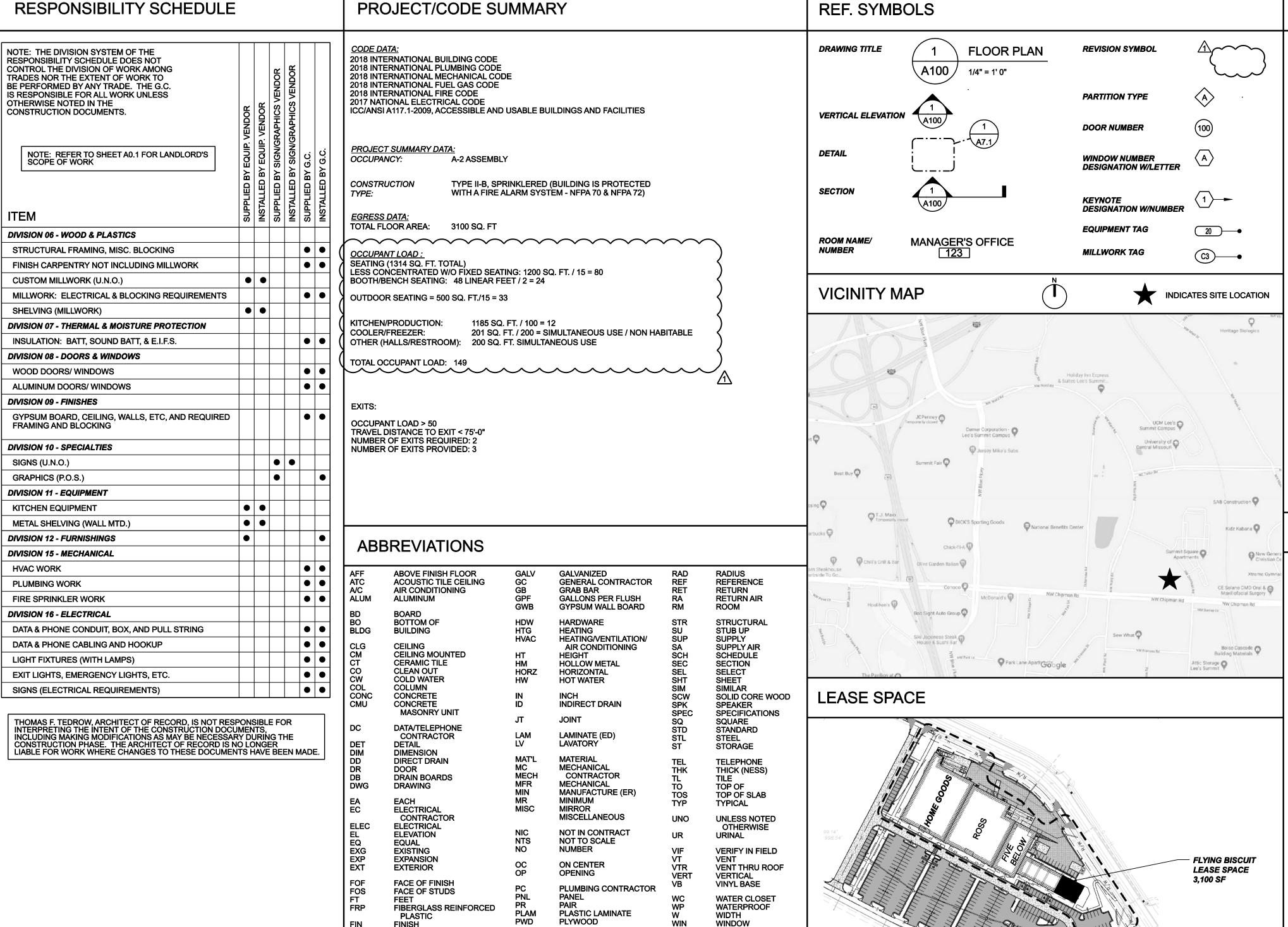


FLYING BISCUIT SUMMIT ORCHARDS 460 NW DONOVAN RD. SUITE 4B LEE'S SUMMIT, MO 64086



WITHOUT

WOOD

WD

FLOOR

FLOOR DRAIN

FLOOR SINK

FIRE TREATED/FIRE RETARDANT

PROJECT DIRECTORY SHEET INDEX

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ALL POTENTIAL BIDDERS TO CONTACT THE OWNER REGARDING THE BID PROCESS. BIDDERS WITH PLAN QUESTIONS ONLY MAY CONTACT THE ARCHITECT, PROJECT DESIGNER, OR ENGINEERS

T1.1 TITLE SHEET ARCHITECTURAL:
A0.1 SPECIFICATIONS FLOOR PLAN LIFE SAFETY PLAN EQUIPMENT & FURNITURE PLAN A1.1

EQUIPMENT SCHEDULE FLOOR FINISH PLAN REFLECTED CEILING PLAN A1.4 RESTROOM #1 & RESTROOM #2 DETAILS DOOR & FINISH SCHEDULES & DETAILS INTERIOR ELEVATIONS

INTERIOR ELEVATIONS MILLWORK DETAILS MILLWORK DETAILS & SECTIONS FIRESTOP DETAILS

<u> MECHANICAL/PLUMBING:</u> **MECHANICA-PLUMBING SPECS** MECHANICAL FLOOR PLAN MECHANICAL ROOF PLAN MECHANICAL SCHEDULES & NOTES

MECHANICAL DETAILS

MECHANICAL HOOD PLANS

MECHANICAL HOOD PLANS MECHANICAL HOOD PLANS MECHANICAL HOOD PLANS MECHANICAL HOOD PLANS

M3.0

WASTE AND VENT FLOOR PLAN DOMESTIC FLOOR PLAN P2.0 PLUMBING DETAILS

ELECTRICAL NOTES & LEGEND. ELECTRICAL LIGHTING PLAN **ELECTRICAL POWER FLOOR PLAN** SCHEDULES AND ONE-LINE

GENERAL NOTES

1. ALL CONSTRUCTION MUST COMPLY WITH ALL

2. ADA ISSUES WILL COMPLY TO THE ACCESSIBILITY CODES AS ESTABLISHED BY THE STATE LOCAL CODES.

3. ALL CONTRACTOR AND SUBCONTRACTORS WILL THOROUGHLY FAMILIARIZE THEMSELVES WITH THESE CONSTRUCTION DOCUMENTS AND WILL VERIFY EXISTING SITE AND BUILDING CONDITIONS PRIOR TO SUBMITTING A BID.

4. SUBCONTRACTORS, BEFORE STARTING THEIR WORK WILL CHECK AND VERIFY THEIR PARTICULAR RELATED REQUIREMENTS FOR COMPLIANCE ALONG WITH MEASUREMENTS, SURFACE LEVELS, AND SURFACE CONDITIONS NEAR AND ABOUT THEIR WORK. IT WILL BE **CONCLUDED THAT EACH BIDDER UNDERSTANDS** AND KNOWS EXACTLY WHAT WILL BE REQUIRED.

5. THIS ARCHITECT AND HIS PROFESSIONAL CONSULTANTS WILL NOT HAVE CONTROL OF AND WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES, OR FOR SAFETY PRECAUTIONS IN CONNECTION WITH THE WORK ON THIS PROJECT OR FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK ON THIS SITE.

6. ALL CONTRACTORS WILL PROVIDE ADEQUATE BRACING AND OR SHORING TO INSURE STRUCTURAL STABILITY OF THE BUILDING AND ALL RELATED BUILDING COMPONENTS, I.E. STRUCTURAL WALLS, INTERIOR WALL ASSEMBLIES ETC. DURING THE CONSTRUCTION PHASE OF THIS PROJECT.

7. ALL WORK WILL BE COORDINATED WITH OTHER TRADES IN ORDER TO AVOID INTERFERENCE AND PRESERVE MAXIMUM HEADROOM AND AVOID OMISSIONS. EACH CONTRACTOR WILL INCLUDE ALL MISCELLANEOUS ITEMS REQUIRED BY CODE AND NEEDED TO COMPLETE

8. ALL MATERIALS USED WILL BE NEW AND BEAR U.I. LABELS WHERE REQUIRED AND MEET APPROPRIATE N.E.M.A. STANDARDS.

9. LAYOUT ALL PARTITIONS BEFORE BEGINNING CONSTRUCTION TO PREVENT ERRORS BY DISCREPANCY, ALL DRYWALL PARTITIONS WILL BE INSTALLED AS NOTED ON THE DRAWINGS. DO NOT SCALE DRAWINGS.

10. VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO ORDERING CUTTING AND/OR INSTALLING MATERIAL, PRODUCT OR EQUIPMEN IN THE EVENT OF ANY DISCREPANCIES, CONTACT THE ARCHITECT BEFORE PRECEDING WITH THAT

11. ALL SUBCONTRACTORS WILL PROVIDE A CERTIFICATE OF INSURANCE TO THE OWNER AND LANDLORD PRIOR TO STARTING ANY WORK ON THIS PROJECT. CERTIFICATE OF INSURANCE CANNOT BE TERMINATED OR CANCELLED WITHOUT 10 DAYS PRIOR WRITTEN NOTICE TO THE OWNER.

12. NO SUBSTITUTIONS OF ANY KIND FOR MATERIALS SPECIFIED ON THESE CONSTRUCTION DOCUMENTS IS ALLOWED. NO "EQUIVALENT" SUBSTITUTIONS WILL BE MADE, UNLESS APPROVED IN WRITING BY THE ARCHITECT AND APPROVED BY THE OWNER DUE TO THE LACK OF AVAILABILITY OF ORIGINAL.

13. EACH CONTRACTOR IS RESPONSIBLE FOR FIRST CLASS WORKMANSHIP AND WILL ASSUME ALL RESPONSIBILITY FOR THE CARE AND PROTECTION OF HIS OWN WORK AND MATERIALS FROM DAMAGE. HE WILL MAKE GOOD ANY DAMAGE TO HIS OWN OR OTHER WORK CAUSED BY HIMSELF OR WORKMEN EMPLOYED BY HIM.

14. EACH CONTRACTOR WILL ABIDE BY LOCAL AREA STANDARDS AND RELATED OSHA STANDARDS FOR THE SAFETY OF THEIR EMPLOYEES ON SITE. THIS ARCHITECT AND HIS PROFESSIONAL CONSULTANTS WILL BE HELD HARMLESS BY THE OWNER, GC AND RELATED AWARDED TRADES, ON THIS PROJECT FOR ACCIDENTS OF INJURIES CAUSED OR ACCRUED ON THIS PROPERTY DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

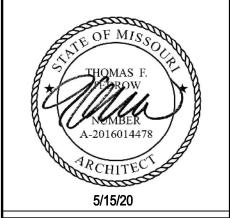
15. LIENS: ALL SUBCONTRACTORS AND GENERAL CONTRACTOR WILL DELIVER TO THE LANLORD A COMPLETE RELEASE OF ALL ITEMS ARISING OUT OF THIS CONTRACT AND/OR RECEIPTS IN FULL LIEU THEREOF TOWARDS THEIR PARTIAL OR FINAL PAYMENT FOR WORK IN PLACE FOR THE OWNER.

16. GENERAL CONTRACTOR TO PAY FOR ALL SCAVENGER SERVICES. AND WILL BE RESPONSIBLE FOR REMOVAL OF DEBRIS ACCUMULATED BY EACH TRADE. HOWEVER, EACH TRADE WILL KEEP THE JOB SITE CLEAN AND SAFE AT ALL TIMES, ALONG WITH A BROOM FINISH AT THE END OF EACH WORKING DAY.

17. CONSTRUCTION CLEAN-UP: AFTER ALL THER WORK IS COMPLETED AND JUST PRIOR TO TURNING THE SPACE OVER TO THE OWNER, THE CONSTRUCTION MANAGER WILL EMPLOY THE SERVICES OF A PROFESSIONAL CLEANING SERVICES TO CLEAN AND WASH DOWN ALL INSTALLED EQUIPMENT, SERVICE AREAS, ALONG WITH THE CLEANING OF ALL GLASS WINDOW/DOOR SURFACES PRIOR TO

8. FIRE ALARM AND SPRINKLER DRAWINGS TO BE SUBMITTED UNDER SEPARATE SUBMITTAL BY SPRINKLER ENGINEER.

THE CONTENTS OF THIS DRAWING WILL REMA THE PROPERTY OF TEDROW DESIGN GROUP, PO IT'S CONTENTS, INCLUDING ALL INFORMATION SHALL NOT BE REPRODUCED USING ANY MEAN WITHOUT EXPRESSED WRITTEN CONSENT AND/OR PERMISSION FROM TEDROW DESIGN





WORK OF THE CONTRACT INCLUDES THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, INSURANCE, SALES TAXES, PERMITS, LICENSES, SUPERINTENDENT AND MISCELLANEOUS SERVICES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT AS REQUIRED BY THE PLANS AND SPECIFICATIONS.

CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL FACILITIES FOR TEMPORARY LIGHT AND POWER WITHIN THE CONSTRUCTION AREA DURING THE ENTIRE

ALL EXISTING AREAS TO REMAIN AND EXISTING AREAS AFFECTED BY DEMOLITION OR NEW CONSTRUCTION WORK SHOWN ON THE DRAWINGS SHALL BE PATCHED AS REQUIRED TO MATCH IMMEDIATE ADJACENT AREAS IN CONSTRUCTION, MATERIAL, FIRE RATING, FINISH AND COLOR, UNLESS OTHERWISE NOTED.

ALL WORK DONE UNDER THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CODES, ORDINANCES AND GOVERNMENT REGULATIONS HAVING JURISDICTION OVER THE WORK.

ALL MATERIALS DELIVERED TO THE JOB SITE SHALL BE PROPERLY STORED WITHIN THE LEASE SPACE PREMISES OR A LOCATION DESIGNATED BY BUILDING OWNER. DELIVERY, HANDLING AND STORAGE OF PRODUCTS SHALL BE IN A MANNER TO PREVENT DAMAGE, DETERIORATION, LOSS OR THEFT.

CONTRACTOR SHALL MAINTAIN SITE IN A STATE OF CLEANLINESS THROUGHOUT CONSTRUCTION PERIOD. PROVIDING ADEQUATE TEMPORARY STORAGE FOR WASTE MATERIAL WITHIN THE LEASE SPACE PREMISES OR A LOCATION DESIGNATED BY BUILDING OWNER, OBSERVING REQUIREMENTS FOR SAFETY AND FIRE PROTECTION, AND REMOVAL AND AND LEGAL DISPOSAL OF WASTE MATERIAL AS OFTEN AS REQUIRED.

UPON SUBSTANTIAL COMPLETION, THE CONTRACTOR SHALL PROVIDE FINAL CLEANING FOR EACH AREA WHICH WILL RESULT IN A LEVEL OF CLEANLINESS GENERALLY PROVIDED BY COMMERCIAL BUILDING AS REQUIRED BY PRODUCT MANUFACTURER. CLEANING SHALL INCLUDE, BUT IS NOT LIMITED TO: GLASS, CARPET, PLASTIC LAMINATE, LIGHT FIXTURES AND REMOVAL OF LABELS (NOT REQUIRED TO BE PERMANENT BY CODE). CONTRACTOR SHALL SCHEDULE FINAL CLEANING SO OWNER MAY OCCUPY COMPLETELY CLEAN PROJECT.

PROTECT ADJACENT AREA AND SURFACES FROM DAMAGE DURING PROGRESS OF THE WORK. PARTITION OFF WORK AREA WITH BARRIER WALL FOR DURATION OF WORK PERIOD. IF PERMITTED BY RETAILER, CLEAR PLASTIC OR VISQUEEN MAY BE USED AS A BARRIER. COSTS OF REPLACEMENT AND/OR CORRECTION OF DAMAGED SURFACES SHALL BE BORNE BY THE SUBCONTRACTOR RESPONSIBLE FOR SAID DAMAGE. PROTECTION OF THE PROJECT FIXTURES AND FINISHES IS THE RESPONSIBILITY OF THE CONTRACTOR. COVER SURFACES AS NECESSARY TO PROTECT AGAINST DAMAGE.

GENERAL CONTRACTOR SHALL MAINTAIN A JOB SUPERINTEDENT ON SITE DURING ENTIRE CONSTRUCTION PHASE AND DURING ALL PERIODS OF WORK.

SECTION 06100: ROUGH AND FINISH CARPENTRY

INTERIOR BLOCKING SHALL BE CONSTRUCTION GRADE PINE, FIR OR CEDAR, STRAIGHT AND SOLID. WHERE REQUIRED BY CODE, BLOCKING SHALL BE FIRE RESISTANT TREATED AND AND BEAR THE APPROPRIATE MARKING INDICATING COMPLIANCE. BLOCKING MAY ALSO BE ROLL FORMED FROM 18 GAUGE STEEL.

PROVIDE BLOCKING BETWEEN STUDS WHEREVER FINISH MILLWORK, WALL CABINETS OR GRAPHIC PANELS OR ACCESSORIES MAY BE ATTACHED TO WALLS. BLOCKING SHALL BE SET PLUMB AND TRUE AND WITH SQUARE CORNERS.

INSTALLATION OF WOOD DOORS: A. VERIFY THAT THE DOOR IS IN SOUND CONDITION, UNBLEMISHED, WITHOUT WARP, TWIST, BOW OR OTHER ATTRIBUTES CAUSING IT TO BE REJECTED UPON INSTALLATION.

B. TRIM WOOD DOORS AS NECESSARY TO PROVIDE A UNIFORM CLEARANCE OF 1/8 " AT JAMBS AND HEAD, AND A UNIFORM CLEARANCE AT THE THRESHOLD OR FLOOR TO PROPERLY CLEAR THE FLOOR COVERING DESCRIBED ON THE FINISH SCHEDULE.

A. LAYOUT AND INSTALL CASEWORK ACCURATELY AND NEATLY AS DETAILED USING SKILLED WORKMEN THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY

B. ANCHOR ALL ITEMS FIRMLY INTO POSITION. C. COMPLETED INSTALLATION SHALL BE PLUMB AND LEVEL WITH ALL JOINTS

ACCURATELY AND CLEANLY MATCHED AND TIGHT. E. COMPLETE INSTALLATION SHALL BE ACCURATELY SCRIBED TO ADJACENT

CONSTRUCTION TO AVOID GAPS AND OTHER DEFECTS. D. UPON COMPLETION OF THE INSTALLATION, VISUALLY INSPECT EACH INSTALLED ITEM, REPAIR ALL DEFECTS SO THAT NONE ARE VISIBLE, THOROUGHLY CLEAN ALL EXPOSED AND SEMI-EXPOSED COMPONENTS FOR OPTIMUM OPERATION.

INSTALLATION OF WALL-MOUNTED ADJUSTABLE SHELVING: A. STANDARDS: KNAPE AND VOGT #85 - 4'-0"L

B. BRACKETS: KNAPE AND VOGT #185 (SEE PLANS FOR SIZES)

C. STANDARDS TO BE ATTACHED TO PARTITIONS AT 32" O.C. MAXIMUM AND SECURED TO INTERIOR STUDS OR BLOCKING. GROMMETS TO BE FIELD INSTALLED BY CONTRACTOR AT LOCATIONS AS SPECIFIED

BY OWNER. GROMMETS TO BE AS FOLLOWS (OR EQUIVALENT): EDP SERIES, 2 1/2 " HOLES, 3" O.D., BLACK, BY DOUG MOCKETT CO., INC.

WALL PROTECTION AT DOORS TO BE AS FOLLOWS (OR EQUAL) AND INSTALLED AT LOCATIONS AS INDICATED ON DRAWINGS: WALL STOPS: HAGER #237W CONCAVE WALL STOP. DOME STOPS: HAGER #241F.

SECTION 06400: ARCHITECTURAL WOODWORK:

WOODWORK TO BE CUSTOM GRADE AS DEFINED IN THE LATEST EDITION OF THE ARCHITECTURAL WOODWORK INSTITUTE "QUALITY STANDARDS."

PARTICLEBOARD USED IN THE FABRICATION OF THE CASEWORK SHALL BE 3/4 " WHITE DENSITY TYPE 1, GRADE B, CLASS 2, MEETING ASTM D1037 SPECIFICATIONS. EXPOSED EDGES SHALL BE EDGE BANDED.

ALL EXPOSED SURFACES SHALL BE PLASTIC LAMINATE COVERED, EXCEPT THOSE SPECIFICALLY INDICATED AS EXPOSED HARDWOOD, SOLID SURFACING, ETC. ON

CASEWORK HARDWARE SHALL BE FURNISHED AND INSTALLED BY THE CASEWORK MANUFACTURER. HARDWARE SHALL BE AS FOLLOWS, AND EQUIVALENT

SPECIFICATIONS MAY BE SUBSTITUTED

E: CAMLOCKS: NATIONAL #8055

A: DRAWER SLIDES: ACCURIDE #3832 B: FULL EXTENSION DRAWER SLIDES: ACCURIDE #4034

C: HINGES: BLUM INSERTA 125 DEGREE AND 170 DEGREE. D: AVANTE 4" WIRE PULLS

ARCHITECTURAL WOODWORK DELIVERED TO JOBSITE SHALL BE PROPERLY LOADED, PROTECTED AND SECURED IN TRUCK IN SUCH A MANNER AS TO PREVENT DAMAGES **DURING TRANSPORT.**

WOODWORK SHALL BE PROPERLY SECURED AND PROTECTED AT ALL TIMES AND CONTRACTOR SHALL HAVE DELIVERY SCHEDULED TO COINCIDE WITH INSTALLATION DATES IN ORDER TO MINIMIZE STORAGE AT SITE. CONTRACTOR TO PROVIDE STORAGE CONTAINER AT SITE.

SECTION 07920: SEALANTS AND CAULKING:

INSTALL AT ALL JOINTS BETWEEN DISSIMILAR MATERIALS.

CAULKING AT INTERIOR DRY AREAS SHALL BE LATEX CAULK.

CAULKING AT MILLWORK SHALL BE ACRYLIC LATEX CAULK TO MATCH EXACTLY THE LAMINATE COLOR.

SEALANTS AND CAULKING SHALL BE INSTALLED IN FULL ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR THE INTENDED USE AND IN SUCH A MANNER AS TO PROVIDE MOVEMENT IN 2 AXES.

AREAS TO BE CAULKED SHALL BE CLEAN AND DRY.

CAULK ALL JOINTS BETWEEN MILLWORK AND OTHER CONSTRUCTION.

SECTION 08110: HOLLOW METAL FRAMES:

HOLLOW METAL FRAMES SHALL CONFORM TO A.N.S.I. SDI 100 AND SHALL BE FABRICATED OF A366 STEEL, 16 GA. COMPLETE WITH HARDWARE REINFORCEMENT

INSTALLATION SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE INSTITUTE PUBLICATION "THE INSTALLATION OF COMMERCIAL DOORS AND STEEL FRAMES. INSULATED STEEL DOORS IN WOOD FRAMES, AND BUILDERS HARDWARE."

SECTION 08400: ENTRANCES AND STOREFRONTS:

FRAMES: FLUSH GLAZED SYSTEM. 1 3/4 " X 4 1/2 " PROFILE. GLAZING GASKETS SHALL BE ELASTOMERIC EXTRUSIONS, COLOR TO MATCH ALUMINUM DOOR FRAMES AS SPECIFIED ON DOOR SCHEDULE.

GLASS/ALUMINUM SWINGING DOORS: NARROW STILE PREPARED FOR ATTACHMENT OF HARDWARE W/ SINGLE-ACTING OPERATION AS SHOWN. 1/4 " THICK TEMPERED GLASS. PIVOT HINGES AND LOCKSETS AS SPECIFIED ON DOOR SCHEDULE. BOTTOM RAIL SHALL BE A MINIMUM OF 12" HIGH TO MEET HANDICAP STANDARDS.

GLASS/ALUMINUM SLIDING DOORS: SLIDING OPERATION AS SCHEDULED WITH ONE FIXED PANEL. 1/4 " THICK TEMPERED GLASS, FLUSH PULLS EACH SIDE WITH HOOK BOLT LOCK AND MORTISE CYLINDER. BOTTOM RAIL SHALL BE A MINIMUM OF 10" IN HEIGHT TO MEET HANDICAP STANDARDS.

HARDWARE: MANUFACTURER'S HARDWARE AS SELECTED OR SCHEDULED. INCLUDE PUSH BARS OR HANDLES, ADJUSTABLE DOOR CLOSERS (TO MEET ADA REQUIREMENTS) AND SILENCERS.

PROVIDE BREAK METAL CORNER GUARDS WHERE FRAME ABUTTS WALLS OF GREATER WIDTH. FINISH TO MATCH ALUMINUM STOREFRONT FINISH.

CHECK ACTUAL DOOR AND WINDOW OPENINGS IN CONSTRUCTION WORK BY ACCURATE FIELD MEASUREMENTS BEFORE FABRICATION. COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS AS DIRECTED BY CONTRACTOR TO AVOID DELAY OF WORK.

USE ANCHORAGE DEVICES TO SECURELY ATTACH FRAME ASSEMBLY TO STRUCTURE. ALIGN PLUMB AND LEVEL, FREE OF WARP OR TWIST.

CAULKING REQUIRED IN CONJUNCTION WITH ALUMINUM AND GLASS WORK SHALL BE ACCOMPLISHED BY ALUMINUM AND GLASS INSTALLER.

SECTION 08700: FINISH HARDWARE:

HARDWARE SHALL BE THE PRODUCT OF A NATIONALLY RECOGNIZED MANUFACTURER AND AS INDICATED ON THE DRAWINGS.

ALL LOCKSETS SHALL BE ADA RATED, LEVER TYPE HARDWARE AND NOTED IN THE SCHEDULE.

RE-KEYING OF THE RETAIL SPACE SHALL BE THE RESPONSIBILITY OF THE FRANCHISEE. THE LOCKS SHALL BE PROVIDED WITH CONSTRUCTION CORES AND

INSTALLATION SHALL BE IN COMPLIANCE WITH THE STANDARDS OF THE DOOR AND HARDWARE INSTITUTE. ALL HARDWARE SHALL OPERATE FREELY AND IN THE MANNER FOR WHICH IT WAS INTENDED.

FURNISH AND INSTALL GRAY RESILIENT SILENCERS FOR HOLLOW METAL DOOR FRAMES AT THE RATE OF THREE FOR EACH SINGLE DOOR.

SECTION 08800: GLAZING: BY OTHERS

KEYS THROUGHOUT THE CONSTRUCTION PERIOD.

CONFORM TO FLAT GLASS MARKETING ASSOCIATION (FGMA) "GLAZING MANUAL" FOR GLAZING INSTALLATION METHODS, EXCEPT WHERE THERE ARE MORE STRINGENT REQUIREMENTS FROM LOCAL CODE AGENCIES.

ALL GLASS UNLESS OTHERWISE NOTED SHALL BE CLEAR FLOAT GLASS. STOREFRONT GLASS:," CLEAR

DOORS: 1/4 " CLEAR TEMPERED (LAMINATED SAFETY GLASS WHERE REQUIRED BY LOCAL CODE AUTHORITY).

STOREFRONTS WITHIN 4'-0" OF DOORS OR 24" OF FLOOR: 1/4 " CLEAR

SECTION 09250: GYPSUM WALLBOARD:

METAL STUDS: PROVIDE CHANNEL TYPE STUDS AND RUNNERS, ROLL FORMED FROM 20 GAUGE STEEL, MADE FOR SCREW ATTACHMENT OF GYPSUM WALLBOARD. SIZE AS INDICATED ON SCHEDULES.

GYPSUM WALLBOARDS: USE 5/8" THICK, TYPE "X", REGULAR TAPERED EDGE, 48" WIDE, LENGTHS AS REQUIRED, COMPLYING WITH ASTM C36

FASTENERS: USE SCREW TYPE AS RECOMMENDED BY FRAMING AND WALLBOARD MANUFACTURERS COMPLYING WITH ASTM C636.

METAL CASING BEAD: USG 200-A, 200-B, OR 200-C AS REQ. (OR EQUAL). METAL CORNER BEAD: USG DUR-A-BEAD #800 (OR EQUAL).

ADHESIVES: USG DURABOND 210 OR 90 (OR EQUAL).

JOINT SYSTEM MATERIALS: COMPLY WITH ASTM C475 SPECIFICATIONS. MIX AND APPLY AS RECOMMENDED BY THE MANUFACTURER.

SECTION 09510: SUSPENDED ACOUSTICAL CEILINGS

INSTALL SUSPENSION SYSTEM ACCORDING TO ASTM C636 "RECOMMENDED PRACTICE FOR INSTALLATION OF METAL SUSPENSION SYSTEMS FOR ACOUSTICAL TILE AND LAY-IN PANELS.

INSTALL MAIN RUNNERS 48" ON CENTER, SUSPENDED BY NOT LESS THAN #10 GAUGE STEEL WIRE SPACED NO MORE THAN 36" O.C. FOR 24" GRID, OR AT EACH CORNER FOR CONCENTRATED LOADS, ALONG THE MAIN RUNNERS. WRAP WIRE HANGERS TIGHTLY AT LEAST THREE FULL TIMES.

DO NOT HANG SUSPENDED CEILING HANGERS FROM DUCTS, MECHANICAL ITEMS, CONDUITS OR PIPES, AND/OR THE ROOF. HANG WIRES FREE OF ALL SUCH ITEMS. HANG FROM STRUCTURAL MEMBERS ONLY.

INSTALL CROSS TEES TO OBTAIN A 24" X 24" EXPOSED GRID IN MAIN AREAS, AS INDICATED ON THE DRAWINGS.

INSTALL ACOUSTICAL PANELS ACORDING TO MANUFACTURER'S RECOMMENDATIONS.

INSTALLATION SHALL BE TRUE AND PLUMB WITHIN," WITHIN 10'-0".

AFTER COMPLETION OF INSTALLATION, REMOVE AND REPLACE DAMAGED OR OTHERWISE IMPROPERLY INSTALLED PANELS AND COMPONENTS.

GRID SHALL BE STANDARD STYLE, BAKED ENAMEL FINISH AND MEETING REQUIREMENTS OF A.S.T.M. C635.

SECTION 09660: RESILIENT TILE FLOORING AND BASE

REMOVE GREASE, DIRT, AND OTHER SUBSTANCES FROM SUBSTRATES. INSPECT SUBSTRATES FOR HOLES, CRACKS AND SMOOTHNESS. DO NOT PROCEED WITH LAYING OF TILE UNTIL UNTIL SUBSTRATES ARE SMOOTH AND HOLES AND CRACKS ARE FILLED.

INSTALL TILE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED SPECIFICATIONS, USING ONLY EXPERIENCED WORKMEN. LAY FLOORING WITH JOINTS TIGHT AND IN TRUE ALIGNMENT, USING MANUFACTURER'S RECOMMENDED ADHESIVES AND PROCEDURES.

INSTALL RUBBER OR VINYL BASE STRAIGHT AND TRUE AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, USING RECOMMENDED ADHESIVES AND PROCEDURES.

THOROUGHLY CLEAN ALL FINISH FLOORING USING A NEUTRAL SOAP OR CLEANER ATER THE FLOORING HAS BEEN BONDED TO SUBSTRATE.

CONCRETE OR OTHER FINISH FLOORING MATERIALS OF DIFFERING HEIGHT.

PRIOR TO SCHEDULED COMPLETION DATE APPLY TWO COATS OF WAX. RECOMMENDED BY THE MANUFACTURER, TO ALL VINYL COMPOSITION TILE. BUFF THE LAST COAT AND LEAVE THE FLOOR CLEAR AND CLEAN. INSTALL REDUCER OR TRANSITION STRIPS WHERE TILE ENDS AGAINST SECTION 09680: CARPETING

TO SUBSTRATE.

INSTALLATION ADHESIVE: USE WATER RESISTANT, NON-STAINING TYPE AS RECOMMENDED BY CARPET MANUFACTURER WHICH COMPLIES WITH THE

EXAMINE SUBSTRATE FOR MOISTURE CONTENT AND OTHER CONDITIONS UNDER WHICH CARPETING IS TO BE INSTALLED. REPAIR MINOR HOLES. CRACKS, DEPRESSIONS OR ROUGH AREAS USING MATERIAL RECOMMENDED BY CARPET OR ADHESIVE MANUFACTURER.

FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET.

THE FLOOR MUST BE FREE OF ALL FOREIGN MATTER, GREASE, OIL, PAINT, DIRT, OLD OR NON-COMPATIBLE ADHESIVES ETC. ALL HOLES, CRACKS AND DEPRESSIONS MUST BE FILLED WITH A LATEX FLASHING COMPOUND AND ANY PROTRUSIONS MUST BE ELIMINATED.

SWEEP OR VACUUM THE FLOOR USING A SWEEPING COMPOUND WITHOUT AN OIL OR WAX BASE.

SEAL ALL CONCRETE FLOOR TO PREVENT DUSTING OR POWDERING WHICH WOULD BE DETRIMENTAL TO BONDING USING A SEALER RECOMMENDED BY ADHESIVE

COMPLY WITH MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS FOR DIRECTION OF CARPET; MAINTAIN UNIFORMITY OF CARPET DIRECTION AND LAY OF PILE. AT DOORS, CENTER SEAMS UNDER DOORS.

EXTEND CARPET UNDER OPEN-BOTTOMED OBSTRUCTIONS AND UNDER REMOVABLE FLANGES AND FURNISHINGS.

EXPANSION JOINTS: DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CONTINUOUS CARPETING, PROVIDE FOR MOVEMENT.

UNIFORM BOND. REMOVE ADHESIVE PROMPTLY FROM FACE OF CARPET.

FIT SECTIONS OF CARPET IN EACH SPACE PRIOR TO APPLICATION OF ADHESIVE. TRIM EDGES AND APPLY SEAMING CEMENT. APPLY ADHESIVE UNIFORMLY TO SUBSTRATE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. BUTT CARPET EDGES TIGHTLY TOGETHER TO FORM SEAMS WITHOUT

PERFORM EDGE TRIMMING AS REQUIRED.

GAPS. ROLL ENTIRE CARPET AREA LIGHTLY TO ELIMINATE AIR POCKETS AND ENSURE

VACUUM CARPET USING COMMERCIAL MACHINE WITH FACE-BEATER ELEMENT. REMOVE SPOTS AND REPLACE CARPET WHERE SPOTS CANNOT BE REMOVED. REMOVE ANY PROTRUDING FACE YARN WITH SCISSORS. SECTION 09900: PAINTING

INSTALL CARPET EDGE GUARD WHERE CARPET IS EXPOSED; ANCHOR GUARDS

FURNISH AND LAY DROP CLOTHS IN ALL AREAS WHERE PAINTING IS BEING DONE TO PROTECT FLOORS AND OTHER WORK FROM DAMAGE.

MAKE SURE FLOORS AND ADJACENT SURFACES AS WELL AS SURFACES TO BE PAINTED ARE CLEAN BEFORE PAINTING. PAINT SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER AND SHALL BE AS

RECOMMENDED BY THE MANUFACTURER FOR THE SPECIFIC USE, MATERIAL, AND CONDITION OF THE SURFACE TO BE PAINTED. ALL GYPSUM FINISHES SHALL RECEIVE ONE COAT LATEX WALL PRIMER AND TWO

COATS LATEX WALL PAINT. SATIN FINISH UNLESS OTHERWISE NOTED. ALL WOOD AND METAL FINISHES SHALL RECEIVE ONE COAT PRIMER AND TWO COATS SEMI-GLOSS ALKYD ENAMEL.

NATURAL OR STAINED WOOD SHALL RECEIVE TWO COATS OF CLEAR POLYURETHANE. APPLY MATERIALS UNDER ADEQUATE ILLUMINATION. APPLY MATERIALS EVENLY AND SMOOTHLY WITHOUT RUNS OR SAGS.

ALLOW SUFFICIENT DRYING TIME BETWEEN COATS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.

THE MINIMUM DRY FILM THICKNESS SHALL BE AS RECOMMENDED BY THE MANUFACTURER FOR THE SPECIFIC CONDITION, BUT IN NO CASE LESS THAN 5 MILLS.

AT COMPLETION OF THE WORK, CLEAN OFF PAINT SPOTS, OIL AND STAINS FROM FLOORS, WALLS, GLASS, HARDWARE ETC.

EXAMINE ALL SURFACES TO RECEIVE WALLCOVERING BEFORE BEGINNING WORK TO DETERMINE THAT THEY ARE SOUND, DRY, CLEAN AND READY TO RECEIVE FINAL FINISH FOR NEW DRYWALL CONSTRUCTION, A COAT OF MANUFACTURER'S RECOMMENDED PRIMER SHALL BE APPLIED TO THE SURFACE BEFORE APPLICATION OF WALLCOVERING,

FOLLOW MANUFACTURER'S DIRECTIONS FOR MIXING AND APPLYING ADHESIVE AND PRIMER.

MIX PASTE THOROUGHLY. APPLY PASTE ON BACK OF MATERIAL WITH BRUSH OR ROLLER IN A THIN, EVEN COAT OVER ENTIRE PANEL.

USE PANELS IN EXACT ORDER AS THEY ARE CUT FROM THE ROLL.

INSTALL PANELS ON THE HANGING SURFACE, REVERSING EVERY OTHER PANEL OF NON-MATCH PATTERNS UNLESS OTHERWISE INSTRUCTED BY MANUFACTURER.

SMOOTH FABRIC TO HANGING SURFACE WITH STIFF-BRISTLED SWEEP BRUSH OR A

FLEXIBLE BROAD KNIFE TO ELIMINATE BUBBLES AND ENSURE ADHESION. VERTICAL JOINTS SHALL NOT OCCUR LESS THAN SIX INCHES FROM OUTSIDE

FILL IN OVER DOORS AND WINDOWS WITH PANELS CUT IN CONSECUITVE ORDER

WHERE APPLICABLE, INSTALL WALLCOVERING BEFORE INSTALLATION OF CASING, BASES, CABINETS ETC.

