLARIFICATION FROM THE ARCHITECT OF RECORD PRIOR TO PROCEEDING WITH THE WORK.

3. DIMENSIONS
DO NOT SCALE DRAWINGS. DIMENSIONS AND WORKPOINTS PROVIDED ARE TO STRUCTURAL GRID OR TO EXPOSED FACE OF A FINISH, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL VERIFY DIMENSIONS WITH CONDITIONS IN THE FIELD AND SHALL SECURE WRITTEN RESOLUTION OF CONFLICTS FROM THE ARCHITECT PRIOR TO INITIATING THE WORK. DO NOT ADJUST DIMENSIONS INDICATED AS "CLEAR" OR "HOLD" WITHOUT WRITTEN DIRECTION FROM ARCHITECT. CONTRACTOR TO NOTIFY ARCHITECT OF ANY DIMENSIONS THAT DIFFER BY MORE THAN "1 INCH", INCLUDING THOSE MARKED "VIF" AND "+/-".

4. DELEGATED DESIGN WORK BY OTHERS
SYSTEMS INDICATED AS DELEGATED DESIGN SHALL BE ENGINEERED, AND STAMPED BY QUALIFIED PROFESSIONAL ENGINEERS LICENSED IN THE JURISDICTION OF THE WORK. IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD FOR THESE SYSTEMS TO SECURE AGENCY APPROVALS, INCLUDING REQUIRED FEES ASSOCIATED WITH PERMIT APPROVAL. THESE SYSTEMS SHALL BE COORDINATED WITH THE CONTRACT DOCUMENTS AND SHALL COMPLY WITH APPLICABLE LEGAL REQUIREMENTS INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS UTILIZING PERFORMANCE AND DESIGN CRITERIA INDICATED IN THE CONTRACT DOCUMENTS.

DEFINITIONS

ALIGN	TO ACCURATELY LOCATE FINISH FACES IN THE SAME PLANE
CLEAR / CLR / HOLD	DIMENSIONS ARE ABSOLUTES, UNOBSTRUCTED FROM FACE OF EXPOSED FINISH SURFACES.
DEMOLISH	TO DECONSTRUCT COMPLETE SYSTEM, HAUL, AND DISPOSE OF MATERIAL, INCLUDING APPROPRIATE PULL BACK AND TERMINATION/CAPPING OF RELATED BUILDING SERVICES
SALVAGE	DIS-ASSEMBLE, CONVEY OR STORE MATERIAL PER OWNERS INSTRUCTIONS
REUSE	SALVAGE, STORE ON SITE, RE-INSTALL
INSTALL	ON-SITE OPERATIONS INCLUDING UNLOADING, TEMPORARY STORAGE, UN-PACKING, ASSEMBLY, PLACING, ANCHORING, APPLYING, FINISHING, PROTECTING, AND CLEANING COMPLETE AND OPERATIONAL ELEMENTS, EQUIPMENT, AND SYSTEMS
FURNISH	PROCURE AND STORE ON-SITE MATERIAL FOR INSTALLATION BY OTHERS
PROVIDE	FURNISH AND INSTALL COMPLETE AND OPERATIONAL SYSTEM
NOTIFY	TO INFORM THE STATED PARTIES IN WRITING AND SEEK RESOLUTION PRIOR TO COMENCING WORK

HAZARDOUS MATERIALS NOTES

- INTERIOR ARCHITECTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, REMOVAL, PRESENCE, HANDLING, DISPOSAL OF, OR EXPOSURE OF PERSONS TO HAZARDOUS SUBSTANCES, MATERIALS, AND WASTES IN ANY FORM AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO: ASBESTOS, ASBESTOS PRODUCTS, PCB MOLD, OR OTHER TOXIC OR HARMFUL SUBSTANCES.
- QUESTIONS THAT ARISE RELATED TO HAZARDOUS MATERIALS SHALL BE REFERRED TO THE OWNER FOR RESOLUTION. INTERIOR ARCHITECTS SHALL NOT BE REQUIRED TO DO WORK NOR RENDER OPINIONS RELATED TO HAZARDOUS MATERIALS.
- CONTRACTORS SHALL REPORT THE PRESENCE OF MATERIAL OR ASSEMBLIES SUSPECTED TO CONTAIN HAZARDOUS MATERIALS UPON DISCOVERY TO THE OWNER. WORK SHALL BE HALTED UNTIL WRITTEN CLEARANCE TO CONTINUE HAS BEEN PROVIDED BY THE OWNER'S CERTIFIED HAZARDOUS MATERIALS CONSULTANTS.

FURNITURE, FLOOR CORE & LIGHTING COORDINATION

CONTRACTOR, FURNITURE VENDOR, DESIGN BUILD SUB-CONTRACTORS AND OWNER'S SUBCONTRACTORS ARE ALL REQUIRED TO USE THE ARCHITECTURAL DIMENSION WORK POINTS ESTABLISHED FOR OPEN PLAN PENDANT LIGHTING AND FURNITURE CENTERLINES WHERE APPLICABLE. CONTRACTOR AND VENDOR PREPARED SHOP DRAWINGS SHALL DOCUMENT THE ARCHITECTURAL DIMENSION WORK POINTS FOR THE ARCHITECT'S REVIEW PRIOR TO START OF WORK. FIELD LAYOUT REVIEW REQUESTED OF THE ARCHITECT MUST UTILIZE ON ESTABLISHED WORK POINTS. FLOOR CORE LOCATIONS SERVING FURNITURE ARE THE SOLE RESPONSIBILITY OF THE FURNITURE VENDOR, INCLUDING FIELD VERIFICATION OF LAYOUT CONSISTENT WITH THE FLOOR CORING REQUIREMENTS IDENTIFIED HEREIN.

CODE REFERENCES

2024 GEORGIA CODE REQUIREMENTS:

BUILDING: 2018 INTERNATIONAL BUILDING CODE (IBC) WITH 2024 GEORGIA AMENDMENTS.
NOTE: CH 10 HAS BEEN REMOVED IN ITS ENTIRETY AND REPLACED WITH 2018 NFPA 1010

EXISTING BUILDING: 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC), WITH 2021 GEORGIA AMENDMENTS

LIFE SAFETY: 2018 NFPA 101 LIFE SAFETY CODE; AS AMENDED BY THE RULES AND REGULATIONS OF THE SAFETY FIRE COMMISSIONER.
NOTE: ALL EGRESS COMPONENTS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 101 2018 EDITION AND THE GEORGIA RULES AND REGULATIONS (AMENDMENTS) 120-3-3.

FIRE: INTERNATIONAL FIRE CODE (IFC) 2018 EDITION WITH GEORGIA AMENDMENTS 120-3-3.04 RULES AND REGULATIONS FOR THE STATE MINIMUM FIRE SAFETY STANDARDS

PLUMBING: 2018 INTERNATIONAL PLUMBING CODE (IPS) WITH 2024 GEORGIA AMENDMENTS

ELECTRICAL: 2018 INTERNATIONAL ELECTRICAL CODE (NEC) WITH 2021 GEORGIA AMENDMENTS

MECHANICAL: 2018 INTERNATIONAL MECHANICAL CODE (IMC) WITH GEORGIA AMENDMENTS

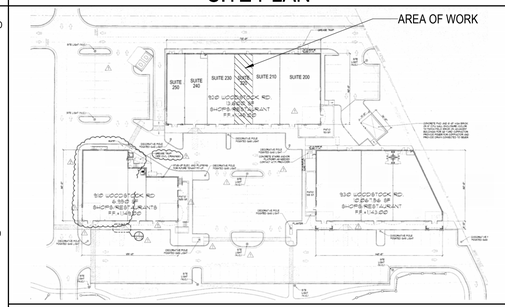
ENERGY: 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH GEORGIA AMENDMENTS

ACCESSIBILITY: GEORGIA ACCESSIBILITY CODE - GSFC RULES AND REGULATIONS, 120-3-3.20A, REFERENCING THE 2010 ADA

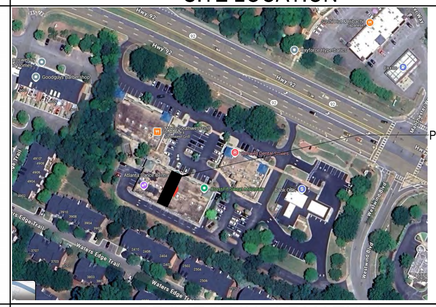
PROJECT MANUAL

IA'S PROJECT MANUAL IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS.

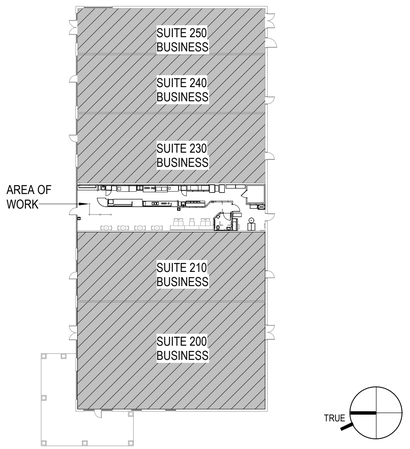
SITE PLAN



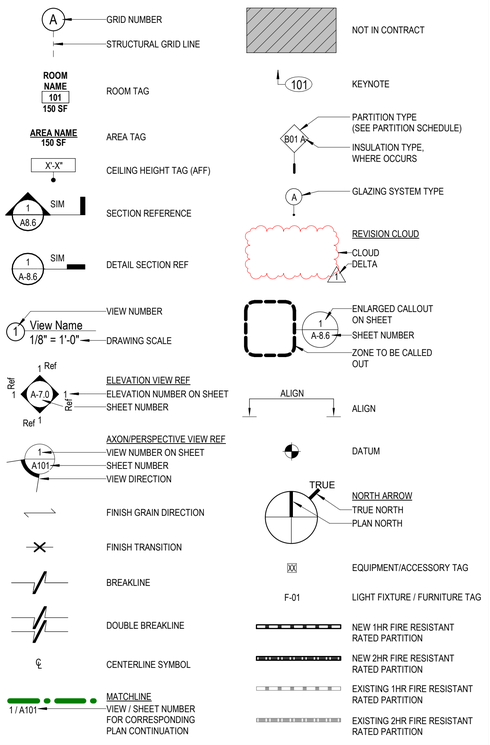
SITE LOCATION



KEY PLAN



SYMBOLS



PROJECT INFORMATION

PROJECT ADDRESS:	920 WOODSTOCK RD SUITE 220 ROSWELL, GA 30075
PROJECT DESCRIPTION:	TENANT IMPROVEMENT IN SINGLE STORY BUILDING, INCLUDING CONSTRUCTION OF NON-STRUCTURAL PARTITIONS, CEILINGS, FINISHES AND FURNITURE/EQUIPMENT AND ASSOCIATED MEP IMPROVEMENTS.
TYPE OF CONSTRUCTION:	IIB
BUILDING OCCUPANCY:	B
PROJECT AREA:	1,436 SF
BUILDING NO. OF STORIES:	1
AREA PER FLOOR:	43,312 SF
SEISMIC DESIGN CATEGORY:	C
BUILDING LIFE SAFETY INFO:	NFPA 13 SPRINKLERS
ADDITIONAL REQUIREMENTS:	1. ALL INTERIOR FINISHES SHALL COMPLY WITH THE REFERENCED CODE REQUIREMENTS FOR FLAMMABILITY AND SMOKE DEVELOPED RATINGS AS WELL AS TOXICITY. **WALL AND CEILINGS (PER ASTM E84 OR UL723)** INTERIOR EXIT STAIRWAYS, RAMPS AND EXIT PASSAGEWAYS B OCCUPANCY - CLASS B CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS: B OCCUPANCY - CLASS C ROOMS AND ENCLOSED SPACES: B OCCUPANCY - CLASS C **FLOORING (PER ASTM E648 OR NFPA 253): CLASS II** CRITICAL RADIANT FLUX OF NOT LESS THAN 0.22 WATTS PER SQUARE CENTIMETER **FLAME SPREAD AND SMOKE-DEVELOPED INDEX** CLASS A: FLAME SPREAD: 0 - 25; SMOKE-DEVELOPED: 0 - 450 CLASS B: FLAME SPREAD: 26 - 75; SMOKE-DEVELOPED: 0 - 450 CLASS C: FLAME SPREAD: 76 - 200; SMOKE-DEVELOPED: 0 - 450
DEFERRED SUBMITTALS & DELEGATED DESIGN WORK BY OTHERS UNDER SEPARATE PERMIT:	SPRINKLER

PROJECT DIRECTORY

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STEPHEN FURNSTAHL
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PM/CLIENT REP
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SHEET INDEX

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

DELTA	ISSUE	DESCRIPTION	DATE
	2	ISSUE FOR CONSTRUCTION	12/27/2024

INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

Owner Approval

27MSHF.0035.000 — As indicated
Job No. — Scale

PROJECT INFORMATION

AN-1.0

12/20/2024 1:10:06 PM 23.2.1

RESPONSIBILITIES MATRIX

THIS MATRIX IS PROVIDED AS A GENERAL REFERENCE FOR ALL MILKSHAKE FACTORY PROJECTS AND MAY INCLUDE ITEMS NOT APPLICABLE TO THIS PROJECT. INFORMATION IN THE CONTRACT DOCUMENTS SUPERCEDES THIS MATRIX. COORDINATE WITH OWNER'S REPRESENTATIVE FOR DETAILS.

ITEM	PROVIDED BY: FRANCHISE OWNER	PROVIDED BY: LANDLORD	PROVIDED BY: GENERAL CONTRACTOR	PROVIDED BY: MILLWORK VENDOR	INSTALLED BY: FRANCHISE OWNER	INSTALLED BY: LANDLORD	INSTALLED BY: GENERAL CONTRACTOR	INSTALLED BY: MILLWORK VENDOR	EXISTING TO REMAIN	REMARKS
GENERAL										
BUILDING PERMITS & INSPECTIONS			•				•			
CONSTRUCTION BARRICADES (IF REQUIRED)			•				•			
BARRICADE PERMITS (IF REQUIRED)			•				•			
BARRICADE GRAPHICS (IF REQUIRED)			•				•			
DEMISING WALLS									•	11
DEMOLITION			•				•			
IN-WALL BLOCKING FOR DRYWALL PARTITIONS			•				•			
PROTECTION			•				•			
MISC. STEEL (IF REQUIRED)			•				•			
FLOOR LEVELING			•				•			
FIREPROOFING (IF REQUIRED)			•				•		•	1
ROOF PENETRATIONS			•				•		•	
CONCRETE FLOOR PATCHING & GRINDING			•				•			
SIGNAGE										
EXTERIOR LOGO SIGNAGE	•				•		•			6
BLADE SIGNS (IF REQUIRED)	•				•		•			6
INTERIOR LOGO SIGNAGE	•				•		•			6
TACTILE SIGNAGE (CODE REQUIRED)			•				•			
MENU BOARDS	•				•					
BRAND / MARKETING GRAPHICS	•				•					
DRYWALL & CARPENTRY										
DRYWALL PARTITIONS			•				•			
CAULKING			•				•			
CEILINGS										
CEILING PAINT			•				•			
ACOUSTIC SPRAY INSULATION			•				•			
SUSPENDED CEILINGS			•				•			
METAL & GLASS										
ORNAMENTAL METALS			•				•			
STOREFRONT									•	
ARCHITECTURAL GLASS / MIRRORS			•				•			
SNEEZE GUARDS			•				•			
MILLWORK										
SERVICE COUNTER			•	•			•			3
TRASH & STRAW CABINET (WHERE OCCURS)				•			•			
MILK BOTTLE CEILING/WALL (WHERE...	•						•			
BANQUETTE (WHERE OCCURS)	•				•					7
STANDING BAR (WHERE OCCURS)			•				•			
OFFICE DESK			•				•			
OFFICE SHELVING			•				•			
KITCHEN SHELVING			•				•			
CLOSET SHELVING (WHERE OCCURS)			•				•			
FLOORING										
RESILIENT FLOORING (LVT)			•				•			
CERAMIC TILE FLOORING & BASE			•				•			
QUARRY TILE FLOORING & BASE			•				•			
RESILIENT WALL BASE			•				•			
FLOORING TRANSITIONS			•				•			
WALL FINISHES										
PAINT			•				•			
WALL TILE			•				•			
FRP PANELS			•				•			
WALLCOVERING			•				•			
DOORS, FRAMES, AND HARDWARE										
INTERIOR DOORS & FRAMES			•				•			
INTERIOR DOOR HARDWARE			•				•			
STOREFRONT DOORS									•	
STOREFRONT DOOR HARDWARE									•	
REAR EXIT / SERVICE ENTRY DOOR & FRAME									•	
REAR EXIT / SERVICE ENTRY DOOR HARDWARE									•	5
SPECIALTIES & EQUIPMENT										
KITCHEN APPLIANCES & EQUIPMENT	•				•		•			4
WALK-IN COOLER	•				•		•			8
FREESTANDING STORAGE SHELVES					•					7
RESTROOM ACCESSORIES	•		•		•		•			9
FIRE EXTINGUISHERS & CABINETS			•				•			
TRASH RECEPTACLES	•				•					
POS TERMINALS	•				•					
COMPUTERS & MONITORS	•				•					
TELEPHONES	•				•					
PRINTER / COPIER	•				•					
FURNITURE										
DINING TABLES, CHAIRS, & STOOLS	•				•					
RETAIL DISPLAY TABLES	•				•					
QUEUE LINE STANCHIONS	•				•					
OFFICE CHAIR(S)	•				•					
OFFICE STORAGE CABINET(S)	•				•					
SAFE	•				•					
PLUMBING										
RESTROOM FIXTURES			•				•			
GREASE TRAP			•				•			
DISH SINK & FAUCETS	•						•			10
WATER HEATER				•				•		
FLOOR DRAINS & FLOOR SINKS			•				•			
DOMESTIC & SANITARY LINES			•				•			
MOP SINK & FAUCET			•				•			
HVAC / MECHANICAL										
AIR HANDLER / CONDENSING UNITS			•				•			
AIR SUPPLY			•				•			
DISTRIBUTION DUCTWORK			•				•			

ITEM	PROVIDED BY: FRANCHISE OWNER	PROVIDED BY: LANDLORD	PROVIDED BY: GENERAL CONTRACTOR	PROVIDED BY: MILLWORK VENDOR	INSTALLED BY: FRANCHISE OWNER	INSTALLED BY: LANDLORD	INSTALLED BY: GENERAL CONTRACTOR	INSTALLED BY: MILLWORK VENDOR	EXISTING TO REMAIN	REMARKS
HVAC / MECHANICAL (CONTD)										
SUPPLY AND RETURN GRILLES			•				•			
TEMPERATURE CONTROLS / SENSORS			•				•			
DEHUMIDIFICATION SYSTEM			•				•			
ELECTRICAL										
INTERIOR LIGHT FIXTURES			•				•			
EXTERIOR LIGHT FIXTURES									•	
LIGHTING CONTROLS			•				•			
ILLUMINATED SIGNAGE			•				•			
ELECTRICAL PANELS			•				•		•	
DISTRIBUTION			•				•			
RECEPTACLES			•				•			
CONDUIT			•				•			
FIRE ALARM SYSTEM									•	
FIRE ALARM DEVICES			•				•			
LOW VOLTAGE										
DATA DEVICES	•				•					2
DATA CABLING	•				•					2
CONDUIT AND PULL STRING			•				•			
AUDIO VISUAL										
SPEAKERS	•				•					2
SOUND SYSTEM	•				•					2
IT										
WIRELESS ACCESS POINT(S)	•				•					2
NETWORK EQUIPMENT	•				•					2
IT RACK AND CABLES	•				•					2
EXTERIOR DESIGN										
N/A										1,12

NOTES:

1) GC to patch, repair, and/or replace any fireproofing damaged by construction activities.
2) Refer to Required & Preferred Vendors list.
3) Millwork panels by MilkShake Factory's National Millwork Vendor; Countertops by GC. GC to coordinate grommet holes in countertop with owner for all owner-provided equipment.
4) Coordinate with owner for specific owner-furnished items to be installed by GC. GC to hook up ice cream machines.
5) GC to provide and install doorbell and chime.
6) Signage to be provided and installed by MilkShake Factory's National Sign Vendor. GC to install power.
7) Provided in MilkShake Factory's equipment package. Installed/put in place by franchisee owner.
8) Provided by MilkShake Factory's National Equipment Vendor. GC's Electrician to provide and hook up to power.
9) Coordinate with owner for owner's vendor furnished and installed items. Refer to Accessories Schedule for additional info.
10) Provided by MilkShake Factory's Equipment Vendor. Installed by GC.
11) Site specific condition. Refer to architectural partition plan for possible demising wall work and responsibilities.
12) Address Identification requirements to be verified with building's property management (per OFC 505.1 & OBC 502.1)

MILLWORK NOTES

1. BLOCKING
ALL BLOCKING REQUIRED SHALL BE SCRIBED TO WALL OR CEILING, G.C. TO CHECK JOB PROGRESS AND COORDINATE WITH OTHER TRADES INVOLVED. G.C. IS RESPONSIBLE FOR ALL BLOCKING REQUIRED; UNDER NO CIRCUMSTANCES WILL "EXTRA" WORK BE AUTHORIZED FOR EXTRA BLOCKING.

2. SHOP DRAWINGS
THE G.C. SHALL SUBMIT SHOP DRAWINGS AND SAMPLES TO THE ARCHITECT FOR REVIEW.

3. FIELD CONDITIONS
PRIOR TO THE START OF FABRICATION, THE G.C. SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE AND SHALL BE RESPONSIBLE FOR SAME.

4. JOINERY
WHERE MEMBERS ARE MITERED OR BUTTED, THEY SHALL BE JOINED AND SECURED IN A MANNER TO INSURE AGAINST THE JOINT OPENING.

5. FABRICATION
ALL OF THE WORK SHALL BE FABRICATED, ASSEMBLED, FINISHED, AND ERECTED IN THE BEST METHOD KNOWN TO THE CABINET TRADE. SURFACES SHALL BE TRUE, STRAIGHT, AND FREE FROM ALL MACHINE AND TOOLS MARKINGS, BRUISES, INDENTATIONS, CHIPS, OR ABRASIONS.

6. FIELD VERIFICATION
IT SHALL BE THE G.C.'S RESPONSIBILITY TO HAVE EXAMINED THE JOB SITE IN CONJUNCTION WITH THE PROJECT DOCUMENTS SO AS TO BE SATISFIED AS TO THE CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED, INCLUDING SUCH MATTERS AS UNLOADING FACILITIES, LOCATIONS AND SIZES OF ELEVATORS, EQUIPMENT, OR FACILITIES NEEDED PRELIMINARY TO AND DURING THE WORK, AND OTHER CONDITIONS WHICH MAY AFFECT THE WORK.

7. PROTECTION
THE G.C. SHALL MAINTAIN REASONABLE PROTECTION TO SAFEGUARD HIS WORK FROM DAMAGE AND TO PROTECT BUILDING OWNER'S PROPERTY FROM INJURY OR LOSS ARISING IN CONNECTION WITH ALL PROJECT WORK.

8. GUARANTEE
THE G.C. SHALL GUARANTEE THAT ALL MATERIALS AND WORKMANSHIP SHALL BE OF THE QUALITY SPECIFIED AND SHOWN AND THAT ANY DEFECT DUE TO IMPROPER WORKMANSHIP OR MATERIALS DISCOVERED AND MADE KNOWN WITHIN ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE INSTALLATION SHALL BE REPAIRED OR REPLACED WITH REASONABLE PROMPTNESS WITHOUT ADDITIONAL COST. ARCHITECT WILL GIVE NOTICE OF SUCH OBSERVED DEFECTS WITH REASONABLE PROMPTNESS.

9. INSTALLATION
G.C. SHALL SHIM AND LEVEL COUNTERTOPS ABOVE FILES AFTER FILES ARE INSTALLED BY OTHERS. FILES IN OPERATIONS AREA TO BE SHIMMED AND SECURED TO MILLWORK AFTER THEY ARE SET IN PLACE. G.C. TO LEVEL FLOOR UNDER FILES IN ALL AREAS WHERE FILES ARE GANGED OR INSTALLED BELOW FIXED CABINETRY. (PLASTIC LAMINATED SHIMS AS REQUIRED AT FILE CABINET AREA).

10. FINISH
ALL MILLWORK SHALL RECEIVE FINAL FINISH AT THE SHOP OR FACTORY PRIOR TO DELIVERY. G.C. SHALL PROTECT ALL FINISHED AND INSTALLED MILLWORK FROM DAMAGE BY OTHER TRADES. DAMAGED OR DEFECTIVE MILLWORK SHALL BE REPLACED BY THE G.C. AT HIS EXPENSE.

11. COORDINATION
MILLWORK CONTRACTOR TO COORDINATE LOCATION OF ELECTRICAL, TELEPHONE, AND COMMUNICATIONS OUTLETS AND INSTALL GROMMETS IN COUNTERTOP SURFACES AS REQUIRED TO CONCEAL CABLES.

12. SHELVING
NO UNBRACED LENGTH OF SHELVING AND OR COUNTER WORK SHALL EXCEED 3'-0" WITHOUT ADDITIONAL SUPPORTS AND OR BLOCKING. ALL END CONDITIONS SHALL BE PROPERLY BLOCKED AND OR SUPPORTED.

13. OVERHEAD CABINETS
ALL BLOCKING AND WOOD CLEATS FOR OVERHEAD CABINETS TO BE SCREWED AND SECURED TO FULL HEIGHT OR BRACED CEILING HEIGHT METAL STUDS AND WOOD GROUNDS.

14. WOOD ORIGINS:
ALL WOOD UTILIZED ON THE JOB (SOLID LUMBER AND TIMBER PANEL PRODUCTS PLUS FINISHED WOOD) SHALL ORIGINATE FROM REGIONAL SOURCES AND FROM CERTIFIED AND SUSTAINABLE SOURCES (SUCH AS SUSTAINABLE FORESTRY INITIATIVE, CSA, FORESTRY STEWARDSHIP COUNCIL, OR AMERICAN TREE FARM SYSTEMS).

15. ADHESIVES & SEALANTS:
THE VOC CONTENT OF ADHESIVES AND SEALANTS USED SHALL BE LESS THAN THE CURRENT VOC CONTENT LIMITS OF SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE #1168, AND ALL SEALANTS USED AS FILLERS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATION 8, RULE 51.

DEMOLITION NOTES

1. SUMMARY
WORK NECESSARY FOR COMPLETE DEMOLITION INCLUDES FURNISHING LABOR FOR DEMOLITION, REMOVAL OF DEBRIS, PATCHING AS REQUIRED, CONTROL DUST, AND NECESSARY PERMITS.

2. HAZARDOUS MATERIALS
IF ASBESTOS OR OTHER HAZARDOUS MATERIALS ARE DISCOVERED DURING CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING, THEN WAIT FOR DIRECTION FROM THE OWNER. OTHER MATERIALS AND WASTE IN ANY FORM AT THE PROJECT SITE MAY BE LOCATED ON THE PROJECT SITE, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO ACBM, PCB'S OR OTHER TOXIC SUBSTANCES.

3. SCHEDULE
SUBMIT SCHEDULE INDICATING PROPOSED SEQUENCE OF OPERATIONS FOR SELECTIVE DEMOLITION WORK TO ARCHITECT AND THEIR CONSULTANTS, AND THE OWNER'S REPRESENTATIVE CITY BUILDING OFFICIALS, AND BUILDING MANAGEMENT FOR REVIEW. INCLUDE COORDINATION FOR SHUT OFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES AS REQUIRED TOGETHER WITH DETAILS FOR DUST AND NOISE CONTROL. PROVIDE DETAILED SEQUENCE OF DEMOLITION, FLOOR BY FLOOR, AND REMOVAL WORK TO ENSURE UNINTERRUPTED PROGRESS OF OWNER'S ON-SITE OPERATIONS, AND BUILDING OPERATIONS.

4. CONDITION OF STRUCTURES
OWNER ASSUMES NO RESPONSIBILITY FOR ACTUAL CONDITION OF ITEMS OR STRUCTURES TO BE DEMOLISHED. CONDITIONS EXISTING AT THE TIME OF COMMENCEMENT OF CONTRACT WILL BE MAINTAINED BY OWNER INSOFAR AS PRACTICAL. VARIATIONS WITHIN STRUCTURE MAY OCCUR BY OWNER'S REMOVAL AND SALVAGE OPERATIONS PRIOR TO START OF SELECTIVE DEMOLITION WORK.

5. PARTIAL DEMOLITION AND REMOVAL
STORAGE OF REMOVED ITEMS WILL BE PERMITTED AS DIRECTED BY THE OWNER.

6. PROTECTIONS
PROVIDE PROTECTIVE BARRICADES, PROTECTIVE CANOPIES, AND OTHER FORMS OF PROTECTION AS REQUIRED TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC FROM INJURY DUE TO SELECTIVE DEMOLITION WORK.
PROVIDE PROTECTIVE MEASURES AS REQUIRED TO PROVIDE FREE AND SAFE PASSAGE OF OWNER'S PERSONNEL, TENANT, THEIR EMPLOYEES AND THEIR INVITEES, AND GENERAL PUBLIC TO AND FROM OCCUPIED PORTIONS OF BUILDING. PROTECT FROM DAMAGE EXISTING FINISH WORK THAT IS TO REMAIN IN PLACE AND BECOMES EXPOSED DURING DEMOLITION OPERATIONS. PROTECT FLOORS WITH SUITABLE COVERINGS WHEN NECESSARY. CONSTRUCT TEMPORARY INSULATED SOLID DUST PROOF PARTITIONS WHERE REQUIRED TO SEPARATE AREAS WHERE NOISY OR EXTENSIVE DIRT OR DUST OPERATIONS ARE PERFORMED. EQUIP PARTITIONS WITH DUST PROOF DOORS AND SECURITY LOCKS IF REQUIRED. ROVIDE TEMPORARY WEATHER PROTECTION WHEN APPLICABLE DURING INTERVAL BETWEEN DEMOLITION AND REMOVAL OF EXISTING CONSTRUCTION ON EXTERIOR SURFACES AND INSTALLATION OF NEW CONSTRUCTION TO ENSURE THAT NO WATER LEAKAGE OR DAMAGE OCCURS TO STRUCTURE OR INTERIOR AREAS OF EXISTING BUILDING. REMOVE PROTECTIONS AT COMPLETION OF WORK.

7. DAMAGES
PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION WORK AT NO ADDITIONAL COST TO OWNER.

8. TRAFFIC
CONDUCT SELECTIVE DEMOLITION OPERATIONS AND DEBRIS REMOVAL IN A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES.

9. UTILITY SERVICES
MAINTAIN EXISTING FIRE PROTECTION SYSTEM AND UTILITIES TO REMAIN, KEEP IN SERVICE, IDENTITY, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. PROVIDE TEMPORARY LIGHT AND POWER AS REQUIRED. SEE DRAWINGS FOR EXISTING STANDPIPE LOCATIONS. REMOVAL OF ANY EQUIPMENT, CABLING SWITCHES, AND CONDUIT PERTAINING TO DATA/COMMUNICATIONS AND TELEPHONE SHALL BE VERIFIED WITH TELEPHONE COMPANIES SERVICE OWNER OR TENANT DATA/COMMUNICATIONS REPRESENTATIVE AS REQUIRED TO PREVENT NEW CONSTRUCTION DELAYS. REMOVE TO SOURCE ALL PIPES, VENTS, APPLIANCES, OR DRAINS NOT BEING RE-USED.

10. ENVIRONMENTAL CONTROLS
USE TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS TO ISOLATE DUST AND DIRT RISING AND SCATTERING. COMPLY WITH BUILDING MANAGEMENT REGULATIONS AND GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

11. INSPECTION
PRIOR TO COMMENCEMENT OF SELECTIVE DEMOLITION WORK, INSPECT AREAS IN WHICH WORK WILL BE PERFORMED IF NECESSARY. PHOTOGRAPH EXISTING CONDITIONS TO STRUCTURE SURFACES, EQUIPMENT, OR TO SURROUNDING PROPERTIES WHICH COULD BE MISCONSTRUCTED AS DAMAGE RESULTING FROM DEMOLITION WORK. FILE WITH OWNER PRIOR TO STARTING WORK.

12. PREPARATION
CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY INTERIOR AND EXTERIOR SHORING, BRACING, OR SUPPORT TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF STRUCTURES TO BE DEMOLISHED AND ADJACENT FACILITIES TO REMAIN. WORK SHALL BE DONE UNDER THE SUPERVISION OF A LICENSED STRUCTURAL ENGINEER PROVIDED BY THE CONTRACTOR AT THE PROJECT SITE.

CONTRACTOR SHALL CEASE OPERATIONS AT HIS/HER DISCRETION AND NOTIFY OWNER AND BUILDING MANAGEMENT IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS TO BE ENDANGERED. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS AS DIRECTED BY THE CONTRACTORS LICENSED STRUCTURAL ENGINEER TO SAFELY SUPPORT THE STRUCTURE UNTIL A DETERMINATION IS MADE FOR CONTINUING THE WORK AS DIRECTED BY THE CONTRACTOR'S LICENSED STRUCTURAL ENGINEER.TAKE PRECAUTIONS TO SUPPORT STRUCTURE UNTIL DETERMINATION IS MADE FOR CONTINUING OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR DEMOLITION MEANS AND METHODS.

13. COVER AND PROTECT
COVER AND PROTECT FURNITURE, EQUIPMENT AND FIXTURES, AND OTHER ITEMS TO REMAIN FROM SOILING OR DAMAGE WHEN DEMOLITION WORK IS PERFORMED IN ROOMS OR AREAS FROM WHICH SUCH ITEMS HAVE BEEN REMOVED.

14. CLEAN UP
AT COMPLETION OF DEMOLITION WORK, THE CONSTRUCTION AREAS SHALL BE LEFT IN BROOMED AND CLEAN CONDITION. CARPETED AREAS TO BE LEFT IN A VACUUM CLEAN CONDITION. VINYL FLOORING SHALL BE DAMP MOPPED AT THE END OF EACH WORK DAY. ALL DEBRIS AND MISCELLANEOUS MATERIAL SHALL BE REMOVED AT THE END OF EACH WORK DAY.

15. EXISTING ELECTRICAL
IN PARTITIONS TO BE REMOVED, REMOVE AND CAP ALL OUTLETS, SWITCHES, WIRES, THERMOSTATS, ETC. TO THEIR SOURCE AS REQUIRED. ALL EXISTING FLOOR MOUNTED OUTLETS, WHERE NOTED TO BE REMOVED OR RELOCATED, SHALL BE CAPPED OFF TO THE NEAREST JUNCTION BOX. FILL AND LEVEL FLOOR TO ACCEPT NEW FLOOR COVERING. REMOVAL OF ANY EQUIPMENT, CABLING SWITCHES, AND CONDUIT PERTAINING TO DATA/COMMUNICATIONS AND TELEPHONE SHALL BE VERIFIED WITH TELEPHONE COMPANIES, SERVICE OWNER, OR TENANT DATA/COMMUNICATIONS REPRESENTATIVE AS REQUIRED TO PREVENT NEW CONSTRUCTION DELAYS.

16. PATCHING
CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND/OR REPAIRING ANY DAMAGE CAUSED BY HIM OR HIS SUBCONTRACTORS TO EXISTING CONSTRUCTION IN ELEVATOR LOBBY, PUBLIC CORRIDORS, RESTROOMS, OR TENANT SPACES. REFINISH TO MATCH EXISTING ADJACENT FINISH, OR AS NOTED HEREIN.

17. PIPES AND VENTS
REMOVE TO SOURCE ALL ANCILLARY PIPES, VENTS, APPLIANCES AND DRAINS SCHEDULED FOR DEMOLITION. WHERE APPLICABLE, CAP AT RISER AND FIRESAFE PER UL EXISTING PENETRATIONS.

18. FLOORING
REMOVE ALL EXISTING IRREGULAR MATERIALS WHICH CAUSE RISES AND DEPRESSIONS IN FLOORING SURFACE, SUCH AS FASTENERS, OUTLET CORES, COVER PLATES, RESILIENT FLOOR COVERINGS, CARPET, CARPET PAD, FLASH PATCH, CONCRETE FILL, PLYWOOD, ETC.

19. WALL COVERING
SHOULD PAPER LAYER OF EXISTING GYP BD BE DAMAGED, REMOVE AND REPLACE EXISTING GYP BD AT SCHEDULED WALL COVERING REMOVAL, LOCATIONS.

20. DEMOLITION
DEMOLITION IS NOT NECESSARILY LIMITED TO WHAT IS SHOWN ON DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK HEREIN. IF QUESTIONS ARISE AS TO THE REMOVAL OF ANY MATERIAL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, CLARIFY THE POINT IN QUESTION WITH THE ARCHITECT BEFORE PROCEEDING.

21. STAIRWAYS & EXITS
STAIRWAYS AND/OR EXIT DOORS MUST REMAIN ACCESSIBLE INCLUDING A CLEAR PATH OF EGRESS AT ALL TIMES DURING DEMOLITION.

22. GRAPHICS
REMOVE EXISTING SIGNAGE/GRAPHICS AND STORE FOR RE-USE WHERE APPLICABLE.

23. FIRE AND LIFE SAFETY SYSTEM
NO EXISTING SMOKE DETECTOR, PUBLIC ADDRESS SPEAKER, FIRE ALARM BOX, OR SIMILAR DEVICE, INCLUDING THE ASSOCIATED WIRING, SHALL BE DAMAGED DURING DEMOLITION AND SUBSEQUENT CONSTRUCTION. RELOCATION OF SMOKE DETECTORS, PUBLIC ADDRESS SPEAKERS, AND FIRE ALARM EQUIPMENT, NECESSITATED BY NEW CONSTRUCTION, SHALL BE ACCOMPLISHED AS A FIRST PRIORITY, AND PER THE PLANS. NO ACTIVE SMOKE DETECTOR SHALL BE COVERED OR OTHERWISE REMOVED OR USED FOR OTHER THAN ITS INTENDED PURPOSE.

24. CONSTRUCTION WASTE MANAGEMENT:
WHERE LOCAL GREEN BUILDING ORDINANCE DOES NOT DICTATE TO THE CONTRARY AND LEED CERTIFICATION IS NOT REQUIRED BY THE OWNER, REDIRECT CONSTRUCTION, DEMOLITION & PACKAGING DEBRIS TO SOURCES OTHER THAN LANDFILL. STRATEGIES MAY INCLUDE:
REDIRECT PACKAGING DEBRIS BACK TO THE MANUFACTURER, DONATE SALVAGEABLE MATERIALS TO A RECLAMATION SITE OR NON-PROFIT CHARITY SUCH AS HABITAT FOR HUMANITY, DESIGNATE RECYCLING AREAS DURING DEMOLITION AND CONSTRUCTION, IDENTIFY CONSTRUCTION HAULERS & RECYCLERS TO HANDLE THE DESIGNATED MATERIALS AS INTENDED, CONTACT A REGIONAL CARPET RECLAMATION FACILITY FOR SALVAGE OF CARPETING

PARTITION PLAN NOTES

1. DIMENSIONS
DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. ALL PARTITION LOCATIONS SHALL BE AS SHOWN ON PARTITION PLAN. IN CASE OF CONFLICT, NOTIFY ARCHITECT. PARTITION PLAN BY ARCHITECT TAKES PRECEDENCE OVER ALL OTHER PLANS.

2. PARTITIONS
ALL GYPSUM BOARD PARTITIONS SHALL BE TAPED AND SANDED SMOOTH WITH NO VISIBLE JOINTS OR LINES. ALL SCREWS OR OTHER ATTACHMENT DEVICES SHALL BE PATCHED AND NOT VISIBLE. PATCH AND REPAIR SURFACES TO MATCH ADJACENT OR ADJOINING SURFACES WHERE REQUIRED. ALL SURFACES SHALL BE ALIGNED AND SANDED SMOOTH.

3. DIMENSION REFERENCE POINTS
ALL PARTITIONS ARE DIMENSIONED FROM FINISH FACE OF GYPSUM BOARD TO FINISH FACE OF GYPSUM BOARD, U.O.N. ALL DIMENSIONS MARKED "CLEAR" OR "CLR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL WALL FINISHES, U.O.N.

ALL DIMENSIONS TO THE EXTERIOR WINDOW WALL ARE TO THE INSIDE FACE OF WINDOW FRAME ASSEMBLY, U.O.N.

4. CLEAR DIMENSIONS
DIMENSIONS NOTED "CLEAR" OR "CLR" MUST BE ACCURATELY MAINTAINED, AND SHALL NOT VARY MORE THAN ±1/8" WITHOUT WRITTEN INSTRUCTION FROM ARCHITECT.

5. DIMENSION TOLERANCES
DIMENSIONS TOLERANCES SHALL NOT EXCEED (LOCAL JURISDICTION CODE DEFINED CRITERIA). VERIFY FIELD DIMENSIONS EXCEEDING TOLERANCE WITH THE ARCHITECT AND SECURE ARCHITECT'S APPROVAL.

6. DISCREPANCIES
NOTIFY ARCHITECT IN WRITING OF ANY DISCREPANCIES OR CONFLICTS IN THE LOCATION(S) OF NEW CONSTRUCTION. UPON COMPLETION OF PARTITION OF THE LAYOUT, NOTIFY THE ARCHITECT. VERIFICATION OF THE LAYOUT TO BE PROVIDED BY THE ARCHITECT PRIOR TO PARTITION INSTALLATION. FOR BID PRICING, G.C. TO PRICE HIGHER OPTION REQUIRED BY ANY DISCREPANCY NOTED IN CONTRACT DOCUMENTS. NOTIFY ARCHITECT FOR FINAL SCOPE DECISION FOR THESE ITEMS PRIOR TO PURCHASING.

7. EXPOSED EDGES
ALL EXPOSED GYPSUM BOARD EDGES TO RECEIVE CONTINUOUS TAPE-ON METAL CORNER BEAD.

8. ALIGNMENT
ALL WORK SHALL BE ERECTED AND INSTALLED PLUMB, LEVEL, SQUARE AND TRUE, AND IN PROPER ALIGNMENT.

"ALIGN" MEANS TO ACCURATELY LOCATE FINISHED FACES IN THE SAME PLANE.

9. MILLWORK
REFER TO MILLWORK SHOP DRAWINGS FOR SPECIFIC DETAILS OF COORDINATION BETWEEN DRYWALL/MILLWORK CONDITIONS.

10. NOTES AND REFERENCES
REFER TO SHEET A-1.0 FOR ADDITIONAL NOTES, LEGENDS, SYMBOLS, ABBREVIATIONS, AND SCHEDULES.

11. ARCHITECT APPROVAL
OBTAIN APPROVAL FROM ARCHITECT PRIOR TO MODIFYING COLUMN FURRING, RELOCATING PIPES, AND SIMILAR SYSTEMS AND ITEMS; ADJUSTING ANY AND ALL OTHER FIELD CONDITIONS REQUIRED TO FIT PLANS.

12. SLAB WORK
ALL EXISTING AND NEW UL RATED FLOOR SLAB PENETRATIONS FOR PIPING AND CONDUIT SHALL BE FULLY PACKED AND SEALED IN ACCORDANCE WITH THE APPLICABLE BUILDING AND FIRE CODES.

13. DOOR CLEARANCES
TRIM THE BOTTOMS OF DOORS TO CLEAR THE TOP OF FINISHED FLOOR, AS APPLICABLE, BY 1/4" INCH MAXIMUM, U.O.N. VERIFY SLAB CONDITIONS AND TRIM EACH DOOR TO FIT CONDITIONS. WHERE RADICAL VARIATIONS IN FLOOR ELEVATION EXIST, DOORS SHALL BE ORDERED WITH BOTTOM STILE SIZED TO ACCOMMODATE THESE UNDERCUT CONDITIONS.

14. GLASS WORK
ALL GLASS SHALL BE CLEAR TEMPERED GLASS, U.O.N. GLAZING TONG MARKS SHALL NOT BE VISIBLE. CLEAN AND POLISH ALL GLASS PRIOR TO PROJECT DELIVERY.

15. CEILING HEIGHT PARTITIONS
CEILING HEIGHT PARTITIONS (WHERE OCCURS) SHALL BE INSTALLED TIGHT TO FINISHED CEILING; WITH NO JOINTS VARYING MORE THAN 1/8" OVER 6'-0" AND NO JOINTS GREATER THAN 3/16", U.O.N.

16. DOOR DIMENSIONS
DIMENSIONS LOCATING DOORS ARE TO THE INSIDE EDGE OF JAMB, U.O.N.

ALL INTERIOR DOORS SHALL HAVE MIN. 1'-6" CLEAR ON STRIKE/PULL SIDE OF DOOR UON. VERIFY AND ADVISE ARCHITECT OF EXCEPTIONS PRIOR TO CLOSING OUT PARTITIONS. ALL EXTERIOR DOORS TO HAVE 2'-0" CLEAR ON STRIKE/PULL SIDE OF DOOR U.O.N.

17. MILLWORK
ALL MILLWORK TO BE FASTENED TO THE PARTITION. PROVIDE BLOCKING FOR ALL MILLWORK NOT SUPPORTED BY SLABS OR ABOVE 4'-0" HEIGHT. ALL CONCEALED LUMBER AND BLOCKING TO BE FIRE TREATED.

18. WHERE NOT STATED IN THE SHEET SPECIFICATIONS AND THERE IS NO PROJECT MANUAL, AT A MINIMUM PROVIDE SHOP DRAWINGS FOR:
A. MILLWORK
B. DOORS/FRAMES/HARDWARE
C. GLAZING
D. LIGHT FIXTURES & CONTROLS
E. SPECIAL CONSTRUCTION

19. PATCH AND REPAIR
AT ALL PERIMETER CONDITIONS WHERE DEMO OCCURS SHALL BE PATCHED AND REPAIRED. ALL EXISTING WALLS DAMAGED SHALL BE REPAIRED AS REQUIRED TO RECEIVE SCHEDULED FINISH.

20. GYPSUM WALLBOARD ASSEMBLIES:
WHERE LOCAL GREEN BUILDING ORDINANCE DOES NOT DICTATE TO THE CONTRARY AND LEED CERTIFICATION IS NOT REQUIRED BY THE OWNER;
STEEL FRAMING: MINIMUM RECYCLED CONTENT SHALL INCLUDE 25% POST-CONSUMER RECYCLED CONTEN

POWER AND SIGNAL PLAN NOTES

1. OVERTIME WORK
WHEN FLOOR BELOW IS OCCUPIED, PRICE EXTENSIVE FLOOR SLAB PENETRATIONS AND/OR CORING ON AN OVERTIME BASIS.

ALL CORE AND/OR FLOOR TRENCHING FOR TELEPHONE/ELECTRICAL CONDUITING SHALL BE PERFORMED AFTER HOURS AS REQUIRED AND COORDINATED WITH BUILDING OWNER FOR APPROVAL.

2. COORDINATION OF THE WORK
SURVEY FIELD CONDITIONS AND VERIFY THAT WORK IS FEASIBLE AS SHOWN. VERIFY LOCATION OF FLOOR OUTLETS AND OTHER OUTLETS IN RELATION TO STRUCTURAL AND OTHER ELEMENTS AS REQUIRED. NOTIFY ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

ELECTRICAL SWITCH AND OUTLET COVER PLATES, SURFACE HARDWARE, ETC., SHALL BE INSTALLED AFTER PAINTING AND/OR APPLICATION OF WALLCOVERINGS AND CARPET SPECIFIED.

3. OUTLET LOCATIONS
ARCHITECTURAL DRAWINGS DETERMINE LOCATION AND TYPE (ARCHITECT TO VERIFY WITH ENGINEER) OF ALL OUTLETS AND TAKE PRECEDENCE OVER ALL OTHERS, U.O.N. ELECTRICAL ENGINEER'S POWER PLAN SHALL GOVERN THE WIRING LAYOUT AND INSTALLATION IN COMPLIANCE WITH ALL LAWS APPLICABLE AND ENFORCED BY GOVERNING AUTHORITIES.

4. WALL MOUNTED OUTLETS
OUTLETS SHOWN BACK TO BACK ON PARTITION WALLS SHALL BE OFFSET 1'-0" MAXIMUM, OR MOUNTED AT DIFFERENT HEIGHTS IF INDICATED.

5. FURNITURE LAYOUT
FURNITURE, IF SHOWN, IS FOR REFERENCE ONLY AND IS NOT IN CONTRACT, U.O.N.

6. EQUIPMENT COORDINATION
COORDINATE ALL WORK RELATED TO EQUIPMENT WITH MANUFACTURER'S RECOMMENDATIONS, SPECIFICATIONS, AND INSTRUCTIONS.

7. EXISTING FLOOR PENETRATIONS
ALL EXISTING AND NEW UL RATED FLOOR SLAB PENETRATIONS FOR CONDUIT SHALL BE FULLY PACKED AND SEALED IN ACCORDANCE WITH THE APPLICABLE BUILDING AND FIRE CODES.

8. OUTLET FINISHES
REFER TO FINISH PLAN FOR OUTLET AND SWITCH COVERPLATE FINISH. VERIFY SELECTION AND CHOICE WITH THE ARCHITECT PRIOR TO ORDERING MATERIALS.

9. ELECTRICAL COORDINATION
COORDINATE NEW ELECTRICAL WITH EXISTING, WHERE OCCURS.

10. OUTLET LAYOUT
UPON COMPLETION OF OUTLET LAYOUT, NOTIFY THE ARCHITECT. ARCHITECT SHALL SITE VERIFY ALL OUTLET LOCATIONS PRIOR TO COMMENCEMENT OF CORING OR OUTLET INSTALLATION. G.C. TO PROVIDE AND INSTALL COVER PLATES FOR ALL WALL MOUNTED ELECTRICAL AND COMMUNICATIONS OUTLETS.

11. UL RATED ASSEMBLIES
FURNISH AND INSTALL UNDERWRITERS LABORATORIES, INC. (UL) LABELED DEVICES THROUGHOUT.

12. MOUNTING HEIGHTS
INSTALL WALL MOUNTED OUTLETS 18 INCHES ABOVE FINISHED FLOOR, U.O.N. HEIGHTS SHALL BE DETERMINED FROM FINISHED FLOOR TO THE CENTERLINE OF COVERPLATE, INSTALLED VERTICALLY, GROUNDING POLE AT BOTTOM, U.O.N. OUTLETS MOUNTED HIGHER THAN 27" SHALL BE INSTALLED HORIZONTALLY, GROUNDING POLE AT LEFT, U.O.N. FOURPLEX OUTLETS TO BE INSTALLED VERTICALLY, U.O.N.

13. HORIZONTAL CLEARANCES
MAINTAIN A 4-INCH HORIZONTAL CLEARANCE IN ALL DIRECTIONS, MIN. FROM EDGE OF COVERPLATE, FOR WALL MOUNTED OUTLETS, OR FROM EDGE OF MONUMENT FOR FLOOR MOUNTED OUTLETS, WHEN ADJACENT TO A WALL, COLUMN, OR SIMILAR ELEMENTS, U.O.N.

14. DIMENSIONS
INDICATED DIMENSIONS ARE TO THE CENTER OF THE COVERPLATE OR MONUMENT; CLUSTERS OF OUTLETS ARE DIMENSIONED TO THE CENTER OF THE CLUSTER, U.O.N.; GANG COVERPLATES SHALL BE ONE-PIECE TYPE, U.O.N.

15. CABINETRY
OUTLETS INSIDE AND/OR ATTACHED TO CABINETRY SHALL BE FURNISHED AND INSTALLED TO MATCH SIMILAR CONDITIONS SUCH AS WALL, FLOOR, AND THE LIKE. FURNISH AND INSTALL BOX EXTENSION OR OTHER APPROPRIATE DEVICES AS REQUIRED. ADJACENT OUTLETS SHALL NOT BE GREATER THAN 6" O.C. APART, U.O.N.

16. PANEL BOARDS
CIRCUIT BREAKERS SHALL BE NEATLY TAGGED AND NUMBERED BY G.C. TO CORRESPOND WITH CIRCUITING OUTLINED ON ENGINEERING DRAWINGS.

17. DATA AND RECEPTACLES
ALL WALL MOUNTED DATA AND VOICE RECEPTACLES TO HAVE 3/4" CONDUIT STUB UP AND TERMINATED 6" ABOVE HUNG CEILING.

18. MILLWORK
THE G.C. SHALL COORDINATE ANY ELECTRICAL WORK OR LIGHTING INSTALLATION INTO CABINET WORK IF AND AS REQUIRED.

19. PULL STRINGS
G.C. TO PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT.

20. SLAB ON GRADE
WHERE FLOOR OUTLETS ARE SHOWN AT SLAB ON GRADE LOCATIONS, SAW CUT AND DEMO EXISTING SLAB AS REQUIRED FOR NEW WORK. EXPOSE (E) SLAB REINFORCING 1'-0" MIN. BACK FROM EA. SAWCUT. PROVIDE NEW SLAB REINFORCING TO MATCH EXISTING. REPAIR AND TAPE JOINTS AT VAPOR BARRIER WHERE ENCOUNTERED. PROVIDE CRUSHED AGGREGATE TO MATCH EXISTING. PROVIDE 3,000 PSI CONCRETE. FINISH TO MATCH EXISTING PER APPLICABLE ACI CRITERIA.

21. ABANDONED CORE/FLOOR PENETRATIONS
ALL ABANDONED CORE AND ABANDONED FLOOR PENETRATIONS THAT ARE NOT SCHEDULED TO BE REUSED ARE TO BE REMOVED. FLOOR TO BE REPAIRED AS REQUIRED PER UL AND LOCAL CODE.

22. EXISTING LIFE SAFETY DEVICES
GENERAL CONTRACTOR TO COORDINATE LOCATIONS OF EXISTING LIFE SAFETY DEVICES WITH ENGINEERING AND ARCHITECTURAL PLANS AND FURNITURE AND WALL MOUNTED EQUIPMENT. ALL DEVICES THAT ARE IN CONFLICTS WITH CONSTRUCTION DOCUMENTS, FURNITURE AND WALL MOUNTED EQUIPMENT ARE TO BE RELOCATED, NOTIFY ARCHITECTS IN WRITING TO CONFIRM NEW LOCATION PRIOR TO RELOCATION OF DEVICES.

23. ENGINEERING DOCUMENTS
REFER TO ENGINEERING PLANS FOR ADDITIONAL NOTES AND SPECIFICATIONS.

REFLECTED CEILING PLAN NOTES

1. COORDINATION
COORDINATE THE WORK OF ALL TRADES INVOLVED IN THE CEILING WORK TO INSURE CLEARANCES FOR FIXTURES, DUCTS, PIPING, CEILING SUSPENSION SYSTEM, ETC., NECESSARY TO MAINTAIN THE FINISHED CEILING HEIGHTS. SEE REFLECTED CEILING PLANS FOR FINISHED CEILING HEIGHTS. VERIFY IN FIELD.

2. PERIMETER CEILING ANGLES
PERIMETER CEILING ANGLE, WHERE OCCURS, SHALL BE INSTALLED TIGHT TO VERTICAL SURFACES, FREE FROM CURVES, BREAKS, OR OTHER IRREGULARITIES, AND PAINTED TO MATCH CEILING FINISH.

3. FIXTURE TRIM
FURNISH AND INSTALL ALL FIXTURES, ASSOCIATED TRIM, FIXTURE LAMPS, AND SEISMIC BRACING AS REQUIRED.

4. FIXTURE LOCATIONS
LIGHT FIXTURES, EXIT SIGNS, SPRINKLERS, AND OTHER CEILING ELEMENTS SHALL BE LOCATED IN CENTER OF INDIVIDUAL CEILING TILE, U.O.N.

MULTIPLE SWITCHES AT ONE LOCATION SHALL BE GANGED TOGETHER AND FINISHED WITH ONE COVER PLATE, U.O.N.

5. CEILING ACCESS
PROVIDE CEILING ACCESS AS REQUIRED FOR EQUIPMENT AND SYSTEM MAINTENANCE, AND MATCH ADJACENT CEILING FINISH, U.O.N.

6. SOFFITS AND CEILING HEIGHTS DIMENSIONS
ALL SOFFITS AND CEILING HEIGHTS ARE DIMENSIONED FROM TOP OF FINISHED FLOOR TO BOTTOM OF FINISHED GYPBOARD OR CEILING TILE AND SHALL ALLOW FOR THICKNESS OF ALL FLOOR FINISHES.

7. COORDINATION
THE REFLECTED CEILING PLAN INDICATES THE LOCATION OF CEILING HEIGHTS, LIGHT TYPES, LIGHT FIXTURES, SWITCH LOCATIONS, AND ASSOCIATED ITEMS. REFER TO ENGINEERING DRAWING (LIGHTING PLAN) FOR CIRCUITING, WIRING LAYOUT, AND ADDITIONAL INFORMATION.

8. DISCREPANCIES
IN THE EVENT OF DISCREPANCIES BETWEEN THE ARCHITECT'S REFLECTED CEILING PLAN AND THE ENGINEER'S LIGHTING PLAN, IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING BEFORE ORDERING MATERIALS OR PROCEEDING WITH WORK.

9. PLENUM
ALL SPECIFIC INFORMATION CONCERNING INSTALLATION OF VARIOUS ABOVE-CEILING ELEMENTS ARE TO BE FOUND IN THE HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND LIGHTING DRAWINGS.

10. CONFLICT
NOTIFY ARCHITECT OF ANY CONFLICTS OF LIGHT FIXTURE LOCATIONS WITH MAIN RUNNERS, DUCTS, STRUCTURES, HVAC, AND/OR (E)CONDUIT, PRIOR TO FRAMING FOR LIGHTS. ANY DISCREPANCIES BETWEEN ARCHITECT'S CEILING GRID LOCATION AND ACTUAL FIELD CONDITIONS ARE TO BE CLARIFIED WITH THE ARCHITECT PRIOR TO FRAMING.

11. FIXTURE LAYOUT
SUBMIT GRILLE, SPRINKLER, THERMOSTAT, AND OTHER FIXTURE AND ELEMENT LAYOUTS TO THE ARCHITECT FOR REVIEW AT LEAST 2 WEEKS PRIOR TO INSTALLATION.

12. FIELD VERIFICATION OF WORK
VERIFY FIELD CONDITIONS AND LOCATIONS OF ALL PLUMBING, MECHANICAL DUCTS, STRUCTURAL ELEMENTS, AND ANY AND ALL OTHER APPLICABLE ITEMS; INSTALL APPLICABLE NEW PLUMBING, MECHANICAL FANS, DUCTS, CONDUITS, AND OTHER RELATED AND APPURTENANT ITEMS SO AS TO NOT CONFLICT WITH LUMINARIES AND ANY AND ALL FIELD CONDITIONS.

13. UL RATED ASSEMBLIES
FURNISH AND INSTALL UNDERWRITERS LABORATORIES INC. (UL) LABELED DEVICES THROUGHOUT.

14. LIGHTING FIXTURES
INSTALL LIGHT FIXTURES WITH PROTECTIVE FILM OR SIMILAR COVER OVER LOUVER, LENS, BAFFLE, AND THE LIKE, TO AVOID FIXTURE SOILING OR DAMAGE; FIXTURES SHALL BE MAINTAINED CLEAN AND AS NEW; LAMPS SHALL BE NEW AT PROJECT COMPLETION.

15. LIFE SAFETY DEVICES
REFER TO ENGINEERING DRAWINGS FOR ALL LIFE SAFETY DEVICES REQUIRED BY CODE AND ALL EMERGENCY LIGHT FIXTURES. ARCHITECTURAL DRAWINGS SHALL GOVERN LOCATION OF THESE DEVICES. COORDINATE LOCATION OF DEVICES WITH ALL ARCHITECTURAL DOCUMENTS PRIOR TO INSTALLATION OF BACK BOXES. REVIEW ALL ARCHITECTURAL AND ENGINEERING DOCUMENTS AND NOTIFY ARCHITECT OF ANY CONFLICTS. GENERAL CONTRACTOR TO COORDINATE AND VERIFY LOCATIONS OF EXISTING DEVICES TO REMAIN WITH ARCHITECTURAL PLANS AND NOTIFY ARCHITECT OF ANY CONFLICTS DURING THE ROUGH-IN PHASE OF PROJECT.

16. WALL SWITCH LOCATIONS
TO BE COORDINATED WITH FURNITURE AND WALL MOUNTED EQUIPMENT LOCATIONS PRIOR TO BOX ROUGH-INS. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO INSTALLATION OF ROUGH-INS.

17. ENGINEERING DOCUMENTS
REFER TO ENGINEERING PLANS FOR ADDITIONAL NOTES AND SPECIFICATIONS.

18. SUSPENDED CEILING GRID LAYOUT
CENTER FULL TILES IN ROOM IN BOTH DIRECTIONS AS INDICATED ON DRAWINGS UNLESS DIMENSIONED OR NOTED OTHERWISE.

SPRINKLER NOTES

1. LAYOUT
SEE DESIGN BUILD ENGINEERING DRAWINGS FOR LOCATION OF RISERS, MAINS, HEADS, BRANCH PIPING, ETC., AND ALL WORK REQUIRED TO COMPLETE THIS PROJECT. SUBMIT PLANS TO OWNER AND OBTAIN THEIR REVIEW PRIOR TO COMMENCEMENT OF ANY SPRINKLER WORK. PROVIDE ACCESS PANELS WHERE REQUIRED, COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO START OF WORK.

2. FIRE WATCH
G.C. SHALL BE RESPONSIBLE FOR TEMPORARY FIRE WATCH AND ALL PROTECTIVE MEASURES REQUIRED BY OWNER WHEN SYSTEM IS MADE INACTIVE TO ACCOMMODATE SPRINKLER WORK.

3. TESTS AND INSPECTIONS
G.C. SHALL BE RESPONSIBLE FOR ALL FINAL TESTS AND INSPECTIONS OF COMPLETED WORK REQUIRED BY THE OWNER PRIOR TO OCCUPANCY OF SPACE. G.C. SHALL PROPERLY TEST AND INSPECT EXISTING SPRINKLER SYSTEM PRIOR TO COMMENCEMENT OF WORK, AND SHALL NOTIFY BUILDING OWNER AND ARCHITECT IMMEDIATELY IF REPAIR WORK OF EXISTING SPRINKLER SYSTEM IS REQUIRED.

4. TEMPORARY DISCONNECT
G.C. SHALL COORDINATE ARRANGEMENTS FOR TEMPORARY DISCONNECT AND RECONNECT OF FIRE SYSTEMS WITH OWNER.

5. PERMITS AND APPROVALS
G.C. SHALL BE RESPONSIBLE FOR OBTAINING PERMITS AND APPROVALS REQUIRED BY BUILDING INSPECTORS AND FIRE MARSHAL IN CONJUNCTION WITH CHANGES TO EXISTING SPRINKLER SYSTEM.

6. LOCATIONS
ALL SPRINKLER HEADS (BUILDING STANDARD TYPE) UNLESS NOTED OTHERWISE, SHALL BE INSTALLED IN THE CENTER OF CEILING TILES. ANY DEVIATION TO THIS NOTE MUST BE REVIEWED WITH BUILDING OWNER PRIOR TO PROCEEDING WITH WORK. PROVIDE CONCEALED HEADS AT ALL GYP. BD. CEILINGS. CENTER HEADS WITH ADJACENT DEVICES AT GYPSUM BOARD CEILING IN PUBLIC AREAS SUCH AS LOBBIES, RECEPTIONS, AND CONFERENCE ROOMS. THESE DEVICES INCLUDE BUT NOT LIMITED TO SPEAKERS, EXIT SIGNS, SMOKE DETECTORS, MOTION SENSORS, AND ACCESS PANELS.

FINISH PLAN NOTES

1. FINISHES
NO PAINTING OR INTERIOR FINISHING SHALL BE DONE UNDER CONDITIONS WHICH WILL JEOPARDIZE THE QUALITY OR APPEARANCE OF SUCH WORK. ALL WORKMANSHIP WHICH IS JUDGED LESS THAN FIRST QUALITY BY THE ARCHITECT WILL BE REJECTED.

2. COLOR SELECTION
ALL COLORS ARE TO BE SELECTED BY THE ARCHITECT, U.O.N.

3. FINISH PREPARATION
ALL SURFACES SHALL BE PREPARED TO RECEIVE THE SCHEDULED FINISH PER MANUFACTURERS' RECOMMENDATIONS. ALL GYPSUM BOARD PARTITIONS SHALL BE TAPED AND SANDED SMOOTH. PAINT GRADE WOODWORK SHALL BE HAND SANDED BETWEEN COATS AND DUSTED CLEAN. ALL HOLES, PITCH POCKETS, OR SAPPY PORTIONS SHALL BE SCRAPED AND SEALED WITH KNOT SEALER. NAIL HOLES, CRACKS, OR DEFECTS SHALL BE PUTTIED AFTER FIRST COAT, WITH PUTTY MATCHING COLOR OF STAIN OR PAINT FINISH. REMOVE OIL OR GREASE WITH MINERAL SPIRITS.

ALL CRACKS, HOLES, IMPERFECTIONS IN EXISTING WALLS, PARTITIONS, OR GYPSUM WALLBOARD SHALL BE FILLED WITH PATCHING PLASTER AND SMOOTHED OFF TO MATCH ADJOINING SURFACES.

INTERIOR GYPSUM WALLBOARD SURFACES SHALL BE WIPED WITH A DAMP CLOTH JUST PRIOR TO APPLICATION OF THE FIRST COAT, IN ORDER TO LAY FLAT ANY NAP WHICH MAY HAVE FORMED IN SANDING PROCESS.

WHERE APPLICABLE EXISTING PLASTER AND CONCRETE STRUCTURE SCHEDULED TO BE EXPOSED SHALL BE FINISHED TO PROVIDE A LEVEL 3 FINISH UNO.

4. WORK AREA CLEAN UP
UPON COMPLETION, REMOVE ALL PAINT FROM WHERE IT HAS SPILLED, SPLASHED, OR SPLATTERED ON EXPOSED SURFACES.

5. STAINING VENEER
ALL VENEER STAINS SHALL HAVE UNIFORM COLOR.

6. TOUCH UP
EXAMINE ALL FINISH SURFACES AFTER COMPLETION OF WORK, INCLUDING WOOD FLOORING AND MILLWORK INSTALLATION, AND PROCEED WITH "TOUCH-UP" AS REQUIRED.

7. FINISH APPROVAL
PROVIDE ARCHITECT WITH A MINIMUM OF (3) 8" X 10" BRUSH-OUTS OF EACH COLOR AND FINISH FOR ARCHITECT'S APPROVAL AT LEAST 2 WEEKS PRIOR TO SITE APPLICATION. ON-SITE APPLICATION WILL BE REQUIRED ONE WEEK PRIOR TO FINAL APPROVAL. ARCHITECT RESERVES THE RIGHT TO ADJUST ANY COLOR/FINISH ONCE THE WALL TEST HAS BEEN MADE.

PRIOR TO SITE APPLICATION, PROVIDE ARCHITECT WITH 8" X 10" SAMPLE CUTTINGS FROM ACTUAL DYE LOTS OF ALL SPECIFIED WALLCOVERINGS FOR ARCHITECT'S APPROVAL AND PROVIDE EXPECTED DELIVERY DATE TO JOB SITE.

8. SOFFITS
UNDERSIDE OF SOFFITS (WHERE OCCURS) TO RECEIVE A FINISH TO MATCH ADJACENT VERTICAL FINISH, U.O.N.

9. DELIVERY LEAD TIME
CONTRACTOR SHALL BE RESPONSIBLE FOR ALLOWING FOR DELIVERY LEAD TIMES FOR ALL FABRICS AND OTHER CUSTOM FINISHES WITHIN THE CONSTRUCTION SCHEDULE. ALL DELIVERY TIMES MUST BE CONFIRMED, AND ANY EXCESSIVE LEAD TIME MUST BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY TO ALLOW FOR RE-SPECIFICATION IF NECESSARY.

10. FLOOR SURFACE MODIFICATIONS
MODIFY EXISTING FLOOR SURFACES AS REQUIRED TO INSTALL NEW FLOORING MATERIALS, THUS PREVENTING NOTICEABLE LUMPS OR DEPRESSIONS.

11. FINISHES
SEE FINISH PLAN, ELEVATIONS, AND DETAILS FOR CLARIFICATION OF EXTENT OF FINISH MATERIALS.

12. JOINTS
STAINED AND PAINTED SURFACES SHALL BE FINISHED SUCH THAT JOINTS ARE NOT VISIBLE WHEN VIEWED FROM ANY REASONABLE ANGLE.

13. FLOOR FINISHES
ALL INTERSECTIONS OF FLOOR FINISH MATERIALS SHALL BE LOCATED DIRECTLY UNDER CENTER OF DOOR, WHERE OCCURS, U.O.N.

14. CABINETRY
ALL OPEN CABINETRY SHALL BE PLASTIC LAMINATE ON ALL EXPOSED SURFACES, U.O.N. APPLY WHITE MELAMINE TO INTERIOR OF CABINETRY WITH DOORS AND DRAWERS, U.O.N.

15. CARPET SEAMING PLAN
SUBMIT CARPET SEAMING PLAN TO ARCHITECT PRIOR TO ORDERING AND AT LEAST (4) WEEKS PRIOR TO INSTALLATION FOR ARCHITECT'S REVIEW AND APPROVAL.

16. EXISTING FINISHES
EXISTING FINISHES IN BUILDING SERVICE/CORE AREA TO REMAIN, U.O.N.

17. WOOD ORIGINS:
ALL WOOD UTILIZED ON THE JOB (SOLID LUMBER AND TIMBER PANEL PRODUCTS PLUS FINISHED WOOD) SHALL ORIGINATE FROM REGIONAL SOURCES AND FROM CERTIFIED AND SUSTAINABLE SOURCES (SUCH AS SUSTAINABLE FORESTRY INITIATIVE, CSA, FORESTRY STEWARDSHIP COUNCIL, OR AMERICAN TREE FARM SYSTEMS).

18. ADHESIVES & SEALANTS:
THE VOC CONTENT OF ADHESIVES AND SEALANTS USED SHALL BE LESS THAN THE CURRENT VOC CONTENT LIMITS OF SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE #1168, AND CALIFORNIA CODE OF REGULATIONS TITLE 17 FOR AEROSOL ADHESIVES (CALGREEN 5.504.4.1). ALL SEALANTS USED AS FILLERS MUST MEET OR EXCEED THE REQUIREMENTS OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATION 8, RULE 51.

19. PAINT:
CONTRACTOR SHALL USE PAINT SPECIFIED BY ARCHITECT AND SHALL PROPERLY PREPARE ALL SURFACES TO RECEIVE ONE (1) PRIME COAT AND (2) FINISH COATS (MIN) OF PAINT IN COLOR SPECIFIED BY ARCHITECT." PROVIDE ADDITIONAL PREPARATION AND FINISH PAINT COATS AS REQUIRED BY PAINT MANUFACTURER. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.

20. PAINT MANUFACTURE TO BE AS INDICATED ON THE FINISH SCHEDULE - NO SUBSTITUTIONS U.O.N.

21. EXTRA MATERIALS:
FURNISH EXTRA MATERIALS DESCRIBED IN CONTRACT DOCUMENTS THAT ARE FROM THE SAME PRODUCTION RUN (BATCH MIX) AS MATERIALS APPLIED AND ARE PACKAGED FOR STORAGE. IDENTIFIED WITH LABELS DESCRIBING CONTENTS. STORE IN LOCATION MAINTAINING AN AMBIENT TEMPERATURE OF NOT LESS THAN 45 DEGREES F.
-QUANTITY: FURNISH AN ADDITIONAL (5) PERCENT OF EACH MATERIAL AND COLOR SPECIFIED.

22. PAINTS AND COATINGS:
PAINT TO COMPLY WITH VOC LIMITS IN THE AIR RESOURCES BOARD ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE AND CALIFORNIA CODE OF REGULATIONS TITLE 17 FOR AEROSOL PAINTS (CALGREEN 5.504.4.3.1).

23. CARPET:
ALL CARPET MUST MEET ONE OF THE FOLLOWING:
A. CARPET AND RUG INSTITUTE GREEN LABEL PLUS PROGRAM; 2. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH STANDARD PRACTICE FOR TESTING OF VOCs (SPECIFICATION 01350); 3. NSF/ANSI 140 AT THE GOLD LEVEL; 4. SCIENTIFIC CERTIFICATIONS SYSTEMS SUSTAINABLE CHOICE; OR 5. CALIFORNIA COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS EQ 2.2 AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE.

AND:

CARPET CUSHION MUST MEET CARPET AND RUG INSTITUTE GREEN LABEL.
INDOOR CARPET ADHESIVE AND CARPET PAD ADHESIVE MUST NOT EXCEED 50 G/L VOC CONTENT.

24. COMPOSITE WOOD:
COMPOSITE WOOD MUST MEET CARB AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD INCLUDING MEETING THE EMISSIONS LIMITS IN CALGREEN TABLE 5.504.4.5.

25. RESILIENT FLOORING SYSTEMS:
FOR 80% OF FLOOR AREA RECEIVING RESILIENT FLOORING, INSTALL RESILIENT FLOORING COMPLYING WITH:
A. CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM; 2. COMPLIANT WITH THE VOC-EMISSION LIMITS AND TESTING REQUIREMENTS OF CALIFORNIA DEPARTMENT OF PUBLIC HEALTH 2010 STANDARD METHOD FOR TESTING AND EVALUATION CHAMBERS V.1.1; 3. COMPLIANT WITH THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) EQ2.2 AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE, OR 4. CERTIFIED UNDER THE GREENGUARD CHILDREN AND SCHOOLS PROGRAM TO COMPLY WITH CALIFORNIA DEPARTMENT OF PUBLIC HEALTH CRITERIA (CALGREEN 5.504.4.4 AND 5.504.4.6).

HARDWARE NOTES

1. LOCKSETS
ALL LOCKSETS SHALL HAVE LIPS OF SUFFICIENT LENGTH TO CLEAR TRIM AND PROTECT CLOTHING.

2. COORDINATION
GENERAL CONTRACTOR TO COORDINATE HARDWARE PURCHASE, SPECIFICATION, AND INSTALLATION WITH BUILDING MANAGEMENT.