ANY VARIATION IN COLOR AND/OR PATTERN MATCH SHOULD BE IMMEDIATELY COMMUNICATED TO THE MANUFACTURER'S REPRESENTATIVE FOR HIS INSPECTION BEFORE PROCEEDING WITH FURTHER INSTALLATION.

SECTION 10400: SIGNAGE:

ADJACENT CONSTRUCTION.

SECTION 09950: WALLCOVERING

FOR EASE OF SUBSEQUENT REMOVAL.

THE SIGN CONTRACTOR SHALL IDENTIFY AND SHALL COMPLY WITH ALL LOCAL GOVERNMENT SIGNAGE CODES, ORDINANCES, AND RESTRICTIONS, ALL STORE RESTRICTIONS, AND ALL BUILDING OR DEVELOPMENT RESTRICTIONS, AND SHALL OBTAIN ALL RQUIRED APPROVALS AND PERMITS, AND PERMISSION OF THE BUILDING OWNER.

SIGNAGE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE IBT PROJECT MANAGER ACCORDING TO THE SCHEDULE PROVIDED HIM. SHOWING LOCATION. CONSTRUCTION, ANCHORAGE, MATERIALS, AND ELECTRICAL REQUIREMENTS. FABRICATION OF SIGN SHALL NOT START WITHOUT APPROVAL

ALL ELECTRICAL COMPONENTS SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE. AND ALL APPLICABLE STATE AND LOCAL CODES AND UTILITY SUPPLIER REQUIREMENTS. ASSEMBLIES SHALL BE SECURELY ANCHORED USING ANCHORS AND METHODS MOST APPROPRIATE TO THE SUPPORTING ELEMENTS, PLUMB, LEVEL, OR SQUARE WITH

IN NO CASE SHALL SIGN IMPOSE A STRUCTURAL LOAD IN EXCESS OF THE CALCULATED CAPACITY OF SUPPORTING ELEMENTS.

SIGNS SHALL BE WATERPROOF OR PROVIDE FOR WEEPING OF MOISTURE.

INSTALLATION SHALL BE COMPLETE AND OPERATIONAL AT TIME OF DELIVERY WITH ALL METERING, SERVICES, SWITCHES, BALLASTS, LAMPS, TRANSFORMERS AND TRIM AND ACCESSORIES NECESSARY FOR PROPER OPERATION AND APPEARANCE. ELECTRICAL SERVICE TO THE SIGNAGE WILL BE PROVIDED BY ELECTRICAL CONTRACTOR.

FOAM BACKED SIGNS SHALL BE FURNISHED WITH TAPE ON BACK AND SET WITH DABS OF SILICONE.

EXHIBIT C

Work Agreement

A. PREMISE: Suite G of Lot 2 - A one story building without basement, approximately 3,100 square feet of Premises area, with the Premises dimensions extending to the exterior faces of all walls, or to the center line of those walls separating the Premises from other premises in the building.

B. <u>STRUCTURE:</u>

1. Structural Frame: The building structure shall, at Landlord's option, be of steel frame, reinforced concrete or bearing wall construction. Applicable governing building codes shall apply.

2. Exterior Walls: Shall be of either of concrete or metal studs with sheathing or such other material or materials selected by Landlord in Landlord's sole discretion.

3. Roof: Shall be an EPDM/PVC membrane or built-up roof or such other materials selected by Landlord, in Landlord's sole discretion.

4. Demising Walls: Walls separating the Premises from other tenant spaces shall be constructed with metal studs at Landlord's option. Firewalls will be provided in accordance with applicable codes. Additional fire rating required as part of Tenant's use shall be installed by Tenant at Tenant's sole cost and expense.

5. Any modifications to the structure, shafts and roofs (including weight loads), and/or exterior skin shall require approval by the Landlord's architects/engineers and envelope consultants. All associated costs for reviews and inspections shall be the responsibility of the Tenant.

C. STORE FRONT:

1. Landlord shall provide the Premises storefront in accordance with the architectural theme of Landlord's master plans and the Lee Summit, Missouri zoning codes. Landlord shall provide a minimum of one (1) EA 3'0"x7'0" glass storefront door. Storefront shall be designed with a standard size aluminum storefront framing and insulated glass as required to meet local building code.

D. AWNING SYSTEM/ARCHITECTURAL ELEMENT:

1. Any awning and/or exterior architectural element provided by Tenant shall be subject to Landlord's prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed, and shall be installed by Tenant at Tenant's sole cost and expense.

E. <u>INTERIOR:</u>

1. Landlord shall provide an approximate 18" concrete ribbon slab in the Premises. The remaining concrete slab shall be unsealed, exposed concrete which shall be placed by Tenant. Floor covering shall be furnished and installed by Tenant, at Tenant's sole cost and expense, which floor covering shall attach to the concrete slab and become and remain the property of Landlord.

2. Wall partitions, and cornices, where required, shall be entirely furnished and installed by Tenant at Tenant's sole cost and expense.

3. Rear Door: Landlord shall install one (1) 3'0" x 7'0" hollow metal rear door or other material as specified by Landlord in Landlord's sole discretion (location per Landlord's master plans) with weatherstrip and standard hardware. Tenant shall paint rear door at Tenants sole cost and expense.

4. Interior height of the Premises will be a minimum of approximately twelve feet (12'0") clear measured from the underside of the steel structure to the concrete floor slab. Tenant shall be responsible at Tenant's sole cost and expense for furnishing and installing any and all required ceiling systems, lighting, and any modifications to the fire sprinkler system provided by Landlord in H(1) of this Exhibit C.

5. All painting and decorating shall be furnished and installed by Tenant and at Tenant's sole cost and expense, including painting of exposed steel structure and roof deck.

6. Tenant shall be solely responsible for all permit fees, access fees, tap fees, hookup fees and impact fees associated with Tenant's use of the Premises.

TOILET ROOM

1. All toilet rooms shall be provided by Tenant at Tenant's sole cost and expense. Landlord shall provide a 4" sanitary sewer stub into the Premises (into the slab leave out for ground floor and to a location under the second level floor) per Landlord's master plans for Tenant's connection and extension into the toilet room location. Tenant shall be required to construct the number of toilet rooms dictated by the permitting authority based on Tenant's size, occupancy and intended use of the Premises.

2. Venting for bathrooms shall be constructed by Tenant at Tenant's sole cost and expense to locations specified by Landlord's master plans.

3. Tenant provided toilet rooms shall comply with all applicable ADA requirements (e.g. size, toilet room accessories, etc.)

G. PLUMBING:

1. Landlord shall stub a one and one half (1-1/2") inch domestic water line served from a minimum sized one (1") inch water meter to the interior of the Premises and provide access to one four (4") inch sanitary line for Tenant's connection to Tenant's fixtures. Landlord will provide private sub-metering for Tenant's Premises. Roughing in and installation of all Tenant's equipment shall be by Tenant at Tenant's sole cost

2. Landlord shall furnish and install a dedicated underground grease trap as required by code but in no instance greater than 1,500 gallon grease trap. Landlord shall extend a four (4") inch grease waste line from the grease trap to the Premises per Landlord's master plans. Tenant shall be responsible for providing any additional grease interceptors, grease traps or other appurtenances mandated as a result of Tenant's specific use or occupancy requirements, at Tenant's sole cost and expense.

3. Tenant shall be required at Tenant's sole cost and expense to furnish water coolers as required by the local permitting authority.

4. Landlord shall stub a gas service to the exterior wall of the Premises in a location as set forth on Landlord's master plans and Tenant shall, at Tenant's sole cost and expense, extend and connect gas service to Tenant's Premises.

FIRE SPRINKLER SYSTEM / FIRE EXTINGUISHERS / FIRE ALARM

1. Landlord shall furnish and install a fire sprinkler system riser in a common mechanical room and shall extend a fire sprinkler main and sprinkler system distribution to the Premises to code minimum requirements. A minimum number and spacing of sprinkler heads will be provided by the Landlord turned in the upward position as required for an exposed ceiling condition. Any modifications to the sprinkler heads or system required as a result of Tenant's construction (e.g. the installation of a ceiling, interior demising walls, etc.) shall be completed by Tenant at Tenant's expense.

2. Tenant shall furnish, install and maintain at Tenant's sole cost and expense fire extinguishers and smoke alarms in strict accordance with Landlord's insurance underwriter's requirements; local, state and national codes; and N.F.P.A. requirements and in strict accordance with any future such requirements.

3. Tenant shall furnish and install at Tenant's sole cost and expense smoke detectors, pull stations, strobes, horns, duct detectors, etc. for a fully code compliant fire alarm system. Tenant shall provide battery back-up for strobes. System shall tie into Landlord's system through a connection point furnished by Landlord. All work shall be completed by Landlord's required contractor.

I. HEATING, VENTILATING & AIR CONDITIONING:

1. Landlord shall furnish and install heating and cooling unit(s) sized to one (1) ton of HVAC per one hundred twenty-five (125) square feet of enclosed Premises area and obtain a warranty for the HVAC. Landlord will provide equipment installed on the roof per Landlord's Master Plans. Final connections of the controls, power, gas lines and start up are the responsibility of the Tenant. Upon start up, the HVAC Warranty will be assigned to the Tenant. Tenant shall furnish and install all remaining components of the HVAC system, including but not limited to ductwork, diffusers, economizers, and thermostats at Tenant's sole cost and expense.

1. Landlord shall provide 200 amp 277/480V, 3 phase service and panel inside the Premises at the

by Tenant at Tenant's sole cost and expense.

4. Landlord shall provide a one (1") inch CATV conduit with pull-string, stubbed into the Premises per Landlord's master plans. Tenant shall be responsible at Tenant's sole cost and expense for any

5. Lighting - All lighting fixtures, conduit and wiring shall be furnished and installed by Tenant at Tenant's sole cost and expense.

One gas meter bank shall be provided. Natural gas services shall be extended by the utility company to exterior of building with Tenant's gas meter. Tenant shall make all necessary arrangements for the extension of a secondary gas services line and the installation of a meter to serve the Premises. Landlord's acceptance of all routing and details is required and said design must be accurately delineated

(b) Shop Drawings including attachment details

zoning requirements (d) Compliance with the Landlord's Comprehensive Sign Criteria

(h) Electrical wiring & conduit from the Tenant electrical panel to the exterior sign (i) Waterproofing required due to sign installation

(g) Structural engineering costs by the Landlord's engineer or the Tenant's engineer

3. Tenant will be responsible for the cost of any applied graphics, permits and county approvals and

back wall area. Any step-down transformer required will Tenant's responsibility to provide. Tenant is limited to a design load in accordance with NEC 220.88 or 220.56. 2. Final electrical connections to Tenant's equipment or trade fixtures shall be furnished and installed

3. Landlord shall provide a one (1") inch telephone conduit with pull-string, stubbed into the Premises per Landlord's master plans. Tenant shall be responsible at Tenant's sole cost and expense for any alterations to the telephone conduit.

alterations to the CATV conduit.

and referenced in Tenant's Plans. Tenant's design and construction shall comply with all applicable design standards and codes.

1. All exterior Tenant related signs are the responsibility of Tenant to include:

(a) Landlord Approvals (which not be unreasonably withheld, conditioned or delayed)

(c) Submission to the City of Lee's Summit, Missouri to confirm compliance with applicable

(e) Permits (f) Fabrication & Installation costs

2. Landlord will be responsible for building address numerals.

to obtain Landlord approval in advance.

M. ACOUSTIC/VIBRATION REQUIREMENT:

same included in Landlord's Work.

1. If there is any element of Landlord's Work which requires Tenant to provide information or a particular location as set forth herein, Tenant shall provide the same within three (3) business days after Landlord's request therefor. If Tenant fails to provide such information or location within such time period, Landlord may assume a particular response from Tenant in Landlord's sole and absolute discretion, Tenant thereby waiving any right to later provide such information or location and have the

Mon, May 4, 2020 at 12:17 PM

ELECTRICAL:

Landlord shall provide 200 amp 277/480V, 3 phase service and panel inside the Premises at the back wall area. Any step-down transformer required will Tenant's responsibility to provide. Tenant is

Sherwin <msherwin@legacydevelopment.com>, Tina Brown <tbrown@legacydevelopment.com>, Travis Oglesby <toglesby@legacydevelopment.com>, Warren Lewis <wleenselopment.com>

Per our last discussion please find the corrected criteria within this mail. I misstated the Landlord work on the electrical the correct application is below:

limited to a design load in accordance with NEC 220.88 or 220.56.

Chuck Oglesby <coglesby@legacydevelopment.com>

To: "james darville@tosinc.us" < james darville@tosinc.us >

RE: CORRECTED Flying Biscuit, Lees Summit MO, Summit Orchard.

Please be advised that in lieu of the bolded section above, Landlord is installing a 400 amp 120/208V, 3 phase service and panel. Should you require any additional information please reach out to Warren Lewis and copy this office. Warren is copied above.

Cc: Jason Inge <jason@hlmep.com>, Justin Hardy <justin@hlmep.com>, Terri VanDyke <terri.vandyke@tedrowdesign.com>, "sarahdarville@outlook.com" <sarahdarville@outlook.com>, CW Keller <cwkeller@slaggie.com>, Mark

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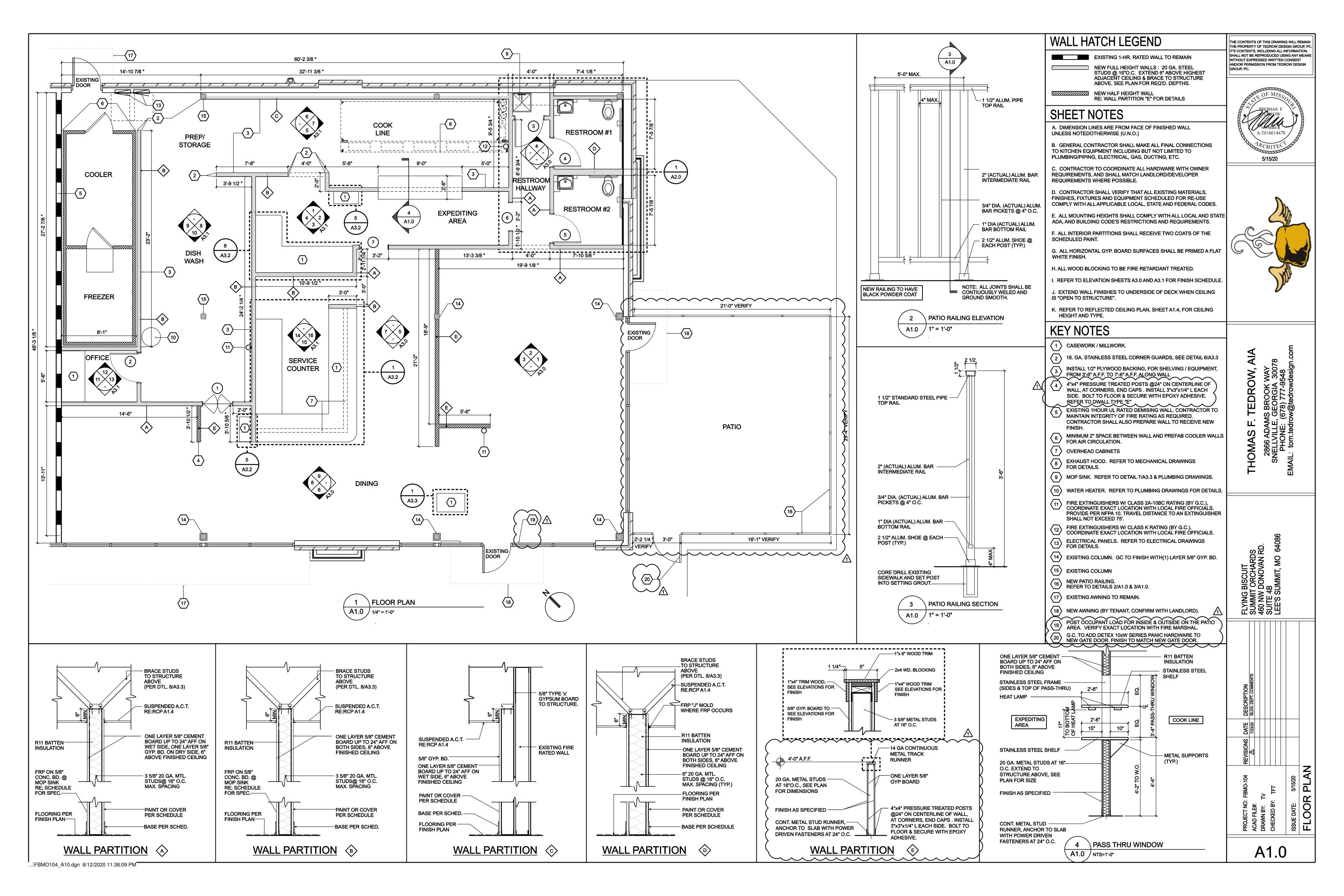
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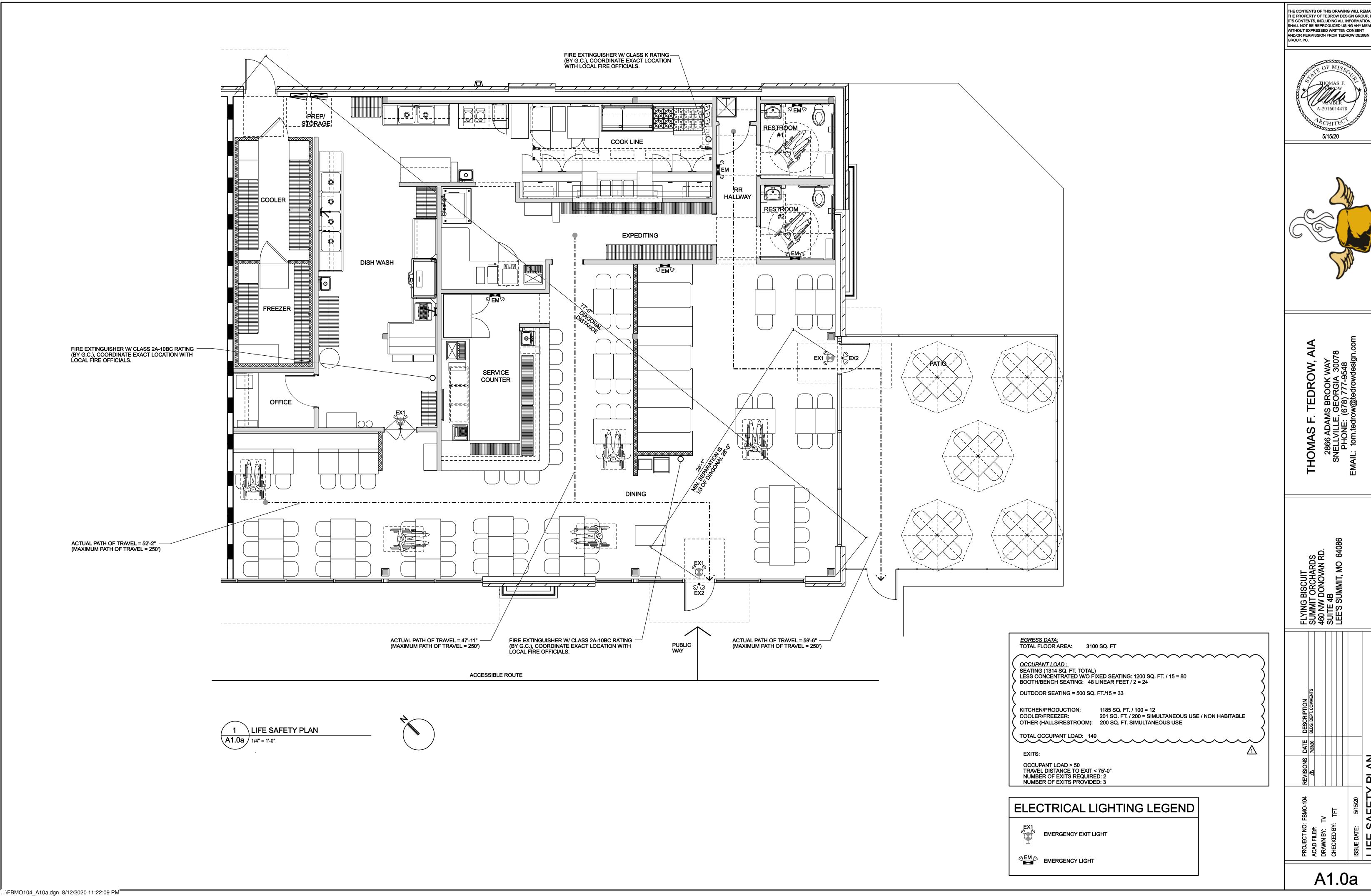
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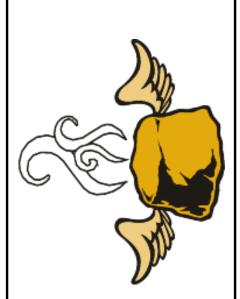
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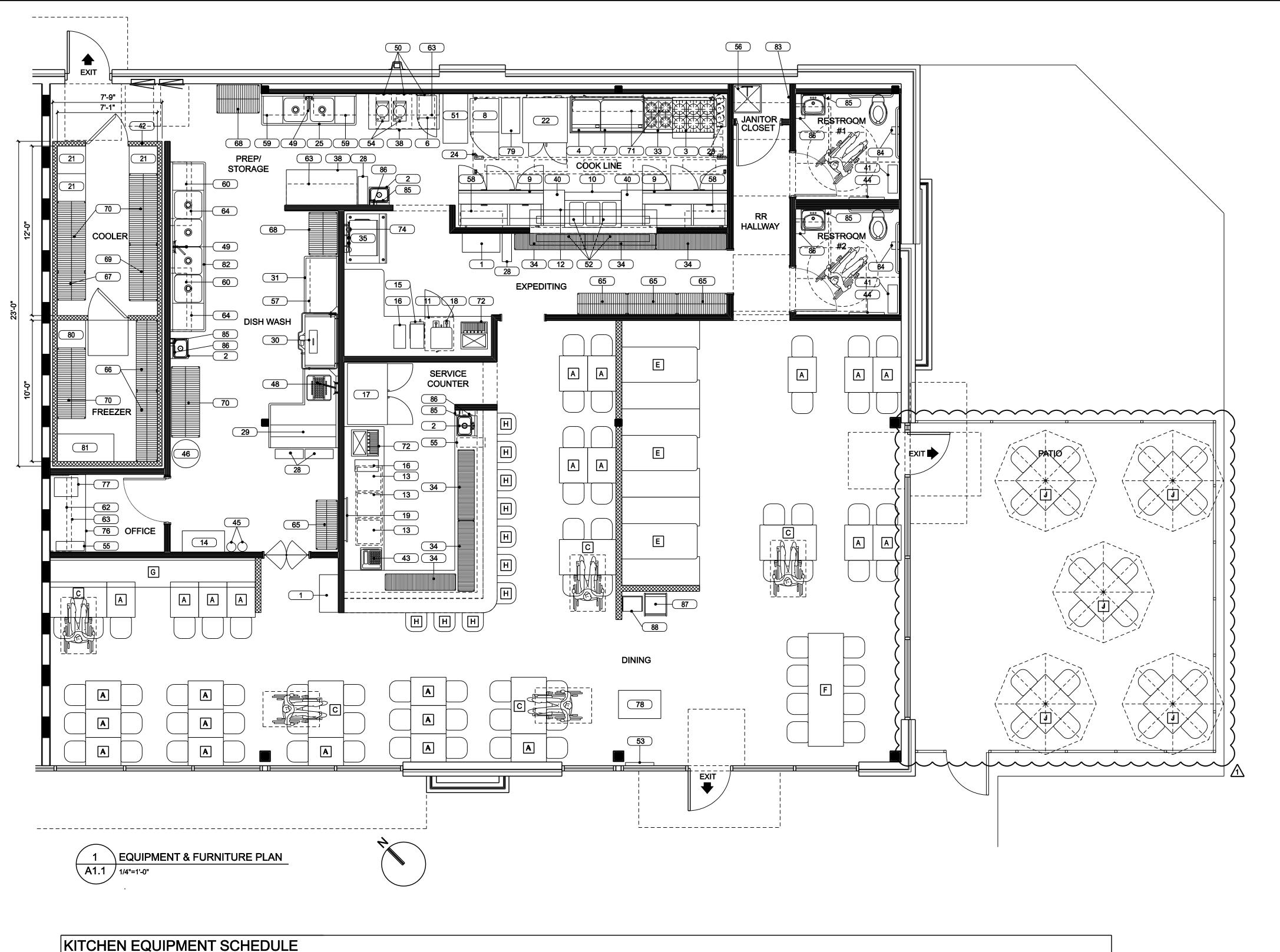




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GROUP, PC.



4	REVISIONS DATE	DATE	DESCRIPTION	귙
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0				
	TY PLAN			



45 CO2 TANK

46 WATER HEATER

48 PRE-RINSE FAUCET

INGREDIENT BIN

48" HEAT LAMP

WAFFLE IRON

55 24"H TRASH CAN

47 PRE-RINSE FAUCET ASSEMBLY

49 12" SWING NOZZLE FAUCET

BREADING STATION

WALL MOUNTED MENU HOLDER

57 24"X48" STAINLESS STEEL SLANTED DISH RACK

58 14"X36" WALL MOUNTED S.S. SHELF W/ BRACKETS

63 18"X60" WALL MOUNTED S.S. SHELF W/ BRACKETS

64 24"X60" WALL MOUNTED S.S. SHELF W/ BRACKETS

65 18"X42" 5 TIER EPOXY WIRE DRY STORAGE SHELVING

66 18"X60" 5 TIER EPOXY WIRE DRY STORAGE SHELVING

18"X36" WALL MOUNTED S.S SHELF W/ BRACKETS

14"X48 WALL MOUNTED S.S. SHELF W/ BRACKETS

18"X48" WALL MOUNTED S.S. SHELF W/ BRACKETS

14"X60" WALL MOUNTED S.S. SHELF W/ BRACKETS

24"X24" 5 TIER EPOXY WIRE DRY STORAGE SHELVING

68 24"X36" 5 TIER EPOXY WIRE DRY STORAGE SHELVING

69 24"X48" 5 TIER EPOXY WIRE DRY STORAGE SHELVING

70 24"X60" 5 TIER EPOXY WIRE DRY STORAGE SHELVING

18"X60" SOLID STAINLESS STEEL WALL SHELF

72 SODA/ICE COMBO MACHINE

74 WATER FILTER

76 OFFICE DESK

79 FRYER

78 HOSTESS STAND

80 24" DUNNAGE RACK

81 48" DUNNAGE RACK

85 SOAP DISPENSER

87 HIGH CHAIRS

88 BOOSTER SEATS

82 3 COMPARTMENT SINK

83 CHEMICAL STORAGE RACK

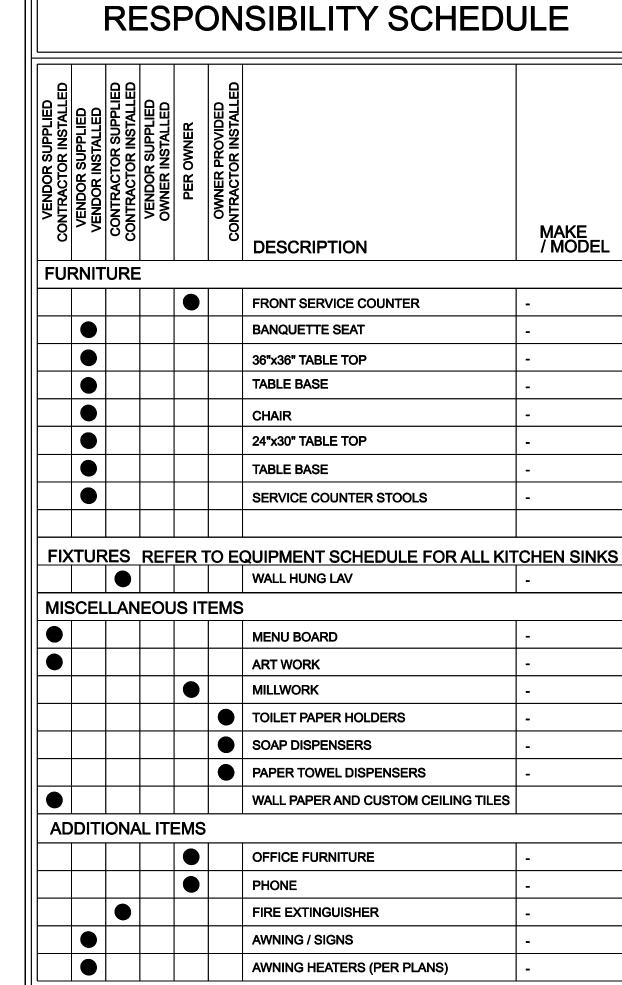
84 TOILET PAPER DISPENSER

86 PAPER TOWEL DISPENSER

75 36" DUNNAGE RACK

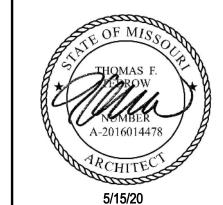
77 FLOOR MOUNTED SAFE

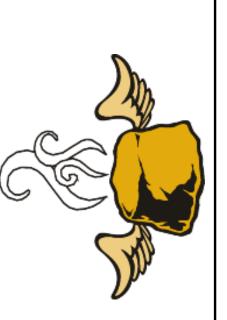
73 COKE BAR GUN (NOT USED)



	SEAT	ING S	UMM	IARY		
	TYPES	PARTIES	SEATS	SIZE	HEIGHT	KEY
	2 TOP TABLE	24	44	24"x30"	30"	Α
	4 TOP TABLE	0	0	36"x36"	30"	В
	4 TOP TABLE	5	18	48"x30"	30"	С
SEAT COUNT	4 PERSON BOOTH	0	0	30"x46"	30"	О
2	6 PERSON BOOTH	3	18	30"x69"	30"	E
Ä	COMMUNAL	1	8	36"x126"	30"	F
S	BANQUETTE	1	6	-	-	G
	STOOLS	10	10	18"	30"	H
	OUTDOOR - 2 TOP TABLE	0	0	24"x30"	30"	
	OUTDOOR - 4 TOP TABLE	5	20	36"x36"	30"	J
	TOTAL	49	124			
COUNT	DINING AREA	PARTIES	SEATS			
ਨੂ	INTERIOR DINING	44	104]		
	PATIO DINING	5	20			
DINING	TOTAL	49	124			

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MENT	& FUR		MENT & FURNITURE PI AN

- A. ALL MOUNTING HEIGHTS SHALL COMPLY WITH ALL LOCAL AND STATE
- EQUIPMENT.
- C. GC TO COORDINATE DELIVERY OF OWNER SUPPLIED MATERIALS WITH
- D. REFER TO SHEET A1.2 FOR EQUIPMENT SCHEDULE.
- E. EQUIPMENT START UP BY EQUIPMENT VENDOR
- F. LOCATION OF FIRE EXTINGUISHERS TO BE DETERMINED BY FIRE

SHEET	NOTES
-------	-------

- ADA, AND BUILDING CODE'S RESTRICTIONS AND REQUIREMENTS.
- B. REFER TO INTERIOR ELEVATIONS FOR RESTROOM FIXTURES /

WALL MOUNTED POS SYSTEM

MICROWAVE - ON COUNTERTOP

UNDERCOUNTER REFRIGERATOR

2 GLASS DOOR REACH IN REFRIGERATOR

6 EYE BURNER

24" FLAT TOP GRIDDLE

36" FLAT TOP GRIDDLE

HOT HOLDING CABINET

3 WELL HOT FOOD TABLE

PASS THRU WINDOW

RACK DOLLY
BAG IN THE BOX

TEA BREWER

50" TV

PAN RACK

20 NOT USED

COFFEE BREWER

ESPRESSO MACHINE

STACKED CONVECTION OVENS

REFRIGERATED SALAD TOP

WALL MOUNTED HAND SINK WITH SPLASH GUARDS

UNDER BAR REFRIGERATION (NOT USED)

23 DISHWASHING MACHINE (NOT USED)

| 27 UNDERBAR SINK | 28 TRASH CAN (ADD AREA MAGNETS FOR TRASH CANS IN DISH WASH) |

29 DIRTY DISH TABLE W/ UNDER SHELF & DOUBLE SIDED RACK

30"X42" STAINLESS STEEL WORK TABLE W/UNDERSHELF

37 30"X60" STAINLESS STEEL WORK TABLE W/UNDERSHELF

40 30"X18" STAINLESS STEEL WORK TABLE W/UNDERSHELF

24 18'-0" HOOD

26 NOT USED

30 DISH MACHINE

33 4 EYE BURNER

31 CLEAN DISH TABLE

35 ICE MACHINE WITH BIN

39 GLASS RACK (NOT USED)

43 COUNTER TOP POS SYSTEM

44 BABY CHANGING STATION

41 TRASH CAN W/LID

32 COCKTAIL STATION (NOT USED)

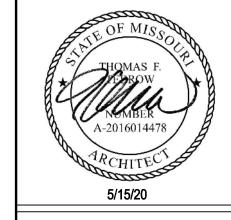
34 14"X60" 3 TIER CHROME WIRE SHELVING

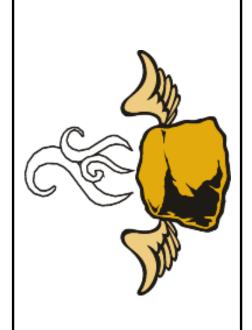
38 30"X60" STAINLESS STEEL WORK TABLE

42 8'-6"H WALK-IN FREEZER/COOLER

25 2 COMPARTMENT SINK

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THOMAS F. TEDROW, AIA

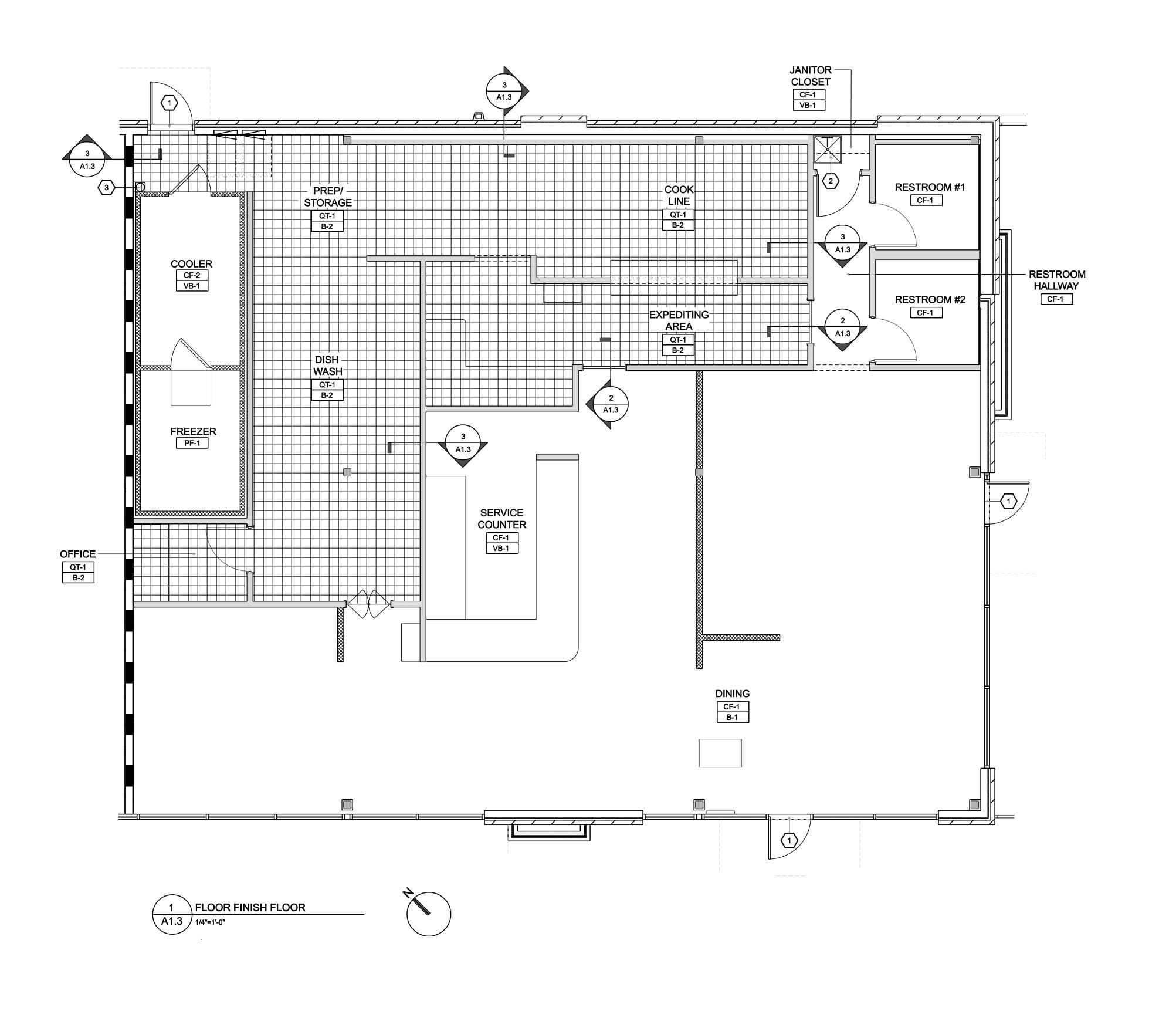
FLYING BISCUIT SUMMIT ORCHARDS 460 NW DONOVAN RD. SUITE 4B LEE'S SUMMIT, MO 64086

REVISIONS DATE DESCRIPTION

20

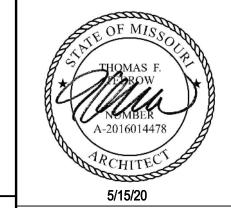
AT COHEDINE

A12



SHEET NOTES

- A. FLOOR TRANSITIONS SHALL OCCUR AT THE CENTERLINE OF THRESHOLD
- B. CENTER TILES IN ROOM U.N.O.
- C. FLOOR FINISHES ON BOTH SIDES OF A DOOR SHALL BE LEVEL FOR A DISTANCE OF 5'-0".
- D. ALL TILE TO BE IN MINIMUM 6" WIDE PIECES WERE CUTTING IS REQUIRED.
- E. REFER TO 15/A3.1 FOR WATER PROOFING MEMBRANE REQUIRED AT ALL QUARRY TILE WALL AND BASE CONDITIONS.