3. KEYING
KEYING OF CYLINDER LOCKS SHALL BE COORDINATED WITH THE OWNER; FOR ESTIMATE USE GRANDMASTER KEYING CHARGE. UNDER OWNER'S DIRECTION, KEY TO NEW OR EXISTING SYSTEM TO BE APPROVED BY OWNER'S REPRESENTATIVE IN WRITING. FURNISH CONSTRUCTION KEY SYSTEM WITH KEYS WHICH CAN BE RENDERED INOPERATIVE BY THE TURN OF THE CHANGE KEY. STAMP ALL KEYS "DO NOT DUPLICATE". FOR PROTECTION OF THE OWNER, ALL LOCKS AND CYLINDERS SHALL BE KEYED AT THE FACTORY OF THE LOCK MANUFACTURER WHERE PERMANENT RECORDS ARE MAINTAINED.

4. HINGES
FURNISH TWO PAIR HINGES PER LEAF, U.O.N. FURNISH HINGES WITH STAINLESS STEEL PINS AND CONCEALED BEARINGS. SIZE LISTED IN HARDWARE SETS INDICATE HEIGHT.

5. SILENCERS
FURNISH SILENCERS FOR ALL INTERIOR FRAMES: 3 FOR SINGLE DOORS, 4 FOR PAIR OF DOORS. OMIT WHERE SOUND OR LIGHT SEAL OCCURS.

6. LOCKS
LOCK TO BE 38" FROM BOTTOM OF DOOR TO CENTER OF LEVER U.N.O.

INSTALLATION:
A. INSTALL EACH HARDWARE ITEM PER MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. DO NOT INSTALL SURFACE MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON THE SUBSTRATE. SET UNITS LEVEL, PLUMB, AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE THE ATTACHMENT SUBSTRATE AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.

B. ADJUST AND CHECK EACH OPERATING ITEM OF HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY.

7. FAILSAFE
ALL ELECTRONIC HARDWARE SHALL BE FAILSAFE AND TIED INTO THE LIFE SAFETY SYSTEM UNLESS OTHERWISE NOTED. SEE DOOR SCHEDULE, HARDWARE GROUPS AND SEQUENCE OF OPERATION FOR COMPLETE OPERATION.

8. ELECTRONIC HARDWARE
ALL EXIT DOORS SCHEDULED WITH ELECTRONIC HARDWARE SHALL UNLOCK UPON THE ACTUATION OF A LIFE SAFETY DEVICE. ALL DOORS REQUIRED AS EXITS WITH ELECTRONIC HARDWARE UNLOCK UPON THE LOSS OF POWER CONTROLLING THE LOCK OR LOCK MECHANISM. ALL DOORS REQUIRED AS EXITS WITH ELECTRONIC HARDWARE SHALL HAVE THE CAPABILITY OF BEING UNLOCKED BY A SIGNAL FROM THE FIRE COMMAND CENTER IN HIGHRISE BUILDINGS WHERE APPLICABLE. SEE DOOR SCHEDULE, HARDWARE GROUPS AND SEQUENCE OF OPERATION FOR COMPLETE DESCRIPTION.

9. DELAYED EGRESS ELECTRIC HARDWARE
EMERGENCY LIGHTING AND AUDIBLE ALARM SHALL BE PROVIDED AT ALL DOORS REQUIRED AS EXITS WITH DELAYED EGRESS ELECTRIC HARDWARE. ALARM SHALL NOTIFY TENANT FLOOR AND CUSTOMER'S BURGLAR ALARM SYSTEM.

10. DOOR HANDLES
ALL DOORS WITH LOCK SETS AND LATCH SETS SHALL HAVE A LEVER HANDLE.

11. MOUNTING HEIGHTS
HAND-ACTIVATED DOOR OPENING HARDWARE MUST BE MOUNTED BETWEEN 34 AND 48 INCHES ABOVE FINISH FLOOR.

12. DOOR HARDWARE
DOOR HARDWARE SHALL BE OPERABLE WITH A SINGLE EFFORT WITHOUT REQUIRING THE ABILITY TO GRASP THE HARDWARE (LEVER OR PUSH TYPE IS ACCEPTABLE PER LOCAL JURISDICTION CODE DEFINED CRITERIA)

13. CARD READERS
CARD READER DEVICES TO BE PROVIDED AS REFERENCED IN DOOR SCHEDULE. ALL DEVICES AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES. SEE DOOR SCHEDULE, HARDWARE GROUPS AND SEQUENCE OF OPERATION FOR COMPLETE DESCRIPTION.

DOOR NOTES

1. DOOR SCHEDULE
REFER TO DOOR SCHEDULE FOR ALL DOOR/HARDWARE SPECIFICATIONS.

2. FIELD MEASURE
FIELD MEASURE FLOOR TO CEILING DOORS FOR PROPER FIT.

3. SLOPE
EXTERIOR LEVEL LANDING MAY SLOPE UP TO 1/4" PER FOOT MAX. IN ANY DIRECTION FOR SURFACE DRAINAGE.

4. THRESHOLDS
THE FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. BEVEL (1:2 MAX. SLOPE) WHERE THE THRESHOLD EXCEEDS 1/4" IN HEIGHT.

5. DOOR OPENINGS
DOOR OPENINGS IN PARTITIONS NOT DIMENSIONED ARE TO BE LOCATED WITHIN 4" OF ADJOINING PARTITION, U.O.N.

6. GLASS
ALL GLASS IN DOORS SHALL BE TEMPERED SAFETY GLASS, U.O.N.

7. HOLLOW METAL DOORS
HOLLOW METAL DOORS SHALL BE FINISHED WITH SEMI-GLOSS PAINT. REFER TO FINISH SCHEDULE FOR ADDITIONAL INFORMATION.

8. EXIT CORRIDORS
DOORS OPENING INTO REQUIRED EXIT CORRIDORS DO NOT RESTRICT THE REQUIRED WIDTH WHEN OPENED IN ANY POSITION.

9. DOOR SWINGS
ALL DOORS REQUIRED AS EXITS SHALL SWING IN THE DIRECTION OF TRAVEL.

10. WOOD SPECIES FOR DOOR FACINGS
PROVIDE DOORS MADE WITH ADHESIVES AND COMPOSITE WOOD PRODUCTS WHERE POSSIBLE THAT DO NOT CONTAIN UREA FORMALDEHYDE.

11. WOOD ORIGINS:
ALL WOOD UTILIZED ON THE JOB (SOLID LUMBER AND TIMBER PANEL PRODUCTS PLUS FINISHED WOOD) SHOULD ORIGINATE FROM REGIONAL SOURCES AND FROM CERTIFIED AND SUSTAINABLE SOURCES (SUCH AS SUSTAINABLE FORESTRY INITIATIVE, CSA, FORESTRY STEWARDSHIP COUNCIL, OR AMERICAN TREE FARM SYSTEMS).

12. ADHESIVES & SEALANTS:
THE VOC CONTENT OF ADHESIVES AND SEALANTS USED SHALL BE LESS THAN THE CURRENT VOC CONTENT LIMITS OF SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE #1168, AND ALL SEALANTS USED AS FILLERS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATION 8, RULE 51.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

DELTA	ISSUE	DESCRIPTION	DATE
	2	ISSUE FOR CONSTRUCTION	12/27/2024

IA INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

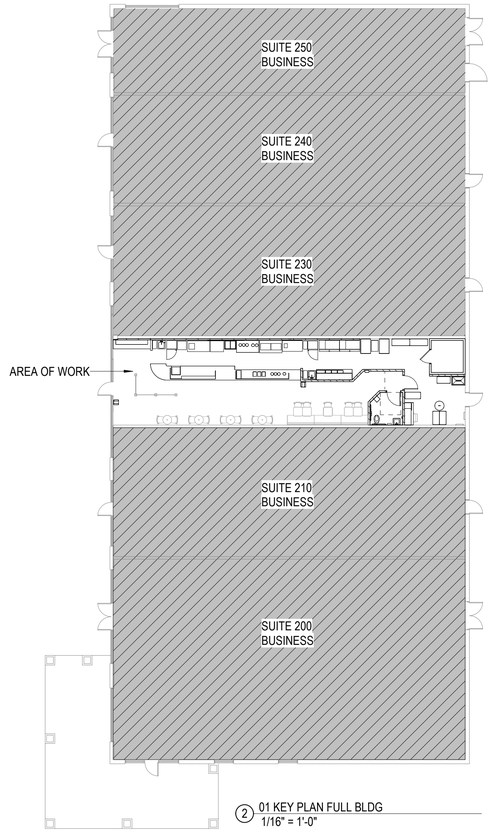
Owner Approval

27MSHF.0035.000 — 1/8" = 1'-0"
Job No. — Scale

GENERAL NOTES

AN-2.1

12/20/2024 1:10:28 PM 23.1



2 01 KEY PLAN FULL BLDG
1/16" = 1'-0"

LEGEND

- NEW CONSTRUCTION
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING 1HR FIRE RESISTANT RATED PARTITION
- EXIT ACCESS = LESS THAN 300' AT B OCCUPANCY IN SPRINKLERED BUILDING
- COMMON PATH OF EGRESS = LESS THAN 100' AT B OCCUPANCY IN SPRINKLERED BUILDING
- EXIT SIGNAGE
- EXIT / ACCESS TO EXIT
- FEC — FIRE EXTINGUISHER AND CABINET
- FE — FIRE EXTINGUISHER
- PH — PANIC HARDWARE
- BUSINESS 1:150 GSF
- SMALL ASSEMBLY - UNCONCETRATED 1:15 NSF
- KITCHEN 1:200 GSF
- ACCESSORY STORAGE / MECH. EQUIP. 1:300 GSF
- SMALL ASSEMBLY - STANDING SPACE 1:5 NSF
- NOT IN CONTRACT

SIGNAGE

COMPLETE INTERIOR ACCESSIBLE SIGNAGE SHALL BE PROVIDED AT LOCATIONS INCLUDING BUT NOT LIMITED TO:
- ROOM IDENTIFICATION
- DIRECTIONAL AND INFORMATIONAL
- ACCESSIBLE ENTRANCE AT MAIN ENTRY LOBBY
- ELEVATOR CAB OPERATING PANEL
- ELEVATOR ENTRANCE FLOOR IDENTIFICATION AT JAMB
- RESTROOMS
- ELEVATOR LOBBY EMERGENCY EVACUATION

TACTILE EXIT SIGNS SHALL BE PROVIDED AT LOCATIONS INCLUDING BUT NOT LIMITED TO:
- GRADE LEVEL EXIT DOORS "EXIT"
- EXIT DOORS LEADING TO GRADE LEVEL EXIT DOORS (STAIRWELL DOORS) "EXIT STAIR DOWN"
- EXIT DOORS LEADING TO GRADE LEVEL EXTERIOR EXIT "EXIT"
- EXIT ACCESS DOOR LEADING FROM ROOM OR AREA WITH VISUAL EXIT SIGN; "EXIT ROUTE"

PROVIDE "EMERGENCY EVACUATION MAPS" AND SIGNS WHERE REQUIRED PER LOCAL JURISDICTION.

ACCESSIBLE SIGNAGE SHALL BE PROVIDED AS NON-GLARE OVER CONTRASTING BACKGROUND, 1/32" RAISED CHARACTERS, TEXT HEIGHT 5/8" TO 2" AND PICTOGRAMS SHALL BE 6" HIGH MIN. MOUNTING HEIGHT MIN. 4'-0" ABOVE FINISHED FLOOR TO LOWEST BRAILLE AND MAX. 5'-0" TO BOTTOM OF HIGHEST LINE OF RAISED TEXT. MOUNT SIGNS TO LATCH SIDE OF DOOR. AT DOUBLE DOORS AT THE NEAREST WALL PREFERABLE AT THE RIGHT OF THE OPENING.

SELF ILLUMINATING FLOOR LEVEL EXIT SIGNS SHALL BE PROVIDED AT "I" AND "A" OCCUPANCY. E.G. TRITIUM SELF ILLUMINATING FOR 10 YEARS, GREEN FACE, WHITE HOUSING OR SIMILAR.

EXIT ROUTE

EXIT STAIR DOWN

EXIT

CLASS ROOM
123

ASSISTIVE LISTENING SYSTEM AVAILABLE

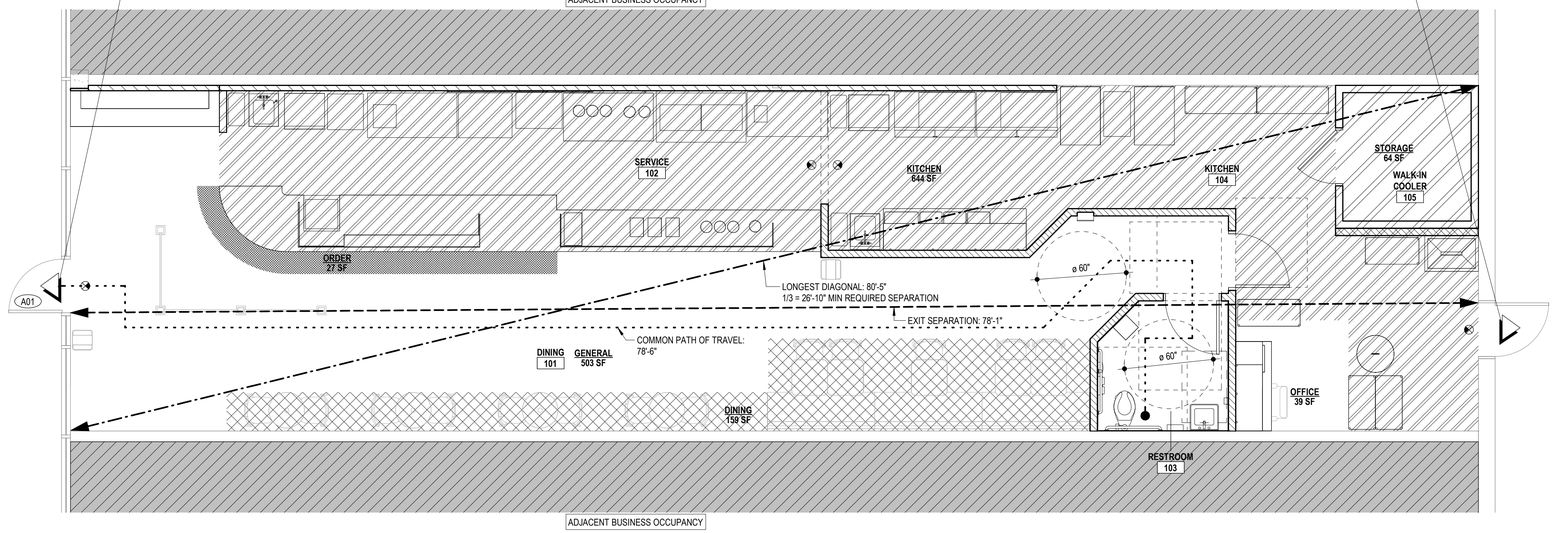
IN CASE OF FIRE DO NOT USE ELEVATOR USE STAIRS

MAX. OCCUPANTS

ACCESSIBLE

EGRESS DOOR 1
20 OCCUPANTS
165 OCC. MAX
DOOR WIDTH = 33" CLEAR

EGRESS DOOR 2
4 OCCUPANTS
165 OCC. MAX
DOOR WIDTH = 33" CLEAR



1 01 EXITING DIAGRAM
1/4" = 1'-0"

EXITING REQUIREMENTS

EXITING REQUIREMENTS FOR BUSINESS PER 2024 GEORGIA BUILDING CODE

COMPONENT	REQUIREMENT	REFERENCE CODE SECTION
NUMBER OF EXITS	SINGLE EXIT ACCESS IF < 50 PEOPLE WITH 100' MAX. COMMON PATH OF TRAVEL (SPRINKLERED). 2 EXITS REQUIRED IF > 49 PEOPLE WITH 100' MAX. COMMON PATH OF TRAVEL (SPRINKLERED)	1006.2.1 TABLE 1006.2.1
MAX. TRAVEL DIST.	300' (SPRINKLERED)	TABLE 1017.2
MAX. COMMON PATH	100' (SPRINKLERED)	TABLE 1006.2.1
MAX. DEAD END CORRIDOR	50' (SPRINKLERED)	1020.4 EXCEPTION 2
ARRANGEMENT OF EXIT ACCESS DOORS	1/3 THE DIAGONAL DISTANCE (SPRINKLERED)	1007.1.1 EXCEPTION 2
DOOR SWING DIRECTION	IN THE DIRECTION OF TRAVEL > 50 PEOPLE	1010.1.2.1
DOOR SWING DIRECTION	SIDE HINGED SWINGING; SLIDING DOORS ALLOWED IN BUSINESS AREAS WITH AN OCCUPANT LOAD ≤ 10 PEOPLE	1010.1.2 1010.1.2 EXCEPTION 1 AND 9
DOOR PROJECTIONS	SHALL NOT REDUCE THE REQUIRED MEANS OF EGRESS BY < 1/2 DURING SWING; WHEN FULLY OPEN SHALL NOT PROJECT INTO THE MEANS OF EGRESS BY > 7"	1005.7.1
MEANS OF EGRESS CORRIDOR WIDTH	36" IF < 50 PEOPLE; 44" IF > 50 PEOPLE	TABLE 1020.2
MIN. DOOR WIDTH	32" MIN; 36" WIDE DOORS PROVIDE 34" CLEARANCE AND MEET 32" REQUIREMENT	1010.1.1
EXIT ACCESS COMPONENT	0.3"/PERSON STAIRS (SPRINKLERED) 0.2"/PERSON DOORS (SPRINKLERED)	1005.3.1 1005.3.2

SHEET NOTES

1. CONTRACTOR SHALL FIELD VERIFY EXISTING FIRE RATED CONSTRUCTION ASSEMBLIES DENOTED IN THE DRAWINGS. CONTRACTOR SHALL NOTIFY ARCHITECT IN WRITING OF CONFLICTS BETWEEN THE AS-BUILT CONDITION AND THE DRAWINGS. PRIOR TO PROCEEDING WITH THE WORK THE CONTRACTOR SHALL SUBMIT A PROPOSAL FOR THE COST AND SCHEDULE OF UPGRADING EXISTING ASSEMBLIES DENOTED AS FIRE RATED TO A CODE COMPLIANT LEVEL.
2. PROVIDE AT MINIMUM ONE (1) ACCESSIBLE SEATING LOCATION.

KEYNOTES

NO.	DESCRIPTION
A01	INDICATED DOORS SHALL REMAIN UNLOCKED AND ALLOW FREE EGRESS AT ALL TIMES WHEN SUITE IS OCCUPIED.

OCCUPANCY CALCULATIONS

OCCUPANCY SUMMARY BY COMPARTMENT & GROUP

OCCUPANCY GROUP	SPACE FUNCTION	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD CALCULATED
B	ACCESSORY STORAGE/MECH. EQUIPMENT	64 SF	300	.3
B	BUSINESS	542 SF	150	3.7
B	COMMERCIAL KITCHEN	644 SF	200	3.2
B	SMALL ASSEMBLY - STANDING SPACE	27 SF	5	5.5
B	SMALL ASSEMBLY - UNCONCENTRATED	159 SF	15	10.6
FLOOR TOTAL:		1,436 SF		23.3

PLUMBING COUNTS

WATER CLOSETS: 1 PER 25 FOR THE FIRST 50 & 1 PER 50 FOR THE REMAINING EXCEEDING 50
LAVATORY: 1 PER 40 FOR THE FIRST 80 AND 1 PEWR 80 FOR THE REMAINDER EXCEEDING 80

PER 2018 GEORGIA PLUMBING CODE 410.4: WHERE RESTAURANTS PROVIDE DRINKING WATER IN A CONTAINER FREE OF CHARGE, DRINKING FOUNTAINS SHALL NOT BE REQUIRED IN THOSE RESTAURANTS.

SEPARATE FACILITIES ARE NOT REQUIRED IN BUSINESS OCCUPANCIES WITH 25 OR FEWER OCCUPANTS, PER 2018 GEORGIA BUILDING CODE 2902.2, EXCEPTION 4.

PLUMBING CALCULATIONS FOR BUSINESS OCCUPANCY	
Total Occupancy	24
Water Closets	
1/25 for the first 50	1.00
1/50 for the remainder	
Total	1.00
Lavatories	
1/40 for the first 80	0.60
1/80 for the remainder	
Total	1.00
Drinking Fountains	
1/100	EXEMPT
Total	-
Service Sink	
	1.00

TOTAL REQUIRED PLUMBING FIXTURES	
Water Closets	
TOTAL REQUIRED	1
TOTAL PROVIDED	1
Lavatories	
TOTAL REQUIRED	1
TOTAL PROVIDED	1
Drinking Fountains	
Total Persons/100	EXEMPT
TOTAL REQUIRED	-
TOTAL PROVIDED	-
Service Sink	
TOTAL REQUIRED	1
TOTAL PROVIDED	1

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

2 ISSUE FOR CONSTRUCTION 12/27/2024

DELTA ISSUE DESCRIPTION DATE

INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

Owner Approval

27MSHF.0035.000 — As indicated
Job No. — Scale

EXITING DIAGRAM

AN-4.0

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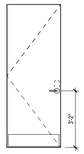
DOOR SCHEDULE

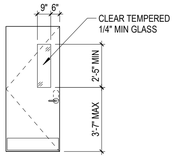
NO.	ROOM NAME	CONFIGURATION	DOOR							FRAME			OPENING FIRE RATING	DOOR REMARKS
			PANEL WIDTH	PANEL HEIGHT	PANEL THICKNESS	HARDWARE GROUP	PANEL TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		
D101	DINING	SINGLE	3' - 0"	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	NONE	EXISTING DOOR AND HARDWARE TO REMAIN, UON. PROVIDE FREE EGRESS AT ALL TIMES; PER 2018 GEORGIA BUILDING CODE - 1010 - A READILY VISIBLE DURABLE SIGN IS POSTED ON THE EGRESS SIDE ON OR ADJACENT TO THE DOOR STATING: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED
D103	RESTROOM	SINGLE	3' - 0"	7' - 0"	1 3/4"	1	F	SOLID CORE WOOD	PAINT TO MATCH WALL	01	HOLLOW METAL	PAINT TO MATCH WALL	NONE	EXISTING DOORS SCHEDULED FOR DEMOLITION WHICH ARE IN GOOD CONDITION AND CAN RECEIVE SCHEDULED HARDWARE MAY BE REUSED INSTEAD OF PROVIDING NEW DOOR, AFTER REVIEW WITH ARCHITECT.
D104A	KITCHEN	SINGLE	3' - 0"	7' - 0"	1 3/4"	2	R	SOLID CORE WOOD	PAINT TO MATCH WALL	01	HOLLOW METAL	PAINT TO MATCH WALL	NONE	
D104B	KITCHEN	SINGLE	3' - 0"	EXISTING	EXISTING	3	EXISTING	EXISTING	PAINT TO MATCH WALL	EXISTING	EXISTING	PAINT TO MATCH WALL	NONE	PROVIDE FREE EGRESS AT ALL TIMES; REMOVE EXISTING LOCKSET AND PROVIDE NEW AS INDICATED; PAINT TENANT SIDE OF DOOR/FRAME ONLY.

DOOR PANEL TYPES

NOTE: 10" (MIN) BOTTOM RAIL REQUIRED IF GLASS SURFACE IS MORE THAN 1/16" RECESSED FROM THE RAIL FACE ON THE PUSH SIDE OF A DOOR.

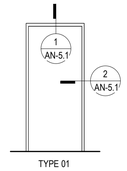


SINGLE
TYPE F



SINGLE
TYPE R

DOOR FRAME TYPES



TYPE 01

DOOR HARDWARE SCHEDULE

MILKSHAKE FACTORY - STANDARD DOOR HARDWARE SCHEDULE

DESCRIPTION	MANUFACTURER	CATALOG NUMBER	FINISH
GROUP 1 - RESTROOM			
HINGES	HAGER	BB1279 4-1/2" X 4-1/2" US26D	SATIN CHROME
PRIVACY LOCKSET W/ OCC. INDICATOR	SCHLAGE	ND40-P6-BRK-626-10D	SATIN CHROME
EMERGENCY RELEASE	SCHLAGE		SATIN CHROME
SURFACE CLOSER	SARGENT	1431 CPS EN	ALUMINUM
SILENCER	IVES	SR64	GRAY
WALL STOP	ROCKWOOD	409 US32D	SATIN STAINLESS STEEL
GROUP 2 - KITCHEN TO FRONT-OF-HOUSE DOOR			
HINGES	HAGER	BB1279 4-1/2" X 4-1/2" US26D	SATIN CHROME
PIN PAD LOCKSET	SCHLAGE AD-200 OFFLINE	AD-200-CY-70-KP-BRK-626-P6-S123-RH -4B-13-049-10-025-1 3/4	SATIN CHROME
SURFACE CLOSER	SARGENT	1431 CPS EN	ALUMINUM
SILENCER	IVES	SR64	GRAY
WALL STOP	ROCKWOOD	409 US32D	SATIN STAINLESS STEEL

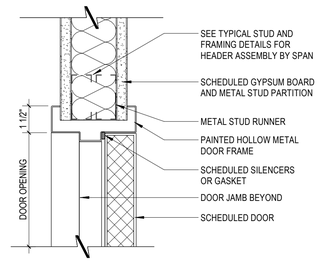
NOTE: CONTRACTOR SHALL PROGRAM LOCK PER OWNER'S INSTRUCTIONS

DOOR & HARDWARE NOTES

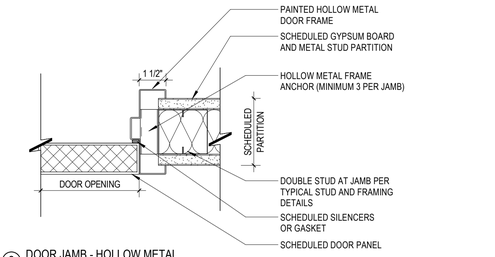
1. ALL (E) DOORS REQUIRING HARDWARE UPDATE/MODIFICATION: REPLACE DOOR AS REQUIRED TO MATCH (E) WITH NEWLY PREPARED DOORS AS SCHEDULED FOR NEW WORK. G.C. TO BE RESPONSIBLE TO MAINTAIN (E) UL-RATING OF DOOR AND FRAME ASSEMBLY AT RATED LOCATIONS.
2. ALL HARDWARE SHALL BE UNLOCKED IN THE DIRECTION OF EGRESS, REGARDLESS OF OTHER LOCK FUNCTIONS.
3. ALL 20 MIN. UL RATED DOORS AND FRAME ASSEMBLIES TO HAVE S-LABEL.
4. ALL RATED DOOR ASSEMBLIES SHALL BE U.L. AND NFPA APPROVED.
5. ALL DOORS AND FRAMES TO BE INSTALLED PLUMB, STRAIGHT AND TRUE. MAINTAIN ADEQUATE TOLERANCES AND CLEARANCES SO THAT ALL DOORS FIT AS SPECIFIED AND SWING/SLIDE PROPERLY. ANY DEVIATION FROM THIS WILL BE REJECTED BY OWNER AS UNACCEPTABLE AND WILL BE REPLACED AT SUPPLIER'S AND INSTALLER'S SOLE COST.
6. PROVIDE ALL PARTS NECESSARY FOR PROPER OPERATION OF ALL DOORS.
7. MAXIMUM DOOR OPENING EFFORT OF 5 LBS. AT INTERIOR DOORS, 15 LBS. AT FIRE RATED DOORS, AND 15 LBS. AT EXTERIOR DOORS.
8. ALL DOORS ARE EQUIPPED WITH SINGLE-EFFORT, NON-GRASP HARDWARE (I.E., LEVER OR LOOP) CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR.
9. ALL DOORS MUST BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF KEY, SPECIAL KNOWLEDGE OR EFFORT.
10. ALL GLAZING AND SIDELITES TO BE CLEAR TEMPERED GLASS, UON.
11. ALL KEYED LOCKSETS TO BE SUPPLIED WITH BUILDING STANDARD CYLINDER.
12. FIRE RATED DOORS AND FRAMES TO HAVE APPROVED FIRE RETARDANT BACKING. CONTRACTOR TO PROVIDE CERTIFICATION OF FIRE RETARDANT TREATMENT TO THE FIRE MARSHAL.
13. DOOR HEIGHTS GIVEN IN THE DOOR SCHEDULE DO NOT INCLUDE THE DOOR FRAME.
14. DO NOT UNDERCUT UL RATED DOORS, PROVIDE MINIMUM CLEARANCE ABOVE THRESHOLD OR ABOVE FINISHED FLOOR.
15. SEE AN-SERIES SHEETS FOR ADDITIONAL NOTES AND ABBREVIATIONS.
16. CONTRACTOR TO PREP ALL DOORS AND FRAMES TO RECEIVE ELECTRIFIED HARDWARE AS REQUIRED FOR CARD READERS, INCLUDING CABLING, PROVIDING A RACEWAY FROM ELECTRIFIED HINGE TO POWER TRANSFER AND PROVIDING ALL HARDWARE INCLUDING ELECTRIFIED HINGES. ALL CARD READER DEVICES ARE FAIL-SAFE UNLESS OTHERWISE NOTED. ALL DOORS SCHEDULED TO RECEIVE CARD READERS PROVIDE FREE EGRESS AT ALL TIMES. CARD KEY ACCESS IS NEVER REQUIRED TO EXIT/EGRESS OUT OF ANY AREA OF THE BUILDING.
17. AT PAINTED WOOD DOORS, PAINT DOOR AND FRAME AS INDICATED ON FINISH PLAN.
18. PROVIDE THREE JAMB ANCHORS MINIMUM AT APPROXIMATE HINGE POINTS FOR DOORS UP TO 7'-6" H MAX. AND ONE BASE ANCHOR WITH TWO POWER ACTUATED FASTENERS PER JAMB.
19. PROVIDE FRAME ROUGH OPENING DIMENSIONS AS RECOMMENDED BY FRAME MANUFACTURER.
20. PROVIDE STANDARD FRAME PROFILE THROAT DIMENSIONS COMPATIBLE WITH AND AS DETERMINED BY SCHEDULED PARTITION TYPES.
21. PROVIDE STRAPS, ANCHORS AND FRAMING ACCESSORIES AS REQUIRED FOR AS-BUILT FIELD CONDITIONS AS RECOMMENDED BY THE MANUFACTURER AND INDUSTRY STANDARDS.
22. DOOR FRAMES SHALL BE SECURED IN PLACE WITH TWO FULL HEIGHT STUDS PER JAMB MIN.
23. DOOR UNDERCUTS SHALL BE KEPT TO A MINIMAL DIMENSION BASED ON FLOOR FINISH MATERIAL, AND SHALL BE UNIFORM THROUGHOUT PROJECT, UON.
24. THROUGH-BOLTING WILL NOT BE ACCEPTED. REINFORCE DOORS INTERNALLY.
25. ALL DOORS SHALL COMPLY WITH THE DOOR LANDING CLEARANCES FOR APPROACHES MEETING MINIMUM ADA REQUIREMENTS.
26. INSTALL DOOR 4" FROM ADJACENT WALL (MEASURED TO INSIDE OF JAMB), TYP. UNLESS OTHERWISE NOTED.

GLAZING NOTES

1. GLAZING TYPES PROVIDED ARE FOR DESIGN INTENT ONLY. CONTRACTOR SHALL FIELD VERIFY EACH APPLICATION, SUPPLY STRUCTURALLY APPROPRIATE MATERIAL APPROVED BY THE GLAZING MANUFACTURER OF A MINIMUM THICKNESS GREATER THAN OR EQUAL TO THE THICKNESS INDICATED, AND SHALL NOTIFY THE ARCHITECT OF DISCREPANCIES.
2. GLASS HEIGHTS (H) INDICATED ARE UNSUPPORTED SPANS FROM BOTTOM TO TOP OF GLASS UNIT.
3. HEAT STRENGTHENED GLASS CANNOT BE DRILLED, SANDED, ETCHED, AFTER FORMING.
4. FOR ALL GLASS APPLICATIONS NOT LISTED, VERIFY SPECIFICATION WITH GLAZING MANUFACTURER.
5. WHERE BOTTOM EDGE IS CLOSER TO THE FLOOR THAN INDICATED, USE NEXT THICKER SIZE OF GLASS (IN 1/8" INCREMENTS)
6. NO WIRED GLASS ALLOWED.
7. ALL GLASS SHALL BE TEMPERED UON.



1 DOOR FRAME HEAD - HOLLOW METAL
3" = 1'-0"



2 DOOR JAMB - HOLLOW METAL
3" = 1'-0"

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

DELTA	ISSUE	DESCRIPTION	DATE
	2	ISSUE FOR CONSTRUCTION	12/27/2024

INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

Owner Approval

27MSHF.0035.000 — Job No.

As indicated — Scale

DOOR AND HARDWARE SCHEDULES

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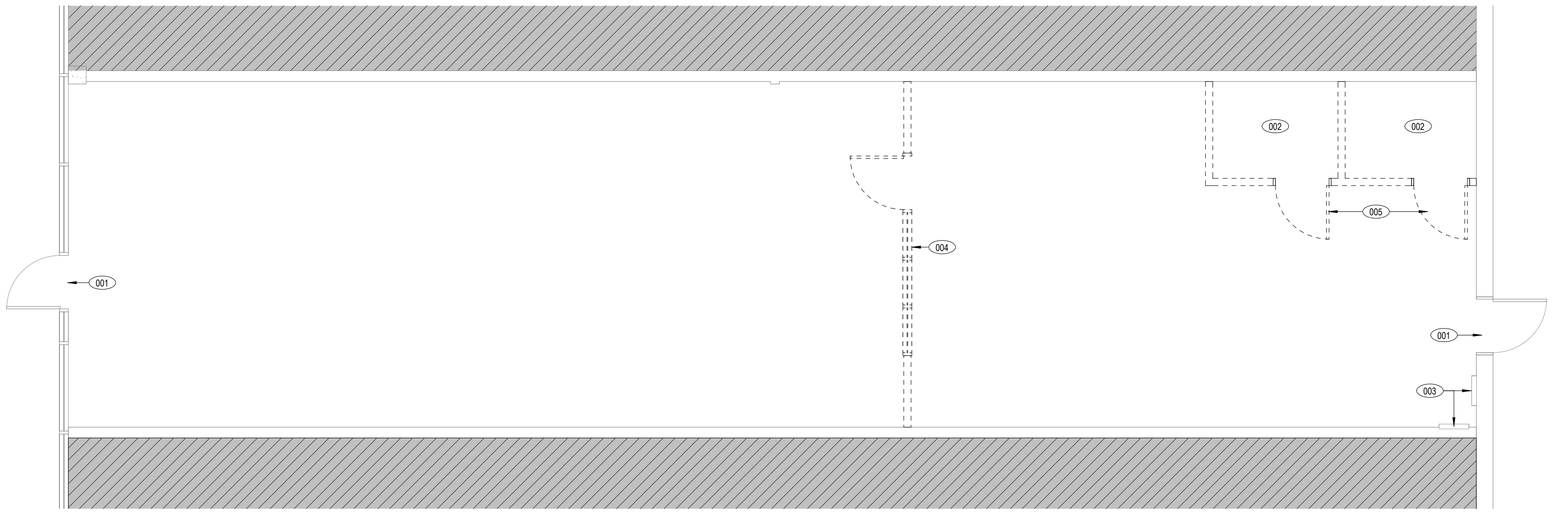

1 01 DEMOLITION PLAN
1/4" = 1'-0"

TRUE

DEMOLITION LEGEND

EXISTING CONSTRUCTION TO BE DEMOLISHED

EXISTING CONSTRUCTION TO REMAIN

DEMOLITION SHEET NOTES

1. EXISTING DEMISING PARTITIONS, EXTERIOR STOREFRONT AND REAR DOOR TO REMAIN UON.
2. REMOVE FINISH MATERIALS (INCLUDING WALLCOVERING, ETC) THROUGHOUT, UON PREPARE SURFACES FOR NEW FINISHES.
3. REMOVE MATERIALS CREATING UNEVEN, OUT OF TOLERANCE SUBSTRATE INCLUDING BUT NOT LIMITED TO FASTENERS, COVER PLATES, RESILIENT FLOORING, CARPET PAD, ETC.
4. REMOVE ALL CEILING ASSEMBLIES, INCLUDING GRID, TILE, ANY GWB BUILT CEILINGS, LIGHTING AND DEVICES THROUGHOUT SPACE. PREPARE FOR NEW WORK, INCLUDING CLEANING ANY ABANDONED TELEPHONE AND DATA CABLES. ELECTRICAL LINES AND OTHER ITEMS WITHIN THE AREA TO BE OPEN CEILING, REFER TO NEW RCP. REFER TO ENGINEERING DOCUMENTS FOR MORE INFORMATION.
5. REMOVE AND DISPOSED OF WALL MOUNTED MIRRORS, EXERCISE BARS, GRAPHICS, ETC. PREPARE WALL FOR NEW FINISHES.
6. ANY EXISTING RECEPTACLES ALONG DEMISING WALL SHOULD BE REMOVED AND TIED BACK TO SOURCE.
7. LIFE SAFETY DEVICES SHALL REMAIN OPERATIONAL DURING DEMOLITION AND CONSTRUCTION.
8. REMOVE ALL FLOOR POWER BOXES AND ASSOCIATED WIRING THROUGHOUT AREA OF WORK AND PATCH SLAB AS NEEDED.

DEMOLITION KEYNOTES

NO.	DESCRIPTION
001	EXISTING DOOR, FRAME, AND HARDWARE TO REMAIN.
002	REMOVE PLUMBING FIXTURES, ASSOCIATED DOMESTIC/SANITARY LINES BACK TO SOURCE AND CAP (SEE PLUMBING ENGINEERING DRAWINGS FOR DETAILS). REMOVE AND DISPOSE ALL RESTROOM ACCESSORIES.
003	ELECTRICAL PANELS TO REMAIN. REFER TO ENGINEERING DOCUMENTS FOR MORE INFORMATION.
004	REMOVE AND DISPOSE EXISTING PARTITION OR PORTION OF PARTITION INCLUDING DOORS, FRAMES, HARDWARE, SIDELIGHTS AND GLAZING.
005	GC TO COORDINATE WITH OWNER TO DETERMINE IF ONE OF THESE DOOR IS IN GOOD CONDITION FOR REUSE WITH NEW RESTROOM DOOR HARDWARE AND SAVE FOR NEW CONSTRUCTION.

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MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

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100 BROADWAY 12th FLOOR
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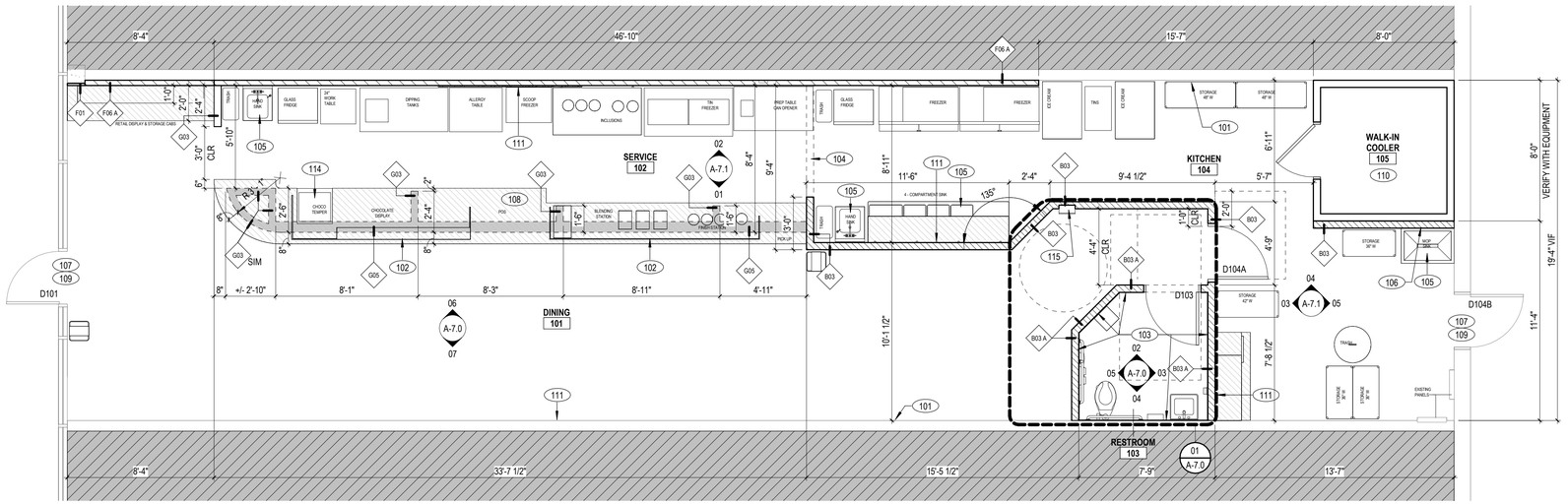
DEMOLITION PLAN

A-0.0



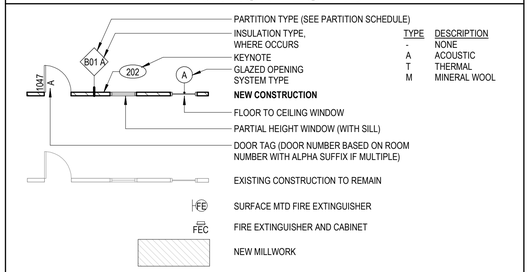
1 01 PARTITION PLAN
1/4" = 1'-0"

TRUE

PARTITION SCHEDULE

TYPE	FIRE RATING	UL #	DESCRIPTION	SSMA #	STUD SPACING (IN)	MAX DEFLECTION	MAX HT	THICKNESS	DETAIL REF.
B03	NR	NR	NON-RATED 3 5/8" METAL STUDS, FULL HEIGHT [SLAB-TO-SLAB] WITH ONE LAYER 5/8" GYPBOARD EACH SIDE.	362S125-33	16	L/240	17' - 5"	4 7/8"	7/A-8.3
F01	NR	NR	7/8" METAL FURRING HAT CHANNELS WITH ONE LAYER 5/8" GYPBOARD ON EXTERIOR.	087F125-33	24	L/240		1 1/2"	10/A-8.3
F06	NR	NR	2 1/2" METAL STUD FURRING WITH ONE LAYER 5/8" GYPBOARD ON EXTERIOR (1/2" AIR SPACE BETWEEN STUD AND WALL).	250S125-33	16	L/240	12' - 0"	3 5/8"	8/A-8.3
G03	NR	NR	3 5/8" METAL STUDS WITH ONE LAYER 5/8" GYPBOARD EACH SIDE. PARTIAL-HEIGHT WALL - SEE PLANS/ELEVATIONS FOR HEIGHT.	362S125-33	16	L/240	17' - 5"	4 7/8"	9/A-8.3
G05	NR	NR	6" METAL STUDS WITH ONE LAYER 5/8" GYPBOARD EACH SIDE. PARTIAL-HEIGHT WALL - SEE PLANS/ELEVATIONS FOR HEIGHT.	600S125-33	16	L/240	25' - 6"	7 1/4"	9/A-8.3

PARTITION LEGEND



TYPE	DESCRIPTION
-	NONE
A	ACOUSTIC
T	THERMAL
M	MINERAL WOOL

PARTITION SHEET NOTES

1. DRAWINGS SHALL NOT BE SCALED. VERIFY ALL DIMENSIONS AND EXISTING AS BUILT FIELD CONDITIONS, INCLUDING FIELD MEASUREMENTS PRIOR TO START OF WORK, NOTIFY ARCHITECT WHERE DISCREPANCIES OCCUR.
2. USE TYPE "X" GWB ON FIRE RATED PARTITIONS.
3. PROVIDE INSULATION FULL DEPTH OF STUD OF A TYPE AND IN LOCATIONS INDICATED IN THE PLAN. INSULATION AT RATED PARTITIONS TO BE NON-COMBUSTABLE, MINERAL WOOL OR EQUIVALENT APPROVED IN THE PROJECT JURISDICTION.
4. SEE A-8 DETAIL SHEET SERIES FOR TYPICAL PARTITION DETAILS, EXTENTS OF FRAMING AND FINISHES.
5. FIRE SAFE PENETRATIONS AT FIRE RESISTANT RATED PARTITIONS PER APPLICABLE UL ASSEMBLY. SEE A-8 SHEET SERIES FOR DETAILS.
6. MAINTAIN INTEGRITY OF EXISTING FIRE RESISTANT RATED ASSEMBLIES FOR PENETRATIONS.
7. PROVIDE BLOCKING AS REQUIRED AT LOCATIONS INCLUDING, BUT NOT LIMITED TO: GRAB BARS, SHELVING, OVERHEAD CABINETS, SIGNAGE, TOILET ROOM ACCESSORIES, WALL MOUNT. EQUIPMENT, ETC. ALL BLOCKING TO BE FIRE RETARDANT TREATED WOOD OR 16 GA (MIN) SHEET METAL.
8. REFER TO A-2 SHEET SERIES FOR POWER & SIGNAL DEVICE LOCATIONS.
9. EXPOSED GYPSUM BOARD OUTSIDE CORNERS SHALL HAVE A CONTINUOUS METAL CORNER BEAD.
10. DIMENSIONS TAKEN FROM PERIMETER EXTERIOR WINDOW WALL ARE TAKEN FROM THE INSIDE FACE OF THE VERTICAL MULLION UON. DIMENSIONS MARKED "VERIFY" SHALL BE VERIFIED PRIOR TO START OF WORK UNLESS OTHERWISE NOTED.
11. CONTRACTOR SHALL COORDINATE WORK WITH HVAC, MECHANICAL, ELECTRICAL, PLUMBING, DELEGATED DESIGN FIRE PROTECTION AND STRUCTURAL DRAWINGS AS APPLICABLE AND REPORT TO THE ARCHITECT DISCREPANCIES FOR CORRECTION AND ADJUSTMENT PRIOR TO START OF WORK. NO ALLOWANCE WILL BE MADE FOR INCREASED COST DUE TO THE CONTRACTOR'S LACK OF COORDINATION.
12. CONTRACTOR SHALL FIELD VERIFY EXISTING FIRE RATED CONSTRUCTION ASSEMBLIES DENOTED IN THE DRAWINGS. CONTRACTOR SHALL NOTIFY ARCHITECT IN WRITING OF CONFLICTS BETWEEN THE AS-BUILT CONDITION AND THE DRAWINGS. PRIOR TO PROCEEDING WITH THE WORK THE CONTRACTOR SHALL SUBMIT A PROPOSAL FOR THE COST AND SCHEDULE OF UPGRADING EXISTING ASSEMBLIES DENOTED AS FIRE RATED TO A CODE COMPLIANT LEVEL.
13. PATCH AND REPAIR PARTITIONS AFTER DEMOLITION WHERE DAMAGE HAS OCCURRED AT UNPROTECTED LOCATIONS. PLEASE NOTE THAT DEMOLITION ACTIVITY MAY OCCUR BEYOND WORK LIMITS SHOWN ON DEMOLITION PLAN DUE TO CONCEALED CONDITIONS.
14. REQUIRED MARKING AND IDENTIFICATION OF PARTITIONS: WHERE THERE IS AN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACE, FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING IN THE CONCEALED SPACE. SUCH IDENTIFICATION SHALL BE LOCATED WITHIN 15 FEET (4572 MM) OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30 FEET (9144 MM) MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION AND INCLUDE LETTERING NOT LESS THAN 3 INCHES (76 MM) IN HEIGHT WITH A MINIMUM 3/8-INCH (9.5 MM) STROKE IN A CONTRASTING COLOR INCORPORATING THE SUGGESTED WORDING, "FIRE AND/OR SMOKE BARRIER — PROTECT ALL OPENINGS," OR OTHER WORDING BASED ON LOCAL JURISDICTION. REFER TO PARTITION SCHEDULE, PLAN AND LEGEND TO IDENTIFY APPLICABLE PARTITIONS.
15. PARTITIONS TO BE TYPE B03 UNLESS OTHERWISE NOTED.
16. INSTALL NEW 5/8" DRYWALL OVER ANY EXPOSED FRAMING WITHIN THE SPACE. EXPOSED MASONRY WALLS SHALL BE MINIMAL FURRED OUT WITH 7/8" HAT CHANNEL AND 5/8" GWB UON. PATCH AND REPAIR ALL WALLS AS REQUIRED TO ENSURE ALL WALLS ARE A LEVEL 4 FINISH.

PARTITION KEYNOTES

NO.	DESCRIPTION
101	PATCH AND REPAIR EXISTING PARTITION WHERE DEMOLITION HAS OCCURRED, TYP.
102	PROVIDE AND INSTALL CLEAR TEMPERED GLASS SNEEZEGUARD IN ALUMINUM CHANNEL; REFER TO ELEVATIONS FOR DETAILS.
103	PROVIDE LEVEL 5 FINISH, THIS WALL.
104	DASHED LINE INDICATES BULKHEAD ABOVE. SEE RCP.
105	PROVIDE HOT/COLD WATER LINES, DRAIN LINES, AND ASSOCIATED INFRASTRUCTURE FOR NEW PLUMBING FIXTURE. SEE ENGINEERING DRAWINGS.
106	WATER HEATER ABOVE. SEE ENGINEERING DRAWINGS.
107	EXISTING EXTERIOR DOOR TO REMAIN.
108	GC TO COORDINATE LOCATION OF ALL G03 AND G05 LOW PARTITIONS WITH UNDERCOUNTER EQUIPMENT AND ALL ASSOCIATED TRADES PRIOR TO FRAMING.
109	GC TO VIF THE EXISTING THRESHOLDS ARE CODE AND ADA COMPLIANT AND TO REPLACE WITH NEW IF REQUIRED.
110	PROVIDE AND INSTALL SPRINKLER AS NEEDED IN WALK-IN COOLER (BY OTHERS). COORDINATE WITH FIRE PROTECTION DRAWINGS.
111	PROVIDE FRT PLYWOOD BLOCKING FOR WALL MOUNTED SIGNAGE OR SHELVING. COORDINATE WITH OWNER AND REFERENCE DETAILS.
114	PROVIDE 24" x 24" CUTOUT IN COUNTERTOP FOR EQUIPMENT. MILLWORKER TO VERIFY CUTOUT SIZE WITH EQUIPMENT SIZE.
115	COORDINATE FINAL LOCATION OF FIRE EXTINGUISHER WITH FIRE MARSHAL OR LOCAL AHJ PRIOR TO FRAMING.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

2 ISSUE FOR CONSTRUCTION 12/27/2024

DELTA ISSUE DESCRIPTION DATE

IA INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

Owner Approval

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PARTITION PLAN

A-1.0

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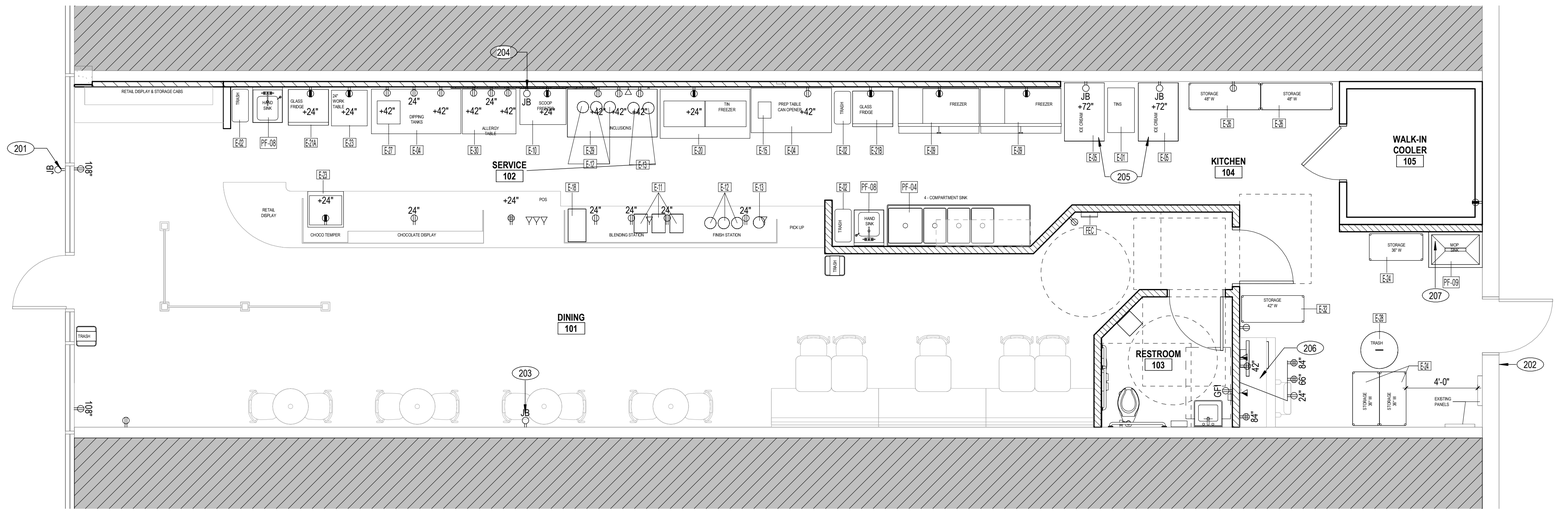

1 01 POWER SIGNAL PLAN
1/4" = 1'-0"

TRUE

REFERENCE FURNITURE AND EQUIPMENT PLAN FOR EQUIPMENT SCHEDULE

POWER & SIGNAL LEGEND

- WALL MOUNTED DUPLEX OUTLET
- WALL MOUNTED DEDICATED OUTLET
- WALL MOUNTED QUAD OUTLET
- JB — WALL MOUNTED JUNCTION BOX
- WALL MOUNTED TELEPHONE OUTLET
- WALL MOUNTED DATA OUTLET
- WALL MOUNTED TELEPHONE/DATA OUTLET
- [X] — EQUIPMENT DESIGNATION

POWER & SIGNAL SHEET NOTES

1. SEE ENGINEERING DRAWINGS FOR ADDITIONAL INFORMATION. NOTIFY ARCHITECT AND ENGINEER OF DISCREPANCIES PRIOR TO STARTING THE WORK. THE ARCHITECTURAL POWER PLAN INCLUDES CRITICAL INFORMATION WHICH MAY NOT BE SHOWN ON THE ELECTRICAL PLANS INCLUDING DEVICE HEIGHTS AND LOCATIONS AND DEVICE AND COVER PLATE COLORS. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR TO REVIEW AND COORDINATE BETWEEN THE ARCHITECTURAL AND ELECTRICAL PLANS AND ALERT ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES. NO CHANGE ORDERS WILL BE ACCEPTED DUE TO A FAILURE TO FULLY REVIEW AND COORDINATE THE CONTRACT DRAWINGS.
2. CONTRACTOR TO COORDINATE ALL FINAL FLOOR CORE LOCATIONS WITH FURNITURE VENDOR, OWNER AND ARCHITECT PRIOR TO START OF WORK. FLOOR AND WALL CORING SHALL BE SCHEDULED DURING OFF HOURS UNLESS OTHERWISE ALLOWED BY OWNER.
3. CONTRACTOR TO MAINTAIN EXISTING UL FIRE RATED ASSEMBLY FOR PENETRATIONS.
4. NEW COVER PLATES, STROBES, SWITCHES, AND PLUGS, ETC. TO BE WHITE UON.
5. REPLACE EXISTING COVER PLATES, PLUGS, SWITCHES, ETC. WITH NEW.
6. COORDINATE DEVICE LOCATIONS PRIOR TO START OF WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING CONDITIONS SYSTEM FURNITURE LAYOUT, FREE STANDING AND BUILT-IN FURNITURE, MILLWORK , STRUCTURAL COLUMN LINES AT POKE-THROUGH LOCATIONS & FACE OF FINISH AT PARTITIONS AND FLOOR. WHERE APPLICABLE CONDUCT PRE-INSTALLATION CONFERENCE.
7. PROVIDE NEMA RECEPTACLE TYPES BASED ON ELECTRICAL AND COMMUNICATION EQUIPMENT SPECIFICATIONS AS COORDINATED PRIOR TO START OF WORK
8. RECEPTACLE, SWITCH AND OUTLET MOUNTING HEIGHT DIMENSIONS ARE MEASURED FROM FINISHED FLOOR TO OUTLET CENTERLINE MOUNTED VERTICALLY, UNLESS NOTED OTHERWISE.
9. PRIOR TO START OF WORK VERIFY AND COORDINATE ELECTRICAL BUS DUCT AND CONDUIT, RISER AND HORIZONTAL ROUTING, RUN LOCATIONS, CIRCUITING AND WIRING FOR NEW WORK TO VALIDATE REQUIRED CLEARANCES BASED ON AS-BUILT FIELD CONDITIONS. NOTIFY ARCHITECT OF CONFLICTS.
10. ALL ELECTRICAL WORK AND MATERIALS SHALL BE IN COMPLIANCE WITH THE CURRENT RULES AND REGULATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE STATE FIRE MARSHALL, THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY, DEPARTMENT OF INDUSTRIAL RELATIONS AND APPLICABLE CODES. ALL EQUIPMENT SHALL BE UL LABELED.
11. BUILDING SERVICES AND UTILITY DISRUPTIONS TO THE BUILDING, INCLUDING ADJACENT TENANTS IN MULTI-TENANT BUILDINGS ARE NOT PERMITTED DURING NORMAL BUSINESS HOURS AND SHALL BE AUTHORIZED BY THE PROPERTY MANAGER 48 HOURS MINIMUM PRIOR TO THE DISTRUPTION (EXCEPT AS OTHERWISE PERMITTED BY THE PROPERTY MANAGER) IN ALL INSTANCES. ALL FIRE / LIFE SAFETY SYSTEMS SHALL REMAIN OPERATIONAL DURING DEMOLITION AND CONSTRUCTION ACTIVITIES DURING NORMAL BUSINESS HOURS. FOR TEMPORARY DISRUPTIONS LIMITED TO THE AREA OR WORK, AFTER HOURS AS NEEDED TO COMPLETE THE WORK, SCHEDULE DAY AND TIME WITH OWNER IN ADVANCE, IN WRITING ON AN OVERTIME BASIS. REESTABLISH ALL BUILDING SERVICES AND UTILITIES AT CONCLUSION OF TEMPORARY SHUT OFF, AS SOON AS PRACTICAL.

POWER SIGNAL KEYNOTES

NO.	DESCRIPTION
201	PROVIDE ELECTRICAL CONNECTION FOR EXTERIOR TENANT SIGNAGE (BY OTHERS IF NOT ALREADY EXISTING). COORDINATE WITH TENANT/TENANT'S SIGN VENDOR FOR EXACT LOCATION AND ELECTRICAL REQUIRMENTS. GC RESPONSIBLE FOR FINAL CONNECTION.
202	PROVIDE AND INSTALL DOORBELL AND CHIME FOR REAR DOOR.
203	PROVIDE AND INSTALL JUNCTION BOX FOR FUTURE ILLUMINATED WALL FEATURE. COORDINATE EXACT LOCATION WITH OWNER.
204	PROVIDE AND INSTALL JUNCTION BOX ABOVE CEILING FOR INTERIOR TENANT SIGNAGE. PROVIDE CONDUIT WITHIN PARTITION FOR SIGNAGE WIRING. COORDINATE EXACT LOCATION WITH TENANT'S SIGN VENDOR.
205	GC TO PROVIDE A HARDWIRED CONNECTION FOR THE ICE CREAM MACHINES, REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
206	REFERENCE ELEVATION FOR OUTLET LOCATIONS.
207	REFER TO ENIGINEERING DOCUMENTS FOR WATER HEATER POWER.

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POWER & SIGNAL PLAN

A-2.0

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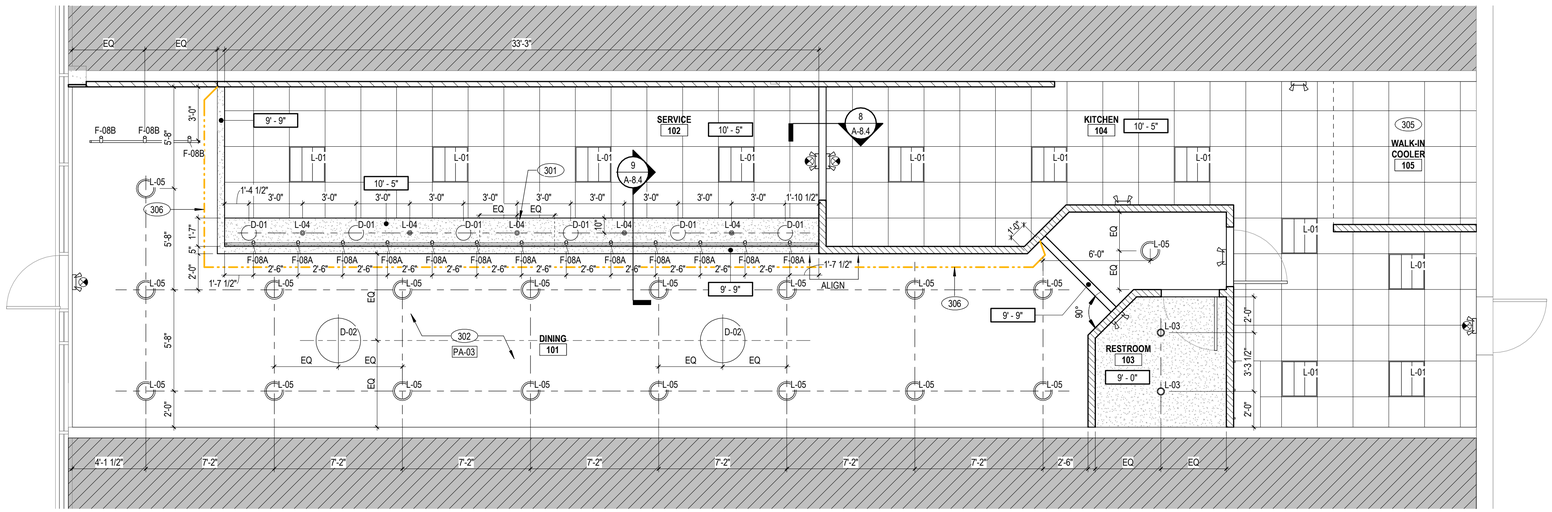

1 01 RCP
1/4" = 1'-0"

TRUE

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL#	FINISH	COLOR TEMP.	MOUNTING HEIGHT (AFF)	REMARKS
L-01	2X2 TROFFER	COLUMBIA LIGHTING	LCAT22-40-MW-G-E-U	-	4000K LED	-	
L-02	NOT USED						
L-03	4" RECESSED DOWNLIGHT	ALPHABET LIGHTING	NU4-RD-SW-10LM-40K-80-HE40-WH-NC-UNV-DIM10	WHITE	4000K LED	-	
L-04	2" RECESSED DOWNLIGHT	ALPHABET LIGHTING	NU2-RD-SW-07LM-40K-90-D40-UNV-DIM10-NC-WH	WHITE	4000K LED	-	
L-05	GENERAL LIGHTING PENDANT	KUZCO	493522-BK	BLACK	4000K LED	10'-0"	INSTALL WITH E26 LED BULB
D-01	DECORATIVE PENDANT	KOHLER	EMBRA PENDANT, 10"	BRUSHED NICKEL	4000K LED	7'-4"	INSTALL WITH TYPE A19 "Edison" style LED bulb, 3000K EmeryAllen EA-A19-7.0W-E26-3090-D, or equal
D-02	DECORATIVE PENDANT	SHADES OF LIGHT	ALGONAC SPHERES CHANDELIER (CH24249)	AGED GOLD / CLEAR GLASS	3000K LED	8'-6"	INSTALL WITH TYPE B10 5.0W LED bulb, 3000K EmeryAllen EA-B10-5.0W-3090-D, or equal
F-08A	TRACK-LITES 13W LED CYLINDER	JUNO	R606L - DIMMABLE NARROW FLOOD	WHITE	4000K LED	-	USE WITH SURFACE MOUNTED TRAC-LITES SYSTEM (WHITE) CUT TO FIT FIELD CONDITION. COORDINATE WITH OWNER FOR ANGLE OF TRACK HEADS.
F-08B	TRACK-LITES 13W LED CYLINDER	JUNO	R606L - DIMMABLE NARROW FLOOD	BLACK	4000K LED	-	USE WITH CABLE HUNG TRAC-LITES SYSTEM (BLACK) 6'-0" LENGTH. COORDINATE WITH OWNER FOR ANGLE OF TRACK HEADS.
EM-1	EMERGENCY LIGHT	LITHONIA LIGHTING	ELM2L	WHITE	N/A		
X-1	EXIT SIGN	LITHONIA LIGHTING	LQM-S-W-3-R-MVOLT-ELN	WHITE HOUSING, RED LETTERS	N/A		CEILING MOUNTED INSTALLATION; PROVIDE STEM KIT WHERE INSTALLED IN EXPOSED CEILING AREAS
X-2	EXIT SIGN / EMERGENCY LIGHT COMBO	LITHONIA LIGHTING	LHQM-LED-R	WHITE HOUSING, RED LETTERS	N/A		CEILING MOUNTED INSTALLATION; PROVIDE STEM KIT WHERE INSTALLED IN EXPOSED CEILING AREAS

RCP SHEET NOTES

1. VERIFY AS-BUILT FIELD CONDITIONS AND LOCATIONS FOR EXISTING AND NEW PLUMBING, AUDIO VISUAL, HVAC DUCTWORK AND PIPING, STRUCTURAL FRAMING, ELECTRICAL BUS DUCT AND CONDUIT BANKS, ELECTRICAL PULL BOXES, FIRE PROTECTION LINES AND RELATED WORK TO DETERMINE AND COORDINATE BEST CEILING FRAMING, POINTS OF ACCESS AND CLEARANCES AS REQUIRED FOR NEW WORK.
2. THE ARCHITECTURAL REFLECTED CEILING PLAN INCLUDES CRITICAL INFORMATION WHICH MAY NOT BE SHOWN ON THE ELECTRICAL PLANS INCLUDING FIXTURE HEIGHTS AND LOCATIONS AND DEVICE AND COVER PLATE COLORS. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR TO REVIEW AND COORDINATE BETWEEN THE ARCHITECTURAL AND ELECTRICAL PLANS AND ALERT ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES. NO CHANGE ORDERS WILL BE ACCEPTED DUE TO A FAILURE TO FULLY REVIEW AND COORDINATE THE CONTRACT DRAWINGS.
3. PROVIDE ACCESS PANELS WHERE REQUIRED IN GYP.BD. CEILING INCLUDING, BUT NOT LIMITED TO FIRE SMOKE DAMPERS, FIRE LIFE SAFETY J-BOXES, FAN COILS AND VAV BOXES PER MANUFACTURER'S WRITTEN RECOMMENDATIONS, CONDUIT BANK PULL BOXES AND CONTROL AND SHUTOFF VALVES.
4. CEILING MOUNTED ELECTRICAL DEVICES SHALL BEAR UL LABEL AND FREE OF DEFECTS.
5. LIGHTING CONTROL COVER PLATES SHALL BE WHITE AT GYP BD CEILINGS, SOFFITS AND CEILING MOUNTED FABRIC WRAPPED PANEL LOCATIONS, UNLESS NOTED OTHERWISE.
6. AT EXPOSED STRUCTURE AREAS IN STEEL BUILDINGS WITH EXPOSED SPRAY FIREPROOFING, PROVIDE PROTECTIVE OVERSPRAY AT SPRAY- FIREPROOFING TO PREVENT DUSTING WHERE PAINT IS SCHEDULED AT EXPOSED CONSTRUCTION. PROVIDE PRIMER/SEALER UNDERCOAT PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
7. CONTRACTOR TO COORDINATE FIRE SPRINKLER AND FIRE ALARM DEVICE LOCATIONS WITH ARCHITECT PRIOR TO SUBMITTING FOR PERMIT. WHERE APPLICABLE CENTER SPRINKLER HEADS IN CEILING PANEL/TILE. ALIGN SPEAKERS, SMOKE DETECTORS, MOTION SENSORS AND RELATED CEILING MOUNTED DEVICES WITH LIGHTING FIXTURE CENTERLINES AND CENTER OF CEILING PANEL/TILE. LOCATE HVAC DIFFUSERS IN GYP BD CEILINGS AS SHOW ON ARCHITECTURAL R.C.P.
8. LOCATE EXIT SIGNS VERTICALLY ABOVE THE FINISH FLOOR TO INSURE SIGHT LINES ARE NOT BLOCKED BY LIGHT FIXTURES, BEAMS, SOFFITS, DROPPED CEILINGS, DUCTWORK, CONDUIT BANKS, PIPING AND RELATED OVERHEAD WORK.
9. GYPSUM BOARD CEILINGS TO BE PAINTED PA-02, UON. SEE FINISH SCHEDULE FOR SPECIFIC PRODUCT.
10. ALL CEILING HEIGHT DIMENSIONS PROVIDED ARE AFF, UNLESS OTHERWISE NOTED.
11. CEILING MOUNTED DEVICES IN DINING AREA, INCLUDING BUT NOT LIMITED TO, OCCUPANCY SENSORS, FA STROBES (IF REQUIRED), ETC TO BE PENDANT MOUNTED AND INSTALLED IN-LINE WITH AND AT MIDPOINTS BETWEEN L-05 LIGHTING FIXTURES. LIMIT WALL MOUNTED DEVICES.
12. INDICATED CEILING HEIGHTS ARE DESIGN INTENT. CONTRACTOR SHALL VERIFY IN FIELD PRIOR TO CONSTRUCTION COMMENCEMENT AND ENSURE SPECIFIED HEIGHTS ARE FEASIBLE AND ALERT ARCHITECT IF ADJUSTMENT IS REQUIRED.

RCP KEYNOTES

NO.	DESCRIPTION
301	CENTER FIXTURE ON POINT OF SALE COUNTER BELOW.
302	EXPOSED CEILING AREA: PAINT ALL EXPOSED STRUCTURE, DUCTWORK, CONDUIT, SPRINKLERS, ETC. AS INDICATED ON RCP. ALL EXPOSED CABLES AND WIRES SHALL BE NEATLY INSTALLED WITH ALL EXCESS LENGTHS TRIMMED AND COILED. ADD ALTERNATE: PROVIDE AS-01 ACOUSTIC SPRAY INSULATION ON EXPOSED STRUCTURE. SEE FINISH SCHEDULE FOR SPECIFICATIONS.
305	SPECIFIED CEILING TILE SYSTEM TO CONTINUE AT INDICATED HEIGHT OVER WALK-IN COOLER EQUIPMENT. SEE EQUIPMENT SCHEDULE FOR ADDITIONAL COOLER INFORMATION.
306	WP-03 ACOUSTIC FAUX WOOD PANELS TO BE INSTALLED ABOVE SOFFIT WHERE INDICATED. REFER TO FINISH PLAN AND INTERIOR ELEVATIONS FOR DETAILS.

RCP LEGEND

- 2X4 LED TROFFER
- 2X2 LED TROFFER
- RECESSED DOWNLIGHT
- CEILING-MOUNTED PENDANT
- LED STRIP COVE LIGHTING
- TRACK LIGHTING
- OPEN TO DECK
- NEW GWB CEILING / SOFFIT
- CEILING MOUNTED ONE SIDED EXIT SIGN
- CEILING MOUNTED TWO SIDED EXIT SIGN
- WALL MOUNTED EXIT SIGN
- WALL MOUNTED EXIT SIGN /EMERGENCY LIGHT COMBO
- WALL MOUNTED EMERGENCY LIGHT
- NEW CEILING GRID (SEE ACP-01 IN FINISH SCHEDULE)

MilkShake EST FACTORY 1914

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REFLECTED CEILING PLAN

A-3.0

12/20/2024 11:26:39 PM 23.7.1

FINISH SCHEDULE

RESILIENT FLOOR

VT-01
MANUFACTURER: KARNDEAN
PRODUCT: OPUS WOOD
STYLE: WP511
COLOR: WEATHERED ELM
SIZE [W / L / H]: 36" x 4" x 2.5mm thick
INSTALL PATTERN: HERRINGBONE
INSTALL METHOD: DIRECT GLUE
ASTM D2047: 0.89 SCOF
NOTE: DCOF 0.42 (MIN)

BASE

RB-01
MANUFACTURER: TARKETT
PRODUCT: INFLECTIONS
PRODUCT NUMBER: MW 50 G
HEIGHT: 5-1/4"
MATERIAL: RUBBER
STYLE: DECORATIVE / MILLWORK PROFILE
COLOR: SNOWBOUND

GLASS

GL-01
MANUFACTURER: TBD BY GC
PRODUCT: TEMPERED, LOW IRON GLASS
COLOR: CLEAR
SIZE: 1/2" THICK
EDGES: FLAT POLISHED EDGES
LOCATION: SNEEZE GUARDS
NOTE: GLASS MANUFACTURERS TO ADJUST THICKNESS FOR LONGER SPANS

PAINT

PA-01
MANUFACTURER: BENJAMIN MOORE
COLOR: WHITE DIAMOND OC-61
FINISH/SHEEN: EGGSHELL UON
LOCATION: THROUGHOUT UON
WALL BASE: RB-01 UON

PA-02
MANUFACTURER: BENJAMIN MOORE
COLOR: SUPER WHITE OC-152
FINISH/SHEEN: FLAT
LOCATION: GYP. BD. CEILINGS/SOFFITS

PA-03
MANUFACTURER: BENJAMIN MOORE
COLOR: KENDALL CHARCOAL HC-166
FINISH/SHEEN: FLAT
LOCATION: EXPOSED CEILINGS

WALL COVERING

WC-01
MANUFACTURER: *OWNER'S VENDOR*
PRODUCT: CUSTOM PRINTED WALLCOVERING
COLOR: MILKSHAKE FACTORY "WARHOL" SHAKE GRAPHIC
LOCATION: RESTROOM WALLS (ABOVE TILE)
WALL BASE: TL-02B
NOTES: PROVIDED AND INSTALLED BY OWNER'S GRAPHICS/SIGNAGE VENDOR; GC RESPONSIBLE FOR PREPPING WALL. PROVIDE LEVEL 5 DRYWALL FINISH.

CEILING SYSTEMS

ACP-01
MANUFACTURER: ARMSTRONG
PRODUCT: KITCHEN ZONE
SIZE: 24" x 24"
COLOR & FINISH: WHITE
SUSP. SYSTEM/GRID: SQUARE LAY-IN 15/16"
NOTE: MEETS USDA/FSIS GUIDELINES FOR KITCHEN/PREP AREAS

AS-01
MANUFACTURER: INTERNATIONAL CELLULOSE
PRODUCT: K-13
SIZE: 1/2" THICK
COLOR & FINISH: COLOR TO MATCH PA-03
LOCATION: EXPOSED CEILING

AS-01 ALT 1
MANUFACTURER: INTERNATIONAL CELLULOSE
PRODUCT: SONASPRAY FC
SIZE: 1/2" THICK
COLOR & FINISH: COLOR TO MATCH PA-03
LOCATION: EXPOSED CEILING
NOTE: ALTERNATE TO AS-01

PLASTIC LAMINATE

PL-01
MANUFACTURER: WILSONART
PRODUCT NUMBER: D354
COLOR: DESIGNER WHITE
FINISH: 60 MATTE FINISH
LOCATION: SERVICE COUNTER

PL-02
MANUFACTURER: WILSONART
PRODUCT NUMBER: D8226
COLOR: DERING FOREST
FINISH: 79 RIDGEWOOD FINISH WITH AEON
GRAIN: REFER TO ELEVATIONS
LOCATION: MILK BOTTLE FEATURES

COUNTERTOP

QZ-01
MANUFACTURER: COSENTINO
PRODUCT: SILESTONE
COLOR: ETERNAL STATUARIO 2CM
FINISH: POLISHED
LOCATION: SERVICE COUNTER
CONTACT: CONTACT: BONNE STUKEY & MICHELE HUMMER-SMITH
ADCENTERCHARLOTTE@COSENTINO.COM
704-280-3073

TILE

TL-02
MANUFACTURER: DALTILE
PRODUCT: COLOR WHEEL CLASSIC
STYLE / FINISH: GLOSSY
COLOR: ARCTIC WHITE 0190
SIZE [W / H / D]: 4" x 4"
INSTALL PATTERN: STACKED
GROUT COLOR: LATICRETE PERMACOLOR - RAVEN
GROUT WIDTH: 1/16"
LOCATION: RESTROOM WALL TILE
TRANSITION STRIP: ME-01

TL-02B
MANUFACTURER: DALTILE
PRODUCT: COLOR WHEEL CLASSIC FLAT TOP COVE BASE
STYLE / FINISH: GLOSSY
COLOR: ARCTIC WHITE 0190
SIZE [W / H / D]: 4" x 4"
INSTALL PATTERN: STACKED
GROUT COLOR: LATICRETE PERMACOLOR - RAVEN
GROUT WIDTH: 1/16"
LOCATION: RESTROOM WALL TILE BASE

TL-03
MANUFACTURER: STONEPEAK
PRODUCT: SIMPLY MODERN
STYLE / FINISH: MATTE
COLOR: SIMPLY BLACK
SIZE [W / H / D]: 12" x 24"
INSTALL PATTERN: RUNNING BOND 1/3 OFFSET
GROUT COLOR: LATICRETE PERMACOLOR - RAVEN
GROUT WIDTH: 1/8"
DCOF: ≥0.55
LOCATION: RESTROOM FLOOR TILE
TRANSITION STRIP: ME-02

TL-04
MANUFACTURER: DALTILE
PRODUCT: QUARRY TEXTURES
STYLE / FINISH: ABRASIVE
COLOR: ASHEN GRAY SQUARE 0T03
SIZE [W / H / D]: 8" x 8"
INSTALL PATTERN: GRID
GROUT COLOR: LATICRETE PERMACOLOR - RAVEN
GROUT WIDTH: 1/8"
DCOF: ≥0.42
LOCATION: BACK OF HOUSE
TRANSITION STRIP: PROVIDE ADA-COMPLIANT TRANSITION / REDUCER AS NEEDED WHERE TILE TRANSITIONS TO OTHER FLOORING MATERIALS

TL-04B
MANUFACTURER: DALTILE
PRODUCT: QUARRY TILE ROUND TOP COVE BASE / CORNER RIGHT / CORNER LEFT / INSIDE CORNER
STYLE / FINISH: MATTE
COLOR: ARID GRAY SQUARE QL1665 & QCRL1665
SIZE [W / H / D]: 5" x 8" / 1" x 5"
INSTALL PATTERN: -
GROUT COLOR: LATICRETE PERMACOLOR - RAVEN
GROUT WIDTH: 1/8"
LOCATION: BACK OF HOUSE

ME-01
MANUFACTURER: SCHLUTER
PRODUCT: JOLLY-P
COLOR: BRIGHT WHITE
NOTES: GC TO COORDINATE SIZE WITH SCHEDULED TILE

ME-02
MANUFACTURER: SCHLUTER
PRODUCT: RENO-U
COLOR: SATIN ANODIZED
NOTES: GC TO COORDINATE SIZE WITH SCHEDULED TILE

ME-03
MANUFACTURER: CONSTRUCTION SPECIALTIES
PRODUCT: ACROVYN CO-8 CORNER GUARD (16-GUAGE)
COLOR: STAINLESS STEEL
SIZE: 6' - 0" L
NOTES: OR APPROVED EQUAL

ME-04
MANUFACTURER: CONSTRUCTION SPECIALTIES
PRODUCT: ACROVYN SCO-8 END WALL GUARD (16-GUAGE)
COLOR: STAINLESS STEEL
SIZE: 6' - 0" L
NOTES: OR APPROVED EQUAL

WALL PANELING

WP-01
MANUFACTURER: MARLITE
PRODUCT: SYMMETRIX
STYLE: SUBWAY VERTICAL
COLOR: WHITE
TYPE: CUSTOM PANEL (#215032 - SYM SS1050 G28R MILK WHITE 48X120 HG2)
SIZE [W / L / H]: 2" x 8" TILE CONFIGURATION
4' x 8' PANEL SIZE
WALL BASE: TL-04B
LOCATION: FRONT OF HOUSE
NOTES: WHITE GROUT. FRP TO EXTEND FROM TOP OF BASE TO CEILING. INSTALL WITH MANUFACTURER'S MATCHING EDGE TRIM.

WP-02
MANUFACTURER: MARLITE
PRODUCT: STANDARD FRP
STYLE: P 199 PEBBLED
COLOR: BRIGHT WHITE
SIZE [W / L / H]: 4' x 10' PANEL SIZE
WALL BASE: TL-04B
LOCATION: BACK OF HOUSE
NOTES: FRP TO EXTEND FROM TOP OF BASE TO CEILING. INSTALL WITH MANUFACTURER'S MATCHING EDGE TRIM.

WP-03
MANUFACTURER: MPS ACOUSTICS
PRODUCT: WANDER (HORIZONTAL)
COLOR: TBD - SUBMIT RFI PRIOR TO PLACING ORDER FOR COLOR SELECTION
SIZE: 42"W X 81"H PANEL
LOCATION: SOFFIT ABOVE FRONT COUNTER; SEE ELEVATIONS
NOTES: DIRECT GLUE TO WALL PER MANUFACTURER'S INSTRUCTIONS; USE CONTACT BELOW FOR SPECIAL MILKSHAKE FACTORY ACCOUNT PRICING
FLAME SPREAD RATING TO BE CLASS C MIN.
CONTACT: MEGAN WEBER; 540-354-3847; MWEBER@MRGSE.COM

SHEET NOTES

1. FOR FINISH MATERIAL DEFINITIONS REFER TO FINISH SCHEDULE AND THE SPECIFICATIONS.
2. FOR CEILING FINISHES REFER TO RCP.
3. UNLESS OTHERWISE NOTED, TYPICAL FINISHES SHALL BE AS FOLLOWS:
   WALLS: PA-01
   WALL BASE: BA-01
4. DYNAMIC COEFFICIENT OF FRICTION (DCOF) FOR WET AND DRY LEVEL INTERIOR FLOORING SURFACES (INCLUDING SEALED CONCRETE) TO BE 0.42 MIN. MANUFACTURER'S DOCUMENTATION TO BE INCLUDED IN MATERIAL SUBMITTALS.
5. UNLESS OTHERWISE NOTED, THE DEFINED STARTING POINT OF A UNITIZED FINISH MATERIAL SHALL BE A FINISHED EDGE OF THE UNIT.
6. INSTALL ME-03 STAINLESS STEEL CORNER GUARDS ON ALL OUTSIDE WALL CORNERS AND ME-04 END WALL GUARD ON ALL END WALL EDGES IN BACK-OF-HOUSE AREAS (KITCHEN, SERVICE AREA). SEE FINISH SCHEDULE FOR DETAILS.

LEGEND

- FINISH MATERIAL DEFINITION
- P-1 — FINISH MATERIAL TAG
- FLOOR FINISH TRANSITION
- FLOOR FINISH DIRECTION
- START TILE — PATTERN START TILE

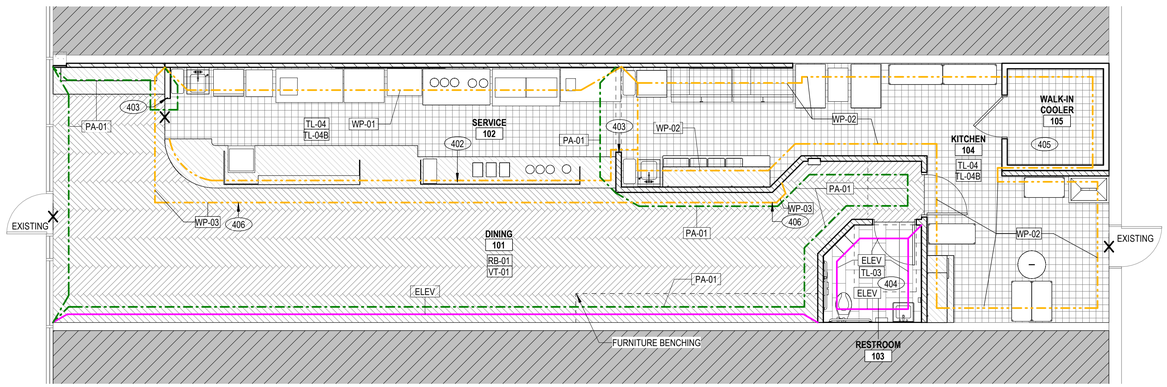
WALL FINISH DEFINITIONS
- ELEV — SEE ELEVATION
- PA-01 — PAINT
- XX-01 — WALL PANELING

KEYNOTES

NO.	DESCRIPTION
402	INSTALL WP-02 ON ALL EXPOSED SURFACES BELOW FRONT COUNTER (EMPLOYEE SIDE ONLY).
403	INSTALL ME-04 U-SHAPED GUARDS AT PASS-THRU.
404	PREP DRYWALL TO RECEIVE LEVEL 5 FINISH FOR WALLCOVERING. REFER TO ELEVATIONS FOR ADDTITIONAL INFORMATION.
405	SPECIFIED FLOOR AND WALL FINISHES TO BE INSTALLED PRIOR TO EQUIPMENT INSTALLATION.
406	WP-03 ACOUSTIC FAUX WOOD PANELS TO BE INSTALLED ABOVE SOFFIT WHERE INDICATED. REFER TO INTERIOR ELEVATIONS FOR DETAILS.

FINISH CODES

AF	ACCESS FLOORING SYSTEM	GF	GLAZING FILM	SD	STATIC DISSIPATIVE
BA	BASE	GL	GLASS	SF	SPECIAL FINISH
CA	CARPET	GR	GROUT	SS	SOLID SURFACE
CO	CONCRETE	ME	METAL	ST	STONE
CS	CEILING SYSTEMS	PA	PAINT	TI	TILE
DM	DECORATIVE MASONRY	PC	PERFORMANCE COATING	WC	WALL COVERING
EGD	EXPERIENTIAL DESIGN	PG	PROTECTIVE GUARDS	WF	WOOD FLOORING
ELEV	REFER TO ELEVATIONS	PL	PLASTIC LAMINATE	WP	WALL PANELING
EM	ENTRANCE MATS	RF	RESILIENT FLOOR	WS	WOOD SOLID
FA	FABRIC			WT	WINDOW TREATMENT
FT	FINISH TRANSITION			WV	WOOD VENEER



1 01 FINISH PLAN
3/16" = 1'-0"

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

DELTA	ISSUE	DESCRIPTION	DATE
	2	ISSUE FOR CONSTRUCTION	12/27/2024

INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

Owner Approval

27MSHF.0035.000 — Job No.
As indicated — Scale

FINISH PLAN & SCHEDULE

A-4.0

12/20/2024 1:10:42 PM 23.1.1

SHEET NOTES

1. FURNITURE PLAN IS FOR REFERENCE ONLY. ALL FURNITURE SHALL BE PROVIDED AND INSTALLED BY OWNER.
2. REFER TO RESPONSIBILITIES MATRIX, SHEET AN-2.0, FOR FURTHER INFORMATION.
3. THE PLUMBING FIXTURE SCHEDULE IS PROVIDED FOR COORDINATION PURPOSES ONLY, AND MAY NOT INCLUDE ALL PLUMBING COMPONENTS. REFER TO PLUMBING DRAWINGS FOR COMPLETE SPECIFICATIONS.
4. PER 2018 IBC AND 2010 ADA, A MINIMUM OF 5% AND NOT LESS THAN 1 OF THE DINING SURFACES SHALL BE ACCESSIBLE.

LEGEND

[X] EQUIPMENT / FURNITURE DESIGNATION

KEYNOTES

NO.	DESCRIPTION
501	PROVIDE 24" x 24" CUTOUT IN COUNTERTOP FOR EQUIPMENT. MILLWORKER TO VERIFY CUTOUT SIZE WITH EQUIPMENT SIZE.

FURNITURE SCHEDULE

MILKSHAKE FACTORY - STANDARD FURNITURE SCHEDULE (FOR REFERENCE ONLY)

MARK	DESCRIPTION	VENDOR	BRAND	FINISH	MODEL NO.	PROVIDED BY	INSTALLED BY	COMMENTS
CH-01	DINING CHAIR	CENTRAL RESTAURANT PRODUCTS	BFM SEATING	CLEAR COAT	2160C-CL W	OWNER	OWNER	WALNUT SEAT FINISH 17.5" SEAT HEIGHT SATISFIES ADA REQUIREMENTS
CH-02	BARSTOOL	CENTRAL RESTAURANT PRODUCTS	FLASH FURNITURE	BLUE	CH-31320-24-BL-GG	OWNER	OWNER	
CH-03	TASK CHAIR	AMAZON	FURMAX	BLACK	T-OCNC	OWNER	OWNER	
CH-04	BANQUETTE	CENTRAL RESTAURANT PRODUCTS	ATS MFG	WALNUT	AS36-WBB-PSW GR4	OWNER	OWNER	ARMADA VINYL FOR SEAT
TB-01	24"DIA. X 30"H TABLE	CENTRAL RESTAURANT PRODUCTS	FLASH FURNITURE; VITRO SEATING	TOP: WHITE; BASE: BLACK	XU-T2222-GG; TF-125	OWNER	OWNER	30" HEIGHT MAX SATISFIES 2009 ANSI A117.1 SEC 902 REQUIREMENTS
TB-03	24"L X 24"W X 30"H TABLE	CENTRAL RESTAURANT PRODUCTS	FLASH FURNITURE; OAK STREET	TOP: DARK WALNUT; BASE: BLACK	XU-T2222-GG; WDL2424-DW	OWNER	OWNER	30" HEIGHT MAX SATISFIES 2009 ANSI A117.1 SEC 902 REQUIREMENTS
TB-04	RETAIL DISPLAY TABLE	TBD BY MSF		WALNUT TOP, PAINTED WHITE LEGS	-	OWNER	OWNER	

ACCESSORIES SCHEDULE

MARK	MANUF.	DESCRIPTION	FINISH	MODEL NO.	PROVIDED BY	INSTALLED BY	COMMENTS
TA-01a	BOBRICK	GRAB BAR - 42"	STAINLESS STEEL	B-5806x42	GC	GC	
TA-01b	BOBRICK	GRAB BAR - 36"	STAINLESS STEEL	B-5806x36	GC	GC	
TA-01c	BOBRICK	GRAB BAR - 18"	STAINLESS STEEL	B-5806x18	GC	GC	
TA-02	BOBRICK	MIRROR - 24"x36"	STAINLESS STEEL	B-165 2436	GC	GC	
TA-03	*BY OWNER*	PAPER TOWEL DISPENSER	*BY OWNER*	*BY OWNER*	OWNER	GC	PROVIDED BY OWNER'S VENDOR
TA-04	*BY OWNER*	AUTOMATIC SOAP DISPENSER	*BY OWNER*	*BY OWNER*	OWNER	GC	PROVIDED BY OWNER'S VENDOR
TA-05	*BY OWNER*	DOUBLE-ROLL TOILET TISSUE HOLDER	*BY OWNER*	*BY OWNER*	OWNER	GC	PROVIDED BY OWNER'S VENDOR
TA-06	BOBRICK	SANITARY NAPKIN DISPOSAL	STAINLESS STEEL	B-318	GC	GC	
TA-07	BOBRICK	COAT HOOK	STAINLESS STEEL	B-9542	GC	GC	
TA-08	*BY OWNER*	TRASH CAN	*BY OWNER*	*BY OWNER*	OWNER	GC	PROVIDED BY OWNER'S VENDOR

PLUMBING FIXTURE SCHEDULE

MILKSHAKE FACTORY - STANDARD PLUMBING FIXTURE SCHEDULE

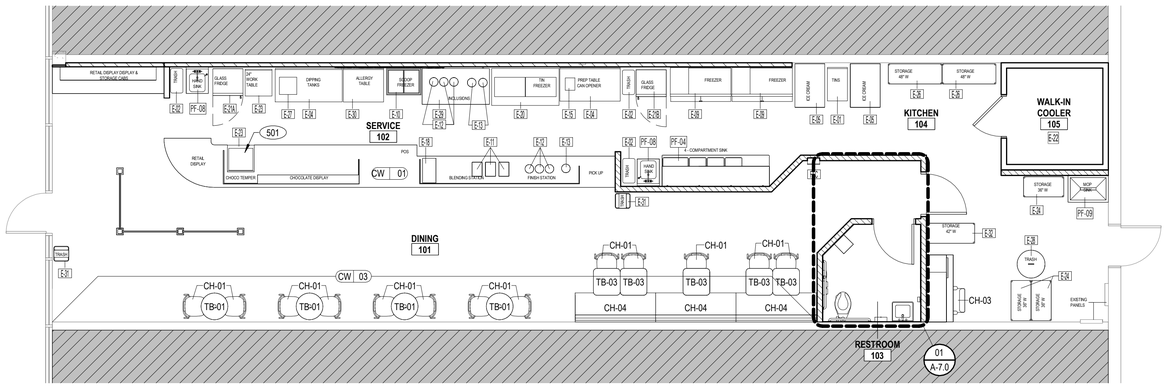
MARK	DESCRIPTION	MANUF.	MODEL NO.	FINISH	PROVIDED BY	INSTALLED BY	COMMENTS
PF-01	TOILET (FLOOR MOUNTED) W/ AUTOMATIC FLUSH VALVE	AMERICAN STANDARD	3043528.02	WHITE	GC	GC	INSTALL W/ #5901.100 HEAVY DUTY TOILET SEAT (WHITE)
PF-02	LAVATORY	AMERICAN STANDARD	DECORUM 9024001EC.020	WHITE	GC	GC	
PF-03	RESTROOM FAUCET (AUTOMATIC)	AMERICAN STANDARD	605B105.002	CHROME	GC	GC	INSTALL W/ HARDWIRE KIT PK00.HAC
PF-04	4-COMPARTMENT SINK	ADVANCE TABCO	9-24-80-18R	STAINLESS STEEL	OWNER	GC	RIGHT OR LEFT HAND CONFIGURATION - LOCATE DRAINBOARD ADJACENT TO HAND SINK. PROVIDE HAMILTON BEACH CONTAINER RINSER - BCR100.
PF-05	KITCHEN FAUCET	T&S BRASS AND BRONZE WORKS, INC	B-0133-12V15-B	POLISHED CHROME	GC	GC	
PF-06	LAVATORY DRAIN	ZURN	Z8743-PC	CHROME	GC	GC	
PF-07	WATER HEATER	-	-	-	GC	GC	TBD BY MEP ENGINEER
PF-08	HAND SINK	ELKAY	CHSB1716C	BUFFED SATIN	OWNER	GC	
PF-09	MOP SINK, SMC FIBERGLASS	E.L. MUSTEE	10"H x 24"D x 36"W	FIBERGLASS	GC	GC	

EQUIPMENT SCHEDULE (FOR REFERENCE ONLY)

MARK	MANUF.	DESCRIPTION	FINISH	MODEL NO.	PROVIDED BY	INSTALLED BY	COMMENTS
E-01	KRATOS	18" X 30" STAINLESS STEEL WORKTABLES	STAINLESS STEEL	28W-094	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-02	SLIM JIM	23 GAL CONTAINER, 30" HEIGHT	BLACK	FG354060BLA	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-03	CENPRO	24" X 48" MSF 4-SHELF KIT WITH 74" POSTS	GREEN EPOXY	30V-085 /30V-102	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	LOCATED IN WALK-IN COOLER ONLY
E-04	KRATOS	60" x 30" 18-GAUGE COMMERCIAL WORK TABLE WITH 4" BACKSPLASH AND UNDERSHELF	STAINLESS STEEL	28W-019	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-05	STOELTING	U421 SOFT SERVE PRESSURE-FED SINGLE FLAVOR FLOOR MACHINE	STAINLESS STEEL	U421-3812	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-08	TURBOAIR	SOLID DOOR REFRIGERATOR REACH-IN TOP MOUONT M3 SERIES	STAINLESS STEEL	TSR-49SD-N6	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-09	TURBOAIR	SOLID DOOR FREEZER REACH-IN TOP MOUONT M3 SERIES	STAINLESS STEEL	TSF-49SD-N	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-10	EXCELLENCE INDUSTRIES	HB DUAL TEMP COOLER AND FREEZER	WHITE	HB-7HC	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-11	HAMILTON BEACH COMMERCIAL	TRIPLE SPINDLE DRINK MIXER	STAINLESS STEEL	HMD400	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-12	SERVER ESSENTIALS	CHILLER SAUCE PUMPS	STAINLESS STEEL	MMS 94070	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-13	SERVER ESSENTIALS	HOT SAUCE PUMPS	STAINLESS STEEL	FSP 82060	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-14	SERVER ESSENTIALS	CONSERVEWELL UTENSIL HOLDER	STAINLESS STEEL	CW 87750	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-15	ROBO COUPE	FOOD PROCESSOR	CHROME	R 2 B CLR	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-18	SURESHOT	REFRIGERATED LIQUID DISPENSER	STAINLESS STEEL	AC320-FP	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-19	AMANA COMMERCIAL	MICROWAVE RMS SERIES	STAINLESS STEEL	RMS10TSA	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-20	NELSON	INCLUSION STATION	STAINLESS STEEL	BD8 SE-RB	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	120V 5-15R - PROVIDE TELESCOPING LIDS AND CUSTOM INCLUSION RACK
E-21	MARKETEER MERCHANDISERS	GLASS REFRIGERATOR	BLACK	MT10-1B	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	E-21A = LEFT HAND HINGE / E-21B = RIGHT HAND HINGE
E-22	AMERIKOOLER	WALK-IN COOLER	TBD	QC080872WRNBSC	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	CONDENSOR TO BE INSTALLED PER MFG SPECS AND MEP DRAWINGS- CLIMATE CONTROL - PTN - ZB06KAE / REQUIRES ALTA WIRELESS TEMPERATURE SENSOR - MNS2-9-W2-TS-ST-L03 & SMALL BUSINESS MONITORING KIT - MNK2-9-EG-SMB
E-23	CHOCOTEMPER	CHOCOLATE TEMPERING TOP 11	STAINLESS STEEL	14.1.CHOCOTOP11	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	REQUIRES KRATOS EQUIPMENT STAND 28W-086
E-24	CENPRO	36" WIDE SHELVING SYSTEM	CHROME	30V-062	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-25	CENPRO	24" X 36" MSF 4-SHELF KIT WITH 74" POSTS	GREEN EPOXY	30V-085 /30V-094	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	LOCATED IN WALK-IN COOLER ONLY
E-26	CENPRO	48" WIDE SHELVING SYSTEM	CHROME	30V-070	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-27	CHOCOVISION	9LB CAPACITY CHOCOLATE TEMPERING MACHINE	STAINLESS STEEL	C11110REV5	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-28	RUBBERMAID	WHEELED BRUTE - 44 GAL CONTAINER	GRAY	H-10733	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-29	TURBOAIR	60" WORKTOP REFRIGERATOR SUPER DELUX SERIES	STAINLESS STEEL	TWR-60SD-N	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-30	KRATOS	30" x 36" 18-GAUGE COMMERCIAL WORK TABLE WITH 4" BACKSPLASH...	STAINLESS STEEL	28W-039	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-31	WITT	21 GALLON SWING TOP TRASH CAN	WHITE	1411HTWH	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-32	CENPRO	42" WIDE SHELVING SYSTEM	CHROME	30V-066	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	

CASEWORK SCHEDULE

TAG	DESCRIPTION	COMMENTS
CW-01	FRONT COUNTER	CABINETRY ONLY BY MILLWORK VENDOR; COUNTERTOP AND PONY WALL PROVIDED AND INSTALLED BY GC
CW-03	WAINSCOTING	SEE ELEVATION FOR DETAILS; GC TO PRICE ALTERNATE TO PROVIDE / INSTALL WAINSCOTING IN LIEU OF MILLWORK VENDOR



1 FURNITURE & EQUIPMENT PLAN
3/16" = 1'-0"

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

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IA INTERIOR ARCHITECTS

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FURNITURE & EQUIPMENT PLAN

A-5.0

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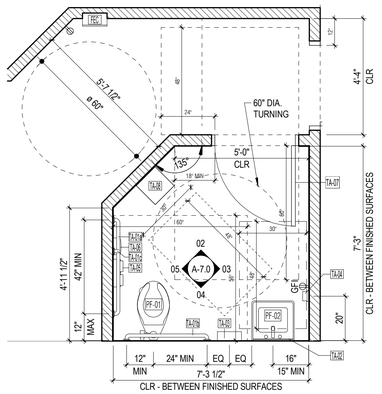
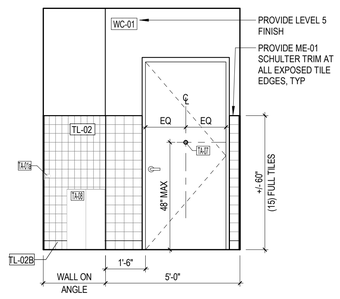
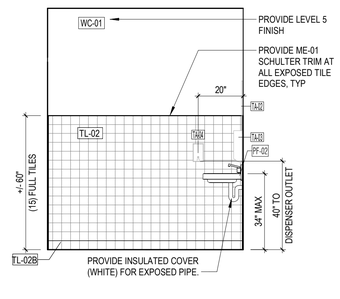


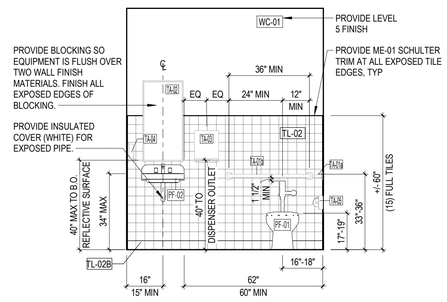
01 ENLARGED RESTROOM PLAN
3/8" = 1'-0"



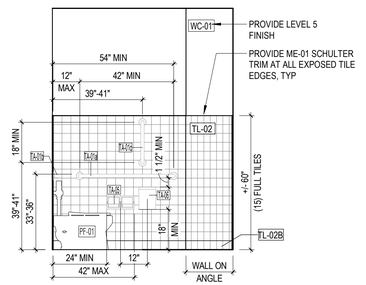
02 RESTROOM ELEVATION - NORTH
3/8" = 1'-0"



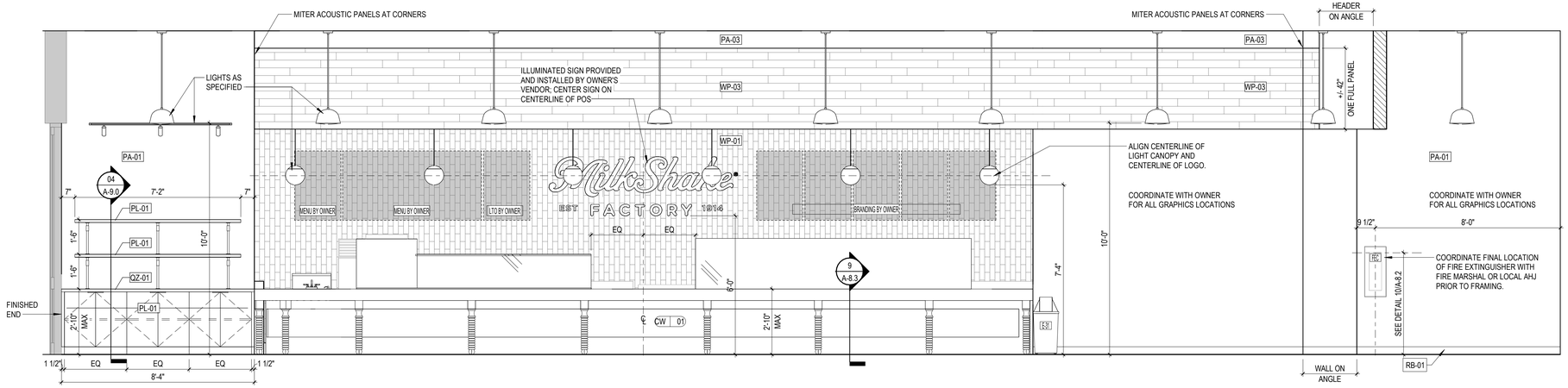
03 RESTROOM ELEVATION - EAST
3/8" = 1'-0"



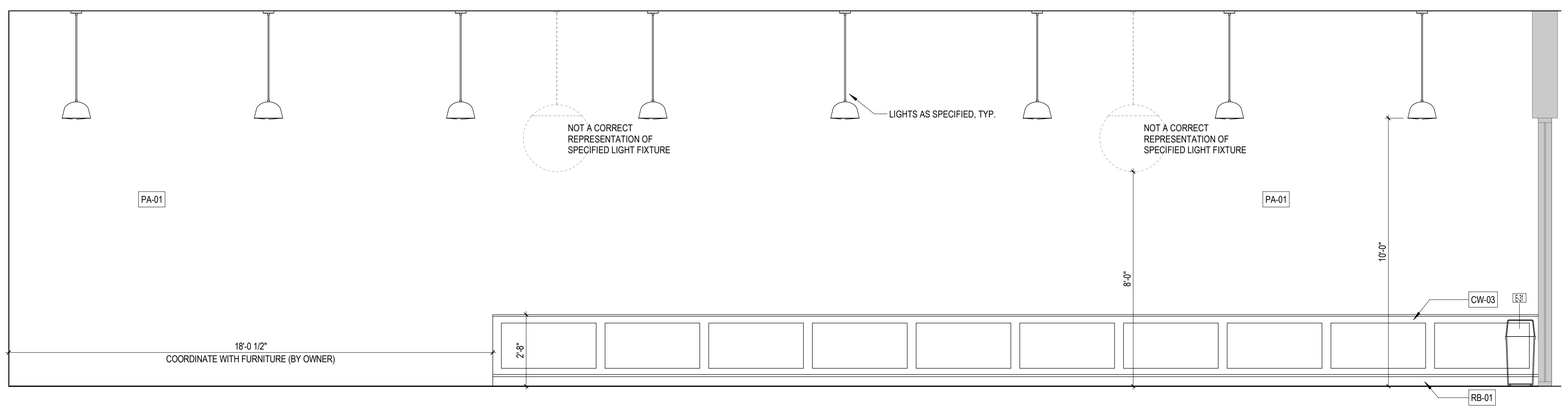
04 RESTROOM ELEVATION - SOUTH
3/8" = 1'-0"



05 RESTROOM ELEVATION - WEST
3/8" = 1'-0"



06 FRONT COUNTER ELEVATION - CLIENT SIDE
3/8" = 1'-0"



07 DINING AREA ELEVATION - EAST
3/8" = 1'-0"

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ELEVATIONS

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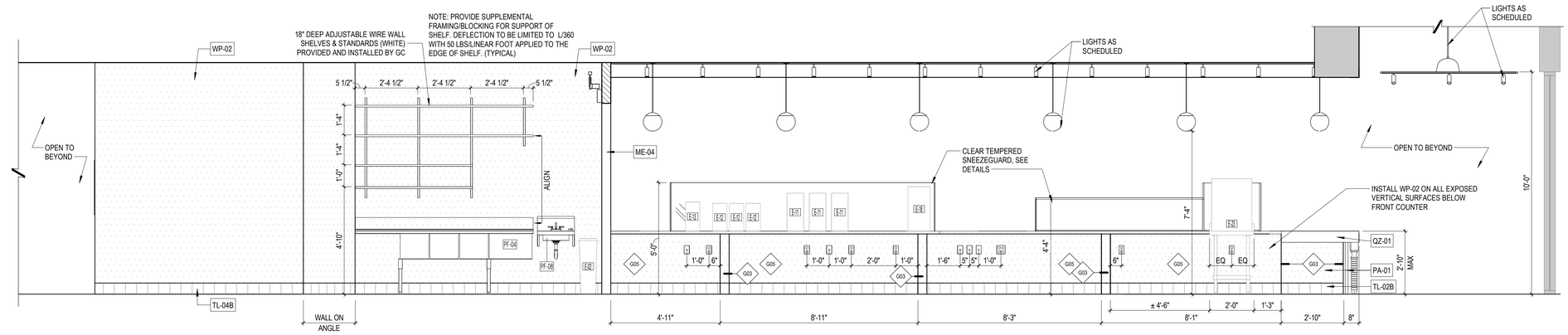
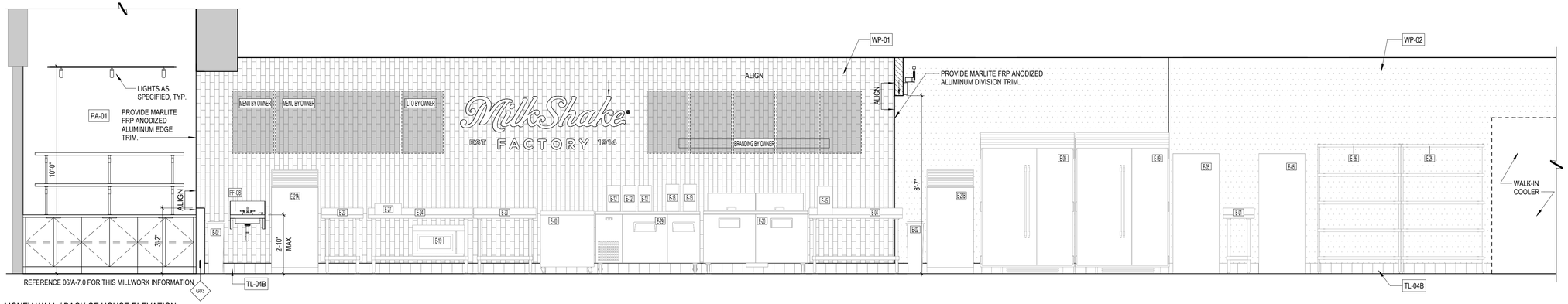
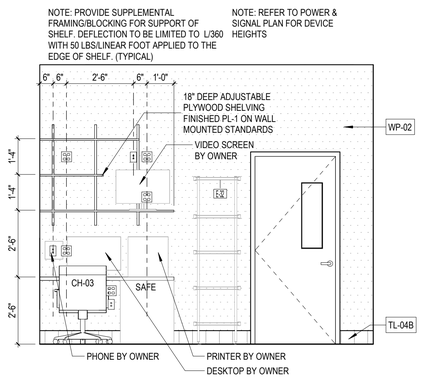


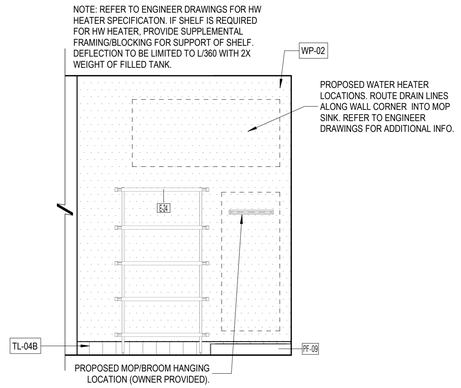
01 FRONT COUNTER ELEVATION - SERVE SIDE
3/8" = 1'-0"



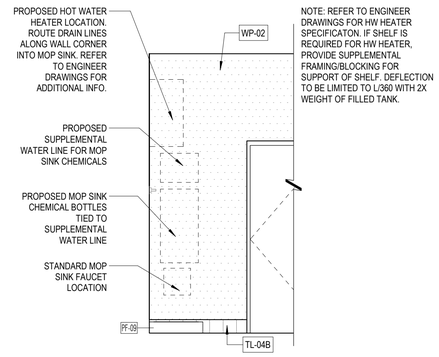
02 MONEY WALL / BACK OF HOUSE ELEVATION
3/8" = 1'-0"



03 OFFICE ELEVATION - WEST
3/8" = 1'-0"



04 MOP SINK ELEVATION - NORTH
3/8" = 1'-0"



05 MOP SINK ELEVATION - EAST
3/8" = 1'-0"

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Job No.	Scale

ELEVATIONS

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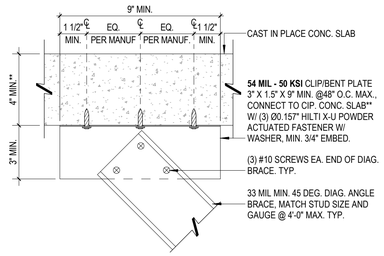
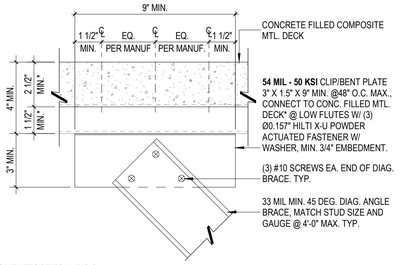
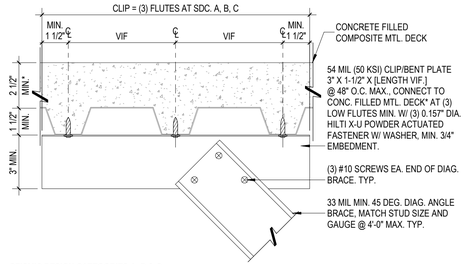


SEISMIC DESIGN CATEGORIES A, B & C: BRACING ATTACHMENT AT CIP. CONC. SLAB**

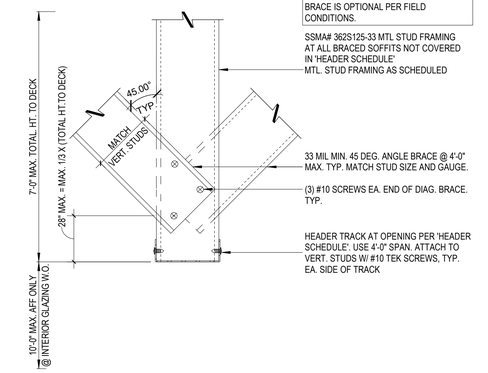


SEISMIC DESIGN CATEGORIES A, B & C:
DIAG. BRACING ATTACHMENT AT CONC. FILLED MTL. DECK* - PARTITION PERPENDICULAR TO MTL. DECK FLUTES



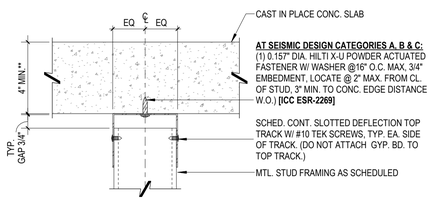
SEISMIC DESIGN CATEGORIES A, B & C:
PARTITION BRACING AT CONC. FILLED MTL. DECK* WHERE PARTITION IS PARALLEL TO METAL DECK FLUTES

12 MTL. STUD BRACING ATTACHMENT AT CONC. FILLED MTL. DECK/CIP. SLAB
3" = 1'-0"

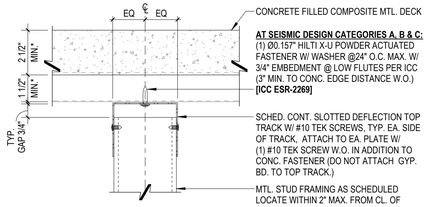


SOFFIT FRAMING AT CEILING HT. OPENING OR SOFFIT - BRACED AT 48" O.C.

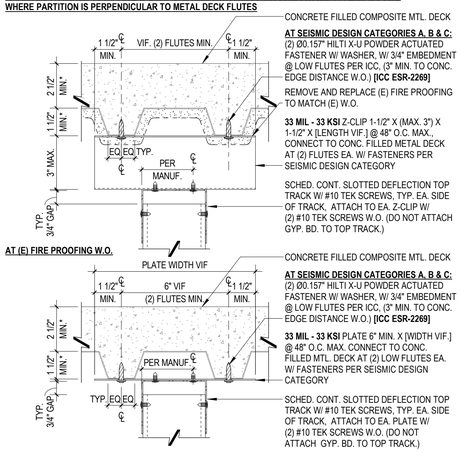
8 DECK SUPPORTED CEILING & SOFFIT/OPENING FRAMING
3" = 1'-0"



SEISMIC DESIGN CATEGORIES A, B & C: HEAD OF PARTITION FRAMING AT CIP. CONC. SLAB**



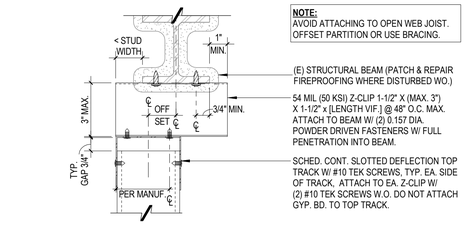
SEISMIC DESIGN CATEGORIES A, B & C: HEAD OF PARTITION FRAMING AT CONC. FILLED MTL. DECK* WHERE PARTITION IS PERPENDICULAR TO METAL DECK FLUTES



AT (E) FIRE PROOFING W.O.

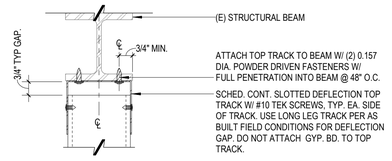
SEISMIC DESIGN CATEGORIES A, B & C: HEAD OF PARTITION FRAMING AT CONC. FILLED MTL. DECK* WHERE PARTITION IS PARALLEL TO MTL. DECK FLUTES (OPTIONS)

10 FULL HT. PARTITION HEAD ATTACHMENT AT CONC. FILLED MTL. DECK/CIP. SLAB
3" = 1'-0"



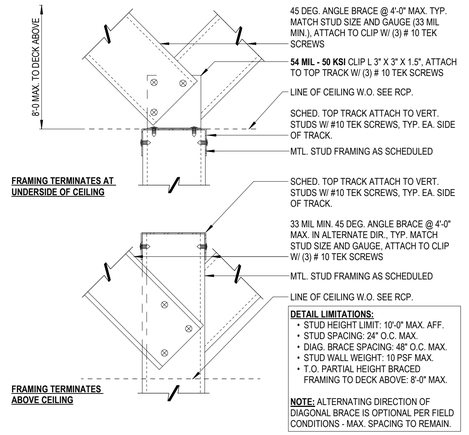
NOTE:
AVOID ATTACHING TO OPEN WEB JOIST. OFFSET PARTITION OR USE BRACING.

PARTITION FRAMING HEAD PARALLEL AND OFFSET BELOW (E) STRUCT. BEAM - WITH OR WITHOUT FIRE PROOFING



PARTITION FRAMING HEAD CENTERED BELOW (E) STRUCT. BEAM - WITHOUT FIRE PROOFING

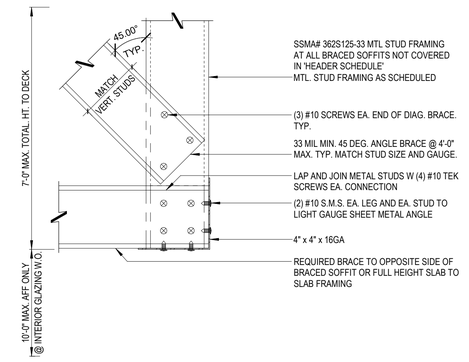
5 FULL HT. PARTITION HEAD ATTACHMENT - BELOW STRUCTURAL SUPPORTS
3" = 1'-0"



FRAMING TERMINATES AT UNDERSIDE OF CEILING

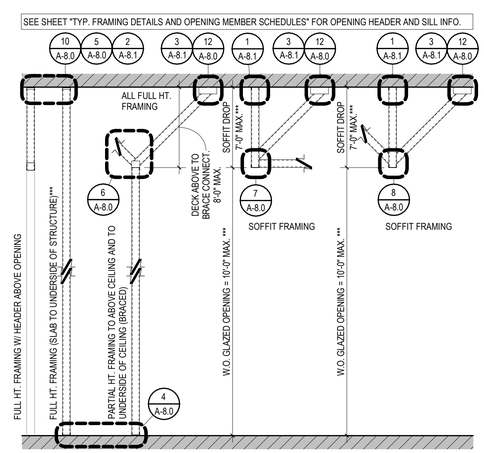
FRAMING TERMINATES ABOVE CEILING

6 PARTIAL HEIGHT PARTITION HEAD BRACING ATTACHMENT
3" = 1'-0"

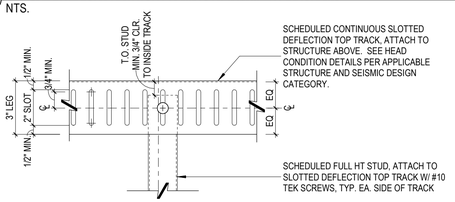


SOFFIT FRAMING AT OUTSIDE EDGE CEILING HT. OPENING OR SOFFIT - BRACED AT 48" O.C. ONE DIRECTION

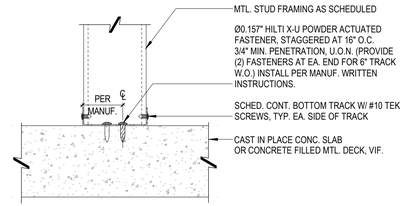
7 DECK SUPPORTED CEILING & SOFFIT/OPENING FRAMING AT OUTSIDE EDGE
3" = 1'-0"



2 TYPICAL INTERIOR PARTITION FRAMING ATTACHMENT DIAGRAMS
NTS.



3 INTERIOR FRAMING - SLOTTED DEFLECTION TOP TRACK ELEVATION
3" = 1'-0"



4 INTERIOR FRAMING - SILL AT CONC. FILLED MTL. DECK/CIP SLAB
3" = 1'-0"

QUALIFICATIONS & ASSUMPTIONS

***REQUIREMENTS FOR (E) METAL FILLED CONCRETE DECK:**
- MIN. 1 1/2" DECK W/ MIN. 2 1/2" CONCRETE TOPPING UON.
- MIN. TOTAL 4 3/4" DECK + CONCRETE TOPPING FOR SCREW ANCHOR ALTERNATE W.O.

****REQUIREMENTS FOR (E) CAST IN PLACE (CIP.) CONCRETE SLAB:**
- THICKNESS: 4" MIN.
- THICKNESS: 4 3/4" MIN. FOR SCREW ANCHOR ALTERNATE W.O.

REQUIREMENTS FOR (N) PARTITION AND SOFFIT FRAMING:
- SEE PARTITION SCHEDULE FOR MTL. FRAMING TYPE.
- STUD SPACING: 24" O.C. MAX.
- STUD HEIGHT LIMITATION: 15'-0" MAX. AFF.
- STUD WALL WEIGHT: 10 PSF MAX.
- LATERAL LOAD: 5 PSF MAX.
- T.O. PARTIAL HEIGHT AND BRACED FRAMING TO DECK ABOVE: 8'-0" MAX.

REQUIREMENTS FOR (N) SOFFIT FRAMING:
- SSMA# 362S125-33 MTL STUD FRAMING AT ALL BRACED SOFFITS NOT COVERED IN 'HEADER SCHEDULE'
- ***SOFFIT DROP: 7'-0" MAX. FROM STRUCTURE ABOVE @ W.O. GLAZING BELOW
- HEIGHT OF GLAZING BELOW SOFFITS: 10'-0" MAX. AFF.
- STUD & CONNECTION SPACING: 24" O.C. MAX.
- BRACE SPACING: 48" O.C. MAX.
- STUD WALL WEIGHT: 10 PSF MAX.

- **DETAILS APPLICABLE FOR INTERIOR METAL STUD FRAMING AT CAST IN PLACE CONC. SLAB, CONCRETE FILLED METAL DECK OR UNFILLED METAL DECK AT ROOF ONLY.**
- **PROVIDE IN WRITING ANY AS BUILT FIELD DISCREPANCIES WITH THESE CONDITIONS, AND COORDINATE WITH ARCHITECT BEFORE START OF WORK.**
- **REFER TO OPENING FRAMING JAMB - HEADER - SILL SCHEDULES FOR MEMBER SIZING.**

***** MAX. LIMITS APPLY TO REFERENCED DETAILS ONLY. COORDINATE WITH PARTITION SCHEDULE. PROVIDE ENGINEERED STRUCTURAL DRAWINGS FOR ALL OTHER CONDITIONS WHERE APPLICABLE.**

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

2 ISSUE FOR CONSTRUCTION 12/27/2024

DELTA ISSUE DESCRIPTION DATE

IA INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

Owner Approval

27MSHF.0035.000 — As indicated
Job No. — Scale

TYP MTL STUD FRAMING DETAILS - SDC ABC

A-8.0

12/27/2024 11:05 PM 23.1

QUALIFICATIONS & ASSUMPTIONS

***REQUIREMENTS FOR (E) METAL FILLED CONCRETE DECK:**
- MIN. 1 1/2" DECK W/ MIN. 2 1/2" CONCRETE TOPPING UON.
- MIN. TOTAL 4 3/4" DECK + CONCRETE TOPPING FOR SCREW ANCHOR ALTERNATE W.O.

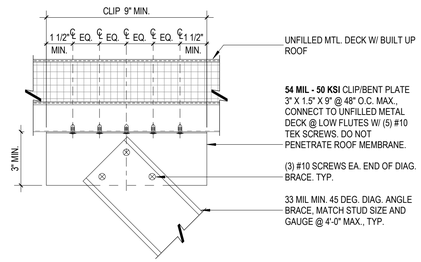
****REQUIREMENTS FOR (E) CAST IN PLACE (CIP.) CONCRETE SLAB:**
- THICKNESS: 4" MIN.
- THICKNESS: 4 3/4" MIN. FOR SCREW ANCHOR ALTERNATE W.O.

REQUIREMENTS FOR (N) PARTITION AND SOFFIT FRAMING:
- SEE PARTITION SCHEDULE FOR MTL. FRAMING TYPE.
- STUD SPACING: 24" O.C. MAX.
- STUD HEIGHT LIMITATION: 15'-0" MAX. AFF.
- STUD WALL WEIGHT: 10 PSF MAX.
- LATERAL LOAD: 5 PSF MAX.
- T.O. PARTIAL HEIGHT AND BRACED FRAMING TO DECK ABOVE: 8'-0" MAX.

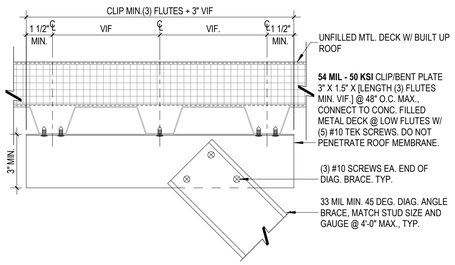
REQUIREMENTS FOR (N) SOFFIT FRAMING:
- SSMA# 362S125-33 MTL STUD FRAMING AT ALL BRACED SOFFITS NOT COVERED IN 'HEADER SCHEDULE'
- ***SOFFIT DROP: 7'-0" MAX. FROM STRUCTURE ABOVE @ W.O. GLAZING BELOW
- HEIGHT OF GLAZING BELOW SOFFITS: 10'-0" MAX. AFF.
- STUD & CONNECTION SPACING: 24" O.C. MAX.
- BRACE SPACING: 48" O.C. MAX.
- STUD WALL WEIGHT: 10 PSF MAX.

- **DETAILS APPLICABLE FOR INTERIOR METAL STUD FRAMING AT CAST IN PLACE CONC. SLAB, CONCRETE FILLED METAL DECK OR UNFILLED METAL DECK AT ROOF ONLY.**
- **PROVIDE IN WRITING ANY AS BUILT FIELD DISCREPANCIES WITH THESE CONDITIONS, AND COORDINATE WITH ARCHITECT BEFORE START OF WORK.**
- **REFER TO OPENING FRAMING JAMB - HEADER - SILL SCHEDULES FOR MEMBER SIZING.**

***** MAX. LIMITS APPLY TO REFERENCED DETAILS ONLY. COORDINATE WITH PARTITION SCHEDULE. PROVIDE ENGINEERED STRUCTURAL DRAWINGS FOR ALL OTHER CONDITIONS WHERE APPLICABLE.**



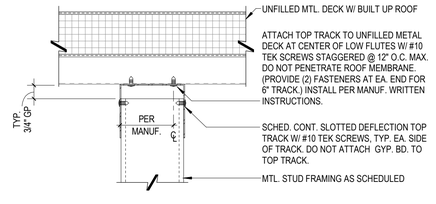
ALL SEISMIC DESIGN CATEGORIES:
DIAG. BRACING ATTACHMENT AT UNFILLED MTL. DECK* - PARTITION PERPENDICULAR TO MTL. DECK FLUTES



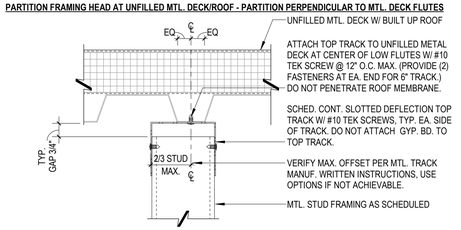
ALL SEISMIC DESIGN CATEGORIES:
DIAG. BRACING ATTACHMENT AT UNFILLED MTL. DECK - PARTITION PARALLEL TO METAL DECK FLUTES

3 MTL. STUD BRACING ATTACHMENT AT UNFILLED MTL. DECK/ROOF
3" = 1'-0"

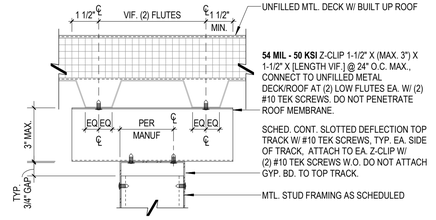
NOTE: DO NOT SUPPORT FOR SOFFIT HEAD FRAMING FROM UNFILLED MTL DECK/ROOF. USE STRUT DETAIL.



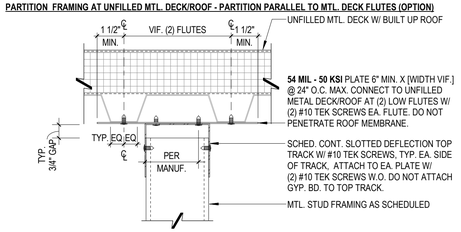
PARTITION FRAMING HEAD AT UNFILLED MTL. DECK/ROOF - PARTITION PERPENDICULAR TO MTL. DECK FLUTES



PARTITION FRAMING HEAD AT UNFILLED MTL. DECK/ROOF - PARTITION PARALLEL AND BELOW MTL. DECK FLUTES



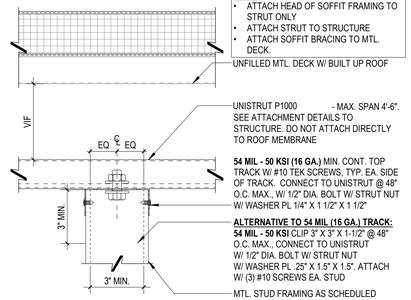
PARTITION FRAMING AT UNFILLED MTL. DECK/ROOF - PARTITION PARALLEL TO MTL. DECK FLUTES (OPTION)



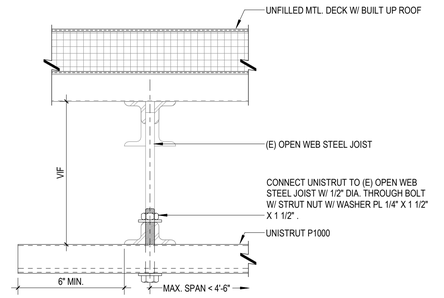
PARTITION FRAMING AT UNFILLED MTL. DECK/ROOF - PARTITION PARALLEL TO METAL DECK FLUTES (OPTION)

2 FULL HEIGHT PARTITION HEAD ATTACHMENT AT UNFILLED METAL DECK/ROOF
3" = 1'-0"

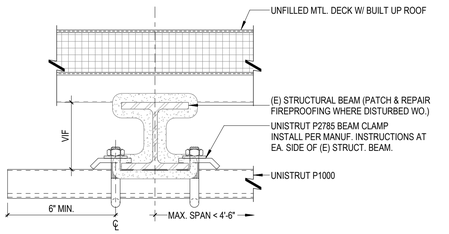
NOTE:
- ATTACH HEAD OF SOFFIT FRAMING TO STRUT ONLY
- ATTACH STRUT TO STRUCTURE
- ATTACH SOFFIT BRACING TO MTL. DECK.



SOFFIT FRAMING ATTACHMENT TO UNISTRUT AT UNFILLED MTL. DECK/ROOF



UNISTRUT CONNECTION TO (E) OPEN WEB STEEL JOIST



UNISTRUT CONNECTION TO (E) STRUCT. BEAM

1 SOFFIT HEAD ATTACHMENT AT UNFILLED MTL. DECK/ROOF
3" = 1'-0"

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

DELTA	ISSUE	DESCRIPTION	DATE
2	ISSUE FOR CONSTRUCTION		12/27/2024

INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

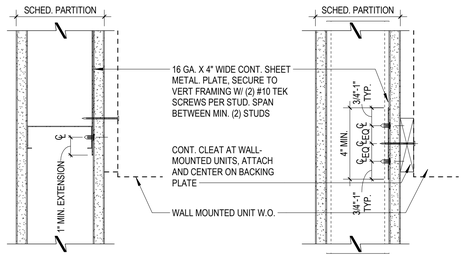
Owner Approval

27MSHF.0035.000	As indicated
Job No.	Scale

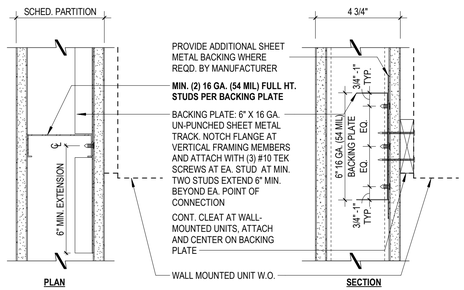
TYP MTL STUD FRAMING DETAILS - SDC ABC

A-8.1

12/20/2024 1:10:36 PM 23.0.1

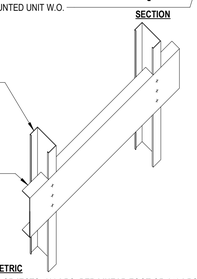


TYPICAL PARTITION BACKING FOR OBJECTS WITH MAXIMUM VERTICAL LOAD OF 25 LBS. PER LINEAR FOOT



MIN. (2) 16 GA. (54 MIL - 50KSI) FULL HT. STUDS PER BACKING PLATE. DO NOT USE TYP. SCHEDULED STUDS AT LOCATIONS OF BACKING FOR OBJECTS LARGER THAN 25 LBS PER LINEAR FOOT

6" X 16 GA. (54 MIL - 50 KSI) UN-PUNCHED SHEET METAL TRACK. NOTCH LEGS AT VERTICAL FRAMING MEMBERS AND ATTACH WITH (3) #10 SCREWS AT EACH STUD (TWO STUDS MINIMUM) EXTEND MINIMUM 6" BEYOND POINTS OF CONNECTION

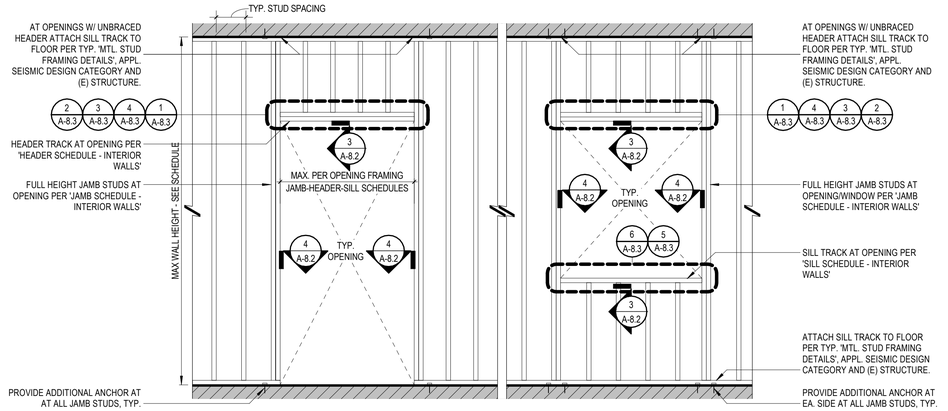


ISOMETRIC

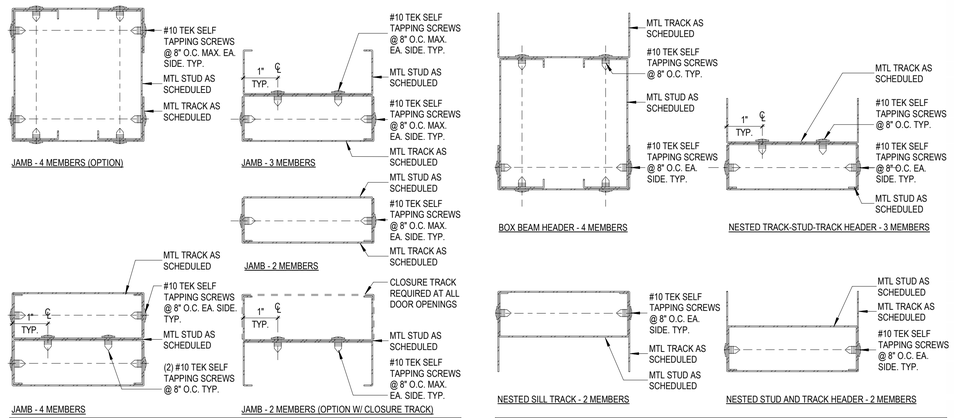
TYPICAL PARTITION BACKING FOR WALL-MOUNTED OBJECTS 100 LBS. PER LINEAR FOOT OR 250 LBS POINT LOAD

NOTE:
1. COORDINATE BACKING PLATE LOCATION WITH ACCESSORY MANUFACTURER'S MOUNTING INSTRUCTIONS.
2. COORDINATE FULL HT. STUD GAUGE FOR ALL LOCATIONS BETWEEN 25 LBS AND 100 LBS PER LINEAR FOOT.
3. SEE STRUCTURAL DRAWINGS FOR PARTITION BLOCKING AND FRAMING FOR HEAVIER LOADS.
4. PROVIDE PARTITION BACKING AT ITEMS SUCH AS SHELVING, MILLWORK, WALL-MOUNTED RESTROOM FIXTURES, HANDRAILS, GRAB BARS, SIGNAGE, TOILET ACCESSORIES, ETC. AS REQUIRED FOR PROPER ATTACHMENT AND AS REQUIRED BY THE CONTRACTOR.

5 TYPICAL IN-WALL BACKING FOR WALL MOUNTED UNITS
3" = 1'-0"



2 TYP. INTERIOR MTL. FRAMING OPENING DIAGRAMS
NTS.



NOTE: REFER TO "OPENING FRAMING JAMB - HEADER - SILL SCHEDULES" FOR MEMBER SIZING REQUIREMENTS.

4 FASTENING OPTIONS FOR JAMBS WITH 4, 3, OR 2 MEMBERS
NTS.

NOTE: REFER TO "OPENING FRAMING JAMB - HEADER - SILL SCHEDULES" FOR MEMBER SIZING REQUIREMENTS.

3 FASTENING OPTIONS FOR SILLS, AND HEADERS WITH 4, 3, OR 2 MEMBERS
NTS.

JAMB SCHEDULE - INTERIOR WALLS - 3 5/8" AND 6" STUDS

MAX. OPENING WIDTH	STUD SIZE	12' MAX.WALL HEIGHT STUD/TRACK	NO. OF MEMBERS	17' MAX.WALL HEIGHT STUD/TRACK	NO. OF MEMBERS	20' MAX.WALL HEIGHT STUD/TRACK	NO. OF MEMBERS
4'-0"	3 5/8"	(1)362S162-43 (33KSI)	1	(1)362S162-43 (33KSI) (1)362T200-43 (33KSI)	2	(1)362S250-54 (50KSI)	2
8'-0"	3 5/8"	(1)362S162-33 (33KSI) (1)362T150-33 (33KSI)	2	(2)362S200-43 (33KSI) (1)362T250-54 (50KSI)	3	(2)362S250-54 (50KSI) (2)362T250-54 (50KSI)	4
12'-0"	3 5/8"	(1)362S162-33 (33KSI) (1)362T125-33 (33KSI)	2	(2)362S250-54 (33KSI) (2)362T150-43 (33KSI)	4	(2)362S300-68 (50KSI) (2)362T250-68 (50KSI)	4
15'-0"	3 5/8"	(2)362S162-33 (33KSI) (1)362T200-33 (33KSI)	3	(2)362S300-54 (33KSI) (2)362T250-54 (50KSI)	4	(2)362S300-68 (50KSI) (2)362T250-97 (50KSI)	4
4'-0"	6"	(1)600S162-33 (33KSI)	1	(1)600S162-43 (33KSI)	1	(1)600S162-43 (33KSI)	1
8'-0"	6"	(1)600S162-33(33KSI)	1	(1)600S162-33 (33KSI) (1)600T125-30 (33KSI)	2	(1)600S200-43 (33KSI) (1)600T150-33 (33KSI)	2
12'-0"	6"	(1)600S162-33 (33KSI)	1	(1)600S200-33 (33KSI) (1)600T200-33 (33KSI)	2	(2)600S250-43 (33KSI) (1)600T125-33 (33KSI)	3
18'-6"	6"	(1)600S162-43 (33KSI)	1	(1)600S250-43 (33KSI) (1)600T250-43 (33KSI)	2	(2)600S250-43 (33KSI) (2)600T150-33 (33KSI)	4
21'-6"	6"	(1)600S200-43 (33KSI)	1	(2)600S200-33 (33KSI) (1)600T200-43 (33KSI)	3	(1)600S300-68 (50KSI) (1)600T250-97 (50KSI)	2

HEADER SCHEDULE - INTERIOR WALLS - 3 5/8" AND 6" STUDS

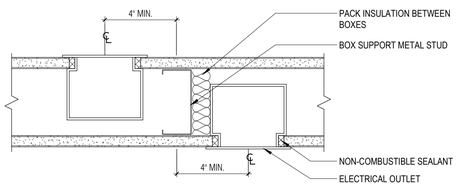
MAX. OPENING WIDTH	STUD SIZE	12' MAX.WALL HEIGHT STUD/TRACK	NO. OF MEMBERS	17' MAX.WALL HEIGHT STUD/TRACK	NO. OF MEMBERS	20' MAX.WALL HEIGHT STUD/TRACK	NO. OF MEMBERS
4'-0"	3 5/8"	(1)362T150-43 (50KSI)	1	(1)362S162-43 (33KSI) (1)362T200-33 (33KSI)	2	(1)362S200-33 (33KSI) (1)362T250-43 (33KSI)	2
8'-0"	3 5/8"	(1)362S200-33 (33KSI) (1)362T250-33 (33KSI)	2	(2)362S162-43 (33KSI) (2)362T125-43 (33KSI)	4	(2)362S162-43 (33KSI) (2)362T150-43 (33KSI)	4
12'-0"	3 5/8"	(2)362S200-43 (33KSI) (2)362T250-43 (33KSI)	4	(2)800S162-43 (33KSI) (2)362T250-54 (50KSI)	4	(2)800S162-43 (33KSI) (2)362T250-68 (50KSI)	4
15'-0"	3 5/8"	(2)362S250-97 (33KSI) (2)362T250-97 (50KSI)	4	(2)600S162-97 (33KSI) (2)362T250-97 (50KSI)	4	(2)1000S162-68 (50KSI) (2)362T250-97 (50KSI)	4
4'-0"	6"	600T200-43 (33KSI)	1	(1)600S162-33 (33KSI) (1)600T200-43 (33KSI)	2	(1)600S162-43 (33KSI) (1)600T200-43 (33KSI)	2
8'-0"	6"	(1)600S162-33 (33KSI) (1)600T250-43 (33KSI)	2	(2)600S162-33 (33KSI) (2)600T125-30 (33KSI)	4	(2)600S162-33 (33KSI) (2)600T125-33 (33KSI)	4
12'-0"	6"	(2)600S162-33 (33KSI) (2)600T125-30 (33KSI)	4	(2)600S162-33 (33KSI) (2)600T150-33 (33KSI)	4	(2)600S200-43 (33KSI) (2)600T200-33 (33KSI)	4
18'-6"	6"	(2)600S200-54 (33KSI) (2)600T200-54 (50KSI)	4	(2)1000S200-43 (33KSI) (2)600T250-68 (50KSI)	4	(2)1200S300-54 (33KSI) (2)600T250-68 (50KSI)	4
21'-6"	6"	(2)600S350-54 (33KSI) (2)600T250-68 (50KSI)	4	(2)1000S300-54 (33KSI) (2)600T250-97 (50KSI)	4	(1)1400S200-68 (50KSI) (2)600T250-97 (50KSI)	2

SILL SCHEDULE - INTERIOR WALLS - 3 5/8" AND 6" STUDS

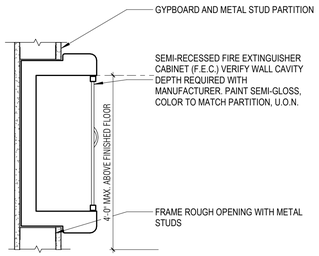
MAX. OPENING WIDTH	STUD SIZE	STUD/TRACK	NO. OF MEMBERS	MAX. OPENING WIDTH	STUD SIZE	STUD/TRACK	NO. OF MEMBERS
4'-0"	3 5/8"	(1)362T150-33 (33KSI)	1	4'-0"	6"	(1)600T125-30 (33KSI)	1
8'-0"	3 5/8"	(1)362T150-33 (33KSI)	1	8'-0"	6"	(1)600T125-30 (33KSI)	1
12'-0"	3 5/8"	(1)362S162-43 (33KSI) (1)362T150-43 (33KSI)	2	12'-0"	6"	(1)600T125-33 (33KSI)	1
15'-0"	3 5/8"	(1)362S200-54 (33KSI) (1)362T250-54 (33KSI)	2	18'-6"	6"	(1)600S200-43 (33KSI) (1)600T250-43 (33KSI)	2
				21'-6"	6"	(1)600S300-54 (33KSI) (1)600T250-43 (33KSI)	2

NOTE: SEE AXON AND FASTENING OPTION DETAILS FOR ADDITIONAL INFO BASED ON OPENING DIMENSIONS.

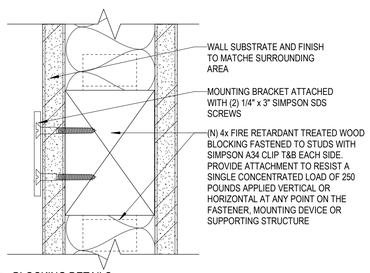
1 OPENING FRAMING JAMB - HEADER - SILL SCHEDULES



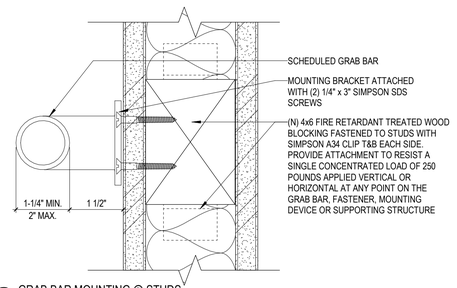
9 BACK-TO-BACK OUTLETS
3" = 1'-0"



10 SEMI-RECESSED FIRE EXTINGUISHER CABINET
1 1/2" = 1'-0"



8 BLOCKING DETAILS
6" = 1'-0"



7 GRAB BAR MOUNTING @ STUDS
6" = 1'-0"

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

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2		ISSUE FOR CONSTRUCTION	12/27/2024

INTERIOR ARCHITECTS

NEW YORK
100 BROADWAY 12th FLOOR
NEW YORK CITY, NY 10005
TEL 212-682-6909

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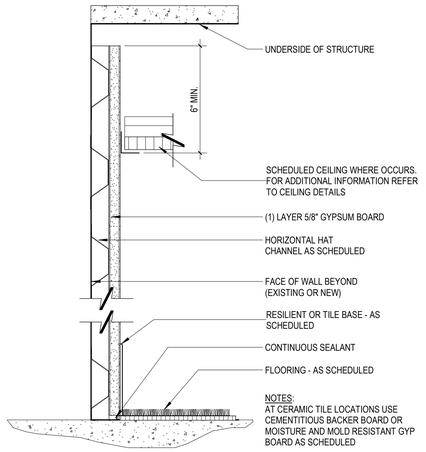
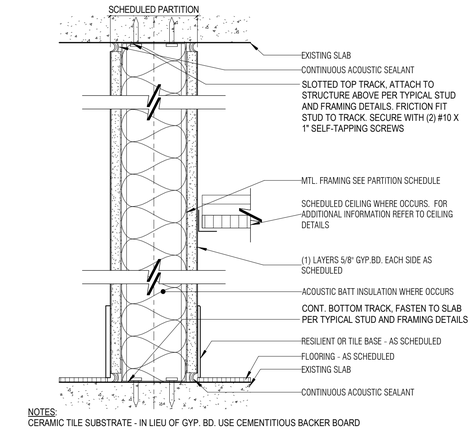
TYP. FRAMING DETAILS AND OPENING MEMBER SCHEDULES

A-8.2

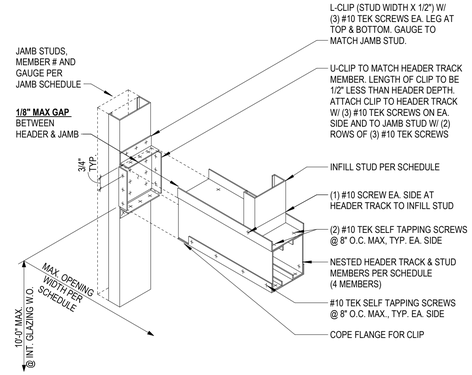
12/20/2024 11:07:39 PM 23.1



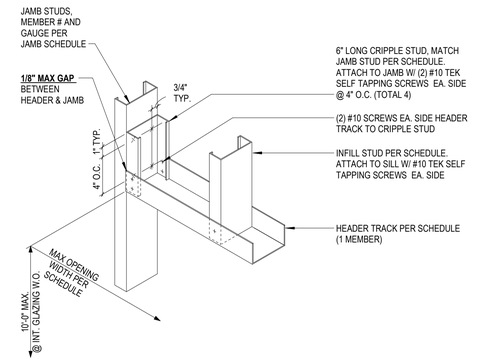
10 PARTITION TYPE F (HAT CHANNELS)
3" = 1'-0"



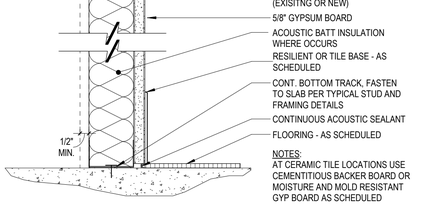
7 PARTITION TYPE B - FULL HEIGHT, NON-RATED
3" = 1'-0"



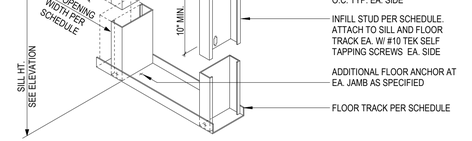
4 (4) MEMBER - BOX BEAM HEADER TO JAMB CONNECTION AT OPENING
NTS.