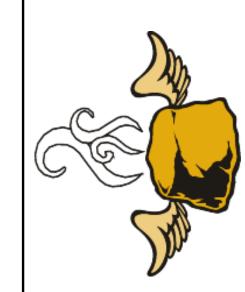


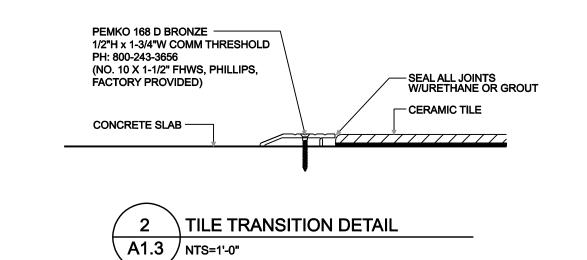
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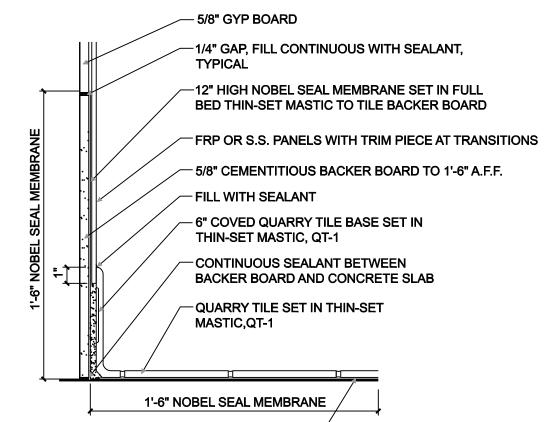
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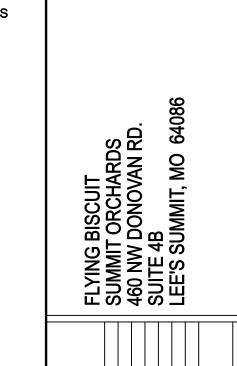
KEY NOTES

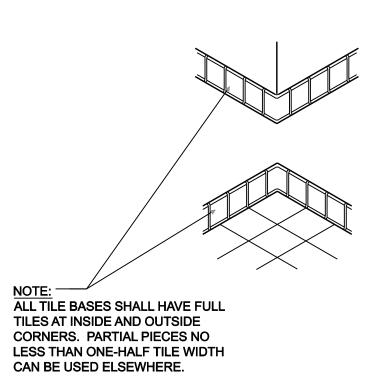
- 1 EXISTING ALUMINUM THRESHOLD.
- 2 MOP SINK. REFER DETAIL 7/A3.3 & TO PLUMBING DRAWINGS.
- 8" CONDENSATE DRAIN, COORDINATE WITH PLUMBING SHEETS FOR DETAILS.











EXTEND NOBEL SEAL MEMBRANE TO 1'-0"— DISTANCE FROM WALL, ON FLOOR, SET IN BED OF THIN-SET MASTIC TO FLOOR SLAB

3 WET WALL BASE DETAIL
A1.3 NTS=1'-0"

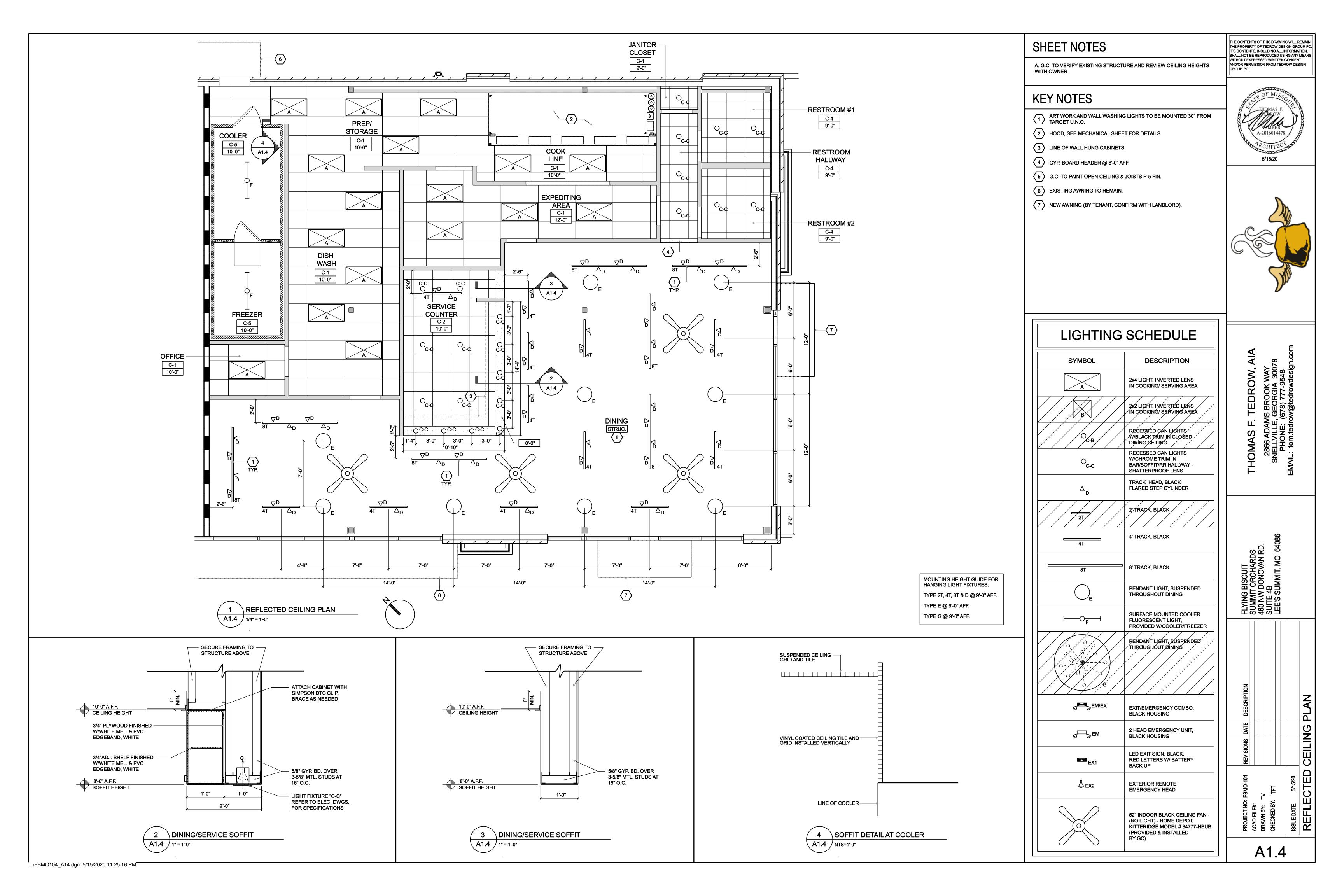
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RESTROOM ACCESSORIES SCHEDULE MANUFACTURER MOUNTING HEIGHTS MODEL NO.# A GRAB BARS BOBRICK (OR EQUAL) B-6806 3'-0" A.F.F. OR AS SPECIFIED ON SHEET A2.0 BOBRICK (OR EQUAL) B-165-1836 3'-4" A.F.F. TO REFLECTIVE SURFACE MIRROR PAPER TOWEL DISP. GP enMOTION 59462A 4'-0" A.F.F. TO DISPENSER CONTROLS SOAP DISPENSER ARRAY 517493 34"-48" A.F.F. TO DISPENSER CONTROLS TOILET PAPER HOLDER TORK ELEVATION 473208 1'-6" TO DISPENSER 4'-2 1/2" AFF. TO TOP BABY CHANGING STATION KOALA CORPORATION | HORIZONAL UNIT G TRASH CAN W/LID BY VENDOR

CLEAR FLOOR AREA A 5' DIA. TURNING RADIUS B | LAVATORY - 30" x 48" C | TOILET - 60" x 60" D | DOOR - 48" x 48" - PUSH SIDE E DOOR - 60" x 54" - PULL SIDE

ACCESSORY NOTES

1. G.C. SHALL INSTALL TOILET ACCESSORIES. SEE ACCESSORIES

- 2. PROVIDE WOOD BLOCKING AT ALL WALL-HUNG ITEMS.
- 3. ALL ACCESSORIES MUST BE ADA COMPLIANT
- 4. VERIFY MOUNTING HEIGHT OF TOILET TISSUE HOLDER PRIOR TO MOUNTING. HEIGHT MAY VARY DEPENDING ON UNIT FURNISHED.

-----______

1 \ ENLARGED RESTROOM

A2.0 / 1/2" = 1'-0"

5. G.C. TO INSTALL BABY CHANGING STATION.

GENERAL NOTES

1. G.C. SHALL PROVIDE HANDICAP CODE COMPLIANT MEN'S & WOMEN'S DOOR SIGNAGE. SIGNS SHALL BE MOUNTED ON EXTERIOR SIDE (AS SHOWN ON INTERIOR ELEVATIONS) AND SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

2. FLUSH AND FAUCETS CONTROLS SHALL BE OPERABLE W/ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING OR TWISTING OF WRIST.
THE FORCE TO ACTIVATE THESE CONTROLS SHALL NOT EXCEED 5 LBS.

3. FLUSH CONTROLS FOR TOILETS (AND URINALS WHEN APPLICABLE) SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET NO HIGHER

4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS AND SHALL BE INSTALLED TO WITHSTAND A LOAD OF 250 LBS. OR GREATER.

5. G.C. TO PROVIDE AND INSTALL 18" VERTICAL GRAB BAR IN BOTH

RESTROOMS AS PER 2009 ANSI A117.1, SEC. 604.5.

7'-4 1/8"

RESTROOM #1 / C

RESTROOM #2

7'-4 1/8"

A. TOILETS SHALL BE LOCATED 18" FROM THE SIDE WALL TO ITS CENTERLINE. B. FLUSH VALVE SHALL BE LOCATED ON WIDE SIDE OF THE

B. THE FORCE TO OPERATE THE FAUCET AND ANY

ACCESSIBILITY NOTES

OF WATER CLOSET.

WITH A 18" MIN. RADIUS.

1-1/2" NOMINAL MAX.

2. LAVATORIES (LAV.)

LAVATORY.

SPACE.

4. WATER CLOSETS (WC)

3. FAUCETS

A. GRAB BARDS SHALL BE LOCATED ON BACK AND SIDE WALL

B. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

ROUNDED EDGES FROM SHARP OR ABRASIVE ELEMENTS

D. THE GRAB BAR AND SUPPORTING STRUCTURE SHALL ALLOW FOR A VERTICAL & HORIZONTAL BENDING STRESS,

GRAB BARS SHALL HAVE AN OUTSIDE DIA. OF 1 1/4" TO

A. PROVIDE A 30"X52" LEVEL CLEAR SPACE IN FRONT OF

C. ALL DRAIN & HOT WATER PIPES UNDER THE LAVATORY

D. DOORS SHALL NOT SWING INTO THE REQUIRED CLEAR

A. FAUCETS SHALL BE OPERATED WITH ONE HAND AND

SHALL BE INSULATED OR COVERED WITH A BOOT OR

SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR

C. SELF-CLOSING VALVES SHALL REMAIN OPEN 10 SECONDS

THE SPACE BETWEEN THE GRAB BAR AND ANY OBJECT OR

B. CLEAR FLOOR SPACE HAS ONE FULL UNOBSTRUCTED SIDE ADJOINING OR OVERLAPPING AN ACCESSIBLE ROUTE OR

C. GRAB BARS & THE ADJACENT SURFACES SHALL HAVE

SHEAR & TENSILE FORCE OF 250 LBS

WALL SHALL BE 1-1/2" IN CLEAR.

ANOTHER CLEAR FLOOR SPACE.

SHIELD TO PREVENT CONTACT.

CONTROLS SHALL BE 5 LB MAX.

TWISTING OF THE WRIST.

- TOILET @ 44" MIN A.F.F. C. FLUSH VALVE SHALL REQUIRE 5 LB MAX FORCE TO OPERATE & SHALL BE OPERABLE WITH ONE HAND & SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST.
- D. TOP OF SEAT SHALL BE 17" TO 19" MAX. A.F.F.
 - SEAT HEIGHT SHALL BE 2" MAX. SEAT SHALL NOT AUTOMATICALLY SPRING TO THE OPEN
- G. WATER CLOSET SHALL REQUIRE 60" MIN. WIDE CLEAR
- FLOOR SPACE BY 56" MIN. DEEP. NO OTHER FIXTURES SHALL BE LOCATED IN THIS SPACE. H. IN ACCESSIBLE COMPARTMENTS WATER CLOSET
- REQUIRES 56" DEEP CLEAR SPACE FOR WALL HUNG AND 59" DEEP FOR FLOOR MOUNTED.
- . RESTROOM ACCESSORIES AND DISPENSERS (WHERE
 - A. TOILET PAPER DISPENSER SHALL BE 15" MIN. HEIGHT A.F.F. & MOUNTED BELOW GRAB BAR.
- B. TOILET PAPER DISPENSER SHALL BE LOCATED 7" MIN. TO 9" MAX FROM FRONT OF THE WATER CLOSET TO THE CENTERLINE OF THE DISPENSER, WITHIN 12" FROM THE FRONT EDGE OF THE WATER CLOSET TO THE FAR END OF THE DISPENSER & 36" FROM THE REAR WALL TO THE OUTSIDE EDGE OF THE DISPENSER.
- C. TOILET PAPER DISPENSER SHALL ALLOW FOR CONTINUOUS PAPER FLOW AND NOT CONTROL DELIVERY.
- D. EACH TYPE OF PROVIDED ACCESSORY SHALL HAVE 1 MIN. ACCESSIBLE
- E. A 30"X52" CLEAR FLOOR SPACE SHALL BE PROVIDED AT EACH ACCESSIBLE ACCESSORY.
- DOORS SHALL NOT SWING INTO CLEAR SPACE IN FRONT OF ACCESSIBLE ACCESSORY. G. ALL CONTROLS INCLUDING COIN SLOTS SHALL BE WITHIN
- COMPLIANT RANGES AND SHALL BE OPERABLE WITH ONE HAND NOT REQUIRING TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.
- H. FORCE TO OPERATE OR ACTIVATE CONTROLS SHALL BE 5
- SOAP OR OTHER DISPENSERS LOCATED ON THE BACK WALL OF THE LAVATORY SHALL BE 40" MAX A.F.F.
- SEAT COVER DISPENSERS SHALL NOT BE LOCATED ON THE BACK WALL BEHIND A WATER CLOSET.
- BOTTOM OF MIRROR TO BE 40" MAX. ABOVE THE FINISHED FLOOR. ADD BLOCKING AT UPPER PORTION BEHIND

INTERNATIONAL SYMBOL OF ACCESSIBILITY:

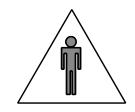


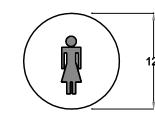


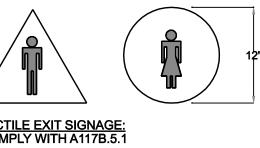


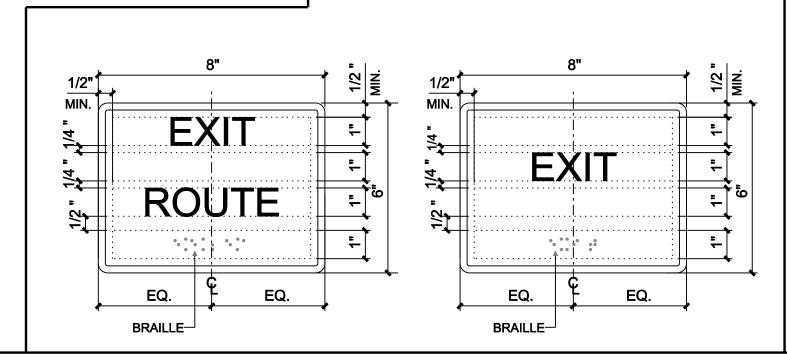
(a) SYMBOL PROPORTIONS (b) DISPLAY CONDITIONS

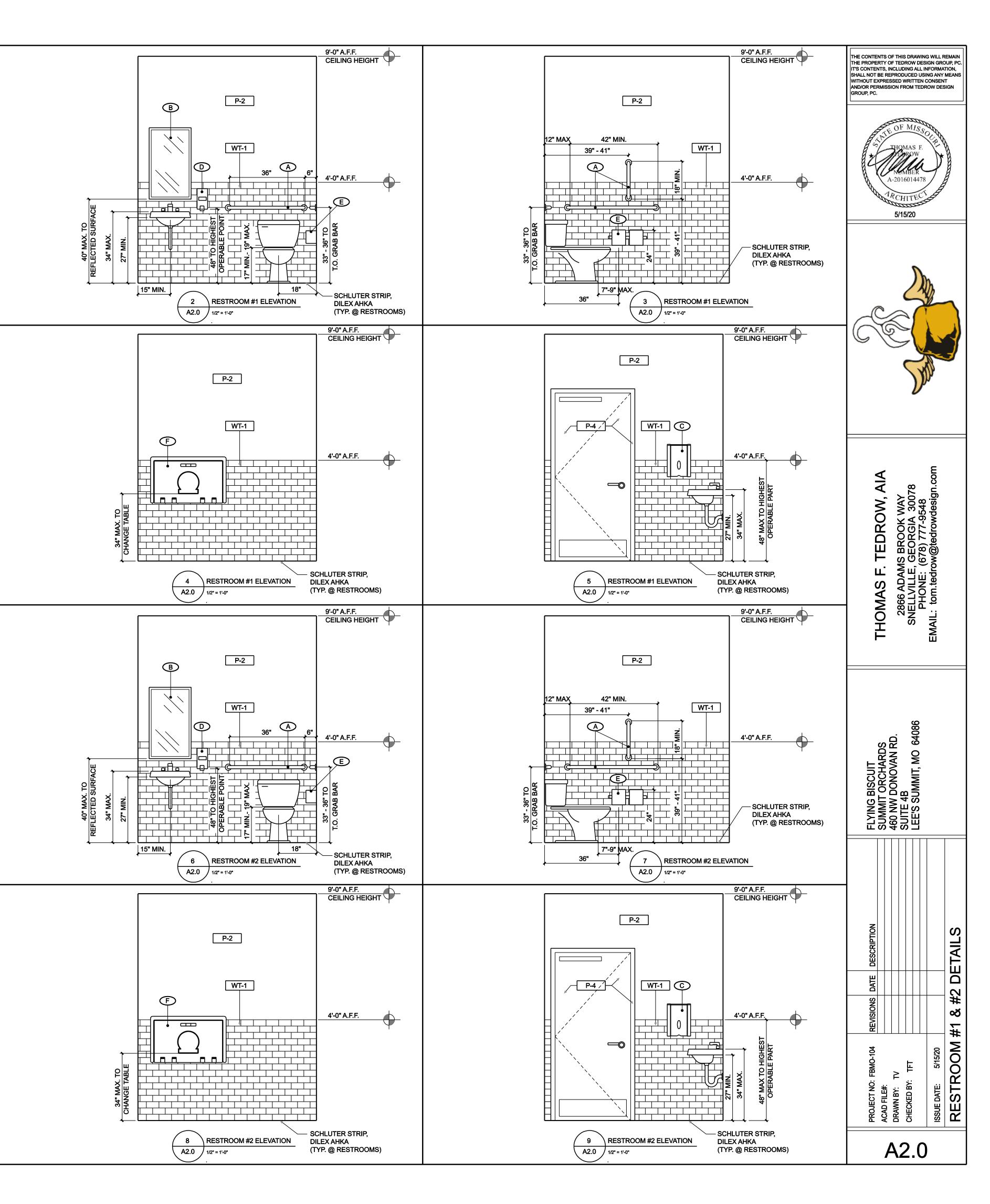
RESTROOM SIGNS:

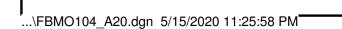












D	00	R SCHEDULE												
MARK	TYPE	LOCATION	DOOR SIZE	DOOR MATERIAL	DOOR GLASS	FRAME MATERIAL	FRAME TYPE		DETAILS D/JAMB/T	HRE.		SHES OUTSIDE	HDWR. SET	REMARKS
1	Α	FOOD PREP/ PROD.	(PR.) 1'-8" x 6'-8"	ALUMINUM	9" x 14" ACRYLIC	HOLLOW MTL.	5 7/8" KNOCK-DOWN	3/A2.1	4/A2.1	-	PREFINISHED	PREFINISHED	A	REFER TO GENERAL DOOR NOTES
2	В	OFFICE	3'-0" x 7'-0" x 1 3/4"	S.C. WOOD - P-4	NONE	HOLLOW MTL.	5 7/8" KNOCK-DOWN	1/A2.1	2/A2.1	-	TRIM P-4	TRIM P-4	В	REFER TO GENERAL DOOR NOTES
3	В	JANITOR'S CLOSET	3'-0" x 7'-0" x 1 3/4"	S.C. WOOD - P-4	NONE	HOLLOW MTL.	5 7/8" KNOCK-DOWN	1/A2.1	2/A2.1	-	TRIM P-4	TRIM P-4	D	REFER TO GENERAL DOOR NOTES
4	В	RESTROOM #1	3'-0" x 7'-0" x 1 3/4"	S.C. WOOD - P-4	NONE	HOLLOW MTL.	5 7/8" KNOCK-DOWN	1/A2.1	2/A2.1	-	TRIM P-4	TRIM P-4	С	REFER TO GENERAL DOOR NOTES
5	В	RESTROOM #2	3'-0" x 7'-0" x 1 3/4"	S.C. WOOD - P-4	NONE	HOLLOW MTL.	5 7/8" KNOCK-DOWN	1/A2.1	2/A2.1	-	TRIM P-4	TRIM P-4	С	REFER TO GENERAL DOOR NOTES
6	C	EXPEDITING	NONE	NONE	NONE	HOLLOW MTL.	5 7/8" KNOCK-DOWN	5/A2.1	6/A2.1	_	TRIM P-4	TRIM P-4	NONE	REFER TO GENERAL DOOR NOTES
7	С	EXPEDITING	NONE	NONE	NONE	HOLLOW MTL.	5 7/8" KNOCK-DOWN	5/A2.1	6/A2.1	-	TRIM P-4	TRIM P-4	NONE	REFER TO GENERAL DOOR NOTES
8														
9														

DOOR TYPES	HARDWARE SETS
	SET A: ELIASON ALL HARDWARE PROVIDED BY DOOR MAN
9"x14" ACRYLIC GLAZING BY DOOR MANUFACTURER	SET B - OFFICE: 3 EA. HINGES F179 4 1/2" X 4 1/2" 1 EA. LOCKSET A-SERIES LEVON 1 EA. CLOSER 1600 SERIES X D 1 EA. WALL STOP 408 1 EA. THRESHOLD 424-36" 2 EA. DOOR SWEEP 200 NA X 36" 2 EA. SILENCERS 608 2 EA. KICKPLATE 10" X 34" US26D
4 A2.1 A2.1	SET C - RESTROOM: 3 EA. HINGES FBB179 4 1/2" X 4 1 EA. LOCKSET A-SERIES LEVON 1 EA. CLOSER 1600 SERIES X PA 1 EA. WALL STOP 408
А В	2 EA. SILENCERS 608 2 EA. KICKPLATE 10" X 34" US26D
ELIASON FLUSH MODEL: #LWP3 (PAIR) S.C. WOOD	SET D - JANITOR'S CLOSET:
FINISH: ALUMINUM '	3 EA. HINGES FBB179 4 1/2" X 4 1 EA. LATCH PASSAGE SET #D W/NEPTUNE LEVE
5 A2.1	1 EA. CLOSER 1600 SERIES X PA 1 EA. WALL STOP 408 2 EA. SILENCERS 608 2 EA. KICKPLATE 10" X 34" US26D
OPEN 6 A2.1	
С	

NO DOOR

SEALANT-

HOLLOW

METAL FRAME W/

PAINTED

SEALANT

DOOR (SEE SCHEDULE)

HARDWARE SETS SET A: ELIASON ALL HARDWARE PROVIDED BY DOOR MANUFACTURER SET B - OFFICE: 3 EA. HINGES STANLEY F179 4 1/2" X 4 1/2" X US26D A-SERIES LEVON A8PD US26D 1 EA. LOCKSET SCHLAGE 1 EA. CLOSER 1600 SERIES X DA X TRI-STYLE NORTON 1 EA. WALL STOP 408 ROCKWOOD 1 EA. THRESHOLD 424-36" NATIONAL GUARD 2 EA. DOOR SWEEP 200 NA X 36" NATIONAL GUARD 2 EA. SILENCERS 608 ROCKWOOD 2 EA. KICKPLATE 10" X 34" US26D ROCKWOOD SET C - RESTROOM: STANLEY 3 EA. HINGES FBB179 4 1/2" X 4 1/2" X US26D A-SERIES LEVON A30D US26D 1 EA. LOCKSET SCHLAGE 1600 SERIES X PA X DA X TRI-STYLE 1 EA. CLOSER NORTON 1 EA. WALL STOP 408 ROCKWOOD 2 EA. SILENCERS 608 ROCKWOOD 2 EA. KICKPLATE 10" X 34" US26D ROCKWOOD

FBB179 4 1/2" X 4 1/2" X US26D

W/NEPTUNE LEVER HANDLE

1600 SERIES X PA X DA X TRI-STYLE

PASSAGE SET #D10S

STANLEY

SCHLAGE

NORTON

ROCKWOOD

ROCKWOOD

ROCKWOOD

GENERAL DOOR NOTES

1. ALL HARDWARE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.

- 2. SEE HARDWARE SETS FOR REQ'D. FINISHES.
- 3. ALL DOORS TO BE KEYED ALIKE.
- 4. HOLLOW METAL FRAMES SHALL BE 16 GA. STEEL.
- 5. ALL DOORS SHALL HAVE ADA APPROVED TYPE HARDWARE (VERIFY IN
- 6. EXIT HARDWARE SHALL COMPLY WITH ALL APPLICABLE CODES.
- 7. THE MAXIMUM DIMENSION FROM THE TOP OF THE THRESHOLD TO THE EXTERIOR LANDING @ EXTERIOR DOORS SHALL NOT EXCEED 1/2". (VERIFY
- 8. ALL GLAZING IN DOORS AND WITHIN A 24" ARC OF THE SIDES OF EGRESS DOORS SHALL BE OF AN APPROVED SAFETY TYPE. (VERIFY IN FIELD)
- 9. PAINT HOLLOW METAL FRAMES & DOORS WHERE SCHEDULED w/2 FINISH COATS OF HIGH-GLOSS ACRYLIC ENAMEL. SEE ELEVATIONS & FINISH SCHEDULE.
- 10. PROVIDE SIGNS @ DINING ROOM EXIT DOORS TO READ, "THIS EXIT MUST REMAIN UNLOCKED WHEN THIS BUILDING IS OCCUPIED. LETTERS
- SHALL BE 1" TALL & MOUNTED ON CONTRASTING BACKGROUND. 11. ADJUST CLOSERS SUCH THAT SWEEP PERIOD FROM AN OPEN
- TO MOVE TO A POINT 3" FROM THE LATCH, MEASURED TO THE LEADING EDGE OF DOOR. MAXIMUM OPENING FORCE OF DOORS SHALL BE 5 LBF. 12. DOOR DETAILS DO NOT DEPICT ALL INTERIOR FINISHES. REFER TO

POSITION OF 70 DEGREES, THE DOORS SHALL TAKE AT LEAST 3 SECONDS

13. STOREFRONT DOORS & FRAMES ARE SCHEDULED AROUND KAWNEER PRODUCTS. FIELD VERIFY EXISTING STOREFRONT SYSTEM & MATCH EXISTING. CROSS REFERENCE SPECIFIED PRODUCTS TO EQUIVALENT

INTERIOR ELEVATIONS & FINISH MATERIAL SCHEDULE FOR REQUIRED

- 14. HARDWARE FINISHES AT NEW STOREFRONT DOORS SHALL MATCH THE EXISTING STOREFRONT COLOR/FINISH. FIELD VERIFY.
- 15. ALL EXISTING EGRESS DOORS SHOULD BE EQUIPPED WITH PANIC HARDWARE. G.C. TO UPDATE HARDWARE IF NOT EXISTING.

EXISTING STOREFRONT MANUFACTURER'S PRODUCTS.

CONT. SEALANT - 5/8" GYP. BD. DBL. 3-5/8" STL. ANCHORS -WALL AT JAMB DOOR FRAME BEYOND -HOLLOW METAL FRAME W/ PAINTED FIN.—— DOOR (SEE SCHEDULE) DOOR JAMB DETAIL - H.M. A2.1 3" = 1'-0"

P-1	SHERWIN WILLIAMS, OAKMOSS #SW6180, SEMI GLOSS FINISH (BEAD BOARD)	PL-1	FORMICA, BLACK #840-58
P-2	SHERWIN WILLIAMS, BLISSFUL BLUE #SW6527, EGG SHELL FINISH (WALLS)	PL-2	FORMICA, GREEN SLATE BIRCHPLY #8911-NG
P-3	SHERWIN WILLIAMS, MORNING SUN #SW6672, EGG SHELL FINISH (WALLS)	FLOOF CF-1	KEMIKO, "VINTAGE UMBER", E-100 ACID STAIN, APPLY ONE COAT OF POLYURETAHNE SEALER
P-4	SHERWIN WILLIAMS, MAJESTIC PURPLE #SW6545, SEMI GLOSS FINISH (DOORS & FRAMES)	CF-2	SEALED CONCRETE
P-5	SHERWIN WILLIAMS, TRICORN BLACK #SW6545 (DINING CEILING TILE, DUCTS, AIR GRILLES)	QT-1	METROPOLITAN CERAMICS, QUARRY BASICS, PLAZA GRAY #505 (8"x8")
WC-1	CUSTOM "SUNFLOWER" WALLCOVERING, CONTACT: COLORSPOT, KERA FONGER AT 678-385-2188 FOR ORDERING. SUPPLIED	G-2	MAPEI, KERAPOXY CQ, #9 GRAY
WC-2	BY VENDOR, INSTALLED BY GC CUSTOM "FLYING BISCUIT" WALLCOVERING,	PF-1	PREFABRICATED FLOOR, PROVIDED BY COOLER/FREEZER MANUFACTURER
	CONTACT: COLORSPOT, KERA FONGER AT 678-385-2188 FOR ORDERING. SUPPLIED BY VENDOR, INSTALLED BY GC	BASE B-1	EAST COAST MOULDINGS, 1"x6" BASE BOARD
WC-3	ARACUOPLY, BEAD BOARD PANELING, 4'x8', 11/32", W GROOVE, 2" OC	B-2	METROPOLITAN CERAMICS, QUARRY BASICS, PLAZA GRAY #505 (6"H)
WC-4	EAST COAST MOULDINGS, 1"x4" CHAIR RAIL	VB-1	JOHNSONITE, GREY #48
SS-1	STAINLESS STEEL - 20 GA.	<u>CEILIN</u>	<u>1G</u>
FRP-1	MARLITE, WHITE, FRP P-100	C-1	NATIONAL GYPSUM, GRIDSTONE 2'x4' VINYL CEILING TILE
WT-1	FLOOR & DECOR, FESTIVAL BRIGHT WHITE ICE 3"x6" SUBWAY TILE	C-2	NATIONAL GYPSUM, GRIDSTONE 2'x2' VINYL CEILING TILE
WT-2	SHAW, COVENANT #CS89W, OCEAN #00159 (8"x48" TILES)	C-3	2'x2' ACOUSTICAL CEILING TILE PAINTED P-5
G-1	CUSTOM BUILDING PRODUCTS, PRISM #386 OYSTER GRAY	C-4	2'x2' CUSTOM "FLYING BISCUIT" ACOUSTICAL CEILING TILE - CONTACT IMAGING TECHNOLOGIES
	SURFACE		AT 404-870-6672 FOR ORDERING, SUPPLIED BY VENDOR, INSTALLED BY GC
SLD-1	STARON - OCEAN VIEW #VO171	C-5	PREFAB STAINLESS STEEL CEILING PER COOLER MANUFACTURER

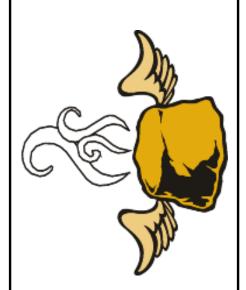
FINISH SCHEDULE

PLASTIC LAMINATE

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ESCRIPTION				DOOR & FINISH SCHEDULES/DETAILS
DATE				HED
REVISIONS DATE DESCRIPTION				SH SC
PROJECT NO: FBMO-104	ACAD FILE#:	CHECKED BY: TET	ISSUE DATE: 5/15/20	DOOR & FINIS

A2.1

3" = 1'-0" - METAL STUDS @ 16" OC, RE: PARTITION **TYPES** ⁻ 5/8" GYP. BD. HOLLOW METAL FRAME W/O STL. STUD **HEADER BOXED** W/STUD TRACKS. RABBET PAINTED FIN DOOR (SEE SCHEDULE) -

5 7/8" FRAME

DOOR HEAD DETAIL - H.M.

METAL STUDS @ 16" OC, **RE: PARTITION**

5/8" GYP. BD.

-- DBL. 3-5/8" STL. STUD

HEADER BOXED

W/STUD TRACKS.

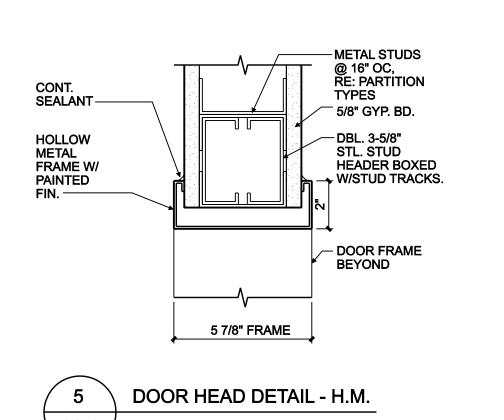
DOOR FRAME BEYOND

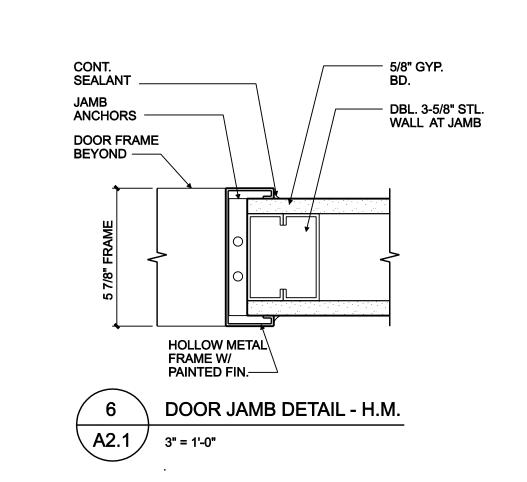
TYPES

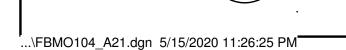
DOOR HEAD DETAIL - SWINGING **∖ A2.1** 3" = 1'-0"

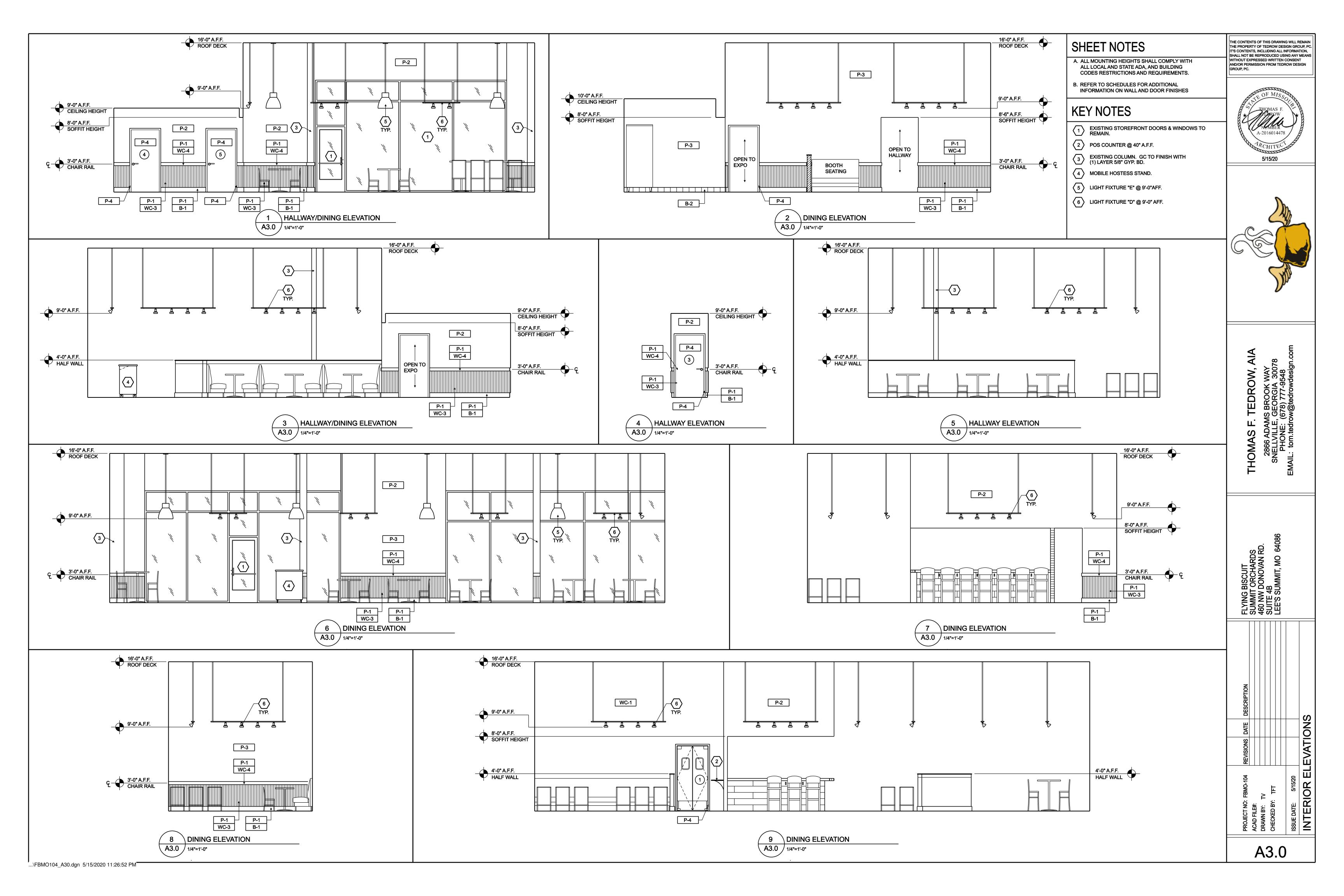
5 7/8" FRAME

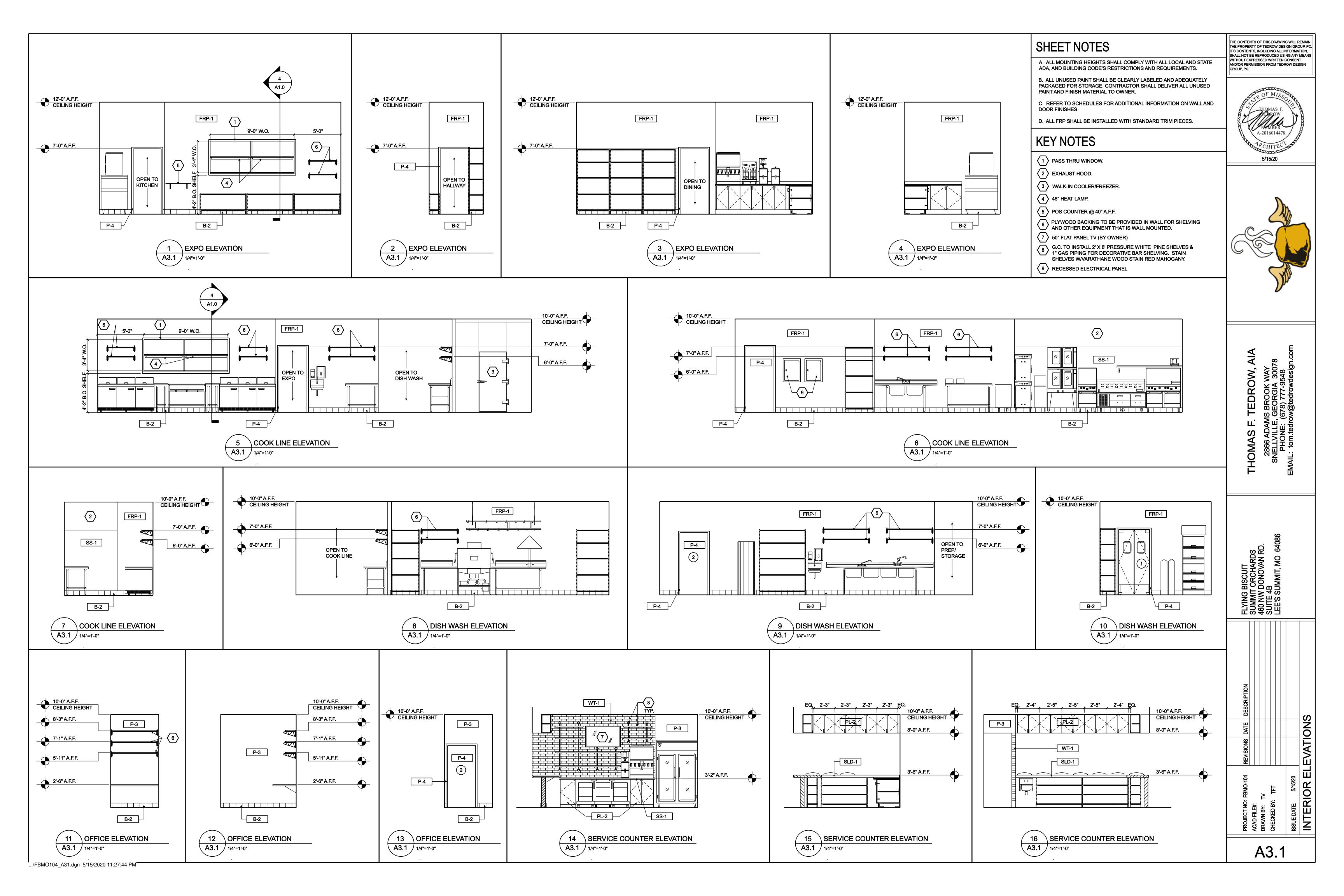
----- 5/8" GYP. BD. CONT. SEALANT - DBL. 3-5/8" STL. ANCHORS WALL STUD AT JAMB HOLLOW METAL FRAME W/O DOOR (SEE SCHEDULE) PAINTED FIN. **DOOR JAMB DETAIL - SWINGING ∖ A2.1**

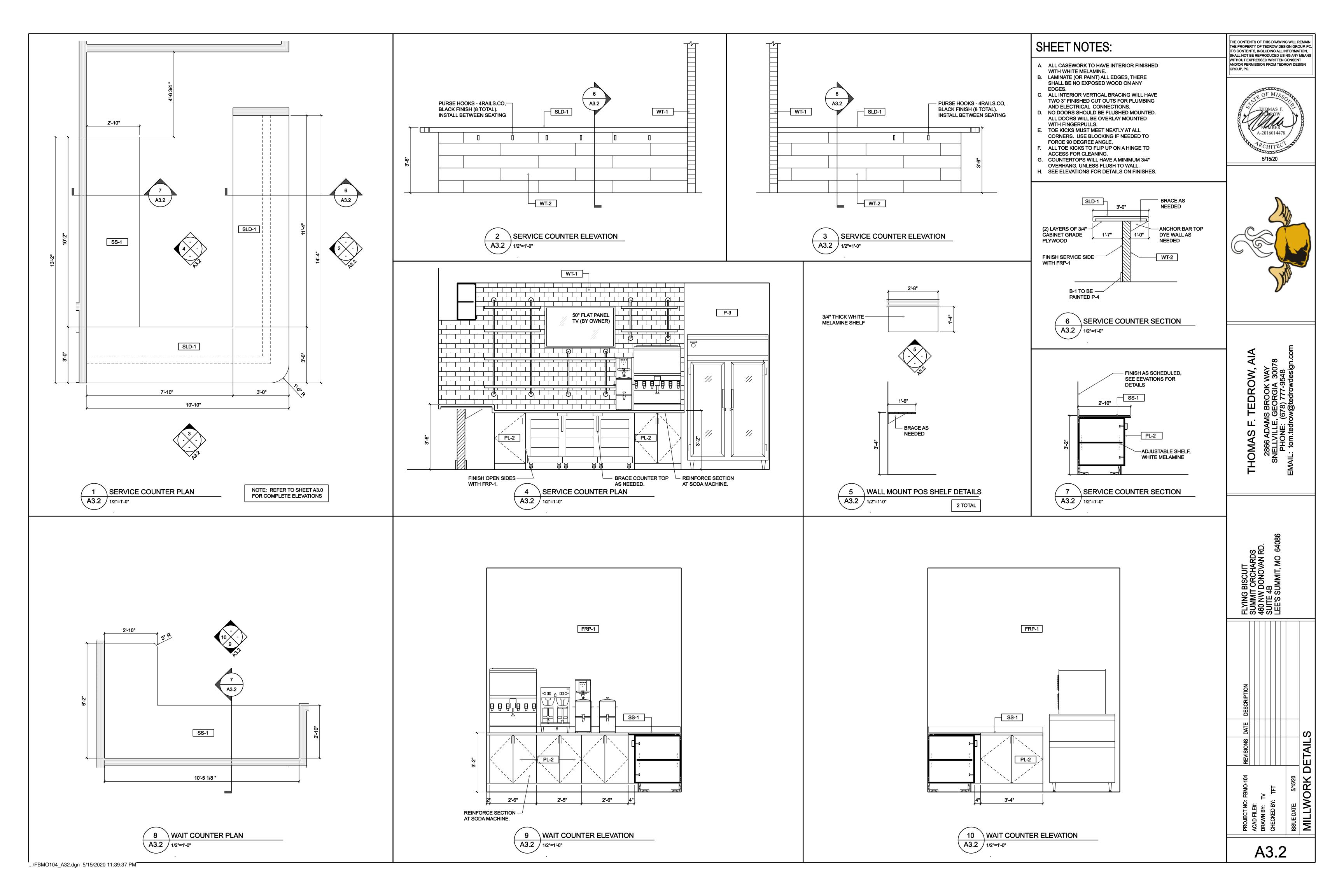


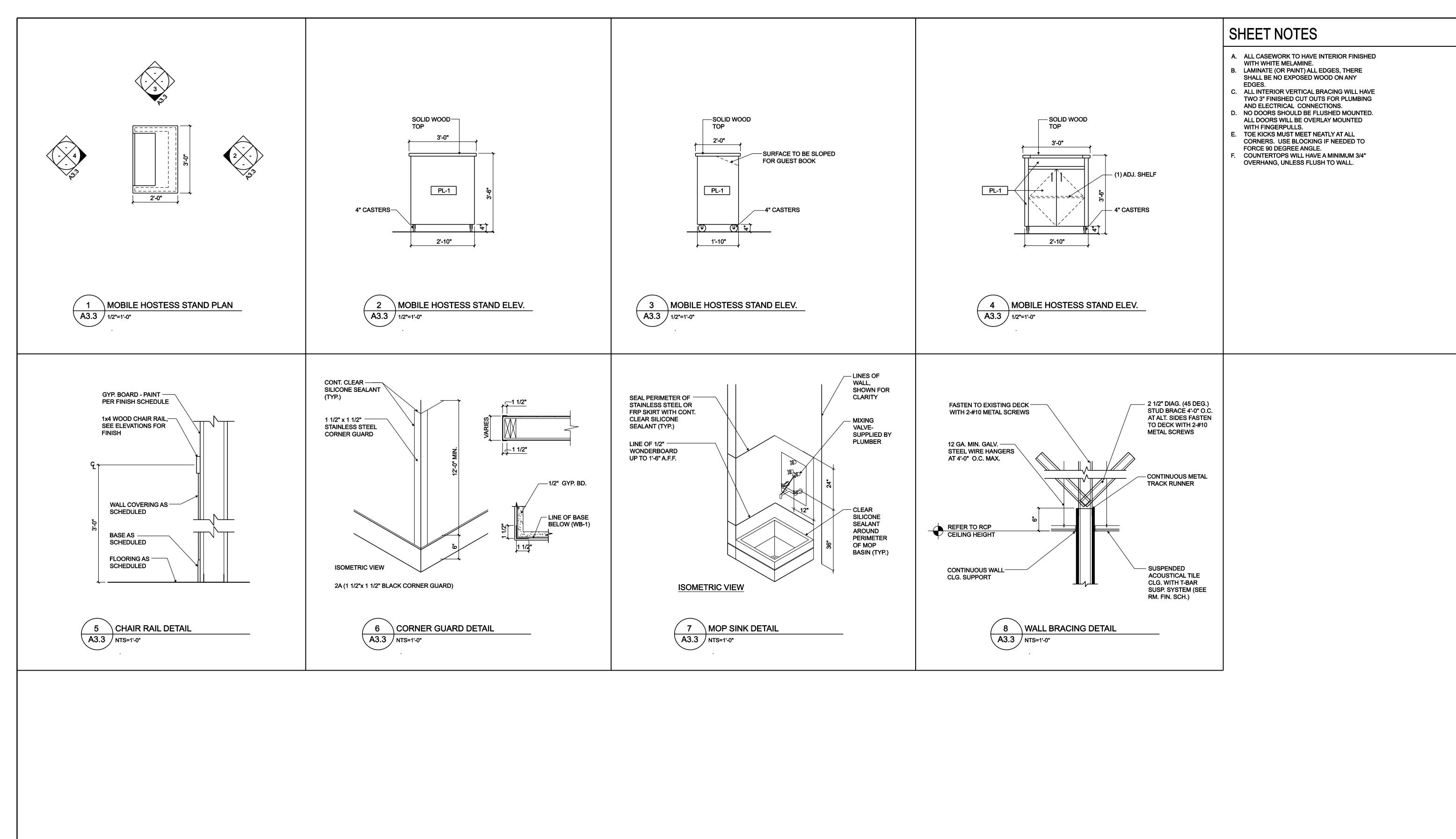




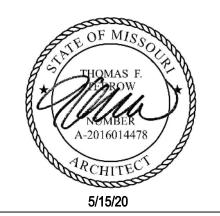








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FLYING BISCUIT
SUMMIT ORCHARDS
460 NW DONOVAN RD.
SUITE 4B
LEE'S SUMMIT, MO 64086

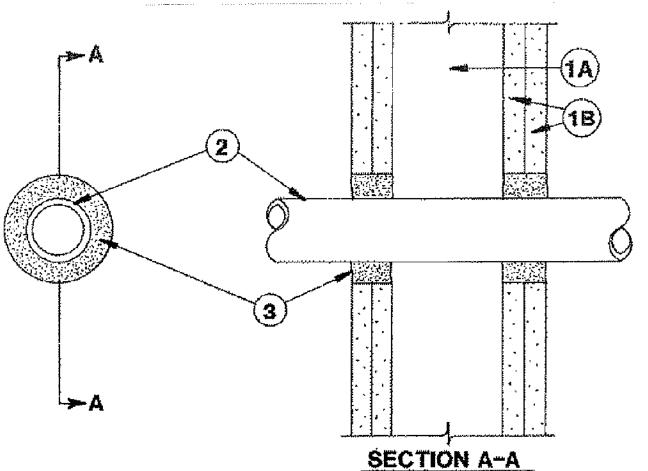
A3.3

June 23, 2000

(Formerly System No. 614)

F Rating — 1 and 2 Hr (See Item 1)

T Rating - 1 and 2 Hr (See Item 1)



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

> A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 In. OC

B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series design in the UL Fire Resistance Directory, Max diameter of opening

The hourly F and T ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrants — One nonmetallic pipe, conduit or tubing to be centered within the firestop system. The max diam of the through penetrant and annular space within the firestop system is dependent upon the type of fill material (Item 3). Pipe, conduit or tubing to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes, conduits or tubing may be used:

> A, Polyvinyl Chloride (PVC) Pipe — Nom 2 in. diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) piping systems.

> B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) piping systems.

> C. Rigid Nonmetallic Conduit+ - Nom 2 in. diam (or smaller) Schedule 40 PVC conduit Installed in accordance with Article 347 of the National Electrical Code (NEPA No. 70).

D. Electrical Nonmetallic Tubing (ENT)+ — Nom 1 in. diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA No. 70).

3. Fill, Void or Cavity Material* — Sealant — In 2 hr fire rated assemblies, min 1-1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. In 1 hr fire rated assemblies, min 5/8 in, thickness of fill material applied within the annulus, on both surfaces of wall. Additional fill material to be installed such that a min 5/8 in. thick crown is formed around the penetrating item and Japping a min 1 in, beyond the periphers of the opening.

The max diam of the through penetrant and annular space within the firestop system is dependent upon the type of fill material as tabulated below:

Max Diam of Through Penetrant In.	Nom Annular Space In.	Fill Mtl Type
1	1/2	FSP 1100 Putty
2	1	FS 1900 Sealant

WR GRACE & CO - CONN - FSP 1100 Putty or F5 1900 Sealant.

+Bearing the UL Listing Mark

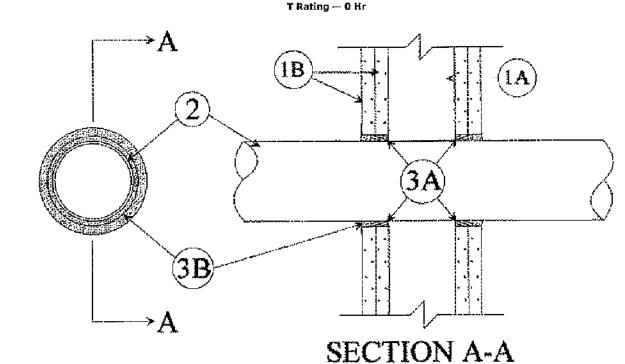
*Bearing the UL Classification Marking

1 & 2 HOUR FIRESTOP FOR METALLIC PIPE THROUGH RATED ASSEMBLY

System No. W-L-1089

June 23, 2000

F Ratings — 1 and 2 Hr (See Item 1)



1. Wall Assembly -- The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the Individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

> A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in, wider and 4 to 6 in, higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing in all four sides.

type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 24-5/8 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.

B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in

2. Through Penetrant — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the periphery of opening shall be min 1/8 in. to max 1/2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe — Nom 24 in diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe — Nom 24 in. diam (or smaller) cast or ductile iron pipe.

C. Conduit - Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel

D. Copper Tubing — Nom 6 in. dlam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe — Nom 6 In. diam (or smaller) Regular (or heavier) copper pipe.

3. Firestop System — The firestop system shall consist of the following:

A. Packing Material — In 2 hr fire-rated assemblies, min 2 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permament form on both sides of wall. Packing material to be recessed from both surfaces of the wall as required to accommodate the required thickness of fill material. In 1 hr fire-rated assemblies, min 3-3/4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be flush

B. Fill, Void or Cavity Material* — Sealant — In 2 hr fire-rated assemblies. 1/4 in. thickness of installed such that a min 1-1/4 in, thick crown is formed around the penetrating item and lapping a min 1/4 in, beyond the periphery of the opening. In 1 hr fire-rated assemblies, a min 1/2 in, thick crown is formed around the penetrating item and lapping a min 1/2 in, beyond the periphery of the

W R GRACE & CO - CONN — FS 1900 Sealant

opening on both surfaces of wall.

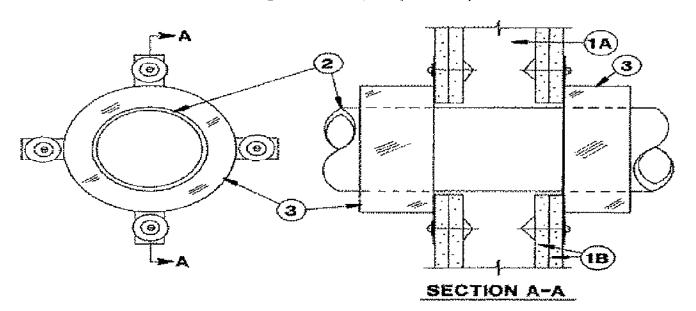
*Bearing the UL Classification Mark

1 & 2 HOUR FIRESTOP FOR 2" OR SMALLER METALLIC PIPE THROUGH RATED ASSEMBLY

System No. W-L-2037

June 23, 2000 Formerly System No. 612

F Rating \rightarrow 1, 1-1/2 and 2 Hr (See Item 2) T Rating — 3/4 and 1-1/2 Hr (See Item 2)



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

> A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced

B. Gypsum Board* - 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard

type, thickness, number of layers, (astener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is

2. **Through-Penetrants** — One nonmetallic pipe or conduit to be centered within the firestop system. The annular space between pipe or conduit and periphery of opening shall be a min 0 in. (point contact) to max 1/16 in. Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes and conduit may be A. Polyvinyi Chloride (PVC) Pipe — Nom 8 in, diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. B. Rigid Nonmetallic Conduit (RNC)+ — Nom 4 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).

> C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. diam (or smaller) SDR 17 CPVC pipe for use in closed (process or supply) piping systems.

E. Flame Retardant Polypropylene (FRPP) Pipe — Nom 4 in. dlam (or smaller) Schedule 40

D. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 4 in. diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. The F and T ratings of the firestop system are dependent upon the hourly rating of the wall

Type of Through Penetrant	Max Diam of Through Penetrant In.	Rating of Wall Hr	F Rating Hr	T Rating Hr
PVC Pipe	4	2	2	1-1/2
PVC Pipe	8	1	1.	3/4
PVC Pipe	8	2	1-1/2	1-1/2
RNC	4	2	2	1-1/2
RNC	4	1.	1	3/4
CPVC Pipe	4	2	2	1-1/2
CPVC Pipe	4	1	1	3/4
ABS Pipe	4	2	1-1/2	1-1/2
FRPP Pipe	4	2	1-1/2	1-1/2

3. Firestop Device* — Galv steel collar lined with an Intumescent material sized to fit the specific diam of the through Device incorporates four anchor tabs for securement to each surface of wall assembly by means of 1/8 in. diam by 3 in. long toggle bolts in conjunction with 1/8 in. diam by 3/4 in. and 1/4 in. diam by 1-1/4 in. steel fender washers.

+Bearing the UL Listing Mark

*Bearing the UL Classification Marking

W R GRACE & CO - CONN — FSD Device

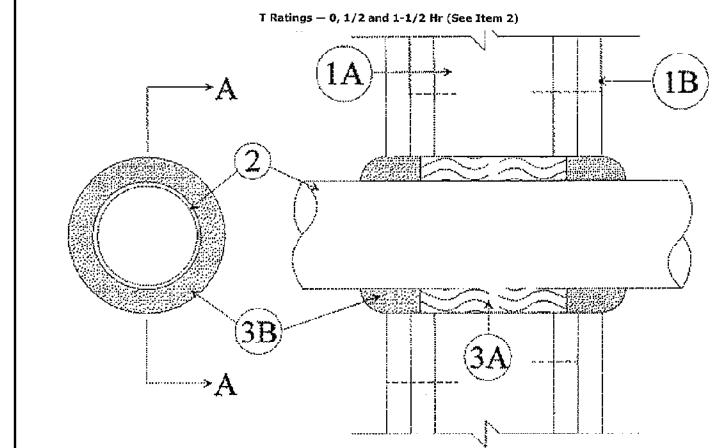
1 & 2 HOUR FIRESTOP FOR 2" OR SMALLER NON-METALLIC PIPE THROUGH RATED ASSEMBLY

System No. W-L-1007

June 23, 2000

(Formerly System No. 236)

F Rating - 1 and 2 Hr (See Item 1)



SECTION A-A 1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials

> A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 ln. OC. In 2 hr fire-rated assemblies, steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. In 1 hr fire-rated assemblies, steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.

and in the manner described in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance

B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in

2. Through Penetrant — One metallic pipe or conduit to be centered within the firestop system. A nom annular space of

1/4 in. is required within the firestop system. Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or conduits may be used:

A. Steel Pipe - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Conduit — Nom 4 In. diam (or smaller) steel electrical metallic tubing or 4 in. diam steel

The T Rating of the firestop system is dependent upon the max diam of the through-penetrant and hourly rating of the wall assembly as shown in the table below:

Max Diam of Through Penetrant	Rating of Wali Hr	f T Rating Hr
1/2	2	1-1/2
1/2	1	1
2	2	1/2
2	1	1/2
4	2	О
4	1	0

3. Firestop System — The firestop system shall consist of the following:

Directory and shall include the following construction features:

A. Packing Material* — In 2 hr fire-rated assemblies, min 3 in. thickness of min 4 pcf mineral wool insulation firmly packed into opening as a permanent form. In 1 hr fire-rated assemblies, min 2-7/8 in, thickness of min 4 pcf mineral wool insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the

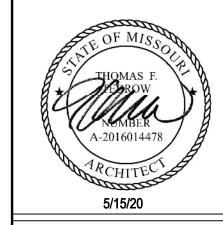
B. Fill, Void or Cavity Material* — Sealant — In 2 hr fire-rated assemblies, min 1 in. thickness of fill material applied within annulus, flush with both surfaces of wall. Additional fill material to be installed such that a min 1/2 in, thick crown is formed around the penetrating item. In 1 hr firerated assemblies, min 5/8 in, thickness of fill material applied within annulus, flush with both surfaces of wall. Additional fill material to be installed such that a min 1 in, thick crown is formed around the penetrating Item.

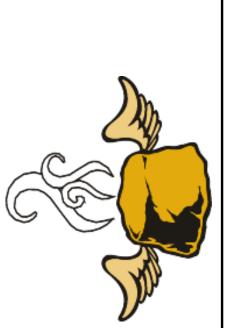
WR GRACE & CO - CONN - FS900, FS901, FS903, FS903CG, FS905, FS905CG, FS929, FST901, FST903 and FST905 Sealant.

1 & 2 HOUR RATED FIRESTOP FOR METALLIC PIPE THROUGH

RATED ASSEMBLY

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- 1. ALL WORK DONE UNDER THIS CONTRACT SHALL COMPLY WITH ALL STATE AND LOCAL CODES HAVING JURISDICTION AND WITH THE REQUIREMENTS OF THE UTILITY COMPANIES WHOSE SERVICES MAY BE USED. ALL MODIFICATIONS REQUIRED BY THESE CODES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGES. WHERE CODE REQUIREMENTS ARE LESS THAN THOSE SHOWN ON THE PLANS OR IN THE SPECIFICATIONS, THE PLANS AND SPECIFICATIONS SHALL BE FOLLOWED. WHERE APPLICABLE, NFPA
- REQUIREMENTS SHALL BE MET. 2. IN CASE OF ANY CONFLICTS BETWEEN CONTRACT DOCUMENTS, THE STRICTER/MORE STRINGENT SHALL GOVERN.
- 3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, INSPECTIONS, AND APPROVALS AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION AND DELIVER CERTIFICATES OF APPROVAL TO THE ENGINEER. ALL FEES AND COSTS OF ANY NATURE WHATSOEVER INCIDENTAL TO THESE PERMITS, INSPECTIONS AND APPROVALS MUST BE ASSUMED AND PAID BY THE CONTRACTOR
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF O.S.H.A.
- 5. THE WORKMANSHIP AND MATERIALS COVERED BY THESE SPECIFICATIONS SHALL CONFORM TO ALL ORDINANCES II. INSULATION AND REGULATIONS OF THE CITY, COUNTY AND/OR OTHER AUTHORITIES HAVING JURISDICTION.
- 6. CONTRACTOR SHALL VISIT THE SITE AND EXAMINE EXISTING CONDITIONS BEFORE SUBMITTING BID. NO ALLOWANCE WILL BE MADE FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS WHEN SUCH CONDITIONS CAN

 A. GENERAL PIPE INSULATION BE DETERMINED BY OBSERVATION
- 7. PRIOR TO SUBMITTING DATA FOR OR PURCHASING EQUIPMENT REQUIRING ELECTRICAL SERVICE, THE CONTRACTOR SHALL VERIFY THAT ELECTRICAL CHARACTERISTICS OF EQUIPMENT SUBMITTALS COMPLY WITH ELECTRICAL SERVICE PROVIDED FOR THE SPECIFIED ITEMS OF EQUIPMENT.
- 8. UPON RECEIPT OF THE CONTRACTOR OF REVIEWED SUBMITTALS FOR EQUIPMENT PROVIDED UNDER THIS DIVISION, THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL SERVICE REQUIREMENTS, I.E., MOTOR HORSEPOWER AND FULL LOAD AMPS. ELECTRICAL SERVICE CHARACTERISTICS (VOLTAGE AND PHASE), AND NUMBER OF SERVICES FOR EACH ITEM OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WITH THE
- ELECTRICAL DRAWINGS AND SPECIFICATIONS. 9. ITEMS ON OR PROJECTING THROUGH THE CEILING SHALL BE COORDINATED WITH OTHER TRADES.
- 10. EQUIPMENT MODEL NUMBERS ARE PROVIDED FOR GENERAL GUIDANCE, CONTRACTOR SHALL PROVIDE EQUIPMENT THAT MEETS THE PHYSICAL CAPACITIES AS SCHEDULED AND GENERAL ARRANGEMENT AS INDICATED IN THE DRAWING SET. CONTRACTOR SHALL VERIFY EXACT, CURRENT MODEL NUMBERS WITH THE MANUFACTURERS.

B. OPERATION AND MAINTENANCE INSTRUCTIONS

- 1. THE CONTRACTOR SHALL PROVIDE TWO OPERATION AND MAINTENANCE MANUALS. THE MANUALS SHALL BE COMPILED IN HARD BACK, THREE RING NOTEBOOKS. O&M MANUALS SHALL HAVE PERMANENT LABELS ON FRONT AND SIDE. THE FOLLOWING INFORMATION SHALL APPEAR IN EACH MANUAL
- 2. PROVIDE MANUFACTURER'S PRINTED OPERATING PROCEDURES TO INCLUDE START-UP, BREAK-IN, ROUTINE AND NORMAL OPERATING INSTRUCTIONS; REGULATION, CONTROL, STOPPING, SHUTDOWN AND EMERGENCY INSTRUCTIONS; AND SUMMER AND WINTER OPERATING INSTRUCTIONS. PROVIDE MAINTENANCE PROCEDURES FOR ROUTINE PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING: DISASSEMBLY, REPAIR AND REASSEMBLY ALIGNING AND ADJUSTING INSTRUCTIONS. SERVICING INSTRUCTIONS AND LUBRICATION CHARTS AND SCHEDULES.

C. INSTRUCTIONS OF OWNER PERSONNEL

1. BEFORE FINAL INSPECTION, AT A TIME DESIGNATED BY THE DESIGNER, PROVIDE A COMPETENT REPRESENTATIVE TO INSTRUCT OWNER'S DESIGNATED PERSONNEL IN OPERATION. ADJUSTMENT AND MAINTENANCE OF PRODUCTS. FOLIPMENT AND SYSTEMS UNDER THIS DIVISION OF THE SPECIFICATIONS. FOR EQUIPMENT REQUIRING SEASONAL OPERATIONS, PERFORM INSTRUCTIONS FOR OTHER SEASONS WITHIN SIX MONTHS UNLESS REQUESTED OTHERWISE

- 1. THE PRODUCTS OF PARTICULAR MANUFACTURERS HAVE BEEN USED AS THE BASIS OF DESIGN IN PREPARATION OF THESE DOCUMENTS. ANY MODIFICATIONS TO THE MECHANICAL SYSTEMS AND THEIR COMPONENTS, THE ELECTRICAL SYSTEMS, THE BUILDING STRUCTURE AND ARCHITECTURE, OR ANY OTHER PORTION OF THE BUILDING THAT RESULT FROM THE USE OF ANY OTHER THAN THAT BASIS OF DESIGN EQUIPMENT SHALL BE COORDINATED WITH ALL OTHER TRADES. SUCH COORDINATION SHALL OCCUR BEFORE PURCHASE OR DELIVERY OF PRODUCTS FROM THE MANUFACTURER DRAWINGS OR INSTALLED ACCORDINGLY. ANY RELATED MODIFICATIONS SHALL BE PERFORMED WITHOUT ANY ADDITIONAL COST TO THE CONTRACT.
- 2. RESIDENTIAL GRADE HVAC COMPONENTS SHALL NOT BE PERMITTED WITHOUT SPECIFIC OWNER INSTRUCTION AND ENGINEER APPROVAL.

- 1. THE PLANS DO NOT GIVE EXACT ELEVATIONS OR LOCATIONS OF LINES, NOR DO THEY SHOW ALL THE OFFSETS, CONTROL LINES, OR OTHER INSTALLATION DETAILS. THE CONTRACTOR SHALL CAREFULLY LAY OUT HIS WORK AT THE SITE TO CONFORM TO THE STRUCTURAL CONDITIONS, TO PROVIDE PROPER GRADING OF LINES, TO AVOID ALL OBSTRUCTIONS, TO CONFORM TO DETAILS OF INSTALLATION SUPPLIED BY THE MANUFACTURERS OF THE EQUIPMENT TO BE INSTALLED, AND TO THEREBY PROVIDE AN INTEGRATED, COORDINATED AND SATISFACTORY OPERATING INSTALLATION. DO NOT SCALE DRAWINGS.
- 2. IF THE CONTRACTOR PROPOSES TO INSTALL EQUIPMENT, INCLUDING PIPING AND DUCTWORK, REQUIRING SPACE CONDITIONS OTHER THAN THOSE SHOWN, OR TO REARRANGE THE EQUIPMENT, HE SHALL ASSUME FULL RESPONSIBILITY FOR THE REARRANGEMENT OF THE SPACE AND CONNECT ARRANGEMENT AT NO ADDITIONA COST TO THE OWNER, AND SHALL HAVE THE ENGINEER REVIEW THE CHANGE BEFORE PROCEEDING WITH THE WORK. THE REQUEST FOR SUCH CHANGES SHALL BE ACCOMPLISHED BY SHOP DRAWINGS OF THE SPACE IN
- 3. TEMPORARY FILTERS SHALL BE PROVIDED FOR FANS THAT ARE USED DURING CONSTRUCTION. AT THE TIME OF
- 4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER LOCATION AND SIZE OF ALL SLOT, HOLES OR OPENINGS IN THE BUILDING STRUCTURE PERTAINING TO HIS WORK, AND FOR THE CORRECT LOCATION OF SLEEVES, INSERTS, CORES,
- 5. THE CONTRACTOR SHALL SO COORDINATE THE WORK OF THE SEVERAL VARIOUS TRADES THAT IT MAY BE INSTALLED IN THE MOST DIRECT AND WORKMANLIKE MANNER WITHOUT HINDERING OR HANDICAPPING THE OTHER TRADES. PIPING INTERFERENCES SHALL BE HANDLED BY GIVING PRECEDENCE TO PIPE LINES WHICH REQUIRE A STATED GRADE FOR PROPER OPERATION. FOR EXAMPLE SEWER LINES AND CONDENSATE PIPING SHALL (TAKE PRECEDENCE OVER WATER LINES IN DETERMINATION OF ELEVATIONS. WHERE THERE IS INTERFERENCE BETWEEN SEWER LINES AND CONDENSATE LINES, THE SEWER LINES SHALL HAVE PRECEDENCE AND PROVISIONS SHALL BE MADE IN THE CONDENSATE LINES FOR LOOPING THEM AROUND THE SEWER LINES. IN ALL CASES, LINES REQUIRING A STATED GRADE FOR THEIR PROPER OPERATION SHALL HAVE PRECEDENCE OVER ELECTRICAL
- CONDUIT AND DUCTWORK. 6. ALL PIPING AND DUCTWORK IN FINISHED AREAS- EXCEPT WHERE NOTED TO THE CONTRARY- SHALL BE INSTALLED IN A CHASE, FURRED SPACE, OR ABOVE CEILINGS, ETC. IN ALL CASES, PIPES AND DUCTS SHALL BE INSTALLED AS HIGH AS POSSIBLE. RUNS OF PIPING SHALL BE GROUPED WHENEVER IT IS FEASIBLE TO DO SO.
- FEDERAL AUTHORITIES AND INSURANCE COMPANY HAVING JURISDICTION. ANY CHANGES OR ADDITIONS WHICH MAY BE NECESSARY TO OBTAIN SUCH INSPECTIONS AND APPROVAL SHALL BE MADE BY THE CONTRACTOR AS PART

 A. ALL MOTORIZED AIR MOVING AND FLUID MOVING EQUIPMENT PIECE SHALL BE PROVIDED WITH VIBRATION ISOLATION OF THIS CONTRACT AND WITHOUT ADDITIONAL COST TO THE OWNER.
- 8. PIPING, DUCTWORK OR EQUIPMENT SHALL NOT BE INSTALLED IN ELECTRICAL EQUIPMENT ROOMS OR ELEVATOR MACHINE ROOMS EXCEPT AS SERVING ONLY THOSE ROOMS. OUTSIDE OF ELECTRICAL EQUIPMENT ROOMS, DO NOT RUN PIPING OR DUCTWORK OR LOCATE EQUIPMENT, WITH RESPECT TO SWITCHBOARDS, PANEL BOARDS, POWER PANELS, MOTOR CONTROL CENTERS, DRY TYPE TRANSFORMERS OR ROOF TOP AIR CONDITIONING UNIT
- 9. PROVIDE ACCESS TO EQUIPMENT AND APPARATUS REQUIRING OPERATION, SERVICE OR MAINTENANCE WITHIN THE LIFE OF THE SYSTEM. INCLUDING, BUT NOT LIMITED TO, MOTORS, VALVES, FILTERS, DAMPERS, SHOCK ABSORBERS, ETC. EQUIPMENT LOCATED ABOVE LAY-IN TYPE CEILINGS IS CONSIDERED ACCESSIBLE.
- 10.DAMAGED EQUIPMENT SHALL BE REPAIRED OR REPLACED AT THE OPTION OF THE ARCHITECT.