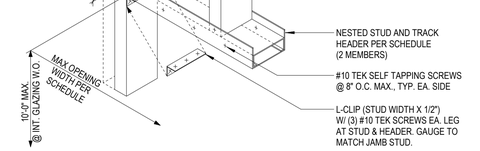
1 (1) MEMBER - HEADER TRACK TO JAMB CONNECTION AT OPENING
NTS.



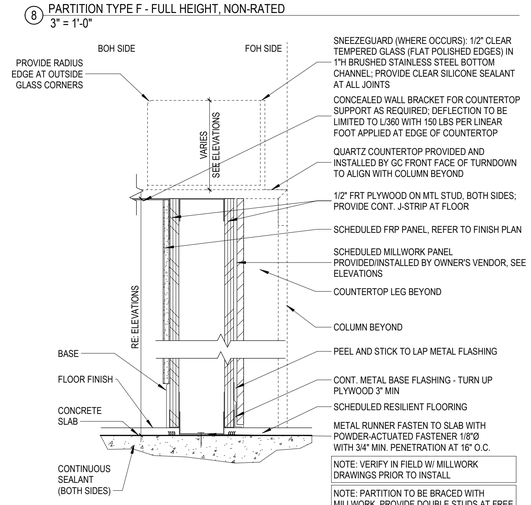
8 PARTITION TYPE F - FULL HEIGHT, NON-RATED
3" = 1'-0"



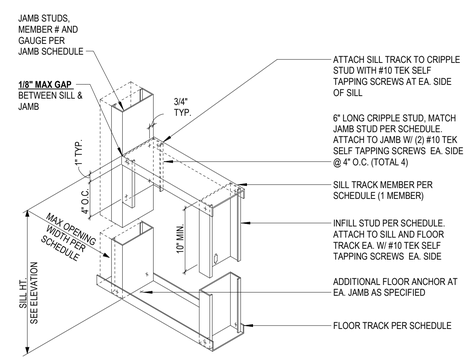
5 (2) MEMBER - SILL TRACK TO JAMB CONNECTION AT OPENING
1" = 1'-0"



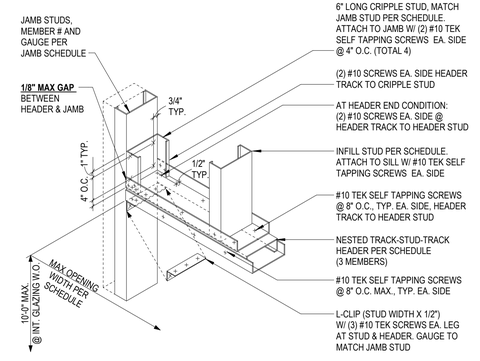
2 (2) MEMBER STUD & TRACK HEADER TO JAMB CONNECTION AT OPENING
1" = 1'-0"



9 PARTITION TYPE G - PONY WALL AT MILLWORK
3" = 1'-0"



6 (1) MEMBER - SILL TRACK TO JAMB CONNECTION AT OPENING
NTS.



3 (3) MEMBER TRACK-STUD-TRACK HEADER TO JAMB CONNECTION AT OPENING
1" = 1'-0"

MilkShake EST FACTORY 1914

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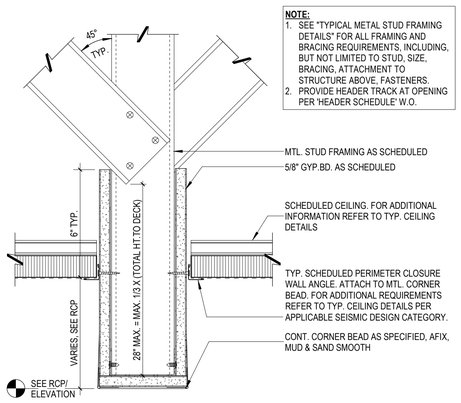
TYP. FRAMING DETAILS AND OPENING MEMBER SCHEDULES

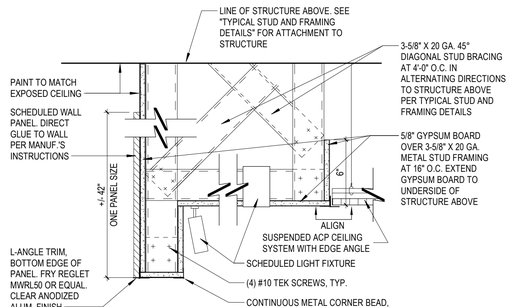
A-8.3

12/20/2024 1:16:58 PM 23.7.1



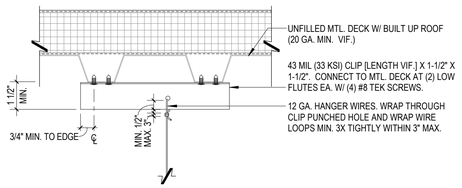
NOTE:
1. SEE "TYPICAL METAL STUD FRAMING DETAILS" FOR ALL FRAMING AND BRACING REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO STUD, SIZE, BRACING, ATTACHMENT TO STRUCTURE ABOVE, FASTENERS.
2. PROVIDE HEADER TRACK AT OPENING PER 'HEADER SCHEDULE' W.O.

8 SUSPENDED CEILING TRANSITION W/ GYP. BD. HEADER
3" = 1'-0"

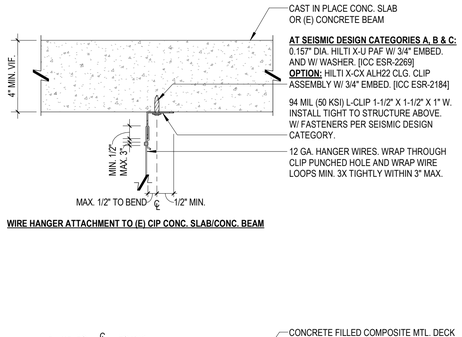


NOTES:
1. ANY HVAC DIFFUSERS ARE TO BE INSTALLED ABOVE THE ACOUSTICAL PANEL IF POSSIBLE.
2. ANY DIFFUSERS/ GRILLES WHICH MUST BE INSTALLED ON SOFFIT, SHALL BE INSTALLED ABOVE THE ACOUSTIC PANEL AND PAINTED BLACK. COORD. W/ MECHANICAL DRAWINGS.
3. SEE "TYPICAL METAL STUD FRAMING DETAILS" FOR ALL FRAMING AND BRACING REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO STUD, SIZE, BRACING, ATTACHMENT TO STRUCTURE ABOVE, FASTENERS.
4. PROVIDE HEADER TRACK AT OPENING PER 'HEADER SCHEDULE' W.O.

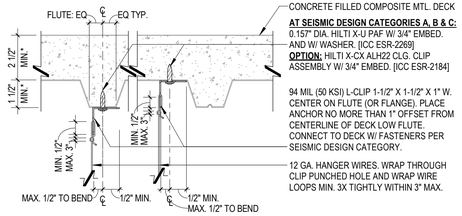
9 CEILING DETAIL AT FRONT COUNTER
1 1/2" = 1'-0"



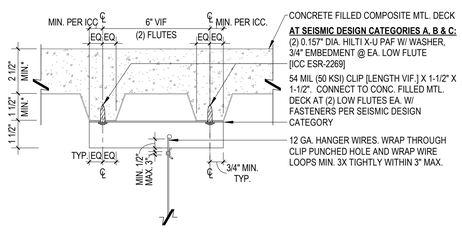
6 HANGER WIRE CONNECTION TO UNFILLED MTL. DECK OR ROOF AT SUSP. CEILING
3" = 1'-0"



WIRE HANGER ATTACHMENT TO (E) CIP CONC. SLAB/CONC. BEAM



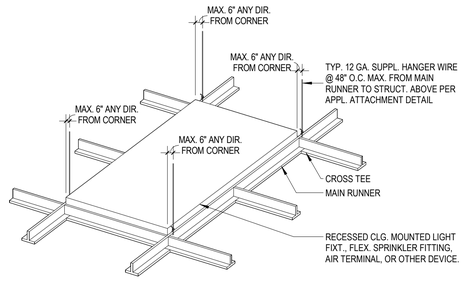
WIRE HANGER ATTACHMENT TO (E) CONC. FILLED MTL. DECK



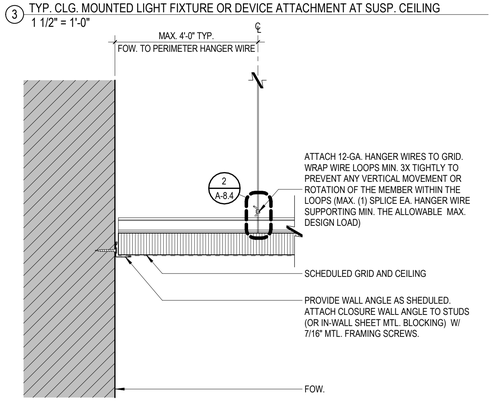
WIRE HANGER ATTACHMENT TO (E) CONC. FILLED MTL. DECK (OPTION)

7 HANGER WIRE CONNECTION TO CONC. FILLED MTL. DECK AND CIP CONC. SLAB OR BEAM AT SUSPENDED CEILING
3" = 1'-0"

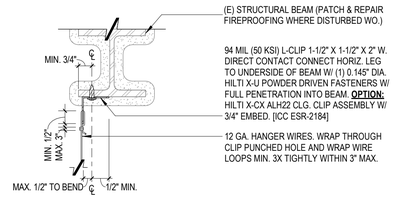
SDC-A-B NOTES:
1. IF THE WEIGHT OF THE LIGHT FIXTURE, FLEX. SPRINKLER FITTING, AIR TERMINAL OR OTHER DEVICE CAUSES THE TOTAL DEAD LOAD TO EXCEED THE DEFLECTION CAPABILITY OF THE CEILING SUSPENSION SYSTEM, SUPPORT THE FIXTURE BY 12 GA. SUPPLEMENTAL HANGERS WITHIN 6 IN. OF EACH CORNER OR. SUPPORT THE FIXTURE INDEPENDENTLY FROM THE STRUCTURE ABOVE BY APPROVED HANGERS OR ALT. SUPPORT. DO NOT SUPPORT FROM CEILING GRID SUSPENSION SYSTEM.
2. ATTACH EA. SURFACE-MOUNTED LIGHT FIXTURE TO SUSPENDED CEILING SYSTEM W/ A POSITIVE CLAMPING DEVICE COMPLETELY SURROUNDING THE SUPPORTING MEMBERS.
3. ANY FIXTURE WEIGHT MAY NOT EXCEED CARRYING DESIGN LOAD OF SUPPORTING CEILING GRID MEMBERS.
4. SUPPORT EA. PENDANT LIGHT FIXTURE DIRECTLY FROM THE STRUCTURE ABOVE BY APPROVED HANGERS OR ALT. SUPPORT. DO NOT SUPPORT FROM CEILING GRID SUSPENSION SYSTEM.
5. RIGID CONDUIT IS NOT PERMITTED FOR ATTACHMENT OF LIGHT FIXTURES.



3 TYP. CLG. MOUNTED LIGHT FIXTURE OR DEVICE ATTACHMENT AT SUSP. CEILING
1 1/2" = 1'-0"



4 GRID CONNECTION TO WALL AT SUSPENDED CEILING GRID
3" = 1'-0"

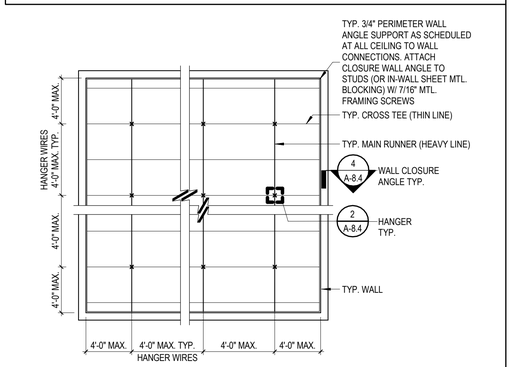


NOTE:
- CONTRACTOR TO VERIFY MIN. 3/16" BEAM FLANGE THICKNESS
- ANY FASTENER NOT TO BE INSTALLED IN THE PROTECTED ZONE OF STEEL MEMBER.

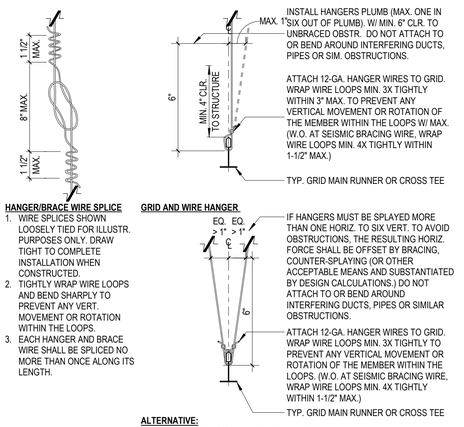
5 HANGER WIRE CONNECTION TO (E) STRUCTURAL BEAM
3" = 1'-0"

REQUIREMENTS: SUSP. CEILING SYSTEMS SEISMIC DESIGN CATEGORIES A & B

1. **SDC 'A' & 'B': CONFORM TO MINIMUMS ESTABLISHED IN ASTM C636**
2. **THE ASSEMBLIES SUPPORTED ARE LIMITED TO DISTRIBUTED CEILING SYSTEMS WHERE THE LOAD ON ANY INDIVIDUAL SUPPORT ASSEMBLY DOES NOT EXCEED 90 LBF (400N).**
3. SYSTEM COMPONENTS SHALL BE COMPLIANT WITH CODE DEFINED SEISMIC DESIGN CATEGORIES (SDC) ENFORCED BY LOCAL JURISDICTION.
4. PROVIDE 12-GA. VERT. HANGER WIRES @ 4'-0" MAX. OC. ALONG MAIN BEAMS AND NOT MORE THAN ONE-IN-SIXTH OUT-OF-PLUMB, UNLESS A COUNTER-SLOPING WIRE OR HORIZONTAL BRACE IS PROVIDED.
5. EXPOSED POP RIVETS NOT PERMITTED.
6. BRACE PARTITIONS ATTACHED TO CEILING SUSPENSION SYSTEM LATERALLY BRACED TO BUILDING STRUCTURE INDEPENDENT FROM CEILING.
7. USE MAX. 4'-0" X 4'-0" GRID SYSTEM.
8. HANGER WIRES SUPPORTING MAIN BEAMS MUST BE WRAPPED AROUND THEMSELVES A MINIMUM OF THREE FULL TURNS WITHIN 3" LENGTH.
9. FIXTURES SHALL NOT BE SUPPORTED FROM MAIN RUNNERS OR CROSS RUNNERS IF THE WEIGHT OF THE FIXTURE CAUSES THE TOTAL DEAD LOAD TO EXCEED THE DEFLECTION CAPABILITY OF THE CEILING SUSPENSION SYSTEM. IN SUCH CASES, THE FIXTURE LOAD SHALL BE SUPPORTED BY SUPPLEMENTAL HANGERS WITHIN 6 IN. OF EACH CORNER, OR THE FIXTURE SHALL BE SEPARATELY SUPPORTED
10. FIELD VERIFY ALL CONDITIONS AND DIMENSIONS.



1 TYPICAL SUSPENDED CEILING WIRING DIAGRAM - SDC A & B
NTS.



HANGER/BRACE WIRE SPLICE
1. WIRE SPLICES SHOWN LOOSELY TIED FOR ILLUSTR. PURPOSES ONLY. DRAW TIGHT TO COMPLETE INSTALLATION WHEN CONSTRUCTED.
2. TIGHTLY WRAP WIRE LOOPS AND BEND SHARPLY TO PREVENT ANY VERT. MOVEMENT OR ROTATION WITHIN THE LOOPS.
3. EACH HANGER AND BRACE WIRE SHALL BE SPLICED NO MORE THAN ONCE ALONG ITS LENGTH.

GRID AND WIRE HANGER

ALTERNATIVE:
GRID AND COUNTER SPLAYED WIRE HANGER

2 TYPICAL WIRE HANGER AT SUSPENDED CEILING GRID
3" = 1'-0"

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TYPICAL CEILING DETAILS SDC A-B

A-8.4

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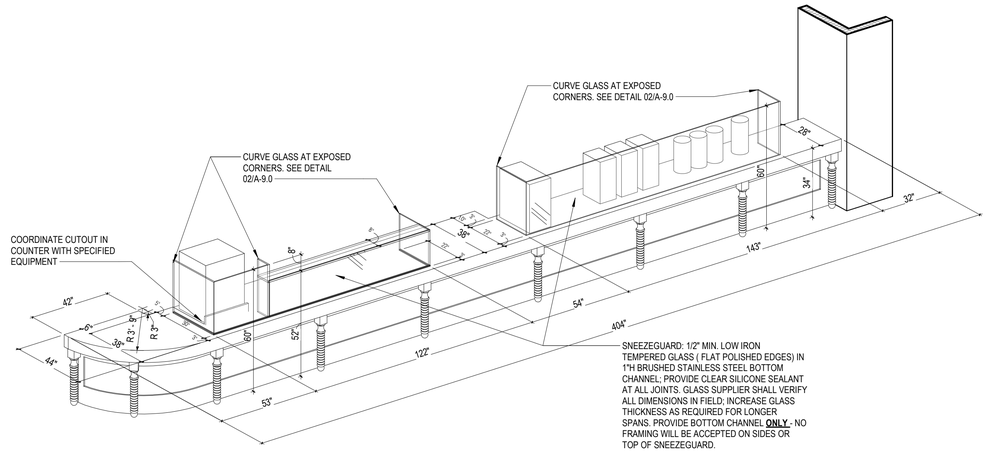
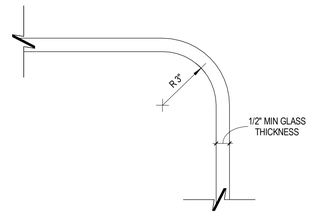
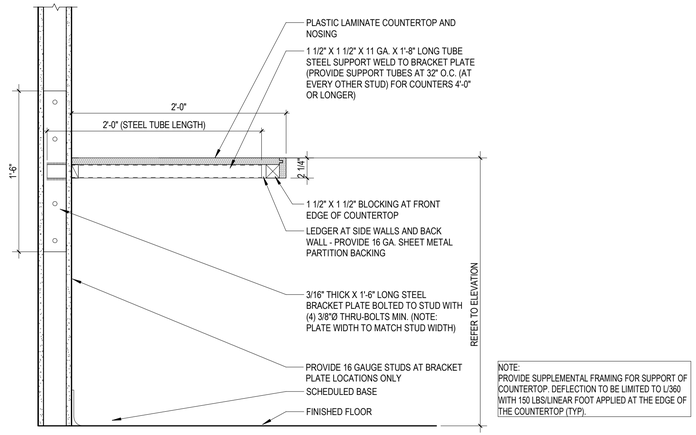


01 FRONT COUINTER ISOMETRIC

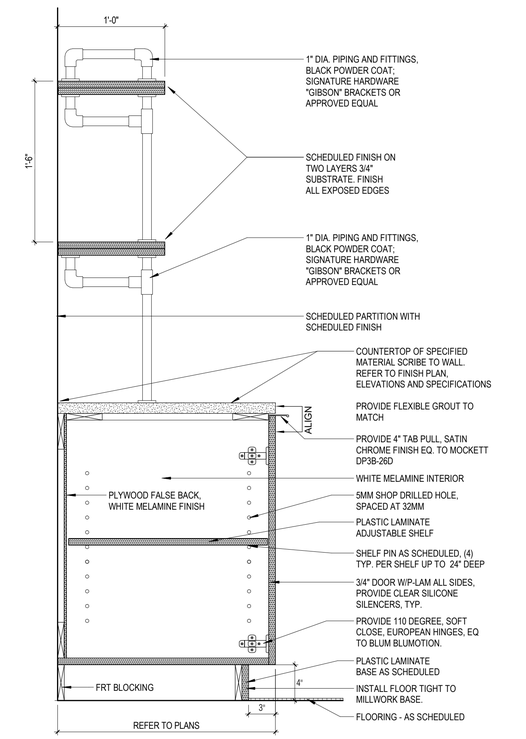


02 CURVED GLASS CORNER
3" = 1'-0"



NOTE:
PROVIDE SUPPLEMENTAL FRAMING FOR SUPPORT OF COUNTERTOP. DEFLECTION TO BE LIMITED TO L/360 WITH 150 LBS/LINEAR FOOT APPLIED AT THE EDGE OF THE COUNTERTOP (TYP).

03 OFFICE DESK
1 1/2" = 1'-0"



04 SERVICE COUNTER
1 1/2" = 1'-0"

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MILLWORK DETAILS

A-9.0

HVAC LEGEND

SYMBOL	DESCRIPTION
	RETURN AIR GRILLE, 24x12 OR 24x24
	SUPPLY AIR DIFFUSER
Ⓐ	SUPPLY AIR DIFFUSER, TYPE "A"
	DUCT OR EQUIP (SHOWN AS SOLID)
	DUCT LINED (LINER SHOWN AS DASHED)
	FLEX DUCT
FCU-1	HVAC EQUIPMENT DESIGNATION
	HVAC EQUIPMENT
MVD	MANUAL VOLUME DAMPER
Ⓣ	THERMOSTAT
Ⓗ	HUMIDITY SENSOR
Ⓢ	SPACE TEMPERATURE SENSOR
	EQUIPMENT LOCATED ON ROOF, (SHOWN AS DASHED)
	RECTANGULAR DUCT ELBOW WITH TURNING VANES
	FIRE DAMPER, FD
FSD	FIRE/SMOKE DAMPER, FSD
M	MOTORIZED DAMPER
SD	DUCT SMOKE DETECTOR
BDD, BDD	BACKDRAFT DAMPER
CTG	CEILING TRANSFER GRILLE
CD	CONDENSATE DRAIN
CU	CONDENSING UNIT
HP	HEAT PUMP
MA	MIXED AIR
NK	NECK
OBD	OPPOSED BLADE DAMPER
RA	RETURN AIR
RAG	RETURN AIR GRILLE
SA	SUPPLY AIR
OA	OUTSIDE AIR
RTU	ROOF TOP UNIT
ERV	ENERGY RECOVERY VENTILATOR
MOD	MOTOR OPERATED DAMPER
U.C. 1/2"	UNDERCUT DOOR 1/2"

HVAC ABBREVIATIONS

#, LB(S)	POUND(S)
#, NO.	NUMBER
(E)	EXISTING
°F	DEGREES FAHRENHEIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHRI	AIR-CONDITIONING, HEATING & REFRIGERATION INSTITUTE
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ARCH	ARCHITECT
ARI	AMERICAN REFRIGERATION INSTITUTE
ASHRAE	AMERICAN SOCIETY OF HEATING & REFRIGERATION ENGINEERS
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUh	BRITISH THERMAL UNIT PER HOUR
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CO	CARBON MONOXIDE
CO.	COMPANY
CO2	CARBON DIOXIDE
COP	COEFFICIENT OF PERFORMANCE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CRD	CEILING RADIATION DAMPER
CTG	CEILING TRANSFER GRILLE
CU	CONDENSING UNIT
db	DRY BULB TEMPERATURE
dBA	A-WEIGHTED DECIBELS
DP,ΔP	PRESSURE DIFFERENTIAL
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EEF	EFFICIENCY
EER	ENERGY EFFICIENCY RATIO
ELEC	ELECTRIC/ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
EX	EXHAUST
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FPM	FEET PER MINUTE
FSD	COMBINATION FIRE/SMOKE DAMPER
FT	FEET
GA	GAUGE
GPM	GALLONS PER MINUTE
GRD	GRILLES, REGISTERS, DIFFUSERS
H.P.	HEAT PUMP
HP	HORSEPOWER
HSPF	HEATING SEASONAL PERFORMANCE FACTOR
IBC	INTERNATIONAL BUILDING CODE
IECC	INTERNATIONAL ENERGY CONSERVATION CODE
IFGC	INTERNATIONAL FUEL GAS CODE

HVAC ABBREVIATIONS

IMC	INTERNATIONAL MECHANICAL CODE
IN.	INCH
INT	INTERNAL
IPC	INTERNATIONAL PLUMBING CODE
IRC	INTERNATIONAL RESIDENTIAL BUILDING CODE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MA	MIXED AIR
MAX	MAXIMUM
MBH	1,000 BTUh
MCA	MINIMUM CIRCUIT AMPS
MIN.	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
MTD	MOUNTED
MUA	MAKEUP AIR
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NAIMA	NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION
NIS	NOT IN SCOPE
NK	NECK
NTS	NOT TO SCALE
O.C.	ON CENTER
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
PVC	POLYVINYL CHLORIDE
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RECT.	RECTANGULAR
RH	RELATIVE HUMIDITY
RLA	RELIEF AIR
RR	RESTROOM
RS/L	REFRIGERANT SUCTION/LIQUID LINES
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DETECTOR (OR SMOKE DAMPER DEPENDING ON USE)
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SENS.	SENSIBLE
SF, SQ.FT.	SQUARE FEET
SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
TA	TRANSFER AIR
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W.C.	WATER COLUMN
W.G.	WATER GAUGE
wb	WET BULB TEMPERATURE
WxLxH	WIDTH x LENGTH x HEIGHT

HVAC EQUIPMENT SUBMITTAL REQUIREMENTS

HVAC EQUIPMENT SUBMITTALS SHALL BE SUBMITTED TO AND REVIEWED BY THE ARCHITECT AND ENGINEER PRIOR TO ORDERING, PURCHASING, OR FABRICATING MECHANICAL EQUIPMENT. SUBMITTALS SHALL INCLUDE ALL NEW EQUIPMENT SCHEDULED OR SPECIFIED ON THE DRAWINGS OR SPECS INCLUDING, BUT NOT LIMITED TO RTUs, CURBS, SPLIT SYSTEMS, GRDs, LOUVERS, FANS, HEATERS, DUCTWORK, PIPING, INSULATION, LINER, CONTROLS, VFDs, ETC.. SUBMITTALS SHALL BE LABELED CLEARLY AND OBVIOUSLY TO MATCH THE SCHEDULED EQUIPMENT UNIT DESIGNATION ("TAG" OR "MARK") SHOWN ON THE DESIGN DRAWINGS. SUBMITTALS SHALL SPECIFICALLY INDICATE THAT THE SCHEDULED CAPACITIES, ACCESSORIES, WEIGHTS, ELECTRICAL CHARACTERISTICS, AND ALL OTHER NOTES AND REQUIREMENTS LISTED ON THE DESIGN DRAWINGS AND SPECS ARE BEING SATISFIED. IF THERE ARE ANY DEVIATIONS FROM THE DESIGN DOCUMENTS, CONTRACTOR SHALL STATE AS SUCH AND PROVIDE A LIST OF DEVIATIONS AND REFERENCES TO ITEM IN THE DESIGN DOCUMENTS. ANY DEVIATIONS OR ALTERNATE EQUIPMENT SELECTIONS MUST STILL MEET SCHEDULED REQUIREMENTS. IT IS PREFERRED THAT ALL HVAC EQUIPMENT SUBMITTALS BE PROVIDED IN A SINGLE DOCUMENT/PACKAGE, BUT IF NOT POSSIBLE, ALL EQUIPMENT WITHIN EACH GIVEN SPEC SECTION SHALL BE SUBMITTED AT THE SAME TIME (I.E., SUBMIT ALL SPLIT SYSTEMS (DUCTED AND DUCTLESS) IN ONE DOCUMENT/PACKAGE, NOT INDIVIDUALLY). IF ENTIRE EQUIPMENT CATALOGS ARE SUBMITTED, THEY WILL BE REJECTED AND CONTRACTOR WILL NEED TO RESUBMIT WITH ONLY PERTINENT DATA PROVIDED. NO PIECE OF EQUIPMENT SHOULD HAVE MORE THAN FIVE PAGES (LETTER SIZE) OF INFORMATION PROVIDED TO DEMONSTRATE COMPLIANCE WITH DRAWINGS. MOST EQUIPMENT SUBMITTALS SHOULD HAVE ALL DATA PROVIDED ON A SINGLE PAGE. CONTRACTOR SHALL FILL OUT THE EXAMPLE FORMS LISTED BELOW FOR EACH PIECE OF EQUIPMENT AND PROVIDE WITH SUBMITTALS OR SUBMITTALS WILL BE REJECTED.

HVAC EQUIPMENT RESUBMITTAL REQUIREMENTS: IF AN EQUIPMENT SUBMITTALS HAS BEEN MARKED AS "REJECTED" OR "REVISE AND RESUBMIT" BY ENGINEER, THEN CONTRACTOR SHALL RESUBMIT ONLY THAT EQUIPMENT MARKED TO BE RESUBMITTED (DO NOT RESUBMIT EQUIPMENT NOTED AS "NO EXCEPTIONS TAKEN" OR "EXCEPTIONS NOTED"). CONTRACTOR SHALL RESUBMIT ALL ITEMS MARKED "REJECTED" OR "REVISE AND RESUBMIT" AT THE SAME TIME OR THEY WILL BE REJECTED AGAIN.

EX. SHEET METAL DUCTWORK SUBMITTAL FORM:
METAL TYPE, FINISH, AND THICKNESS:
CONSTRUCTION DESCRIPTION
(SEAMS/JOINTS/MASTIC INFO):
RATED AND MAXIMUM OPERATING PRESSURE AND TEMPERATURE:
FITTINGS:
WARRANTY:

EX. SHEET METAL DUCT ACCESSORIES (DAMPERS, TURNING VANES, FLEX CONNECTORS, ACCESS PANELS, ETC.)
SUBMITTAL FORM:
MAKE/MODEL:
RATED AND MAXIMUM OPERATING PRESSURE AND TEMPERATURE:
CERTIFICATIONS/COMPLIANCE:
DIMENSIONS:
WARRANTY:

EXAMPLE FAN SUBMITTAL FORM:
TAG:
MAKE/MODEL NUMBER:
WEIGHT (LBS):
AIRFLOW (CFM):
SOUND DATA (SONES AND/OR DB CHART):
WARRANTIES (COMPRESSOR/OTHER):
CABINET FINISH (SPECIALTY COATINGS, ETC.):
CONTROLS PROVIDED:
ACCESSORIES PROVIDED:
FAN CURVE:

CONTRACTOR ITEMS COMMONLY MISSED BUT REQUIRED:
1. CONTRACTOR SHALL SELECT EQUIPMENT TO MEET PERFORMANCE REQUIREMENTS IN SCHEDULES AND NOT BASED ON MODEL NUMBERS OR NOMINAL VALUES. MODEL NUMBERS/NOMINAL VALUES ARE A GUIDE.
2. DUCT LINER SHALL BE SEALED AT ALL JOINTS WITH MASTIC AS APPROVED BY LINER MANUFACTURER. SEE GENERAL NOTES ON THIS SHEET.
3. LINER IS NOT A SUBSTITUTE FOR INSULATION.
4. EQUIPMENT & DUCTWORK SHALL BE KEPT CLEAN FROM DIRT & DEBRIS. DO NOT ALLOW THE INSIDE OF DUCT & LINER TO GET DIRTY.
5. ACCESS PANELS WHERE INDICATED.

SHEET LIST

HVAC GENERAL NOTES

1. MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF:
THE 2018 INTERNATIONAL BUILDING CODE W/ GEORGIA AMENDMENTS
THE 2018 INTERNATIONAL MECHANICAL CODE
THE 2018 INTERNATIONAL PLUMBING CODE
THE GEORGIA STATE MINIMUM STANDARD ELECTRICAL CODE 2020
THE 2015 INTERNATIONAL ENERGY CONSERVATION CODE W/ GEORGIA AMENDMENTS
AND THOSE CODES AND ORDINANCES ENFORCED BY THE AUTHORITY HAVING JURISDICTION AT THE TIME OF PERMITTING.

2. PRIOR TO PURCHASING MATERIALS OR STARTING WORK, CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS. VERIFY DUCTWORK SIZES, DUCTWORK LOCATIONS, EQUIPMENT SIZES, EQUIPMENT LOCATIONS, VOLTAGES, ETC. SHOWN ON THE DRAWINGS OR CONDITIONS AFFECTING THIS WORK. REPORT ANY DEVIATIONS TO THE ARCHITECT.

3. SHOP DRAWINGS: SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER PRIOR TO ORDERING, PURCHASING, OR FABRICATING MECHANICAL EQUIPMENT. SHOP DRAWINGS SHALL INCLUDE: NEW EQUIPMENT SCHEDULED OR SPECIFIED ON THE DRAWINGS OR SPECS INCLUDING, BUT NOT LIMITED TO RTUs, CURBS, DIFFUSERS, FANS, DUCTWORK, DUCT INSULATION, AND DUCT LINER, ETC. SHOP DRAWINGS SHALL HAVE THE EQUIPMENT SUBMITTALS CLEARLY LABELED TO MATCH THE EQUIPMENT UNIT DESIGNATION ("TAG" AS NOTED IN SCHEDULE) SHOWN ON THE DRAWINGS. PROVIDE ALL INFORMATION INDICATED IN THE SCHEDULES OR ON THE DRAWINGS. CLEARLY ADDRESS ALL NOTES AND ACCESSORIES IN THE SCHEDULES. IF THERE ARE ANY DEVIATIONS FROM THE DESIGN DOCUMENTS CONTRACTOR SHALL STATE AS SUCH AT THE FRONT PAGE OF SUBMITTALS – PROVIDE A LIST OF DEVIATIONS AND REFERENCE TO ITEM IN THE DESIGN DOCUMENTS.

4. SHOP DRAWINGS: SUBMIT ALL EQUIPMENT TOGETHER IN A CLEARLY LABELED AND ORGANIZED MANNER AT THE SAME TIME (IN SAME SUBMITTAL PACKAGE) OR ALL EQUIPMENT WILL BE REJECTED REGARDLESS OF LEAD TIMES OR DIFFERENT EQUIPMENT SUPPLIERS. NO EXCEPTIONS ALLOWED! IF THE ORIGINAL SUBMITTALS HAVE BEEN REVIEWED AND MARKED AS "REJECTED" OR "REVISE AND RESUBMIT," THEN ONLY THE EQUIPMENT THAT IS REQUIRED BY ENGINEER TO BE RESUBMITTED SHOULD BE RESUBMITTED AGAIN (DO NOT RESUBMIT EQUIPMENT NOTED AS "NO EXCEPTIONS TAKEN" OR "EXCEPTIONS NOTED"). IF MULTIPLE ITEMS WERE MARKED "REJECTED" OR "REVISE AND RESUBMIT", RESUBMIT ONLY THOSE ITEMS FOR REVIEW. RESUBMIT ALL THE ITEMS MARKED "REJECTED" OR "REVISE AND RESUBMIT" AT THE SAME TIME OR THEY WILL BE REJECTED AGAIN.

5. THE MECHANICAL CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR THAT A FACE TO FACE MEETING IS REQUIRED BETWEEN ELECTRICAL AND MECHANICAL CONTRACTORS PRIOR TO ORDERING AND INSTALLING EQUIPMENT TO COORDINATE VOLTAGE, PHASE, AMPS, AND OTHER ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT. AFTER THIS MEETING HAS OCCURRED THE GENERAL CONTRACTOR SHALL PROVIDE NOTICE IN WRITING THAT THIS MEETING HAS OCCURRED AND ANY DISCREPANCIES HAVE BEEN RESOLVED.

6. FOR UL LISTED EQUIPMENT, CONTRACTOR SHALL SUBMIT AN ADDITIONAL REVIEW TO THE ARCHITECT TO CONFIRM THAT THE EQUIPMENT BEING SUBMITTED IS UL LISTED FOR THE APPLICABLE UL ASSEMBLIES AS LISTED ON THE ARCHITECT'S DRAWINGS.

7. IF THE CONTRACTOR REQUESTS THE ENGINEER'S CAD DRAWINGS OR IF THE DRAWINGS ARE REQUESTED BY OTHERS TO BE USED BY CONTRACTOR (FOR AS-BUILTS, COORDINATION, ETC.), DRAWINGS SENT OUT (BY THE ENGINEER) WILL BE OF FLOOR PLANS AND SECTIONS, BUT WILL NOT HAVE DETAILS, GENERAL NOTES, SCHEDULES, OR OTHER ITEMS DEEMED PROPRIETARY BY THE ENGINEER.

8. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT OR SUBMITTING SHOP DRAWINGS, AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN ON THE ELECTRICAL DRAWINGS.

9. MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS, AND ELECTRICAL DRAWINGS.

10. INCLUDE CONTROL WIRING AS A PART OF THE MECHANICAL WORK; UNLESS SHOWN ON THE ELECTRICAL DRAWINGS. CONTROL WIRING INCLUDING THERMOSTAT WIRING SHALL BE PLENUM RATED (MEETING THE 25/50 FLAME AND SMOKE DEVELOPED RATING OF ASTM E84)

11. UNLESS NOTED OTHERWISE, STARTERS, SMOKE DETECTORS, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. PROVIDE A STARTER FOR ALL MOTORS. IF A SIGNAL IS REQUIRED TO START A MOTOR THEN PROVIDE AN H-O-A TYPE STARTER.

12. INSTALL MECHANICAL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. DO NOT INSTALL MECHANICAL EQUIPMENT, DUCTWORK, OR PIPING ABOVE ELECTRICAL PANELS OR LOADCENTERS.

13. GUARANTEE MECHANICAL EQUIPMENT AND SYSTEMS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.

14. PROVIDE HVAC COMPRESSORS WITH AN EXTENDED 5-YEAR MANUFACTURER'S WARRANTY.

15. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF OUTDOOR HVAC UNITS.

16. INSTALL OUTDOOR HVAC EQUIPMENT LEVEL AS SHOWN IN DETAIL.

17. DUCT INSULATION: FIBERGLASS DUCT WRAP, WITH FOIL FACED VAPOR BARRIER INSULATION SHALL BE U.L. LISTED. GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 553, TYPE II, WITHOUT FACING AND WITH ALL-SERVICE JACKET MANUFACTURED FROM KRAFT PAPER, REINFORCING SCRIM, ALUMINUM FOIL, AND VINYL FILM. JOHNS MANVILLE, OWENS CORNING, OR EQUAL. IF DUCTWORK SUPPORT STRAPS ARE ATTACHED TO THE DUCT, THEN LOCATE STRAPS INSIDE THE INSULATION AND SEAL WITH MASTIC AT PUNCTURE. ALL PUNCTURES (STAPLES) AND PENETRATIONS OF THE FOIL VAPOR BARRIER SHALL BE SEALED AIRTIGHT WITH FOIL TAPE AND/OR MASTIC – DO NOT USE DUCT TAPE (FABRIC OR CLOTH TYPE EVEN IF IT HAS A FOIL FACE). MASTIC MUST BE APPLIED THICK ENOUGH TO COMPLETELY COVER STAPLES. PERIMETER JOINTS SHALL BE FORMED SUCH THAT THE INSULATION ON THE TOP OF THE DUCT OVERLAPS THE INSULATION ON THE SIDES AND THE SIDES OVERLAP THE BOTTOM. DO NOT COMPRESS THE INSULATION WITH SUPPORTS (STRAPS, HANGERS, ETC.) – WHERE NECESSARY PROVIDE RIGID BOARD (6 LB DENSITY) THE SAME THICKNESS AS THE INSULATION INSERTED INTO THE INSULATION AT THE HANGER.

18. DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER THE GUIDELINES OF SMACNA, 2005 EDITION. EXCEPT WHERE NOTED, ALL DUCTWORK MATERIAL SHALL BE GALVANIZED SHEETMETAL NOT LESS THAN 28 GAGE (0.019 INCHES) AND HAVING A ZINC COATING DESIGNATION OF G60 OR GREATER. DUCTS AND EQUIPMENT SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENTS TO STRUCTURE SHALL BE PER SMACNA STANDARDS. ALL EXHAUST DUCTS AND ALL RETURN DUCTS UNDER A NEGATIVE PRESSURE AND LOCATED IN CEILING PLENUMS SHALL BE CONSTRUCTED TO A MINIMUM PRESSURE CLASS OF NEGATIVE 1/2" W.C. AND ALL JOINTS SHALL BE SEALED TO A SEAL CLASS OF "C" AS DEFINED BY SMACNA. SUPPLY (CONDITIONED AIR) DUCTS SHALL BE CONSTRUCTED TO A PRESSURE CLASSIFICATION OF 2" W.C. AND SEALED TO A CLASS "C". ALL JOINTS AND SEAMS IN ALL DUCTWORK SHALL BE SEALED WITH DUCT SEALER, UL LISTED 181A OR 181B FOR TAPES AND MASTICS. DO NOT USE DUCT TAPE.

19. SHEETMETAL DUCT ELBOWS SHALL BE STANDARD RADIUS TYPE OR RECTANGULAR TYPE WITH SINGLE THICKNESS TURNING VANES. DO NOT USE RADIUS ELBOWS WITH A SQUARE THROAT. DO NOT USE TURNING VANES ON RETURN, EXHAUST, OR OA DUCT ELBOWS UNLESS NOTED OR SPECIFICALLY SHOWN ON THE DRAWINGS. INSTEAD USE STANDARD RADIUS ELBOWS.

20. FLEXIBLE DUCT SHALL BE UL LISTED AS A CLASS 1 AIR DUCT COMPLYING WITH UL STANDARD 181, NFPA 90A & 90B AND HAVE A FLAME SPREAD RATING OF NOT OVER 25 AND A SMOKE DEVELOPMENT RATING OF NOT OVER 50. FLEXIBLE DUCT SHALL HAVE A POSITIVE OPERATING PRESSURE OF 10" MINIMUM. FLEXIBLE DUCT SHALL BE TESTED FOR A MAXIMUM INTERNAL OPERATING TEMPERATURE OF 200°F UNDER CONTINUOUS OPERATION AND SHALL BE RATED FOR A MINIMUM OF 5000 FPM AIR VELOCITY. INSULATION SHALL BE A MINIMUM OF 2" THICK 3/4 PCF DENSITY FIBERGLASS. SUPPLY DUCTS LOCATED IN THE ATTIC SHALL HAVE INSULATION WITH A MINIMUM R-VALUE OF 8.0. ALL OTHER DUCTS SHALL HAVE INSULATION WITH A MINIMUM R-VALUE OF 6.0. OUTER LINER SHALL BE A BI-DIRECTIONAL FIBERGLASS REINFORCED METALIZED VAPOR BARRIER. FLEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE, AND SHALL BE ROUTED AND SUPPORTED WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICE NECK WHEN REQUIRED. FLEXIBLE DUCT SHALL HAVE A FULL 10-YEAR WARRANTY. INNER LINER SHALL CONSIST OF A CPE CORE PERMANENTLY BONDED TO A COATED SPRING STEEL WIRE HELIX (MIN. 041" THICK). FLEXIBLE DUCT SHALL BE THERMAFLEX TYPE M-KE, FLEXMASTER TYPE 8M OR EQUAL.

21. ROUND AND FLEXIBLE DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH SPIN-IN OR DOVE-TAIL FITTINGS. ALSO PROVIDE BALANCING DAMPERS WHERE INDICATED IN THESE GENERAL NOTES AND ON THE DRAWINGS. DO NOT PROVIDE A SCOOP FITTING.

22. DUCT LINER: SHEET METAL DUCTWORK SHOWN OR CALLED OUT AS BEING INTERNALLY LINED SHALL BE LINED WITH 1" THICK 1-1/2 LB./CU. FT. DENSITY DUCTLINER, R=4.2 PER INCH, MANVILLE LINACOUSTIC OR EQUAL. DUCT LINER SHALL MEET REQUIREMENTS OF NFPA 90A & 90B, FLAME SPREAD OF 25 AND SMOKE DEVELOPED OF 50, MEET ASTM G-21 AND G-22, A MIN NOISE REDUCTION COEFFICIENT OF 0.70. LINE ALL DUCTWORK MIN, 10'-0" DOWNSTREAM OF ALL AIR HANDLING UNITS OR RTUs UNLESS NOTED OTHERWISE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEAL ALL EDGES, SEAMS, RIPS, TEARS, ETC COMPLETELY (NO OPENINGS ALLOWED) WITH MANUFACTURER RECOMMENDED SEALER. A SEALER SHALL BE APPLIED AS NOTED ABOVE REGARDLESS OF DIRECTION BY MANUFACTURER. NOTE: LINER IS NOT A SUBSTITUTE FOR INSULATION UNLESS SPECIFICALLY NOTED TO BE. PROVIDE A MINIMUM 6"X6" SAMPLE OF DUCT LINER TO ENGINEER DURING SUBMITTAL.

23. PORTIONS OF DUCTWORK VISIBLE THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.

24. DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS. INCREASE SIZE TO ACCOMMODATE LINER.

25. REFRIGERANT PIPING SHALL BE TYPE L OR REFRIGERATION SERVICE COPPER TUBING WITH BRAZED JOINTS. SUCTION PIPING SHALL BE INSULATED WITH 1/2" OR 3/4" (VERIFY THICKNESS WITH ANY UL PENETRATION DETAILS) RUBATEX, ARMAFLEX, OR EQUAL PIPE INSULATION SLID OVER TUBING WITHOUT CUTTING. ALL JOINTS AND SEAMS SHALL BE SEALED WITH ADHESIVE. ALL SEAMS AND JOINTS MUST BE SEALED COMPLETELY. PROVIDE INSULATION PIPE HANGER OR CLAMP SUPPORTS TO AVOID COMPRESSION OF INSULATION. SUPPORTS SHALL BE EQUAL TO ARMACELL ARMAFIX INSULATION PIPE HANGERS. DO NOT LEAVE SECTIONS OF PIPE UNINSULATED. ALL INSULATION LOCATED OUTSIDE SHALL HAVE TWO COATS OF WEATHER RESISTANT LIQUID COATING WHICH SHALL BE A SOLUTION SUCH AS WB/ARMAFLEX FINISH, FOSTER TITE-FIT COATING OR AS RECOMMENDED BY THE INSULATION MANUFACTURER. INSULATE THE VAPOR LINE THE ENTIRE LENGTH. ROUTE PIPE AS STRAIGHT AS POSSIBLE BETWEEN THE TWO UNITS (AHU & HP) TO PROVIDE FOR SHORTEST DISTANCE. ALL REFRIGERANT LINES SHALL BE ROUTED IN WALLS OR ABOVE CEILING (NOT EXPOSED). PIPE SHALL BE SUPPORTED OUTSIDE ON GRADE OR ROOF WITH WITH PIPE CLAMPS OR HANGERS ATTACHED TO UNISTRUT OR CHANNEL SUPPORTS. DO NOT ALLOW SUPPORTS AND PIPE TO BE OF DISSIMILAR METALS IN CONTACT WITH EACH OTHER. CONTRACTORS SHALL GET IN WRITING FROM MANUFACTURER THEIR RECOMMENDATION FOR PIPE SIZING AND ROUTING. DO NOT ALLOW THE LIQUID AND VAPOR LINES TO COME IN CONTACT WITH EACH OTHER.

26. CONDENSATE PIPING SHALL BE CPVC. CONDENSATE SHALL BE PUMPED AS REQUIRED. IF CPVC IS USED IN AN HVAC RETURN AIR PLENUM THEN THE PIPE SHALL HAVE THE FOLLOWING CHARACTERISTICS: BE NON COMBUSTIBLE BY HAVING A FLAME AND SMOKE DEVELOPED RATING OF 25/50 (OR LOWER) WITHOUT BEING WATER FILLED. CONTRACTOR SHALL PROVIDE A CUTSHEET STATING THESE CHARACTERISTICS TO THE LOCAL CODE OFFICIAL IF REQUESTED.

27. TEST AND BALANCE (TAB): AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM INCLUDING THE EXHAUST AND RETURN AIR SYSTEMS SHALL BE TESTED, ADJUSTED, AND BALANCED TO DELIVER THE AIR QUANTITIES SHOWN ON THE DRAWINGS. SUBMIT CERTIFIED TEST AND BALANCE REPORT TO ARCHITECT AND ENGINEER FOR APPROVAL. EXHAUST AND RETURN SYSTEMS UNDER NEGATIVE PRESSURE SHALL NOT EXCEED BY MORE THAN 10% FOR EACH FAN AND BY NO MORE THAN 10% AT EACH INLET OF THE VALUES INDICATED ON THE DRAWINGS. TEST AND BALANCE SHALL BE DONE PRIOR TO OPERATING THE HVAC EQUIPMENT. HVAC EQUIPMENT SHALL ONLY BE TURNED ON BEFORE TEST AND BALANCE TO VERIFY OPERATION (AFTER VERIFICATION TURN EQUIPMENT OFF). AFTER TEST AND BALANCE SHUTDOWN THE EQUIPMENT UNTIL ENGINEER/ARCHITECT REVIEWS TEST AND BALANCE REPORT AND RESPONDS BACK WITH COMMENTS. TESTING AGENCY SHALL BE AABC OR NEBB CERTIFIED AND SHALL BE INDEPENDENT (NONAFFILIATED) FROM THE CONTRACTOR (INCLUDING SUBCONTRACTOR). THE CONTRACTOR SHALL INCLUDE IN THEIR SCOPE OF WORK ONE (1/2) HALF DAY (4 HOURS AT SITE) ON SITE WITH THE MECHANICAL ENGINEER OR OWNER OR AS DIRECTED BY THE ENGINEER TO SPOT CHECK OR REMEASURE AIRFLOWS, TEMPERATURES, ETC. TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AND THE TAB REPORT.

28. EXISTING DUCTWORK, INSULATION, PIPING, ETC. SHOWN AS BEING REMOVED AS PART OF THIS WORK SHALL BECOME THE PROPERTY OF THE HVAC CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE PRIOR TO PROJECT COMPLETION, UNLESS OTHERWISE INSTRUCTED BY OWNER.

29. EXISTING EQUIPMENT, LOUVERS, DIFFUSERS, ETC. SHOWN AS BEING REMOVED AS PART OF THIS WORK SHALL BECOME THE PROPERTY OF THE OWNER.

30. ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE OWNER TO SUIT THEIR OPERATING CONDITIONS.

31. ANY EXISTING WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE HVAC WORK SHALL BE REPAIRED TO MATCH NEW AND/OR EXISTING CONDITIONS.

32. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF MECHANICAL EQUIPMENT, DUCTWORK, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

33. THERMOSTATS SHALL NOT HAVE MERCURY. MOUNT THERMOSTATS, SENSORS, AND OTHER CONTROLLERS SUCH THAT TOP OPERABLE CONTROL IS MAXIMUM 48" AFF UNLESS NOTED OTHERWISE. PROVIDE DIGITALLY LOCKABLE THERMOSTATS OR CLEAR LOCKING COVER ASSEMBLIES FOR ALL THERMOSTATS LOCATED IN PUBLIC AREAS.

34. LOCATIONS OF GRILLES, REGISTERS, & DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC.

35. PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND IN WALL STRUCTURE TO ALLOW ADEQUATE ROOM FOR MAINTENANCE OF EQUIPMENT AND BALANCING OF SYSTEM.

36. LABEL EQUIPMENT WITH BLACK STENCILED LETTERING ON A WHITE BACKGROUND OR USE BAKELITE LETTERING ON A DIFFERENT COLOR BACKGROUND. MINIMUM 2" LETTERING. LABEL RTUs ON BOTH LONG SIDES.

37. DURING CONSTRUCTION AND PRIOR TO OPERATING HVAC SYSTEMS, PROVIDE MIN MERV 7 PLEATED FILTERS IN ALL UNITS. ALSO PROVIDE FILTER MEDIA AT RETURN DUCT INLET. AT TIME OF TEST AND BALANCE, REMOVE FILTER MEDIA, REMOVE PLEATED FILTERS, AND PROVIDE SCHEDULED/SPECIFIED FILTERS FOR HVAC SYSTEMS.

38. ACCESS DOORS IN CEILINGS/WALLS SHALL BE A MINIMUM OF 18X18, HINGED, AND FIRE RATED TO MATCH CEILING/WALL RATING.

39. DUCT ACCESS DOOR SHALL BE SIZE AS INDICATED ON DRAWINGS AND SHALL HAVE THE FOLLOWING: LOW PRESSURE DUCT ACCESS DOORS SHALL BE DOUBLE WALL IF INSTALLED ON SUPPLY DUCT, AND PROVIDED WITH THUMB LATCHES FOR AN AIR TIGHT FIT. FOR MEDIUM PRESSURE DUCT ACCESS DOORS SHALL BE CLOSED CELL NEOPRENE GASKET BONDED TO THE DOOR, HAND KNOBS WIT

FANS

TAG	MANUFACTURER	MODEL #	TYPE	AREA SERVED	AIRFLOW (CFM)	ESP (IN.-W.C.)	MOTOR POWER	MAX SONES	DRIVE	WEIGHT (LB)	NOTES	ACCESSORIES	CONTROL
TEF-A	GREENHECK	SP-B90	CEILING	RESTROOM	70	0.25	20 WATTS	1.3	DIRECT	10	1-3	1,2,3	A. SENSOR

NOTES:
1. SONE VALUES ARE VALUES MEASURED 10 FT FROM THE FAN – OPEN ENDED. SONE VALUES MUST NOT EXCEED SCHEDULED AMOUNT.
2. CONTRACTOR RESPONSIBLE FOR VERIFYING ARCHITECTURAL CONSTRUCTION FOR FAN INSTALLATION; PROVIDE SUPPORTS, BRACKETS, CURB, OR APPROPRIATE MOUNTING HARDWARE TO SECURE FAN TO STRUCTURE INCLUDING VIBRATION ISOLATION AS LISTED IN SPECIFICATIONS, EQUIPMENT NOTES, AND DETAILS.
3. PROVIDE TRANSITION TO ACTUAL FAN INLET/OUTLET FROM DUCT SIZE LISTED ON PLANS.

ACCESSORIES:
1. BACKDRAFT DAMPER AT FAN DISCHARGE.
2. SPEED CONTROLLER AT FAN.
3. INTEGRAL DISCONNECT SWITCH FROM FAN MANUFACTURER.

CONTROLS:
A. FAN SHALL BE INTERLOCKED WITH RESTROOM LIGHTS.

BASIS OF DESIGN: AS SCHEDULED; EQUAL BY: COOK, PANASONIC, BROAN

GRILLES & DIFFUSERS

(ALL NOTES APPLY)

TAG	MAKE & MODEL #	TYPE/NOTES	DUTY	INTEGRAL BALANCING DAMPER	SIZE	MATERIAL	ACCESSORIES
A	TITUS S300FL	DBL DEFLECT. DIFFUSER W/RADIUS END CAP, 3/4" SPACING	SUPPLY	YES	SEE DWGS	ALUMINUM	1
B	TITUS OMNI	SQUARE PLAQUE DIFFUSER	SUPPLY	NO	24 x 24	STEEL	1,2
C	TITUS 300RL	DBL DEFLECT. DIFFUSER, 3/4" BLADE SPACING	SUPPLY	YES	SEE DWGS	STEEL	1
D	TITUS PAR	PERFORATED RETURN REGISTER	RETURN	NO	24 x 24	STEEL	2
E	TITUS 50R	1/2"X1/2"X1/2" STEEL FRAME & ALUMINUM GRID	EXHAUST/RETURN	NO	SEE DWGS	ALUMINUM	–

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF WALL OR CEILING SUSPENSION SYSTEM AND COLORS.
2. DIFFUSERS SHALL HAVE A BAKED ENAMEL FINISH.
3. RUNOUTS TO DIFFUSERS SHALL BE SAME SIZE AS DIFFUSER NECK UNLESS NOTED OTHERWISE.
4. PROVIDE SQUARE/RECTANGULAR TO ROUND TRANSITION WHERE INDICATED ON DRAWINGS. SEE PLANS FOR COLLAR SIZE.

ACCESSORIES:
1. PROVIDE PATTERN CONTROLLERS FOR ADJUSTMENT TO AIR DISCHARGE.
2. PROVIDE INSULATION (FACTORY PROVIDED/MOUNTED) ON BACKSIDE OF DIFFUSER.

BASIS OF DESIGN: AS NOTED; EQUAL BY: KRUEGER, METAL-AIRE, PRICE

DUCT INSULATION - SHEET METAL DUCT

DUCT TYPE	DUCT LOCATION	INSULATION TYPE	NOTES
EA	ANYWHERE INDOORS	R-6.0 FIBERGLASS DUCT WRAP WHERE NOTED	1,2,6
SA/OA	UNCONDITIONED SPACES	R-8.0 FIBERGLASS DUCT WRAP	1,2,3,4
SA/OA	CONDITIONED SPACES (EXPOSED)	INTERNALLY LINED, UNO. SEE EXPOSED DUCT NOTES THIS SHEET	1,2,5
SA/OA	ATTIC ABOVE INSULATED CEILING	R-8.0 FIBERGLASS DUCT WRAP	1,2,6
RA	ATTIC ABOVE INSULATED CEILING	R-6.0 FIBERGLASS DUCT WRAP	1,2,6
SA/OA	UNVENTILATED ATTIC WITH ROOF INSULATION	R-6.0 FIBERGLASS DUCT WRAP	1,2,6
RA/EA	UNVENTILATED ATTIC WITH ROOF INSULATION	NONE, UNO	--

NOTES:
1. DUCT INSULATION CHARACTERISTICS SHALL BE AS NOTED IN GENERAL NOTES.
2. INSULATION THICKNESS AND DENSITY CAN VARY. R-VALUES ARE MINIMUM "INSTALLED" VALUES, NOT "OUT OF PACKAGE" VALUES AND MUST BE MET OR EXCEEDED.
3. UNCONDITIONED SPACES ARE DEFINED AS AN ENCLOSED SPACE WITHIN A BUILDING THAT IS NOT A CONDITIONED SPACE OR A SEMI-HEATED SPACE.
4. CONDITIONED SPACES ARE DEFINED AS A COOLED, HEATED, INDIRECTLY CONDITIONED, OR UN-VENTED ATTIC ASSEMBLY. MECHANICAL CLOSETS, RETURN AIR PLENUMS, AND INTERSTITIAL FLOOR/CEILING ASSEMBLIES ARE CONSIDERED INDIRECTLY CONDITIONED SPACES.
5. OUTDOOR AIR (OA) IN THIS SCHEDULED REFERS TO UNCONDITIONED OUTDOOR AIR. PRECONDITIONED OA SHALL BE INSULATED LIKE SUPPLY AIR (SA).
6. ALL EXPOSED DUCTWORK LOCATED IN CONDITIONED SPACES SHALL BE INTERNALLY LINED, NOT EXTERNALLY INSULATED, UNO. SEE ADDITIONAL NOTES AND DETAILS ON THESE PLANS FOR MORE INFORMATION.

REFRIGERANT CALCULATIONS

ITEM E-22 WALK-IN COOLER:	AMERIKOOLER QC080872WRNBSC
SELF-CONTAINED REFRIGERATION UNIT:	BOHN PT0068MBNAMSA
REFRIGERANT TYPE:	R-448A
REFRIGERANT CLASSIFICATION:	A1
REFRIGERANT SYSTEM CLASSIFICATION:	DIRECT SYSTEM, LOW PROBABILITY
ALLOWABLE QUANTITY PER VOLUME:	24 LBS/1000 FT^3
OCCUPIABLE SPACE:	7'-2" x 7'-2" x 6'-10" = 351 FT^3
MAXIMUM REFRIGERANT ALLOWED:	24 LBS/1000 FT^3 X 351 FT^3 = 8.42 LBS
ACTUAL TOTAL LBS OF REFRIGERANT:	2.0 LBS
DEHUMIDIFIER (DH-1):	QUEST 205 M/N 4046110
SELF-CONTAINED REFRIGERATION UNIT:	BOHN PT0068MBNAMSA
REFRIGERANT TYPE:	R-454B
REFRIGERANT CLASSIFICATION:	A2L
REFRIGERANT SYSTEM CLASSIFICATION:	DIRECT SYSTEM, LOW PROBABILITY
ALLOWABLE QUANTITY PER VOLUME:	22 LBS/1000 FT^3
OCCUPIABLE SPACE:	9700 FT^3
MAXIMUM REFRIGERANT ALLOWED:	22 LBS/1000 FT^3 X 9700 FT^3 = 213 LBS
ACTUAL TOTAL LBS OF REFRIGERANT:	3 LBS 2 OZ.

AIR BALANCE SCHEDULE

EQUIPMENT	EXHAUST AIR CFM	MAKEUP AIR CFM
RTU-1	55	125
TEF-A	70	–
BUILDING AIR BALANCE	125	125

NOTES:
1. SPACE SHOULD BE PRESSURE BALANCED BY RTU BAROMETRIC RELIEF DAMPER.

DEHUMIDIFIERS

(ALL NOTES APPLY)

TAG	MAKE & MODEL	AREA SERVED	MOUNTING	WATER REMOVAL (PINTS/DAY)	MAX. AIRFLOW (CFM)	REFRIGERANT	REFRIGERANT CHARGE	AIR FILTER CLASS	AIR FILTER SIZE	CONDENSATE DRAIN SIZE	POWER	POWER CONSUMPTION	CONDENSATE DRAIN SIZE	WEIGHT (LB)
DH-1	QUEST 225	RETAIL	HANGING	225	600	R454B	3 LB. 4 OZ.	MERV 13	18" x 18" x 2"	3/4" NPT	208-230/1ø/60HZ	1230 W	3/4" NPT	130

NOTES:
1. SCHEDULED CAPACITIES ARE BASED ON 80°F SPACE TEMPERATURE AND 60% RELATIVE HUMIDITY. CAPACITIES OF SUBMITTED UNITS SHALL NOT BE LESS THAN 95% OF SCHEDULED VALUES.
2. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
3. UNIT SHALL BE CONNECTED VIA CORD AND PLUG, COORDINATE WITH ELECTRICAL.
4. PROVIDE 2" THICK PLEATED FILTER, MERV 13.
5. UNIT SHALL HAVE INTEGRAL CONTROLS AND SENSOR. UNIT SHALL BE CAPABLE OF AT LEAST TWO HUMIDITY SETTINGS. BLOWER FAN SHALL BE SET TO RUN ONLY WHEN THE UNIT IS DEHUMIDIFYING.
6. MINIMUM 5 YEAR COMPRESSOR WARRANTY.
7. PROVIDE HANGING KIT. UNIT SHALL BE MOUNTED LEVEL SUCH THAT TOP OF UNIT IS 12" BELOW CEILING.

ACCESSORIES:
1. HANGING KIT.
2. CONDENSATE DRAIN PUMP.
3. MANUFACTURER'S REMOTE CONTROLLER.

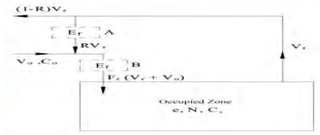
BASIS OF DESIGN: AS NOTED; EQUAL BY: ALORAIR, APRILAIRE, SANTE FE

GPS GLOBAL PLASMA SOLUTIONS

Global Plasma Solutions, Inc.
3101 Yorkmont Rd
Suite 400
Charlotte, NC 28208
www.globalplasmasolutions.com
VERSION 2.0 running ASHRAE 62.1-2016

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
FCU-A	Food & Beverage Service	Restaurant Dining Rooms	1,148.0	25.0	7.5	0.18	188	207	0.8	493 OA required per VRP

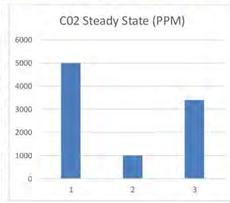
Zone Height (feet)	10.0
Desired Outside Air (Vo) IAQP	100
Supply Air (Vs)	2,575
Return Air (Vr)	2475
Recirc. Flow Factor (R)	0.96
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant



Air Changes Per Hour	13.5	VRP OA CFM per person 19.7
Outside Air Per VRP	493 CFM	IAQ OA CFM per person 4.0
Outside Air Per IAQ	100 CFM	
Outside Air Savings	393 CFM	Winter Heating Savings
OA Summer Drybulb	95.0	OA Winter Design DB (F) 10
OA Summer Wetbulb	76.0	Supply Air DB Setpoint (F) 95
Coil Leaving Air Drybulb (F)	55.0	MBH Saved Winter 36.2
Coil Leaving Air Wetbulb (F	52.6	KW Saved Winter 10.6
OA MBH Saved Summer*	#NAME?	
OA Tons Saved Summer*	#NAME?	

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value Based on OSHA or NIOSH (PPM)	Steady State (lb/ft3) Using the VRP* (Prescribed OA) Plasma Off	Steady State (lb/ft3) Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate lb/person/min	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	2.4851E-09	5.2069E-10	Yes	1.9486E-08	50%	OSHA
Acetone	250.0	1.2634E-08	4.7628E-09	Yes	1.9622E-07	50%	NIOSH
Ammonia	25.00	8.5570E-07	3.2692E-07	Yes	1.3498E-05	50%	NIOSH
Benzene	1.0	1.4487E-08	5.3637E-09	Yes	2.2052E-07	50%	OSHA
2- Butanone (MEK)	200.0	8.4677E-07	3.2353E-07	Yes	1.3350E-05	50%	NIOSH
Carbon dioxide**	5000	4.7321E-05	5.6609E-05	Yes	3.7290E-05	0%	NIOSH
Chloroform	2.0	2.1355E-07	1.7272E-08	Yes	4.1292E-07	50%	NIOSH
Dioxane	100.0	1.9360E-08	7.5073E-10	Yes	0.0000E+00	50%	OSHA
Hydrogen Sulfide	10.0	1.2491E-10	4.8434E-12	Yes	0.0000E+00	50%	NIOSH
Methane	NA	6.2453E-11	6.2453E-11	Yes	0.0000E+00	0%	NA
Methanol	200.0	1.0693E-08	5.2681E-08	Yes	1.6858E-07	0%	NIOSH
Methylene Chloride	25.0	7.6946E-07	2.9379E-07	Yes	1.2121E-05	50%	OSHA
Propane	1000.0	1.2491E-09	1.2491E-09	Yes	0.0000E+00	0%	NIOSH
Tetrachloroethane	5.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Tetrachloroethylene	100.0	8.7485E-07	3.3364E-07	Yes	1.3764E-05	50%	OSHA
Toluene	100.0	2.1849E-09	8.3470E-10	Yes	3.4441E-08	50%	NIOSH
1,1,1 - Trichloroethane	350.0	3.6774E-05	1.4027E-05	Yes	5.7868E-04	50%	NIOSH
Xylene	100.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA



1 = ASHRAE IAQP & NIOSH C02 Limit is 5,000 PPM
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate

**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Building materials and furnishings assumed to have no VOCs and off-gassing is complete
All yellow shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels? Yes

Date	12/16/2024
Job Name	Milkshake Factory
Representative	-
Engineer	Craig Blythe
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

Mechanical Code Outside Air Ventilation Rates based on Section 403.3

ZONE or UNIT	Occ. Class #	OCCUPANCY CLASSIFICATION	Room #	AREA (Az: sf)	PEOPLE OA RATE (Rp: CFM/PERSON)	OCCUPANT DENSITY (# of P/1,000 SF)	ZONE POP. (Pz: #P) See Note 1	AREA OA RATE (Ra: CFM/SF)	EXHAUST RATE (CFM/SF)	OA RATE (Vbz: CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS Ez	ZONE OA FLOWRATE (Rbz: CFM) See Note 2	EXHAUST MAKEUP AIR REQUIRED (CFM)
ZONE or UNIT													
	36	Dining rooms	Dining 101	522	7.5	70	18	0.18	0	229	0.8	286	0
	72	Sales	Retail	626	7.5	15	4	0.12	0	105	0.8	131	0
	75	Storage rooms	Storage	177	0	0	0	0.12	0	21	1.8	12	0
	68	Toilet rooms — publicg	RR 102	1	0	0	0	0	70	0	1.0	0	70
	49	Office spaces	Office 106	40	5	5	1	0.06	0	7	0.8	9	0
											TOTAL O.A. REQUIRED (CFM)	439	70
											OA Reduction by Needlepoint Ionization Unit in Return Air Duct		
											TOTAL O.A. PROVIDED (CFM)	125	70

Ventilation Rate Proceedure Notes:
1. Zone population based on the floor area and the Occupant Density
Zone Poulation: Pz = Az x Occupant Density (#P/1,000 sf)
Outdoor Airflow: Vbz = (Rp x Pz) + (Ra x Az)
Zone Outdoor Airflow: Voz = Vbz / Ez
2. Use the greater value of Zone OA Flowrate or Exhaust MUA

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTHE

12/27/2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

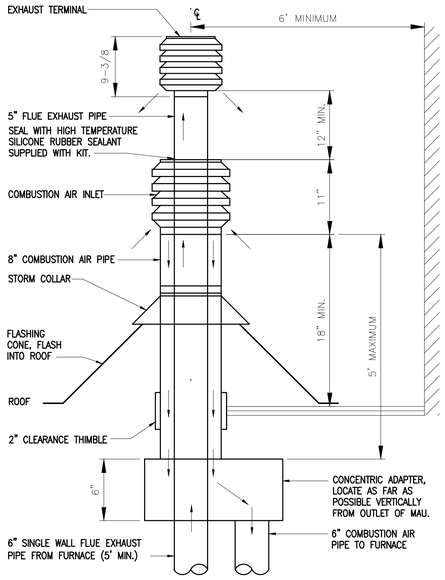
PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC. POE # NC224062
1435 W. Morehead Street (704) 900-5838 (T)
Suite 200 (704) 942-3857 (F)
Charlotte, NC 28208

Owner Approval

27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

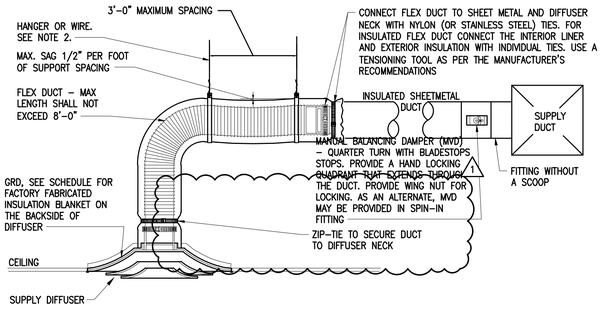
MECHANICAL SCHEDULES

M-0.2



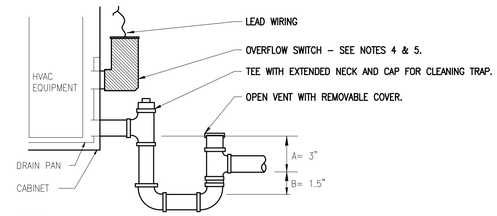
NOTE:
1. FOLLOW MANUFACTURER'S VENT LENGTH TABLE FOR MAXIMUM LENGTHS.
2. TYPICAL INSTALLATION OF A VERTICAL VENT AND CONCENTRIC ADAPTER.
3. THE CONTRACTOR SHALL NOT ORDER OR INSTALL THE FLUE PIPE PRIOR TO THE ENGINEER RECEIVING AND RETURNING SUBMITTALS FOR THE EQUIPMENT.

10 CONCENTRIC FLUE VENT/INTAKE
SCHEMATIC – NO SCALE



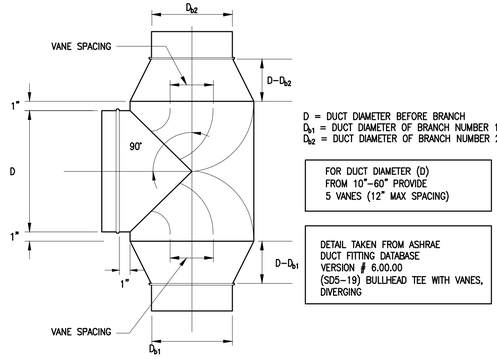
NOTE:
1. PROVIDE MVD AT TAKE-OFF ONLY IF INDICATED IN THE DESIGN. PROVIDE DAMPER AT DIFFUSER IF SCHEDULE CALLS FOR IT.
2. FLEXRIGHT CONNECTION SHALL BE LOCATED JUST ABOVE THE CEILING DIFFUSER AS SHOWN, ALLOWING FOR A GENTLE 90° TURN WITHOUT CREATING KINKS IN THE FLEXIBLE DUCT.
3. ELBOW SHALL BE SIZED SUCH THAT THE CENTER LINE RADIUS OF THE FLEX DUCT IS EQUAL TO THE DUCT DIAMETER.
4. BASIS OF DESIGN TITUS FLEXRIGHT. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR SECURING ELBOW TO FLEXIBLE DUCT.
5. PROVIDE MVD AT TAKE-OFF ONLY IF LAY-IN ACCESSIBLE CEILING IS USED. PROVIDE DAMPER AT DIFFUSER IF SCHEDULE CALLS FOR IT.
6. IF FLEX DUCT IS COMING STRAIGHT DOWN FROM ABOVE DIFFUSER ALREADY, FLEXRIGHT ELBOW IS NOT REQUIRED. DO NOT PUT UNNECESSARY ELBOWS IN THE FLEX DUCT.
7. FOR COMMON AREA, REFER TO TABLE 4-2 (MINIMUM HANGER SIZE FOR ROUND DUCT) IN SMACNA's "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE – SECOND EDITION" AND ON THIS SHEET FOR STRAP OR ROD SIZE AND SPACING.

8 DUCT TAKE-OFF DETAIL
SCHEMATIC – NO SCALE



NOTES:
1. THIS DETAIL IS FOR A DRAW-THRU UNIT. CONTACT ENGINEER FOR A DIFFERENT TRAP CONFIGURATION IF A BLOW-THRU UNIT IS USED.
2. MINIMUM DRAIN FOR UNITS SHALL BE 1". DRAINS FOR FCU GREATER THAN 5 TONS SHALL BE 1.25" UNO.
3. PIPE MATERIAL SHALL BE AS NOTED IN HVAC GENERAL NOTES.
4. PROVIDE 24V, PLENUM RATED OVERFLOW SHUT OFF FLOAT SWITCH IN SECONDARY DRAIN OUTLET EQUAL TO RECTORSEAL 83417 ALL ACCESS AA2P. INTERLOCK WITH UNIT TO SHUT DOWN UPON DETECTION OF CONDENSATE.

3 CONDENSATE DRAIN TRAP DETAIL
SCHEMATIC – NO SCALE

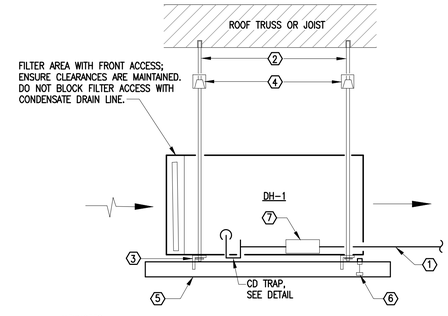


D = DUCT DIAMETER BEFORE BRANCH
D_{b1} = DUCT DIAMETER OF BRANCH NUMBER 1
D_{b2} = DUCT DIAMETER OF BRANCH NUMBER 2

FOR DUCT DIAMETER (D) FROM 10"–60" PROVIDE 5 VANES (12" MAX SPACING)

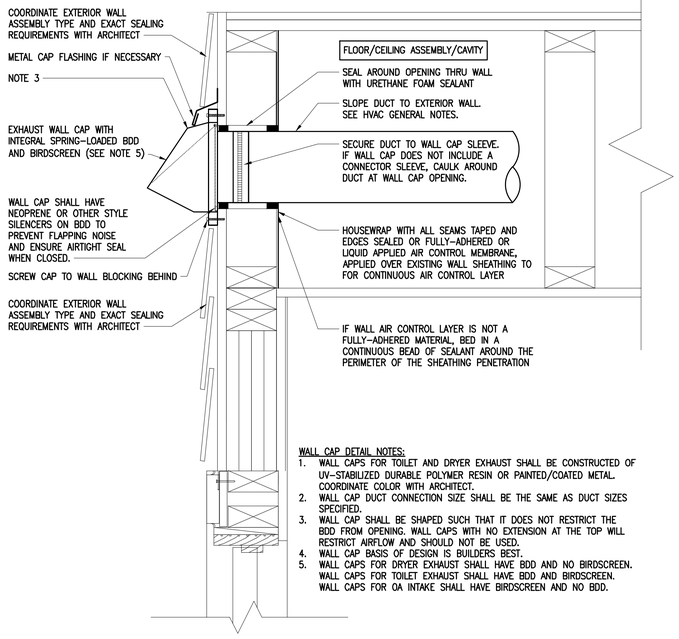
DETAIL TAKEN FROM ASHRAE DUCT FITTING DATABASE VERSION # 6.00.00 (SD5-19) BULLHEAD TEE WITH VANES, DIVERGING

7 ROUND DUCT BULL HEAD TEE DETAIL
SCHEMATIC – NO SCALE



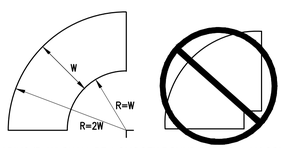
KEYNOTES:
1. CONDENSATE DRAIN SHALL BE 3/4" FOR ALL UNITS. SLOPE AT 1/8" PER FOOT (MIN). SEE FLOOR PLAN FOR ROUTING.
2. ALL THREAD ROD SHALL BE MIN 3/8" DIAMETER. ATTACH TO STRUCTURE ABOVE AS NOTED IN SMACNA CHAPTER 4. MIN OF 4 RODS.
3. PROVIDE STEEL ANGLE IRON MINIMUM SIZE: FOR ALL UNITS: 1.5"X1.5"X3/16", MAXIMUM LENGTH 4 FT.
4. NEOPRENE/SPRING VIBRATION ISOLATOR: 0.3" DEFLECTION. MASON 30N VIBRATION HANGER OR EQUAL.
5. SECONDARY DRAIN PAN – 2" DEEP AND 6" LARGER THAN UNIT IN ALL DIRECTIONS
6. ELECTRIC OVERFLOW CUT-OFF SWITCH AT CONDENSATE OVERFLOW OUTLET; SWITCH SHALL BE 24 V, PLENUM RATED. MODEL SS2AP MANUFACTURED BY "RECTORSEAL" OR EQUAL.
7. CONDENSATE PUMP – LITTLE GIANT MODEL VCMA-20 OR MANUFACTURER'S CONDENSATE PUMP KIT. INSTALL OVER AUXILIARY DRAIN PAN.

2 DEHUMIDIFIER INSTALLATION DETAIL
SCHEMATIC – NO SCALE



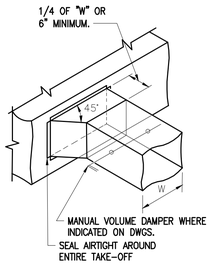
WALL CAP DETAIL NOTES:
1. WALL CAPS FOR TOILET AND DRYER EXHAUST SHALL BE CONSTRUCTED OF UV-STABILIZED DURABLE POLYMER RESIN OR PAINTED/COATED METAL. COORDINATE COLOR WITH ARCHITECT.
2. WALL CAP DUCT CONNECTION SIZE SHALL BE THE SAME AS DUCT SIZES SPECIFIED.
3. WALL CAP SHALL BE SHAPED SUCH THAT IT DOES NOT RESTRICT THE BDD FROM OPENING. WALL CAPS WITH NO EXTENSION AT THE TOP WILL RESTRICT AIRFLOW AND SHOULD NOT BE USED.
4. WALL CAP BASIS OF DESIGN IS BUILDERS BEST.
5. WALL CAPS FOR DRYER EXHAUST SHALL HAVE BDD AND NO BIRDSCREEN. WALL CAPS FOR TOILET EXHAUST SHALL HAVE BDD AND BIRDSCREEN. WALL CAPS FOR OA INTAKE SHALL HAVE BIRDSCREEN AND NO BDD.

9 WALL CAP DETAIL
SCHEMATIC – NO SCALE

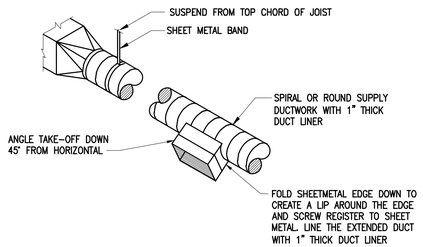


NOTES:
1. THE INNER RADIUS (R=W) SHALL BE A SMOOTH ROUND RADIUS. A 90° SQUARE CORNER INSTEAD OF AN INNER RADIUS IS NOT ALLOWED.

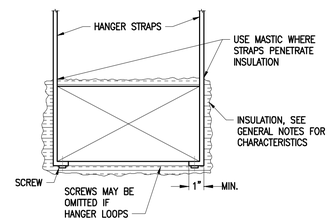
6 RECTANGULAR DUCT RADIUS ELBOW
SCHEMATIC – NO SCALE



5 45° DUCT TAKE-OFF
SCHEMATIC – NO SCALE



4 MOUNTING DETAIL - SPIRAL DUCT
SCHEMATIC – NO SCALE



NOTES:
1. REFER TO GENERAL NOTES ON SHEET MXXX OR DUCT CONSTRUCTION AND SEALING GUIDELINES.
2. REFER TO TABLE 4-1 (RECTANGULAR DUCT HANGERS MINIMUM SIZE) IN SMACNA's "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE – SECOND EDITION."

1 RECTANGULAR DUCT SUPPORT
SCHEMATIC – NO SCALE

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTH

12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE
1		PERMIT COMMENT RESPONSES	12/04/2024
		ISSUE FOR CONSTRUCTION	12/27/2024

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC PGE # NC2240067
1435 W. Morehead Street Suite 200 Charlotte, NC 28208
(704) 900-5838 (T) (704) 842-5857 (F)

Owner Approval

27MSHF.0030.000 — Job No.

1/4" = 1'-0" — Scale

MECHANICAL DETAILS

M-0.3

SECTION 23 05 00

COMMON WORK RESULTS FOR HVAC

1.0 GENERAL

1.01 DESCRIPTION

A. This Division 23 and the accompanying drawings cover the provision of all labor, equipment, appliances, and materials and performing all operations in connection with the construction of the air conditioning, ventilating, heating, fire suppression and plumbing systems as specified herein and as shown.

B. The General Provisions and Division 01, including the general, supplementary and other conditions and other Divisions, as appropriate, apply to work specified in this Division.

1.02 EXISTING CONDITIONS

A. Attention is called to the fact that the work is to be performed within an existing, operational facility. Prior to the submission of bids, each bidder shall visit the project site, thoroughly investigate and be familiar with all existing conditions which will affect their work; especially the work to be performed above the existing ceilings.

B. Connect new work to existing work in a neat and workmanlike manner. Where an existing structure must be cut or existing utilities interfere, such obstructions shall be bypassed, removed, replaced or relocated, patched and repaired. Work disturbed or damaged shall be replaced or repaired to its prior condition.

1.03 INTENT OF DRAWINGS AND SPECIFICATIONS

A. The implied and stated intent of the drawings and specifications is to establish minimum acceptable standards for materials, equipment and workmanship, and to provide operable mechanical systems complete in every respect.

B. The engineering drawings are diagrammatic, intended to show general arrangement and sizes of system components, and shall not be scaled. Rather, the architectural and structural drawings shall govern space constraints, dimensions and finishes. All offsets and fittings which will be necessary to accomplish the finished installation shall be provided at no additional cost or increase in the Contract.

1.04 SPACE PRIORITY

A. Ensure optimum use of available space for materials and equipment installed above ceilings. Allocate space in the order of priority as listed below except as otherwise detailed. Items are listed in the order of priority, with items of equal importance listed under a single priority number.

1. Gravity flow piping systems
2. Vent piping systems
3. Recessed lighting fixtures
4. Concealed HVAC terminals and equipment
5. Air duct systems
6. Sprinkler piping systems
7. Pressurized piping systems
8. Electrical conduit, wiring, control air tubing

B. Order of space priority does not dictate installation sequence. Installation sequence shall be as required to install all affected trades.

C. The work of this Division 23 shall not obstruct access for installation, operation and maintenance of the work of any other Division.

D. All major items of equipment shall be arranged so as to provide a minimum of 28" clear aisle space. Additional space shall be provided between and around equipment for maintenance and proper operation as shown in the Equipment Manufacturer's literature.

1.05 COORDINATION

A. Coordinate all work under this Division 23 with work under all other Divisions, providing adjustment as necessary.

B. Coordination of space requirements with respect to Division 26 shall be performed such that:

1. No equipment, piping or ductwork, other than electrical, shall be installed within 42" of switchboards or panelboards.
2. No piping or ductwork which ever operates at a temperature in excess of 120°F shall be installed within 3" of any electrical conductor.

C. All items mounted in or below the ceiling, and all items penetrating the ceiling, shall be coordinated with the architectural reflected ceiling plans. If any items are not shown on these plans, or any items need to be relocated for coordination purposes, prepare a reflected ceiling plan and submit it to the Architect for approval.

D. Variable-Frequency Drives shall be provided under Division 23 and installed by Division 26. See specification 26 29 23 Variable – Frequency Motor Controllers.

E. Fused disconnects shall be provided under this Division 23 for all equipment connected directly to bus duct, and rating shall match bus duct rating. Coordinate with Division 26.

1.06 CODE COMPLIANCE

A. All workmanship and materials provided under this Division 23 shall comply with all laws, ordinances, codes and regulations of all Federal, State and Local Authorities Having Jurisdiction.

B. All fire suppression, plumbing, heating, ventilating, and air conditioning materials and workmanship shall comply with the following codes and standards as minimum requirements, including all state and local amendments:

1. NFPA 70, National Electrical Code, 2020 Edition
2. Life Safety Code (NFPA 101) – 2021 Edition
3. All other NFPA Codes and Standards – Applicable Editions
4. Indiana Building Code – 2014 Edition
5. Indiana Energy Conservation Code – 2010 Edition
6. Indiana Fire Code – 2014 Edition
7. Indiana Mechanical Code – 2014 Edition
8. Indiana Plumbing Code – 2012 Edition
9. Indiana Fuel Gas Code – 2014 Edition
10. American with Disabilities Act, January 26, 1992
11. Accessible and Usable Buildings and Facilities, A117.1 – 2017 Edition
12. ASME A17.1 Safety Code Elevators and Escalators, 2019 Edition

C. Secure and pay all fees associated with all permits and licenses required for execution of the Contract. Arrange for all inspections required by City, County, State and other Authorities Having Jurisdiction, and deliver certificates of approval to the Architect.

D. The code requirements are strictly a minimum and shall be met without incurring additions to the Contract. Where requirements of the drawings or specifications exceed the code requirements, the work shall be provided in accordance with these drawings or specifications. In the event of conflict or ambiguity between the various codes, the most stringent requirement shall govern.

1.07 ELECTRICAL REQUIREMENTS AND INTERFACE

A. All electrical equipment and wiring provided under this Division 23 shall comply with the electrical system characteristics indicated on the electrical drawings and specified in Division 26.

B. Electric controls, contactors, starters, pilot lights, push buttons, etc., shall be provided complete as part of the motor, heater or other equipment which it operates. All electrical components shall be in conformance with the requirements of the National Electrical Code and Division 26. Starters shall be wye-delta, closed transition type. Reference Division 26 and the electrical engineering drawings for those motor starters provided under that Division 26. All starters not shown shall be provided under this Division 23. Unless specified otherwise under other individual equipment Sections, motor starters shall conform to the following minimum requirements:

1. Starters for motors 1/3 horsepower or smaller shall be manual unless remote or automatic starting is required, in which case the starters shall be magnetic, full voltage, non-reversing, single-speed, unless otherwise indicated. All other starters shall be magnetic.
2. Each starter for a three-phase motor shall be furnished with three (3) overload relays sized for the full load running current of the motor actually provided. Provide an external "HAND-OFF-AUTO" selector switch with red "RUNNING" light. Provide a green pilot light to indicate motor "STOPPED". Each pilot light shall have a legend plate indicating reason for signal.
3. Each overload relay shall have a normally open alarm contact which will close only when actuated by an overload (not to be confused with N.O. or N.C. auxiliary contacts). These contacts shall be properly wired to their respective blue pilot light provided on the starter front cover and having a "TRIPPED" legend plate.
4. Individually mounted motor starters shall be in a NEMA Type 1 general purpose enclosure in unfinished areas and shall be flush mounted in all finished areas. All starters mounted in exterior areas shall have a NEMA 3R enclosure. Each starter shall have a laminated nameplate to indicate equipment unit number, function and circuit number.
5. All motor starters, push buttons and pilot lights shall be of the same Manufacturer as the switchboard and shall be General Electric, Square D, Siemens I.T.E., or Westinghouse.

C. Motor starters for the following equipment shall be provided under this Division 23 by the Manufacturer of the equipment:

1. Packaged air conditioning equipment
2. Water chillers
3. Other equipment hereinafter specified in other Sections to be provided with integral starters

D. Unless otherwise noted or specified in individual Sections, all 3-phase motors shall be standard NEMA continuous duty "B" type, with Class B insulation, open drip-proof frame for indoor service, TEFC for outdoor service and a service factor of 1.15. All motors 5 HP and larger shall be U.S. Motors Hi-Efficiency Model or Reliance XE Hi-Efficiency Model.

E. All power wiring and final connections to equipment shall be provided under Division 26.

F. Control components, all interlocks, (VAVs, actuators, smoke dampers, fire/smoke dampers, motor-operated dampers, fire alarm motors, etc.) and control wiring (277 volt, single phase and less) shall be provided under this Division 23 as required to achieve the specified control sequences. All electrical connections shall be specifically coordinated with Division 26 and any necessary scope included as part of Division 23.

G. All control wiring over 30 volts shall be installed by a licensed Electrician working under this Division 23.

1.08 SLEEVES, SEALS AND ESCUTCHEONS

A. Sleeves shall be provided through all pipe and ductwork penetrations of concrete or masonry walls, elevated floors and roofs, except those piping penetrations for equipment, etc.

B. Sleeves shall be fabricated from Schedule 40 steel pipe through 10" and Standard Wall steel pipe for sleeve sizes 12" and larger. All sleeves penetrating exterior walls, underground walls, pit or vault walls shall be provided with a 3" x 3/8" thick waterstop ring welded completely to the midpoint of the sleeve.

C. All sleeves penetrating exterior walls, underground walls, pit or vault walls and elevated floors shall be packed and sealed watertight.

D. Sleeves through roofs shall extend above the roof surface and be flashed watertight.

E. Sleeves through walls shall be cut and finished flush with each surface of the wall in which they are installed.

F. Sleeves through floors in mechanical rooms or other back of house spaces shall be installed with the top no less than 1/2" above the finished floor to allow for leak protection. Space between the top of the fire-stopping and top of the sleeve shall be packed with mineral wool and caulked to not allow water ponding within the sleeve.

G. Sleeves shall be sized to provide a minimum of 1/2" clearance between the inside surface of the sleeve and the outside finished surface of the pipe plus any insulation specified.

H. Fire-stops shall be provided as specified herein. All annular spaces between piping and sleeves, which do not require fire-stops, shall be packed with mineral wool and caulked.

I. Provide round, chrome-plated escutcheons on all exposed piping and ductwork penetrations passing through walls, floors, partitions and ceilings. Escutcheons shall be painted and caulked in coordination with Architect. Note that escutcheons should be only attached to the wall as piping and ductwork may move slightly during operation.

1.09 FIRESTOPS

A. Where piping, conduit, etc. pass through fire partitions, fire walls and floors, a firestop shall be provided that will ensure an effective barrier against the spread of fire, smoke and gases. Firestop material shall be packed tight and completely fill gaps between the ductwork, piping, conduit, etc. and the perimeter of their rough openings.

B. All penetrations shall be in accordance with UL 1479 or ASTM E 814 listed systems, and products used shall be specifically applicable for the appropriate installation conditions. Assemblies shall provide a minimum rating equal to the construction penetrated. Products shall be by HILTI, 3M, or ProSet.

C. Installation shall be by a Qualified Installer. Installer shall be certified, licensed, or otherwise qualified by the Firestopping Manufacturer as having the necessary training to install the Manufacturer's specific product. A Manufacturer or Vendor's willingness to sell the firestopping product to the Contractor or Installer does not in itself confer qualification.

D. Installer shall have at least one of the following qualifications:

1. FM 4991 Approved Contractor
2. UL Approved Contractor
3. HILTI, 3M, or ProSet Accredited Fire Stop Specialty Contractor

E. Installing Firm shall have no less than 3 years of experience with firestop installation.

F. A Manufacturer's direct Representative (not Distributor or Agent) shall be on site during initial installation of firestop systems to train appropriate Contractor personnel in proper selection and installation procedures.

G. The firestop Contractor or Installer shall supply As-Built documentation of each individual penetration location on the project. Documentation shall include a sequential location number, detailed description of the penetration location, size, and type, tested system number, type of assembly penetrated, and rating to be achieved. As-Built documentation shall be included with the close-out materials.

H. Identify through-penetration firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach label permanently on both sides of penetrated construction in a visible location. The label shall include the following:

1. The words "Warning – Through Penetration Firestop System-Do Not Disturb"
2. Through Penetration firestop system designation and Manufacturer
3. Date of Installation

1.10 CORE DRILLING

A. Cutting of holes through concrete and masonry shall be by diamond core or concrete saw. Pneumatic hammer, impact electric and hand or manual hammer type drills will not be allowed, except as permitted by the Architect where required by limited working space. Locate holes such that they will not affect structural sections such as ribs or beams. Holes shall be laid out well in advance of the installation. These layout locations shall be approved by the Architect prior to drilling.

1.11 IDENTIFICATION OF PIPING

A. All aboveground HVAC piping sized 3/4" and larger which is installed in accessible locations (including piping above removable ceilings and behind access panels) shall be identified in strict conformance with the "Scheme for the Identification of Piping Systems" (ANSI A13.1-2015).

B. Piping labels in exposed areas shall be oriented and located in coordination with the Architect.

C. Specific system names shall be subject to Owner approval. System names shall, at minimum, uniquely identify the system and performance category – i.e. Base Building Condenser Water Supply, Cooling Tower Make-up, etc.

D. Each identification marker shall include to the following:

1. Proper color-coded background
2. Proper color of legend in relation to background color
3. Proper legend letter size
4. Proper marker length
5. Direction of flow arrows shall be included on each marker

E. Locations for pipe markers shall be as follows:

1. Adjacent to each valve and fitting
2. At each branch and riser take off
3. At each pipe passage through walls, floors or ceilings
4. On all straight pipe runs every 25 feet

F. Identification markers may be stenciled or shall be Setmark Pipe Markers, as manufactured by Seton Name Plate Corporation.

G. All valves shall be identified with the appropriate service designation and valve number with brass valve tags. Each valve tag shall be 19 gauge brass with 1/4" black-filled letters over 1/2" black-filled numbers. Tags shall be fastened to valves with brass "S" hooks or brass jack chain. Brass tags and fasteners shall be as manufactured by Seton Name Plate Corporation.

H. Provide charts of all valves. Valve charts shall include the following items:

1. Valve identification Number
2. Location
3. Purpose/Material

2.0 PRODUCTS

2.01 BID BASIS AND SUBSTITUTION PROCEDURES

A. Manufacturer names, series and model numbers, as noted or specified, are for the purpose of describing type, capacity, and quality of equipment, materials and products to be used. Unless "or equal" is specifically stated, bids shall be based only on the specified "basis of design" Manufacturer. The listing of a particular manufacturer as an "equal" or "acceptable substitute" manufacturer shall not be misconstrued as approving nor allowing the substitution of that Manufacturer's standard product in place of the basis of design. No consideration will be given to a product, which would require dimensional, spatial or aesthetic changes to the project. "Acceptable substitute" and "equal" manufacturers shall only bid those products, which exactly match the size and other characteristics of the specified basis of design. Any changes to other disciplines and trades of work required by an "or equal" or "substitute" product shall be duly considered and priced accordingly prior to bidding or pricing. The decision as to whether or not a proposed substitute or "equal" product is actually equal to that specified shall rest solely with the Architect.

B. Requests to provide "equal" products in lieu of those specified shall be submitted to the Architect in writing at least ten (10) days prior to final pricing and execution of the Contract. No consideration will be given to substitute products after final pricing and execution of the Contract.

C. Any "or equal" product or proposed product substitution which will cause a change in the appearance, dimensions or design of any part of the building, it structure, electrical system or any other engineered systems shall be accompanied by a scaled drawing and written description of the required change(s) for approval by the Architect. If deemed necessary by the Architect, Owner, or AHJ, design changes shall be signed and sealed by a registered Professional Engineer, currently licensed in this State. This shall be performed under the Contractor's scope who selects the substitution.

D. Any and all changes due to a substitution of basis of design equipment including but not limited to electrical connection, physical size, access, duct or piping connections, controls, etc. shall be solely the responsibility of substituting Contractor.

2.02 MINIMUM STANDARDS

A. Every piece of energy consuming equipment, all fire suppression products and life safety equipment shall comply with the following standards as applicable; especially in regard to prevailing codes:

1. Factory Mutual Laboratories (FM)
2. Industrial Risk Insurers (IRI)
3. Underwriters Laboratories, Inc. (UL)
4. ADC: Air Diffusion Council
5. AGA: American Gas Association
6. AMCA: Air Moving and Conditioning Association, Inc.
7. ANSI: American National Standards Institute
8. API: American Petroleum Institute
9. AHRI: Air Conditioning, Heating, and Refrigeration Institute
10. ASHRAE: American Society of Heating, Refrigerating and Air Conditioning Engineers
11. ASME: American Society of Mechanical Engineers
12. ASTM: American Society of Testing and Materials
13. AWWA: American Water Works Association
14. IBR: Institute of Boiler and Radiator Manufacturers
15. MSS: Manufacturers Standardization Society
16. NBBPVI: National Board of Boiler and Pressure Vessel Inspectors
17. NEMA: National Electrical Manufacturer's Association
18. OSHA: Occupational Safety & Health Administration
19. PDI: Plumbing Drainage Institute
20. PPI: Plastic Pipe Institute
21. SMACNA: Sheet Metal and Air Conditioning Contractors National Association, Inc.

2.03 PIPE HANGERS AND SUPPORTS

A. Pipe hangers, trapeze hangers, upper attachments, rods and other supports shall be selected based on pipe size and material contained therein. Provide all hangers, rods, turnbuckles, angles, channels and other supports to securely support the piping systems from the building structure.

B. All materials utilized for the hanging and support of the piping systems shall be manufactured products, which are specifically intended for the purpose of hanging piping systems. The use of wire, steel straps, plastic ties, etc. is strictly prohibited.

C. Supports and hangers shall be selected to fit around the pipe (and insulation unless otherwise specified herein) and provide adequate movement for expansion of the piping systems. Anchors shall be provided to restrict and control such movement within offsets and expansion loops.

D. All hangers and supports shall be selected at a minimum factor of safety of five based on the ultimate tensile strength of the material.

E. Intermediate pipe supports shall be provided between building structural members so as not to exceed maximum support spacing specified and shall be structural steel angles (minimum 2 1/2" x 2 1/2" x 1/4"). In steel construction, intermediate supports shall be securely clamped to steel beams and to steel joists, and in no case shall supports be attached to roof decks.

F. For suspending pipes from concrete beams, upper attachments shall be side beam bracket utilizing bolts in sleeves set in top portions of the beams. Where sleeves are not used, provide expansion shields or power-actuated fasteners.

G. Hanger rods for pipe hangers shall be as follows:

1. 3/8" hanger rod – 2" nominal pipe and smaller
2. 1/2" hanger rod – 2 ½" and 3" nominal pipe
3. 5/8" hanger rod – 4" and 5" nominal pipe
4. 3/4" hanger rod – 6" nominal pipe
5. 7/8" hanger rod – 8" through 16" nominal pipe

H. Pipe hangers selected for supporting horizontal insulated piping shall be sized to fit around the outside of the pipe insulation except for the following services, which shall be sized to fit around the pipe and under the insulation:

1. Hot water supply and return piping, steam, condensate return and related piping sized 2" and smaller.

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTH

12/27/2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC
PGE # NC2124067
1435 W. Morehead Street
Suite 200
Charlotte, NC 28208
(704) 900-5838 (T)
(704) 842-3827 (F)

Owner Approval

27MSHF.0030.000 — 1/4" = 1'-0"
Job No. — Scale

MECHANICAL SPECIFICATIONS

M-0.4

I. Provide pipe saddles, inserts and shields on all insulated piping as outlined below:

1. Hot water supply and return piping and associated steam and condensate return piping over 2" shall be supported by steel saddles welded to pipe. Insulation shall be continuous through the saddle.

2. All other insulated piping shall be supported on Foamglas insulation inserts and galvanized shields, except that no inserts are required on piping sized less than 2". Foamglas inserts shall extend at least 2" past each end of the pipe shields.

a. Shields shall be as follows:

1) Pipes 2" and smaller: 18 gauge x 12" long

2) Pipes 2 1/2" and larger: 16 gauge x 18" long

b. Shields and inserts shall be 180 degrees around the lower half of the pipe at all pipe hangers, except that on trapeze hangers, pipe racks and floor supported horizontal pipes, shields shall be 360 degrees around the entire pipe.

3.0 EXECUTION

3.01 SUBMITTALS

A. Before preparing submittals, study all Contract Drawings and specifications in detail, obtain manufacturer's recommended instructions, and have submittals prepared based on specific equipment and material proposed for installation. An officer of the Contracting Firm shall sign all shop drawings (certifying conformance with plans and specifications) before submitting to the Architect or releasing to the field.

B. The submittal process shall not be utilized as an avenue to substitute products after the execution of the contract. Should an unspecified or unequal product be submitted, it will be rejected. If a second attempt at substitution is made during the resubmittal of the same product, then no more reviews of that product will be performed without direct compensation to the Engineer being paid for the additional services required for the third review and any further reviews.

C. All submittals shall be submitted and returned electronically.

D. Submittals will not be accepted for review unless they:

1. Comply with the requirements of Division 1

2. Include complete information pertaining to all appurtenances and accessories

3. Are submitted as complete packages which pertain to all related items in Division 23. Separate packages shall be submitted as follows:

a. All HVAC equipment and components

b. The automatic controls and EMS

4. Are properly marked with equipment, service, or function identification as related to the project and are marked with pertinent specification paragraph number

E. Submit catalog information, factory assembly drawings, field installation drawings and certifications as required for complete explanation and description of all items of equipment. The submittal data shall provide ample, unquestionable compliance with the Contract Documents.

F. Review of submittals shall not be construed as authorizing any deviations from the plans and specifications unless such deviations are clearly identified and separately submitted in the form of a letter that is enclosed with the submittals.

G. Submittals are required on all manufactured equipment, especially energy consuming equipment. Submittals shall include, but are not limited to, the following items of equipment:

1. Ductwork and Piping Insulation

2. Air Distribution Devices

3. Ductwork Accessories (Including All Dampers)

4. Fans

5. Louvers and Hoods

6. T&B Company Certifications and Final Report

3.03 INSTALLATION REQUIREMENTS

A. All equipment shall be installed in strict conformance with the recommendations of the Equipment Manufacturer, as indicated on the Drawings and as specified.

B. Provide installation manuals for each piece of equipment. Submit in separately bound volumes after review of submittals.

C. Provide supplementary steel framing and welded steel equipment support stands as required for proper hanging and support of the mechanical systems. Steel angles, channels and tubing utilized for such framing shall be selected for a maximum deflection of 1/360th of the span.

D. All roof curbs shall be a minimum of 12" high and selected for the various roof pitches. Curbs installed on roofs having pitches of not more than 1/4" per foot may be standard curbs shimmed level with steel channels or Zs to provide suitable support and flashing surfaces.

3.04 CLEANING, LUBRICATION AND ADJUSTMENT

A. The exterior surfaces of all mechanical equipment, piping, ductwork, conduit, etc., shall be cleaned and free of all dirt, grease, oil, paint splatter, and other construction debris.

B. Ducts, plenums, and air unit casings shall be cleaned of all debris and either vacuumed or blown free of all rubbish, dirt, and dust before installing grilles, registers or diffusers.

C. Bearings that require lubrication shall be lubricated in strict accordance with the manufacturer's recommendations.

D. All control equipment shall be adjusted to the settings required for the performance specified.

E. Fans shall be adjusted to the speed indicated by the Manufacturer to meet the installed final system pressure at the airflows indicated. Any additional sheaves and belts required for final adjustments shall be provided with no increase in the Contract amount.

F. Any fans operated during construction shall have temporary filters. Temporary filters shall be changed regularly to minimize contamination of the equipment and duct systems. Permanent filters shall be installed prior to final inspection.

G. All coils shall be thoroughly cleaned and combed prior to final inspection.

H. All materials, equipment, etc. subject to weather, corrosion, dust, debris, water etc. to be installed or utilized for the project shall be fully protected. This is inclusive of piping and duct openings and internal fan ventilation intakes and discharges. This Division's scope includes protection and remediation of any and all Division materials, etc. including cleaning, vacuuming, dusting, etc. required for a clean system and operation. Insulation and equipment with electrical connections subject to water shall be replaced in their entirety. Coordinate with all other trades and schedules.

3.05 PAINTING

A. All uncoated and uninsulated steel surfaces exposed to sight inside the building, such as piping, equipment hangers and supports which are not provided with factory prime coat or galvanizing, shall be cleaned and painted with one coat of rust inhibiting primer. In addition, all surfaces in finished spaces shall also be painted with two coats of finish paint in a colour selected by the Architect.

B. All ductwork surfaces, piping, supports, etc. visible through grilles, registers and diffusers in finished areas shall be painted flat black. All ductwork, equipment, piping, supports, air distribution, etc. visible in exposed finished areas shall be painted a colour selected by the Architect, except that nameplates shall not be painted.

C. Steel items exposed outside the building, such as equipment supports, uninsulated piping and hangers, which are not factory painted or galvanized, shall be cleaned and painted with one coat of rust inhibiting primer and two coats of asphaltic base aluminum paint. Insulated steel pipes outside the building shall be cleaned and painted with one coat of rust inhibiting primer before installing insulation.

D. Factory painted equipment that has been scratched or marred shall be repainted to match the original factory color.

3.06 DUCTWORK AND PIPING LEAK TESTING

A. Insulated, underground, and concealed ductwork and piping shall be tested for leaks in place before backfilling, concealing or covering. Tests shall be conducted in the presence of the Architect or their designated Representative.

B. All low pressure ductwork (design operating pressure of 1.0" WC ESP or less) shall be tested by the operation of the system to which it is connected.

C. All medium and high pressure ductwork (operating pressure of more than 1.0" WC ESP) shall be tested at 1.5 times the design operating pressure of the system to which it is connected, or at the total fan pressure at shut-off, whichever is greater, up to the maximum pressure classification of the associated ductwork system.

D. All visible and audible air leaks from the ductwork systems shall be repaired.

E. See specification section 23 11 23 for testing requirements of natural gas piping. System shall be part of Division 22 scope unless otherwise arranged within the Contract. Coordinate with Division 22.

F. All refrigerant piping shall be 100% tested with the applicable ASHRAE standard – latest version.

G. All leaks shall be repaired by tightening, remaking joints, or replacing pipe and fittings. Caulking of joints shall not be permitted.

3.07 RECORD (AS-BUILT) DRAWINGS

A. At the completion of the project, provide a set of reproducible prints to the Architect which reflects all changes, deviations and revisions made to the original design documents. Locations of all underground piping and utilities shall be clearly shown and dimensioned from permanent reference points such as building column lines. Record drawings shall be produced in electronic format compatible with AUTOCAD. Furnish electronic copies of all drawings in dwg. format, and two (2) bond copies of all drawing sheets. **As-Builts for electronic incorporation by the Design Team, as applicable, shall be redline mark-ups of the Construction Documents.

3.08 OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS

A. Complete operating and maintenance manuals shall be provided to the Owner. Four copies shall be provided. Each copy shall be bound in a separate 3-ring, loose-leaf notebook. Operating instructions shall be provided for each mechanical system, and shall each include a brief system description, a simple schematic and a sequence of operation. Operating and maintenance instructions shall be provided for each piece of equipment. A control system wiring diagram shall be included in each operating and maintenance manual.

B. Prior to final acceptance or beneficial occupancy, provide the services of a Competent Technician for not less than one (1)**two (2) days** to instruct the Owner in the operation of the mechanical systems.

3.09 TESTING AND BALANCING

A. Testing and balancing of the HVAC system shall be performed **in accordance with the standards of AABC and shall be performed under the direct supervision of a Certified Test and Balance Engineer** as specified in Section 23 05 93. Note that this work is to be performed under a separate Contract directly under the General Contractor. Submit four (4) copies of the test and balance report directly to the Architect.

3.10 PIPING SUPPORTS

A. Pipe hangers or supports shall be provided within 18" of each horizontal fitting, equipment connection, valve, etc. and within 18" of the centerline of horizontal or vertical changes in direction summing to 90° or more. Specific attention is called to vertical turns into risers.

B. Piping supports shall be provided, at a minimum, in accordance with the greater of the below or at code minimum. Where the below or code does not address support for specific piping, supports shall be in accordance with manufacturer's requirements.

Piping Material	Max. Horz. Spacing	Max. Vert. Spacing
Cast-iron pipe	5'	15'
Copper pipe	12'	10'
Copper tubing ≤ 1-1/4" dia.	6'	10'
Copper tubing ≥ 1-1/2" dia.	10'	10'
PVC pipe	4'	10'*

*Midstory guide required for piping 2" diameter and smaller

C. Riser clamps shall be provided at each floor penetration. For pressurized piping systems except refrigerant suction and liquid service, provide vibration isolation at all riser clamps with two (2) pad-type mountings consisting of a minimum 3/8" thick ribbed or waffled elastomeric pads bonded between minimum 16-gauge galvanized steel separator plates. Pads shall be sized for a deflection of 0.12" to 0.16". Pads shall be minimum 3" x 3" square.

3.11 WARRANTY

A. All work provided under this Division 23 shall be subject to a minimum one year warranty. The warranty shall include prompt repair or replacement of equipment or system failures and shall include all parts, refrigerant, and labor. In addition, all compressors shall carry an additional four year parts-only warranty. Extended warranties shall be provided on all other equipment so specified in other Sections.

3.14 SHOP DRAWINGS

A. Shop drawings per the submittal requirements shall be submit to the Design Team with adequate time for multiple rounds of review. Shop drawings shall show "As-Built" conditions including elevations, offsets, transitions, and accessories. Shop drawings shall indicate all code and manufacturer's recommended clearances, access, and coordinate the clearance and access requirements with all other trades.

B. Shop drawings that use keynotes direct from the Design Documents shall not be acceptable as they do not demonstrate coordination with all other trades, necessary transitions, etc.

C. Shop drawings shall be provided as complete packages in parallel with all trades to document coordination. Floor-by-floor or otherwise piecemeal shop drawings are generally not acceptable.

3.17 BID REQUIREMENTS

A. The Contractor shall include all systems, equipment and accessories shown on the plans and specifications.

B. The Contractor is responsible for providing all design documents to all SubContractors. All systems, equipment and accessories shall be included in the bid, whether shown on the SubContractor applicable plans or other design documents.

C. Should any discrepancy occur in the Design Documents, the Contractor shall provide a request for clarification prior to bid or note the discrepancy in the bid and provide an appropriate cost allowance in the bid.

D. The Contractor shall acknowledge that the Design Documents are diagrammatic and shall provide all systems, equipment and accessories required for a complete facility. Any areas that appear to be void of systems or inappropriate systems shall be noted in the bid. No post bid change order shall be considered for areas or discrepancies not noted in the bid.

E. All installation coordination and means and methods and labor and materials required for proper system installation shall be included.

F. These requirements are in addition to bid procedures and requirements of the RFP or general specifications.

END OF SECTION

SECTION 23 05 93

TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 05 93 and the accompanying drawings cover the provision of all labor, equipment, appliances, and materials and performing all operations in connection with the testing and balancing (T&B) of the heating, ventilating and air conditioning (HVAC) systems as specified herein and as shown. These systems include, but are not limited to, the following:

1. Supply distribution systems

2. Return and exhaust air systems

3. Heating, ventilating and air conditioning equipment (all scheduled equipment as a minimum)

4. Hydronic systems

1.02 INTENT

A. It is the intent of this Section of the specifications to provide a complete operable and balanced HVAC system as shown and specified which is reasonably airtight, comfortable and free of objectionable noise and vibration.

1.03 SCOPE OF WORK

A. HVAC test and balance shall be performed by an Independent Agency certified by the Associated Air Balance Council (AABC) or National Environmental Balancing Bureau (NEBB) under direct contract to the General Contractor. All work performed by this Agency shall be performed by qualified Technicians under the direct supervision of an AABC or NEBB Certified Test and Balance Engineer. The Agency shall be independent and shall not be associated in any way with the installing HVAC SubContractor.

C. HVAC Test and Balance shall be performed in accordance with the 7th edition of the AABC National Standards, 2016 for Total System Balance or the NEBB Procedural Standards for TAB of Environmental Systems, 8th Edition, 2015 together with the NEBB TAB Manual for Technicians, 2nd Edition.

D. The final Test and Balance report shall serve to substantiate compliance with the intent of the Contract Documents, specifically the HVAC systems.

E. HVAC Test and Balance shall not begin until the systems are substantially complete.

F. Upon the completion of the Test and Balance work, the Agency shall submit four (4) copies of the complete HVAC Test and Balance Report directly to the Architect.

G. The Agency, as a part of its contract with the General Contractor, shall act as an Authorized Inspection Agency, responsible to the General Contractor and the Architect and shall, during the test and balance, list those items which require correction or have not been installed in accordance with the Contract Documents.

H. The Agency shall plainly mark the settings of all valves, dampers and other adjustable devices. If a balancing device is provided with a memory stop, it shall be set, locked and marked.

I. The Agency shall record all of the final set points on all variable speed drives.

1.04 SUBMITTALS

A. The name and certification of the Agency, along with the name and certification of the Certified Test and Balance Engineer, shall be submitted to the Architect for review within 30 days after the award of the General Contract.

B. The selected Agency shall submit to the Owner:

5. Procedural Manual

6. Report Forms

7. AABC or NEBB Performance Guaranty

8. Instrument List and Calibration Dates

9. Schedule

10. Floorplans as Needed to Uniquely Identify Device Locations

C. A reviewed copy of each of the above shall be returned to the Agency before the HVAC Test and Balance begins.

D. If a complete submittal in accordance with these requirements is not received within 60 days from award of the General Contract, then the Architect reserves the right to select the Agency.

2.0 PRODUCTS

2.01 (Not applicable).

3.0 EXECUTION

3.01 GENERAL CONTRACTOR'S DUTIES

A. The General Contractor shall provide the following, within 10 days after his receipt, to the Agency:

1. Contract Drawings

2. Contract applicable specification Division 23 (others as applicable)

3. Addenda

4. Change orders

5. Reviewed submittals

B. The General Contractor shall start-up and maintain the HVAC systems and shall continue the operation of the HVAC systems during each day of testing and balancing. Start-up and operation shall include, as a minimum, the following:

1. All equipment operable and in safe condition.

2. Temperature control system complete.

3. Proper thermal overload protection in place for electrical equipment.

4. Ductwork leakage rates not exceeding those specified and all duct systems clean of debris.

5. Air transfer systems shall have:

a. Correct fan rotation and RPM.

b. Coil fins cleaned and combed.

c. Filters clean and in place.

d. Access doors closed.

e. All dampers in place and open.

f. All grilles, registers and diffusers installed.

C. Provide sufficient time before final completion date so that testing and balancing can be accomplished. Coordinate the submitted T&B schedule.

D. Provide immediate labor and tools to make required corrections and repairs without undue delay.

E. The General Contractor and his SubContractors shall cooperate fully with the Agency to provide the following:

1. Access to HVAC system components.

2. The right to adjust the systems.

F. Any conditions which prevent a proper HVAC Test and Balance shall be reported by the Agency to the General Contractor and Architect within 7 days of their discovery.

G. If it is determined by the Agency and confirmed by the Architect that drive changes or additional balancing dampers are required, the Contractor shall obtain and install all necessary components.

H. The Agency shall cooperate with the Architect and the Contractor and all his SubContractors to perform the work in such a manner as to meet the job schedule.

I. The Agency shall verify that all system components are in place and in proper working order prior to leaving the project.

J. All reported and recorded data shall represent true measured conditions.

K. Where equipment uses variable speed drives, and where feasible, VFDs shall be used as the primary balancing method prior to adjustment or balancing of valves, dampers, etc.

END OF SECTION

SECTION 23 07 13

DUCT INSULATION

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 07 13 and the accompanying drawings cover the provisions of all labor, equipment, appliances, and materials and performing all operations in connection with the construction of the ductwork systems as specified herein and as shown. These systems include, but are not limited to, the following:

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTH

12/27/2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC
PGE # NC2224067
1435 W. Morehead Street
Suite 200
Charlotte, NC 28208
(704) 900-5838 (T)
(704) 842-5807 (F)

Owner Approval

27MSHF.0030.000 — 1/4" = 1'-0"
Job No. — Scale

MECHANICAL SPECIFICATIONS

M-0.5

1. Insulation for typical ductwork
2. Duct liner
3. Insulation for ductwork outside
4. Insulation for grease exhaust ductwork
5. Insulation for generator exhaust pipe

1.02 INTENT

A. It is the intent of this Section of the specifications to provide a complete operable duct system as shown and specified which is reasonably airtight, free of noise, vibration and sweating, and fabricated so as to fit into the space allotted and to exhibit a minimum resistance to airflow.

2.0 PRODUCTS

2.01 DUCT LINER

A. Duct liner shall be one inch thick, 1 ½ lb. density (3 lb. density on medium–and high–pressure supply air systems except that 1 ½ lb. density is acceptable if the liner is at least R ≥ 4.2 and NRC ≥ 0.65) fibrous glass with one face coated with a black fire retardant compound. The permanent composite fire and smoke hazard rating of the liner shall be stenciled on the liner face and shall be:
   1. Maximum Flame Spread 25
   2. Maximum Smoke Developed 50

2.02 TYPICAL DUCT INSULATION

A. Duct insulation shall be 2" thick, minimum 3/4 lb. density fiberglass with an FSKL 0.00035" thick aluminum foil jacket, reinforced with fiberglass scrim. Thermal conductivity shall be a maximum of K = 0.29 at 75°F mean temperature, or a maximum of K=0.27 at 25% compression.

B. Insulation adhesive shall be Benjamin Foster 85–20. Tape shall be aluminum foil and shall be SMACNA listed and labeled.

C. The composite NFPA 90A and 90B, ASTM E84, UL rating of the installed insulation shall not exceed 25/50.

D. The grease exhaust ductwork shall have zero–clearance to combustibles wrap from the hood connection to discharge termination. Coordinate the insulation with all required access panels, drains, etc. as required by NFPA 96.

3.0 EXECUTION

3.01 INSTALLATION

A. Ductwork shall be installed in strict accordance with SMACNA, UL, and NFPA standards.

B. Duct liner shall be provided throughout all return air, transfer and plenums. Duct liner shall also be provided for the following minimum distances, through the first elbow(s), or as otherwise indicated on the drawings, whichever is greater, downstream of each unit indicated below:
   1. Packaged rooftop unit – 25 ft

C. Straight runs only shall be factored into the above distance requirements. Elbows, etc. within the length shall be lined but shall not count towards the length requirement.

D. Duct liner shall not be installed within six inches of a damper, including fire and/or smoke dampers. Metal nosings are required on the downstream side of the exposed insulation. Where lining has been interrupted, external insulation is required.

E. Duct liner shall be cut to provide overlapped and compressed longitudinal corner joints. Liner shall be installed with the coated surface facing the air stream. Duct liner shall be adhered to the ductwork with a 100% coverage of the sheet metal surfaces using a fire retardant adhesive applied by spraying. Coat all exposed leading edges and all transverse joints with fire retardant adhesive. The liner shall be additionally secured using metal pins welded to the duct and speed washers. All leading edges shall be secured with sheet metal airfoils.

F. Inside the vapor barrier of the building all supply air ductwork which is not lined shall be insulated. All outside air ductwork shall be insulated. Insulation shall be cut slightly longer than circumference of duct to insure full thickness at corners. All insulation shall be applied with edges tightly banded. Insulation shall be adhered to duct with fire resistant adhesive. Adhesive shall be applied so that insulation conforms to duct surfaces uniformly and firmly. In addition to the adhesive, the insulation shall be additionally secured to the bottom of all ducts 18" or wider by means of welded pins and speed clips. The protruding end of the pins shall be cut off flush after the speed clips have been applied. The vapor barrier facing shall be thoroughly sealed with tape where the pins have pierced through. All joints shall be sealed with 2" wide SMACNA tape. Any cuts or tears shall be sealed with SMACNA tape.

G. Combustion air ductwork located in conditioned spaces, to gas–fired appliances, shall be externally insulated similar to supply ductwork.

H. All outside air ductwork located in conditioned or semi–conditioned spaces shall be externally insulated similar to supply ductwork.

I. All conditioned air ductwork, including partially conditioned energy recovery ventilator outside air supply to the building and exhaust ductwork, installed in spaces that are ventilated only, i.e. penthouses, shall be insulated.

END OF SECTION

SECTION 23 11 23

NATURAL GAS PIPING

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for Plumbing Section 22 05 00.

B. This Section 23 11 23 and the accompanying drawings cover the provision of all labor, equipment, appliances, and materials and performing all operations in connection with the construction of the systems as specified herein and as shown. These systems include, but are not limited to, the following:
   1. Natural gas systems

1.02 INTENT

A. It is the intent of this Section of the specifications to provide complete and operable system as shown and specified which is free of leaks, properly vented, free of unreasonable noise, vibration, and fabricated so as to fit the space allotted.

B. The word "piping" is defined to mean all piping, fittings, joints, hangers, coatings, valves, cocks, and accessories necessary for the system described, shown, and specified.

1.03 GENERAL REQUIREMENTS

A. Provide all reducing fittings, flanges, couplings and unions of the size and type of material to match the piping connections at each fixture, piece of equipment, valve, and accessory.

B. All pipe and fittings shall be products of a domestic Manufacturer.

C. Union joints, couplings or flanges shall be provided in each pipe line connected to each piece of equipment, fixture and elsewhere as indicated and specified. Unions shall match the piping system in which they are installed.
   1. Unions or flanges shall be provided between all copper to steel connections. These unions shall be dielectric, insulating type.

D. All changes in direction and branches shall be made with manufactured fittings.

E. All pipe joints shall be cut square and all burrs shall be removed.

F. Open ends of pipe lines not currently being handled shall be plugged during installation to keep dirt, water, and foreign material out of the system.

G. This scope shall be part of Division 22 scope unless otherwise arranged within the Contract. Coordinate with Division 22.

1.04 IDENTIFICATION OF PIPING

A. See specification Section 22 05 00 for all requirements.

B. In addition, the natural gas piping shall be painted yellow, in accordance with ANSI standards, with paint suitable for the piping location. Paint shall be corrosion–resistant and continuous through all supports, penetrations, sleeves, etc.

2.0 PRODUCTS

2.01 NATURAL GAS

A. Piping shall be Schedule 40 black steel complying with ANSI B36.10 or ASTM A 53. Fittings shall be steel or malleable iron. Joints shall be threaded or welded.

B. Gas cocks shall meet ANSI B16.33.

C. Piping installed underground outside may be medium density polypropylene. Coordinate selection with all installation location and connection requirements. Connections to equipment shall be made with piping per the materials listed in this specification. Provide and install transitions as required.

D. For Seismic Design Category C or D, all natural gas **and liquid propane piping shall be seismically restrained in accordance with code requirements. Restraints shall be by Mason or approved equal. Submit shop drawings on seismic restraint systems.

2.02 PIPE HANGERS AND SUPPORTS

A. See specification Section 22 05 00 for all requirements.

2.03 REGULATORS

A. Regulators shall be appropriate for the installation in which they are installed, including weather–rated as appropriate. Provide and install all accessories as necessary.

B. Regulators installed inside or within 15' of any outside air intake, including doors and operable windows, shall be ventless. Where ventless regulators are not available, regulator shall have vent piped to outside in accordance with manufacturer's recommendations. Route and size shall be in accordance with manufacturer's recommendations.

3.0 EXECUTION

3.01 ARRANGEMENT

A. Follow the general piping layout, arrangement, schematics and details. Provide all offsets, vents, drains and connections necessary to accomplish the installation. Fabricate piping accurately to measurements established at the project site to avoid interference with ductwork, other piping, equipment, openings, electrical conduits and light fixtures. Make suitable provision for expansion and contraction with expansion loops and offsets.

3.02 MINIMUM HANGER SPACING

A. See specification 22 05 00 for all requirements.

3.03 INSTALLATION

A. Piping installed outside the building and underground shall be installed in a PVC sleeve to prevent corrosive ground contact with piping. Piping shall enter the building above grade.

B. Piping not subject to corrosion (i.e. polypropylene) does not require a PVC sleeve.

C. Piping installed outside the building and underground shall be buried a minimum of 36" below grade or below the frost line, whichever is deeper.

D. Piping installed outside shall be elevated above grade a minimum of 3.5" and shall be securely supported.

E. Piping penetrating floor slabs, walls, etc. shall be protected from damage and corrosion as required by Code.

F. For non–metallic underground gas lines, a yellow insulated copper traces wire or other approved conductor shall be installed with underground nonmetallic piping. Access shall be provided to the tracer wire or the tracer wire shall terminate aboveground at the end of the nonmetallic piping or not less than 3" above ground, whichever is greater. The tracer wire size shall not be less than 18 AWG and the insulation type shall be suitable for direct burial.

G. Regulators shall be provided under this scope for each gas–fired equipment without appropriate regulators provided by the Equipment Manufacturer. Coordinate with all equipment. Regulators shall be appropriate for the pressures and capacity of the equipment and installation location.

3.04 TESTING AND PURGING

A. All new gas piping shall be pressure tested at 3 psi or 1.5 times the design pressure, whichever is greater, for a time period of 0.5 hours per 500 cubic feet of pipe volume, not to exceed 24 hours.

B. All gas piping 2.5" and larger shall be purged with an inert gas prior to operation, with the piping purge lengths as required by Code.

END OF SECTION

SECTION 23 31 00

HVAC DUCTS, ACCESSORIES, AND CASINGS

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 31 00 and the accompanying drawings cover the provisions of all labor, equipment, appliances, and materials and performing all operations in connection with the construction of the ductwork systems as specified herein and as shown. These systems include, but are not limited to, the following:
   1. Supply air ductwork
   2. Return, transfer and relief air ductwork
   3. Exhaust ductwork
   4. Ductwork accessories

1.02 INTENT

A. It is the intent of this Section of the specifications to provide a complete operable duct system as shown and specified which is reasonably airtight, free of noise, vibration and sweating, and fabricated so as to fit into the space allotted and to exhibit a minimum resistance to airflow.

1.03 DESIGN AND CONSTRUCTION – DUCTWORK

A. Ductwork shall be provided in strict accordance with the third edition – 2005 – of the SMACNA HVAC Duct Construction Standards – Metal and Flexible, NFPA No. 90A, 90B, 91 and 96, and UL 181. Where SMACNA tables have an option between different gauges and supports, the heavier gauge shall be used.

B. Ductwork dimensions shown are net, clear, inside dimensions with no allowance shown for duct liner. All ductwork specified to be lined shall be 2" larger than shown in each dimension to compensate for the liner. Ductwork shall be square, rectangular, round, spiral or flat oval as noted. Conversion of duct shapes and sizes shown shall be accomplished without increasing air velocities or friction losses and is subject to prior approval by the Architect and Engineer.

C. Elbows shall be either full radius type (inside radius equal to duct width), five–gore radiused flat–oval type or, in low pressure systems only, mitered with double–thickness turning vanes.

D. Abrupt changes in duct sizes and shapes shall not be permitted. The total angle of diverging transitions shall be not more than 15 degrees; converging transitions shall be not more than 30 degrees unless otherwise noted or required due to structural constraints.

E. Offsets, transitions, rises and drops are not individually called out on the Design Drawings. They shall be provided as required to fit the ductwork into the allocated spaces.

F. Transition rectangular ductwork on bottom and sides. Maintain top of ductwork level and as high as possible.

H. All ductwork shall be constructed for standard 1" WC static pressure class at 2500 FPM with Class C seals and is herein defined as "low pressure ductwork".

I. Provide the following types of ductwork material for the services indicated:
   1. Galvanized sheetmetal: supply, return, exhaust, and relief of conditioned and outside air

2.0 PRODUCTS

2.01 GALVANIZED SHEETMETAL

A. Galvanized sheetmetal shall be lock–forming grade G90–ASTM A 525 hot dip galvanized steel sheets. Sheetmetal shall be galvanized on each side with not less than 1.25 ounces of zinc per square foot.

B. Galvanized sheetmetal installed outside the building and subject to weather shall be soldered or welded. See Section 23 07 13 for additional information about covering and insulation.

C. Galvanized sheetmetal installed outside the building and not exposed to weather, such as in covered loading docks and parking decks, may match the construction of ductwork inside the building.

D. Galvanized sheetmetal ductwork outside the building within 20 miles of the seacoast shall have corrosion coating appropriate to the installation location.

2.02 SPIRAL DUCT

A. Spiral duct shall be utilized for all flat–oval and round ductwork in medium and high–pressure systems.

B. Spiral duct shall be the product of United McGill Corporation, R.V. Money, Eastern Sheet Metal, or an approved equal.

C. Spiral duct with internal ribs is not acceptable.

D. Spiral duct shall conform to SMACNA 2005 Standards. Lighter gauges, etc. due to standing ribs are not acceptable.

2.03 DOUBLE–WALL DUCTWORK

A. See Section 23 07 13 for insulation. Insulation shall be sandwiched between two (2) layers of sheetmetal in accordance with SMACNA standards. All joints shall be permanently sealed airtight.

2.04 DAMPERS

A. Manual Volume Dampers
   1. Single blade butterfly dampers are acceptable up to 12" round or 12" x 12" square. Dampers larger than these dimensions shall be multi–blade type. Single blade dampers shall be constructed of 16 gauge or heavier galvanized sheetmetal.
   2. No multi–blade damper blade shall exceed 8" in width. All multiple blade dampers shall be constructed of 16 gauge galvanized steel or heavier. The damper frame shall be 16 gauge or heavier. The damper action shall be opposed–blade type.
   3. Each blade shall pivot on a 1/2" cadmium plated, cold–rolled steel axle which pivots within self–lubricating, Oilite bronze bearings.
   4. The top and bottom edges of each rectangular damper blade shall be crimped for stiffness.
   5. The operating rod for all dampers shall be extended outside the damper frame for attachment of an operator. Each operator shall have a position indicator and locking quadrant.
   6. All dampers utilized for introduction of outside air shall have flexible, gasketed edge and end seals. The leakage rate shall be less than 4 CFM per SF of face area against a 1" WC differential pressure, based on a nominal 48" x 48" damper size.
   7. All dampers utilized for exhaust or relief air shall have flexible, gasketed edge and end seals. The leakage rate shall be less than 4 CFM per SF of face area against a 1" WC differential pressure, based on a nominal 48" x 48" damper size.
   8. Dampers to be installed in insulated ductwork shall have standoffs sufficient to allow for insulation and vapor barrier integrity.
   9. Manual volume dampers shall be as manufactured by Louvers & Dampers, Inc., Pottorff, Greenheck, Nailor, Ruskin, or an approved equal.

B. Control Dampers
   1. Control dampers shall be of the same construction as manual volume dampers, except that no manual operator and quadrant is required. The operating rod shall be suitable for operation by an automatic pneumatic or electric operator.

C. Fire Dampers
   1. Fire dampers shall be UL–listed and labeled for 1 1/2 or 3 hours, in accordance with the installation location, and shall be provided with 160°F links or linkages appropriate for the service. Dampers installed within ducts shall be Type B or Type C with the blades out of the air stream. Areas indicated shall be net, clear, open areas.
   2. Fire dampers shall be appropriate for the installation location and application. All fire dampers in supply, return, exhaust, etc. shall be dynamic–type.
   3. Fire dampers shall be as manufactured by Louvers & Dampers, Inc., Pottorff, Greenheck, Nailor, Ruskin, or an approved equal.

D. Smoke Dampers
   1. Smoke dampers shall be UL–listed as Class 1 low–leakage smoke dampers. Smoke dampers shall be 24V and wired under this Division.
   2. Smoke dampers shall be appropriate for the installation location and application. All fire dampers in supply, return, exhaust, etc. shall be dynamic–type.
   3. Smoke dampers shall be as manufactured by Prefco, Louvers & Dampers, Inc., Pottorff, Greenheck, Nailor, Ruskin, or an approved equal.

E. Fire/Smoke Dampers
   1. Fire/smoke dampers may be combined into a combination fire/smoke dampers. All provisions of the above shall apply. Fire/smoke dampers shall be UL–listed.

F. Backdraft Dampers
   1. Backdraft dampers shall be sized according to their installation location and noted pressure setting. Damper pressure setting shall be adjustable and shall be accessible from outside ductwork or via access hatch, as applicable.

2.05 LOW–PRESSURE DUCT BRANCHES

A. Splitter dampers shall be provided at all low–pressure ductwork branches. All low–pressure ductwork branches shall be radiused or 45 degree take–offs; straight taps are unacceptable. The length of the damper blade shall be the same as the width of the widest duct section at the split, but in no case shall blade length be less than 12". Each operator rod shall have a locking swivel joint.

2.06 FLEXIBLE DUCT

A. Flexible ductwork shall be Class 1, UL 181 air duct and meet NFPA 90A and 90B Standards.

B. The internal duct surface shall be acoustically rated, black CPE bonded to a coated steel wire helix. The external jacket shall be a fiberglass, bi–directionally reinforced, metallized vapor barrier with a standing, triple ply seam. Fiberglass insulation shall be provided between the duct surface and the jacket to achieve a maximum thermal conductance of 0.24 BTU/Hr./sq. ft./°F at 75°F mean.

C. Flexible ductwork shall be suitable for 10" W.G. positive pressure and 1" W.G. negative pressure in sizes 4" through 12" ID, and 6" W.G. positive pressure and 0.5" W.G. negative pressure in sizes 14–16" ID.

D. Flexible ductwork, insulation and insulation cover shall be suitable for ceiling return air plenum installation and shall comply with all applicable codes and standards regarding such ceiling plenum installations.

E. Flexible duct shall be Thermaflex M–KE or an approved equal.

F. The maximum allowable installed length of flexible ductwork shall be as follows:
   1. 8'–0" on low–pressure supply air systems limited to short runouts and end of runs connected to round neck supply diffusers and registers.
   2. 4'–0" on medium and high–pressure supply air systems limited to the runouts from the sheetmetal ductwork to each terminal unit.
   3. 2'–0" on connections from round neck grilles to sheetmetal ductwork on return, exhaust and transfer ductwork.

G. Provide a spin–in fitting with integral scoop and volume damper at all flexible run–out connections in low–pressure supply air ductwork only, except locations where spin–in fittings would project more than 50% into the projecting ductwork dimension. **Adhesive fittings are acceptable provided they are also screwed to the ductwork and sealed with mastic.

H. Flexible ductwork shall not pass through wall, floors, or ceilings.

2.07 TERMINAL UNIT RUNOUTS

A. Medium and high–pressure runouts to terminal units shall be connected to the trunk duct with factory–welded laterals, conical tees or bellmouth fittings; abrupt round to rectangular taps are strictly prohibited and shall be rejected.

B. Terminal unit runouts shall be the larger of the associated terminal unit inlet size or the size noted on the drawings.

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER C. S. BLY

12/27/2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC PGE # NC224063
3435 W. Morehead Street Suite 200 Charlotte, NC 28208 (704) 900-5838 (T) (704) 842-3857 (F)

Owner Approval

27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

MECHANICAL SPECIFICATIONS

M-0.6

2.08 FLEXIBLE CONNECTIONS

A. Provide flexible duct connections at the inlet and outlet of each belt–driven fan, indoor unit, fan coil unit, air handling unit, etc., and at all other locations indicated. Flexible connections shall be fabricated from a glass fabric coated on both sides with neoprene. Minimum weight shall be 30 oz. per sq. yard. Flexible connections shall be used for vibration isolation only and shall not be used to correct connection misalignment.

2.09 DUCT HARDWARE

A. Duct hardware shall be as manufactured by Young Regulator or an approved equal.

2.10 ACCESS DOORS

A. A duct access door shall be provided at each fire and smoke damper. Access doors shall be designed for 1.5 times the pressure of the duct in which they are mounted. Access doors shall be of sufficient size to provide access to the dampers for resetting the blades and replacing the links. Access doors in medium and high–pressure ductwork shall be installed downstream of fire dampers and shall be implosion type. Where access is provided through gypsum board walls or ceilings, furnish access door for installation under Division 09. Coordinate with Division 09 and Architect. Each door shall match the fire–rating of the wall or ceiling indicated.

B. Access shall be provided to duct–mounted smoke detector locations. Access shall allow inspection and maintenance of all aspects of the detector. Access doors shall meet the requirements of A, above, as needed.

3.0 EXECUTION

3.01 INSTALLATION

A. Ductwork shall be installed in strict accordance with SMACNA, UL, and NFPA standards.

B. All ductwork installed outside the building shall be secured to the structure. Coordinate with the Structural Engineer as needed. It is the Contractor's responsibility to design and coordinate all supports. All supports shall be designed to withstand all code–required wind and seismic loads.

C. Flexible ducts utilized in the low–pressure ductwork systems shall be installed without kinks or bends which are less than a centerline radius equal to or greater than twice the diameter of the flexible duct being installed.

D. All intersections (crossing) of low–pressure and medium–pressure ductwork shall be made with offsets in the low–pressure ductwork only. The medium pressure ductwork shall be ran straight and level.

E. Electric duct heaters shall be installed as indicated and in conformance with the manufacturer's recommendations. Coordinate the actual units to be provided with all trades. The heater shall be tested and adjusted after installation to provide the capacities indicated.

F. Ductwork labels, including factory labels, tags, etc. except equipment nameplates shall be removed to the satisfaction of the Architect in all exposed areas.

G. Ductwork exposed to sight from tenant spaces or common areas shall be flat oval or spiral, and shall be double–walled with insulation between walls.

END OF SECTION

SECTION 23 34 00

HVAC FANS

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 34 00 and the accompanying drawings cover the provision of all labor, equipment, appliances and materials, and performing all operations in connection with the construction and installation of the fans as specified herein and as shown. These fans include, but are not limited to the following:

1. Ceiling/cabinet fans

1.02 INTENT

A. It is the intent of this Section of the specifications to provide complete, operable, adjusted fans as shown and specified which are free of excessive noise, vibration and airflow fluctuations.

1.03 BASIS OF DESIGN

A. The basis of design is as scheduled. Any proposed substitutions shall be proven equal in all aspects to the equipment specified as the basis of design. Particular attention is called to the requirements of Section 23 05 00.

1.04 ACCEPTABLE SUBSTITUTE MANUFACTURERS

A. Acceptable substitute manufacturers are Carnes, Cook, Acme, PennBarry, Twin City, Price, and Greenheck. Acceptable manufacturers for kitchen grease exhaust fans are Captive–Aire, Viking, and Greenheck.

2.0 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. All non–filtered fans shall be factory tested, rated and certified in accordance with the requirements of AMCA Standard No. 210 and shall be labeled accordingly. Filtered fans may be non–labeled but must be rated in an AMCA approved laboratory in accordance with 210.

B. All roof–mounted fans shall be constructed such that water cannot enter the building through the fan regardless of whether or not the fan is operating. Fans shall be provided with drain connection and piped to the nearest roof drain as applicable.

C. Fans installed outside or otherwise subject to weather shall have a weatherproof enclosure over the motor compartment. All components, including VFDs, shall have enclosures and be appropriate for the installation locations.

D. All roof–mounted fans shall be provided complete with roof curbs. Roof curbs shall be of **aluminum **galvanized (hurricane rated) construction, insulated, canted and complete with wood nailer strips. Insulation shall meet NFPA 25/50 flame spread/smoke developed ratings.

E. All exhaust fans (except those utilized for grease exhaust service) shall be provided complete with gravity–type backdraft dampers.

F. All belt–drive assemblies shall be mounted on vibration isolators.

G. All motors on belt–drive assemblies shall be mounted on slide bases to provide adjustment of belt tension.

H. All belts in belt drives shall be rated for not less than 150% of the connected motor horsepower.

I. All belt–drives driven by a 5 HP or larger motor shall be multiple belt arrangements.

J. All belt–drives shall be adjustable to a minimum speed variation of plus or minus 20% of the design RPM.

K. All centrifugal fan wheels shall be statically and dynamically balanced.

L. All electric motors and equipment shall be UL labeled.

M. Refer to Division 26 of these specifications and to the electrical Contract Drawings for electrical characteristics and connections to all equipment. Coordinate all electric motors and other equipment with these electrical documents.

N. Fans with variable–frequency drives (VFDs) shall have shaft grounding ring and appropriate insulation class.

O. All exposed motors and belts shall be protected with enclosures or guards in accordance with OSHA requirements.

P. Life safety fans (i.e. stair pressurization, elevator hoistway pressurization, smoke control, etc. shall have 1.5 times the number of belts necessary for the scheduled performance with no less than two (2) belts.

2.02 CEILING/CABINET EXHAUST FANS

A. Ceiling/cabinet exhaust fans shall be Greenheck Model CSP (inline/cabinet) or Greenheck Model SP (ceiling) with integral grille, or an approved equal.

3.0 EXECUTION

3.01 INSTALLATION

A. Fans shall be installed as indicated and in conformance with the manufacturer's recommendations. Coordinate the actual units to be provided with all trades.

3.02 ADJUSTMENT

A. The fans shall be tested and adjusted after installation to provide the capacities indicated.

END OF SECTION

SECTION 23 37 13

DIFFUSERS, REGISTERS, AND GRILLES

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 37 13 and the accompanying drawings cover the provisions of all labor, equipment, appliances and materials, and performing all operations in connection with the construction and installation of air distribution devices as specified herein and as shown. These units include, but are not limited to the following:

1. Ceiling Diffusers (CD)
2. Return Air Grilles (RAG)
3. Supply Registers (SR)
4. Curved Supply Registers (CSR)
5. Return Air Registers (RAR)

1.02 INTENT

A. It is the intent of this Section of the specifications to provide complete, operable, adjusted air distribution devices as shown and specified which are free of excessive noise, vibration and airflow fluctuations.

1.03 SELECTION CRITERIA

A. All air distribution devices shall be selected in accordance with the following minimum criteria unless otherwise noted below or on the drawings:

1. Method of mounting shall be compatible with the ceiling, wall or duct surface which it mounts on or in; i.e. lay–in, surface mounting, plaster frame, duct collar, etc. The architectural drawings shall be referenced to determine the mounting method for each device. All flanges on surface mounted devices shall be provided with a gasket.
2. Finish of all ceiling mounted devices shall be selected to match the color of the adjacent ceiling. Finish of all wall mounted devices shall be primer which is compatible with the finish coating specified for the adjacent wall; finish coat will be applied under Division 9.

1.04 BASIS OF DESIGN

A. The basis of design is Titus. Any proposed substitutions shall be proven equal in all respects to the equipment specified as the basis of design. Any modifications to ductwork, controls, ceilings, building structure, etc., that result from any substitution shall be coordinated with all trades. This coordination shall occur before delivery of equipment and any modifications shall be performed without incurring additions to the Contract.

1.05 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers are Price, Carnes, Metal Aire, Krueger and Nailor UON, provided that their units, performance, appearance and physical characteristics are equal in all respects for this specific project.

2.0 PRODUCTS

2.01 DESCRIPTION

A. Ceiling Diffusers (CD)

1. CD Ceiling diffusers (CD) shall be square, plaque face diffusers capable of providing one–way, two–way, two–way corner, three–way, and four–way air patterns; Titus OMNII with directional blow clips. The diffuser shall have a 22 gauge steel face panel that captures a secondary 22–gauge panel. The face panel shall be removable by means of four hanger brackets. The exposed surface of the face panel shall be smooth, flat, and free of visible fasteners. The back pan shall be one piece precision die–stamped and shall be constructed of 22–guage steel. Diffuser performance data shall be in accordance with ANSI/ASHRAE Standard 70–1991. The maximum NC level at design airflow shall not exceed 35 when measured in a direct field 5'–0" from the face of the device. Diffusers to be 24"x24" unless noted on drawings. The finish shall be baked enamel white, unless directed otherwise by the Architect. Provide plaster frames and round neck damper (operable from face of diffuser) for diffusers installed in hard ceilings.

B. Return Air Grilles (RAG)

1. Return air grilles shall be selected to match the CDs; with the neck size as indicated, Titus OMNI. Opposed blade dampers shall be provided with each RAG. Performance data shall be in accordance with ADC 162R4. All other characteristics shall be equal to the ceiling diffusers.

C. Supply Registers (SR)

1. Supply registers shall be surface mounted, steel with aluminum blades, adjustable double–deflection type complete with opposed blade dampers for balancing purposes. The outermost set of deflection blades shall be parallel to the long dimension of the SR and the innermost set of deflection blades shall be parallel to the short dimension of the SR. The registers shall be tested in accordance with ADC standards and shall be selected to provide design airflow at a maximum NC of 35. SRs shall be Titus 272R.

D. Curved Supply Registers (CSR)

1. Curved registers shall be duct mounted, aluminum, radius end cap, radius to match the installation duct system, adjustable double–deflection type complete with air scoop dampers for balancing purposes. The outermost set of deflection blades shall be parallel to the long dimension of the CSR and the innermost shall be parallel to the short dimension of the CSR. The register shall have foam gasketing. The register shall be tested in accordance with ADC standards and shall be selected to provide design airflow at a maximum NC of 35. CSRs shall be Titus S300F and be mounted directly to the duct where not externally insulated, or flush with the exterior insulation, as applicable.

E. Return Air Registers (RAR)

1. Return air registers shall be surface mounted, steel, registers with curved hemmed edge blades with an opposed blade damper. Damper blades shall be gang operated by means of a key which can be removed after balancing. RARs shall be Titus 350ZRL (steel), except RARs shown on the return air boot detail with upturned blades shall be Titus 350RL, sized as indicated.

3.0 EXECUTION

3.01 INSTALLATION

A. Air distribution devices shall be installed as indicated and in conformance with the manufacturer's recommendations. The color, frame, and border types shall be coordinated with Architectural requirements and shall be selected to install in the finished surface indicated.

B. All air distributions devices to be reused shall be installed the same way as indicated for new devices. All existing color, frame, and border types shall modified as required to match new device requirements.

C. All air distribution devices with blade orientations shall be coordinated with Architect. Specific attention is called to devices in exposed ceiling areas, including wall–mounted.

3.02 ADJUSTMENT

A. Grilles, registers, diffusers, etc. shall be tested and adjusted to provide the scheduled air flow capacities.

B. All devices shall have adjustable and accessible volume dampers. Where dampers are not or will not be accessible without access panels, provide and install remote balancing cable control system, Young Regulator or equal. Adjustment shall be from the face of the air distribution device, coordinated with the Air Distribution Manufacturer. Coordinate the location and size of the damper with the installation.