- 1. ALL ELECTRICAL EQUIPMENT PROVIDED UNDER THIS DIVISION SHALL COMPLY WITH THE ELECTRICAL SYSTEM CHARACTERISTICS INDICATED ON THE ELECTRICAL DRAWINGS AND SPECIFIED IN DIVISION 16.
- 2. EQUIPMENT UNIT MOTOR SPEED CONTROLS, STARTERS, SYSTEM CONTROLS, PILOT LIGHTS, PUSH-BUTTONS, ETC SHALL BE FURNISHED COMPLETE AS A PART OF THE MOTOR APPARATUS WHICH IT OPERATES. ALL COMPONENTS IV. DUCTWORK AND FITTINGS SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND DIVISION 16. ALL MOTOR STARTERS SHALL BE PROVIDED WITH AN H-O-A SWITCH AND CONTROL TRANSFORMER. ALL STARTERS AND DISCONNECT SWITCHES SHALL BE FURNISHED UNDER DIVISION 15. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR PRIOR TO HIS WIRING OF EQUIPMENT
- 3. CONTROL WIRING (120V AND LESS) SHALL BE PROVIDED UNDER DIVISION 15 AND EXTENDED FROM THE STARTERS, CONTROL TRANSFORMERS OR 120V POWER CIRCUITS INDICATED ON THE ELECTRICAL DRAWINGS. ALL WIRING FOR 120 VOLTS SHALL BE DONE BY A LICENSED ELECTRICIAN.
- 4. ALL ELECTRICAL CHARACTERISTICS SHALL BE TAKEN FROM THE ELECTRICAL DRAWINGS AND SPECIFICATIONS AND COORDINATED BEFORE EQUIPMENT IS ORDERED OR PURCHASED.

- 1. THE CONTRACTOR SHALL ASSUME ALL COST OF, AND BE RESPONSIBLE FOR, ARRANGING FOR ALL CUTTING AND PATCHING REQUIRED TO COMPLETE THE INSTALLATION OF HIS PORTION OF THE WORK. ALL CUTTING SHALL BE CAREFULLY AND NEATLY DONE SO AS NOT TO DAMAGE OR CUT AWAY MORE THAN IS NECESSARY OF ANY EXISTING PORTIONS OF THE STRUCTURE.
- 2. ALL SURFACES SHALL BE PATCHED TO THE CONDITION OF THE ADJACENT SURFACES.
- 3. THE CONTRACTOR SHALL MAKE SUITABLE PROVISIONS FOR ADEQUATELY WATERPROOFING AT HIS FLOOR PENETRATIONS OF WATER PROOF MEMBRANE FLOORS. THIS SHALL INCLUDE BUT NOT BE LIMITED TO FLOOR DRAINS, OPEN SIGHT DRAINS, HUB DRAINS, CLEANOUTS, AND SLEEVES FOR THE VARIOUS PIPING. THIS ALSO APPLIES TO MEMBRANE ROOFING SYSTEMS
- 4. ALL PENETRATIONS AND WATER PROOFING OF PENETRATIONS IN MEMBRANE ROOFING SYSTEMS SHALL BE COORDINATED WITH AND PERFORMED BY THE MANUFACTURER/INSTALLER.
- 5. THE CONTRACTOR SHALL INSTALL, AS REQUIRED, IN CONCRETE, CARPENTRY OR MASONRY CONSTRUCTION, ALL NECESSARY HANGERS, SLEEVES, EXPANSION BOLTS, INSERTS AND OTHER FIXTURES AND APPURTENANCES NECESSARY FOR THE SUPPORT OF PIPE, DUCT, EQUIPMENT AND DEVICES FURNISHED UNDER EACH SECTION OF THE SPECIFICATION.
- 6. FOR WALLS BETWEEN INTERIOR AND BELOW GRADE AREA, THE LINK-SEAL SYSTEM AS MANUFACTURED BY THUNDERLINE CORPORATION SHALL BE USED TO SEAL PIPE TO WALL PENETRATIONS. INSTALL SYSTEM IN
- ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS 7. ESCUTCHEONS SHALL BE INSTALLED ON ALL PIPES WHERE THEY PASS THROUGH FLOORS, CEILINGS, WALLS OR
- PARTITIONS IN FINISHED AREAS WHERE EXPOSED TO VIEW. 8. WHERE AND HVAC OR PLUMBING REPLACEMENT SCOPE IS INDICATED, MECHANICAL CONTRACTOR SHALL PROVIDE FOR THE DEMOLITION OF EXISTING SYSTEMS THAT ARE BEING REPLACED OR ABANDONED
- 1. FURNISH AND INSTALL ACCESS DOORS AT EACH POINT REQUIRED TO PROVIDE ACCESS TO CONCEALED VALVES. CLEANOUTS AND OTHER DEVICES REQUIRING OPERATION, ADJUSTMENT OR MAINTENANCE. ACCESS DOORS SHALL

- BE 16 GAUGE STEEL, PRIME COAT FINISH, WITH MOUNTING STRAPS, CONCEALED HINGES AND SCREWDRIVER LOCKS, DESIGNED FOR THE DOORS TO OPEN 180 DEGREES.
- 2. ACCESS DOORS INSTALLED IN FIRE WALLS OR PARTITIONS SHALL BE UL LABELED TO MAINTAIN THE FIRE RATING OF
- THE WALL OR PARTITION. I. FLAME SPREAD AND SMOKE DEVELOPED PROPERTIES OF MATERIALS
- 1. MATERIALS AND ADHESIVES USED THROUGHOUT THE MECHANICAL AND ELECTRICAL SYSTEMS FOR INSULATION AND JACKETS OR COVERINGS OF ANY KIND, OR FOR PIPING OR CONDUIT SYSTEM COMPONENTS, SHALL HAVE A FLAME SPREAD RATING NOT OVER 25 WITHOUT EVIDENCE OF CONTINUED COMBUSTION AND WITH A SMOKE DEVELOPED RATING NOT HIGHER THAN 50. IF SUCH MATERIALS ARE TO BE APPLIED WITH ADHESIVES, THEY SHALL BE TESTED AS APPLIED WITH SUCH ADHESIVES, OR THE ADHESIVES USED SHALL HAVE A FLAME SPREAD RATING NOT OVER 25 AND A SMOKE DEVELOPED RATING NOT HIGHER THAN 50.

- 1. FIBERGLASS SHALL BE ACCEPTABLE FOR INDOOR HOT & COLD DOMESTIC; HYDRONIC PIPING; AND INSULATED DRAINAGE PIPING, PROVIDE PREFABRICATED FITTINGS FOR ELBOWS AND TEE'S. PROVIDE PREFAB PVC FITTINGS OR WHITE ALL SERVICE (INTEGRAL TO PREFAB PIPING ELBOW) PIPING ELBOW JACKETING, PROVIDE PIPE LABELING FOR ALL INSULATED, JACKETED INDOOR PIPING. PVC JACKETING SHALL NOT BE PERMITTED IN RETURN PLENUM AREAS. ALL JACKEING SEAMS SHALL BE SEALED AIR-TIGHT FOR CONTINUOUS VAPOR BARRIER
- 2. FITTINGS AND VALVES SHALL BE INSULATED WITH PRE-FORMED FITTINGS. FABRICATED SECTIONS OF PIPE INSULATION, TANK INSULATION, BLANKET INSULATION, OR INSULATING CEMENT. THICKNESS SHALL BE EQUAL TO C. DUCT FITTINGS ADJACENT PIPE INSULATION. FINISH SHALL BE WITH PRE-FORMED PVC FITTING COVERS OR AS OTHERWISE SPECIFIED ON CONTRACT DRAWINGS.
- 3. FLANGES. COUPLINGS AND VALVE BONNETS SHALL BE COVERED WITH AN OVERSIZED PIPE INSULATION SECTION SIZED TO PROVIDE THE SAME INSULATION THICKNESS AS ON THE MAIN PIPE SECTION. AN OVERSIZED INSULATION SECTION SHALL BE USED TO FORM A COLLAR BETWEEN THE TWO INSULATION SECTIONS WITH LOW-DENSITY BLANKET INSULATION BEING USED TO FILL GAPS. JACKETING SHALL MATCH THAT USED ON STRAIGHT PIPE SECTIONS. ROUGH CUT ENDS SHALL BE COATED WITH SUITABLE WEATHER OR VAPOR RESISTANT MASTIC AS DICTATED BY THE SYSTEM LOCATION AND SERVICE. ON HOT SYSTEMS WHERE FITTINGS ARE TO BE LEFT EXPOSED, INSULATION ENDS SHOULD BE BEVELED AWAY FROM BOLTS FOR EASY ACCESS.

- 1. DOMESTIC COLD WATER INSULATION SHALL BE 1" MINIMUM OR AS REQUIRED BY LOCAL ENERGY CODES. 2. FOR MEDIA BELOW 60 DEGREES INSULATION SHALL BE 1" UP TO 1-%" PIPE SIZE; 1.5" THICK UP TO 3" PIPE SIZE; AND
- 2" THICK BEYOND 3" PIPE SIZE. 3. CHILLED WATER PIPING INSULATION SHALL BE 1" UP TO 1-1/4" PIPE SIZE, 1.5" UP TO 3".
- 1. ONE PIECE FIBROUS GLASS PIPE INSULATION WITH FACTORY APPLIED ALUMINUM FOIL AND WHITE KRAFT PAPER FLAME RETARDANT VAPOR BARRIER JACKET. 2. PROVIDE SELF SEALING LONGITUDINAL JACKET LAPS AND BUTT STRIPS. AVERAGE THERMAL CONDUCTIVITY: 0.23
- BTU/IN, PER SOUARE FOOT PER DEGREES E PER HOUR AT 75 DEGREES E MEAN TEMPERATURE 3. PROVIDE INSULATION CEMENT, FIBERGLASS REINFORCEMENT FABRIC, VAPOR BARRIER COATING, FOR
- CONTINUOUS, AIR-TIGHT INSULATION WITH VAPOR BARRIER.

- 1. FOAM GLASS TYPE PIPE INSULATION SHALL HAVE MAXIMUM K FACTOR OF 0.38 AT 50 DEGREES F MEAN TEMPERATURE. MINIMUM DENSITY SHALL BE 8 LB/CU. FT., 1 1/2" THICK MINIMUM. PROVIDE MASTIC, FIBERGLASS REINFORCED STRAPPING TAPE TO ASSURE AIR-TIGHT MOISTURE-PROOF INSULATION. PROVIDE WITH ALUMINUM JACKETING THAT SHALL BE 0.016" THICK WITH FITTING COVERS 0.024" THICK. PROVIDE WITH 5 WATT/FT HEAT TRACING BELOW INSULATION FOR OUTDOOR, ABOVE-GROUND INSTALLATION.
- 2. PROVIDE FOAM GLASS INSERTS AT PIPE HANGERS, CLAMPS, OR OTHER SUPPORTS IN FIBERGLASS OR ELASTOMERIC PIPE INSULATION INSTALLATIONS INSERTS SHALL BE SAME THICKNESS AS ADJOINING PIPE INSULATION. VAPOR SEAL SHALL BE AS HEREINBEFORE SPECIFIED. ALUMINUM JACKETING SHALL NOT BE REQUIRED FOR INDOOR INSERTS (PVC OR WHITE ALL-SERVICE FOIL/KRAFTJACKETING MEDIA SHALL BE USED).

E. ELASTOMERIC (CLOSED CELL FOAM) PIPE INSULATION

1. ELASTOMERIC SHALL BE PROVIDED FOR ALL REFRIGERANT PIPING AND OUTDOOR INSULATED PIPING AND MAY BE USED FOR INDOOR DOMESTIC OR CONDENSATE PIPING. PIPING WILL REQUIRE JACKETING- ALUMINUM FOR OUTDOOR PIPING OR FOIL/WHITE KRAFT MEDIA OR PVC FOR INDOOR PIPING. PROVIDE WITH FULL ADHESIVE ADHERING SEAMS AND JOINTS FOR CONTINUOUS VAPOR BARRIER. ELBOWS SHALL BE FORMED BY CUTTING SEGMENTS AT 30 DEGREE ANGLES (3 SEGMENTS AT EACH 90 DEGREE BEND) WITH MASTIC AT ALL SEAMS. PROVIDE PREFORMED JACKETING ELBOWS AT ALL PIPING ELBOWS.

FIBERGLASS BLANKET INSULATION FOR DUCTWORK (INDOOR DUCT ONLY)

- 1. INSULATION SHALL BE BLANKET TYPE FIBERGLASS INSULATION WITH AVERAGE THERMAL CONDUCTIVITY NO EXCEEDING 0.29 BTU IN. PER SQUARE FEET PER DEGREES F PER HOUR AT MEAN TEMPERATURE OF 75 DEGREES F WITH A MINIMUM DENSITY OF 1 LB/CU. FT., 2" THICK MINIMUM AND FOIL INSULATION FACE. PROVIDE FIRE RETARDANT ADHESIVE OR FOIL REINFORCED KRAFT TAPE. 3" WIDE AT ALL SEAMS. SECURE INSULATION TO DUCT WITH 18 GAUGE TIE-WIRE OR 1/2" X 0.015" GALVANIZED STEEL STRAPS. PROVIDE COMPLETE AIR-TIGHT VAPOR BARRIER FOR ALL DUCTWORK. STAPLES SHALL NOT BE PERMITTED FOR ANY INSULATION ATTACHMENT. PROVIDE GRAY SEALER FOR SEALING JOINTS, PENETRATION AND PUNCTURES
- 2. CONTINUE INSULATION THROUGH WALL AND CEILING OPENINGS AND SLEEVES, EXCEPT TERMINATE DUCT NSULATION AT FIRE DAMPERS AND AT FLEXIBLE DUCT CONNECTIONS AT AIR HANDLING UNITS.
- 3 PROTECT INSULATION FROM PHYSICAL DAMAGE AT POINTS OF SUPPORT WHERE INSULATION MUST CARRY LOAD IMPOSED BY SUPPORT. COORDINATE THIS REQUIREMENT WITH TYPES OF HANGER AND SUPPORT USED, HANGERS THAT PENETRATE INSULATION SHALL BE SEALED WITH MASTIC TO PRESERVE CONTINUOUS VAPOR BARRIER.

1. INSTALL INSIDE OF DUCT WITH FULL ADHESIVE COVERAGE ATTACHMENT TO THE SURFACE TO WHICH IT IS APPLIED; 1" FOR INDOOR AND 1-1/2" FOR OUTDOOR. R VALUES SHALL BE R-4.2 FOR 1" AND R-6.2 FOR 1-1/2". FIBERGLASS DUCT LINER SHALL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. PROVIDE WITH ANTIMICROBIAL PROTECTION PROVIDE MASTIC AT ALL INTERIOR SEEMS FOR CONTINUOUS VAPOR BARRIER. PROVIDE DUCT LINER AT FIRST FIVE FEET OF SUPPLY DUCT FOR REFRIGERATION/COOLING AIR HANDLING EQUIPMENT, UPSIZING INDICATED DUCT SIZE TO ACCOUNT FOR INSULATION THICKNESS. FIBERGLASS DUCT LINER OR DUCT BOARD SHALL NOT BE PERMITTED.

7. PIPING SHALL BE INSTALLED TO PASS INSPECTIONS BY LOCAL PLUMBING INSPECTION DEPARTMENT, STATE AND III. VIBRATION ISOLATION

- MOUNTING OR SUPPORTS
- B. PAD-TYPE ISOLATORS SHALL BE NEOPRENE IN-SHEAR ISOLATION PADS WITH CROSSED DOUBLE RIBS. A STEEL SHIM PLATE SHALL BE PROVIDED BETWEEN THE TWO LAYERS. PADS SHALL BE MOLDED USING OIL RESISTANT 25,000 PSI TENSILE
- C. HANGING ISOLATORS FOR ITEMS 300 LBS OR LESS SHALL BE BRIDGE-BEARING NEOPRENE MOUNTINGS AND SHALL HAVE A

 C. ALL EXHAUST SHALL BE DUCTED FROM UNIT OUTLET TO ROOF CAP INLET OR LOUVER WITH CONTINUOUSLY SEALED MINIMUM STATIC DEFLECTION OF 0.2" AND ALL DIRECTIONAL SEISMIC CAPABILITY. THE FLEMENTS SHALL PREVENT THE CENTRAL THREADED SLEEVE AND ATTACHMENT BOLT FROM CONTACTING THE CASTING DURING NORMAL OPERATION.
- THE SHOCK ABSORBING NEOPRENE MATERIALS SHALL BE COMPOUNDED TO BRIDGE-BEARING SPECIFICATIONS. MASON
- D. HANGING ISOLATORS FOR EQUIPMENT ABOVE 300 LBS SHALL BE STEEL SPRING-TYPE INCORPORATING STEEL HOUSING, NEOPRENE OR LDS RUBBER SPRING CUP SIZED FOR 1" DEFLECTION. INSTALL SPRING IN PLUMB CONFIGURATION WITH MAXIMUM 1" DEFLECTION FROM ANY HORIZONTAL DISTORTION. THE ELEMENTS SHALL PREVENT THE CENTRAL THREADED F. PROVIDE 2 SETS OF FILTERS FOR EACH FILTERED HVAC EQUIPMENT PIECE. PROVIDE FILTER AT INITIAL START-UP, JUST SLEEVE AND ATTACHMENT BOLT FROM CONTACTING THE CASTING DURING NORMAL OPERATION. CONTRACTOR SHALL SELECT SPRING COLOR/RATING BASED ON EQUIPMENT WEIGHT. AMBER BOOTH SH, KINETICS SH, MASON 30 OR

A. MATERIAL AND TYPE

- 1. DUCT CONSTRUCTION SHALL CONFORM TO THE RECOMMENDATIONS OF THE SMACNA HVAC DUCT CONSTRUCTION MANUAL. DUCTBOARD SHALL NOT BE PERMITTED.
- 2. RIGID, SQUARE DUCTWORK SHALL BE CONSTRUCTED OF LOCK FORMING QUALITY GALVANIZED STEEL SHEETS PEF ASTM A527. GALVANIZED COATING SHALL BE NOT LESS THAN 1.25 OUNCES (TOTAL FOR BOTH SIDES) PER SQUARE FOOT OF SHEET. DUCTWORK SHALL BE CLASSIFIED AND CONSTRUCTED SMACNA PRESSURE CLASSES: +2 FOR SUPPLY AND -2 FOR RETURN AND EXHAUST. DUCTWORK GAUGE SHALL BE 26 GAUGE UP TO 30" AND 22 GAUGE ABOVE 30" IN CROSS SECTIONAL HEIGHT, WIDTH, OR DIAMETER.
- 3. CONCEALED ROUND DUCTS UP TO 12" IN DIAMETER IN PRESSURE CLASSES 2" AND LOWER SHALL BE LONGITUDINAL SEAM CONSTRUCTION.
- 4. EXPOSED ROUND DUCTWORK OR ROUND ABOVE 12" SHALL BE SPIRAL LOCK_SEAM CONSTRUCTION. ROUND FITTINGS SHALL BE FUSION WELDED BUT SEAM TYPE WITH ALL WELDS CONTINUOUS ALONG SEAMS. ALL DIVIDED FLOW FITTINGS SHALL BE MANUFACTURED AS SEPARATE FITTINGS _ TAP COLLARS WELDED INTO SPIRAL DUCT SECTIONS WILL NOT BE PERMITTED. ALL DIVIDED FLOW FITTINGS 12" IN DIAMETER AND SMALLER SHALL HAVE RADIUSED ENTRANCE PRODUCED BY MACHINE OR PRESS FORMING; ALL DIVIDED FLOW FITTINGS 14" AND LARGER G. SPLIT SYSTEMS SHALL HAVE CONICAL ENTRANCE PRODUCED BY MACHINE OR PRESS FORMING. ALL DIVIDED FLOW ENTRANCES SHALL BE FREE OF WELD BUILD_UP, BURRS AND IRREGULARITIES. FITTINGS SHALL BE OF THE SAME MANUFACTURER AS THE DUCTWORK.
- 5. DUCT SEALANT SHALL BE POLYMERIC RUBBER BASE MASTIC. MINERAL IMPREGNATED WOVEN FIBER TAPE WITH ADHESIVE, OR HEAT_SHRINK WITH ADHESIVE. TAPE THICKNESS UP TO 10" = 2"; UP TO 20" = 3"; OVER 20" = 4" 6. INSULATED FLEXIBLE DUCT SHALL BE CLASS 1 AIR DUCT IN ACCORDANCE WITH UL 181 AND SHALL COMPLY WITH
- NFPA 90A AND 90B. INSULATED FLEXIBLE DUCT SHALL CONSIST OF AN INNER FILM LAYER FOR MINIMUM WORKING PRESSURE OF 6" WATER GAUGE BONDED TO A STEEL OR ALUMINUM SPRING WIRE HELIX, FIBERGLASS INSULATION, AND A VAPOR BARRIER JACKET. INSULATION SHALL HAVE A MAXIMUM U VALVE OF .23 BTU/HR/SQFT/DEG F AT 75 DEGREES F MEAN TEMPERATURE. VAPOR BARRIER JACKET SHALL HAVE A MAXIMUM VAPOR TRANSMISSION RATE OF 0.1 GRAINS/SQ. FT./HR/INCH HG (PERM). THE ASSEMBLY SHALL HAVE A MAXIMUM FLAME AND SMOKE RATING OF 25/50 PER ASTM E84 AND NFPA 255. FLEXIBLE DUCTS SHALL BE INSTALLED IN AN EXTENDED CONDITION FREE OF SAGS AND KINKS, USING ONLY THE MINIMUM LENGTH REQUIRED TO MAKE THE CONNECTION. ABRUPT BENDS AND TURNS THAT CRIMP THE DUCT AND RESTRICT AIR FLOW SHALL NOT BE PERMITTED. HORIZONTAL SUPPORTS SHALL BE 3/4" WIDE, 22 GAUGE FLAT GALVANIZED STEEL SHEET BANDING MATERIAL. FLEXIBLE DUCTS SHALL BE SUPPORTED ON 36" CENTERS. MAXIMUM LENGTH OF FLEXIBLE DUCT IN PRESSURE CLASS 2" AND BELOW SHALL BE
- 12 FEET. FLEXIBLE DUCT SHALL NOT BE USED ABOVE INACCESSIBLE CEILINGS. 7. GREASE DUCT SERVING TYPE I HOODS SHALL BE 16 GAUGE BLACK IRON OR 18 GAUGE STAINLESS STEEL WELDED WITH AIR TIGHT SEAM. PROVIDE DUCT CLEANOUTS AT ALL CHANGES OF DIRECTION. FOR INSTALLATIONS THAT WILL RESULT IN A DUCT OR SECTION OF DUCT WITHIN 18" OF COMBUSTIBLE MATERIAL, PROVIDE FIRE-RATED INSULATION AS REQUIRED FOR A ZERO INCH CLEARANCE TO COMBUSTIBLE INSTALLED PER MANUFACTURER'S AND/OR RATING AGENCY REQUIREMENTS COMPLETE WITH ALL REQUIRED PENETRATION TREATMENTS, NUMBER F INSULATING LAYERS AND APPROVED PREFABRICATED, RATED ACCESS PANELS. DO NOT PROVIDE VENTED ROOF CURBS FOR FIRE WRAPPED GREASE EXHAUST DUCTS.

8. DISHWASHER EXHAUST DUCT SHALL BE STAINLESS STEEL.

- 1. DAMPERS SHALL BE SINGLE BLADE BUTTERFLY TYPE IN DUCTS UP TO AND INCLUDING 18" X 12" SIZE; FOR DUCTS LARGER THAN 18" X 12", IN EITHER OR BOTH DIMENSIONS, THE DAMPERS SHALL BE THE MULTI_BLADE TYPE. SINGLE BLADE BUTTERFLY DAMPER SHALL BE CONSTRUCTED OF NOT LESS THAN 16 GAUGE GALVANIZED STEEL BLADE MOUNTED IN A GALVANIZED STEEL FRAME. FOR RECTANGULAR DAMPERS, THE TOP AND BOTTOM EDGES OF THE BLADE SHALL BE CRIMPED TO STIFFEN THE BLADE. DAMPER SHALL BE PROVIDED WITH AN EXTENDED ROD TO PERMIT INSTALLATION OF A DAMPER REGULATOR.
- 2. MULTI_BLADE DAMPERS SHALL BE THE OPPOSED BLADE TYPE, CONSTRUCTED OF NOT THAN 16_GAUGE GALVANIZED STEEL BLADES MOUNTED IN GALVANIZED STEEL CHANNEL FRAME. BLADE SPACING SHALL NOT EXCEED 6 INCHES AND THE TOP AND BOTTOM EDGES OF THE BLADES SHALL BE CRIMPED TO STIFFEN THE BLADES DAMPER BLADES SHALL BE INTERCONNECTED BY RODS AND LINKAGES TO PROVIDE SIMULTANEOUS OPERATION OF ALL BLADES. DAMPERS SHALL BE PROVIDED WITH EXTENDED RODS TO PERMIT INSTALLATION OF DAMPER
- 3. DUCT MOUNTED DIAL REGULATORS WITH OPERATING HANDLE SHALL BE PROVIDED OR DAMPERS WHICH ARE LOCATED ABOVE HARD CEILINGS OR INACCESSIBLE LOCATIONS. CONCEALED CEILING MOUNTED DIAL REGULATORS SHALL BE PROVIDED ON VOLUME CONTROL DAMPERS WHICH ARE LOCATED ABOVE HARD CEILINGS. CONCEALED REGULATORS SHALL BE PROVIDED WITHIN DIFFUSER FACE WITH SCREW ADJUSTMENT.
- 4. PROVIDE DAMPERS AT ALL SUPPLY AND RETURN DUCT RUN OUTS TO EACH AIR DISTRIBUTION DEVICE WITH ACCESSIBLE ADJUSTMENT LEVER OR DIAL-TYPE REGULATOR ACTUATOR.

CONNECTIONS OR TAKE OFFS.

- 1. SPIN IN COLLARS SHALL BE GALVANIZED STEEL FOR USE WITH RECTANGULAR OR SQUARE SHEET METAL DUCTWORK. SPIN-IN COLLARS SHALL HAVE AIR SCOOP (FOR SUPPLY DUCTS) AND DAMPER (SUPPLY AND RETURN). 2. TURNING VANES SHALL BE INSTALLED IN ALL 90 DEGREES SQUARE AND RECTANGULAR ELBOWS AND AT OTHER
- LOCATIONS SHOWN ON THE DRAWINGS WITH THE EXCEPTION OF KITCHEN EXHAUST. 3. CURVED ELBOWS SHALL HAVE A CENTERLINE RADIUS NOT LESS THAN 1 1/2 TIMES THE DUCT WIDTH.
- 4. DISSIMILAR METALS SHALL BE ISOLATED TO PREVENT GALVANIC CORROSION. JOINTS NOT PROVIDED WITH GASKETS SHALL BE ISOLATED WITH 1/16 INCH MINIMUM THICKNESS ASPHALT IMPREGNATED BUILDING PAPER. 5. PROVIDE DAMPERS AT RETURN DUCT AND OUTSIDE AIR DUCT CONNECTIONS DOWNSTREAM OF ANY DUCT
- 6. FLEXIBLE DUCT CONNECTIONS SHALL BE NON-COMBUSTIBLE GLASS FABRIC DOUBLE COATED WITH NEOPRENE 30 OZ. PER SQUARE YARD.
- 7. FIRE DAMPERS SHALL BE THE FOLDING BLADE FUSIBLE LINK TYPE CONFORMING TO UL 555 AND LABELED FOR INSTALLATION IN FIRE RATED WALLS AND FLOORS. DAMPERS IN FLOOR SHALL HAVE SPRING OPERATOR. DAMPERS, EXCEPT FOR LOWER SECTIONS OF A MULTIPLE SECTION ASSEMBLY, AND THOSE INSTALLED BEHIND GRILLES AND REGISTERS, SHALL HAVE BLADES OUT OF THE AIR STREAM WHEN DAMPER IS IN THE OPEN POSITION. DAMPERS IN WALLS OR FLOORS RATED 2 HOURS OR LESS SHALL BE RATED FOR 1 1/2 HOURS: DAMPERS IN WALLS RATED 3 OR 4 HOUR SHALL BE RATED FOR 3 HOURS. DAMPERS SHALL BE CONSTRUCTED OF GALVANIZED STEEL. PROVIDE AT EACH FIRE RATED WALL PENETRATION (REFER TO ARCH. DRAWINGS)
- 8. SMOKE DAMPERS SHALL BE THE MULTI-BLADE TYPE CONFORMING TO UL 555S WITH AN ASSEMBLY TEMPERATURE RATING OF 250 DEGREES F. DAMPER SHALL BE CONSTRUCTED OF GALVANIZED STEEL, AND SHALL BE PROVIDED WITH A FACTORY-MOUNTED ELECTRIC DAMPER OPERATOR, SUITABLE FOR OPERATION ON 120V, 60 HZ SUPPLY. PROVIDE AT EACH SMOKE BARRIER LOCATION (REFER TO ARCH DRAWINGS).
- 9. DUCT-TO-DUCT JOINTS IN ROUND DUCT UP TO AND INCLUDING 60" IN DIAMETER SHALL BE MADE BY USING SLEEVE COUPLINGS, REINFORCED BY ROLLED BEADS. DUCT-TO-FITTING JOINTS IN ROUND DUCT UP TO AND INCLUDING 60" IN DIAMETER SHALL BE MADE BY SLIP_FIT OF THE PROJECTING COLLAR ON THE FITTING INTO THE DUCT. SLEEVE SHALL BE THE SAME GAUGE GALVANIZED STEEL AS THE DUCT; INSERTION LENGTH OF SLEEVE COUPLING AND FITTING COLLAR SHALL BE NOT LESS THAN 2". AFTER THE JOINT IS SLIPPED TOGETHER, SHEET METAL SCREWS SHALL BE INSTALLED FOR MECHANICAL STRENGTH; SCREWS SHALL BE EQUALLY SPACED, NO MORE THAN 12" ON CENTERS AND WITH A MINIMUM OF 3 SCREWS IN EACH JOINT. SCREWS SHALL BE PLACED AT 1/2" FROM THE JOINT BEAD. DUCT-TO-DUCT JOINTS IN DUCTS UP TO AND INCLUDING 12" IN DIAMETER FOR PRESSURE CLASS 2" AND BELOW MAY BE THE BEADED-CRIMP TYPE AND EACH JOINT SHALL BE FASTENED WITH SHEET METAL SCREWS, EQUALLY SPACED, NOT MORE THAN 12" ON CENTERS AND WITH A MINIMUM OF 3 SCREWS IN EACH JOINT. THE BEADED-CRIMP JOINT SHALL PROVIDE AT LEAST A 1" LAP TO ACCOMMODATE THE SHEET METAL
- 10.ALL DUCT JOINTS (LONGITUDINAL, TRANSVERSE) AND DUCT PENETRATIONS SHALL BE SEALED USING METHODS OUTLINED IN SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.
- 11.DUCT COLLARS SHALL BE PROVIDED WHERE DUCTS PASS THROUGH MASONRY WALLS AND PARTITIONS WHICH EXTEND FULL HEIGHT TO THE UNDERSIDE OF THE STRUCTURE AND SHALL BE FABRICATED FROM 22 GAUGE GALVANIZED STEEL SHEET. DUCT COLLAR SHALL BE PROVIDED ON BOTH SIDES OF WALLS AND PARTITIONS, EXCEPT A. USE DIELECTRIC UNIONS WHERE DISSIMILAR METALS ARE JOINED TOGETHER. FLANGES SHALL BE INSTALLED TIGHT AGAINST THE WALL. THE SPACE BETWEEN THE DUCT AND THE WALL SHALL BE

 BACKED WITH EIRED CLASS BLANKET INCLUSION. COLLAR SHALL BE OMITTED ON THAT SIDE OF THE WALL ON WHICH REGISTERS AND GRILLES ARE INSTALLED. PACKED WITH FIBERGLASS BLANKET INSULATION.
- 12.DUCT HANGERS AND SUPPORTS SHALL BE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. IN ADDITION, HANGERS SHALL BE SPACED NOT OVER 8'_0" ON CENTERS. FOR RECTANGULAR DUCTS, WITH LONGEST DIMENSIONS UP THROUGH 60" HANGERS, THE HANGERS SHALL BE GALVANIZED STEEL STRAP TYPE; WITH LONGEST DIMENSION 61" AND LARGER, HANGERS SHALL BE TRAPEZE TYPE CONSTRUCTED OF GALVANIZED STEEL ANGLES WITH ROUND HANGERS RODS. SIZES FOR STRAP HANGERS AND TRAPEZE ANGLES AND RODS SHALL BE BASED ON DUCT SIZE AS SCHEDULED IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS. 13.FOR ROUND DUCTS; THE HANGERS SHALL BE THE GALVANIZED STEEL STRAP HANGERS. SIZES AND NUMBER FOR

STRAP HANGERS SHALL BE BASED ON DUCT SIZE AS SCHEDULED IN THE SMACNA HVAC DUCT CONSTRUCTION

STANDARDS.

1. UNLESS OTHERWISE SPECIFIED, ROOF INTAKE AND EXHAUST CAPS SHALL BE ROUND, MINIMUM 16 GAUGE SPUN-ALUMINUM WITH CONTINUOUSLY WELDED CURB CAP. PROVIDE WITH MANUFACTURER'S ROOF CURB. PROVIDE SLOPED CURB FOR PITCHED ROOFS. EXHAUST ROOF HOODS PROVIDED WITH BACKDRAFT DAMPER. OA HOODS SHALL BE PROVIDED WITH A 120/1 MOTORIZED DAMPER TO CLOSE WHEN EQUIPMENT SERVED IS POWERED DOWN UNLESS INDIVIDUAL MOTORIZED DAMPERS ARE INDICATED AT EQUIPMENT BRANCHES.

1. LOUVERS SHALL BE STATIONARY ALUMINUM, 4" DEEP WITH DRAINABLE BLADES, HIDDEN MULLION, ALL

- 0.081" ALUMINUM WALL THICKNESS. AND KYNAR FINISH TO BE COORDINATED WITH ARCHITECT FOR COLOR. LOUVER SIZED FOR 50% FREE AREA FOR 800 FPM AIRSPEED TO PREVENT WATER ENTRAINMENT. PROVIDE EACH LOUVER WITH A MINIMUM 18" DEEP FULL SIZE PLENUM WITH DUCT CONNECTION SIZED AS INDICATED. PROVIDE OUTDOOR AIR SUPPLY LOUVERS INLET PLENUMS WITH ELASTOMERIC LINER AND PROVIDE MOTORIZED DAMPER AT CONNECTED DUCT. LAYOUT BASIS IS RUSKIN ELF375DX. PROVIDE WITH INSECT SCREENING AT LOUVER FACE.
- V.HVAC EQUIPMENT A. CONTRACTOR SHALL VERIFY REASONABLE OPERATION OF EXISTING LINIT TO REMAIN IN USE AND MAKE ANY REPAIRS OF COMPONENT REPLACEMENT REQUIRED TO HAVE THE UNITS OPERATE A FULL CAPACITY. ALL RUST AND EXTERIOR DAMAGE SHOULD BE REPAIRED AND PAINTED. A TECHNICIAN'S REPORT SHOULD BE ATTAINED AND DELIVERED TO THE OWNER FOR APPROVAL FOR EXISTING EQUIPMENT REPAIRS.
- B. ALL NEW AND REUSED UNIT ACCESS AND CONNECTION OPENINGS SHALL BE SEALED WITH PROVIDED GROMMETS, GASKETS FOR AIR TIGHT CONSTRUCTION WITH CONTINUOUS CASE INSULATION. CONTRACTOR TO REPAIR OR REPLACE AMAGED DOORS, SEALS, GASKETS, GROMMETS ETC... THAT PREVENT AIR-TIGHT CASING.
- DUCTING. NO EXHAUST SHALL BE OPENED INTO THE BUILDING EXTERIOR. PROVIDE ENCLOSED DUCT TRANSITION TO EACH ROOF CAM OR WALL LOUVER. D. ALL AIR MOVING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION AND FLEXIBLE DUCT CONNECTIONS.
- E. CONTRACTOR SHALL PROVIDE GRAVITY DRAINAGE FOR ALL CONDENSATE-PRODUCING HEATING/COOLING EQUIPMENT VIA GRAVITY DRAINAGE OR CONDENSATE PUMP IF GRAVITY DRAINAGE CANNOT BE ACHIEVED. BEFORE TEST AND BALANCE AND AGAIN AT TURN OVER TO OWNER. ALL AIR INLETS AND OUTLETS SHALL BE SEALED WITH

FILTER MEDIA DURING GENERAL CONSTRUCTION PRIOR TO TEST AND BALANCE.

ASSURE 10' BETWEEN ANY EXHAUST OR FLUE AND THE RTU INTAKE

- 1. PROVIDE PACKAGED DX ROOFTOP UNITS MANUFACTURED BY TRANE, LENNOX, AAON, CARRIER, OR YORK. PROVIDE WITH CAPACITIES AND ACCESSORIES PER UNIT SCHEDULE. PROVIDE CUSTOM SLOPED ROOF CURBS FOR ROOFS WITH GREATER THAN 2% SLOPE. PROVIDE VIBRATION ISOLATION TYPE ROOF CURBS FOR UNITS DIRECTLY OVER MUSIC REHEARSAL, PERFORMANCE OR OTHER ASSEMBLY AREAS. ALL UNITS SHALL BE PROVIDED WITH A MOTORIZED OA DAMPER OR ECONOMIZER, COIL GUARDS, HINGED ACCESS PANELS, SUPPLY AND RETURN SMOKE DETECTORS, STAINLESS STEEL DRAIN PAN AND BURNER (FOR GAS UNITS). PROVIDE EACH RTU WITH CONVENIENCE RECEPTACLE (SEPARATE CIRCUIT) AND DISCONNECT. OTHERWISE COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR FIELD-MOUNTED DISCONNECT AND RECEPTACLE. ROUTE ALL CONDENSATE PIPING TO NEAREST ROOF DRAIN OR OTHER LOCALLY APPROVED LOCATION WITH THE REQUIRED AIR GAP. NO PIPING SHALL SIT ON THE ROOF SURFACE. SHIFT EXISTING OR NEW VENTS OR EXHAUST TERMINATIONS OR SHIFT UNITS AS NEEDED TO
- 2. ADAPTER CURBS MAY BE USED WITH SPECIFIC ENGINEER APPROVAL OF SPECIFICALLY SUBMITTED ROOF CURBS (MAXIMUM OF 18" CURB HEIGHT). CONTRACTOR SHALL BE RESPONSIBLE FOR STRUCTURAL ANALYSIS OF EXISTING CURBS AND UNIT SUPPORTS FOR ADAPTER CURB CONNECTIONS.

- 1 INDOOR UNITS SHALL BE INSTALLED DEAD LEVEL WITH PROVISIONS FOR POSITION, CONDENSATE DRAINAGE AND REFRIGERANT PIPE CONNECTIONS THAT DO NOT BLOCK EQUIPMENT SERVICE OR FILTER ACCESS. PROVIDE CONDENSERS WITH ANTI-SHORT CYCLE TIMER. CRANKCASE HEATER. LOW AMBIENT CONTROLS. COIL GUARDS INDOOR AND OUTDOOR PIECES SHALL BE BY IDENTICAL MANUFACTURER LISTED BY THE MANUFACTURE AS COMPATIBLE. CASED COOLING COILS SHALL BE SPECIFICALLY LISTS AND WITH MATCHING SIZE WHEN USED WITH A FURNACE. FURNACES SHALL BE HIGH EFFICIENCY FOR USE WITH PVC FLUE AND INTAKE REQUIRING FLUE CONDENSATE NEUTRALIZER AND DRAIN.
- 2. REFRIGERANT PIPING SHALL BE RUN PARALLEL TO BUILDING WALLS IN WHICH INSTALLED UNLESS OTHERWISE INDICATED ON THE DRAWINGS WITH CONTINUOUS ELASTOMERIC INSULATION AND JACKETING INDOOR AND OUT. PROVIDE WITH AIR TIGHT VAPOR ENCAPSULATION BY USE OF MASTIC AND JACKETING. PROVIDE PIPE HANGER WITH SADDLES AT PIPE SUPPORTS FOR REFRIGERANT PIPING. TYPE L OR K (UNDERGROUND) COPPER TUBING INTENDED FOR ACR APPLICATIONS- DEHYDRATED, CHARGED WITH NITROGEN, AND PLUGGED BY THE MANUFACTURER, PROVIDE FORMED FITTINGS, SUCH AS ELBOWS (SHALL BE LONG SWEEP) AND TEES, ALL JOINTS SHALL BE BRAZED WITH OXY-ACETYLENE TORCHES BY A QUALIFIED TECHNICIAN. SOFT COPPER TUBING SHALL NOT BE ALLOWED UNLESS NOTED ON THE DRAWINGS.
- DRAIN PAN CAN BE REMOVED WITHOUT AFFECTING AIR HANDLING UNIT INSTALLATION. 4. THE PREFERENCE SHALL BE A FLOAT SWITCH IN THE EXTERNAL DRAIN PAN TO SHUT THE UNIT DOWN. IF NOT ALLOWED BY CODE OR INSPECTOR, ROUTE THE CONDENSATE TO A CONSPICUOUS LOCATION- OVER A MOP SINK

3. PROVIDE INDOOR UNITS LOCATED ABOVE CEILINGS WITH SLOPED SECONDARY DRAIN PAN WITH A CAPPED VALVE

AND THREADED HOSE OUTLET. UNIT AND EXTERIOR DRAIN PAN SUPPORT SHALL BE INDEPENDENT SUCH THAT

OR SERVICE SINK IF POSSIBLE. 5. FOR LONG REFRIGERANT LINE LENGTHS ABOVE 100', PROVIDE ALL ACCESSORIES, ACCUMULATORS, RESIZED PISTONS AND LINE SETS PER MANUFACTURER REQUIREMENTS

6. FLOOR MOUNTED VERTICAL UNITS SHALL BE MOUNTED ON A 24" TALL, FULL SIZE RETURN PLENUM WITH METAL GAUGE SUFFICIENT TO SUPPORT UNIT WEIGHT.

- 1. FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH AMCA 210.
- 2. ALL FANS SHALL BE SUPPORTED INDEPENDENT OF CONNECTED DUCT OR CEILING SUPPORTS AND PROVIDED WITH FLEXIBLE INLET/OUTLET CONNECTIONS
- 3. FAN WHEELS SHALL BE STATICALLY AND DYNAMICALLY BALANCED
- 4. FANS SHALL BE DIRECT DRIVE WITH SPEED CONTROLLER, DIRECT DRIVE ECM. FANS SHALL NOT BE BELT DRIVE UNLESS SPECIFICALLY NOTED ON PLANS. V-BELT DRIVES SHALL BE DESIGNED FOR NOT LESS THAN 150% OF CONNECTED DRIVING CAPACITY AND MOTOR SHEAVES SHALL BE ADJUSTABLE TO PROVIDE NOT LESS THAN 20% SPFFD VARIATION. SHEAVES SHALL BE SELECTED TO DRIVE THE FAN AT A SPEED TO PRODUCE THE SCHEDULED CAPACITY INDICATED ON THE DRAWINGS WHEN SET AT THE APPROXIMATE MIDPOINT OF THE SHEAVE ADJUSTMENT. MOTORS WITH V-BELT DRIVES SHALL BE PROVIDED WITH ADJUSTABLE BASES.
- 5. SAFETY/DISCONNECT SWITCHES (UNLESS SCHEDULED AS UNIT-INTEGRAL) AND STARTERS SHALL BE PROVIDED 6. BY ELECTRICAL CONTRACTOR AND SHALL CONFORM TO REQUIREMENTS OF ELECTRICAL DRAWINGS AND SPECIFICATIONS. MECHANICAL CONTRACTOR SHALL COORDINATE MOUNTING LOCATION TO MAINTAIN MAINTENANCE CLEARANCES. ALL THREE PHASE FANS SHALL BE PROVIDED WITH STARTER AND/OR CONTACTORS AS REQUIRED TO CONTROL FANS AND AUXILIARY DEVICES SUCH AS CONTROLS SYSTEM TIE-IN OR DAMPER

- 1. FANS SHALL BE CENTRIFUGAL ROOF EXHAUSTERS WITH WATERPROOF DESIGN SO THAT WATER CANNOT ENTER THE BUILDING THROUGH FAN HOUSING WHETHER OR NOT FAN IS OPERATING. FAN SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER ON INLET, A BIRD SCREEN ON OUTLET AND A FACTORY FABRICATED ROOF CURB. GENERAL EXHAUST LAYOUT BASIS (NON- KITCHEN APPLICATIONS)- COOK ACED
- 2. FAN SHALL HAVE A ONE-PIECE ALUMINUM HOUSING ENCLOSING THE MOTOR AND DRIVE, AN ALUMINUM SHROUD ENCLOSING THE FAN WHEEL, AND AN ALUMINUM CURB CAP. CURB CAP SHALL HAVE A 1 INCH WIDE BY 1/4 INCH THICK FOAM RUBBER GASKET FACTORY APPLIED TO UNDERSIDE PERIMETER OF CURB CAP. AN INTERNAL POWER WIRING POST SHALL EXTEND FROM MOTOR COMPARTMENT THROUGH CURB CAP. WHERE WIRING POST PENETRATES HOUSING AND CURB CAP, PENETRATION SHALL BE SEALED.
- 3. FAN WHEEL SHALL BE FORWARD CURVED OR BACKWARD INCLINED CENTRIFUGAL TYPE OF ALUMINUM CONSTRUCTION. FAN WHEEL SHALL BE STATICALLY AND DYNAMICALLY BALANCED. ON BELT DRIVE UNITS, SHAFT BEARINGS SHALL BE SELF-ALIGNING, PILLOW BLOCK BALL TYPE. BEARINGS NOT PERMANENTLY SEALED AND LUBRICATED SHALL HAVE EXTENDED GREASE FITTINGS FOR EASY ACCESS
- 4. MOTOR AND DRIVE SHALL BE LOCATED IN A VENTILATED COMPARTMENT OUTSIDE OF THE AIR STREAM. FAN SHALL HAVE FACTORY INSTALLED DISCONNECT SWITCH PRE-WIRED TO MOTOR AND MOUNTED WITHIN MOTOR COMPARTMENT. MOTOR AND DRIVE SHALL BE MOUNTED ON VIBRATION ISOLATORS. 5. KITCHEN EXHAUST FANS SHALL BE UL 762 RATED AND PROVIDED WITH POWER/CONTROL WIRING OUTSIDE OF FAN HOUSING AND CURB. FANS SHALL BE MOUNTED WITH 18" MINIMUM HEIGHT FROM FAN BASE TO ROOF

PROVIDED WITH INLET HEIGHT SUCH THAT ALL ROOF MOUNTED HORIZONTAL DUCT CAN BE MOUNTED 20" ABOVE

ROOF. PROVIDE NON-VENTED CURB FOR FIRE-WRAP APPLICATIONS AND VENTED CURB FOR ENCLOSURE SHAFT APPLICATIONS. 6. LOCATE EXHAUST FAN DISCHARGE 10' FROM ANY INTAKE OR BUILDING OPENING OR 2' ABOVE SAID OPENINGS IF

/FLASHING AND DISCHARGE HEIGHT A MINIMUM OF 40" ABOVE ROOF SURFACE. SIDE INLET FANS SHALL BE

- 1. FAN SHALL BE IN-LINE CENTRIFUGAL TYPE WITH SQUARE OR RECTANGULAR HOUSING AND BACKDRAFT DAMPER. FANS SHALL BE DESIGNED FOR HORIZONTAL OR VERTICAL MOUNTING. LAYOUT BASIS IS COOK GN/GC. 2. FAN HOUSING SHALL BE STEEL WITH FACTORY APPLIED BAKED ENAMEL PAINT ON EXTERIOR. HOUSING SHALL BE INTERNALLY INSULATED WITH 1/2" THICK (MINIMUM) COATED FIBERGLASS INSULATION. INSULATION SHALL
- DEVELOPED RATING OF 50. HOUSING SHALL HAVE MOUNTING BRACKETS AT EACH CORNER. 3. FAN WHEEL SHALL BE BACKWARD INCLINED CENTRIFUGAL TYPE OF ALUMINUM CONSTRUCTION. ON BELT DRIVE UNITS, SHAFT BEARINGS SHALL BE SELF-ALIGNING, PILLOW BLOCK BALL TYPE. BEARINGS NOT PERMANENTLY LUBRICATED AND SEALED SHALL HAVE EXTENDED GREASE FITTINGS.

COMPLY WITH ASTM E84 AND NFPA 255 FOR MAXIMUM RATINGS OF FLAME SPREAD RATING OF 25 AND SMOKE

4. MOTOR AND DRIVE SHALL BE MOUNTED ON VIBRATION ISOLATORS. FAN SHALL HAVE A FACTORY INSTALLED DISCONNECT SWITCH MOUNTED ON EXTERIOR OF HOUSING AND PRE-WIRED TO FAN MOTOR. 5. PROVIDE ALUMINUM GRILLE OPTION FOR CEILING MOUNTED FANS. FANS SHALL BE ROUTED TO ROOF CAP OR

LOUVER SIZED AT 800 FPM OUTLET AIRSPEED.

- 1. UNDERGROUND WATER SERVICE PIPING 3" IN SIZE AND LARGER SHALL BE CLASS 50 DUCTILE IRON PIPE, AWWA C151, WITH HUB AND SPIGOT, PUSH_ON JOINTS, AND CLASS 50 OR GREATER MECHANICAL JOINT DUCTILE IRON FITTINGS ALL CEMENT LINED PER AWWA C104. MECHANICAL JOINTS FOR DUCTILE IRON PIPE SHALL BE MADE WITH A FOLLOWER GLAND, GASKET, BOLTS AND NUTS. PUSH-ON JOINTS FOR DUCTILE PIPE SHALL BE MADE WITH A ONE PIECE LUBRICATED COMPRESSION RUBBER GASKET AS PER AWWA C111
- AGAINST CORROSION BY APPLICATION OF PROTECTIVE COATINGS. PRIOR TO COATING, PIPE AND FITTINGS SHALL BE CLEANED OF ALL RUST, SCALE, DIRT AND OIL. PIPES AND FITTINGS SHALL BE GIVEN TWO COATS OF A COAL-TAR BASE BITUMINOUS PROTECTIVE COATING, EACH HAVING A DRY FILM THICKNESS OF 7-9 MILS. THE COMBINED THICKNESS OF BOTH COATS COMBINED SHALL BE 15-18 MILS. 3. UNDERGROUND WATER SERVICE PIPING 2 1/2" IN SIZE AND SMALLER (TO A POINT 1'-0" ABOVE THE FINISHED

. UNDERGROUND STEEL PIPE AND FITTINGS INCLUDING THE PORTION THROUGH THE FLOOR SHALL BE PROTECTED

COPPER, ANSI B16.22, OR CAST BRONZE, ANSI B16.18, SOCKET FITTINGS. . BRAZED JOINTS SHALL BE MADE USING BCUP-5 BRAZING ALLOY WITH A COMPATIBLE FLUX. 4. ABOVE-GROUND WATER PIPING - 4" AND SMALLER SHALL BE. TYPE "L" HARD DRAWN COPPER TUBING, ASTM B88 WITH SOLDERED JOINTS AND WROUGHT COPPER, ANSI B16.22, OR CAST BRONZE, ANSI B16.18, SOCKET FITTINGS.

FLOOR) SHALL BE. TYPE "K" HARD DRAWN COPPER TUBING, ASTM B88, WITH BRAZED JOINTS AND WROUGH

- SOLDER JOINTS SHALL BE MADE USING A 95-5 TIN-ANTIMONY SOLDER (NO-LEAD SOLDER) WITH A COMPATIBLE 5. UNDERGROUND WATER PIPING TO TRAP PRIMERS OR HVAC CONDENSATE PUMP DISCHARGE SHALL BE. TYPE
- "L" SOFT DRAWN COPPER TUBING, ASTM B88, WITHOUT FITTINGS. 6. FLANGED JOINT SHALL BE MADE WITH RING TYPE NON-METALLIC GASKETS, BOLTS AND NUTS.

7. THREADED JOINTS AT EQUIPMENT CONNECTIONS SHALL BE MADE UP WITH TEFLON TAPE. AFTER CUTTING BUT

- PRIOR TO THREADING, PIPE SHALL BE REAMED AND SHALL HAVE BURRS REMOVED. 8. GROOVED MECHANICAL JOINTS: GROOVED JOINTS FOR COPPER AND GALVANIZED STEEL PIPES SHALL BE INSTALLED USING BOLTED MECHANICAL COUPLING, PRESSURE-RESPONSIVE GASKET ALONG WITH GROOVED AND FITTINGS. LAYOUT BASIS SHALL BE ANVIL GRUV-LOCK,
- 9. DIELECTRIC ADAPTERS SHALL BE PROVIDED BETWEEN COPPER AND IRON PIPE CONNECTIONS AND BETWEEN FERROUS AND NONFERROUS PIPING OR EQUIPMENT.
- 10.UNDERGROUND WATER PIPING SHALL HAVE A MINIMUM COVER OF 3'- 0" TO THE TOP OF THE PIPE. 11.INSTALL WATER HAMMER ARRESTORS ABOVE CEILING ON THE HOT AND COLD WATER BRANCH LINES SERVING A BATTERY OF FIXTURES; ON THE COLD WATER BRANCH LINES SERVING INDIVIDUAL FLUSH VALVE WATER CLOSETS
- AND URINALS; AND ELSEWHERE AS INDICATED ON THE DRAWINGS. PROVIDE ACCESS PANEL FOR WHA LOCATED ABOVE HARD CEILINGS. 12. VACUUM BREAKERS SHALL BE PROVIDED ON ALL HOSE OUTLETS, HOSE BIBS AND HYDRANTS UNLESS THE DRAWINGS INDICATE THAT A BACKFLOW PREVENTER IS TO BE PROVIDED ON THE PIPING SERVING THE OUTLET.
- 13.INSTALL 1/2" CW LINE FROM NEAREST CW MAIN OR BRANCH LINE TO ALL FLOOR DRAINS WITH TRAP PRIMER FOR TRAP PRIMING. UNDERGROUND PIPING FROM TRAP PRIMER TO FLOOR DRAINS SHALL BE INSTALLED WITHOUT FITTINGS. TRAP PRIMERS SHALL BE PROVIDED FOR ALL FLOOR DRAINS AND HUB DRAINS. 14. CONNECT HOT AND COLD WATER PIPING SYSTEM TO EQUIPMENT AS INDICATED, AND COMPLY WITH EQUIPMENT

MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE SHUT-OFF BALL VALVE AND UNION FOR EACH

CONNECTION. PROVIDE DRAIN VALVE ON DRAIN CONNECTIONS. PROVIDE SINGLE SHUTOFF BALL VALVE FOR

HEADERS SERVING HOT OR COLD WATER TO MULTIPLE FIXTURES WITHIN A SINGLE WALL OR CHASE. PROVIDE ACCESS PANEL FOR VALVES INSTALLED ABOVE HARD CEILINGS. 15. ALL DOMESTIC WATER SERVICE AND SUPPLY PIPING INSTALLED UNDER THIS DIVISION SHALL BE DISINFECTED WITH CHLORINE BEFORE IT IS PLACED INTO OPERATION. THE CHLORINATING MATERIAL SHALL BE LIQUID CHLORINE CONFORMING TO FED. SPEC. BB-C-120 AND SHALL BE INTRODUCED TO THE SYSTEM BY EXPERIENCED OPERATORS ONLY. THE CHLORINE SOLUTION APPLIED TO THE PIPING SECTIONS OR SYSTEM SHALL CONTAIN AT LEAST FIFTY PARTS PER MILLION OF AVAILABLE CHLORINE AND SHALL REMAIN IN THE SECTIONS OR SYSTEM FOR A PERIOD OF NOT LESS THAN SIXTEEN (16) HOURS. DURING THE DISINFECTION PERIOD ALL VALVES SHALL BE OPENED AND CLOSED AT LEAST FOUR TIMES. AT THE END OF THE RETENTION PERIOD. NO LESS THAN 50 PPM OF CHLORINE SHALL BE PRESENT IN THE EXTREME END OF THIS SYSTEM. AFTER THE DISINFECTION PERIOD THE CHLORINATED WATER SHALL BE FLUSHED FROM THE SYSTEM WITH CLEAR WATER UNTIL THE RESIDUAL CHLORINE CONTENT IS

PERIOD, MAXIMUM CHLORINE LEVEL AND RESIDUAL CHLORINE LEVEL.

THREADED CONNECTIONS)

1. ABOVE-GROUND MAXIMUM 2-1/2" GAS PIPING SHALL BE BLACK STEEL PIPE, .SCHEDULE 40, ASTM A53 WITH STANDARD WEIGHT WROUGHT STEEL SOCKET-WELD FITTINGS PER ASTM A234 OR THREADED CONNECTIONS. PIPE SIZES 3" AND UP OR WITH PRESSURE ABOVE 5PSI SHALL ONLY BE PERMITTED WITH SOCKET-WELDED JOINTS (NO D. CLOSE-COUPLED, IN-LINE CENTRIFUGAL PUMPS

NOT GREATER THAN TWO-TENTHS - (0.2) - PARTS PER MILLION. THE CONSTRUCTION MANAGER SHALL SUBMIT TO

THE ARCHITECT WRITTEN CERTIFICATION THAT THE SYSTEM WAS DISINFECTED. CERTIFICATION SHALL INCLUDE

NAME OF PROJECT, NAME OF OWNER, NAME OF OPERATORS, DATE OF DISINFECTION, TIMES OF DISINFECTION

WHICH SHALL CONSIST OF A RESILIENT, EXTRUDED, POLYETHYLENE SLEEVE WHICH IS SEALED TO THE PIPE. THE PLASTIC COATING SHALL BE NOT LESS THAN 25 MILS THICK AND SEALED TO THE PIPE WITH A HOT APPLIED ADHESIVE WHICH RETAINS ITS ELASTICITY IN HOT AND COLD ENVIRONMENTS. 3. FIELD APPLIED WRAPPING TAPE FOR FITTINGS AND JOINTS SHALL BE COAL TAR WITH HEAVY VINYL OR POLYESTER

FILM BACKING MEETING FEDERAL SPECIFICATION HH-T-30A. TAPECOAT CT OR TAPECOAT 20 OR JT JOINT

2. STEEL GAS PIPING TO BE INSTALLED UNDERGROUND SHALL BE FURNISHED WITH A FACTORY APPLIED COATING

- COATINGS, INC., WITH PRIMER, APPLICATION PROCEDURES AND HEATING IN ACCORDANCE WITH THE TAPE MANUFACTURER'S RECOMMENDATIONS. 4. ARRANGE WITH THE UTILITY COMPANY TO PROVIDE GAS SERVICE TO INDICATED LOCATION WITH SHUTOFF AT TERMINATION. MAKE ALL ARRANGEMENTS WITH UTILITY AS TO THE EXTENT OF ITS WORK, AND PAY ALL COSTS,
- 5. PROVIDE SHUTOFF IN GAS SERVICE PIPE AT ENTRY IN BUILDING, EXT/END PIPE TO GAS METER LOCATION INDICATED; PROVIDE PARTS AND ACCESSORIES REQUIRED BY UTILITY TO CONNECT TO METER.

FEES AND SECURE PERMITS INVOLVED TO OBTAIN SERVICE FOR THE BUILDING.

6. PROVIDE VALVE AND UNION SHALL BE PROVIDED AT EACH CONNECTION TO A PIECE OF EQUIPMENT. EQUIPMENT PROVIDED WITH A FLANGED INLET SHALL HAVE A FLANGED CONNECTION. 7. DRIP LEGS, 6-INCHES LONG, SHALL BE PROVIDED IN GAS PIPING AT ENDS OF HORIZONTAL RUNS, AT THE BASE OF RISERS AND AT CONNECTIONS TO EQUIPMENT. DRIP LEG CAP SHALL BE REMOVABLE WITH MINIMUM 4" BETWEEN

CAP AND WALL OR ROOF. 8. GAS PIPING WITHIN THE BUILDING SHALL BE RUN ABOVE FLOOR SLAB.

9. PRESSURE REGULATORS ARE TO BE PROVIDED ON ALL EQUIPMENT IF NOT PROVIDED AS PART OF THE EQUIPMENT COORDINATE INLET/OUTLET PRESSURES WITH ACTUAL DELIVERED PRESSURE AND EQUIPMENT INLET PRESSURES. CONTRACTOR SHALL ARRANGE FOR ADJUSTMENT OF GAS PRESSURE TO PREVENT EXCESSIVE OR INSUFFICIENT GAS

PRESSURE TO ALL EQUIPMENT PIECES

- 10.PROVIDE FLEX HOSE CONNECTION TO ALL INDOOR APPLIANCES NOT SUPPLIED WITH THE EQUIPMENT PIECE BY THE
- OWNER OR EQUIPMENT PROVIDER. 11. THREADED JOINTS SHALL BE MADE WITH A MIXTURE OF GRAPHITE AND OIL APPLIED TO MALE THREADS ONLY.
- AFTER CUTTING AND PRIOR TO THREADING, PIPE SHALL BE REAMED AND SHALL HAVE BURRS REMOVED.
- 12. WELDED JOINTS SHALL BE FUSION WELDED IN ACCORDANCE WITH ANSI B31, SECTION 6.
- 13.FLANGED JOINTS SHALL BE FACED TRUE, PROVIDED WITH GASKET AND MADE SQUARE AND TIGHT. 14.BRAZED JOINTS SHALL BE MADE UP USING BCUP-5 BRAZING ALLOY WITH A COMPATIBLE FLUX.
- 15. ALL STEEL FITTINGS AND JOINTS IN UNDERGROUND PIPING SHALL BE FIELD-COATED USING A PRIMER AND FLEXIBLE POLYETHYLENE TAPE AND THE SAME MANUFACTURER AS THE PIPE COATING. DAMAGED COATING SHALL BE REPAIRED WITH PRIMER AND TAPE AS SPECIFIED FOR FITTINGS AND JOINTS.

D. SANITARY WASTE &VENT, STORM, GREASE WASTE

- 1. UNDERGROUND SANITARY, WASTE AND VENT PIPING, AND STORM DRAINAGE PIPING, AND INDOOR PIPING ABOVE 8" IN SIZE SHALL BE SERVICE WEIGHT (COATED) CAST IRON SOIL PIPE AND FITTINGS. ASTM A74. WITH GASKET HUB AND SPIGOT JOINTS, ASTM C564, GASKET JOINTS FOR CAST IRON PIPE SHALL BE MADE WITH LUBRICATED NEOPRENE COMPRESSION GASKETS. PVC SHALL BE PERMITTED IF ALLOWED BY LOCAL CODE. UNDERGROUND PVC PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELD JOINTS MEETING ASTM D-1785 AND ASTM D-2665.
- 2. ABOVE-GROUND SANITARY, WASTE AND VENT AND STORM DRAINAGE PIPING 8" AND SMALLER SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE AND FITTINGS, ASTM A888 AND CISPI 301, WITH STANDARD NO-HUB COUPLINGS. PVC SHALL BE PERMITTED OUTSIDE OF RETURN AIR PLENUMS WITH OWNER APPROVAL. NEOPRENE RUBBER GASKET AND MINIMUM 24 GAUGE TYPE 304 STAINLESS STEEL SHIELD AND FOUR STAINLESS STEEL BANDS FOR SIZES 1 1/2" THROUGH 4", SIX BANDS MINIMUM FOR SIZED 5" AND LARGER. 6" PIPE AND UP: NEOPRENE ELASTOMERIC GASKET AND SERIES 300 STAINLESS STEEL SHIELD AND MULTIPLE DRAW BANDS AND SCREW CLAMPS CONFORMING TO ASTM C-564 AND CISPI STANDARD 310-90. ABOVE-GROUND SANITARY PIPING, LOCATED OUTSIDE OF RETURN AIR PLENUMS MAY ALSO BE SCHEDULE 40 PVC WITH SOLVENT WELD JOINTS MEETING ASTM
- 3. ALL WASTE PIPING 1" IN SIZE AND SMALLER SHALL BE TYPE "L" HARD DRAWN COPPER TUBING, ASTM B88, WITH SOLDERED JOINTS AND WROUGHT COPPER, ANSI B16.22, OR CAST BRONZE, ANSI B16.18, SOCKET FITTINGS. SOLDERED JOINTS FOR TYPE 'L' COPPER TUBING AND CAST DMV BRONZE PIPE SHALL BE MADE WITH 95-5 TIN-ANTIMONY (NO LEAD) SOLDER AND COMPATIBLE FLUX.

- 1. PROVIDE CLEVIS SUPPORTS WITH BEAM CLAMP, CONCRETE ANCHORS (CONCRETE STRUCTURE), SCREWED BRACKET (WOOD STRUCTURE). PROVIDE HANGER OUTSIDE OF INSULATION WITH RIGID FOAM GLASS INSULATION SECTION AT HANGERS. PROVIDE 16 GAUGE PIPING SADDLE AT EACH HANGER. NO WELDING OR CUTTING OF STEEL
- STRUCTURAL MEMBERS SHALL BE PERMITTED. LAYOUT BASIS SHALL BE ANVIL 260. 2. PROVIDE SEISMIC HANGERS PER DRAWING REQUIREMENTS.

D-1785 AND ASTM D-2665 PER OWNER APPROVAL

- 3. HANGER INSTALLATION FOR HOT WATER PIPING SHALL NOT PREVENT MOVEMENT FOR PIPING EXPANSION. 4. SPACING AS FOLLOWS:
- STEEL PIPE: 1/2" TO 1-1/4" 7' ; 1-1/2" TO 2-1/2" 9' ; 3"&4" 12' ; 6"&8" 17' ; 10" AND UP- 22'

<u>COPPER PIPE:</u> 1/2" TO 1" - 5'; 1-1/4" TO 2" - 7'; 2-1/2" AND UP - 9'

PVC DRAINAGE (140 DEG F SERVICE UP TO 6"- 80 DEG F ABOVE 6"): UP TO 3" - 3'; 4" TO 6" - 4'; ABOVE 6" - 8'

PVC VENT (80 DEG F SERVICE): UP TO 1-1/2" - 5'; 2"-3" - 6'; ABOVE 3" 7'

<u>CAST IRON:</u> 10' WITH SUPPORT AT EACH JOINT, TAKEOFF, AND FITTING.

- 1. VALVES SHALL HAVE THE NAME OR TRADEMARK OF THE MANUFACTURER AND THE WORKING PRESSURE STAMPED
- OR CAST ON THE VALVE BODY. 2. ALL VALVES IN EACH SYSTEM, EXCEPT FOR SPECIAL TYPES SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.
- 3. ALL VALVES REQUIRING PACKING SHALL BE DESIGNED AND CONSTRUCTED SUCH THAT THEY CAN BE REPACKED UNDER PRESSURE.

4. VALVE HAND WHEELS/ ACTUATOR SHALL BE MALLEABLE IRON EXCEPT WHERE SPECIFIED OTHERWISE.

5. ALL VALVES INSTALLED IN HORIZONTAL LINES SHALL BE INSTALLED WITH THE STEMS HORIZONTAL OR ABOVE. VALVE ACTUATOR SHALL BE ORIENTED, WHEN INSTALLED, TO PROVIDE MAXIMUM ACCESSIBILITY FOR OPERATION.

6. PROVIDE ACCESS PANELS FOR VALVES LOCATED IN WALLS OR ABOVE HARD CEILINGS.

.. BALL VALVES (FOR PIPING 3" AND SMALLER) SHALL HAVE BRONZE BODY, STAINLESS STEEL BALL, LEVER HANDLE, FOR SYSTEMS UP TO 125 PSIG. GATE VALVES SHALL NOT BE PERMITTED FOR PIPES 3" AND SMALLER. VALVE

LAYOUT BASIS SHALL BE WATTS B6000-SS

- 2 GATE VALVES (FOR DOMESTIC PIPING 4" IN SIZE AND LARGER). VALVE SHALL HAVE IRON BODY BRONZE TRIM NON-RISING STEM, SOLID WEDGE AND FLANGED ENDS FOR 200 POUND W.O.G. LAYOUT BASIS FOR VALVE SHALL 3. BUTTERFLY VALVES (FOR HYDRONIC PIPING 4" AND LARGER): VALVE SHALL HAVE DUCTILE IRON BODY, EXTENDED
- NECK, GEOMETRIC DRIVE MOLDED-IN SEAT LINER. EPDM LINER AND ALUMINUM BRONZE DISC INSTALL BETWEEN STD. ANSI CLASS 125/150 FLANGES - CONFORMING TO MSS-SP67/MSS-SP25/API-609. LAYOUT BASIS SHALL BE
- 4. CHECK VALVES (4" IN SIZE AND LARGER): VALVE SHALL BE HORIZONTAL SWING TYPE WITH IRON BODY, BRONZE TRIM AND FLANGED ENDS FOR 200 POUND W.O.G. VALVE LAYOUT BASIS SHALL BE NIBCO F-918-B. 5. CHECK VALVES (3" IN SIZE AND SMALLER): VALVE SHALL BE HORIZONTAL SWING TYPE WITH BRONZE BODY, COMPOSITION DISC AND SOLDER ENDS FOR 200 POUND W.O.G. LAYOUT BASIS SHALL BE NIBCO S/T-413.
- 6. HOSE END DRAIN VALVES: VALVE SHALL BE 3/4" IN SIZE WITH BRONZE BODY, NON-RISING STEM, SOLID WEDGE THREADED INLET AND HOSE OUTLET WITH CAP AND CHAIN FOR 200 POUND W.O.G. 7. UNDERGROUND GATE VALVES AND VALVE BOXES: GATE VALVES (4" IN SIZE AND LARGER) SHALL BE AWWA APPROVED WITH IRON BODY, BRONZE TRIM, NON-RISING STEM, PARALLEL SEAT DOUBLE DISC, SQUARE OPERATING NUT AND MECHANICAL JOINT ENDS FOR 200 POUND W.W.P. VALVE BOXES SHALL BE PROVIDED OVER EACH UNDERGROUND GATE VALVE. VALVE BOXES SHALL BE ADJUSTABLE CAST IRON ROADWAY TYPE WITH BELLED LOWER SECTION AND REMOVABLE LID AT GRADE. LID SHALL BE LABELED "WATER" AND BOXES NOT IN PAVED

PROVIDE ONE T-WRENCH FOR EACH SIZE OPERATING NUT.

SHALL BE NIBCO GB1A

1. PLUG VALVES (3" IN SIZE AND LARGER): VALVES SHALL BE THE SEMI-STEEL TYPE WITH CAST IRON BODY.

AREAS SHALL BE SET IN A 12" X 12" X 6" CONCRETE PAD. VALVE BOXES LAYOUT BASIS SHALL BE MUELLER H-10360

LUBRICATED CAST IRON PLUG, FLANGED ENDS AND WRENCH OPERATED FOR 175 POUND W.O.G. VALVES LAYOUT BASIS SHALL BE WALWORTH1797F 2. PLUG VALVES (2 1/2" IN SIZE AND SMALLER): VALVES SHALL HAVE BRONZE BODY AND PLUG. THREADED ENDS AND SQUARE HEAD FOR 175 POUND W.O.G. VALVE LAYOUT BASIS SHALL BE: WALWORTH NO. 1736

3. BALL VALVES (1/2", 3/4", AND 1" UP TO 1/2 PSI FOR APPLIANCE CONNECTION): VALVE SHALL BE LEVER HANDLE,

600 PSI CWP RATED - 1/2 PSI FOR INDOOR APPLIANCE CONNECTIONS PER ANSI Z21.15 & CGA 9.1A. LAYOUT BASIS

4. LUBRICATED PLUG VALVES SHALL BE LUBRICATED AT THE FACTORY AND SEALANT SHALL BE DESIGNED FOR NATURAL GAS. PROVIDE SIX (6) STICKS OR TUBES OF SEALANT UTILIZED AND TURN SUCH OVER TO THE OWNER. PROVIDE ONE (1) VALVE WRENCH FOR EACH SIZE AND TYPE OF VALVE HEAD AND TURN SUCH WRENCHES OVER TO 5. PRESSURE REGULATING VALVE: VALVE SHALL HAVE INTERCHANGEABLE ALUMINUM ORIFICE, MOLDED DEEP CONVOLUTION DIAPHRAGM WITH O-RING SEAL, PLATED STEEL DIAPHRAGM PLATE, STAINLESS STEEL LEVER PIN, ONE PIECE MOLDED BUNA-N VALVE SEAT, DIE CAST ZINC VALVE STEM, DELRINFI VENT VALVE WITH BUNA-N SEAT

INTERCHANGEABLE ADJUSTMENT SPRING, CSA 6-18 APPROVED. PROVIDE THREE SPRINGS AT RATED OUTLET

SPRING LOADED INTERNAL RELIEF VALVE ASSEMBLY, 1" AND 3/4" THREADED VENT WITH STAINLESS STEEL SCREEN,

PRESSURE PLUS SPRING FOR NEXT HIGHES AND LOWEST PRESSURE RATING FOR BALANCING PURPOSES. PROVIDE ALL VENTING REQUIRED BY THE MANUFACTURER FOR ALL INDOOR MOUNTED REGULATORS. LAYOUT BASIS SHALL 6. CONTRACTOR SHALL PROVIDE REGULATORS AT ALL APPLIANCE CONNECTIONS REGARDLESS OF SUPPLY PRESSURE UNLESS THE REQUIRED EQUIPMENT DELIVERY PRESSURE CAN BE DELIVERED WITHOUT THE USE OF A REGULATOR.

FIBERGLASS REINFORCED POLETHELYNE SEAL CAP WITH INTEGRAL RELIEF VALVE STOP, AND FIELD

- 7. CONTRACTOR TO COORDINATE INLET/OUTLET PRESSURES WITH DRAWINGS AND GAS EQUIPMENT MANUFACTURERS REQUIREMENTS. 8. INSTALL ALL REGULATORS CLEAR OF ANY EQUIPMENT ACCESS SUCH THAT VALVE SPRINGS AND ORIFICE CAN BE ACCESSED WITHOUT REMOVING VALVE.
- PUMP; DESIGNED FOR INSTALLATION WITH PUMP AND MOTOR SHAFTS MOUNTED HORIZONTALLY OR VERTICALLY. PUMP SHALL BE SUPPORTED INDEPENDENT OF PIPING. INSTALL A CHECK VALVE AT ALL PUMP OUTLETS. MOTOR: SINGLE SPEED, AND RIGIDLY MOUNTED TO PUMP CASING. LAYOUT BASIS FOR HOT WATER RECIRCULATION PUMPS SHALL BE GRUNDFOS UP15-18 OR UP-15-29 FOR PIPING RUNS IN EXCESS OF 100'.

1. DESCRIPTION: FACTORY-ASSEMBLED AND -TESTED, CENTRIFUGAL, OVERHUNG-IMPELLER, CLOSE-COUPLED, IN-LINE

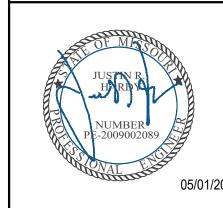
2. CASING: RADIALLY SPLIT, CAST IRON, WITH REPLACEABLE BRONZE WEAR RINGS, THREADED GAGE TAPPINGS AT INLET AND OUTLET, AND FLANGED OR THREADED (HOT WATER RECIRCULATION PUMPS) CONNECTIONS. 3. IMPELLER: ASTM B 584, CAST BRONZE; STATICALLY AND DYNAMICALLY BALANCED, KEYED TO SHAFT, AND

SECURED WITH A LOCKING CAP SCREW. TRIM IMPELLER TO MATCH SPECIFIED PERFORMANCE.