C. **All adjustable air distribution devices located within three feet of any wall or kitchen hood shall be set to blow directly away from, or parallel to, the wall or hood. All air distribution patterns near kitchen hoods shall be coordinated with the Kitchen Hood Manufacturer.

D. In all slot diffuser applications, the inactive sections of the slot shall be finished with perforated steel, painted flat black, selected to match the SDs. These sections shall be open to the plenum as a return air path. Inactive sections shall have an insulated light shield.

END OF SECTION

SECTION 23 37 23

HVAC GRAVITY VENTILATORS AND LOUVERS

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 37 23 and the accompanying drawings cover the provisions of all labor, equipment, appliances and materials, and performing all operations in connection with the fabrication, construction and installation of the louvers, air inlet and air outlet devices as specified herein and as shown.

C. Coordinate with Architectural plans and specifications for all louvers subject to public view. Architectural documents shall supersede this specification section, except Architectural louvers must meet the free area noted in the Division 23 plans, and louvers exposed to rain must be stormproof.

1.02 INTENT

A. It is the intent of this Section of the specifications to provide complete, operable, finished louvers, air inlet and air outlet devices as shown and specified which are free of leaks.

1.03 BASIS OF DESIGN

A. The basis of design is as outlined for each louver and device in the 2.0 PRODUCTS subsection. Any proposed substitutions shall be proven equal in all respects to the equipment specified as the basis of design.

2.0 PRODUCTS

2.01 GRAVITY INTAKE AND RELIEF HOODS

A. Hoods shall be constructed from 0.063" thick aluminum sheets with rolled interlocking seams or all welded construction.

B. Relief hoods shall be fitted with a 1/2" x 1/2" galvanized birdscreen and backdraft damper.

C. Intake hoods shall be fitted with 1" thick cleanable filters.

D. All hoods shall be provided complete with 12" high roof curbs. Roof curbs shall be of aluminum construction, insulated, canted and complete with wood nailer strips. Insulation shall meet NFPA 25/50 flame spread/smoke developed ratings.

E. All hoods with a throat area of 12 square feet or less shall have hinged hoods.

F. Performance Standards

1. Maximum total pressure drop at 600 FPM throat velocity through the free area.
   a. Intake Hoods – 0.125" WC
   b. Relief Hoods – 0.08" WC

G. The basis of design is Greenheck Fabra Hood. Acceptable equal manufacturers are Louvers & Dampers, Inc., and Carnes.

3.0 EXECUTION

3.01 INSTALLATION

A. Units shall be installed as indicated and in conformance with the manufacturer's recommendations. Coordinate the actual devices to be provided with all trades.

B. All devices shall be free of leaks, provided completely finished, trimmed, adjusted, cleaned and ready for use. They shall be properly secured to the structure.

C. Louvers with ductwork connections or future duct connections (louvers for future tenant connection) shall have a minimum of 12" deep insulated sheetmetal plenum back–box.

D. Insulated sheetmetal blank–offs shall be provided over all inactive sections or sections for future tenant use of louvers where the Architectural size exceeds the mechanical requirements.

END OF SECTION

SECTION 23 74 00

PACKAGED OUTDOOR HVAC EQUIPMENT

1.0 GENERAL

1.01 DESCRIPTION

A. All work specified in this Section is governed by the Common Work Results for HVAC Section 23 05 00.

B. This Section 23 74 00 and the accompanying drawings cover the provisions of all labor, equipment, appliances and materials, and performing all operations in connection with the construction and installation of the packaged rooftop units as specified herein and as shown. This work includes, but is not limited to, the following:

1. Packaged rooftop units including curbs and accessories
2. Control system (interlocked to the units)

C. Units shall be self–contained, rooftop curb–mounted, single package type. The rooftop units shall be completely factory–assembled as a unitary package complete with operating controls and shall be completely piped, internally wired and fully charged with R–410A refrigerant. Only one electrical power connection shall be required.

1.02 INTENT

A. It is the intent of this Section of the specifications to provide complete, operable, adjusted single package rooftop units, as shown and specified which are free of excessive noise and vibration.

1.03 BASIS OF DESIGN

A. The basis of design is as scheduled. Any proposed substitutions or equals by other manufacturers shall be proven equal in all respects to the equipment specified as the basis of design. Particular attention is called to the requirements of Section 23 05 00.

B. Acceptable substitute manufacturers are Trane, Carrier, and Daikin.

2.0 PRODUCTS

2.01 CURB

A. Each unit shall be provided with a full perimeter roof curb. The roof curb shall be of the same Manufacturer as the unit, shall support the unit and provide a watertight enclosure to protect ductwork and utility services. Curb design shall comply with National Roofing Contractors Association requirements. Supply/return air opening gasketing shall be provided. Channel shall be provided allowing for adjustment of return air opening location to match the building structural frame indicated.

B. All duct and utility connections shall be routed through bottom of unit within the curb perimeter.

2.02 UNIT CABINETS

A. Rooftop unit cabinets shall be formed, galvanized steel construction with welded base assembly. Galvanized steel surfaces shall be bonderized and painted with baked acrylic enamel for complete weather protection. All sheet metal screws shall be stainless steel. The outside air dampers shall be low leak gasketed dampers which must match and interlock with the single package rooftop units. Cabinets shall be fully insulated.

B. Unit cabinets shall be designed for curb mounting and mate with the full perimeter roof curb for a complete weathertight seal. Unit sides shall overhang the curb to form protective drip lip.

C. Access doors for the filter section and the fan section of all units sized 20 nominal tons and larger shall be hinged, walk–in type.

2.03 COMPRESSOR SECTION

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTH

12/27/2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

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Owner Approval

27MSHF.0030.000 — Job No.

1/4" = 1'-0" — Scale

MECHANICAL SPECIFICATIONS

M-0.7

A. Compressor section refrigeration system shall be factory charged, ready for operation, providing minimum two stage cooling capacity (50% and 100%) on units of over 5 tons capacity, minimum of three stages on units of nominal 20 and 25 tons and minimum of four stages on units larger than 25 nominal tons. Compressor protection shall include high and low pressure control, outdoor ambient protection, compressor sump heat, three–phase overload protection, anticycling timer providing a minimum five (5) minute time shut down of unit on interruption of power or automatic control shutoff. Compressors shall have factory–installed service valves, vibration isolators, crankcase heaters, liquid line sight glasses, filter driers, and liquid line service valves.

2.04 EVAPORATOR COILS

A. Coils shall be aluminum plate fins mechanically bonded to copper tubes. They shall be of an intertwined design for equal circuit loading and to ensure a fully active coil on part–load operation to provide evenly conditioned air. Aluminum tubes shall not be acceptable.

2.05 FANS

A. Fans shall be either single or double wheels, forward–curved, Class 1 type, and mounted on a common shaft with adjustable sheave drive. All fans shall be statically and dynamically balanced and tested in the factory. Fan shall not pass through its first critical speed in order to meet the scheduled performance. Fan shaft shall be mounted on not less than two grease–lubricated ball bearings with all fan wheels mounted inboard of the bearings. The fan and motor assembly shall be mounted on a common base; on units with motor sizes larger than five (5) HP, the entire assembly shall be isolated from the rest of the unit by double deflection vibration isolators.

B. Variable air volume (VAV) units shall be complete with variable frequency inverter drives and matched inverter–duty motors.

C. Motors on VFDs shall have shaft–grounding rings.

2.06 ELECTRIC HEATING SECTIONS

A. Electric heating sections shall be furnished with nickel–chromium open coil resistance heating elements with each element protected by an automatic reset high–limit thermostat and manual reset high– limit thermostat for the primary and secondary overcurrent/thermal protection. Controls shall provide for multiple stage start–up and operation.

2.07 GAS HEATING SECTION

A. Gas heating sections shall be mounted downstream of evaporator coils and shall be certified by AGA for use on natural gas. Heating shall be accomplished with a minimum of two stages on units 7.5 tons nominal and larger.

B. Heat exchanger shall be fabricated from aluminized steel, stress–relieved and free–floating.

C. The unit shall utilize an electronic, spark–ignition pilot light; not a standing pilot.

D. Each heating system shall include an induced draft combustion air exhaust fan protected by centrifugal switches, heat limit switches, time–delay relay, flame roll–out switches and pilot sensors. Heating controls shall consist of a redundant gas valve, intermittent pilot ignition with electric spark ignition system. Each unit shall be AGA certified.

2.08 CONTROLS AND ACCESSORIES – ALL SYSTEMS

A. All operating and safety controls shall be factory–installed and shall include solid state compressor overload protection, magnetic contactors, thermostatic expansion valve, refrigerant line drier and automatic damper motors.

B. Controls on electric heat section shall meet NEMA specifications and requirements.

C. During night setback operation, morning warm–ups after night setbacks and whenever the unit is off, the outside air dampers shall be fully closed and admit no outside air.

D. Interlocks shall be made to the duct–mounted smoke detectors in each unit's supply and return ductwork to shut the unit off and fully close the return air dampers to prevent migration of smoke upon its detection.

E. Provide a factory mounted disconnect and integral powered duplex GFI convenience outlet on all units. Coordinate with Division 26.

F. Provide downflow units with accessory condensate overflow switch in the primary drain pan. Switch shall be interlocked to shut the unit off in an overflow situation.

2.09 CONTROLS– non–VVT systems

A. A 24 volt transformer shall be provided to accommodate controls and accessories. Each unit shall be complete with an indoor thermostat and control panel complete with the following minimum list of features and capabilities:

1. Seven day programmable electronic thermostat for programming heating and cooling temperatures as well as night setback times and temperatures.

2. Battery back–up to protect the programs for up to 24 hours after a power failure.

3. Manual overrides and a failsafe program.

2.12 FILTERS

B. Units shall have high–efficiency, 2–inch thick, low velocity throwaway filters in commercially available sizes. Filters shall be not less than 30%/30% average dust spot efficient when tested in accordance with ASHRAE Test Standard 52.2–2007; Farr 30/30 or an approved equal.

2.13 AIRSIDE ECONOMIZER

A. A differential enthalpy airside economizer shall be provided with each unit. The economizer shall be factory–assembled complete with dampers, electrical actuators, exhaust fans and all controls.

B. The outside air dampers shall be low–leakage type, with a maximum leakage of 3% at 3" WC static pressure. The dampers shall be spring operated to close during power failure.

C. The differential enthalpy sensor shall be adjustable for temperature and humidity setpoints.

D. If the cooling load is satisfied by the airside economizer alone, no mechanical refrigeration shall be initiated, and the economizer dampers shall be modulated to maintain the desired discharge air temperature. The economizer shall modulate up to its full open position to meet the cooling load. When the economizer is at its maximum outside air position and further cooling is required, mechanical refrigeration shall be utilized. When the enthalpy of the outside air is above its setpoint and during normal heating cycles, the outside air damper shall be at its minimum outdoor air position.

E. Provide with barometric relief on all units, set by T&B to maintain positive building pressure.

F. The position of the return and outside air dampers shall also be controlled as specified elsewhere in response to unit and external controls.

3.0 EXECUTION

3.01 INSTALLATION

A. The packaged rooftop units and associated controls shall be installed in strict accordance with the manufacturer's recommendations.

B. The control system shall be completely wired under this Division 23. Wiring shall be in accordance with the NEC and shall meet all requirements for this installation.

3.02 STARTUP

A. Provide the services of a factory–trained and qualified Service Technician employed by the Unit Manufacturer who shall inspect the installation including external control interlock and electrical power connections; supervise leak testing, initial operation, calibration of operating and safety controls and supervise electrical testing including insulation resistance of motors and voltage balance between phases during starting and running.

B. This Service Technician shall forward a report in four (4) copies to the Owner when the unit is in safe and proper operating condition. This report shall include all pressure and control settings, meg readings, voltage readings per phase during start and run, and shall list minor discrepancies to be corrected that affect safe and reliable operation. One additional copy of the report shall be left in the unit control panel. One copy of bound installation, operation, maintenance service and parts brochures, including applicable serial numbers, full unit description and parts ordering sources, shall be placed in the unit control panel at the time of startup; four (4) additional copies shall be forwarded to the Owner.

END OF SECTION

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

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SUITE 220
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CRAIG S. BLYTH

12/27/2024

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27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

MECHANICAL SPECIFICATIONS

M-0.8

MilkShake
EST FACTORY 1914

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920 WOODSTOCK RD
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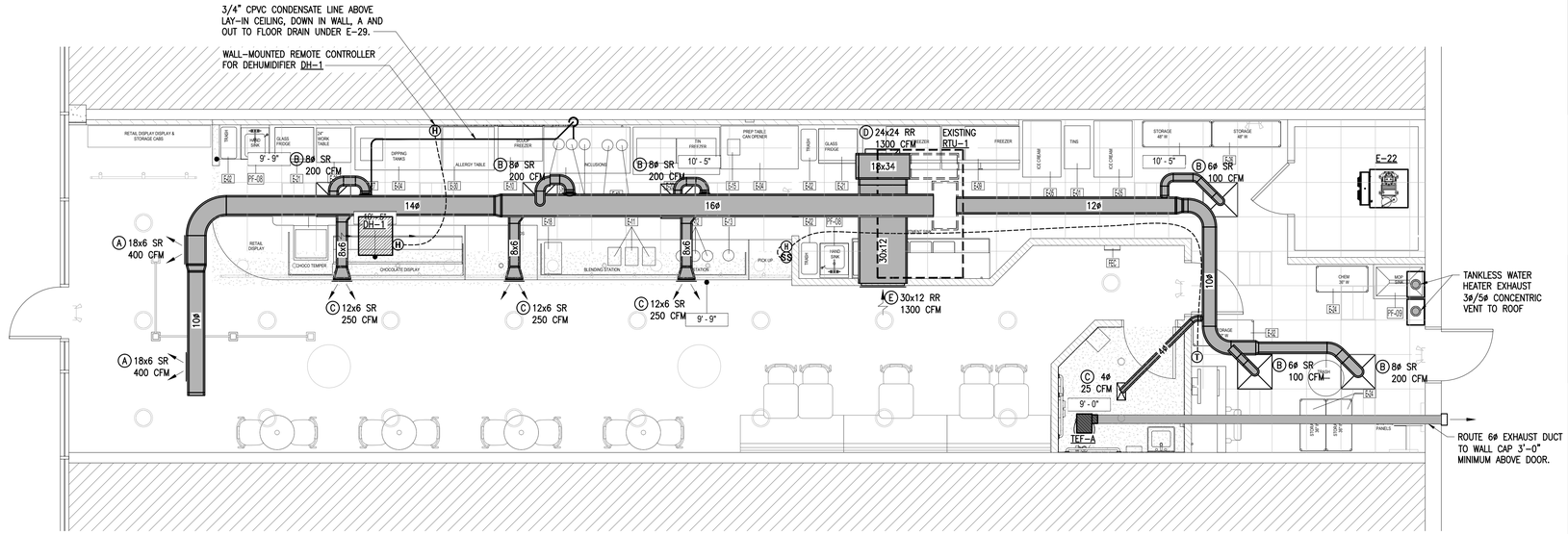
GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTH

12/27/2024



1 FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

ISSUE FOR CONSTRUCTION 12/27/2024

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1/4" = 1'-0" — Scale

MECHANICAL FLOOR PLAN

M-1.0

GENERAL ELECTRICAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT NECESSARILY SHOW EVERY FITTING AND DETAIL. ALL WORK SHALL BE COMPLETED SO THE JUNCTION BOXES AND COMPONENTS WILL BE ACCESSIBLE FOR SERVICING.
2. ALL ELECTRICAL WORK PERFORMED DURING THIS SCOPE OF WORK SHALL COMPLY WITH ALL LOCAL BUILDING CODES, LAWS, REGULATIONS, ORDINANCES, AND THE REQUIREMENTS OF THE 2023 NATIONAL ELECTRICAL CODE. ALL WORK SHALL COMPLY WITH ANY OWNER SPECIFICATIONS NOT CALLED OUT ON THIS SET OF DRAWINGS.
3. WHERE ELECTRICAL CONTINUITY TO EXISTING TO REMAIN RECEPTACLES/LIGHTS/EQUIPMENT IS DISRUPTED BY DEMOLITION DURING THIS SCOPE OF WORK, RECONNECT THE DEVICE TO THE CIRCUIT IT WAS CONNECTED TO BEFORE DEMOLITION TOOK PLACE UNLESS THE DRAWINGS SHOW OTHERWISE.
4. ALL CONDUCTORS SHALL BE COPPER WITH TYPE "THHN" OR "THW" INSULATION. USE "THHN" FOR #10 OR SMALLER CONDUCTORS. USE "THW" FOR CONDUCTORS #8 OR LARGER.
5. THE MINIMUM WIRE SIZE SHALL BE #12 A.W.G.
6. ALL PENETRATIONS THRU RATED WALLS, FLOORS AND CEILINGS SHALL BE FIRE STOPPED PER N.E.C. 300-21 AND NFPA 221.
7. PROVIDE GROUNDING AS REQUIRED BY N.E.C..
8. WHERE MOUNTING HEIGHTS ARE SHOWN ON THE DRAWINGS, THE MEASUREMENT IS TO BE TAKEN FROM THE CENTERLINE OF THE DEVICE.
9. TYPICAL CONDUIT SIZES ARE 3/4" EMT WITH 2#12, 1#12G. AWG UNLESS OTHERWISE NOTED.
10. A #12 GROUND SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE GROUNDED AT THE PANEL THAT FEEDS THE EQUIPMENT.
11. CONTRACTOR SHALL PROVIDE A PANEL SCHEDULE DIRECTORY LOCATED ON THE INSIDE COVER OF THE ELECTRICAL PANEL. ALL CIRCUITS, SPARES, AND SPACES SHALL BE CORRECTLY LABELED.
12. ALL BRANCH CIRCUIT HOMERUN CONDUCTORS SHALL BE PROVIDED WITH A SEPERATE INSULATED #12 AWG EQUIPMENT GROUNDING CONDUCTOR.
13. IF THE GENERAL CONTRACTOR DOES ANY WORK THAT CAUSES DISRUPTION TO ANY ELECTRICAL CIRCUITS OR SYSTEMS, THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL REMAINING WORKING DEVICES ON THAT CIRCUIT AS REQUIRED TO ENSURE PROPER WORKING SYSTEM.
14. BUILDING CODE SECTION 705.4 SHALL BE MET WITH ELECTRICAL DEVICES TO BE INSTALLED IN RATED WALLS.
15. ALL ELECTRICAL MATERIALS, DEVICES, AND EQUIPMENT SHALL BE LISTED BY UL OR OTHER STATE APPROVED THIRD PARTY TESTING AGENCY.
16. FIRE RATED SLEEVES SHALL BE PROVIDED AND ALL FIRESTOPPING SHALL BE PROVIDED AS REQUIRED BY CODE WHEN CABLING IS ROUTED THROUGH A FIRE RATED PARTITION. BLANK COVERS SHALL BE INSTALLED ON RINGS.
17. ALL ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE AFTER BEING INSTALLED. CONTRACTOR SHALL NOT INSTALL TRIM AND COVER PLATES UNTIL AFTER ALL FINISHES TO ARCHITECTURAL ELEMENTS HAVE BEEN COMPLETED.
18. MOUNT ALL DISCONNECT SWITCHES TO STRUCTURE. DISCONNECTS SHALL NOT BE MOUNTED TO DUCTWORK OR MECHANICAL EQUIPMENT.
19. ANY CABLING TO BE INSTALLED DURING THIS SCOPE OF WORK THAT IS ROUTED THROUGH ANOTHER TENANT SPACE OR COMMON AREA SHALL BE ENCLOSED IN CONDUIT.
20. ALL LIGHT FIXTURE SHALL BE CLEANED, AND FULLY FUNCTIONAL AT MOVE-IN. THIS INCLUDES RE-LAMPING.
21. CONTRACTOR SHALL PROVIDE AND INSTALL NAMEPLATE FOR ALL RECEPTACLES AND POWERED DEVICES. INFORMATION ON NAMEPLATE SHALL INCLUDE ELECTRICAL PANEL AND CIRCUIT NUMBER FROM WHICH DEVICE IS POWERED.
22. WHERE TWO SWITCHES OR MORE (INCLUDING DIMMERS) ARE LOCATED NEXT TO EACH OTHER, CONTRACTOR SHALL PROVIDE AND INSTALL A SINGLE SWITCHPLATE TO PROVIDE A NEATER APPEARANCE.
23. MC CABLE IS NOT ALLOWED WHERE VISIBLE TO THE END USER.
24. ALL CONDUCTORS #1 AND UNDER SHALL BE RATED FOR 60 DEGREES CELSIUS. ALL CONDUCTORS LARGER THAN #1 SHALL BE RATED FOR 75 DEGREES CELSIUS.
25. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE NOTED.

ELECTRICAL SYMBOL LEGEND

J	JUNCTION BOX
J	WALL MOUNTED JUNCTION BOX
	CONCEALED CONDUIT
	CONCEALED CONDUIT IN FLOOR OR UNDERGROUND
	CIRCUIT HOMERUN TO PANEL; EACH ARROWHEAD = 1 CIRCUIT
	HASH MARKS ACROSS CONDUIT INDICATE THE NUMBER OF #12 CONDUCTORS (# OF PHASES + NEUTRAL) UNLESS OTHERWISE NOTED. NO HASH MARKS INDICATE TWO #12 CONDUCTORS. EQUIPMENT GROUNDING CONDUCTORS ARE NOT INDICATED BY HASH MARKS.
	120/208V ELECTRICAL PANELBOARD
	277/480V ELECTRICAL PANELBOARD
#/#	NON-FUSED DISCONNECT SWITCH (FRAME/POLES)
#/#/#	FUSED DISCONNECT SWITCH (FRAME/POLES/FUSE) - FUSE IF NEEDED AND SIZE PER EQUIPMENT NAMEPLATE
POWER SYMBOLS	
WP/GFI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION AND WEATHERPROOF HOUSING
GFI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
	5-20R DUPLEX RECEPTACLE
	QUADRAPLEX RECEPTACLE
	SPECIAL RECEPTACLE. NEMA TYPE NOTED NEXT TO DEVICE OR IN KEYED NOTE
	FLOOR MOUNTED POKE-THRU DEVICE WITH DUPLEX RECEPTACLE AND DATA/COMMUNICATIONS DEVICES FOR NON-SLAB ON GRADE APPLICATIONS. FLOOR MOUNTED RECESSED FLOOR BOX WITH DUPLEX RECEPTACLE AND DATA/COMMUNICATIONS DEVICES FOR SLAB ON GRADE APPLICATIONS.
	TELE/COMMUNICATIONS JACK (CONTRACTOR SHALL PROVIDE AND INSTALL JUNCTION BOX CONNECTED TO PULLSTRING TO UP ABOVE ACCESSIBLE CEILING)
USB	DUPLEX RECEPTACLE WITH (2) USB PLUGS. BASIS OF DESIGN IS LEGRAND 'TM826USBWCC6'
	CONDUIT STUB UP
TV	TELEVISION. REFER TO DETAIL ON THIS DRAWING SET. MOUNT AT +60"AFF UNLESS OTHERWISE NOTED.
LIGHTING SYMBOLS	
	LIGHT FIXTURE (LETTER NEXT TO LIGHT SIGNIFIES LIGHTING TYPE - REFER TO LIGHTING FIXTURE SCHEDULE)
	EXIT SIGN (COORDINATE ARROWS AND FACES WITH DRAWINGS)
	EMERGENCY "BUG EYE" LIGHT FIXTURE
$	WALL MOUNTED COMMERCIAL GRADE DECORATOR LIGHT SWITCH. GREENGATE 7521 SERIES. VALUE ENGINEERING SUBSTITUTION SHALL BE COMMERCIAL GRADE TOGGLE SWITCH. GREENGATE CS120 SERIES.
$D	WALL MOUNTED STANDARD 0-10V COMMERCIAL GRADE SLIDE DIMMER LIGHT SWITCH. GREENGATE WBSD-010M-C1
$3	WALL MOUNTED STANDARD COMMERCIAL GRADE THREE-WAY TOGGLE LIGHT SWITCH. GREENGATE
$OS	WALL MOUNTED LUTRON OCCUPANCY SENSOR / LIGHT SWITCH COMBINATION UNIT.
OS	CEILING MOUNTED LUTRON OCCUPANCY SENSOR.

LIGHTING NOTES:
- TIMEOUTS FOR ALL OCCUPANCY OR VACANCY SENSORS SHALL BE SET TO MAXIMUM LENGTH ALLOWED BY SENSOR MANUFACTURER.
- MANUFACTURERS ALLOWED ARE GREENGATE (BASIS OF DESIGN), NLIGHT, SENSOR SWITCH, WATTSTOPPER, LEVITON OR OTHER PREAPPROVED EQUAL. ALL LIGHTING CONTROL PRODUCTS FOR THE PROJECT SHALL BE OF THE SAME MANUFACTURER.
- PROVIDE AND INSTALL ACCESSORIES REQUIRED FOR FULL OPERATION OF DEVICES.
- LIGHTING CONTROLS SHALL BE TYPE RECOMMENDED BY LIGHTING MANUFACTURER TO OPERATE THE LIGHTING TYPE WITH FEATURES AS SELECTED/PROVIDED. MANUFACTURER'S RECOMMENDATION SHALL SUPERCEDE ALL SPECIFICATIONS ON THIS ELECTRICAL SYMBOL LEGEND.
- ALL CEILING MOUNTED OCCUPANCY OR VACANCY SENSORS SHALL BE CENTRALLY LOCATED IN THE ROOM IT SERVES AND POSITIONED FOR ACCURATE DETECTION.
- FOR ALL LOW VOLTAGE CEILING MOUNTED OCCUPANCY AND VACANCY SENSORS, THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL A POWER PACK OF MODEL RECOMMENDED BY MANUFACTURER.
- ALL DEVICE COLORS SHALL BE SELECTED BY ARCHITECT/INTERIOR DESIGNER.

ABBREVIATIONS

"+"	# OF INCHES TO MOUNT CENTERLINE OF DEVICE ABOVE FINISHED FLOOR
AC	ABOVE COUNTER
BC	BELOW CEILING
CM	CEILING MOUNTED
EC	EMPTY CONDUIT (WITH PULLSTRING)
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
WP	NEMA 3R RATED
WAP	CEILING MOUNTED WIRELESS ACCESS POINT PROVIDED AND INSTALLED BY OTHERS.

Sheet List Table

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED NO.32646 PROFESSIONAL ENGINEER GREGORY W. WILEY

12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE
		ISSUE FOR CONSTRUCTION	12/27/2024

GREGORY W. WILEY

4539 Hedgemore Drive, Suite 102
Charlotte, NC 28209
704-287-2193
Project#: 24550

Owner Approval

27MSHF.0030.000 — Job No.

1/4" = 1'-0" — Scale

ELECTRICAL LEGEND, NOTES, & DETAILS

E-0.1

GENERAL SPECIFICATIONS

A. THE WORK COVERED BY THESE SPECIFICATIONS CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, MATERIAL,S AND SUPPLIES AS NECESSARY FOR THE COMPLETE AND SATISFACTORY OPERATING ELECTRICAL SYSTEMS AS SHOWN ON THE PLANS.

B. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODES, NFPA, STATE BUILDING CODES, AND ANY OTHER LOCAL REQUIREMENTS THAT MAY APPLY. CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS, FEES, INSPECTIONS, ETC.

C. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTION FEES.

D. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. OR BY A STATE APPROVED THIRD PARTY TESTING AGENCY FOR THE USE INTENDED WHERE A STANDARD FOR SUCH MATERIALS AND USE EXISTS. ALL ITEMS OF THE SAME TYPE AND RATING SHALL BE IDENTICAL AND OF THE SAME MANUFACTURER.

E. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CATALOG DATA IN ELECTRONIC FORMAT (PDF) FOR ALL ELECTRICAL ITEMS IN THE SCOPE OF WORK, INCLUDING, BUT NOT LIMITED TO, RACEWAYS, BOXES, FITTINGS, CONDUCTORS, LUMINAIRES, LAMPS, BALLASTS, WIRING DEVICES, SAFETY SWITCHES, DISCONNECTS, TRANSFORMERS, PANELBOARDS, FIRE ALARM, TELECOMMUNICATIONS, ETC. FOR APPROVAL AS APPLICABLE FOR THE PROJECT. ONE COMPLETE SET OF APPROVED SUBMITTALS SHALL BE MAINTAINED AT THE JOB SITE.

F. ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT TO COMPLY WITH THE BASIS OF DESIGN, INCLUDING PROVIDING MAINTENANCE ACCESS, CLEARANCE, CONDUIT, WIRING, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, METHODS, ETC., SHALL BE INCLUDED IN THE ORIGINAL BASE BID. NO ADDITIONAL COSTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT WILL BE APPROVED AFTER BIDS HAVE BEEN ACCEPTED AND ALL COSTS WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. CREDITS SHALL BE GIVEN TO THE OWNER WHERE SUCH EQUIPMENT AND METHODS RESULT IN LESS EXPENSE TO THE CONTRACTOR.

G. ONE COMPLETE SET OF THE LATEST CONSTRUCTION PLANS OF ALL TRADES SHALL BE MAINTAINED AT THE JOB SITE. IN ADDITION, ALL ADDENDUMS, BULLETINS, AND/OR SKETCHES SHALL BE INCORPORATED INTO THE ON-SITE CONSTRUCTION PLANS AS THE JOB PROGRESSES.

H. COMPLETELY ADEQUATE HOUSING SHALL BE PROVIDED FOR ALL MATERIALS STORED ON JOB SITE. ONLY CONDUIT MAY BE STORED OUTSIDE, BUT NOT IN CONTACT WITH THE GROUND.

I. THE CONDUIT AND NEUTRAL SYSTEM SHALL BE GROUNDED AT THE MAIN SERVICE EQUIPMENT. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED PER NEC 250.

J. PROVIDE AN INTERSYSTEM BONDING TERMINATION DEVICE AT THE MAIN ELECTRICAL SERVICE PER NEC 250.94.

K. WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED. FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.

L. PROVIDE ALL CUTTING AND PATCHING FOR INSTALLATION OF WORK AND REPAIR ANY DAMAGE DONE.

M. THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS (UNLESS OTHERWISE NOTED), EXCEPT FOR CONTROL WIRING FOR EQUIPMENT NOT PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING FOR SUCH EQUIPMENT SHALL BE PROVIDED BY THE RESPECTIVE DISCIPLINE.

N. ALL ELECTRICAL JUNCTION BOXES, SWITCHGEAR, CABLING, VOICE/DATA OUTLETS, LOW VOLTAGE CABINETS, EMERGENCY RECEPTACLES, ETC. SHALL BE LABELED ACCORDING TO PANEL AND CIRCUIT NUMBER.

O. UPON COMPLETION OF WORK, CONTRACTOR SHALL PRESENT ENGINEER WITH CERTIFICATE OF APPROVAL FROM LOCAL INSPECTOR AND/OR AUTHORITY HAVING JURISDICTION BEFORE WORK WILL BE APPROVED FOR FINAL PAYMENT.

P. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR EFFECTIVE THE DATE THE PROJECT IS ACCEPTED BY THE OWNER. ANY IMPERFECT MATERIALS OR WORKMANSHIP SHALL BE REPLACED WITHOUT ADDED COST TO THE PROJECT.

Q. IT SHALL NOT BE THE INTENT OF ISSUED PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL NECESSARY ITEMS FOR A COMPLETE AND OPERATING SYSTEM.

R. THE WORD "PROVIDE" MEANS THAT THIS CONTRACTOR SHALL FURNISH, FABRICATE, ERECT, CONNECT, AND COMPLETELY INSTALL SYSTEMS IN PROPER OPERATING CONDITION. ALL LABOR, PRODUCT OPTIONS, ACCESSORIES AND INCIDENTAL MATERIALS REQUIRED SHALL BE INCLUDED AS PART OF THIS WORK TO COMPLETE THE INSTALLATION.

S. THE WORD "CONNECT" MEANS THAT THIS CONTRACTOR SHALL PROVIDE (SEE DEFINITION ABOVE) ALL DISCONNECTING MEANS, OVERCURRENT PROTECTION AND WIRING REQUIRED TO PLACE THE EQUIPMENT AND SYSTEMS IN PROPER OPERATING CONDITION AND TO COMPLY WITH CODE REQUIREMENTS.

T. CONTRACTOR SHALL COORDINATE THE ROUGH-IN OF ALL OUTLET LOCATIONS WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS, AND MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.

U. ELECTRICAL CONTRACTOR SHALL NOT SCALE PLANS. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, UNLESS OTHERWISE NOTED.

V. IF DURING THE COURSE OF WORK, THE CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC, OR OTHER CODES OR REQUIREMENTS, THE CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.

W. WHERE THERE ARE CONFLICTS BETWEEN THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL BRING THE ISSUE TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK OR ORDERING ANY MATERIALS. NO ADDITIONAL COSTS SHALL BE WARRANTED WITHOUT A CHANGE TO THE PROJECT SCOPE.

X. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PROVIDING TEMPORARY POWER AND LIGHTING FOR ALL TRADES. AT NO TIME SHALL EXISTING BUILDING POWER SYSTEMS BE UTILIZED WITHOUT WRITTEN PERMISSION FROM THE OWNER.

Y. COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL SERVICE WITH THE POWER COMPANY. WHERE MORE THAN ONE SERVICE IS SUPPLIED TO A BUILDING, PROVIDE IDENTIFICATION AT EACH SERVICE PER NEC 230-2(E).

Z. COORDINATE LOCATION AND REQUIREMENTS FOR TELEPHONE SERVICE WITH THE TELEPHONE COMPANY.

CONDUCTORS

PART 1 GENERAL

A. CONDUCTORS SHALL BE MANUFACTURED BY SOUTHWIRE (SIMPULL), ENCORE (SUPERSLICK), UNITED COPPER (SLK), CERRO (SLP), OR APPROVED EQUAL, "PRE-LUBRICATED" BY THE MANUFACTURER.

B. ALL CONDUCTORS SHALL BE COPPER, RATED 75° C WET/DRY EXCEPT WHERE OTHERWISE NOTED OR REQUIRED BY U.L. OR OTHER CODES.

C. ALL CONDUCTORS SHALL BE SINGLE INSULATED CONDUCTOR, THHN/THWN-2. SIZES #10 AWG AND SMALLER SHALL BE SOLID, SIZES #8 AWG AND LARGER SHALL BE STRANDED.

D. BRANCH CIRCUITS SHALL NOT BE SMALLER THAN #12 AWG. CONTROL WIRING MAY BE #14 AWG.

E. CONDUCTORS SHALL BE COLOR CODED BLACK/RED/BLUE FOR 120/208 VOLT SYSTEMS AND BROWN/ORANGE/YELLOW FOR 277/480 VOLT SYSTEMS FOR A, B, AND C PHASES, RESPECTIVELY. NEUTRAL SHALL BE WHITE FOR 120/208 VOLT SYSTEMS AND NATURAL GRAY FOR 277/480 VOLT SYSTEMS. GROUND CONDUCTOR SHALL BE GREEN ON ALL SYSTEMS. ALL CONDUCTOR SIZES SHALL HAVE COLOR-CODED INSULATION. THE USE OF COLORED TAPE ON LARGER WIRE SIZES SHALL NOT BE ALLOWED.

F. INSULATION SHALL BE DUAL RATED TYPE THHN/THWN-2 FOR FEEDERS AND BRANCH CIRCUITS. FIXTURE TAPS SHALL BE #12 THHN/THWN-2 IN FLEX WITH GREEN #12 AWG GROUNDING CONDUCTOR.

G. ALL CONDUCTORS SHALL BE IN CONDUIT.

H. WIRING TO LIGHTING FIXTURES SHALL BE AS REQUIRED BY UL LABEL.

I. MULTI-WIRE BRANCH CIRCUITS SHALL NOT BE ALLOWED, UNLESS EXPLICITLY INDICATED ON THE DRAWINGS OR WHEN POWERING MODULAR SYSTEMS FURNITURE. WHERE EXPLICITLY INDICATED ON THE DRAWINGS:
   1) ALL 20A MULTI-WIRE RECEPTACLE CIRCUITS SHALL UTILIZE A #10 AWG NEUTRAL CONDUCTOR.
   2) WHERE MULTI-WIRE BRANCH CIRCUITS ARE EXPLICITLY INDICATED ON THE DRAWINGS, THEY SHALL BE INSTALLED PER NEC 210.4. MEANS SHALL BE PROVIDED TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES IN ADDITION TO OTHER REQUIREMENTS PER NEC 210.4.

J. JOINTS IN #10 AWG AND SMALLER SHALL BE MADE UP WITH CRIMPED CONNECTORS WITH INSULATING CAPS (NO TAPE) OR WIRENUTS (MAXIMUM OF 3 CONDUCTORS UNDER ANY CONNECTOR OR WIRENUT). LARGER WIRE SHALL USE SPLIT BOLTS OR BOLTED CLAMPS.

K. ALL WIRING LUGS THROUGHOUT THE PROJECT, INCLUDING, BUT NOT LIMITED TO, BREAKERS, PANELBOARD/SWITCHBOARD LUGS, SAFETY SWITCH LUGS, MOTOR STARTER LUGS, TRANSFORMERS LUGS, WIRING DEVICE TERMINALS, AND ALL EQUIPMENT LUGS/TERMINALS SHALL BE RATED FOR USE WITH 75 DEGREE INSULATED CONDUCTORS AT THEIR 75 DEGREE AMPACITY AND SHALL BE SIZED AND SELECTED TO MATCH THE CONDUCTOR SIZE AND MATERIAL.

L. CIRCUIT JOINTS SHALL NOT BE MADE ON DEVICE TERMINALS.

M. WIRE WITHIN PANELBOARDS SHALL BE NEATLY TRAINED, SQUARED, BUNCHED, AND TAGGED.

N. ALL SYSTEM FURNITURE CONNECTIONS SHALL COMPLY WITH NEC 605.

O. GROUND ALL EQUIPMENT PER NEC ARTICLE 250. BOND WHERE CONDUITS ENTER ENCLOSURES THROUGH CONCENTRIC KNOCKOUTS. ALL FLEX, INCLUDING FIXTURE TAPS, SHALL INCLUDE GREEN GROUNDING CONDUCTOR, #12 AWG MINIMUM. PROVIDE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT, SIZED PER NEC 250-122.

P. ALL CONDUCTORS INSTALLED IN VERTICAL RACEWAYS SHALL BE SUPPORTED AT INTERVALS AS REQUIRED PER NEC 300-19.

Q. THE ELECTRICAL CONTRACTOR SHALL FOLLOW AND APPLY THE TABLE BELOW, REGARDLESS WHAT THE PANEL SCHEDULE INDICATES, FOR SIZING ALL 120V & 277V, 20 AMP BRANCH CIRCUITS (COPPER CONDUCTORS) TO ALLOW A MAXIMUM OF 3% VOLTAGE DROP FROM THE CIRCUIT BREAKER TO THE FIRST DEVICE ON THE BRANCH CIRCUIT AND ACHIEVE A MAXIMUM OF 5% VOLTAGE DROP ACROSS THE ENTIRE BRANCH CIRCUIT:

VOLTAGE	CONDUCTOR LENGTH *	BRANCH CIRCUIT
120	0' - 50'	#12
120	51' - 90'	#10
120	91' - 140'	#8
120	141' - 225'	#6
277	0' - 125'	#12
277	126' - 200'	#10
277	201' - 330'	#8
277	331' - 525'	#6

* - THE LENGTH IS MEASURED FROM THE CIRCUIT BREAKER TO THE FIRST DEVICE WHICH THE BRANCH CIRCUIT SERVES. WHERE THE DISTANCE EXCEEDS ABOVE, CONSULT WITH THE ENGINEER.

PAINTING

PART 1 GENERAL

A. SUITABLE FINISH COAT SHALL BE PROVIDED FOR ALL EQUIPMENT. PANEL TUBS, COVERS, ETC. SHALL BE PRIMED AND ENAMELED TO BLEND WITH ADJACENT SURFACES, OR SHALL BE MANUFACTURER'S STANDARD COLOR BAKED ENAMEL FINISH, OR AS DIRECTED BY THE ARCHITECT.

TELECOMMUNICATIONS

PART 1 GENERAL

A. CONTRACTOR SHALL UTILIZE EXISTING TELEPHONE CONDUIT SYSTEM. CONTRACTOR SHALL COORDINATE ANY NEW CONDUIT REQUIREMENTS WITH TELEPHONE PROVIDER AND FURNISH ACCORDINGLY.

B. TELECOMMUNICATION OUTLETS SHALL CONSIST OF A 4" SQUARE DEEP BOX WITH SINGLE GANG PLASTER RING. PROVIDE BLANK PLATE WITH KNOCKOUTS FOR OUTLETS, AS PERMANENT COVERS WILL BE PROVIDED BY A SEPARATE INSTALLER.

C. PROVIDE MINIMUM 210# TEST NYLON PULL CORD AND NYLON BUSHINGS IN ALL EMPTY RACEWAYS.

D. PROVIDE GROUNDING FOR ALL TELEPHONE/DATA SYSTEMS AND EQUIPMENT PER REQUIREMENTS AND SPECIFICATIONS PROVIDED BY THE OWNERS DESIGNATED VENDOR.

E. ALL LOW-VOLTAGE CABLING SHALL BE PLENUM-RATED.

F. VERIFY SITE LOCATION OF TELEPHONE SERVICES WITH APPROPRIATE VENDOR, PRIOR TO SUBMITTING BID.

GROUNDING AND BONDING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. GROUNDING AND BONDING COMPONENTS.
   B. PROVIDE ALL COMPONENTS NECESSARY TO COMPLETE THE GROUNDING SYSTEM(S) CONSISTING OF:
      1. EXISTING METAL UNDERGROUND WATER PIPE.
      2. METAL UNDERGROUND WATER PIPE.
      3. METAL FRAME OF THE BUILDING.
      4. STEEL WATER STORAGE TANK AND SUPPORTS.
      5. CONCRETE-ENCASED ELECTRODE.
      6. ROD ELECTRODES.
      7. PLATE ELECTRODES.
      8. ACTIVE ELECTRODES.

1.02 REFERENCES
   A. NETA STD ATS - ACCEPTANCE TESTING SPECIFICATIONS FOR ELECTRICAL POWER DISTRIBUTION EQUIPMENT AND SYSTEMS; INTERNATIONAL ELECTRICAL TESTING ASSOCIATION; 2007.
   B. NFPA 70 - NATIONAL ELECTRICAL CODE; NATIONAL FIRE PROTECTION ASSOCIATION; 2005.
   C. NFPA 99 - STANDARD FOR HEALTH CARE FACILITIES; NATIONAL FIRE PROTECTION ASSOCIATION; 2005.

1.03 PERFORMANCE REQUIREMENTS
   A. GROUNDING SYSTEM RESISTANCE: 5 OHMS.

1.04 QUALITY ASSURANCE
   A. CONFORM TO REQUIREMENTS OF NFPA 70.
   B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE WITH SERVICE FACILITIES WITHIN 100 MILES OF PROJECT.
   C. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.

PART 2 PRODUCTS

2.01 MANUFACTURERS
   A. COOPER POWER SYSTEMS
   B. FRAMATOME CONNECTORS INTERNATIONAL
   C. LIGHTNING MASTER CORPORATION
   D. PRE-APPROVED EQUALS

2.02 ELECTRODES
   A. ROD ELECTRODES: COPPER.
      1. DIAMETER: 3/4 INCH (19 MM).
      2. LENGTH: 5 FEET (1500 MM).
   B. ACTIVE ELECTRODES: METALLIC-SALT-FILLED COPPER-TUBE ELECTRODE.
      1. SHAPE: STRAIGHT.
      2. LENGTH: 8 FEET (2400 MM).
      3. CONNECTOR: U-BOLT PRESSURE PLATE.
   C. FOUNDATION ELECTRODES: 2/0 AWG.

2.03 CONNECTORS AND ACCESSORIES
   A. MECHANICAL CONNECTORS: BRONZE.
   B. WIRE: STRANDED COPPER.
   C. GROUNDING ELECTRODE CONDUCTOR: SIZE TO MEET NFPA 70 REQUIREMENTS.
   D. GROUNDING WELL:
      1. WELL PIPE: 8 INCH (200 MM) BY 24 INCH (600 MM) LONG CLAY TILE PIPE WITH BELLED END.
      2. WELL COVER: CAST IRON WITH LEGEND "GROUND" EMBOSSED ON COVER.

PART 3 EXECUTION

3.01 EXAMINATION
   A. VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
   B. VERIFY THAT FINAL BACKFILL AND COMPACTION HAS BEEN COMPLETED BEFORE DRIVING ROD ELECTRODES.

3.02 INSTALLATION
   A. INSTALL GROUND ELECTRODES AT LOCATIONS INDICATED. INSTALL ADDITIONAL ROD ELECTRODES AS REQUIRED TO ACHIEVE SPECIFIED RESISTANCE TO GROUND.
   B. PROVIDE GROUNDING WELL PIPE WITH COVER AT EACH ROD LOCATION. INSTALL WELL PIPE TOP FLUSH WITH FINISHED GRADE.
   C. INSTALL 4 AWG BARE COPPER WIRE IN FOUNDATION FOOTING WHERE INDICATED.
   D. PROVIDE GROUNDING ELECTRODE CONDUCTOR AND CONNECT TO REINFORCING STEEL IN FOUNDATION FOOTING WHERE INDICATED. BOND STEEL TOGETHER.
   E. PROVIDE BONDING TO MEET REQUIREMENTS DESCRIBED IN QUALITY ASSURANCE.
   F. BOND TOGETHER METAL SIDING NOT ATTACHED TO GROUNDED STRUCTURE; BOND TO GROUND.
   G. EQUIPMENT GROUNDING CONDUCTOR: PROVIDE SEPARATE, INSULATED CONDUCTOR WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY. TERMINATE EACH END ON SUITABLE LUG, BUS, OR BUSHING.

HANGERS AND SUPPORTS

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. CONDUIT AND EQUIPMENT SUPPORTS.
   B. ANCHORS AND FASTENERS.

1.02 QUALITY ASSURANCE
   A. CONFORM TO REQUIREMENTS OF NFPA 70.
   B. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.

PART 2 EXECUTION

2.01 INSTALLATION
   A. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT ELECTRICAL SYSTEM COMPONENTS, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
      1. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
      2. OBTAIN PERMISSION FROM ARCHITECT BEFORE DRILLING OR CUTTING STRUCTURAL MEMBERS.
   B. RIGIDLY WELD SUPPORT MEMBERS OR USE HEXAGON-HEAD BOLTS TO PRESENT NEAT APPEARANCE WITH ADEQUATE STRENGTH AND RIGIDITY. USE SPRING LOCK WASHERS UNDER ALL NUTS.
   C. INSTALL SURFACE-MOUNTED CABINETS AND PANELBOARDS WITH MINIMUM OF FOUR ANCHORS.
   D. IN WET AND DAMP LOCATIONS USE STEEL CHANNEL SUPPORTS TO STAND CABINETS AND PANELBOARDS 1 INCH (25 MM) OFF WALL.
   E. USE SHEET METAL CHANNEL TO BRIDGE STUDS ABOVE AND BELOW CABINETS AND PANELBOARDS RECESSED IN HOLLOW PARTITIONS.

ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. NAMEPLATES AND LABELS.
   B. WIRE AND CABLE MARKERS.
   C. CONDUIT MARKERS.
   D. FIELD-PAINTED IDENTIFICATION OF CONDUIT.

1.02 QUALITY ASSURANCE
   A. CONFORM TO REQUIREMENTS OF NFPA 70.
   B. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN.

PART 2 PRODUCTS

2.01 NAMEPLATES AND LABELS
   A. NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, BLACK LETTERS ON WHITE BACKGROUND.
   B. LOCATIONS:
      1. EACH ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT ENCLOSURE.

2.02 CONDUIT MARKERS
   A. LOCATION: FURNISH MARKERS FOR EACH CONDUIT LONGER THAN 6 FEET (2 M).
   B. SPACING: 20 FEET (6 M) ON CENTER.

2.03 UNDERGROUND WARNING TAPE
   A. DESCRIPTION: 4 INCH (100 MM) WIDE PLASTIC TAPE, DETECTABLE TYPE COLORED RED WITH SUITABLE WARNING LEGEND DESCRIBING BURIED ELECTRICAL LINES.

PART 3 EXECUTION

3.01 INSTALLATION
   A. INSTALL NAMEPLATES AND LABELS PARALLEL TO EQUIPMENT LINES.
   B. SECURE NAMEPLATES TO EQUIPMENT FRONT USING SCREWS.
   C. SECURE NAMEPLATES TO INSIDE SURFACE OF DOOR ON PANELBOARD THAT IS RECESSED IN FINISHED LOCATIONS.
   D. IDENTIFY UNDERGROUND CONDUITS USING UNDERGROUND WARNING TAPE. INSTALL ONE TAPE PER TRENCH AT 3 INCHES (75 MM) BELOW FINISHED GRADE.

CONDUIT

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. CONDUIT, FITTINGS AND CONDUIT BODIES.

1.02 QUALITY ASSURANCE
   A. CONFORM TO REQUIREMENTS OF NFPA 70.
   B. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN.

1.03 DELIVERY, STORAGE, AND HANDLING
   A. ACCEPT CONDUIT ON SITE. INSPECT FOR DAMAGE.
   B. PROTECT CONDUIT FROM CORROSION AND ENTRANCE OF DEBRIS BY STORING ABOVE GRADE. PROVIDE APPROPRIATE COVERING.
   C. PROTECT PVC CONDUIT FROM SUNLIGHT.

PART 2 PRODUCTS

2.01 CONDUIT REQUIREMENTS
   A. CONDUIT SIZE: COMPLY WITH NFPA 70.
      1. MINIMUM SIZE: 3/4 INCH (13 MM) UNLESS OTHERWISE SPECIFIED.
   B. UNDERGROUND INSTALLATIONS:
      1. MORE THAN 5 FEET (1.5 METERS) FROM FOUNDATION WALL: USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, OR PLASTIC COATED CONDUIT.
      2. WITHIN 5 FEET (1.5 METERS) FROM FOUNDATION WALL: USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, PLASTIC COATED CONDUIT, OR THICKWALL NONMETALLIC CONDUIT.
      3. IN OR UNDER SLAB ON GRADE: USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, OR PLASTIC COATED CONDUIT.
      4. MINIMUM SIZE: 3/4 INCH (19 MM).
   C. OUTDOOR LOCATIONS ABOVE GRADE: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, OR ELECTRICAL METALLIC TUBING.
   D. IN SLAB ABOVE GRADE:
      1. USE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, OR THICKWALL NONMETALLIC CONDUIT.
      2. MAXIMUM SIZE CONDUIT IN SLAB: 3/4 INCH (19 MM); 1/2 INCH (13 MM) FOR CONDUITS CROSSING EACH OTHER.
   E. WET AND DAMP LOCATIONS: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, THICKWALL NONMETALLIC CONDUIT, OR NONMETALLIC TUBING.
   F. DRY LOCATIONS:
      1. CONCEALED: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, THICKWALL NONMETALLIC CONDUIT, OR NONMETALLIC TUBING.
      2. EXPOSED: USE RIGID STEEL CONDUIT, RIGID ALUMINUM CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, OR THICKWALL NONMETALLIC CONDUIT.

2.02 METAL CONDUIT
   A. RIGID STEEL CONDUIT: ANSI C80.1.
   B. RIGID ALUMINUM CONDUIT: ANSI C80.5.
   C. INTERMEDIATE METAL CONDUIT (IMC): RIGID STEEL.
   D. FITTINGS AND CONDUIT BODIES: NEMA FB 1; MATERIAL TO MATCH CONDUIT.

2.03 ELECTRICAL METALLIC TUBING (EMT)
   A. DESCRIPTION: ANSI C80.3; GALVANIZED TUBING.
   B. FITTINGS AND CONDUIT BODIES: NEMA FB 1; STEEL OR MALLEABLE IRON COMPRESSION TYPE.

PART 3 EXECUTION

3.01 INSTALLATION
   A. INSTALL CONDUIT SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
   B. INSTALL STEEL CONDUIT AS SPECIFIED IN NECA 101.
   C. ARRANGE SUPPORTS TO PREVENT MISALIGNMENT DURING WIRING INSTALLATION.
   D. SUPPORT CONDUIT USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, AND SPLIT HANGERS.
   E. GROUP RELATED CONDUITS; SUPPORT USING CONDUIT RACK. CONSTRUCT RACK USING STEEL CHANNEL; PROVIDE SPACE ON EACH FOR 25 PERCENT ADDITIONAL CONDUITS.
   F. FASTEN CONDUIT SUPPORTS TO BUILDING STRUCTURE AND SURFACES UNDER PROVISIONS OF SECTION 16070.
   G. DO NOT SUPPORT CONDUIT WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE WIRE USED FOR TEMPORARY SUPPORTS.
   H. DO NOT ATTACH CONDUIT TO CEILING SUPPORT WIRES.
   I. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND PRESENT NEAT APPEARANCE.
   J. ROUTE EXPOSED CONDUIT PARALLEL AND PERPENDICULAR TO WALLS.
   K. ROUTE CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS.
   L. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT.
   M. MAINTAIN ADEQUATE CLEARANCE BETWEEN CONDUIT AND PIPING.
   N. CUT CONDUIT SQUARE USING SAW OR PIPECUTTER; DE-BURR CUT ENDS.
   O. BRING CONDUIT TO SHOULDER OF FITTINGS; FASTEN SECURELY.
   P. INSTALL NO MORE THAN EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN BOXES. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS. USE HYDRAULIC ONE SHOT BENDER TO FABRICATE BENDS IN METAL CONDUIT LARGER THAN 2 INCH (50 MM) SIZE.
   Q. AVOID MOISTURE TRAPS; PROVIDE JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN CONDUIT SYSTEM.
   R. PROVIDE SUITABLE FITTINGS TO ACCOMMODATE EXPANSION AND DEFLECTION WHERE CONDUIT CROSSES SEISMIC.
   S. PROVIDE SUITABLE PULL STRING IN EACH EMPTY CONDUIT EXCEPT SLEEVES AND NIPPLES.
   T. USE SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.

SUPPORTS

   A. ALL EQUIPMENT SHALL BE ADEQUATELY SUPPORTED FROM STRUCTURE.
   B. INSERTS IN MASONRY SHALL BE LEAD OR FIBER IN DRILLED HOLES, OR CAST IN PLACE.
   C. NAILS OR POWDER ACTUATED FASTENERS SHALL NOT BE USED.
   D. EMT/IMC/RGS SUPPORTS SHALL BE A MAXIMUM OF 8'-0" APART AND A MAXIMUM OF 3'-0" FROM BOXES.
   E. LIGHTING FIXTURES MOUNTED IN OR ON CEILING SHALL BE SUPPORTED FROM STRUCTURE VIA 12 GAUGE STEEL WIRE. PROVIDE A MINIMUM OF FOUR WIRES, ONE ATTACHED TO EACH CORNER OF LAY-IN FIXTURES. RECESSED DOWNLIGHT FIXTURES SHALL BE SUPPORTED THE SAME. DO NOT SUPPORT RACEWAY OR FIXTURES FROM CEILING GRID OR DUCT WORK. USE U.L. LISTED GRID CLIPS ON ALL LAY-IN FIXTURES.

BOXES

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. PULL AND JUNCTION BOXES.

PART 2 EXECUTION

2.01 INSTALLATION
   A. INSTALL BOXES SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
   B. INSTALL IN LOCATIONS AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND AS REQUIRED BY NFPA 70.
   C. ORIENT BOXES TO ACCOMMODATE WIRING DEVICES ORIENTED AS SPECIFIED IN SECTION 16140.
   D. MAINTAIN HEADROOM AND PRESENT NEAT MECHANICAL APPEARANCE.
   E. ALIGN ADJACENT WALL MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.
   F. SUPPORT BOXES INDEPENDENTLY OF CONDUIT, EXCEPT CAST BOX THAT IS CONNECTED TO TWO RIGID METAL CONDUITS BOTH SUPPORTED WITHIN 12 INCHES (305 MM) OF BOX.
   G. USE GANG BOX WHERE MORE THAN ONE DEVICE IS MOUNTED TOGETHER. DO NOT USE SECTIONAL BOX.

WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. WALL SWITCHES.
   B. RECEPTACLES.
   C. DEVICE PLATES AND DECORATIVE BOX COVERS.

1.02 QUALITY ASSURANCE
   A. CONFORM TO REQUIREMENTS OF NFPA 70.
   B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.
   C. PRODUCTS: PROVIDE PRODUCTS LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.

PART 2 PRODUCTS

2.01 MANUFACTURERS
   A. COOPER WIRING DEVICES:
   B. GE INDUSTRIAL:
   C. LEVITON MANUFACTURING, INC:

2.02 WALL SWITCHES
   A. WALL SWITCHES: HEAVY DUTY, AC ONLY GENERAL-USE SNAP SWITCH, COMPLYING WITH NEMA WD 6 AND WD 1.
      1. BODY AND HANDLE: FINISH/COLOR SHALL BE SELECTED BY ARCHITECT. PROVIDE PLASTIC WITH TOGGLE HANDLE.
      2. RATINGS: MATCH BRANCH CIRCUIT AND LOAD CHARACTERISTICS.
   B. SWITCH TYPES: SINGLE POLE, DOUBLE POLE, AND 3-WAY.

2.03 RECEPTACLES
   A. RECEPTACLES: HEAVY DUTY, COMPLYING WITH NE

1.06 ALL PANELBOARD AND BREAKER LUGS SHALL BE SIZED AND RATED PER THE CONDUCTOR SIZE AND MATERIAL.

1.07 LIGHTING AND APPLIANCE PANELS (100A-600A) SHALL HAVE FRONT ACCESSIBLE HINGED DOOR-IN-DOOR COVERS WITH DEAD FRONT, SHALL BE 20" WIDE MINIMUM WITH MINIMUM 4" WIDE WIRING GUTTERS.

1.08 DISTRIBUTION PANELS (600A-1200A) SHALL HAVE FRONT ACCESSIBLE DEAD FRONT COVERS.

1.09 PROVIDE HANDLE LOCK-ON DEVICES FOR ALL CIRCUIT BREAKERS CONNECTED TO EMERGENCY, EXIT, NIGHT LIGHTING, FIRE ALARM, TELEPHONE BOARDS, AND SECURITY SYSTEMS.

1.10 BREAKERS USED FOR SWITCHING SHALL BE SWITCHING DUTY (SWD) RATED.

1.11 BREAKERS USED FOR HEATING, AIR-CONDITIONING AND/OR REFRIGERATION SHALL BE HACR RATED.

1.12 GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI) PROTECTION FOR PERSONNEL SHALL BE PROVIDED IN ALL LOCATIONS PER NEC 210.8. WHERE A DEVICE LOCATION IS NOT ACCESSIBLE, THE GFCI PROTECTION SHALL BE PROVIDED WITH THE BREAKER SERVING THE DEVICE.

1.13 ALL OVERCURRENT DEVICES WHICH COMPRISE THE EMERGENCY SYSTEM OR LEGALLY REQUIRED STANDBY SYSTEM SHALL BE SELECTIVELY COORDINATED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MANUFACTURER DOCUMENTATION INDICATING COMPLIANCE WITH THE SELECTIVE COORDINATION REQUIREMENTS PER THE NEC.

FIRE STOPPING

1.01 ALL PENETRATIONS OF RATED ASSEMBLIES SHALL BE SEALED WITH RATED MATERIALS MEETING ASTM E-814.

1.02 PROVIDE FIRESTOPPING DEVICE(S) OR SYSTEM(S) WHICH HAVE BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E-814. INSTALL THE DEVICE(S) OR SYSTEM(S) IN ACCORDANCE WITH THE CONDITIONS OF THEIR LISTING. PROVIDE THE APPROPRIATE DEVICE(S) OR SYSTEM(S) WITH AN 'F' RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED.

1.03 DEVICE(S) AND/OR SYSTEM(S) SHALL BE BY HILTI, 3M OR EQUIVALENT.

INTERIOR LUMINAIRES

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. INTERIOR LUMINAIRES AND ACCESSORIES.
- B. BALLASTS.
- C. LAMPS.
- D. LUMINAIRE ACCESSORIES.

1.02 QUALITY ASSURANCE
- A. CONFORM TO REQUIREMENTS OF NFPA 70 AND NFPA 101.
- B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.
- C. PRODUCTS: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.

1.03 SUBMITTALS
- D. PRODUCT DATA: FOR EACH TYPE OF LUMINAIRE.

PART 2 PRODUCTS

2.01 LUMINAIRES
- A. FURNISH PRODUCTS AS INDICATED IN SCHEDULE INCLUDED ON THE DRAWINGS.

2.02 BALLASTS AND CONTROL UNITS
- A. FLUORESCENT BALLASTS: ANSI C82.1, HIGH POWER FACTOR TYPE ELECTROMAGNETIC BALLAST, SUITABLE FOR LAMPS SPECIFIED.
  - 1. VOLTAGE: AS INDICATED ON LIGHTING FIXTURE SCHEDULE.

2.03 LAMPS
- A. MANUFACTURERS:
  - 1. GE LIGHTING MODEL
  - 2. PHILIPS LIGHTING CO

PART 3 EXECUTION

3.01 INSTALLATION
- A. INSTALL FIXTURES SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 500 (COMMERCIAL LIGHTING).
- B. INSTALL SUSPENDED LUMINAIRES AND EXIT SIGNS USING PENDANTS SUPPORTED FROM SWIVEL HANGERS. PROVIDE PENDANT LENGTH REQUIRED TO SUSPEND LUMINAIRE AT INDICATED HEIGHT.
- C. SUPPORT LUMINAIRES LARGER THAN 2 X 4 FOOT (600 X 1200 MM) SIZE INDEPENDENT OF CEILING FRAMING.
- D. LOCATE RECESSED CEILING LUMINAIRES AS INDICATED ON REFLECTED CEILING PLAN.
- E. INSTALL RECESSED LUMINAIRES USING ACCESSORIES AND FIRESTOPPING MATERIALS TO MEET REGULATORY REQUIREMENTS FOR FIRE RATING.
- F. INSTALL CLIPS TO SECURE RECESSED GRID-SUPPORTED LUMINAIRES IN PLACE.
- G. INSTALL ACCESSORIES FURNISHED WITH EACH LUMINAIRE.
- H. CONNECT LUMINAIRES AND EXIT SIGNS TO BRANCH CIRCUIT OUTLETS PROVIDED UNDER SECTION 16138 USING FLEXIBLE CONDUIT.
- I. MAKE WIRING CONNECTIONS TO BRANCH CIRCUIT USING BUILDING WIRE WITH INSULATION SUITABLE FOR TEMPERATURE CONDITIONS WITHIN LUMINAIRE.
- J. BOND PRODUCTS AND METAL ACCESSORIES TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.
- K. INSTALL SPECIFIED LAMPS IN EACH EMERGENCY LIGHTING UNIT, EXIT SIGN, AND LUMINAIRE.

3.02 FIELD QUALITY CONTROL
- A. OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR PROPER CONNECTION AND OPERATION.

3.03 CLEANING
- A. CLEAN ELECTRICAL PARTS TO REMOVE CONDUCTIVE AND DELETERIOUS MATERIALS.
- B. REMOVE DIRT AND DEBRIS FROM ENCLOSURES.
- C. CLEAN FINISHES AND TOUCH UP DAMAGE.

3.04 DEMONSTRATION AND INSTRUCTIONS
- A. DEMONSTRATE LUMINAIRE OPERATION FOR MINIMUM OF TWO HOURS.

3.05 PROTECTION
- A. RELAMP LUMINAIRES THAT HAVE FAILED LAMPS AT SUBSTANTIAL COMPLETION.

3.06 SCHEDULE - SEE DRAWINGS

ELECTRICAL COORDINATION WITH OTHER TRADES

1.01 THE ELECTRICAL CONTRACTOR SHALL CONNECT AND/OR PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS APPLICABLE TO THE PROJECT, INCLUDING BUT NOT LIMITED TO, MECHANICAL, PLUMBING, FIRE PROTECTION AND SUPPRESSION, OWNER FURNISHED, KITCHEN, LABORATORY, ETC. UNLESS OTHERWISE NOTED.

1.02 THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONNECTIONS PRIOR TO ROUGH-IN USING APPROVED CATALOG SHEETS AND SHOP DRAWINGS.

1.03 THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANUAL MOTOR STARTER SWITCHES, DISCONNECT SWITCHES, RECEPTACLES, ETC. TO MECHANICAL AND PLUMBING EQUIPMENT. ALL STARTERS, OTHER THAN MANUAL STARTER SWITCHES, SHALL BE PROVIDED BY OTHERS, BUT INSTALLED BY THE ELECTRICAL CONTRACTOR.

1.04 ALL DISCONNECT SWITCHES AND FUSE SIZES SHALL BE COORDINATED WITH SHOP DRAWINGS PRIOR TO ORDERING OR INSTALLING. ANY EQUIPMENT INSTALLED INCORRECTLY BECAUSE OF LACK OF COORDINATION WILL BE REMOVED AND INSTALLED CORRECTLY AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

1.05 THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT RUNS AND LIGHT FIXTURE LOCATIONS ABOVE THE CEILING WITH OTHER TRADES PRIOR TO INSTALLATION.

1.06 ALL DUCT SMOKE DETECTORS SHALL BE PROVIDED AND CONNECTED BY THE ELECTRICAL CONTRACTOR, BUT INSTALLED BY THE MECHANICAL CONTRACTOR.

1.07 THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY OUTLETS FOR HEAT TAPE CONNECTIONS FOR MECHANICAL SYSTEMS. PROVIDE CLASS B (30mA) GFCI PROTECTION ON THE BREAKER SUPPLYING THE HEAT TAPE.

1.08 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 120V POWER AT EACH HVAC UNIT HAVING A CONTROLS POWER SUPPLY. CIRCUIT(S) SHALL BE DEDICATED 20A SERVING A MAXIMUM OF 10 HVAC UNITS PER CIRCUIT. COORDINATE ALL LOCATIONS WITH THE MECHANICAL CONTRACTOR.

MilkShake
EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED
NO. 32646 PROFESSIONAL
ENGINEER
GREGORY W. WILEY

12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE
		ISSUE FOR CONSTRUCTION	12/27/2024

GREGORY W. WILEY

4539 Hedgemore Drive, Suite 102
Charlotte, NC 28209
704-287-2193
Project#: 24550

Owner Approval

27MSHF.0030.000 — Job No.

1/4" = 1'-0" — Scale

SPECIFICATIONS - ELECTRICAL

E-0.3

COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: MSF Roswell GA
Project Type: Alteration

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Ice Cream Shop (Dining: Family)	1592	0.78	1242
		Total Allowed Watts =	1242

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Ice Cream Shop (Dining: Family, 1592 sq.ft.)				
LED: L-01: 2X2: Other:	1	11	29	319
LED: L-03: 4" DOWNLIGHT: Other:	1	2	9	18
LED: L-04: 2" DOWNLIGHT: Other:	1	5	8	40
LED: L-05: PENDANT: Other:	1	18	15	270
LED: D-01: DECORATIVE PENDANT: Other:	1	6	7	42
Track Lighting: F-08: TRACK LIGHTING: Wattage based on current limiting device capacity	0	0	180	180
Track Lighting: F-08B: TRACK LIGHTING: Wattage based on current limiting device capacity	0	0	60	60
LED: D-02: DECORATIVE PENDANT: Other:	1	2	5	10
			Total Proposed Watts =	939

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Travis J. Tessier — Name - Title
Signature
12/18/2024 — Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-in Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2.1, C405.2.2.2, C405.2.2.2 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-in Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3, C405.2.3.1, C405.2.3.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL26][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.3 [EL6][1]	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.6 [EL26][2]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 [EL27][2]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.8.2, C405.8.2.1 [EL28][3]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.9 [EL29][3]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.4.1 [FI18][1]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C408.1.1 [FI57][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.1 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.3 [FI33][3]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

MilkShake EST FACTORY 1914

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ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. 32646 PROFESSIONAL ENGINEER GREGORY W. WILEY
12/27/2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

GREGORY W. WILEY
4539 Hedgemore Drive, Suite 102
Charlotte, NC 28209
704-287-2193
Project#: 24550

Owner Approval

27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

COMCHECK

E-0.4

EXISTING PANEL H (SECTION 1)

VOLTAGE: 120/ 208 AMPS: 250 MLO MOUNTING: SURFACE
3 PHASE, 4 WIRE TOTAL LOAD: 41.7 KVA AIC RATING: EXISTING

No.	CIRCUIT DESCRIPTION	LOAD (KVA) CONT	RCPT	MTR	A/C	KITCH	MISC	BREAKER TRIP	P	PHASE A	B	C	BREAKER P	TRIP	LOAD (KVA) MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No.
1	ILLUMINATED SIGNAGE	1.20						20	1	1.70			1	20		0.50					FUTURE DISH EQUIPMENT (7)	2
3	SHOW WINDOW REC.						1.20	20	1		1.58		1	20		0.38					GLASS REFRIGERATOR (7)	4
5	SHOW WINDOW REC.						1.20	20	1			1.86	1	20		0.66					REACH-IN FREEZER (7)	6
7	INDOOR J-BOX						0.50	20	1	1.16			1	20		0.66					REACH-IN FREEZER (7)	8
9	CHOCO TEMPER (7)					0.50		20	1		0.68		1	20					0.18		EX. ROOFTOP REC.	10
11	GLASS FRONT FRIDGE (7)					0.60		20	1			3.50										12
13	CONV. REC. (7)		0.54					20	1	3.44			3	45			2.90				EX. RTU-4	14
15	MICROWAVE (7)					1.00		20	1		3.90						2.90					16
17	WORK TABLE (7)					0.18		20	1			2.68										18
19	CONCOLATE COUNTER (7)					0.18		20	1	2.68			2	45		2.50					SOFT SERVE (7)	20
21	RR/CONV./SINK REC.		1.08				0.30	20	1		3.88					2.50						22
23	REFRIGERATED WORKTOP (7)					0.30		20	1			2.80	2	45		2.50					SOFT SERVE (7)	24
25	DISPLAY FREEZER (7)					0.16		20	1	2.66						2.50						26
27	POS (7)		0.36					20	1		2.86		2	45		2.50					SOFT SERVE (7)	28
29	CONV. REC. (7)		0.72					20	1			0.72	1	20							SPARE	30
	LOADS W/ NEC 220 DEMAND FACTORS (KVA)	CONT	RCPT	MTR	A/C	KITCH	MISC	TOTAL		11.64	12.90	11.56			4.63	31.77	8.70	0.00	4.68	2.43	CONNECTED KVA 52.21	
																					(INCLUDES SECTION 2)	
	A PHASE	2.48	0.90	0.00	2.90	7.13	1.12	14.52														
	B PHASE	0.56	2.34	0.00	2.90	7.47	1.70	14.97														
	C PHASE	0.00	1.44	0.00	2.90	6.05	1.82	12.21														
	TOTALS FOR PANEL	3.04	4.68	0.00	8.70	20.65	4.63	41.70														
	DESIGN LOAD (KVA)							**14.97**														
	FOR LARGEST PHASE							**124.67 A**														
	DESIGN LOAD (KVA) FOR PANEL							**41.70**														
								115.74 A														

NEC 220 DEMAND FACTORS

CONTINUOUS: 125% LOAD
RECEPTACLES: 100% 1ST 10 KW + 50% REMAINING
MOTORS: 125% LARGEST MOTOR + 100% REMAINING
A/C: 100% LOAD
KITCHEN: 65% LOAD
MISC: 100% LOAD

PANEL NOTES

1. BREAKER FRAME SHALL BE AS REQUIRED PER PANEL AIC RATING.
2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
6. PROVIDE METAL DIRECTORY FRAME.
7. PROVIDE GFCI TYPE BREAKER.
8. PROVIDE LOCK-OFF BREAKER PER NEC 110.25.
9 PROVIDE HACR TYPE BREAKER.

NEW PANEL H (SECTION 2)

VOLTAGE: 120/ 208 AMPS: 250 MLO MOUNTING: SURFACE
3 PHASE, 4 WIRE TOTAL LOAD: 0.0 KVA AIC RATING: EXISTING

No.	CIRCUIT DESCRIPTION	LOAD (KVA) CONT	RCPT	MTR	A/C	KITCH	MISC	BREAKER TRIP	P	PHASE A	B	C	BREAKER P	TRIP	LOAD (KVA) MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No.
31	REFRIGERATED WORKTOP (7)					0.30		20	1	0.30			1	20							SPARE	32
33	INCLUSION STATION (7)					0.96		20	1		1.21		1	20		0.25					WALK-IN FREEZER	34
35	BLENDER (7)					0.90		20	1			1.26	1	20					0.36		IT REC.	36
37	BLENDER (7)					0.90		20	1	1.26			1	20					0.36		IT REC.	38
39	BLENDER (7)					0.90		20	1		1.62		1	20					0.72		BOH REC.	40
41	BLENDER (7)					0.90		20	1			1.26	1	20					0.36		OFFICE REC.	42
43	LIGHTING BOH/FOH/RR	0.78						20	1	3.28			2	45		2.50					SOFT SERVE (7)	44
45	LIGHTING SERVICE	0.45						20	1		2.95					2.50						46
47	DH-1						0.62	15	2			0.62									SPACE ONLY	48
49							0.62			0.62											SPACE ONLY	50
51	WH-1&2 & HWCP-1 (7&8)						0.20	20	1		0.20										SPACE ONLY	52
53	WALK-IN SELF CONTAINED (7)					0.77		15	2			0.77									SPACE ONLY	54
55						0.77				0.77											SPACE ONLY	56
57	SPACE ONLY										0.00										SPACE ONLY	58
59	SPACE ONLY											0.00									SPACE ONLY	60
61	SPACE ONLY									0.00											SPACE ONLY	62
63	SPACE ONLY										0.00										SPACE ONLY	64
65	SPACE ONLY											0.00									SPACE ONLY	66
67	SPACE ONLY									0.00											SPACE ONLY	68
69	SPACE ONLY										0.00										SPACE ONLY	70
71	SPACE ONLY											0.00									SPACE ONLY	72

GENERAL NOTES:
(APPLY TO THIS SHEET ONLY)

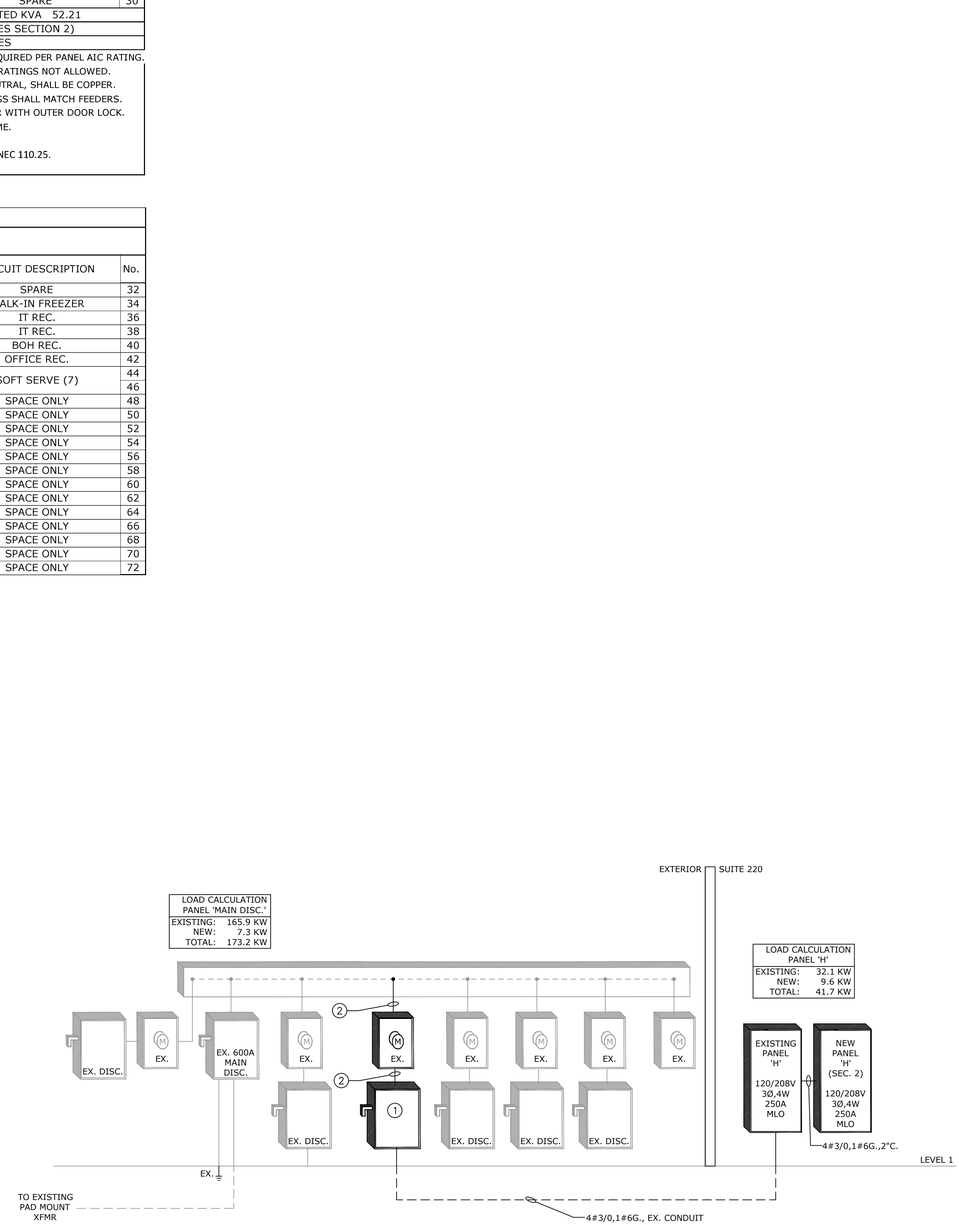
1. COORDINATE EXACT LOCATIONS OF NEW EQUIPMENT WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
2. ISC RATING OF NEW EQUIPMENT SHALL MATCH ISC RATING OF EXISTING EQUIPMENT FEEDING SUITE 220.
3. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT PER NEC 110.24.
4. PROVIDE PLAQUE INDICATING THE DISCONNECT IS SERVING SUITE #220.
5. ALL FEEDERS, GROUNDS, AND EQUIPMENT ARE SHOWN FOR REFERENCE ONLY AND ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

KEYED NOTES: (#)
(APPLY TO THIS SHEET ONLY)

(1) PROVIDE NEW 200A/3/200A, 120/208V, 3PH, 4W, NEMA 3R DISCONNECT SWITCH FOR TENANT #220. PROVIDE PLAQUE ON DISCONNECT.

(1) PROVIDE 4#3/0,1#6G.,2"C.

(1) FIELD VERIFY THAT EXISTING CONDUIT IS 2" OR GREATER AND CAN FIT THE FEEDERS SHOWN. CONTACT E.O.R. IF CONDUCTORS ON RISER ARE UNABLE TO FIT IN CONDUIT.



1 PARTIAL RISER DIAGRAM
NOT TO SCALE

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. 32646 PROFESSIONAL ENGINEER GREGORY W. WILEY
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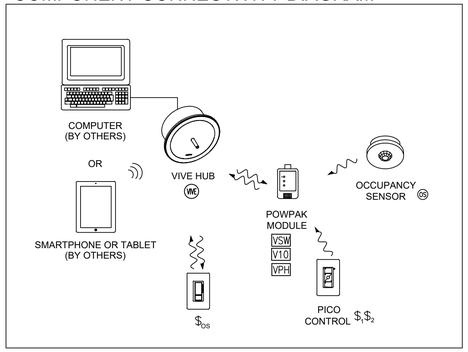
RISER DIAGRAM & PANEL SCHEDULES

E-0.5

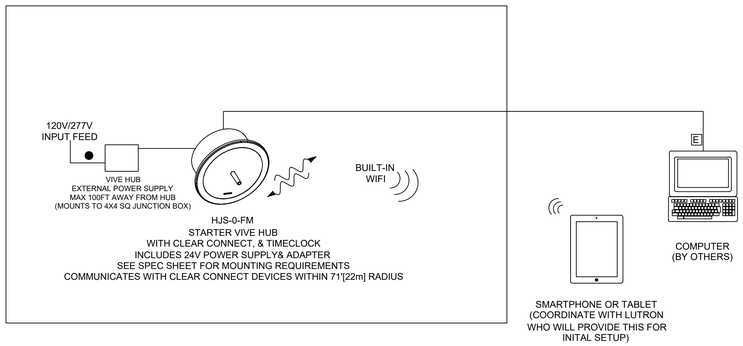
TYPICAL VIVE SYSTEM COMPONENT CONNECTIVITY DIAGRAM



GENERAL LIGHTING CONTROL NOTES:
(APPLIES TO THIS SHEET ONLY)

1. LIGHTING CONTROL SYSTEM SHALL BE PROVIDED WITH FACTORY SETUP AND OWNER TRAINING. COORDINATE EXACT SCHEDULE AND SETUP WITH THE GENERAL CONTRACTOR SO A FULLY FUNCTION SYSTEM IS LEFT AT PROJECT TURNOVER TO THE OWNER.
2. CONTRACTOR TO PROVIDE ALL INTERFACES, CONTROLS, ETC. SO THAT A COMPLETE AND OPERATION SYSTEM IS INSTALLED TO MEET THE DESIGN INTENT SHOWN ON THESE PLANS.
3. CONNECT ROOM CONTROLLER INPUT CIRCUITS TO ROOM'S LIGHTING CIRCUIT, U.N.O.
4. REFER TO LOAD & DIMMING TYPE FOR EACH ZONE. PROVIDE EXPANSION MODULES AS NECESSARY TO ACCOUNT FOR THAT TYPE FIXTURE AND CONTROL REQUIREMENTS. REFERENCE THE LIGHTING FIXTURE SCHEDULE AND LIGHTING DESIGNER PACKAGE FOR MORE INFORMATION.

AS REQUIRED FOR SYSTEM DEVICE INTEGRATION (SEE PLANS FOR QUANTITY & LOCATIONS)



MILKSHAKE FACTORY - LIGTHING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL#	WATTAGE	FINISH	COLOR TEMP.	MOUNTING HEIGHT (AFF)	REMARKS
L-01	2X2 TROFFER	COLUMBIA LIGHTING	LCAT22-40-MW-G-E-U	29W	-	4000K LED	-	
L-03	4" RECESSED DOWNLIGHT	ALPHABET LIGHTING	NU4-RD-SW-10LM-40K-80-HE40-WH-NC-UNV-DIM10	9W	WHITE	4000K LED	-	
L-04	2" RECESSED DOWNLIGHT	ALPHABET LIGHTING	NU2-RD-SW-07LM-40K-90-D40-UNV-DIM10-NC-WH	8W	WHITE	4000K LED	-	
L-05	GENERAL LIGHTING PENDANT	KUZCO	493522-BK	15W	BLACK	4000K LED	10'-0"	INSTALL WITH E26 LED BULB 15W MAX
D-01	DECORATIVE PENDANT	KOHLER	EMBRA PENDANT, 10"	7W	BRUSHED NICKEL	4000K LED	7'-0"	INSTALL WITH TYPE A19 "Edison" style LED bulb, 3000K EmeryAllen EA-A19-7.0W-E26-3090-D, or equal
D-02	DECORATIVE PENDANT	SHADES OF LIGHT	ALGONAC SPHERES CHANDELIER (CH24249)	5W	AGED GOLD / CLEAR GLASS	3000K LED	8'-0"	INSTALL WITH TYPE B10 5.0W LED bulb, 3000K EmeryAllen EA-B10-5.0W-3090-D, or equal
F-08	TRACK-LITES 13W LED CYLINDER	JUNO	R606L - DIMMABLE NARROW FLOOD	13W	WHITE	4000K LED	-	USE WITH SURFACE MOUNTED TRAC-LITES SYSTEM (WHITE) CUT TO FIT FIELD CONDITION
F-08B	TRACK-LITES 13W LED CYLINDER	JUNO	R606L - DIMMABLE NARROW FLOOD	13W	BLACK	4000K LED	-	USE WITH CABLE HUNG TRAC-LITES SYSTEM (BLACK) 6'-0" LENGTH
EM-1	EMERGENCY LIGHT	LITHONIA LIGHTING	ELM2L	3W	WHITE	N/A		
X-1	EXIT SIGN	LITHONIA LIGHTING	LQM-S-W-3-R-MVOLT-ELN	2W	WHITE HOUSING, RED LETTERS	N/A		CEILING MOUNTED INSTALLATION; PROVIDE STEM KIT WHERE INSTALLED IN EXPOSED CEILING AREAS
X-2	EXIT SIGN / EMERGENCY LIGHT COMBO	LITHONIA LIGHTING	LHQM-LED-R	5W	WHITE HOUSING, RED LETTERS	N/A		CEILING MOUNTED INSTALLATION; PROVIDE STEM KIT WHERE INSTALLED IN EXPOSED CEILING AREAS

LOCAL LIGHTING CONTROL – SYMBOL LEGEND:

SYMBOL	DESCRIPTION
(VIVE)	VIVE WIRELESS HUB W/TIMECLOCK MODEL#: HJS-0-FM PROVIDE WITH HUB POWER SUPPLY: #PS-J-20W-UNV RF RANGE: 71 FT RADIUS (TO ALL CONNECTED DEVICES)
(OS)	WIRELESS OCCUPANCY/VACANCY SENSOR MODEL#: LRF2-OCR2B-P-WH SENSOR RANGE: 500 SQFT, 360 DEG
$_2	WIRELESS DIMMER (ON/OFF, RAISE/LOWER, PRESET) MODEL#: PJ2-3BRL-GXX-L01 PROVIDE WITH CLARO STYLE SCREWLESS WALLPLATE
$_1	WIRELESS SWITCH (ON/OFF) MODEL#: PJ2-3B-GXX PROVIDE WITH CLARO STYLE SCREWLESS WALLPLATE
$_OS	OCCUPANCY SENSOR SWITCH (ON/OFF) MODEL#: MRF2S-BSS PROVIDE WITH CLARO STYLE SCREWLESS WALLPLATE
VSW	VIVE SWITCHING MODULE (SOFTSWITCH) MODEL#: RMJS-5R-DV-B CAPACITY: 5 AMP; RF RANGE: 30 FT RADIUS TO SENSORS
V10	VIVE DIMMING MODULE (0-10V DIMMING) MODEL#: RMJS-8T-DV-B CAPACITY: 8 AMP; RF RANGE: 30 FT RADIUS TO SENSORS
VPH	VIVE DIMMING MODULE (PHASE/MLV/ELV) MODEL#: RMJS-PNE-DV CAPACITY: 450W; RF RANGE: 30 FT RADIUS TO SENSORS

CLARO STYLE SCREWLESS WALLPLATES:
1-GANG – CW-1-WH
2-GANG – CW-2-WH
3-GANG – CW-3-WH

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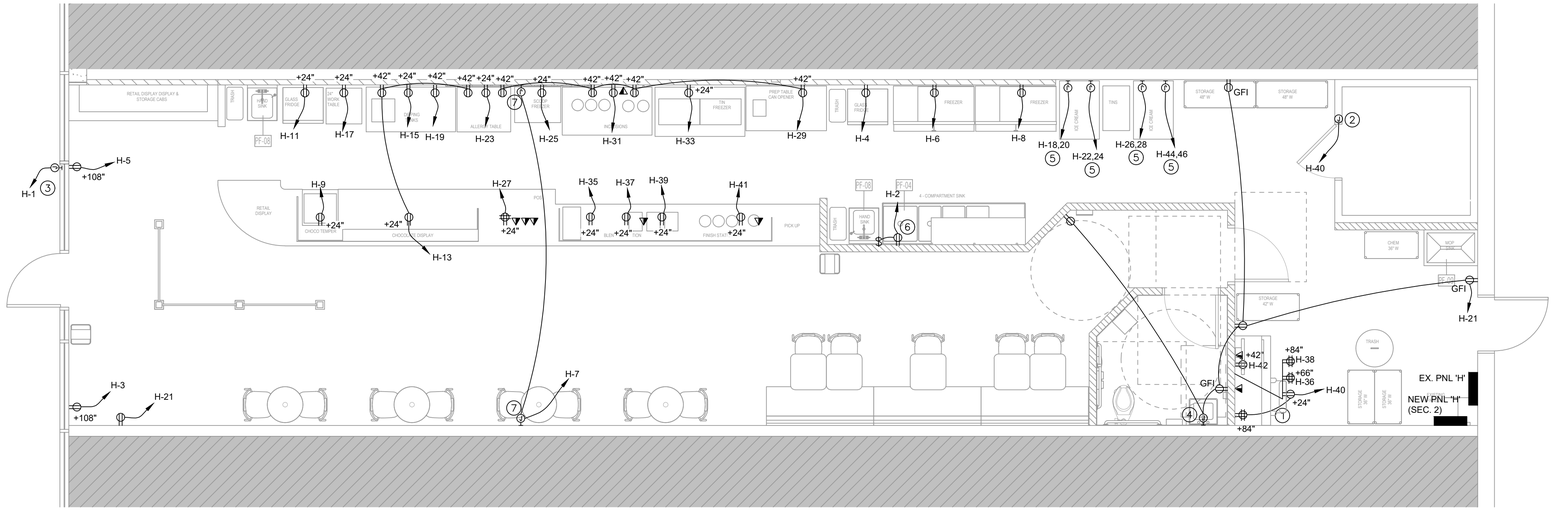
LIGHT FIXTURE SCHEDULE & DETAILS

E-0.6



1 FLOOR PLAN - ELECTRICAL

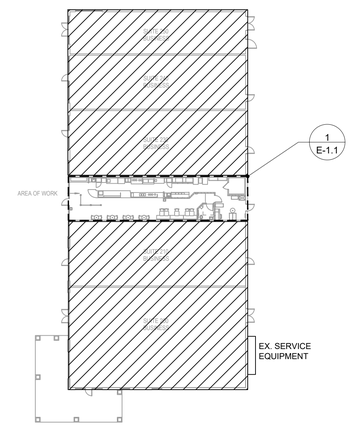
1/4" = 1'-0"

GENERAL ELECTRICAL NOTES:
(APPLIES TO THIS SHEET ONLY)

1. COORDINATE ALL KITCHEN RECEPTACLE LOCATIONS AND HEIGHTS WITH KITCHEN EQUIPMENT SCHEDULE SUPPLIER PRIOR TO ROUGH-IN. MOUNTING HEIGHTS SHOWN REFER TO THE CENTER POINT OF THE DEVICE.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SAW CUTTING AND PATCHING OF EXISTING FLOORS AND WALLS AS REQUIRED FOR INSTALLATION OF THEIR WORK.
3. FOR RECEPTACLES SERVING KITCHEN AND PREP AREAS SHALL BE GFI PROTECTED EITHER BY A GFI RECEPTACLE IN A READILY ACCESSIBLE LOCATION OR GFI CIRCUIT BREAKER. THIS NOTE IS TRUE OF ANY 120 VOLT RECEPTACLES 20 AMPS AND UNDER, 208VOLT/1 PHASE RECEPTACLES 50 AMPS AND UNDER, AND 208V/3Ø RECEPTACLES 100 AMPS AND UNDER PER NEC 210.8(B).
4. FINAL CONNECTIONS FOR ALL FOOD SERVICE EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL ELECTRICAL ROUGH-INS, OUTLETS, SWITCHES, DISCONNECTS, CORDS, PLUGS, AND OTHER SIMILAR ITEMS NECESSARY TO MAKE FOOD SERVICE EQUIPMENT OPERATIONAL.
6. ELECTRICAL CONTRACTOR IS TO VERIFY AND PROVIDE EXACT NEMA CONFIGURATION TO MATCH APPLIANCE PLUGS, CORD AND PLUG TO BE PROVIDED BY THE EC WHEN NOT PROVIDED BY FOOD SERVICE EQUIPMENT MANUFACTURER. COORDINATE WITH EQUIPMENT MANUFACTURER.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOX AND RACEWAY FOR THERMOSTATS AND HVAC LOW VOLTAGE CONTROLS AT 48" AFF. THERMOSTATS AND HVAC LOW VOLTAGE CONTROLS INSTALLED AND WIRED BY MECHANICAL CONTRACTOR. COORDINATE EXACT LOCATIONS WITH MECHANICAL CONTRACTOR. TYPICAL.
8. TELEPHONE AND DATA CABLING SHALL BE CAT6 AND SHALL BE BY THE GC.
9. ALL DATA LOCATION SHALL RECEIVE 2 DATA DROPS UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER AND ARCHITECT PRIOR TO BID AND ROUGH-IN.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL DATA AND PHONE CABLE. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT WITH PULL STRINGS AND JUNCTION BOXES AS REQUIRED. ALL DATA AND PHONE TERMINATIONS SHALL BE BY OTHERS. COORDINATE EXACT REQUIREMENTS WITH SYSTEMS INSTALLER, PRIOR TO ROUGH-IN.
11. DEDICATED OUTLETS SHALL BE 20A RATED, U.N.O.
12. RECEPTACLES SHALL BE INSTALLED PER ANSI A117.1. LABEL ALL OUTLETS AND J-BOXES WITH CORRESPONDING CIRCUIT DESIGNATION. LABEL TO BE TYPEWRITTEN; BLACK LETTERS ON WHITE BACKGROUND.
13. PROVIDE EQUIPMENT GROUNDING CONDUCTOR FOR ALL FOOD SERVICE EQUIPMENT CIRCUITS. ALL EQUIPMENT SHALL BE SOLIDLY GROUNDED.
14. MAKE ALL REQUIRED CONNECTIONS THROUGH EQUIPMENT CONTROLLERS WHERE CONTROLS ARE REMOTE FROM EQUIPMENT.
15. HATCHED AREA IS NOT IN SCOPE.

KEYED NOTES (#)
(APPLIES TO THIS SHEET ONLY)

1. PROVIDE 3/4" THICK 2'X2' FIRE TREATED PLYWOOD TELEPHONE BACKBOARD. PROVIDE OR USE EXISTING CONDUIT FROM MAIN TELECOM ROOM TO NEW TELEPHONE BACKBOARD. PROVIDE TELEPHONE GROUND BAR WITH #6 GROUND BACK TO BUILDING GROUNDING SYSTEM. COORDINATE EXACT LOCATION WITH LV CONTRACTOR.
2. COORDINATE WIRING OF WALK-IN LIGHTS AND DOOR WITH EQUIPMENT PROVIDER. PROVIDE ALL NECESSARY ACCESSORIES FOR A COMPLETE SYSTEM.
3. PROVIDE CONNECTION TO ILLUMINATED SIGNAGE. PROVIDE LUTRON RMJS-16R-DV-B ON/OFF POWER PACK FOR TIME OF DAY CONTROL. COORDINATE HOURS OF OPERATION WITH OWNER. SEE E-0.6 FOR MORE INFORMATION.
4. PROVIDE HARDWIRED CONNECTION TO HANDS FREE FAUCET. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5. PROVIDE HARDWIRED CONNECTION TO SOFT SERVE MACHINE. COORDINATE EXACT CONNECTION WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN. VERIFY THAT TWO CONNECTIONS ARE REQUIRED PER PIECE OF EQUIPMENT, AS SHOWN, WITH 45A/2P BREAKER, 4#6, 1#10G., 1"C TO EACH CONNECTION. IF ONLY ONE CONNECTION IS REQUIRED, DO NOT PROVIDE A SECOND RUN AND SPARE OUT CIRCUIT IN PANEL SCHEDULE. CONTACT E.O.R. OF ANY ADDITIONAL ISSUES.
6. PROVIDE RECEPTACLE AND SWITCH FOR FUTURE DISH EQUIPMENT. COORDINATE EXACT LOCATION WITH OWNER.
7. PROVIDE J-BOX FOR HARDWIRED WALL ILLUMINATION. COORDINATE EXACT LOCATION, MOUNTING HEIGHT, AND REQURIEMENTS WITH ARCHITECT PRIOR TO ANY WORK.



3 SITE PLAN - KEY PLAN
NOT TO SCALE

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED
GREGORY W. WILEY
NO. 32646
PROFESSIONAL
ENGINEER
12/27/2024

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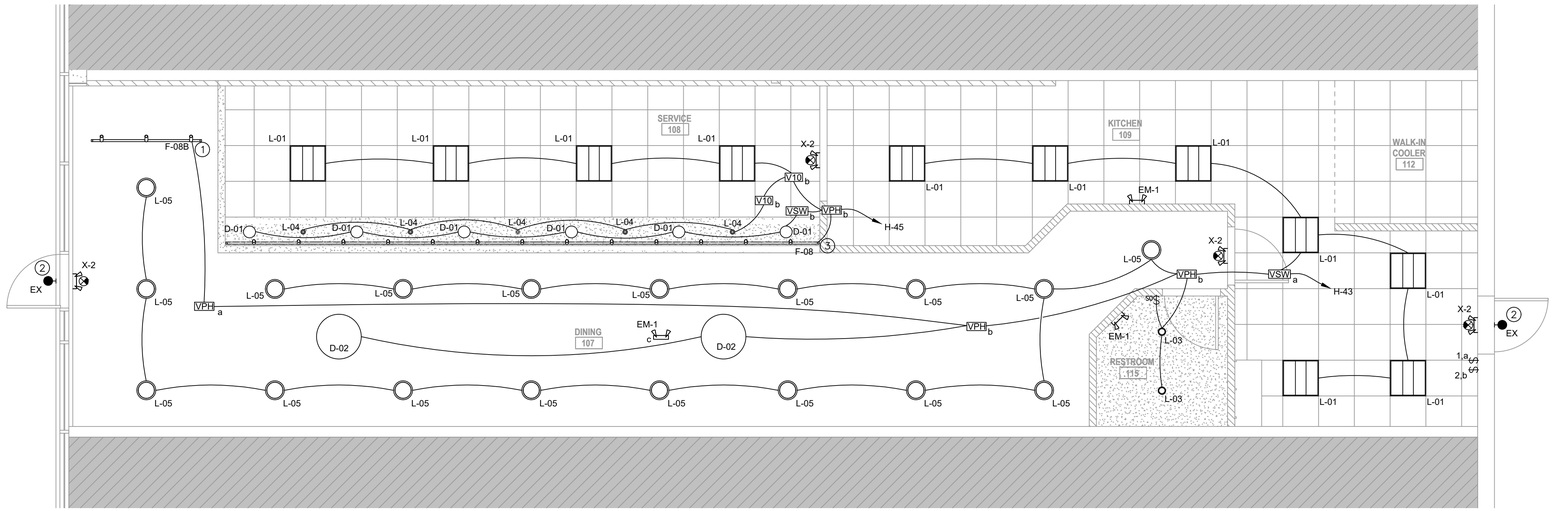
FLOOR PLAN - ELECTRICAL

E-1.1



1 FLOOR PLAN - LIGHTING

1/4" = 1'-0"

GENERAL LIGHTING NOTES:
(APPLIES TO THIS SHEET ONLY)

1. CONNECT ALL TYPE EMERGENCY AND EGRESS LIGHTS TO NEAREST 120 VOLT LIGHTING CIRCUIT AHEAD OF LOCAL SWITCHING.
2. ALL WIRING DEVICES (RECEPTACLES, SWITCHES, ETC) AND COVER PLATE FINISHES SHALL BE COORDINATED WITH INTERIOR DESIGNER PRIOR TO PURCHASE.
3. CONTRACTOR SHALL COORDINATE ALL LIGHTING LOCATIONS AND FINAL FIXTURE SPECIFICATIONS WITH ARCHITECT AND LIGHTING DESIGNER.
4. OCCUPANCY SENSORS SHALL CONTROL ALL FIXTURES IN THE ROOM OR AREA.
5. ALL EXTERIOR FIXTURES AND EGRESS FIXTURES ARE EXISTING TO REMAIN.
6. SEE DETAILS AND SCHEDULES ON E-0.6 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING CONTROLS.
7. HOMERUNS DESIGNATED WITH A LOWERCASE LETTER SHALL CORRELATE TO THE RESPECTIVE WALL SWITCH WITH THE SAME LETTER FOR ZONE CONTROLS. LABEL SWITCHES WITH THE ZONE OR AREA THAT THEY CONTROL.
8. COORDINATE DIMMING REQUIREMENTS THROUGHOUT THE SPACE WITH OWNER AND ARCHITECT PRIOR TO ANY WORK.
9. ALL SWITCHES SHOWN TO BE MOUNTED IN THE SAME GENERAL AREA SHALL BE GANGED TOGETHER AND SHARE A MULTI-GANG COVER PLATE WHERE POSSIBLE.
10. ALL CONTROL CABLING PROVIDED AS A PART OF ANY LIGHTING CONTROL SYSTEM SHALL BE PLENUM RATED.
11. DIMMING SWITCHES SHALL BE LUTRON DIVA #DVWCL-153PH-WH WALL MOUNTED DIMMING SWITCHES.
12. FOR ALL KITCHEN WORK SURFACES. LIGHTING SHALL BE PROVIDED AT 50 FOOT-CANDLES AT THE TOP OF THE WORK SURFACE.
13. ALL LIGHT FIXTURES IN THE FOOD PREP AREA SHALL BE LENSED AND CABABLE OF BEING CLEANED EASILY.
14. BUGEYE FIXTURES DENOTED WITH 'c' SHALL BE PENDANT MOUNTED. COORDINATE PENDANT POLE LENGTH, COLOR, AND MOUNTING HEIGHT WITH ARCHITECT AND STRUCTURE PRIOR TO ANY WORK.

KEYED NOTES: (#)
(APPLIES TO THIS SHEET ONLY)

(1) PROVIDE 0.5A CURRENT LIMITER ON THE SUPPLY SIDE OF THE TRACK. NO OTHER FIXTURES SHALL BE CONNECTED DOWN STREAM OF THE CURRENT LIMITER.

(2) EXISTING 90-MINUTE BATTERY BACKED EGRESS FIXTURE TO REMAIN. FIELD VERIFY FIXTURE IS FULLY OPERATIONAL, PROVIDE NEW AS NECESSARY.

(3) PROVIDE 1.5A CURRENT LIMITER ON THE SUPPLY SIDE OF THE TRACK. NO OTHER FIXTURES SHALL BE CONNECTED DOWN STREAM OF THE CURRENT LIMITER.

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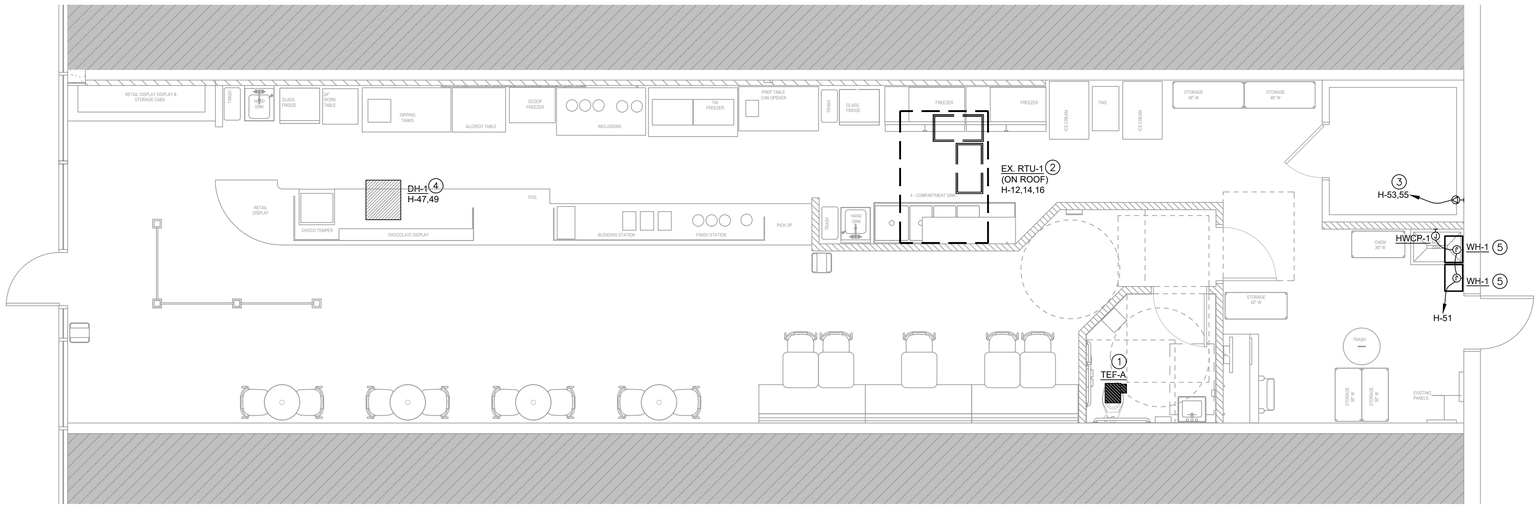
FLOOR PLAN - LIGHTING

E-2.1



1 FLOOR PLAN - MECHANICAL CONNECITONS

1/4" = 1'-0"

GENERAL ELECTRICAL NOTES:
(APPLIES TO THIS SHEET ONLY)

1. COORDINATE ALL EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ANY WORK.

KEYED NOTES: (#)
(APPLIES TO THIS SHEET ONLY)

(1) CIRCUIT EXHAUST FAN WITH LIGHTS IN ROOM. EXHAUST FAN TO BE CONTROLLED WITH LIGHTS VIA RESTROOM OCCUPANCY SENSOR.

(2) RTU-1 IS EXISTING TO REMAIN. CIRCUIT IS SHOWN FOR REFERENCE. VERIFY EXISTING RECEPTACLE IS WITHIN 25' OF UNIT.

(3) PROVIDE L6-15 RECEPTACLE FOR WALK-IN COOLER SELF CONTAINED UNIT. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH COOLER MANUFACTURER PRIOR TO ROUGH-IN. IF RECEPTACLE IS OUTSIDE, RECEPTACLE TO BE WEATHER PROOF.

(4) PROVIDE L6-15 RECEPTACLE FOR DH-1. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

(5) PROVIDE CONNECTION TO WATER HEATER. COORDINATE EXACT LOCATION AND POWER REQUIREMENTS WITH PLUMBING CONTRACTOR AND WATER HEATER MANUFACTURER PRIOR TO ROUGH-IN.

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FLOOR PLAN - MECHANICAL CONNECTIONS

E-3.1

FIRE PROTECTION SPECIFICATIONS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS:

A. PROVIDE AUTOMATIC SPRINKLER SYSTEMS THROUGHOUT THE ENTIRE PROJECT, AS SPECIFIED HEREIN AND SHOWN ON THE PLANS.

B. SPRINKLER COVERAGE SHALL BE AS INDICATED IN THE SPRINKLER SYSTEM DESIGN CRITERIA.

C. THE BUILDING SHALL BE PROTECTED BY A WET PIPE SYSTEM IN ACCORDANCE WITH NFPA.

D. WHEN THE ABOVE WORK HAS BEEN COMPLETED ACTIVATE THE SYSTEM FOR FIRE PROTECTION DURING CONSTRUCTION.

E. ACTIVATE HEAT TO INSURE THAT NO PIPING SHALL BE ROUTED IN ANY AREA OR LOCATION SUBJECT TO FREEZING.

F. GENERAL CONDITIONS APPLY TO THIS SECTION WITH THE ADDITIONS AND MODIFICATIONS SPECIFIED HEREIN. THE FIRE PROTECTION SYSTEM INCLUDES THE DESIGNING, FURNISHING OF MATERIALS, AND INSTALLATION OF AN APPROVED FIRE PROTECTION SYSTEMS AS HEREIN DESCRIBED FOR THE FOLLOWING AREAS.

G. THE DESIGN, HYDRAULIC CALCULATIONS, EQUIPMENT, MATERIALS, INSTALLATION, AND WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH NFPA 13 CODES AND STANDARDS EXCEPT AS SPECIFIED OTHERWISE HEREIN. THE SYSTEM INSTALLATION SHALL INCLUDE ALL MATERIALS, ACCESSORIES AND EQUIPMENT NECESSARY FOR AN APPROVED FIRE PROTECTION SYSTEM COMPLETE AND READY FOR USE. THE SYSTEM DESIGN AND INSTALLATION, AS WELL AS ALL RELATED AND NECESSARY CONSTRUCTION EQUIPMENT SHALL BE PROVIDED BY THE SPRINKLER CONTRACTOR. THE SPRINKLER SYSTEM SHALL BE FREE OF OPERATING AND MAINTENANCE DIFFICULTIES. THE INSTALLATION SHALL BE AS PER DETAILED DRAWINGS TO BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE ARCHITECT AND/OR ENGINEER. DEVICES AND EQUIPMENT SHALL BE NEW AND FREE OF DEFECTS AND SHALL BE OF MAKE AND TYPE LISTED BY UNDERWRITERS LABORATORIES INC., OR APPROVED BY FACTORY MUTUAL LABORATORIES.

1.02 CONTRACTOR'S QUALIFICATION:

A. THE FIRE PROTECTION CONTRACTOR SHALL BE CERTIFIED, REGISTERED AND HAVE A MINIMUM OF FOUR (4) YEARS EXPERIENCE IN THE FIELD OF FIRE PROTECTION SYSTEM DESIGN AND INSTALLATION.

1.03 DRAWINGS AND SPECIFICATIONS:

A. THE COMMENCEMENT OF WORK UNDER THIS SECTION INDICATES THAT THE CONTRACTOR HAS EXAMINED AND HAS KNOWLEDGE OF THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, AND SITE WORK DRAWINGS AND SPECIFICATIONS. THE FAILURE OF THE CONTRACTOR TO ACQUAINT HIMSELF WITH ALL AVAILABLE INFORMATION SHALL NOT RELIEVE HIM OF ANY RESPONSIBILITY FOR PERFORMING HIS WORK PROPERLY.

1.04 ORDINANCES, PERMITS AND CODES:

A. IT SHALL BE THE CONTRACTOR'S DUTY TO PROVIDE ALL THE LABOR AND MATERIAL'S COVERED BY THESE SPECIFICATIONS IN CONFORMANCE WITH ALL ORDINANCES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.

B. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CONNECTIONS, AND SPECIFICATION FEES AS REQUIRED FOR THE COMPLETE INSTALLATION OF THE FIRE PROTECTION SYSTEMS.

C. ALL WORK HEREIN SHALL CONFORM TO ALL APPLICABLE LAWS, ORDINANCES AND REGULATIONS OF THE LOCAL UTILITY COMPANY.

D. THE WORK SHALL BE IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE REQUIREMENTS OF:

1. NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET 13, EDITION AS CURRENTLY ADOPTED BY THE LOCAL JURISDICTION.
2. LOCAL FIRE MARSHALL.
3. OWNER'S INSURANCE UNDERWRITER.

E. CODES AND REGULATIONS REFERRED TO ARE MINIMUM STANDARDS. WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS AND DRAWINGS EXCEED THOSE OF THE CODES AND REGULATIONS, THE DRAWINGS AND SPECIFICATIONS GOVERN.

1.05 COORDINATION AND CONFLICTS:

A. WHERE MINOR DEVIATIONS FROM PLANS ARE REQUIRED IN ORDER TO CONFORM TO SPACE LIMITATIONS, SUCH CHANGES SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

B. PRIOR TO ANY WORK ON THIS PROJECT, THE SPRINKLER CONTRACTOR SHALL BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION OF FLOORS, ROOF AND WALLS (POST TENSION, FLAT PLATE, PAN JOIST, ETC.). ALL STEEL RODS, POST TENSION CABLES AND BEAMS SHALL BE LOCATED BEFORE DRILLING HOLES FOR PIPE OR USING POWER–DRIVEN STUDS, SELF–DRILLING ANCHORS, OR EXPANSION SHIELDS, ECT. FOR PIPE HANGERS. THE CONTRACTOR IS TOTALLY LIABLE FOR ANY AND ALL PROBLEMS OR DAMAGES CAUSED BY FAILURE TO COMPLY WITH THE ABOVE.

1.06 SPECIAL CONDITIONS:

A. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ANY DEBRIS RESULTING FROM HIS WORK. ANY AREAS IN WHICH THE CONTRACTOR HAS PERFORMED WORK SHALL BE LEFT BROOM CLEAN UNLESS A MORE THOROUGH CLEANING IS REQUIRED BY ANOTHER SECTION OF THESE SPECIFICATIONS.

1.07 WARRANTY:

A. ALL EQUIPMENT SHALL BE STARTED, TESTED, ADJUSTED, AND PLACED IN SATISFACTORY OPERATING CONDITION BY THE CONTRACTOR. ALL EQUIPMENT SHALL BE COVERED BY WARRANTY FOR THE DURATION OF THE MANUFACTURER'S GUARANTEE OR WARRANTY AND THE CONTRACTOR SHALL FURNISH THE OWNER WITH A COPY OF ALL MANUFACTURER'S GUARANTEES AND WARRANTIES.

B. ALL EQUIPMENT FURNISHED SHALL BE GUARANTEED IN WRITING FOR A PERIOD OF ONE (1) YEAR FROM DATE OF OWNER'S ACCEPTANCE.

1.08 RECORD DOCUMENTS:

A. CONTRACTOR SHALL FURNISH, AT THE TIME OF REQUEST FOR FINAL PAYMENT, BROCHURES CONTAINING THE FOLLOWING INFORMATION AS CALLED FOR IN THESE SPECIFICATIONS:

1. LETTERS OF GUARANTEE.
2. OPERATING INSTRUCTIONS.
3. MANUFACTURERS' PART DATA AND SERVICE INSTRUCTIONS ON ALL ITEMS OF EQUIPMENT.
4. MANUFACTURERS' GUARANTEES AND WARRANTIES.

1.09 ELECTRICAL WORK:

(NOTE: THE REFERENCE TO A CONTROL PANEL IS ONLY APPLICABLE WHERE ONE EXISTS. IF THERE IS NOT A CONTROL PANEL THEN SUPERVISE THE VALUES WITH LOCKS AND PROVIDE AN ALARM MOTOR GONG).

A. FLOW SWITCHES TO BE WIRED TO A LOCAL CONTROL PANEL.
B. TAMPER SWITCHES TO BE WIRED TO A LOCAL CONTROL PANEL FOR LOCAL TROUBLE ALARM ONLY.
C. ALL CONTROL WIRING SHALL BE FURNISHED AND INSTALLED UNDER THIS SECTION.
D. POWER WIRING TO THE JUNCTION BOX AT THE ALARM VALVE SHALL BE FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTION, UNLESS NOTED OTHERWISE IN THIS DOCUMENT OR ON THE FIRE PROTECTION DRAWINGS.

1.10 ELECTRICAL ROOMS:

A. SPRINKLER PIPE MAY EXTEND INTO, BUT NOT PASS THROUGH, ELECTRICAL ROOMS.

1.11 STANDARDS FOR MATERIAL AND WORKSHOP:

A. ALL MATERIALS USED IN THIS WORK SHALL BE NEW, LISTED AND LABELED BY THE UNDERWRITER'S LABORATORIES, INC. AND/OR HAVE AN FM APPROVAL AS CONFORMING TO ITS STANDARDS, WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER, AND SHALL PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED. THE ARCHITECT AND/OR ENGINEER WILL JUDGE THE QUALITY OF WORKMANSHIP.

1.12 SUBMITTALS:

A. ALL MATERIALS AND EQUIPMENT THE CONTRACTOR PROPOSES TO FURNISH SHALL BE SUBMITTED FOR REVIEW WITHIN 30 DAYS AFTER THE CONTRACT HAS BEEN AWARDED. DATA SHALL BE COMPLETE IN ALL RESPECTS AND SHALL REFERENCE, WHERE APPLICABLE, THE UNIT SYMBOL UTILIZED ON THE DRAWINGS AND SPECIFICATIONS.

B. SUBMITTAL REVIEW IS CONSIDERED AS A GENERAL ACCEPTANCE OF THE BASIC APPLICABILITY OF THE EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE EQUIPMENT AND/OR ALTERNATE ARRANGEMENT OF THE EQUIPMENT WITHIN A GIVEN SPACE. WHEN THE CONTRACTOR DESIRES TO USE SUBSTITUTED EQUIPMENT, HE SHALL BE RESPONSIBLE FOR PRODUCING HIS OWN COORDINATED WORK DRAWINGS WHICH DEPICT THE SUBSTITUTED EQUIPMENT ACCOMMODATED IN THE SPACE. WHERE THE SUBSTITUTED EQUIPMENT CREATES THE NEED FOR ALTERATIONS IN ANY PORTION OF THE WORK DEPICTED IN THE CONTRACT DOCUMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASSUME ANY ADDITIONAL COST TO THE CONTRACT CREATED BY SUBSTITUTED EQUIPMENT.

C. SUBSTITUTED EQUIPMENT IS CONSIDERED TO BE ANY EQUIPMENT OTHER THAN NAMED ITEMS IN THE SPECIFICATIONS OR ON THE DRAWINGS.

D. CONTRACTOR FURTHER AGREES THAT IF DEVIATIONS, DISCREPANCIES OR CONFLICTS BETWEEN THE SHOP DRAWINGS AND SPECIFICATIONS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWING AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED. REVIEW OF SUBMITTAL DATA SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS DUTY TO PERFORM ALL WORK AND PROVIDE ALL EQUIPMENT IN STRICT COMPLIANCE WITH THE REQUIREMENTS SET FORTH ON THE DRAWINGS HEREIN.

E. SUBMIT FOR REVIEW COMPLETE DATA AND DRAWINGS ON THE FOLLOWING ITEMS (ALL MATERIALS MUST BE SUBMITTED SIMULTANEOUSLY OR THE ENTIRE PACKAGE MAY BE REJECTED WITHOUT REVIEW):

1. COMPLETE SET OF SHOP (WORKING) DRAWINGS BEARING EVIDENCE OF REGISTRATION AND CERTIFICATION, THE UNDERWRITER'S LETTER OF APPROVAL AND/OR COMMENTS.
2. HYDRAULIC CALCULATIONS.
3. EQUIPMENT (SPRINKLERS, SIAMESE CONNECTIONS, WATER MOTOR ALARM, ETC.)
4. VALVES
5. HANGERS
6. FITTINGS
7. PIPING

F. ELECTRONIC SUBMITTALS MUST BE PACKAGED INTO FILES AS FOLLOWS:

1. ONE COMBINED FILE WITH THE BUILDING SPRINKLER PLANS (SHOP DRAWINGS) BEARING EVIDENCE OF REGISTRATION AND CERTIFICATION, THE UNDERWRITER'S LETTER OF APPROVAL AND/OR COMMENTS.
2. ONE COMBINED FILE CONTAINING THE HYDRAULIC CALCULATIONS.
3. ONE COMBINED FILE WITH PRODUCT DATA FOR ALL EQUIPMENT, VALVES, HANGERS, FITTINGS, PIPING, ETC.
4. WHERE THE PROJECT CONSISTS OF MULTIPLE BUILDINGS, ONE OF EACH TYPE OF FILE LISTED ABOVE MAY BE PROVIDED ON A PER BUILDING BASIS.
5. FAILURE TO PROVIDE ELECTRONIC SHOP DRAWINGS IN THE FORMAT INDICATED ABOVE MAY RESULT IN THE REJECTION OF THE SUBMITTAL WITHOUT REVIEW.

G. THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS FOR "WORKING PLANS" AS SPECIFIED IN NFPA 13, CHAPTER 14 "PLANS AND CALCULATIONS" SHALL INCLUDE ALL APPLICABLE DATA SPECIFIED HEREIN. NO WORK SHALL BEGIN UNTIL THE DESIGN OF THE SYSTEMS AND THE VARIOUS COMPONENTS HAVE BEEN APPROVED.

PART 2 – PRODUCTS

2.01 CLASSIFICATION OF PIPING:

A. MINIMUM THICKNESS OF PIPE SHALL BE SCHEDULE 10 BLACK STEEL CONFORMING TO ASTM A135.

B. SCHEDULE 40 WELDED OR SEAMLESS STEEL PIPE, ASTM A53 AND A135.

1. CLASS 125 AND 250 CAST IRON THREADED FITTINGS, ASME B16.4.
2. CLASS 150 AND 300 MALLEABLE IRON THREADED FITTINGS, ASME B16.3
3. CLASS 125 AND 250 CAST IRON FLANGED FITTINGS, ASME B16.1
4. SCHEDULE 40 FORGED STEEL BUTTWELD FITTINGS, ASME B16.9
5. GROOVED MECHANICAL COUPLINGS AND FITTINGS WITH EPDM GASKET, MALLEABLE IRON OR DUCTILE IRON, 800 PSI MINIMUM RATING ASTM A47 AND A536, UL LISTED, FM APPROVED.

C. LIGHTWALL WELDED OR SEAMLESS STEEL PIPE, ASTM A53 AND A135.

1. GROOVED MECHANICAL COUPLINGS AND FITTINGS WITH EPDM GASKET, MALLEABLE IRON OR DUCTILE IRON, 800 PSI MINIMUM RATING, ASTM A47 AND A536, UL LISTED, FM APPROVED.

D. CPVC FIRE PROTECTION PIPING MAY BE USED WHERE APPROVED BY THE UL LISTING AUTHORITY AND NFPA 13.

2.02 FIRE PROTECTION SYSTEM:

A. THE SPRINKLER SYSTEMS SHALL CONFORM TO NFPA NO. 13 STANDARDS AND CODES. HOSE THREADS SHALL CONFORM TO LOCAL FIRE DEPARTMENT EQUIPMENT. PIPING AND FITTINGS: PIPING SHALL BE AS NOTED IN 2.01, A. ABOVE. SYSTEM PIPE AND FITTINGS SHALL BE DESIGNED FOR A MINIMUM 175 PSI WORKING PRESSURE.

2.03 SPRINKLER EQUIPMENT MATERIAL:

A. ALL VALVE HANDWHEELS SHALL BE ORIENTED TO PROVIDE MAXIMUM ACCESSIBILITY FOR OPERATION. VALVES SHALL HAVE UL LISTINGS AND FM APPROVAL.

B. GATE VALVES 2½" IN SIZE AND LARGER SHALL BE OS&Y TYPE WITH CAST IRON BODY, SOLID WEDGE, AND FLANGED ENDS FOR 175 POUND W.W.P. VALVES SHALL BE UNDERWRITERS LABORATORIES LISTED WITH IDENTIFICATION MARK FOR SUCH STAMPED OR CAST ON VALVE BODY. VALVES SHALL BE:

1. STOCKHAM B–634
2. MUELLER NO. A–2073–6
3. KENNEDY FIG. 68

C. GATE VALVES FOR MECHANICAL JOINT PIPING SHALL BE OS&Y TYPE AND HAVE CAST IRON BODY CONFORMING TO ASTM A–120 AND BE CLASS B, RATED FOR 175 POUND WWP. VALVE SHALL HAVE A BRONZE OR COPPER–SILICON ALLOY STEM CONFORMING TO ASTM B–138 ALLOY 675 AND B–584 ALLOY 875, RESPECTIVELY.

1. STOCKHAM FIG. G–635–0
2. MUELLER NO. A–2050–20
3. KENNEDY FIG. 71X

D. CHECK VALVE 2½" IN SIZE AND LARGER SHALL BE HORIZONTAL SWING TYPE WITH CAST IRON BODY, RUBBER DISC, AND FLANGED ENDS FOR 175 POUND W.O.G. VALVES SHALL BE:

1. STOCKHAM B–305–B
2. FIREMATIC MOD CV
3. KENNEDY FIG. 440

E. GLOBE VALVES SHALL HAVE BRONZE BODY, RISING STEM, COMPOSITION DISC, AND THREADED ENDS FOR 175 POUND W.O.G. VALVES SHALL BE:

1. STOCKHAM B–13–T
2. NIBCO/SCOTT T–211–W
3. KENNEDY FIG. 97

F. ANGLE VALVES SHALL HAVE BRONZE BODY, RISING STEM, COMPOSITION DISC, AND THREADED ENDS FOR 175 POUND W.O.G. VALVES SHALL BE:

1. STOCKHAM B–222
2. NIBCO/SCOTT T–311–W
3. KENNEDY FIG. 98

G. SIGHT GLASS: FIREMATIC SIGHT DRAINS.

H. WAFER CHECK VALVE: CAST IRON BODY CONFORMING TO ASTM A–26 WITH EITHER CAST BRONZE OR BUNA–N SEATING RING AND STAINLESS STEEL HINGE, MUELLER MODEL NO. A–2102, CENTRAL MODEL "G", MISSION "DUO–CHECK". FIREMATIC SUPER CHECK.

I. BUTTERFLY VALVE: FOR 1" TO 2½" PER SIZE, VALVE SHALL HAVE BRONZE BODY, STAINLESS STEEL DISC WITH VITON SEAL, AND WORKING PRESSURE SHALL BE 175 PSI. THE VALVE SHALL HAVE A BUILT–IN SUPERVISORY SWITCH. MILWAUKEE VALVE COMPANY, INC. "BUTTERBALL" MODEL BB–SCS01, NIBCO, FIREMATIC BUTTERFLY VALVE WITH TAMPER SWITCH OR APPROVED EQUAL.

J. WET ALARM VALVE: PROVIDE ALARM CHECK VALVE FOR VERTICAL INSTALLATION COMPLETE WITH RETARD CHAMBER, ALARM SWITCH, TESTING BY–PASS, SYSTEM DRAIN, AND ALL NECESSARY PIPE, FITTINGS, GAUGES, AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.

1. CENTRAL MODEL ("F") OR ("G")
2. GRINNEL MODEL (F200) OR ("A")
3. FIREMATIC MODEL ("G")

2.04 ACCESSORIES:

A. VALVE TAGS:
1. EACH VALVE SHALL HAVE A VALVE TAG AFFIXED TO THE VALVE BODY. VALVE TAGS SHALL BE A MINIMUM OF 1½" ROUND WITH ½" BLACK FILLED NUMBERS, 18 GAUGE BRASS, A MINIMUM OF 1¼" IN SIZE, AND SHALL HAVE IDENTIFICATION NUMBERS STAMPED INTO THE TAGS. VALVE TAGS SHAPES AND NUMBERING SHALL BE AS FOLLOWS:

A. SETON NAME PLATE COMPANY – NEW HAVEN, CT.

2. EACH VALVE TAG SHALL BE ATTACHED TO THE HANDWHEEL WITH #16 BRASS JACK CHAIN AND "S" HOOKS.

3. A VALVE CHART, FRAMED UNDER GLASS AND WALL MOUNTED, SHALL BE LOCATED IN SPRINKLER RISER VALVE ROOM, AND SHALL LIST EACH VALVE BY IDENTIFICATION NUMBER, ITS LOCATION IN THE PIPING SYSTEM (I.E. ZONE CONTROL VALVE, ETC.) AND ITS FUNCTION.

END OF SECTION

SPRINKLER SYSTEM DESIGN CRITERIA

AREA DESCRIPTION	HAZARD CLASS	SYSTEM TYPE	DENSITY (GPM/SF)	COVERAGE AREA	HOSE STREAM	SPRINKLER TEMP. RATING	KEY NOTES
RESTAURANT AREAS.	ORDINARY HAZARD GROUP 1	WET NFPA 13	0.15	1500 SF	250 GPM	INTERMEDIATE 200°F	–

GENERAL SPRINKLER SYSTEM NOTES:

A. PRIOR TO BEGINNING THE SPRINKLER SYSTEM DESIGN, THE SPRINKLER CONTRACTOR SHALL MEET WITH THE THE OWNER OR OWNER'S REPRESENTATIVE AND DISCUSS THE TYPE, COLOR, AND GENERAL LOCATIONS OF ALL SPRINKLER HEADS IN THE PROJECT. THE SPRINKLER CONTRACTOR'S DESIGN MUST REFLECT THE AGREED UPON SPRINKLER TYPES FOR ALL AREAS. A RECORD OF THIS MEETING SHALL BE AVAILABLE TO THE ENGINEER UPON REQUEST.

B. PRIOR TO THE MEETING BETWEEN THE OWNER AND THE SPRINKLER CONTRACTOR, SPRINKLER HEADS SHALL BE ASSUMED TO BE AS FOLLOWS UNLESS NOTED OTHERWISE ELSEWHERE:
a. SPRINKLER HEADS SHALL BE CONCEALED TYPE (RECESSED WITH COVER PLATE), FAST RESPONSE SPRINKLERS IN ALL PUBLIC AREAS WITH A CEILING OF ANY TYPE, INCLUDING LAY–IN.
b. SPRINKLER HEADS IN CEILING SERVING AREAS NOT VISIBLE TO THE PUBLIC MAY BE SEMI RECESSED OR CONCEALED TYPE.
c. SPRINKLER HEADS SHALL BE UPRIGHT PENDANT, FAST RESPONSE SPRINKLERS IN ALL AREAS WITHOUT A CEILING.
d. SIDE WALL SPRINKLER HEADS MAY NOT BE USED WHERE A CEILING CAVITY EXISTS THAT WILL ALLOW FOR THE INSTALLATION OF SPRINKLERS IN THE CEILING.
e. SIDE WALL HEADS MAY ONLY BE USED INSIDE THE BUILDING IF THE PIPING FOR A SPRINKLER HEAD LOCATED ON THE CEILING WOULD BE EXPOSED TO A FREEZING CONDITION.
f. IF SPRINKLER CONTRACTOR AND OWNER AGREE TO USING DIFFERENT HEAD TYPES FOR CERTAIN AREAS CONTRACTOR MUST INCLUDE LETTER FROM OWNER STATING THE CHANGE IS ACCEPTED PER THE PROVISIONS IN ITEM "A" ABOVE.

C. THE SPRINKLER CONTRACTOR SHALL MAKE A REASONABLE ATTEMPT TO DESIGN THE SPRINKLER SYSTEM TO WORK WITHOUT THE USE OF A FIRE PUMP BY USING LARGER PIPE SIZES, EFFICIENT PIPE ROUTING, DEVICES WITH LOW PRESSURE DROP CHARACTERISTICS, ETC. THE ENGINEER'S CALCULATIONS HAVE ASSUMED THAT THE AVERAGE PRESSURE LOSS ACROSS THE SYSTEM SHALL BE NO MORE THAN 0.02 PSI PER FT.

D. THE VELOCITY OF WATER IN THE SPRINKLER PIPING SYSTEM SHALL BE LIMITED TO 15 FEET PER SECOND OR LESS.

E. IF, AT THE TIME OF CONSTRUCTION, ONE OR MORE AREAS ARE NOT CLEARLY DEFINED, THE SPRINKLER DESIGN SHALL BE BASED ON THE HYDRAULICALLY MOST DEMANDING CRITERIA OF THE POSSIBLE CHOICES.

F. LISTED, EXTENDED HEADS, MAY BE USED WHERE APPROPRIATE ON THIS PROJECT.

G. SEE LANDLORD CIVIL SITE PLAN, LANDLORD PLUMBING PLANS AND SPECIFICATIONS FOR BACKFLOW PREVENTOR REQUIREMENTS FOR THE FIRE PROTECTION WATER SERVICE UNLESS BACKFLOW PREVENTOR IS NOTED ON PLUMBING PLANS AS LOCATED INSIDE THE BUILDING.

H. ALL SPRINKLER COMPONENTS SHALL COMPLY WITH THE LISTING AND/OR PERFORMANCE REQUIREMENTS OF NFPA 13.

I. CPVC SPRINKLER PIPING MAY BE USED WHERE ALLOWED BY NFPA, THE LOCAL FIRE MARSHAL, AND THE LISTING DOCUMENTATION OF THE CPVC PIPING. USE OF CPVC PIPING MUST BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.

J. THE CONTRACTOR MUST COMPLY WITH ALL LOCAL CODES, ORDINANCES, AND OTHER REQUIREMENTS FOR THE SPRINKLER SYSTEM DESIGN. THIS MAY INCLUDE PROVIDING SPRINKLERS FOR AREAS THAT ARE NOT INDICATED ABOVE.

K. ANY DEVIATIONS FROM THE REQUIREMENTS LISTED IN THIS SCHEDULE SHOULD BE CLEARLY MARKED ON THE SPRINKLER DRAWINGS WITH THE RELEVANT CODE SECTION ALLOWING THE DEVIATION NOTED.

L. NO WET SPRINKLER PIPING SHALL BE RUN IN A LOCATION SUBJECT TO FREEZING TEMPERATURES. THIS INCLUDES RUNNING PIPE ABOVE ISOLATED UNHEATED AREAS OF THE BUILDING, EVEN IF INSIDE THE INSULATED ENVELOPE OF THE BUILDING.

M. ALL SPRINKLER PIPING SHALL BE RUN TIGHT TO STRUCTURE ABOVE (OR INSIDE JOIST SPACE IF APPLICABLE) IN ORDER TO MAXIMIZE THE POTENTIAL FOR THE CEILING TO BE RAISED TO A HIGHER ELEVATION IN THE FUTURE WITH MINIMAL IMPACT TO THE SPRINKLER PIPING SYSTEM. ONLY PIPING FOR INDIVIDUAL SPRINKLER HEADS MAY BE DROPPED TO THE CEILING ELEVATION IN AREAS WITH LARGE ABOVE CEILING CAVITIES UNLESS DIRECTED OTHERWISE IN WRITING BY THE OWNER, ARCHITECT, OR PLUMBING ENGINEER.

FIRE PROTECTION SCOPE – ALTERED EXISTING SYSTEM

THE CONTRACTOR SHALL MODIFY THE EXISTING SPRINKLER SYSTEM TO CONFORM TO THE SPRINKLER REQUIREMENTS OF NFPA 13 FOR THE NEW ARCHITECTURAL PLANS. PROVIDE SPRINKLER HEADS AND PIPING TO MEET THE CEILING TYPE AND HAZARD CLASSIFICATION (DESIGN CRITERIA). THE SYSTEM SHALL BE HYDRAULICLY DESIGNED. SUBMIT SHOP DRAWINGS INCLUDING HYDRAULIC CALCULATIONS DETAILING THE SYSTEM DESIGN AND PERFORMANCE.

SPRINKLER CONTRACTOR SHALL DESIGN THE SPRINKLER SYSTEM TO WORK WITHIN THE PRESSURE AND FLOW PRESENT AT THE EXISTING SITE.

FOLLOW THE SPECS ON THIS SHEET FOR SYSTEM REQUIREMENTS.

NOTE:
1. THE FIRE CONTRACTOR SHALL VERIFY THAT THE EXISTING FIRE PROTECTION SYSTEM INCLUDES A FIRE RISER COMPLIANT WITH NFPA 13 AND THAT A BFP HAS BEEN PROVIDED ON THE WATER LINE SERVING THE SYSTEM. CONTRACTOR SHALL CONFIRM THAT WATER FLOW/PRESSURE IS ADEQUATE FOR THE DESIGN WHEN TAKING INTO ACCOUNT THE EXISTING BFP AND FIRE RISER COMPONENTS AND IF NOT NOTIFY THE ARCHITECT/ENGINEER PRIOR TO INSTALLING/ORDERING SYSTEM COMPONENTS.

FLOW TEST DATA

FLOW TEST DATA BELOW IS CURRENT AT THE TIME OF DESIGN. CONTRACTOR SHALL ORDER A NEW TEST AND FORWARD RESULTS TO THE ENGINEER IF TEST IS MORE THAN 12 MONTHS OLD.

PROVIDER OF TEST	UNAVAILABLE AT TIME OF DESIGN
DATE OF TEST	UNAVAILABLE AT TIME OF DESIGN
TIME OF DAY OF TEST	UNAVAILABLE AT TIME OF DESIGN
LOCATION OF FLOW HYDRANT	UNAVAILABLE AT TIME OF DESIGN
ELEVATION OF HYDRANT	UNAVAILABLE AT TIME OF DESIGN
STATIC PRESSURE	UNAVAILABLE AT TIME OF DESIGN
RESIDUAL PRESSURE	UNAVAILABLE AT TIME OF DESIGN
FLOW	UNAVAILABLE AT TIME OF DESIGN

CURRENT FLOW TEST DATA WAS NOT AVAILABLE AT TIME OF DESIGN.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CHARLES S. BLYTH

12-27-2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC PGE # NC224067
1435 W. Morehead Street (704) 900-5838 (T)
Suite 200 (704) 842-5857 (F)
Charlotte, NC 28208

Owner Approval

27MSHF.0030.000 — Job No.

1/4" = 1'-0" — Scale

FIRE PROTECTION

FP-0.1

PLUMBING SPECIALTY SCHEDULE

TAG	FIXTURE TYPE	DESCRIPTION	MODEL	NOTES
FCO	FLOOR CLEAN OUT	TWIST TO FLOOR ADJUSTMENT ROUND TOP.	MIFAB C1100-XR-1	(1)
TP	TRAP PRIMER VALVE	TRAP PRIMER WITH INTERNAL VACUUM BREAKER AND INTEGRAL BACKFLOW PREVENTOR. SUPPLY WITH DISTRIBUTION UNIT. MAX 4 FLOOR DRAINS/FLOOR SINKS PER TRAP PRIMER. COORDINATE WITH MECHANICAL PLUMBING DRAWINGS FOR QUANTITY OF FLOOR DRAINS/FLOOR SINKS TO ENSURE ALL FLOOR DRAINS AND FLOOR SINKS ARE EQUIPPED WITH TRAP PRIMER.	PRECISION PLUMBING PR-500	(1)

NOTES:

1. APPROVED ALTERNATE MANUFACTURERS FOR PLUMBING FIXTURES AND EQUIPMENT ARE MIFAB, J.R. SMITH, JOSAM, WADE, WATTS, ZURN OR APPROVED OTHER.

PLUMBING LEGEND

SYMBOL	MARK	DESCRIPTION
	W	WASTE PIPE
	GW	GREASE WASTE PIPE
	(E)W	EXISTING WASTE PIPE
	(E)GW	EXISTING GREASE WASTE PIPE
	V	VENT PIPE
	CW	COLD WATER PIPE
	HW	HOT WATER PIPE
	HWR	HOT WATER RECIRCULATING PIPE
	#"G	GAS PIPE
FDC	FD#	FLOOR DRAIN
FS	FS	FLOOR SINK
CO	CO	CLEANOUT
WCO	WCO	WALL CLEANOUT
BV	BV	BALL VALVE
BV	BV	BALANCING VALVE
WHA	WHA	WATER HAMMER ARRESTOR
CKV	CKV	CHECK VALVE
STR	STR	STRAINER
U	U	UNION
AAV	AAV	AIR ADMITTANCE VALVE
	AFF	ABOVE FINISH FLOOR
	A/C	ABOVE CEILING
	B/G	BELOW GROUND
	N.C.	NORMALLY CLOSED
	VTR	VENT THRU ROOF
	(E)	EXISTING

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	CONNECTIONS CW	CONNECTIONS HW	CONNECTIONS S/W	HEIGHT	WATER USE	DESCRIPTION	FINISH/COLOR	MODEL	KEY NOTES
PF-02 PF-03 PF-06	PUBLIC, WALL MOUNT, HANDICAPPED LAVATORY	½"	½"	1-½"	34"	0.5 GPM	BOWL: VITREOUS CHINA, 20" X 18", WALL HUNG, FAUCET HOLES ON 4" CENTERS, COMPATIBLE WITH CONCEALED ARM CARRIER, OVERFLOW. FAUCET: SENSORED FAUCET WITH BATTERY, CERAMIC CONTROL COMPONENTS, 4" CENTERS, BRONZE BODY, ALL METAL CONSTRUCTION, FLOW LIMITING AERATOR.	BOWL: WHITE FAUCET: CHROME	BOWL: AMERICAN STANDARD 9024001EC.020 OR OTHER APPROVED EQUAL. FAUCET: AMERICAN STANDARD 605B105.002 OR APPROVED OTHER.	(1)(2)(3) (8)(9)
PF-01	PUBLIC, FLOOR MOUNTED, FLUSH VALVE, HANDICAPPED WATER CLOSET	½"	–	4"	–	1.28 GPF	BOWL: ADA COMPLIANT, VITREOUS CHINA, TOP SPUD, FULLY GLAZED TRAP WAY SIPHON JET ACTION FLUSH, ELONGATED BOWL. VALVE: SENSORED VALVE, BRONZE BODY, ACCESSORIES SHALL INCLUDE VACUUM BREAKER, ANGLE STOP, CHECK VALVE, AND ESCUTCHEON. SEAT: EXTRA HEAVY WEIGHT PLASTIC, OPEN FRONT LESS COVER, INTEGRALLY MOLDED BUMPERS, BOLT CAPS, SELF SUSTAINING STAINLESS STEEL CHECK HINGE.	BOWL: WHITE VALVE: POLISHED CHROME SEAT: MATCH BOWL COLOR	BOWL: AMERICAN STANDARD 3043528.02 OR APPROVED OTHER. VALVE: AMERICAN STANDARD 3043.528 OR APPROVED OTHER. SEAT: BEMIS 1955CT OR EQUAL BY BEMIS, BENEKE, CENTOCO, OR SEAT MADE BY WATER CLOSET MANUFACTURER.	(4)(5)(6)
PF-04 PF-05	FOUR COMPARTMENT, FREE STANDING, STAINLESS STEEL SINK	¾"	¾"	2"	–	1.5 GPM	BOWL: FREE STANDING, 16 GAUGE TYPE 304 STAINLESS STEEL, SEAMLESS CONSTRUCTION, 8" HIGH BACK SPLASH, DRAIN BOARDS ON ONE END. BOWLS SHALL BE MINIMUM 20"X20"X16" DEEP. WELDED STAINLESS STEEL LEG ASSEMBLY WITH ADJUSTABLE FEET SHALL BE PROVIDED WITH SINK. FAUCET: PROVIDE TWO FAUCETS, EACH SHALL HAVE A 12" MINIMUM SWING SPOUT, WALL MOUNTED, 8" CENTERS, LEVER HANDLES, W/ PRE-RINSE DRAIN: STAINLESS STEEL BASKET DRAIN WITH LEVER HANDLE OPERATED FLOW CONTROL. LEVER HANDLES SHALL EXTEND BEYOND BOTTOM OF BOWL BUT SHALL NOT EXTEND BEYOND FRONT EDGE OF FRONT SINK LEDGE.	BOWL: POLISHED STAINLESS STEEL FAUCET: POLISHED CHROME	BOWL: ADVANCE TABCO 9-24-80-18R OR APPROVED EQUAL. FAUCET: T&S BRASS B-0133-12V15-B OR APPROVED OTHER. DRAIN: BY ADVANCE TABCO, T&S BRASS, OR APPROVED OTHER.	(10)
PF-08	STAINLESS STEEL HANDWASH SINK	½"	½"	1-½"	–	1.5 GPM	BOWL: WALL HUNG HANDWASH SINK KIT, 20 GAUGE TYPE 304 STAINLESS STEEL, CENTER PUNCHED DRAIN HOLE, 12"X9¾ X6" DEEP BOWL WITH ROUNDED CORNERS. FAUCET: WALL MOUNT FAUCET IS PART OF KIT, CERAMIC CONTROL COMPONENTS, HANDLE LIMIT STOPS, RED/BLUE HOT/COLD INDICATORS, 5-1/2" SWING SPOUT, BRONZE BODY AND ALL METAL CONSTRUCTION. DRAIN: STAINLESS STEEL DRAIN WITH STAINLESS STEEL CRUMB CUP STRAINER.	BOWL: POLISHED STAINLESS STEEL FAUCET: POLISHED CHROME	BOWL: ELKAY CHSB1716C OR APPROVED OTHER. FAUCET: INTEGRAL TO BOWL.	–
PF-09	JANITOR'S MOP SINK	¾"	¾"	2"	–	–	BASIN: FLOOR MOUNTED, COMPOSITE, 24"X36"X10" DEEP, STAINLESS STEEL CAPS, STAINLESS STEEL STRAINER, STAINLESS STEEL WALL GUARDS. FAUCET: WALL MOUNTED, SOLID BRASS, INTEGRAL VACUUM BREAKER, PAIL HOOK, WALL BRACE, ¾" HOSE THREADED OUTLET, LEVER HANDLE.	BASIN: WHITE FAUCET: POLISHED OR ROUGH CHROME DRAIN: STAINLESS STEEL	BASIN: ZURN Z1996-36-AW OR APPROVED EQUAL. FAUCET: CHICAGO 540-LD897SWXFABCP OR EQUAL BY CHICAGO, SYMMONS, T&S BRASS, OR APPROVED OTHER.	(4)

FIXTURE SCHEDULE GENERAL NOTES:

A. SPECIFICATIONS AND FIXTURE MODEL NUMBERS ARE A GENERAL GUIDE ONLY AND THE MODEL NUMBER MAY NOT REFLECT ALL FEATURES, ACCESSORIES, SIZE, OR MINIMUM OR MAXIMUM ALLOWABLE DIMENSIONS OF THE REQUIRED PRODUCT.
B. FEATURES OF THE FIXTURE MODEL TO BE PROVIDED BY THE CONTRACTOR SHALL BE VERIFIED WITH THE DESCRIPTIONS GIVEN IN THIS SCHEDULE AND WITH THE ARCHITECTURAL AND/OR INTERIOR DESIGN DRAWINGS.
C. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES OF FIXTURE REQUIREMENTS, DESCRIPTIONS, SIZES, DIMENSIONS, OR MODEL NUMBER EXIST BETWEEN THE ARCHITECTURAL, INTERIORS, AND PLUMBING DRAWINGS PRIOR TO SUBMITTING BID.
D. BY SUBMITTING A BID FOR THIS PROJECT, THE CONTRACTOR IS CERTIFYING THAT ALL FIXTURES INCLUDED IN THEIR BID PACKAGE HAVE BEEN VERIFIED TO COMPLY WITH THE GENERAL PERFORMANCE REQUIREMENTS OF THIS SCHEDULE AND THAT ALL INCLUDED FIXTURE DIMENSIONS HAVE BEEN COORDINATED WITH THE ARCHITECTURAL DRAWINGS.
E. CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL COUNTER MOUNTED FIXTURES WITH ARCHITECTURAL DRAWINGS AND CABINET FABRICATOR.
F. LOW LEAD VERSIONS OF ALL FIXTURES SHALL BE USED WHEN OFFERED BY THE MANUFACTURER AS AN OPTION.
G. THE TERM "APPROVED OTHER" OR "APPROVED EQUAL", WHERE USED IN THIS SCHEDULE, SHALL MEAN AN ENGINEER APPROVED ALTERNATE MANUFACTURER AND MODEL.

FIXTURE SCHEDULE KEY NOTES:

(1) PROVIDE A GRID DRAIN ASSEMBLY FOR LAVATORIES IN ALL PUBLIC RESTROOMS.
(2) PROVIDE A WATER TEMPERATURE LIMITING DEVICE COMPLYING WITH ASSE 1070 ON THE HOT WATER INLET FOR ALL PUBLIC LAVATORY FAUCETS. SEE DETAIL.
(3) ALL WASTE PIPING AND HOT WATER PIPING BELOW HANDICAPPED SINKS SHALL BE INSULATED WITH TRUEBRO COVERS OR APPROVED EQUAL.
(4) WATER CLOSETS MUST BE CAPABLE OF AT LEAST REMOVING 800 GRAMS PER FLUSH BASED ON MAXIMUM PERFORMANCE (MAP) OF TOILET FIXTURES BY VERITEC CONSULTING, INC. AND KOELLER CO.
(5) WATER CLOSET SHALL MEET ADA HEIGHT REQUIREMENTS WITH SEAT INSTALLED.
(6) ALL FLUSHING CONTROLS SHALL BE ON THE "WIDE" OR "OPEN" SIDE OF THE TOILET AREA PER LOCAL ACCESSIBILITY CODES.
(7) MOUNT FAUCET 48" ABOVE FINISHED FLOOR.
(8) PROVIDE BOLT TO THE FLOOR STYLE CAST IRON CARRIERS BY (MIFAB, J.R. SMITH, ZURN OR EQUAL) FOR ALL WALL MOUNTED FIXTURES. BRACKETS SECURED ONLY TO STUD WALLS IS NOT AN ACCEPTABLE ALTERNATE.
(9) LAG BOLTS PASSING COMPLETELY THROUGH CONCRETE WALLS MAY BE USED IN LIEU OF CARRIERS ON WALL HUNG LAVATORIES AND DRINKING FOUNTAINS.
(10) PROVIDE TWO FAUCETS FOR EACH THREE OR FOUR COMPARTMENT SINK.