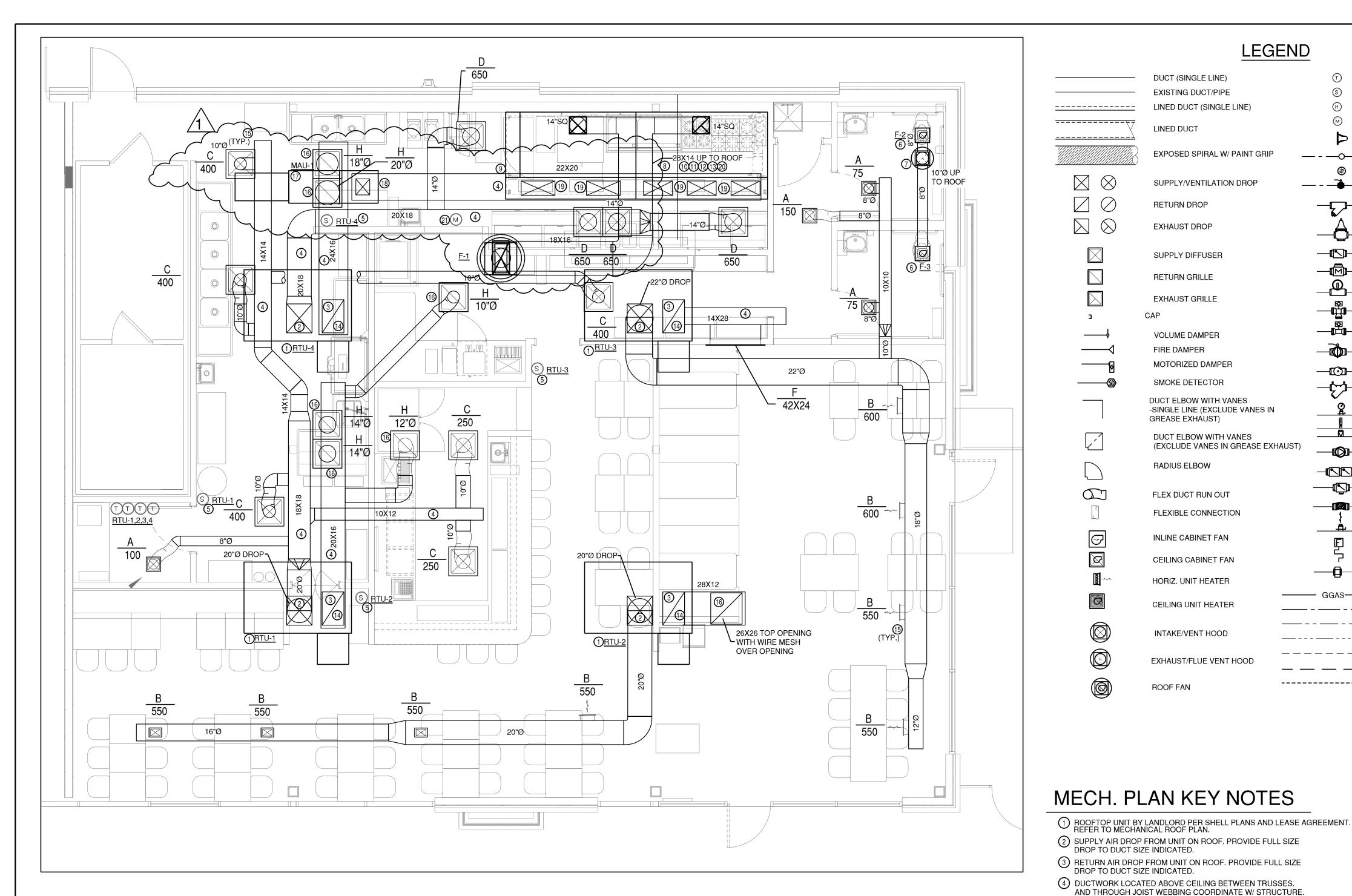
SECOND OPTION FOR 250 DEG F (121 DEG C).

GREASE-LUBRICATED BALL BEARINGS.

- 4. PUMP SHAFT: STAINLESS STEEL. 5. IN SUBPARAGRAPH BELOW, SELECT FIRST OPTION FOR TEMPERATURE RATING OF 225 DEG F (107 DEG C); SELECT
- 6. MECHANICAL SEAL: CARBON ROTATING RING AGAINST A CERAMIC SEAT HELD BY A STAINLESS-STEEL SPRING, AND EPT BELLOWS AND GASKET. INCLUDE WATER SLINGER ON SHAFT BETWEEN MOTOR AND SEAL. 7. PACKING SEAL: STUFFING BOX, WITH A MINIMUM OF FOUR RINGS OF GRAPHITE-IMPREGNATED BRAIDED YARN
- WITH BRONZE LANTERN RING BETWEEN CENTER TWO GRAPHITE RINGS, AND BRONZE PACKING GLAND. 8. PUMP BEARINGS: PERMANENTLY LUBRICATED BALL BEARINGS UP THROUGH 5 HP. LARGER MOTORS HAVE





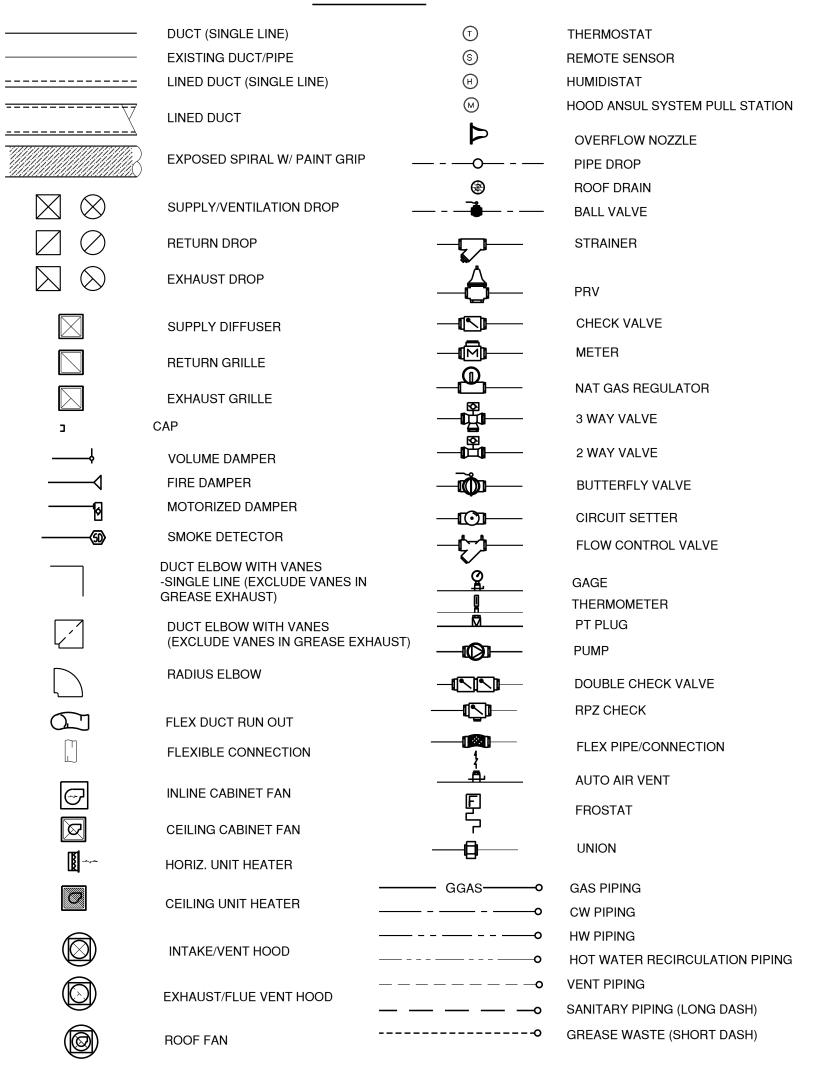


MECHANICAL FLOOR PLAN

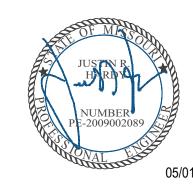
1/4" = 1'-0"

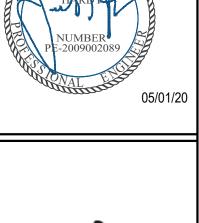
CONTRACTOR TO VERIFY ALL ITEMS SHOWN AS EXISTING. ANY CHANGES REQUIRED DUE TO VARIATION IN THE FIELD SHALL BE INCLUDED IN CONTRACTOR SCOPE.

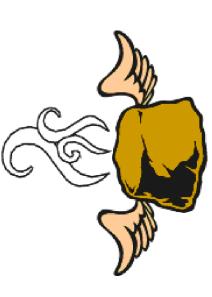
LEGEND



AC	ABOVE CEILING	HR	HOUR
ACC	ACCESS	HW	HOT WATER
ACU	AIR CONDITIONING UNIT	HZ	HERTZ
AFF	ABOVE FIN ISHED FLOOR	IE	INVERT ELEVATION
AHU	AIR HANDLING UNIT	LAT	LEAVING AIR TEMPERATUR
AP	ACCESS PANEL	LBS	POUNDS
	ARCHITECT	LOB	LEAVING DRY BULB
BDD	BACKDRAFT DAMPER	LWB	LEAVING WET BULB
BTUH	BTU PER HOUR	LWT	LEAVING WATER TEMP.
CC	COOLING COIL	MAX	MAXIMUM
CCP	CENTRAL CONTROL PANEL	мвн	THOUSAND BTU PER HOUR
CD	CEILII'IIG DIFFUSER	EVAP	EVAPORATOR
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM
CG	CEILING GRID	MOD	MOTORIZED DAMPER
	CONCRETE	MTD	MOUNTED
CR	CEILING REGISTER	N.C.	MORMALLY CLOSED
CV	CONTROL VALVE	NIC	NOT IN CONTRACT
D	DROP	N.O.	NORMALLY OPENED
 DB	DRY BULB	NO.	NUMBER
DIA.	DIAMETER	NPSH	NET POSITIVE SUCTION HE
DN	DOWN	NTS	NOT TO SCALE
DWG		OA	OUTSIDE AIR
EA	EXHAUST AIR	OD	OUTSIDE DIAMETER
EAT	ENTERING AIR TEMP	OS&Y	OUTSIDE SCREW AND YOKE
EDB	ENTERING DRY BULB	PD	PRESSURE DROP
EF	EXHAUST FAN	PSI	POUNDS PER SQUARE INCH
ELEV		RA	RETURN AIR
	ELECTRIC	RM	ROOM
EWB	ENTERING WET BULB	RPM	REVOLUTION PER MINUTE
EWT	ENTERING WATER TEMP	SD	SMOKE DAMPER
ESP	EXTERNAL STATIC PRESSUR		SUPPLY FAN
SP	STATIC PRESSURE	SF	SUPPLY FAN
EXH	EXHAUST	SP	STATIC PRESSURE
EXT	EXTERNAL	SPEC	SPECIFICATIONS
F	DEGREES FAHRENHET	SR	SUPPLY REGISTER
FC	FLEXIBLE CONNECTION	SS	STAINLESS STEEL
FCU	FAN COIL UNIT	TDH	TOTAL DYNAMIC HEAD
FD	FIRE DAMPER	TEMP	TEMPERATURE
AFG	ABOVE FINISHED GRADE	TG	TRANSFER GRILLE
FLD	FLOOR DRAIN	ΤV	TURNING VANES
FPI	FINS PER INCH	TYP.	TYPICAL
FPM	FEET PER MINUTE	UH	UNIT HEATER
FT	FEET	UC	3/4" UNDERCUT
GV	GATE VALVE	v	VOLTS
G	GAUGE	VAV	VARIABLE AIR VQLUME
GAL	GALLON	VEL	VELOCITY
GPH	GALLONS PER HOUR	VERT.	VERTICAL
GPM	GALLONS PER MINUTE	w	WIDTH
HP	HORSE POWER	W/	WITHOUT
HT	HEIGHT	W/O	WITHOUT
H20	WATER	WB	WET BULB
	HORIZONTAL	W.C.	WATER COLUMN







N	BLDG. DEPT. COMMENTS							
REVISIONS DATE DESCRIPTION	BLDG. DEP						NICAL FLOOR PLANS	
DAIE	7/23/20						A F	
REVISIONS	1						FLOC	
GA-100			Ŀ		05/01/20	21	VICAL	

7	BLDG. DEPT. COMMENTS						
REVISIONS DATE DESCRIPTION	BLDG. DEPT.					ICAL FLOOR PLANS	
DAIE	7/23/20					JR F	
REVISIONS	1					FLOC	
V-100					/01/20	ICAL	

THIS TYPE OF DEVICE.

MAKE-UP AIR UNIT ON ROOF, REFER TO MECHANICAL ROOF PLAN. INTERLOCK WITH HOOD CONTROLS.

16) PROVIDE INSULATED PLENUM ABOVE AIR DEVICE. TYPICAL FOR

5 THERMOSTAT REMOTE SENSOR FOR UNIT DESIGNATED. MOUNT ON WALL @ 48" AFF. COORDINATE LOCATION AROUND ELECTRICAL PANELS AND OFFICE FURNITURE WHERE REQUIRED.

6 RESTROOM EXHAUST FAN ON ROOF, COORDINATE CONTROL WITH ELECTRICAL PLANS. CONTROLS BY ELECTRICAL CONTRACTOR. REFER TO MECHANICAL ROOF PLAN. FAN TIED INTO TIMECLOCK

8 EXHAUST FAN, ON ROOF, FOR TYPE I KITCHEN EXHAUST HOOD. EXTEND FAN CURB HEIGHT TO BE 2' ABOVE HVAC INTAKE UNIT HEIGHT. REFER TO MECHANICAL ROOF PLAN.

(7) EXHAUST AIR DUCT UP TO FAN ON ROOF. COORDINATE W/ STRUCTURE.

9 TYPE I EXHAUST HOOD, FURNISHED BY OWNER, INSTALLED BY MECHANICAL CONTRACTOR. REFER TO HOOD DRAWINGS & HOOD HANGING DETAIL 1/M1.0

HOOD CONNECTION. ENCAPSULATE PER DETAIL 12/M3.0.

GREASE DUCT SHALL BE FIRE WRAPPED WHEN WITHIN 18" TO COMBUSTIBLES

(12) HORIZONTAL GREASE DUCT RUNS MUST SLOPE 2% DOWN TO HOOD

PROVIDE 16 GA. EXTERNALLY WELDED LIQUID TIGHT KITCHEN HOOD EXHAUST DUCT. EXTEND UP TO FAN ON ROOF & DOWN TO

(14) PROVIDE FIELD INSTALLED SMOKE DETECTOR.

(13) WELD DUCT TO HOOD COLLAR.

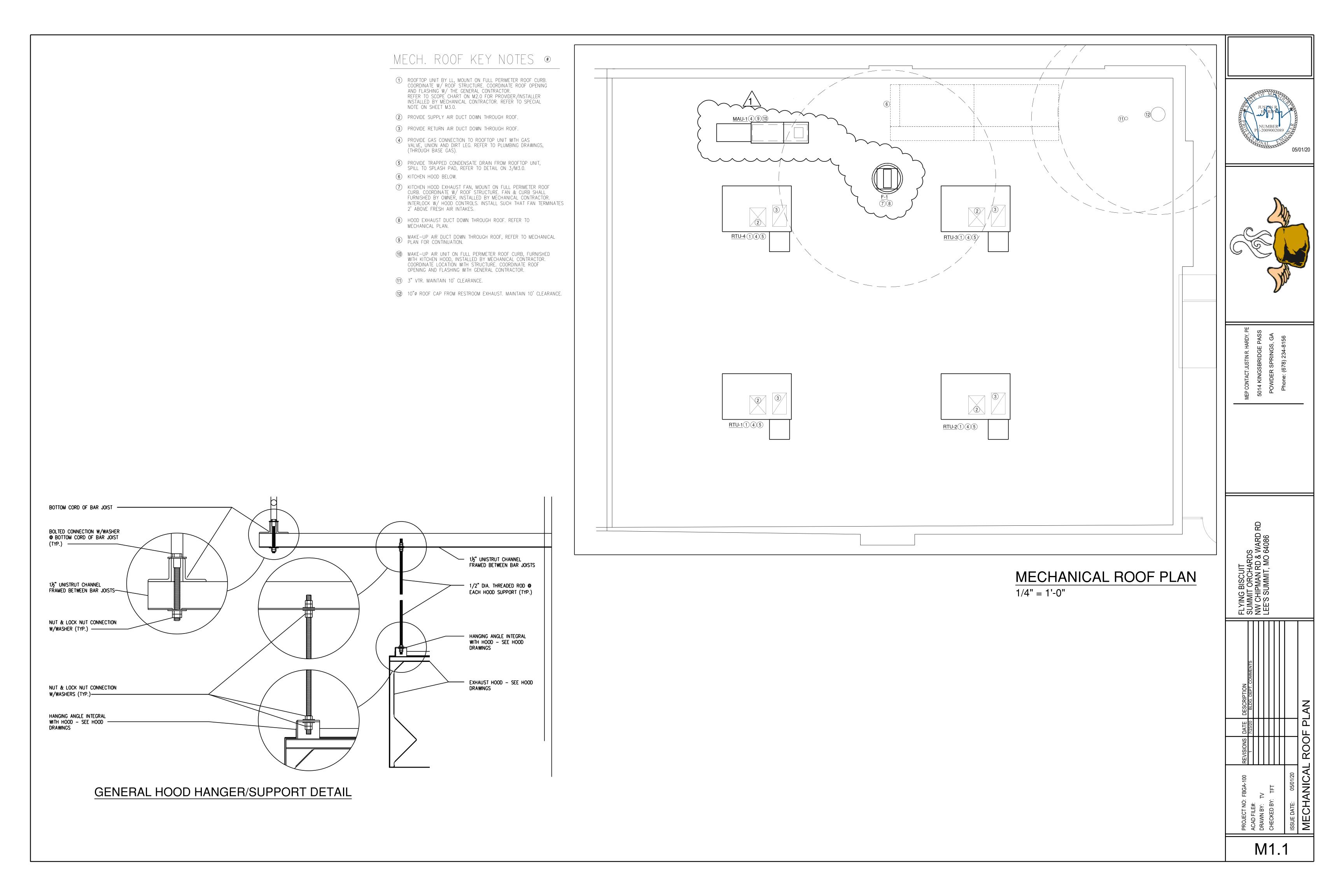
(18) MAKE-UP AIR/SUPPLY AIR DUCT FROM UNIT ON ROOF.

MAKE-UP AIR CONNECTION TO SUPPLY AIR PLENUM IN FRONT OF HOOD. REFER TO HOOD DRAWING SHEET H-1. 20) PROVIDE CLEANOUT IN EXHAUST DUCT PER NFPA 96.

(15) PROVIDE MANUAL VOLUME CONTROL DAMPER, TYPICAL.

(21) MANUAL HOOD PULL FOR ANSUL SYSTEM. REFER TO HOOD PLANS

M1.0



				F	-AN S	CHED	ULE				
MARK	MANUFACTURER	MODEL NUMBER	СҒМ	STATIC PRESSURE	RPM	HP OR WATTS	VOLTAGE/PHASE	FLA	CURB SIZE	NOTES	WEIGHT
F-1	CAPTIVE AIRE	SEE HOOD PLANS									
F-2	СООК	GC	150	0.375"	1200	50W	120V/ 1ø			9 & 14	
F-3	СООК	GC	150	0.375"	1200	50W	120V/ 1ø			9 & 14	
MUA-1	CAPTIVE AIRE	SEE HOOD PLANS									

5. DIRECT DRIVE.

RTU-3

YORK

ZJ078

6.5

2600

80.4

58.8

80/67

59.1/57.2

11.8

120

80%

SET BY TENANT

1.0

1.97

2.0

2

YES, NOTE 3

NOTE 4

BAROMETRIC

DIFF. ENTHALPY

2"

MERV 8

208/3

36.2

45

EL-14,16,18

(3)#8,#10G.,3/4"C.

45A/3P CB

60A-3P NF NEMA 3R

NOTE 5

ME401

NOTE 1, 2

UP-BLAST CENTRIFUGAL.

2. 20 GA. VENTED ROOF CURB. 3. UL 762. 4. VARIABLE SPEED CONTROL. 10. UL 705.

RTU-4

YORK

ZJ078

6.5

2600

80.4

58.8

80/67

59.1/57.2

11.8

120

80%

SET BY TENANT

1.0

1.97

2.0

YES, NOTE 3

NOTE 4

BAROMETRIC

DIFF. ENTHALPY

MERV 8

208/3

36.2

45

EL-20,22,24

(3)#8,#10G.,3/4"C.

45A/3P CB

60A-3P NF NEMA 3R

NOTE 5

ME401

NOTE 1, 2

12. EVAPROATIVE COOLER MODEL. 13. BY TRANE.

14. INTERLOCK TO TIMELCOCK TO OPERATE DURING OCCUPIED HOURS. REFER TO ELEC.

OUTDOOR AIR VENTILATION CALCULATION ASHRAE 62.1 2004

> 72 SEATS 1450 SF

 $72 \times 7.5 / .8 = 675 \text{ CFM}$ $1450 \times .18/.8 = 330 \text{ CFM}$

CORRIDOR 90 SF

6. WEATHER PROOF DISCONNECT SWITCH.

8. FAN & CURB FURNISHED W/ KITCHEN HOOD.

9. DOWN BLAST, DIRECT DRIVE, CENTRIFUGAL.

'. HINGED FAN.

11. DISCONNECT.

 $90 \times .06/.8 = 7 \text{ CFM}$ TOTAL OA REQUIRED = 1012 CFM OA PROVIDED THROUGH RTU-1 = 1100 CFM

 $16 \times 10/.8 = 200 \text{ CFM}$

TOTAL OA REQUIRED = 200 CFM OA PROVIDED THROUGH RTU-2 = 200 CFM

MARK	* TITUS MODEL NO.	MODULE SIZE	FACE SIZE	NECK SIZE	FLEX SIZE	TYPE	NOTES
A	TMSA-3	12"x12"	-	6 " ø	6 " ø	SUPPLY	1,3,5,10,
С	TMSA-AA-3	24"x24"	_	SEE PLAN	SEE PLAN	SUPPLY	1,2,3,4,6
D	PAR-AA-3	24"x24"	-	12 " ø	12 " ø	SUPPLY	2,3,4,6,7
F	300S	_	42"x24"	SEE PLAN	_	EXHAUST	3,5,6,9,1
Н	50F-1	-	14"x14"	8"ø	-	EXHAUST	3,5,6,9,1

- 5. FRAME SHALL BE FOR DRYWALL INSTALLATION. 6. ALUMINUM CONSTRUCTION.
- 7. PERFORATED SUPPLY GRILLE, PROVIDE INSULATED PLENUM ABOVE W/ SIDE ENTRY. 8. HINGED FILTER TYPE GRILLE.
- 9. EGGCRATE GRILLE
- IN FOOD PREP-HOOD-RR AREAS ONLY. DO NOT PROVIDE WHITE AIR DEVICES IN DINING AREAS. 13. DOUBLE DEFLECTION, FRONT BLADES PARALLEL TO LONG DIMENSION— 3/4" SPACING.
- 14. DIRECT SPIRAL DUCT-MOUNTED REGISTER, AIR
- 15. 35° DEG FIXED DEFLECTION DUCT MOUNTED. * OR APPROVED EQUAL

HVAC UNIT SPECIFICATIONS

HVAC UNITS INSTALLED BY MECHANICAL CONTRACTOR SHALL BE PER SCHEDULE OR APPROVE ALTERNATE. ALL UNITS SHALL BE SINGLE PACKAGE TYPE, HEAT TYPE PER SCHEDULE . EACH UNIT SHALL BE MOUNTED ON A FULL PERIMETER ROOF CURB. FILTERS IN ALL HVAC UNITS SHALL BE 2" THICK PLEATED TYPE. FURNISH W/ ECONOMIZER (WHERE CODE REQUIRES)/ BAROMETRIC RELIEF. UNITS SHALL BE INSTALLED ON MOUNTING CURB WITH ALL DUCTWORK PENETRATING INSIDE PERIMETER OF CURB. UNITS SHALL ALSO BE FURNISHED WITH AUTOMATIC ELECTRIC IGNITION SYSTEM FOR GAS UNITS. UNITS SHALL BE FURNISHED WITH INTEGRAL STARTERS.

SEQUENCE OF OPERATION

THE MECHANICAL CONTRACTOR SHALL INSTALL ALL REQUIRED COMPONENTS FOR THE FOLLOWING SEQUENCES OF OPERATION FOR EACH HVAC UNIT. DISCONNECTS SHALL BE FURNISHED AND INSTALLED BY THE UNIT MANUFACTURER.

- A. UNIT SHALL BE STARTED AND STOPPED THROUGH ITS RESPECTIVE THERMOSTAT/HUMIDISTAT (WHERE DEHUMIDIFICATION IS SPECIFIED).
- ROOM THERMOSTATS SHALL ENERGIZE COOLING AND HEATING SYSTEMS
- TO MAINTAIN DESIRED SPACE TEMPERATURE. COOLING SHALL BE 2-STAGE FOR UNITS WITH TWO COOLING CIRCUITS. C. M.C. SHALL HOLD (3) TRAINING SESSIONS (SUMMER & WINTER) WITH STORE MANAGER TO INSURE THEIR KNOWLEDGE OF PROPERLY USING THE

CONTROLS

- PROVIDE PROGRAMMABLE THERMOSTAT W/ REMOTE SENSOR. THERMOSTAT SHALL PROVIDE TWO STAGE HEATING AND TWO STAGE COOLING.
- THERMOSTATS SHALL PROVIDE CONSTANT FAN DURING OCCUPIED PERIODS AND INTERMITTENT FAN DURING UNOCCUPIED PERIODS.
- ALL POWER WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR. ALL CONTROL WIRING BY M.C..
- PROVIDE PHENOLIC LABEL ON ALL T-STATS & REMOTE SENSORS.
- THE KITCHEN HOOD EXHAUST FAN & ROOFTOP UNITS SHALL BE INTERLOCKED WITH HOOD CONTROLS BY AN ELECTRICAL INTERLOCK SWITCH, TEMPERATURE SENSOR ON HOOD SHALL AUTOMATICALLY ENERGIZE EXHAUST FANS, MAKE-UP AIR UNIT & ROOFTOP UNIT FANS.

MECHANICAL GENERAL NOTES

- ALL RECTANGULAR, ROUND AND FLEXIBLE DUCTS SHALL BE SIZED AS SHOWN ON THESE DRAWINGS. MINIMUM INTERNAL DIMENSIONS ARE
- ALL SUPPLY, RETURN & OUTSIDE AIR DUCTS ARE SIZED FOR AIR VOLUME AND STATIC PRESSURE DROP WITHOUT INTERIOR INSULATION. SHOULD INTERIOR INSULATION BE USED, THE CONTRACTOR SHALL INCREASE THE
- ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTS SHALL BE INSULATED.

 EXTERIOR INSULATION SHALL BE USED. INSULATION SHALL BE 2" THICK/ 1 POUND PER CUBIC FOOT DENSITY R = 6.0 INSTALLED OR APPROVED EQUAL. ALL EXPOSED DUCTWORK SHALL BE INTERNALLY INSULATED UNLESS NOTED
- FLEXIBLE DUCTWORK SHALL BE SIMILAR TO ATCO UPC #036 UL CLASS/ FIBERGLASS SCRIM REINFORCED METALIZED POLYESTER OUTER JACKET. DOUBLE LAMINATION OF POLYESTER W/ STEEL HELIX, DOUBLE LAYER CORE. R=6.0 INSTALLED.
- ALL FLEXIBLE DUCTS SHALL BE CONNECTED TO TRUNK OR BRANCH DUCTS WITH A MINIMUM OF THREE SHEET METAL SCREWS AT EACH CONNECTION AND TAPED TO PROVIDE AN AIR TIGHT SEAL.
- 6. FLEX DUCT HANGER STRIPS SHALL BE 10" WIDE x 16 GAUGE MINIMUM. 7. THE MAXIMUM ALLOWABLE LENGTH OF FLEXIBLE DUCT SHALL BE 6'-0".
- 8. INSTALL TURNING VANES IN ALL 90 * DUCT ELBOWS AND AT ALL DUCT
- DUCT CONNECTIONS. 10. PROVIDE PAINTED (3" H.) IDENTIFICATION ON ALL RTU'S, FANS &

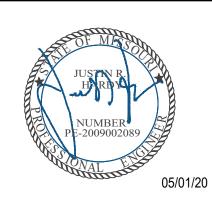
9. INSTALL ADJUSTABLE AIR VOLUME EXTRACTORS AT ALL BRANCH TO MAIN

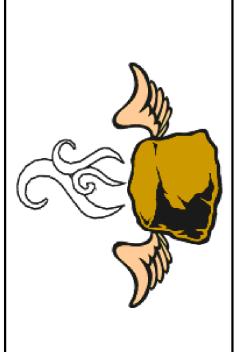
- CONDENSING UNITS. IDENTIFICATION SHALL INCLUDE DEVICE NUMBER & AREA SERVED (ie: RTU-1/ DINING).
- 11. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MOST RECENTLY PUBLISHED ASHRAE AND SMACNA STANDARDS. 12. RECTANGULAR METAL DUCT SHALL BE MILD GALVANIZED STEEL.
- 13. MANUFACTURERS MINIMUM CLEARANCE RECOMMENDATIONS SHALL BE MAINTAINED ON ALL EQUIPMENT AND DUCTWORK. 14. THE CONTRACTOR SHALL CAREFULLY COORDINATE THE LOCATION OF ALL DUCTS, GRILLES, DIFFUSERS, ETC. WITH THE CEILING GRIDS AND THE
- PLUMBING AND FRAMING CONTRACTORS.
- 15. ALL KITCHEN RETURN AIR CRILLES SHALL BE EASILY REMOVABLE FOR
- 16. ALL CONTROL WIRING SHALL BE BY THE HVAC CONTRACTOR. CONTROL WIRING SHALL BE SHIELDED CABLE TO PREVENT ANY ELECTRICAL
- 17. ALL POWER WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR.
- 18. EXHAUST FANS SHALL BE FURNISHED WITH BIRD SCREENS, BACKDRAFT DAMPERS AND DISCONNECTS WHERE APPLICABLE AND ACCORDING TO THE
- 19. CONTRACTOR SHALL PROVIDE A THIRD PARTY AIR BALANCING CONTRACTOR FOR SYSTEM BALANCING. BALANCING CONTRACTOR SHALL BE CERTIFIED
- 20. THE CONTRACTOR SHALL CAREFULLY COORDINATE ALL THERMOSTAT LOCATIONS WITH INTERIOR FINISHES.
- 21. THE CONTRACTOR SHALL COORDINATE FULLY WITH ALL OTHER TRADES. 22. THE CONTRACTOR SHALL SUPPLY FOR APPROVAL SIX (6) COPIES OF SHOP DRAWINGS TO COMPLETELY IDENTIFY THE QUALITY OF MATERIALS AND/OR EQUIPMENT INTENDED FOR INSTALLATION. THERE WILL BE NO DRAW UNTIL SHOP DRAWINGS HAVE BEEN SUBMITTED AND REVIEWED BY
- ARCHITECT/ENGINEER. 23. THE SUBMISSION OF A BID OR PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND/OR LABOR DUE TO DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED, UNLESS THESE DIFFICULTIES COULD NOT HAVE BEEN FORESEEN EVEN THOUGH PROPER EXAMINATION HAD BEEN MADE.
- 24. ALL ROUND TAKE-OFFS FROM RECTANGULAR DUCTS SHALL BE A DAMPERS EXPRESS COMMERCIAL AIR TITE SPIN IN MODEL ATCS1-2 W/ DAMPER OR APPROVED EQUAL.
- 25. ROOFTOP AIR CONDITIONING UNITS SHALL BE INSTALLED ON FULL PERIMETER ROOF CURBS FURNISHED BY THE GENERAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR, GENERAL CONTRACTOR SHALL PROVIDE CURB INSULATION.
- 26. ALL CONDENSATE DRAIN LINES SHALL BE SLOPED MINIMUM 1/8" PER LINEAR FOOT OF RUN. ALL DRAIN EXITS FROM A/C UNITS SHALL INCLUDE A TRAP AND CLEAN-OUT PLUG. REFER TO DETAIL 3/ M3.0.
- 27. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL GAS PIPING AND CONDENSATE DRAINS. ALL GAS LINES SHALL BE SCHEDULE 40 BLACK IRON AND INSTALLED I.A.W. THE LATEST EDITION OF N.F.P.A. 30-77 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE), FIRE PREVENTION CODE AND ANY APPLICABLE STATE OR LOCAL CODES. CONDENSATE LINES SHALL BE INSTALLED USING GALVANIZED PIPE, P.V.C. OR A.B.S
- 28. ALL ROOF CURBS FOR FANS, ETC. SHALL BE A MINIMUM OF 12" HIGH. KITCHEN HOOD FAN CURBS MAY NEED TO BE HIGHER TO MAINTAIN CORRECT DISCHARGE HEIGHT OF FAN PER N.F.P.A. #96.
- 29. SHEAVE & PULLEY COMBINATION FOR ALL R.T.U'S SHALL BE SIZED FOR DESIGN FAN R.P.M. 30. ALL KITCHEN HOOD EXHAUST DUCTWORK WELDS SHALL COMPLY WITH THE
- 31. PROPERLY SECURE ALL FANS TO CURBS & DUCTWORK. PROVIDE NECESSARY GASKET ON CURBS TO PREVENT WATER PREVENTION.

LATEST APPLICABLE AWS STANDARDS.

TEST AND BALANCE

THE GENERAL CONTRACTOR SHALL SUBCONTRACT TO AN AIR TEST AND BALANCE CONTRACTOR THE TESTING, ADJUSTING AND BALANCING OF ALL ENVIRONMENTAL SYSTEMS SHOWN OR SPECIFIED ON THE CONTRACT DOCUMENTS. THE WORK SHALL BE PERFORMED BY A FIRM CERTIFIED BY EITHER AABC OR NEBB, AND FOUR (4) COPIES OF THE FINAL REPORT, SUBMITTED ON CERTIFYING AGENCY FORMS, SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL. THE REPORT SHALL BEAR THE CERTIFICATION SEAL OF THE TAB SUPERVISOR IN CHARGE. REPORTS SHALL CONTAIN ALL AIR SIDE BALANCING DATA, INSTRUMENTS USED AND THEIR LATEST CALIBRATION DATES, PERSON(S) PERFORMING THE WORK AND A WRITTEN GUARANTEE THAT ALL TAB WORK WAS PERFORMED IN ACCORDANCE WITH THE CERTIFYING AGENCY STANDARDS AND PROCEDURES. AN INDEPENDENT AIR BALANCING CONTRACTOR MAY PERFORM THIS WORK ONLY UPON WRITTEN SUBMISSION OF QUALIFICATIONS AND SUBSEQUENT APPROVAL BY THE PROJECT ENGINEER.





; BISCUIT T ORCHARDS IPMAN RD & WARD F SUMMIT, MO 64086

					HANICAL SCHEDULES & NOTES
	<u>\</u>	ED BY: TFT		05/01/20	IICAL SCH
# # 	BY: TV	ED BY:		ATE:	\text{\ti}\}\\ \text{\tin}\}\\ \text{\texi}\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\text{\texi}\text{\text{\texi}\text{\text{\texi}\text{\texi}\text{\texi}\text{\texint{\texit{\texi{\texi{\texi}\text{\texi}\text{\texit{\texi}

REMARKS

NOTES: 1: FURNISH WITH ALUMINIZED FURNACE, INTELLISPEED FAN, STANDARD DRAIN PAN, ROOF CURB, AND HAIL GUARD KIT. PROVIDE MODULATING OUTDOOR AIR DAMPER CAPABLE OF DEMAND CONTROL VENTILATION WITH CO2 SENSOR LOCATED IN UNIT OR DUCTWORK.

2: ROUTE DUCTWORK DOWN FROM UNIT TO THE BOTTOM OF STRUCTURE. REFER TO DETAIL AND INSULATION/LINER REQUIREMENTS.

3: FURNISH WITH FACTORY INSTALLED SMOKE DETECTOR IN RETURN AIR DUCT SECTION. FIRE ALARM CONTRACTOR TO CONNECT TO FIRE ALARM CONTROL PANEL AS REQUIRED.

4: FACTORY PROVIDED GFI / WP RECEPTACLE, UNPOWERED. CONTRACTOR TO FIELD WIRE PER PLANS.

EXISTING RTU DETAILS FROM SHELL PLANS

ROOFTOP UNIT SCHEDULE - GAS HEAT

RTU-1

ZJ078

6.5

2600

80.4

58.8

80/67

59.1/57.2

11.8

120

80%

SET BY TENANT

1.0

1.97

2.0

YES, NOTE 3

NOTE 4

BAROMETRIC

DIFF. ENTHALPY

MERV 8

208/3

36.2

45

EL-2,4,6

(3)#8,#10G.,3/4"C.

45A/3P CB

60A-3P NF NEMA 3R

NOTE 5

ME401

NOTE 1, 2

RTU-2

YORK

ZJ078

6.5

2600

80.4

58.8

80/67

59.1/57.2

11.8

120

80%

SET BY TENANT

1.0

1.97

2.0

2

YES, NOTE 3

NOTE 4

BAROMETRIC

DIFF. ENTHALPY

2"

MERV 8

208/3

36.2

45

EL-8,10,12

(3)#8,#10G.,3/4"C.