INSTANTANEOUS WATER HEATER SCHEDULE

MARK	QUANTITY	LOCATION	ENERGY SOURCE	INPUT ENERGY	TEMPERATURE RISE	FLOW RATE	EFFICIENCY RATING	TEMPERATURE SET POINT	BASIS OF DESIGN	REMARKS
WH1	2	OVER MOP SINK	GAS	199 MBH	75°F	5.0 GPM	97%	120°F	RINNAI CU199IN OR OWNER PRE-APPROVED EQUAL	(1)(2)(3)

NOTES:
(1) WHERE MORE THAN ONE WATER HEATER IS USED AT A SINGLE LOCATION, THE WATER HEATERS MUST HAVE THEIR CONTROLS INTERCONNECTED PER THE MANUFACTURER'S GUIDELINES TO OPERATE AS A SINGLE UNIT.
(2) WATER HEATER MUST BE DIRECT VENTED WITH FORCED COMBUSTION.
(3) ALL WATER HEATER VENTING MUST BE INSTALLED PER THE MANUFACTURER'S VENTING REQUIREMENTS USING THE MANUFACTURER'S VENT KIT AND MATERIALS.

RECIRC PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	H.P.	HEAD	RPM	BASIS OF DESIGN
HWCP-1	HOT WATER CIRCULATING PUMP	IN-LINE	5.0 GPM	28W	5 FT	3450	ECOCIRC E3 SERIES

DRAIN SCHEDULE

TAG	DRAIN TYPE	DESCRIPTION	STRAINER FINISH	MODEL	NOTES
FD1	FINISHED AREA FLOOR DRAIN	COATED CAST IRON BODY AND FLASHING COLLAR, WEEPHOLES FOR DOUBLE DRAINAGE, ADJUSTABLE STRAINER HEAD, ROUND TOP, 1/2" TRAP PRIMER CONNECTION.	NICKEL-BRONZE OR STAINLESS STEEL	MIFAB F1100-C SERIES OR EQUAL BY J.R. SMITH, JOSAM, WATTS, ZURN, OR APPROVED OTHER.	(1)(2) (3)(4)
HD	HUB DRAIN	UPTURNED REDUCER FITTING OF THE SAME MATERIAL AS THE CONNECTED PIPE. REDUCER SHALL BE MINIMUM ONE PIPE SIZE LARGER THAN THE CONNECTED PIPE. SIZE NOTED ON PLANS IS FOR THE CONNECTED PIPE SIZE. WHERE INSTALLED IN A FLOOR, HUB DRAIN SHALL RISE BETWEEN A MINIMUM 1" AND A MAXIMUM 2" ABOVE THE FINISHED FLOOR.	AS PIPE MATERIAL	SAME AS PIPE MATERIAL	(5)
FS	FLOOR SINK (INDIRECT WASTE DRAIN)	DUCO CAST IRON BODY AND FLASHING COLLAR WITH ADJUSTABLE STRAINER HEAD W/ SECURED SQUARE HOLE 12" X 12" GRATE. PROVIDE VANDAL PROOF SCREWS. PROVIDE WITH ½" TRAP PRIMER CONNECTION WHERE REQUIRED BY CODE.	NICKEL BRONZE	MIFAB FS1730-F1-1-6-7 OR EQUAL BY J.R. SMITH, JOSAM, WATTS, ZURN, OR APPROVED OTHER.	(1)(2)(3)

NOTES:
(1) DRAIN SHALL BE LOCATED AT LOWEST POINT OF SURROUNDING SLOPED AREA.
(2) PROVIDE UNDER DECK CLAMP WHERE DRAIN IS NOT CAST INTO PLACE.
(3) USE DRAIN VARIATION WITHOUT MEMBRANE CLAMP IN FLOORS WITHOUT MEMBRANE.
(4) PROVIDE SQUARE STRAINER VARIATION WHERE USED IN TILED FLOORS.
(5) HUB DRAINS SHALL BE LOCATED TO NOT BE TRIPPING HAZARD AND SHALL NOT BLOCK ANY ACCESS PANELS OF ANY EQUIPMENT.

PIPING TYPES & REQUIREMENTS

SERVICE	LOCATION	MATERIAL	NOTES
SANITARY, WASTE & VENT	ALL	PVC	(1)
DOMESTIC WATER	ALL	COPPER	(2)
GAS	ABOVE GRADE	SCH. 40 BLACK STEEL	–

(1) FOAMCORE PVC MAY BE USED ABOVE GRADE ONLY IF APPROVED BY OWNER. FOAMCORE PVC MAY NOT BE USED BELOW GRADE.
(2) ALL HOT WATER AND HOT WATER RECIRCULATION PIPE MUST BE INSULATED REGARDLESS OF PIPE MATERIAL. INSULATION SHALL HAVE A CONDUCTIVITY BETWEEN 0.21-0.28 BTUxIN/(HxFT²xºF). INSULATION SHALL BE 1" THICK FOR PIPE UP TO AND INCLUDING 1½" PIPE SIZE. INSULATION SHALL BE 1½" FOR PIPE SIZES 2" AND LARGER. CONSULT WITH THE LOCAL INSPECTOR FOR CLARIFICATION AND INTERPRETATION.

FLOW TEST DATA

FLOW TEST DATA BELOW IS CURRENT AT THE TIME OF DESIGN. CONTRACTOR SHALL ORDER A NEW TEST AND FORWARD RESULTS TO THE ENGINEER IF TEST IS MORE THAN 12 MONTHS OLD.

PROVIDER OF TEST	UNAVAILABLE AT TIME OF DESIGN
DATE OF TEST	UNAVAILABLE AT TIME OF DESIGN
TIME OF DAY OF TEST	UNAVAILABLE AT TIME OF DESIGN
LOCATION OF FLOW HYDRANT	UNAVAILABLE AT TIME OF DESIGN
ELEVATION OF HYDRANT	UNAVAILABLE AT TIME OF DESIGN
STATIC PRESSURE	UNAVAILABLE AT TIME OF DESIGN
RESIDUAL PRESSURE	UNAVAILABLE AT TIME OF DESIGN
FLOW	UNAVAILABLE AT TIME OF DESIGN

CURRENT FLOW TEST DATA WAS NOT AVAILABLE AT TIME OF DESIGN.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CRAIG S. BLYTH

12-27-2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

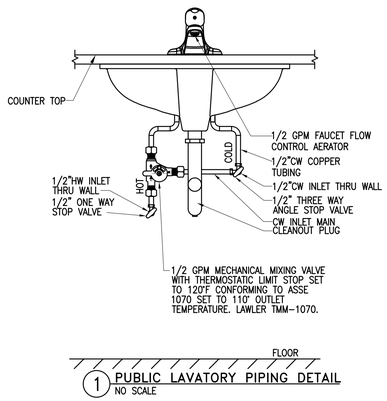
PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC
PGE # NC2243097
1435 W. Morehead Street
Suite 320
Charlotte, NC 28208
(704) 900-5838 (T)
(704) 842-5807 (F)

Owner Approval

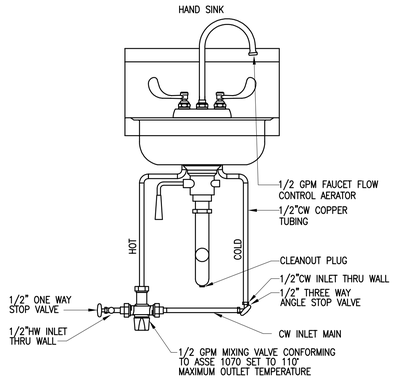
27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

PLUMBING SCHEDULES

P-0.1



1 PUBLIC LAVATORY PIPING DETAIL
NO SCALE



2 PUBLIC LAVATORY PIPING DETAIL
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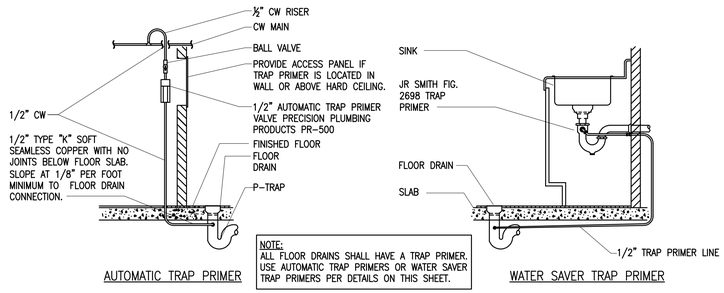
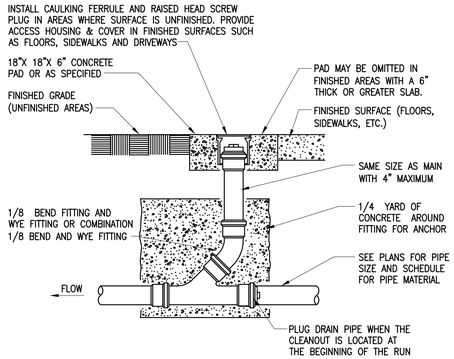
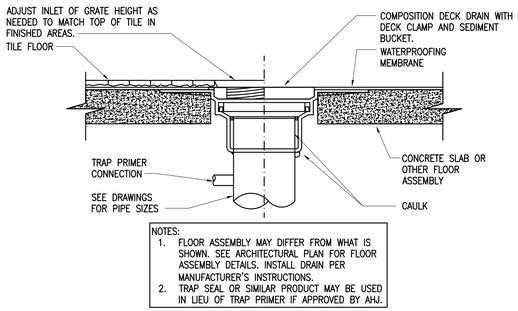


3 TRAP PRIMER DETAIL
SCALE: NO SCALE

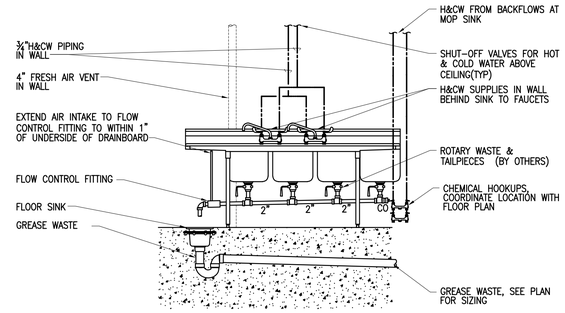


4 FLOOR/GRADE CLEANOUT DETAIL
NO SCALE



NOTES:
1. FLOOR ASSEMBLY MAY DIFFER FROM WHAT IS SHOWN. SEE ARCHITECTURAL PLAN FOR FLOOR ASSEMBLY DETAILS. INSTALL DRAIN PER MANUFACTURER'S INSTRUCTIONS.
2. TRAP SEAL OR SIMILAR PRODUCT MAY BE USED IN LIEU OF TRAP PRIMER IF APPROVED BY AHJ.

5 FLOOR DRAIN DETAIL
NO SCALE



6 4 COMPARTMENT SINK
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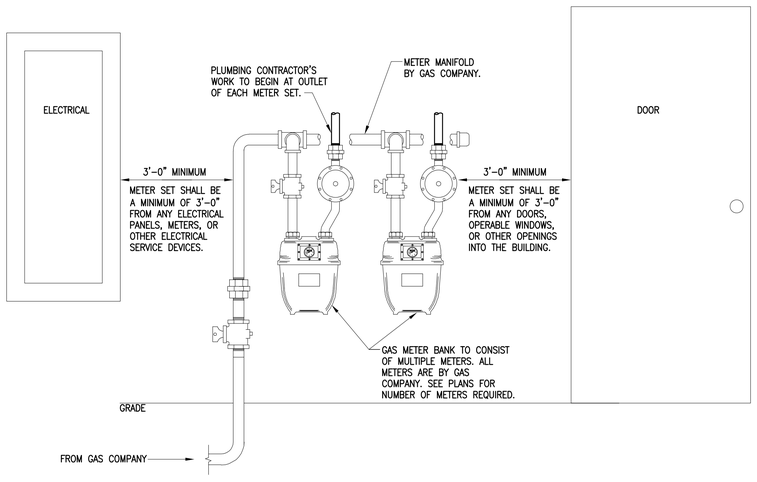
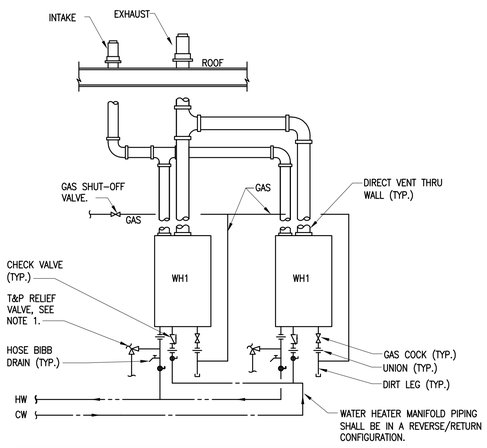
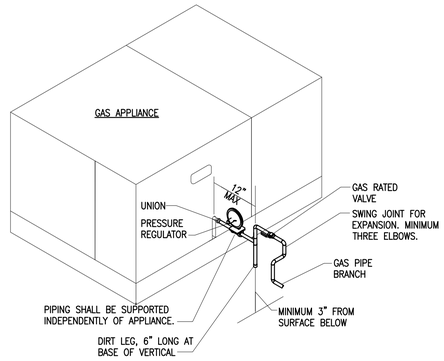


7 GAS METER BANK DETAIL
NO SCALE



NOTE:
1. T&P VALVE SHALL BE LOCATED AT THE END OF A PIPE EXTENSION THAT IS AT LEAST THE SAME LENGTH AS THE TEMPERATURE PROBE. ROUTE DISCHARGE OF T&P VALVE FULL SIZE TO MOP SINK.
2. PROVIDE CONDENSATE NEUTRALIZER.
3. ALL VENT PIPING SHALL BE CONCENTRIC VENT SUPPLIED BY MANUFACTURER CONSISTING OF A DOUBLE PIPE SYSTEM THAT ALLOWS FOR BOTH COMBUSTION AIR TO THE UNIT AND EXHAUST AWAY FROM THE UNIT TO BE CONVEYED.

8 TANKLESS WATER HEATER PIPING DETAIL
NO SCALE



NOTE:
LOCATE GAS PIPING SO AS NOT TO BLOCK APPLIANCE ACCESS PANELS. COORDINATE IN THE FIELD FOR ACCESS PANEL LOCATIONS.

PRESSURE REGULATOR OUTLET PRESSURE SHALL BE SET TO DROP SYSTEM GAS PRESSURE TO THE APPLIANCE INLET PRESSURE REQUIREMENT.

PRESSURE REGULATOR SHALL BE MAXITROL 325 SERIES OR EQUAL WITH VENT LIMITING DEVICE.

GAS VALVE MUST BE ACCESSIBLE WITHOUT MOVING APPLIANCE.

9 GAS APPLIANCE CONNECTION
NO SCALE

GENERAL NOTES

1. ALL GENERAL NOTES APPLY TO ALL PLUMBING DRAWINGS OF THE PROJECT UNLESS NOTED OTHERWISE.
2. THE CONTRACTOR IS SHALL REVIEW ALL SPECIFICATIONS, NOTES, AND DETAILS AND APPLY THE WORK DESCRIBED AND/OR SHOWN IN ALL LOCATIONS OF THE PROJECT AS DIRECTED IN THE SPECIFICATIONS, NOTES, AND DETAILS.
3. COORDINATE ALL PIPING WITH DUCT WORK AND LIGHTING FIXTURES.
4. THE CONTRACTOR SHALL PREPARE A COORDINATION PLAN OF ALL REQUIRED PENETRATIONS IN ALL STRUCTURAL ELEMENTS AND FORWARD THAT PLAN TO THE DESIGN TEAM FOR REVIEW.
5. ALL PLUMBING PENETRATIONS OF FIRE/SMOKE ASSEMBLIES SHALL BE SEALED WITH UL RATED FIRE/SMOKE STOP SYSTEMS MATCHING OR EXCEEDING THE RATING OF THE ASSEMBLY PENETRATED.
6. ALL PIPING DROPS IN CHASES AND WALLS ARE TO BE SECURED TO WALLS.
7. ALL VERTICAL WASTE, WATER, AND VENT RISERS THAT ARE EXPOSED IN AREAS INTERIOR TO THE BUILDING THAT ARE VISIBLE TO THE PUBLIC SHALL BE ENCASED IN ARCHITECTURAL FURR OUTS. NOTIFY GC IF FURR OUTS ARE NOT PROVIDED ON ARCHITECTURAL DRAWINGS.
8. MAKE ALL FINAL CONNECTIONS TO ALL FIXTURES AND EQUIPMENT.
9. CAP ALL OPEN PIPING ENDS DURING CONSTRUCTION TO PREVENT THE ENTRY OF DEBRIS INTO THE PLUMBING SYSTEMS.
10. ALL WASTE PIPING 4" OR LARGER TO BE SLOPED AT 1/8" PER LINEAR FOOT. ALL WASTE PIPING SMALLER THAN 4" TO BE SLOPED AT 1/4" PER LINEAR FOOT.
11. THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL CONNECTION POINT AND POWER REQUIREMENTS OF ALL REQUIRED HEAT TRACE WITH THE ELECTRICAL CONTRACTOR IN THE FIELD PRIOR TO ORDERING OR INSTALLING ANY HEAT TRACE.
12. NO PIPING FOR ANY SERVICE INSTALLED ABOVE ELECTRICAL PANELS, LOADCENTERS, ELEVATOR EQUIPMENT, OR OTHER ELECTRICAL SYSTEM. CONTRACTOR SHALL NOTIFY ENGINEER AND ARCHITECT IF NO CODE COMPLIANT PIPE ROUTE EXISTS THAT DOES NOT CROSS AN ELECTRICAL SYSTEM PRIOR TO THE INSTALLATION OF THE PLUMBING PIPING IN THE AREA.
13. THE GENERAL CONTRACTOR SHALL ORGANIZE A FACE TO FACE MEETING, PRIOR TO BEGINNING CONSTRUCTION, BETWEEN THE PLUMBING CONTRACTOR, FIRE PROTECTION CONTRACTOR, ELECTRICAL CONTRACTOR, HVAC CONTRACTOR, AND ANY OTHER CONTRACTORS THAT MAY HAVE INSTALLATION WORK TO PERFORM WHERE PLUMBING PIPING IS TO BE INSTALLED, TO COORDINATE THE INSTALLATION NEEDS OF THE PLUMBING SYSTEM WITH OTHER TRADES FOR THE PURPOSE OF IDENTIFYING AND AVOIDING INSTALLATION CONFLICTS DURING CONSTRUCTION FOR PIPE ROUTING, DRAIN LOCATIONS, DRAINAGE REQUIREMENTS FOR OTHER TRADES, AND ANY AND ALL OTHER POINTS WHERE MULTIPLE TRADES MAY COME INTO CONTACT. THIS MEETING SHALL ALSO SERVE TO MATCH THE VOLTAGE, PHASE, AMPS, MCA, AND MOCP OF THE EQUIPMENT WITH THE DESIGNED ELECTRICAL CHARACTERISTICS. RECORDS OF THIS MEETING, INCLUDING MEETING MINUTES AND A LIST OF ATTENDEES, SHALL BE MADE AVAILABLE TO THE OWNER AND THE DESIGN TEAM UPON REQUEST.
14. ALL PIPING ABOVE TO BE HUNG AS HIGH AS POSSIBLE.
15. UNLESS OTHERWISE INDICATED, ALL SANITARY, AND WASTE PIPING SHOWN ON DRAWINGS IS BELOW FLOOR AND ALL WATER, GAS, AND VENT PIPING IS ABOVE CEILING.
16. FOUNDATION DRAINAGE IS NOT WITHIN PGE SCOPE. CONSULT WITH OTHERS FOR PLANS & DETAILS.
17. PROVIDE TRAP PRIMERS (AUTOMATIC OR WATER SAVER TYPE) ON ALL FLOOR DRAINS AND HUB DRAINS. SEE DETAIL SHEET FOR TRAP PRIMER DETAIL.
18. COORDINATE COUNTER TOP FIXTURE LOCATIONS WITH ARCHITECTURAL DRAWINGS.
19. PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVE CONNECTIONS SUCH FOR WASHING MACHINES, ICE MAKERS, DISHWASHERS, FLUSH VALVES AND DRINKING FOUNTAINS.
20. PROVIDE A GAS RATED BALL VALVE, DIRT LEG AND UNION AT EACH GAS APPLIANCE CONNECTION.
21. ALL COPPER PIPING SHALL BE ISOLATED FROM DISSIMILAR METALS.
22. HEAT TRAPS OR HEAT TRAP NIPPLES ARE REQUIRED ON ALL WATER HEATERS.
23. ALL VENT OPENINGS SHALL BE A MINIMUM OF 10 FEET FROM ANY AIR INTAKE, DOOR, OR OPERABLE WINDOW.
24. ALL VALVES ON ALL PLANS AND DETAILS ARE NORMALLY OPEN UNLESS NOTED OTHERWISE ON DRAWINGS, SPECIFICATIONS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER
CHARLES S. BLYTH
12-27-2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC
PGE # NC2240X7
1435 W. Morehead Street
Suite 200
Charlotte, NC 28208
(704) 900-5838 (T)
(704) 942-5827 (F)

Owner Approval

27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

PLUMBING DETAILS

P-0.2

PLUMBING SPECIFICATIONS

GENERAL

REGULATIONS AND REQUIREMENTS

A. WORK COVERED BY THIS DOCUMENT INCLUDES LABOR, MATERIAL, PRODUCTS AND SERVICES FOR, AND INCIDENTAL TO, INSTALLATION OF PLUMBING SYSTEMS DRAWN OR SPECIFIED.

B. WORK SHALL BE COMPLETE, TESTED, ADJUSTED AND READY FOR OPERATION PRIOR TO OCCUPATION BY OWNER.

C. INSTALL WORK TO COMPLY WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. SECURE ALL NECESSARY PERMITS AND INSPECTIONS, PAYING ALL COSTS AND FEES INVOLVED.

D. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT PROJECT SITE, SURVEY EXISTING CONDITIONS AND COORDINATE WORK TO COMPLY WITH THE CONSTRUCTION DOCUMENTS.

E. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL ORGANIZE A FACE TO FACE MEETING BETWEEN THE ELECTRICAL, MECHANICAL, FIRE PROTECTION, PLUMBING, AND OTHER SUB CONTRACTORS INVOLVED WITH THE CONSTRUCTION OF THE PROJECT. ALL PARTIES SHALL COORDINATE SPECIFIC NEEDS OF THEIR RESPECTIVE TRADES WITH OTHER RESPONSIBLE PARTIES. LOCATIONS OF ALL PIPING, DUCTWORK, EQUIPMENT, ETC. SHALL BE COORDINATED BETWEEN TRADES SO AS TO AVOID CONFLICTS IN REQUIRED INSTALLATION SPACE.

SHOP AND RECORD DRAWINGS

A. FURNISH SHOP DRAWINGS FOR MANUFACTURED PRODUCTS IN PDF FORMAT. SUBMITTALS SHALL BE CLEARLY LABELED WITH COVER SHEETS INDICATING THE PROJECT NAME AND THE SUBMITTAL CONTENTS. ALL SPEC SHEETS SHALL BE MARKED WITH THE MODEL TO BE PROVIDED. INCOMPLETE SUBMITTALS MAY BE REJECTED AS NOT REVIEWED AT THE ENGINEER'S DISCRETION.

EQUIPMENT SUBSTITUTIONS

A. EQUIPMENT AND/OR MATERIAL SUBSTITUTIONS BY THE PLUMBING SUBCONTRACTOR MUST HAVE ANY INCREASED COST FOR OTHER TRADES INCLUDED WITH THE PLUMBING PRICING CHANGE AS A LINE ITEM.

B. ALL PLUMBING EQUIPMENT AND MATERIAL SUBSTITUTIONS MUST BE SHOWN ON THE BID DOCUMENTS TO THE OWNER AS A SEPARATE LINE ITEM ADDITION OR DEDUCTION TO THE FINAL BID.

DRAWINGS

A. EXCEPT WHERE DIMENSIONS ARE SPECIFICALLY INDICATED, MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. HOWEVER, SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHERE POSSIBLE. DRAWINGS INDICATE REQUIRED SIZE AND ROUTES OF SYSTEM ELEMENTS. THE INTENTION OF THE CONSTRUCTION DOCUMENTS IS NOT TO INDICATE ALL OFFSETS, RISERS, AND DROPS. THE CONTRACTOR SHALL INSTALL SYSTEM ELEMENTS IN A MANNER TO CONFORM TO STRUCTURE AND AVOID OBSTRUCTIONS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.

C. REFER TO ELECTRICAL DRAWINGS FOR VOLTAGE AND SYSTEM CHARACTERISTICS SUPPLIED TO MECHANICAL EQUIPMENT.

HANGERS AND SUPPORTS

A. PLUMBING PIPING UNDERGROUND SHALL BE FIRMLY BEDDED ON SOLID GROUND ON THE BODY OF THE PIPE.

B. WHERE SEVERAL PIPES 2½" AND SMALLER RUN PARALLEL AND IN THE SAME PLANE, THEY MAY BE SUPPORTED ON GANG OR MULTIPLE HANGERS; LARGER PIPING SHALL BE INDEPENDENTLY HUNG, PARALLEL AND EQUALLY SPACED.

C. SUPPORTS FOR STEEL PIPE AND FOR COPPER TUBING 1¼" OR LARGER, SHALL NOT BE MORE THAN 10' APART. SUPPORTS FOR COPPER TUBING 1" AND SMALLER SHALL BE NOT MORE THAN 8' APART. PIPES SHALL BE SUPPORTED WITHIN 1' OF EACH ELBOW.

D. SUPPORT EACH HORIZONTAL LENGTH OF SANITARY, WASTE AND VENT PIPE, EXCLUDING FITTINGS. MAXIMUM DISTANCE BETWEEN HANGERS SHALL BE 5'-0".

E. VERTICAL PIPE SUBJECT TO MOVEMENT SHALL BE SUPPORTED FROM WALL BY MEANS OF PIPE CLAMP.

F. SUPPORT DOMESTIC HOT AND COLD WATER PIPING IN SPACES BEHIND PLUMBING FIXTURES BY BRACKETS AND U-BOLTS SECURED TO WASTE AND VENT STACKS. SIZE U-BOLTS TO BEAR ON THE PIPING.

G. HANGERS SHALL BE COMPLETE WITH RODS AND SUPPORTS PROPORTIONED TO THE SIZE OF PIPE TO BE SUPPORTED, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

H. DO NOT PIERCE WATERPROOFING WITH SUPPORT BOLTS.

I. SIZE HANGERS FOR INSULATED PIPING TO BEAR ON OUTSIDE OF INSULATION.

J. PROVIDE INSULATION PROTECTORS AT HANGERS BEARING ON OUTSIDE OF INSULATION. PROVIDE RIGID INSERT OR RIGID SECTION OF INSULATION AT EACH INSULATION PROTECTOR.

K. AFTER HANGER RODS ARE INSTALLED IN INSERTS IN FINISHED CONCRETE CEILING, FILL THE REMAINING OPENING WITH CEMENT SO THAT NO HOLE SHOWS AT THE CEILING.

L. PIPE HANGERS AND SUPPORTS SHALL BE INSTALLED AND FURNISHED IN ACCORDANCE WITH RECOMMENDATIONS SET FORTH IN MANUFACTURERS STANDARDIZATION SOCIETY STANDARD PRACTICES NO. SP-69 AND SP-58.

M. HANGERS AND SUPPORTS SHALL BE MANUFACTURED BY F&S, GRINNELL, MICHIGAN OR APPROVED EQUAL.

SLEEVES

A. PROVIDE WHERE PIPES PASS THROUGH WALLS, FLOORS AND ROOFS.

B. SLEEVES SHALL BE STANDARD WEIGHT STEEL PIPE IN CONCRETE AND MASONRY CONSTRUCTION.

C. SLEEVES THROUGH INTERIOR DRYWALL CONSTRUCTION SHALL BE 26 GAUGE GALVANIZED SHEET METAL.

D. SLEEVES ARE NOT REQUIRED AT INDIVIDUAL PLUMBING FIXTURES.

E. OMIT PIPE SLEEVES IN CONCRETE FLOOR SLABS ON GRADE.

F. WALL SLEEVES SHALL BE FULL THICKNESS OF WALLS.

G. SLEEVES MAY BE OMITTED WHEN OPENINGS ARE CORE DRILLED FOR CONCEALED VERTICAL AND HORIZONTAL PIPING.

H. MAKE SLEEVES THROUGH OUTSIDE WALLS WATERTIGHT. CAULK BETWEEN PLUMBING PIPE AND SLEEVE WITH OAKUM AND LEAD. PACK WITH FIBERGLASS AND CAULK, 1" DEEP AT EACH FACE WITH NON-HARDENING SEALANT BETWEEN PIPE AND SLEEVE.

I. SIZE SLEEVES FOR INSULATED PIPES TO ALLOW FULL THICKNESS INSULATION.

J. PIPES PENETRATING WALLS BELOW GRADE SHALL BE SEALED WITH A WATERPROOF, MODULAR, MECHANICAL EXPANSION SEAL CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINKS SHAPED TO CONTINUOUSLY FILL THE ANNULAR SPACE BETWEEN THE PIPE AND WALL OPENING. SIZING OF LINKS AND WALL SLEEVE SHALL BE DETERMINED BY MANUFACTURER.

K. SLEEVES FOR ALL PIPING PENETRATING FIRE RATED WALLS AND FLOOR SHALL BE PROVIDED WITH 3M FIRE BARRIER NO. CP-25 FIRE PROOFING CAULKING, OR EQUAL, IN ANNULAR SPACE BETWEEN SLEEVE AND PIPING.

WASTE, VENT, RAINWATER PIPING SYSTEMS AND ACCESSORIES

PIPING AND FITTINGS

A. SEE PIPING SCHEDULE FOR PIPE TYPE LOCATIONS. PIPE LISTED IN THE SCHEDULE SHALL MEET THE FOLLOWING:

1. CAST IRON BELOW GRADE – SERVICE WEIGHT, HUB AND SPIGOT, MEETING ASTM A-74. GASKETS SHALL MEET ASTM C-564.
2. PVC BELOW GRADE – SOLID CORE, SCHEDULE 40 WITH SOLVENT WELD JOINTS MEETING ASTM D-2665.
3. PVC ABOVE GRADE – SOLID CORE, SCHEDULE 40 WITH SOLVENT WELD JOINTS MEETING ASTM D-2665.

FLOOR, AREA, AND ROOF DRAINS:

DRAINS SHALL BE AS SCHEDULED ON THE DRAWINGS. ALL DRAINS CONNECTED TO SANITARY SYSTEMS SHALL HAVE TRAP PRIMERS.

CLEANOUTS:

A. PROVIDE CLEANOUTS IN SOIL AND WASTE LINES AS SHOWN AND AS REQUIRED BY THE GOVERNING CODE AS FOLLOWS:

1. AT THE BOTTOM OF EACH EXPOSED FIXTURE TRAP WHICH IS NOT INTEGRAL WITH THE FIXTURE.
2. AT THE END OF EACH BRANCH DRAINAGE LINE.
3. AT EACH CHANGE OF HORIZONTAL DIRECTION GREATER THAN 45 DEGREES.
4. IN HORIZONTAL DRAIN LINES AT INTERVALS OF NOT MORE THAN 100 FEET.

B. FLOOR CLEAN OUTS SHALL MEET ASTM A112.36.2M, HAVE CAST IRON BODY, THREADED ADJUSTABLE HOUSING, WITH CAST IRON PLUG, ROUND COVER WITH NICKEL-BRONZE TOP (UNLESS ALTERNATIVE FINISH COLOR SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER), AND BE SAME SIZE AS THE CONNECTED BRANCH PIPE. PROVIDE EXTRA HEAVY DUTY COVER IN AREAS WITH VEHICULAR TRAFFIC, TRASH CART PATHS, OR SIMILAR OPERATIONS.

C. WALL CLEANOUTS SHALL MEET ASME A112.36.2M WITH CAST IRON BODY WITH THREADED CAST IRON PLUG. PROVIDE ROUND WALL ACCESS COVER PLATE ATTACHED TO CLEANOUT CLOSURE PLUG WITH THREADED SCREW. COVER PLAT SHALL HAVE A CHROME FINISH UNLESS ALTERNATIVE FINISH COLOR IS SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER.

D. WHEN CONNECTED TO PVC PIPE 6" OR SMALLER, PVC FLOOR CLEANOUTS MEETING ASME A112.36.2M MAY BE USED. PVC CLEANOUTS SHALL HAVE SCHEDULE 40 PVC BODY, ADJUSTABLE HEIGHT, THREADED CLEANOUT PLUG, AND ROUND COVER WITH NICKEL-BRONZE TOP (UNLESS ALTERNATIVE FINISH COLOR SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER).

E. WHEN CONNECTED TO PVC PIPE, WALL CLEANOUTS CONSISTING OF A SANITARY TEE WITH A THREADED INSIDE PIPE CLEANOUT FITTING MAY BE USED. PROVIDE ROUND WALL ACCESS COVER PLATE ATTACHED TO CLEANOUT CLOSURE PLUG WITH THREADED SCREW. COVER PLAT SHALL HAVE A CHROME FINISH UNLESS ALTERNATIVE FINISH COLOR IS SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER.

FLASHING

A. FLASH AROUND ALL PIPES PENETRATING THRU THE ROOF WITH STANDARD MANUFACTURED FLASHINGS. FLASHING SHALL BE SHEET METAL WITH RUBBER GASKETS AND EXTEND INTO ROOFING AND UP PIPE DISTANCES IN ACCORDANCE WITH THE LOCAL CODE.

DOMESTIC WATER SYSTEM AND ACCESSORIES

PIPING AND FITTINGS

A. ALL DOMESTIC WATER PIPING, FITTINGS, EQUIPMENT, VALVES, OR ANY OTHER ITEM ATTACHED TO THE DOMESTIC WATER SYSTEM SHALL BE LEAD FREE AND NSF 61 AND ANSI 372 RATED UNLESS SEPARATED FROM THE DOMESTIC WATER SYSTEM BY A REDUCED PRESSURE ZONE BACKFLOW PREVENTOR (RPZ).

B. SEE PIPING SCHEDULE FOR PIPE TYPES USED INSIDE THE BUILDING AFTER THE SERVICE RISER. PIPE LISTED IN THE SCHEDULE SHALL MEET THE FOLLOWING:

1. WATER PIPING ABOVE SLAB: TYPE "L" HARD DRAWN COPPER TUBING, ASTM B88-1988A, WITH 95-5 SOLDERED JOINTS AND WROUGHT COPPER, ANSI B16.22-1988A, OR CAST BRONZE, ANSI 95-5 B16.18-1988A, SOCKET FITTINGS.
2. WATER PIPING BELOW SLAB ON GRADE: TYPE "L" SOFT DRAWN COPPER TUBING, WITHOUT JOINTS, CONFORMING TO ASTM B88-1988A.

INSULATION

A. PROVIDE INSULATION AS REQUIRED TO MEET ALL ENFORCED CODES.

B. UNLESS INDICATED OTHERWISE IN THE PIPE SCHEDULE, PIPE INSULATION SHALL HAVE A CONDUCTIVITY BETWEEN 0.21-0.28 BTUxIN/(HxFT²xF). INSULATION SHALL BE 1" THICK FOR PIPE UP TO AND INCLUDING 1½" PIPE SIZE. INSULATION SHALL BE 1½" FOR PIPE SIZES 2" AND LARGER. CONSULT WITH THE LOCAL INSPECTOR FOR CLARIFICATION AND INTERPRETATION.

C. WHERE INSULATION WILL BE VISIBLE TO THE PUBLIC, GUESTS, OR TENANTS, FIBERGLASS INSULATION WITH A WHITE JACKET SHALL BE PROVIDED. JACKET MAY BE PAINTED TO MATCH CEILING COLOR AT THE DIRECTION OF THE OWNER.

D. THE FOLLOWING SHALL BE INSULATED:

1. PIPING AS INDICATED IN THE PIPE SCHEDULE ON THE DRAWINGS.
2. ALL COPPER WATER PIPING REGARDLESS OF SERVICE USE OR LOCATION IN THE PROJECT.
3. ALL WATER PIPING IN EXTERIOR WALLS REGARDLESS OF PIPING MATERIAL.
4. ALL HOT WATER PIPING OUTSIDE DWELLING UNITS.
5. ALL HOT WATER PIPING INSIDE DWELLING UNITS IF A HEAT TRAP OR HEAT TRAP NIPPLES ARE NOT PROVIDED AT THE WATER HEATER.
6. ALL WATER PIPING EXPOSED TO FREEZING CONDITIONS SHALL BE INSULATED WITH HEAT TRACE PROVIDED BELOW THE INSULATION.

DOMESTIC WATER VALVES

A. GENERAL REQUIREMENTS ARE AS FOLLOWS:

1. VALVES OF THE SAME TYPE ON THE PROJECT SHALL BE OF ONE MANUFACTURER.
2. VALVES SHALL HAVE THE NAME OR TRADEMARK OF THE MANUFACTURERS AND THE WORKING PRESSURE STAMPED OR CAST ON THE VALVE BODY.
3. VALVE HAND WHEELS SHALL BE ORIENTED, WHEN INSTALLED, TO PROVIDE MAXIMUM ACCESSIBILITY FOR OPERATION.

B. VALVES FOR DOMESTIC WATER SYSTEM:

1. GATE VALVES 3" IN SIZE AND SMALLER AND UP STREAM OF THE PRESSURE REDUCING VALVE SHALL HAVE BRONZE BODY, RISING STEM, SOLID WEDGE, THREADED BONNET FOR 150# SWP. VALVES SHALL BE BY CRANE, MILWAUKEE, NIBCO, STOCKHAM, OR APPROVED EQUAL.
2. GATE VALVES 3" IN SIZE AND SMALLER AND DOWN STREAM OF THE PRESSURE REDUCING VALVE SHALL HAVE BRONZE BODY, RISING STEM, SOLID WEDGE, THREADED BONNET FOR 125# SWP. VALVES SHALL BE BY CRANE, MILWAUKEE, NIBCO, STOCKHAM, OR APPROVED EQUAL.
3. BALL VALVES SHALL HAVE BRONZE BODY WITH FULL PORT BRASS BALL AND BLOW OUT PROOF STEM WITH EXTENSION.. 125# SWP. VALVES SHALL BE BY CRANE, MILWAUKEE, NIBCO, STOCKHAM, OR APPROVED EQUAL.
4. CHECK VALVES 3" IN SIZE IN HORIZONTAL PIPING AND SMALLER SHALL BE HORIZONTAL SWING TYPE WITH BRONZE BODY, BRONZE DISC FOR 125# SWP. VALVES SHALL BE BY CRANE, MILWAUKEE, NIBCO, STOCKHAM, OR APPROVED EQUAL.
5. CHECK VALVES 3" IN SIZE IN VERTICAL PIPING AND SMALLER SHALL BE INCLINE LIFT TYPE WITH BRONZE BODY, RESILIENT DISCS, SILENT ACTION, STAINLESS STEEL SPRING FOR 125# SWP. VALVES SHALL BE BY CRANE, MILWAUKEE, NIBCO, STOCKHAM, OR APPROVED EQUAL.
6. PRESSURE REDUCING VALVES UP TO 3" IN SIZE SHALL BE SELF CONTAINED LARGE AREA DIAPHRAGM TYPE, BRONZE BODY, REPLACEABLE SEAT, SERVICEABLE IN LINE, SEALED SPRING CAGE AND STAINLESS STEEL SPRING. VALVE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASSE STANDARD 1003. PRV SHALL BE ADJUSTABLE FOR OUTLET PRESSURES RANGING FROM 25 TO 75 PSI WHEN INLET PRESSURES ARE AS HIGH AS 300 PSI. PROVIDE A STRAINER UPSTREAM OF EACH PRV AND A 3½" 0-200 PSIG DIAL PRESSURE GAUGE ON THE UPSTREAM AND DOWNSTREAM SIDE OF EACH PRV ASSEMBLY.
7. STRAINERS SHALL BE "Y" TYPE WITH ALL BRONZE BODY, STAINLESS STEEL SCREEN, SOLID RETAINER CAP WITH NON-ASBESTOS GASKET, AND RATED FOR A MINIMUM OF 200 PSI DOWNSTREAM OF THE PRV AND A PRESSURE OF 300 PSI UPSTREAM OF THE PRV.
8. FIXTURE SUPPLY VALVE KIT SHALL INCLUDE CHROME PLATED BRASS STOPS WITH FULL TURN BRASS STEM, CHROME PLATED COPPER RISERS WHERE VISIBLE TO THE PUBLIC OR PLASTIC RISERS WHERE FIXTURE IS LOCATED IN A PRIVATE UNIT (DWELLING, OFFICE, HOTEL ROOM, ETC...), AND SHALLOW STEEL OR FORGED BRASS WITH SET SCREW FLANGE. INLET SHALL BE SIZED PER THE FIXTURE SCHEDULE, IPS OR SWEAT CONNECTION TO VALVE INLET ONLY, COMPRESSION FITTINGS WILL NOT BE ALLOWED AT VALVE INLET. OUTLET SHALL BE SIZED TO MATCH THE CONNECTED FIXTURE INLET(S) WITH IPS OR COMPRESSION CONNECTIONS. SUPPLY KIT SHALL BE BY BRASS CRAFT, MCGUIRE, WATTS OR APPROVED EQUAL.
9. CPVC BODY BALL VALVES SHALL NOT BE USED.

TESTING AND CLEANING

A. TEST WATER SUPPLY PIPING BEFORE FIXTURES AND FAUCETS ARE CONNECTED BY APPLYING A HYDROSTATIC PRESSURE OF 125 PSI TEST PRESSURE FOR 1 HOUR.

B. ALL EQUIPMENT, FIXTURES, PIPE, VALVES AND FITTINGS SHALL BE CLEANED OF GREASE, OIL, PAINT, SPOTS, METAL CUTTINGS, SLUDGE, AND CONSTRUCTION DEBRIS BEFORE FINAL INSPECTION.

C. UPON COMPLETION OF INSTALLATION AND TEST OF POTABLE WATER SUPPLY PIPING, ALL SUCH PIPING SHALL BE DISINFECTED BY A MIXTURE CONTAINING NOT LESS THAN 0.6 POUNDS OF HIGH-TEST CALCIUM HYPOCHLORITE, OR 2 POUNDS OF CHLORINATED LIME TO EACH 1,000 GALLONS OF WATER TO PROVIDE NOT LESS THAN 50 PPM OF AVAILABLE CHLORINE. THE MIXTURE SHALL BE INJECTED INTO THE SYSTEM AND RETAINED FOR NOT LESS THAN TWENTY-FOUR (24) HOURS AT WHICH TIME THE CHLORINE LEVEL SHALL BE AT 10 PPM OR GREATER. THE SYSTEM SHALL THEN BE DRAINED, FLUSHED WITH POTABLE WATER UNTIL ONLY NORMAL CHLORINE RESIDUAL REMAINS (2 PPM) AND PLACED IN SERVICE OR, IF LOCAL HEALTH AUTHORITY REQUIRED DIFFERENT AND/OR ADDITIONAL PROCEDURES, THESE REQUIREMENTS SHALL BE MET, AND A CERTIFICATE OR LETTER CERTIFYING ACCEPTANCE BY THE HEALTH AUTHORITY SHALL BE SUBMITTED.

DIELECTRIC ADAPTERS & UNIONS

A. WHEREVER COPPER, BRASS OR BRONZE PIPING SYSTEM ARE CONNECTED TO STEEL OR IRON PIPING SYSTEMS, THIS CONNECTION SHALL BE MADE WITH DIELECTRIC ISOLATORS. ALL DIELECTRIC ISOLATORS SHALL BE SELECTED FOR PRESSURES OF THE SYSTEMS INVOLVED.

B. WHEREVER CPVC PIPING SYSTEMS ARE CONNECTED TO METALLIC PIPING SYSTEMS OR EQUIPMENT, THIS CONNECTION SHALL BE MADE WITH AN ADAPTER FITTING OBTAINED FROM THE CPVC PIPING MANUFACTURER. DIRECTLY THREADING CPVC INTO METALLIC VALVES AND EQUIPMENT IS NOT ALLOWED.

FIXTURES

A. PROVIDE FIXTURES AS INDICATED IN SCHEDULE.

INSTALLATION

A. MAKE ALL FINAL UTILITY CONNECTIONS TO ALL FIXTURES AND EQUIPMENT.

B. PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION AND MAINTENANCE LITERATURE.

C. COMPONENTS REQUIRING PERIODIC MAINTENANCE OR ADJUSTMENT SHALL BE LOCATED OR INSTALLED AS TO PERMIT ACCESS WITHOUT DAMAGE TO BUILDING STRUCTURE, FINISHES OR OTHER EQUIPMENT.

D. GROUT/SEAL/CAULK FIXTURE CONTACT WITH WALL/FLOOR/COUNTER AS APPLICABLE.

GREASE INTERCEPTOR CALCULATIONS

Quote: 3D8F2C47

Reference No. 77266 — Project Name: Milkshake Factory

Step 1: Flow rate to grease interceptor

Fixture flow rate: (cu in / 231) = gal x 0.75 / 2 min = 2 min flow rate

NAME	TYPE	DIMENSIONS	QTY	CU IN	FLOW RATE
4 Compartment Sink	4 Compartment Sink	21" x 21" x 14" (4)	1	24,696	40.09 GPM
Floor Drain	Floor Drain	N/A	2	N/A	0 GPM
Mop Basin	Mop Basin	18" x 32" x 10"	1	5,760	9.35 GPM
Total					**49.44 GPM**

Step 2: Grease Production

Servings per day x Grease production value x Days between pump-outs = Grease output

Servings per day: 100
Grease production value: 0.005 lbs per serving (Ice Cream / Yogurt / Smoothies: Low / No flatware)
Days between pump-outs: 90 days

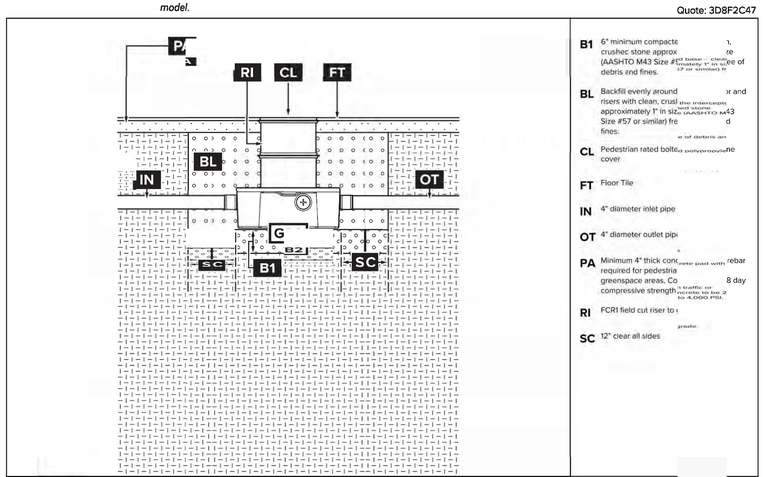
100 x 0.005 x 90 = 45 lbs of FOG

SCHIER MODEL	
GB2	**Description:** GREASE INTERCEPTOR 35 GPM / 50 GPM, 4" FPT CONNECTIONS W/ 3" AND 4" PLAIN END ADAPTERS, PEDESTRIAN RATED POLYPROPYLENE COVER **Dimensions:** Length: 35", Width: 23", Height: 13.75" **Flow Rate/Grease Capacity:** 50 GPM / 127 lbs **Liquid Capacity:** 20 gal

Specification Note: This Great Basin model has been sized to the flow rate and grease production requirements of the application and may not be substituted by liquid capacity alone. Any substitution requests must be approved by the specifying engineer and the authority having jurisdiction.

Please contact support@schierproducts.com for technical and procurement support for the specified Great Basin model.

Quote: 3D8F2C47



B1 6" minimum compacte ... crushec stone approx ... re (AASHTO M43 Size #57 or similar) fre ... ately 1" in size ... of debris and fines.

BL Backfill evenly around ... r and risers with clean, crus ... ine intercepts ... ed stone (AASHTO ... #43 Size #57 or similar) fre ... d fines. ... e of debris an...

CL Pedestrian rated bolte... polypropyle... ne cover

FT Floor Tile

IN 4" diameter inlet pipe

OT 4" diameter outlet pip...

PA Minimum 4" thick con... ...ete pad with rebar required for pedestria... greenspace areas. Co... 8 day compressive strength ... traffic or ...ncrete to be 2 ... to 4,000 PSI.

RI FCR1 field cut riser to ... ...proxi...

SC 12" clear all sides

DETAIL Milkshake Factory — Indoors, Below Grade

GB2 GREASE INTERCEPTOR 35 GPM / 50 GPM, 4" FPT CONNECTIONS W/ 3" AND 4" PLAIN END ADAPTERS, PEDESTRIAN RATED POLYPROPYLENE COVER

Disclaimer: this Detail represents manufacturer directed guidance regarding the grease interceptor system. The contents of this document are not a substitute for local jurisdiction requirements and plumbing code standards. Please follow all local ordinances when installing.

SCHIER — LIFETIME GUAR... GREASE INTERC...NTECTED EPTORS — schierproducts.com

NATURAL GAS PIPING SYSTEM AND ACCESSORIES

GENERAL REQUIREMENTS

A. ALL NATURAL GAS SPECIFICATIONS AND NOTES SHALL ALSO APPLY TO PROPANE SYSTEMS.

B. ALL GAS PIPE INSTALLATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL FUEL GAS CODE AND ANY LOCAL AMENDMENTS.

PIPING AND FITTINGS

A. NATURAL GAS PIPING ABOVE GRADE: SCHEDULE 40 BLACK STEEL PIPE CONFORMING TO ASTM A53 WITH STANDARD WEIGHT, BANDED BLACK STEEL MALLEABLE IRON FITTINGS CONFORMING TO ASTM A-234-WPB.

B. NATURAL GAS PIPING BELOW GRADE: POLYETHYLENE PIPE (PE PIPE) CONFORMING TO ASTM D 2513 WITH ASTM D 2683 SOCKET-FUSION FITTINGS OR ASTM D 3261 BUTT-FUSION FITTINGS. AN ACID AND ALKALI RESISTANT PE FILM WARNING TAPE, 6" WIDE, 4 MIL THICK, CONTINUOUSLY INSCRIBED WITH UTILITY DESCRIPTION, AND HAVING A CORROSION PROTECTED METALLIC CORE DETECTIBLE BY METAL DETECTOR SHALL BE PROVIDED ABOVE ALL PE PIPE FOR FUTURE DETECTION. PE PIPE SHALL BE BURRIED A MINIMUM OF 12" BELOW GRADE EXCEPT UNDER PAVED VEHICLE WAYS WHERE THE PIPE SHALL BE BURRIED A MINIMUM OF 36" DEEP.

C. PE TO STEEL TRANSITION FITTINGS: PROVIDE PE TO STEEL PIPE TRANSITION FITTINGS AT TRANSITIONS FROM BELOW GRADE PE PIPE TO ABOVE GRADE STEEL PIPE. TRANSITION FITTINGS SHALL COMPLY WITH THE RESPECTIVE ASTM STANDARD FOR THE PE AND STEEL PIPE PORTIONS. TRANSITION FITTINGS SHALL BE FACTORY FABRICATED AND TESTED ANODELESS TYPE WITH CORROSION PROTECTIVE COATING COVERING THE STEEL PORTION OF THE FITTING.

D. NATURAL GAS PIPING BELOW GRADE: SCHEDULE 40 BLACK STEEL PIPE CONFORMING TO ASTM A53 WRAPPED WITH 1/8" THICK ASPHALTIC WRAP WITH KRAFT PAPER COVERING. ALL JOINTS ARE TO BE WELDED.

VALVES FOR NATURAL GAS SYSTEMS

A. BALL VALVES 3" AND LARGER SHALL BE THE SEMI-STEEL TYPE WITH CAST IRON BODY, LUBRICATED CAST IRON PLUG, FLANGED ENDS, AND WRENCH OPERATED FOR 175# W.O.G MEETING THE REQUIREMENTS OF ANSI/ASME B16.33.

B. BALL VALVES 2½" AND SMALLER SHALL HAVE BRONZE BODY AND PLUG, THREADED ENDS, AND SQUARE HEAD FOR 125# W.O.G MEETING THE REQUIREMENTS OF ANSI/ASME B16.33. VALVES SHALL BE BY CRANE, OR WALWORTH.

C. BALL VALVES IN PE PIPE SHALL HAVE PE BODY WITH PE BALL, FUSIBLE OR PLAIN END TO MATCH PIPE, CWP RATING OF 80 PSIG, AND SHALL COMPLY WITH ASME B16.40.

GAS SYSTEM PRESSURE REGULATORS

A. GAS PRESSURE REGULATORS SHALL BE SPRING LOADED ADJUSTABLE REGULATOR WITH CAST IRON BODY, BRASS ORIFICE, BUNA-N OR SILICONE VALVE SEAT, STEEL VALVE STEM WITH INLET AND OUTLET RATED FOR PRESSURE AND CAPACITY NOTED ON THE PLANS. REGULATORS SHALL MAINTAIN A REDUCED OUTLET PRESSURE UNDER LOCKUP (NO-FLOW) CONDITIONS. REGULATORS INSTALLED ON THE EXTERIOR OF THE BUILDING SHALL BE APPROVED FOR OUTDOOR INSTALLATION. DO NOT INSTALL REGULATORS IN RETURN AIR PLENUMS.

TESTING

D. TEST STEEL NATURAL GAS PIPING 10 PSI OR 1-1/2 TIMES WORKING PRESSURE FOR ONE HOUR.

E. REPLACE OR REPAIR ANY PIPE THAT DOES NOT PASS TESTING.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CHARLES S. BLYTH

12-27-2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

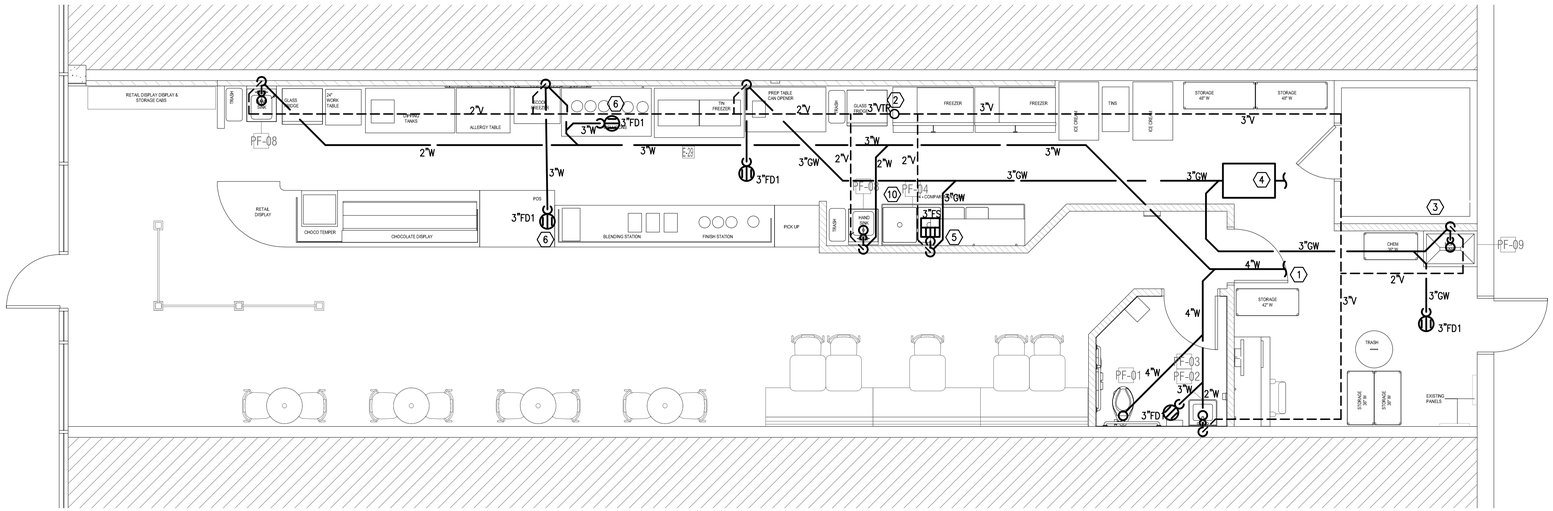
PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC
PGE # NC224067
1435 W. Morehead Street
Suite 200
Charlotte, NC 28208
(704) 900-5838 (T)
(704) 942-3657 (F)

Owner Approval

27MSHF.0030.000 — 1/4" = 1'-0"
Job No. — Scale

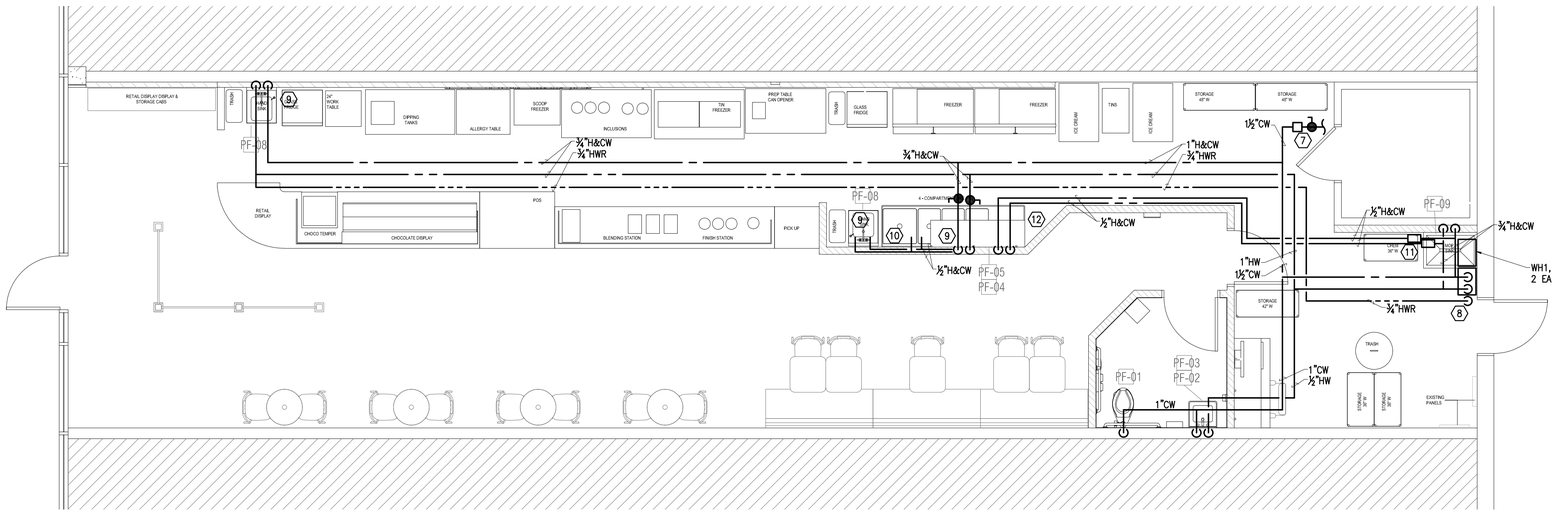
PLUMBING SPECIFICATIONS

P-0.3



2 FLOOR PLAN - S,W,&V

1/4" = 1'-0"



1 FLOOR PLAN - WATER

1/4" = 1'-0"

GENERAL NOTES:

1. FIELD VERIFY ALL EXISTING PIPING PRIOR TO DEMO TO NEW INSTALLATION.
2. ALL HUB DRAINS SHALL BE READILY AVAILABLE.
3. ALL PLUMBING SHUT-OFF VALVES SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT AND SHALL BE EASILY ACCESSED FOR FUTURE OPERATION.
4. PIPE SUPPRT ATTACHMENT TO BRIDGING OR METAL ROOF DECK IS STRICTLY PROHIBITED. REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING LOCAL GAS COMPANY TO ENSURE TIMELY INSTALLATION OF UTILITY SERVICE TO THE POINT SHOWN ON PLANS.
6. NO 90° HORIZONTAL TURNS SHALL BE USED IN THE SANITARY PIPING SYSTEM. ALL HORIZONTAL TURNS SHALL BE MADE WITH 45° ELBOWS WITH PIPE IN BETWEEN THE TWO ELBOWS.
7. CLOSELY COORDINATE OVERALL PIPING DIAMETER (INCLUDING INSULATION) WITH WALL DEPTH. NOTIFY ARCHITECT IF OVERALL PIPE DIAMETER EXCEEDS WALL DEPTH.

KEY NOTES – S,W,&V & WATER:

1. CONNECT NEW SANITARY/WASTE TO EXISTING 4"SANITARY. FIELD VERIFY EXACT LOCATION AND ELEVATION OF EXISTING LINE PRIOR TO INSTALLATION OF NEW SANITARY LINES.
2. COORDINATE LOCATION OF 3" VENT TERMINATION WITH RTU OUTSIDE AIR INTAKE AND MAINTAIN MINIMUM 10' CLEARANCE.
3. PROVIDE INSULATED ¾" COPPER PIPE FOR WALK-IN COOLER CONDENSATE ROUTED TO JANITORS SINK.
4. CONNECT NEW GREASE WASTE LINE TO TO NEW IN-FLOOR GREASE INTERCEPTOR, SEE DETAILS ON SHEET P-0.3. FIELD VERIFY EXACT LOCATION AND CONNECTION TO EXISTING SANITARY LINE PRIOR TO INSTALLATION OF GREASE LINE.
5. ROUTE INDIRECT WASTE LINES FROM 4-COMPARTMENT SINK TO DISCHARGE TO FLOOR SINK WITH AIR GAP.
6. FLOOR DRAIN TO RECEIVE CLEAR WASTE ONLY.
7. CONNECT NEW 1½"CW TO EXISTING CW OF EQUAL OR GREATER SIZE.
8. WATER HEATERS TO BE MOUNTED ON WALL AS HIGH AS POSSIBLE. DRAIN CONDENSATE INTO JANITOR'S SINK. SEE 8/P-0.2 FOR DETAILS.
9. PROVIDE ½"H&CW TO FAUCET BY FOOD SERVICE VENDOR.
10. REFER TO DETAIL 2/P-0.2 FOR DUMP SINK AND 6/P-0.2 FOR FOUR COMPARTMENT SINK DETAIL.
11. PROVIDE A ½"CW LINE & ½"HW AT MOP SINK, BOTH WITH RPZ BACKFLOWS MOUNTED AGAINST SIDE WALL, WATTS LF009 OR SIMILAR. DOWNSTREAM CW PIPING SHALL ROUTE TO CHEMICAL DISPENSER AT MOP SINK AND 4 COMPARTMENT SINK. DOWNSTREAM HW PIPING SHALL ROUTE TO CHEMICAL DISPENSER AT 4 COMPARTMENT SINK.DRAIN RPZ INTO MOP SINK.
12. PROVIDE A ½"H&CW LINE TO TWO WALL MOUNTED FAUCETS MOUNTED UNDER SINK SERVED DOWNSTREAM OF BACKFLOWS AT MOP SINK FOR CHEMICAL HOOKUP.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

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GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER
CRAIG S. BLYTH
12-27-2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

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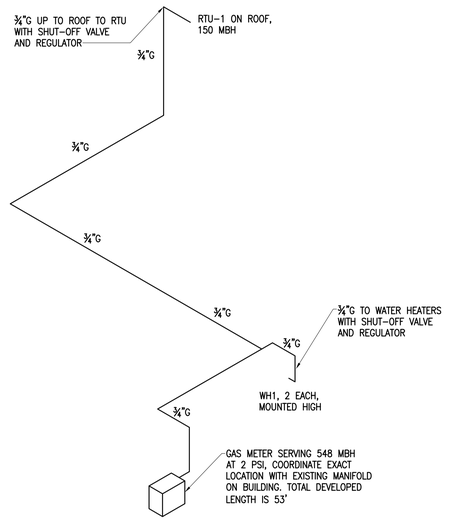
PLUMBING FLOOR PLAN

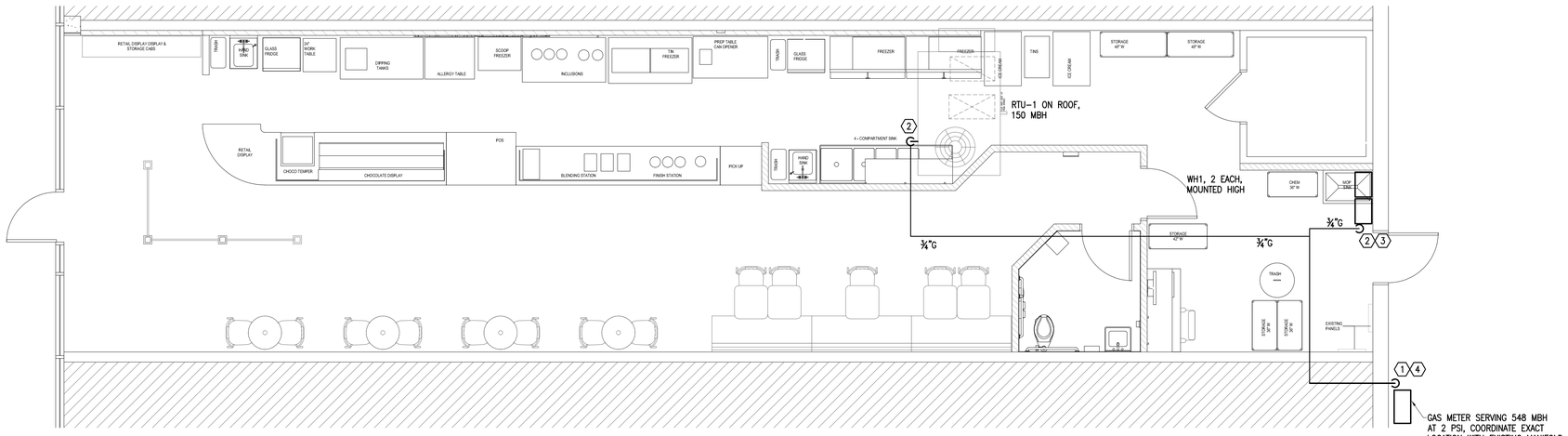
P-1.0

EQUIPMENT SCHEDULE

MARK	MANUF.	DESCRIPTION	FINISH	MODEL NO.	PROVIDED BY	INSTALLED BY	COMMENTS
E-01	KRATOS	18" X 30" STAINLESS STEEL WORKTABLES	STAINLESS STEEL	28W-094	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-02	SLIM JIM	23 GAL CONTAINER, 30" HEIGHT	BLACK	FG354060BLA	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-03	CENPRO	24" X 48" MSF 4-SHELF KIT WITH 74" POSTS	GREEN EPOXY	30V-085 /30V-102	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	LOCATED IN WALK-IN COOLER ONLY
E-04	KRATOS	60" x 30" 18-GAUGE COMMERCIAL WORK TABLE WITH 4" BACKSPLASH AND UNDERSHELF	STAINLESS STEEL	28W-019	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-05	STOELTING	U421 SOFT SERVE PRESSURE-FED SINGLE FLAVOR FLOOR MACHINE	STAINLESS STEEL	U421-3812	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-08	TURBOAIR	SOLID DOOR REFRIGERATOR REACH-IN TOP MOUONT M3 SERIES	STAINLESS STEEL	TSR-49SD-N6	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-09	TURBOAIR	SOLID DOOR FREEZER REACH-IN TOP MOUONT M3 SERIES	STAINLESS STEEL	TSF-49SD-N	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-10	EXCELLENCE INDUSTRIES	HB DUAL TEMP COOLER AND FREEZER	WHITE	HB-7HC	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-11	HAMILTON BEACH COMMERCIAL	TRIPLE SPINDLE DRINK MIXER	STAINLESS STEEL	HMD400	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-12	SERVER ESSENTIALS	CHILLER SAUCE PUMPS	STAINLESS STEEL	MMS 94070	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-13	SERVER ESSENTIALS	HOT SAUCE PUMPS	STAINLESS STEEL	FSP 82060	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-14	SERVER ESSENTIALS	CONSERVEWELL UTENSIL HOLDER	STAINLESS STEEL	CW 87750	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-15	ROBO COUPE	FOOD PROCESSOR	CHROME	R 2 B CLR	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-16	PLASTIC BOTTLE CRUSHER	ONE GALLON JUG CRUSHER	STAINLESS STEEL	5000-38	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-18	SURESHOT	REFRIGERATED LIQUID DISPENSER	STAINLESS STEEL	AC320-FP	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-19	AMANA COMMERCIAL	MICROWAVE RMS SERIES	STAINLESS STEEL	RMS10TSA	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-20	NELSON	INCLUSION STATION	STAINLESS STEEL	BD8 SE-RB	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	120V 5-15R - PROVIDE TELESCOPING LIDS AND CUSTOM INCLUSION RACK
E-21	MARKETEER MERCHANDISERS	GLASS REFRIGERATOR - LEFT HINGE	BLACK	MT10-1B	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	RIGHT HINGE - KRATOS - 32M-001
E-22	AMERIKOOLER	WALK-IN COOLER	TBD	QC080872WRNBSC	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	CONDENSOR TO BE INSTALLED PER MFG SPECS AND MEP DRAWINGS- CLIMATE CONTROL - PTN - ZB06KAE / REQUIRES ALTA WIRELESS TEMPERATURE SENSOR - MNS2-9-W2-TS-ST-L03 & SMALL BUSINESS MONITORING KIT - MNK2-9-EG-SMB
E-23	CHOCOTEMPER	CHOCOLATE TEMPERING TOP 11	STAINLESS STEEL	14.1.CHOCOTOP11	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	REQUIRES KRATOS EQUIPMENT STAND 28W-086
E-24	CENPRO	36" WIDE SHELVING SYSTEM	CHROME	30V-062	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-25	CENPRO	24" X 36" MSF 4-SHELF KIT WITH 74" POSTS	GREEN EPOXY	30V-085 /30V-094	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	LOCATED IN WALK-IN COOLER ONLY
E-26	CENPRO	48" WIDE SHELVING SYSTEM	CHROME	30V-070	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-27	CHOCOVISION	9LB CAPACITY CHOCOLATE TEMPERING MACHINE	STAINLESS STEEL	C11110REV5	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-28	RUBBERMAID	WHEELED BRUTE - 44 GAL CONTAINER	GRAY	H-10733	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	
E-29	TURBOAIR	60" WORKTOP REFRIGERATOR SUPER DELUX SERIES	STAINLESS STEEL	TWR-60SD-N	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	COORDINATE SPECIFICATION WITH CLIENT BEFORE PURCHASE
E-30	KRATOS	30" x 36" 18-GAUGE COMMERCIAL WORK TABLE WITH 4" BACKSPLASH AND UNDERSHELF	STAINLESS STEEL	28W-039	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	COORDINATE SPECIFICATION WITH CLIENT BEFORE PURCHASE
E-31	WITT	21 GALLON SWING TOP TRASH CAN	WHITE	1411HTWH	SEE RESPONSIBILITIES MATRIX	SEE RESPONSIBILITIES MATRIX	COORDINATE SPECIFICATION WITH CLIENT BEFORE PURCHASE



2 RISER DIAGRAM - GAS
NO SCALE



1 FLOOR PLAN - GAS
1/4" = 1'-0"

GENERAL NOTES:

1. FIELD VERIFY ALL EXISTING PIPING PRIOR TO DEMO TO NEW INSTALLATION.
2. ALL HUB DRAINS SHALL BE READILY AVAILABLE.
3. ALL PLUMBING SHUT-OFF VALVES SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT AND SHALL BE EASILY ACCESSED FOR FUTURE OPERATION.
4. PIPE SUPPRT ATTACHMENT TO BRIDGING OR METAL ROOF DECK IS STRICTLY PROHIBITED. REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING LOCAL GAS COMPANY TO ENSURE TIMELY INSTALLATION OF UTILITY SERVICE TO THE POINT SHOWN ON PLANS.
6. NO 90° HORIZONTAL TURNS SHALL BE USED IN THE SANITARY PIPING SYSTEM. ALL HORIZONTAL TURNS SHALL BE MADE WITH 45° ELBOWS WITH PIPE IN BETWEEN THE TWO ELBOWS.
7. CLOSELY COORDINATE OVERALL PIPING DIAMETER (INCLUDING INSULATION) WITH WALL DEPTH. NOTIFY ARCHITECT IF OVERALL PIPE DIAMETER EXCEEDS WALL DEPTH.

GAS KEY NOTES:

1. CONNECT NEW GAS PIPING TO EXISTING GAS METER AT GAS METER BANK. VERIFY PRESSURE OF GAS METER AND THAT GAS METER SERVES THIS SPACE.
2. PROVIDE A GAS COCK, DIRT LEG AND PRESSURE REGULATOR AT EQUIPMENT CONNECTIONS. COORDINATE THE PRESSURE REGULATOR REQUIREMENTS WITH THE EQUIPMENT MANUFACTURER. COORDINATE CONNECTION WITH FINAL EQUIPMENT LOCATION. VENT ALL PRESSURE REGULATOR LOCATED INSIDE TO THE OUTDOORS.
3. ROUTE SCH 40 PVC WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST VENT TO ROOF AND PROVIDE CONCENTRIC TERMINATION. SIZE AND TERMINATE PER MANUFACTURER'S INSTALLATION MANUAL.
4. APPROXIMATE GAS METER BANK. CONTRACTOR SHALL VERIFY THE EXISTING GAS METER IS APPROPRIATELY SIZED FOR THE NEW GAS LOAD, OR COORDINATE WITH GAS UTILITY TO PROVIDE NEW APPROPRIATELY SIZED METER.

MilkShake EST FACTORY 1914

MILKSHAKE FACTORY
ROSWELL, GA

920 WOODSTOCK RD
SUITE 220
ROSWELL, GA 30075

GEORGIA REGISTERED No. PE040179 PROFESSIONAL ENGINEER CHARLES S. BLYTH

12-27-2024

ISSUE FOR CONSTRUCTION 12/27/2024

DELTA	ISSUE	DESCRIPTION	DATE

PHILLIPS GRADICK ENGINEERING of Charlotte, PLLC
PGE # NC2243057
1435 W. Morehead Street
Suite 200
Charlotte, NC 28208
(704) 903-5838 (T)
(704) 942-3657 (F)

Owner Approval

27MSHF.0030.000 — Job No.
1/4" = 1'-0" — Scale

PLUMBING FLOOR PLAN

P-1.0