45A/3P CB

60A-3P NF NEMA 3R

NOTE 5

ME401

NOTE 1, 2

DESIGNATION

MODEL NO.

MANUFACTURER

NOMINAL TONNAGE

ENT. AIR (DB/WB)

LVG. AIR (DB/WB)

HEATING INPUT (MBH)

STAGES OF HEATING

OUTSIDE AIR CFM

FAN BRAKE HP

FAN MOTOR HP

RECEPTACLE

ECONOMIZER

EFFICIENCY

VOLTAGE/PHASE

PANEL & CIRCUIT

WIRE & CONDUIT

DISCONNECT

OVERCURRENT DEVICE

CONTROL SEQUENCE

REFERENCE DRAWING/DETAIL

MINIMUM CIRCUIT AMPACITY

MAXIMUM OVERCURRENT PROTECTION

RELIEF

TYPE

TOTAL S.P. (IN. W.C.)

NO. OF COMPRESSORS

STAGES OF COOLING

SMOKE DETECTORS

HEATING OUTPUT (MBH)

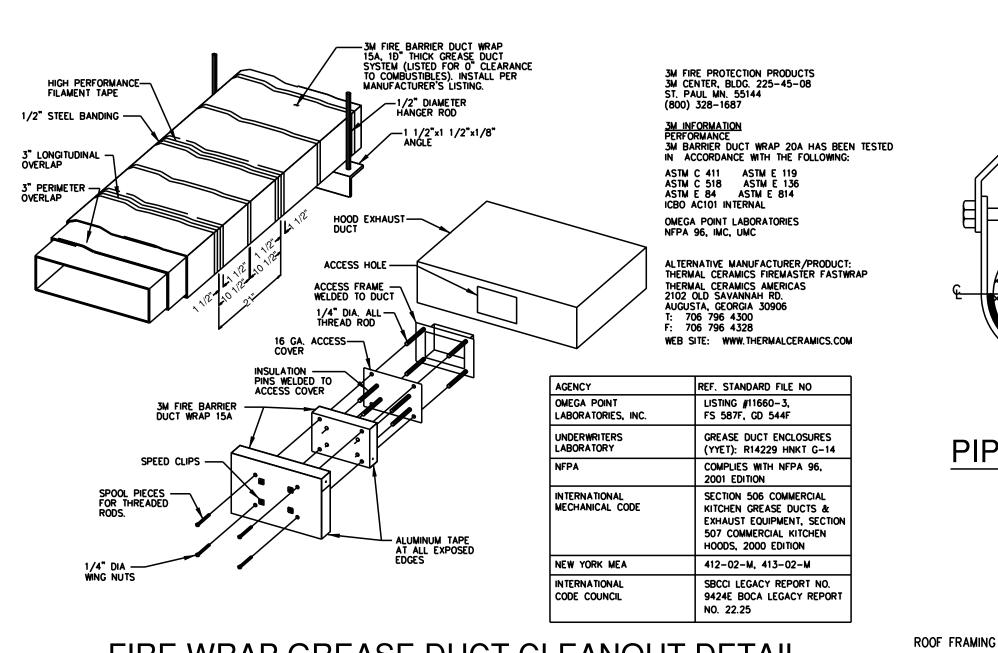
MINIMUM E.E.R.

EFFICIENCY

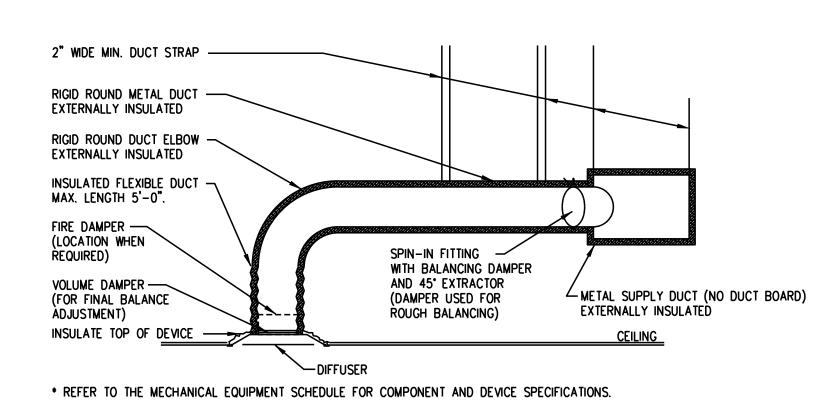
TOTAL COOLING CAPACITY (MBH)

SENSIBLE COOLING CAPACITY (MBH)

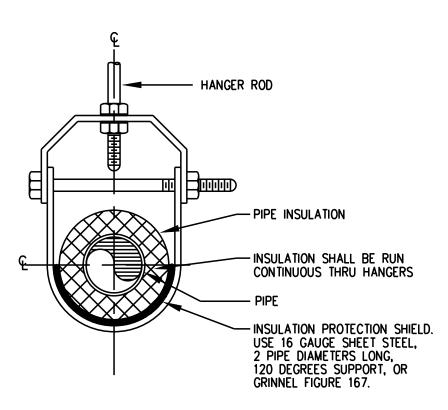
5: PROVIDE FACTORY CONTROLLER FOR STAND-ALONE OPERATION. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT IN LOCKBOX. TEMPORARILY MOUNT IN SPACE, TENANT TO RELOCATE TO ITS FINAL LOCATION.



FIRE WRAP GREASE DUCT CLEANOUT DETAIL



DIFFUSER INSTALLATION DETAIL



PIPE HANGER DETAIL

WELD TO ROOF FRAMING

=========

NOTE: ALL CURBS SHALL BE FASTENED TO ANGLES

PLAN DETAIL

TYPICAL ANGLE FRAMING FOR CURB SUPPORT

FRAMING TOGETHER

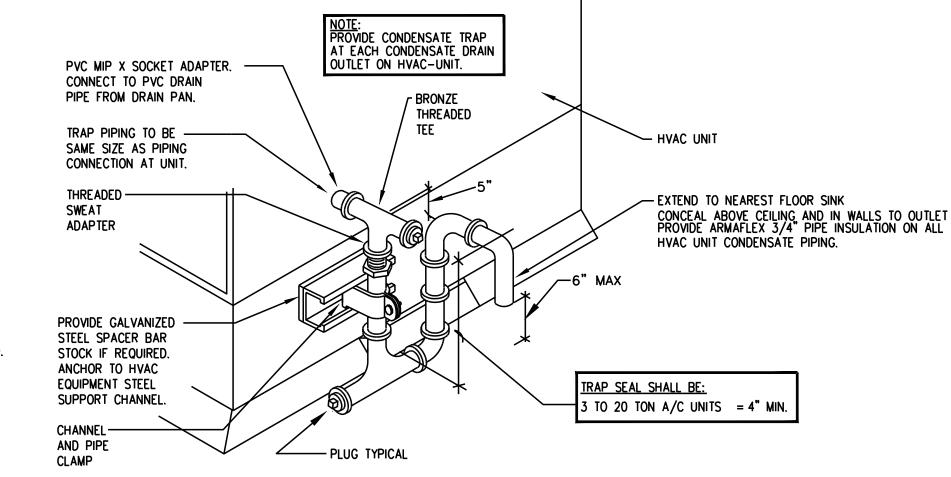
- ANGLES PROVIDED BY TENANT'S GENERAL CONTRACTOR

-ANGLE FRAMING. WELD ANGLE

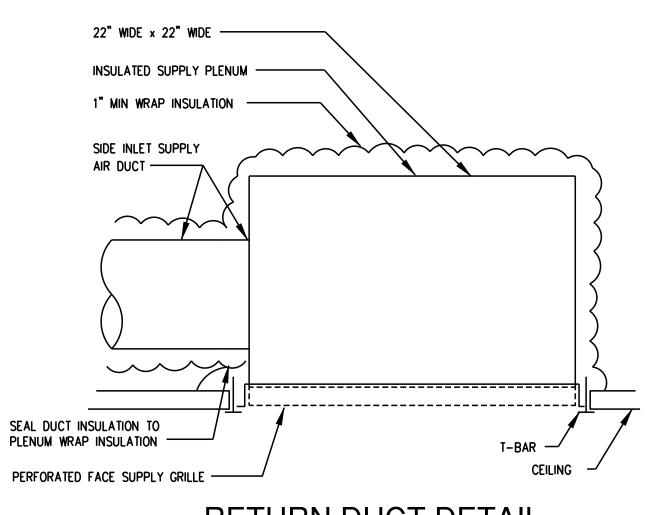
-STEEL ANGLE FRAMING

TO ROOF FRAMING

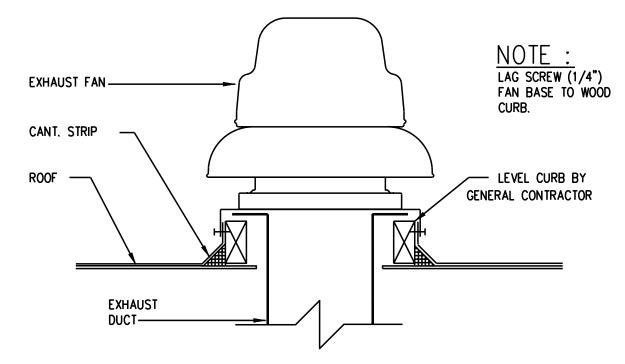
TYPICAL RTU FRAMING DETAIL



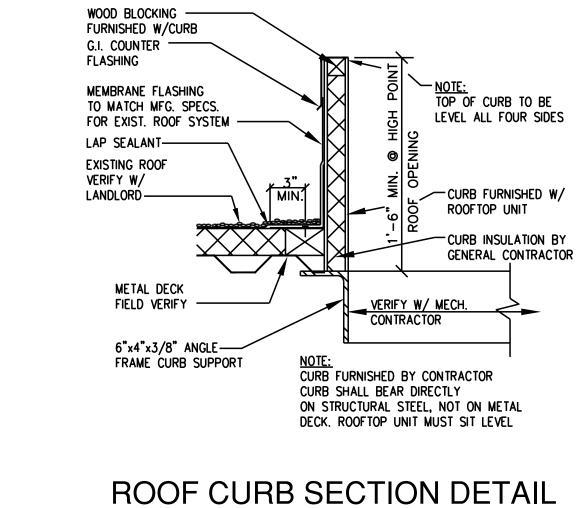
CONDENSATE PIPING DETAIL

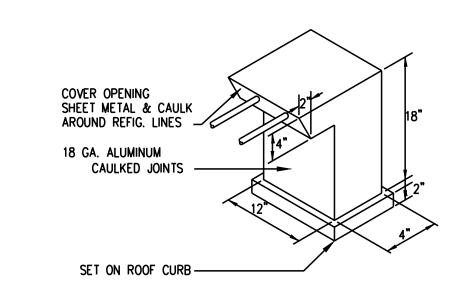


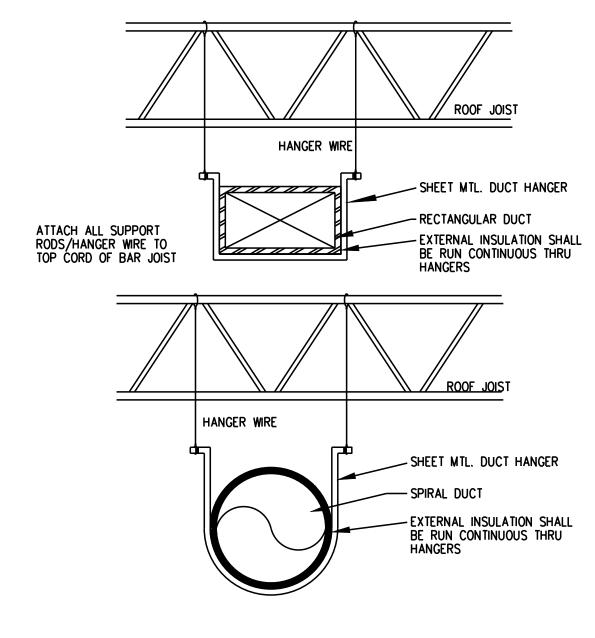
RETURN DUCT DETAIL



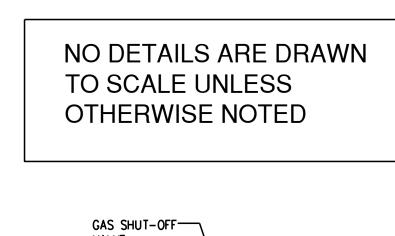
ROOF MOUNTED FAN DETAIL

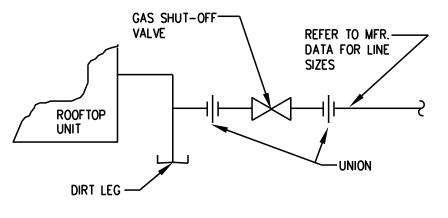




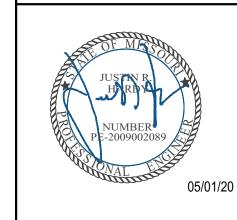


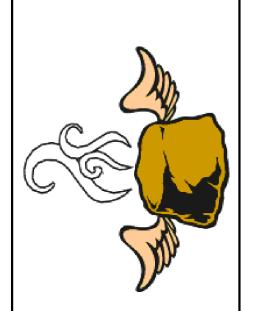
DUCT HANGER DETAIL



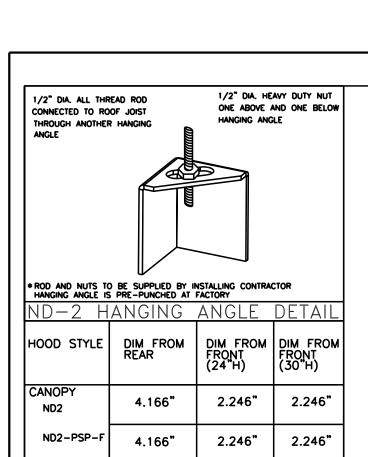


ROOF CURB SECTION DETAIL





M3.0



HANGING ANGLE LOCATIONS

36"x36"

14.25"

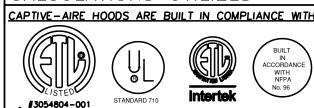
42"X42"

2.246"

48"X48"

2.246"

CALCULATIONS UTILIZED



BUILDING CODES

CAPTIVE - AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

<u>MATERIAL</u> CLEARANCE REDUCTION SYSTEM 3" UNINSULATED STANDOFF 1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLE

BACKSHELF

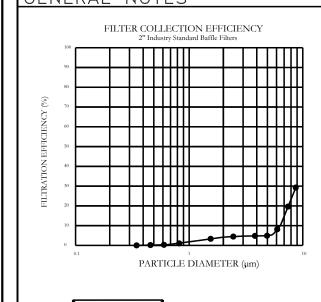
VHB/VHB-G

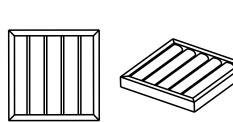
- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
- HANGING BRACKETS LOCATED AND WELDED AS SHOWN OF PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY
- ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTORS'S PLANS. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
- EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
- ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
- SEISMIC RESTAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- INSTALLING CONTRACTOR.

 10. INSTALLING CONTRACTORS ASSUME ALL RELATED REPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

- 11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN. 12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
- 13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.
- 14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.

GENERAL NOTES





Kleen Guard UL Listed Grease Extracting Filters Made From 430 Stainless Steel

FILTER DETAIL

PATENT NUMBERS

HOO	D INF	ORMATION -	Job#434	0844																PATENT NUMBERS
НОО	TAG	MODEL	 LENGTH	MAX. COOKING	TYPE	APPLIANCE	DESIGN	TOTAL			EXHA	AUST PL RISER(S				TOTAL SUPPLY	HOOD CONSTRUCTION	HOOD C	ONFIG.	AC-PSP (United States) - US Patent 7963830
NO.	TAG	MODEL	LENGIA	TEMP.	ITTPE	DUTY	CFM/ft	EXH. CFM	WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.	CFM	CONSTRUCTION	END	ROW	AC-PSP Wall (Canada) - CA Patent 2820509 AC-PSP Island (Canada) - CA Patent 2520330
1		5424 PK-ND-2 Q-SB-F	8' 0"	600 Deg.	I	Heavy	250	2000			4"	14"	2000	1871	-0.431"	1515	430 SS Where Exposed	LEFT	ALONE	
2		5424 PK-ND-2 Q-SB-F	9' 0"	600 Deg.	I	Heavy	250	2250			4"	14"	2250	2105	-0.521"	1890	430 SS Where Exposed	RIGHT	ALONE	

<u> HOOD</u>	<u>INF (</u>	<u>ORMATION</u>															
				FILTER(S)			LIGHT(S)					UTILITY CABINET(S)			FIRE	HOOD
HOOD	TAG								WIRE			F	IRE SYSTEM	ELECTRICAL	SWITCHES	SYSTEM	
NO.	1710	TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY.	TYPE	GUARD	LOCATION	SIZE	TYPE	SIZE	MODEL#	QUANTITY	PIPING	
1		SS Baffle with Handles	5	20"	16"	30%	3	L55 Series E26	NO	Left	12"x54"x24"	Ansul R102	3.0/3.0	SC-311110FP	1 Light 1 Fan	YES	591 LBS
2		SS Baffle with Handles	6	20"	16"	30%	3	L55 Series E26	NO							YES	484 LBS

HOOD OPTIONS

TAG	OPTION
	FIELD WRAPPER 17.00" High Front
	BACKSPLASH 80.00" High X 217.00" Long 430 SS Vertical
	BACKSPLASH 120.00" High X 18.00" Long 430 SS Vertical
	BACKSPLASH 120.00" High X 18.00" Long 430 SS Vertical
	RISER SENSOR INSTALL 3IN DBL
	FIELD WRAPPER 17.00" High Front, Right
	RIGHT SIDESPLASH 80.00" High X 54.00" Long 430 SS Vertical
	RIGHT END STANDOFF (FINISHED) 1" Wide 54" Long Insulated
	RISER SENSOR INSTALL 3IN DBL
	TAG

RIGHT WALL AS END PANEL

<u>PERI</u>	FORAT	ED SU	PPLY .	<u>PLENU</u>	IM(S)						
LICOR									RISER(S	S)	
HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	WIDTH	LENG.	DIA.	CFM	S.P.
1		Front	108"	18"	6"	MUA	12"	28"		757	0.185"
		TTOTIL	100	10	O	MUA	12"	28"		757	0.185"
						MUA	12"	24"		630	0.177"
2		Front	109"	18"	6"	MUA	12"	24"	·	630	0.177"
						MITA	12"	24"		630	0.177"

System Design Verification (SDV)

If ordered, CAS Service will perform a System Design Verification (SDV) once all equipment has had a complete start up per the Operation and Installation Manual. Typically, the SDV will be performed after all inspections are complete.

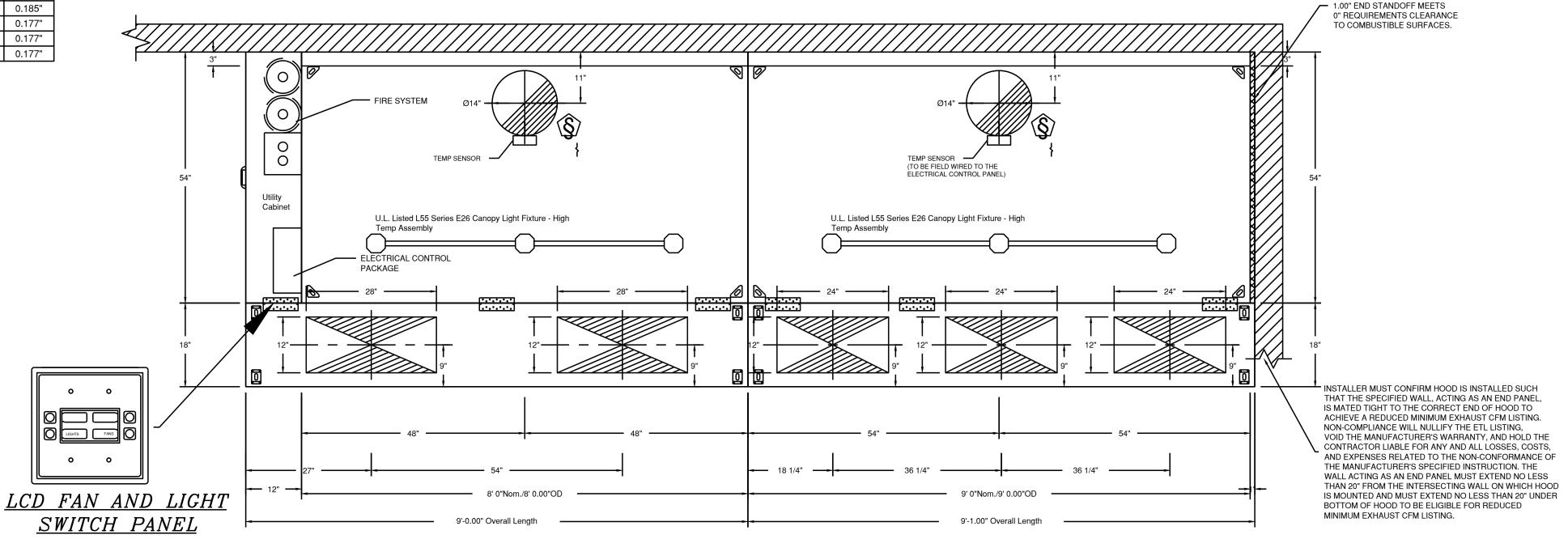
Any field related discrepancies that are discovered during the SDV will be brought to the

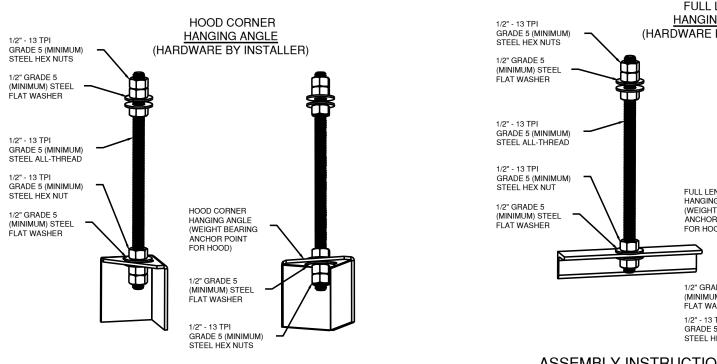
attention of the general contractor and corresponding trades on site. These issues

will be documented and forwarded to the appropriate sales office. If CAS Service has to resolve a discrepancy that is a field issue, the general contractor will be notified and

billed for the work. Should a return trip be required due to any field related discrepancy that cannot be resolved during the SDV, there will be additional trip charges.

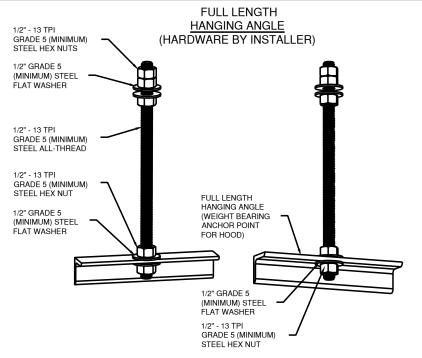
During the SDV, CAS Service will address any discrepancy that is the fault of the manufacturer. Should a return trip be required, the general contractor and appropriate sales office will be notified. There will be no additional charges for manufacturer discrepancies.





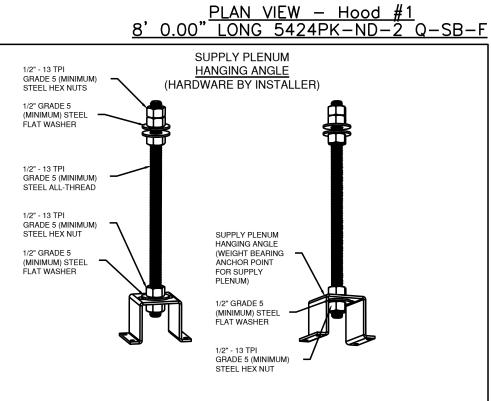
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



ASSEMBLY INSTRUCTIONS

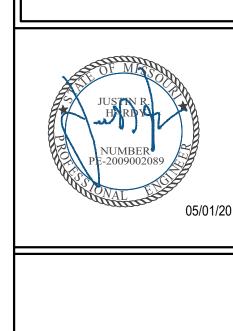
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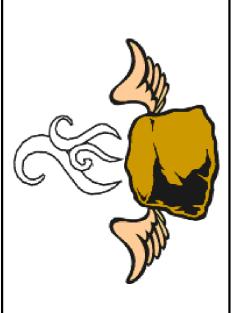


ASSEMBLY INSTRUCTIONS

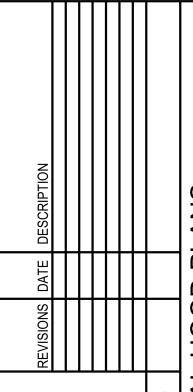
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

<u>PLAN VIEW - Hood #2</u> 9' 0.00" LONG 5424PK-ND-2 Q-SB-F

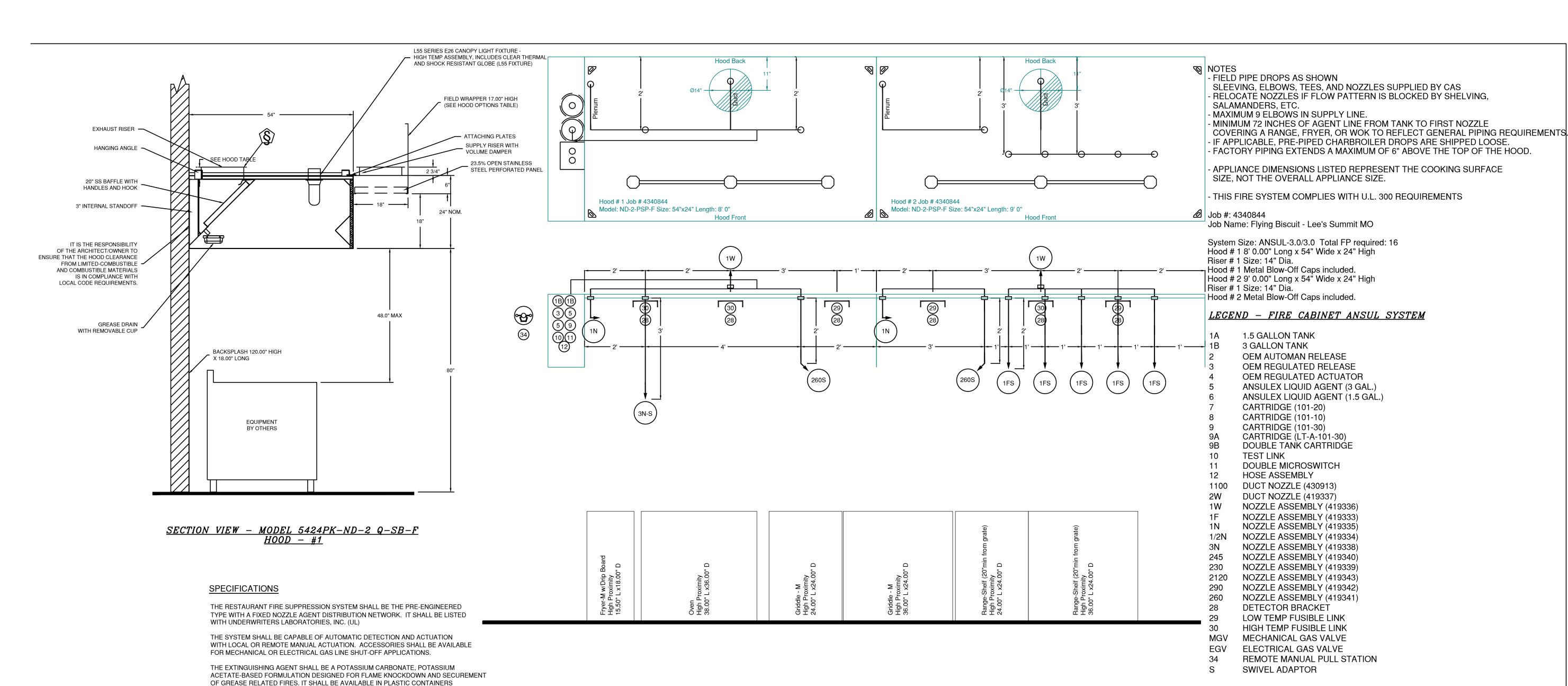




1" LAYER OF INSULATION FACTORY INSTALLED IN

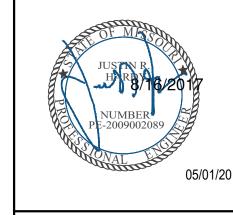


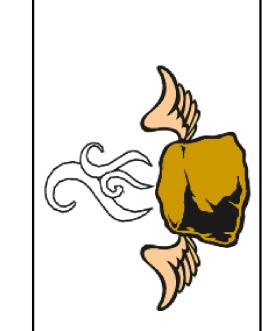
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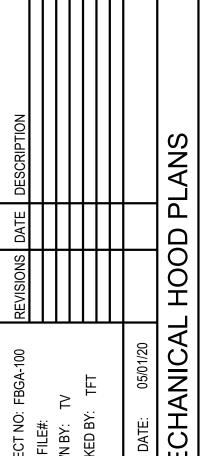


Fire System Information - Joh#4340844

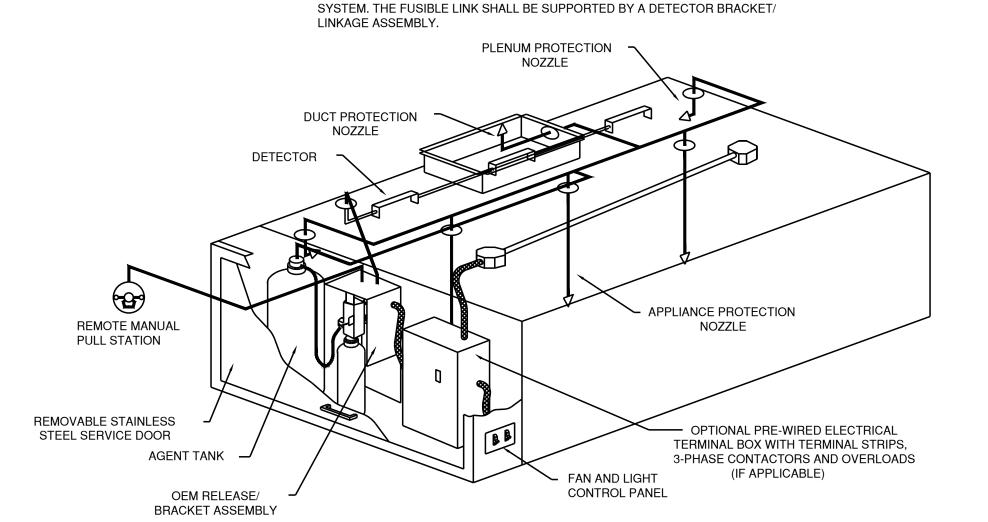
FIRE				FLOW	INSTALLATION					
SYSTEM NO.	Tag	TYPE	SIZE	POINTS	SYSTEM	LOCATION ON HOOD				
1		Ansul R102	3.0/3.0	16	Fire Cabinet Left	Left				







MH1.



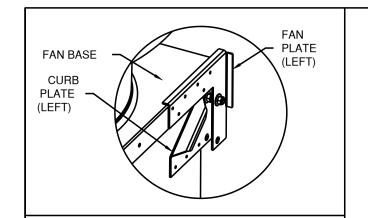
WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND

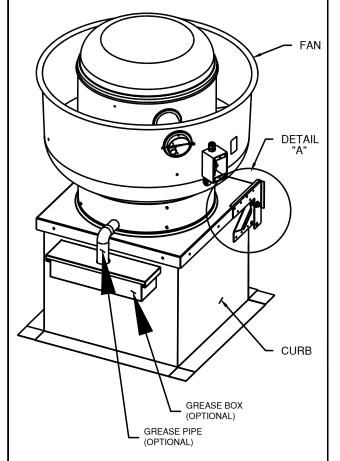
THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE

INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING

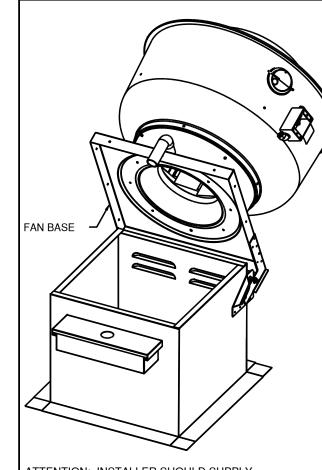
TYPICAL ANSUL R-102 SYSTEM LAYOUT



HINGE KIT DETAIL



FAN IN CLOSED POSITION



ATTENTION: INSTALLER SHOULD SUPPLY ENOUGH ELECTRICAL CORD TO LET FAN MAKE COMPLETE SWING. FAN IN OPEN POSITION

ATTACH GREASE BOX COVER TO THE CURB 3" BELOW TOP EDGE OF CURB.



GREASE BOX INSTALLATION

- A PRE-WIRED ELECTRICAL CONTROL PACKAGE SHALL BE PROVIDED TO OPERATE THE HOOD LIGHTS AND FANS.

 PACKAGE SHALL CONSIST OF SWITCH PANEL WITH LIGHT SWITHCH(ES) AND RED-LIGHTED FAN SWITCH(ES), STARTER/OVERLOAD ASSEMBLY FOR EACH FAN(OPTIONAL), NUMBERED INPUT/OUTPUT TERMINAL STRIPS, AND A TERMINAL FOR DOUBLE-DUAL FIRE SYSTEM MICROSWITCH CONNECTION.

 ONE RELAY IS WIRED TO MICROSWITCH (IN FIRE SYSTEM) FOR SUPPLY FAN SHUTDOWN AND OTHER RELAY FOR ADDITIONAL FIRE SYSTEM ACTIVATED DRY CONTACTS.

 ELECTRICAL CONDUIT DROPS FROM THE FAN(S) SHALL BE CONNECTED TO THE NUMBERED TERMINAL STRIP. CONDUIT BETWEEN THE PRE-WIRE PACKAGE AND FAN(S) SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR.

ELECTRICAL PACKAGE NOTES

EXHA.	UST	FAN INFORMATION - Job)# <i>43408</i>	344										
FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	MOTOR ENCL.	H.P.	B.H.P.	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	KEF-1	BDU24HPK	4250	1.000	899	ODP	2.000	1.2660	3	208	5.9	966 FPM	246	17.5

MUA FAN INFORMATION - Job#4340844

	CAIV	INTORMATION 500#+5+																
FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	MOTOR ENCL.	H.P.	B.H.P.	Ø	VOLT	FLA	MCA	MOCP	WEIGHT (LBS.)	SONES
2		K-A2-D.500-G15	G15-PB	A2-D.500	2000	3405	0.500	837	ODP	2.000	1.4680	3	208	5.9	7.4A	15A	664	13.3

CAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2		247993	228154	65 deg F	7 in. w.c 14 in. w.c.	Natural	92

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty Descr.)
1	KEF-1	1 - Grease Box
		1 - AC Interlock Relay - 24VAC Coil
		1 - Motorized Backdraft Damper for A2-D Housing
		1 - Low Fire Start
		1 - Inlet Pressure Gauge, 0-35"
2		1 - Manifold Pressure Gauge, -5 to 15" wc
		1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only
		1 - Size 2 Direct Fired Heater Low CFM Profile Package. Used on Heaters under

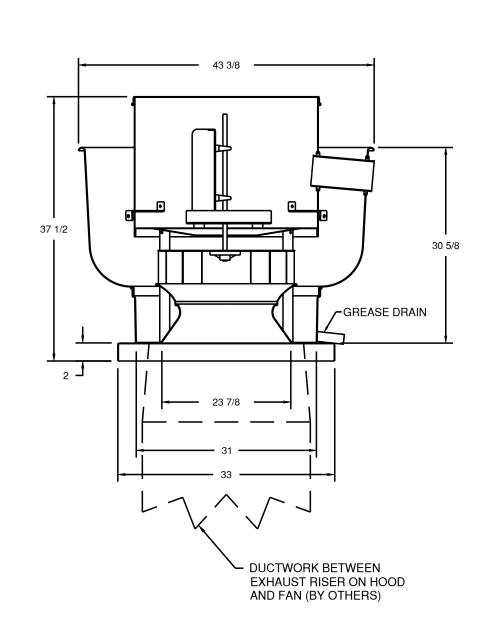
FAN ACCESSORIES

FAN UNIT	TAG		EXHAUST			SUPF	PLY	
NO.	TAG	GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						
2							YES	

CURB ASSEMBLIES

	NO.	ON FAN	TAG	WEIGHT	ITEM	SIZE
	1	# 1	KEF-1	48 LBS	Curb	31.500"W x 31.500"L x 20.000"H Vented Hinged
Ī	2	# 2		80 LBS	Curb	31.000"W x 79.000"L x 20.000"H Insulated

FAN #1 BDU24HPK - EXHAUST FAN (KEF-1)



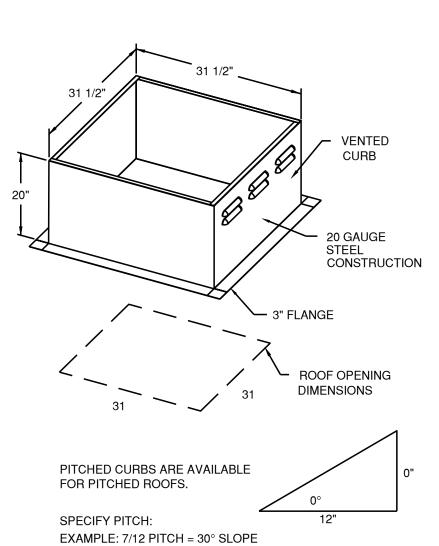
FEATURES:

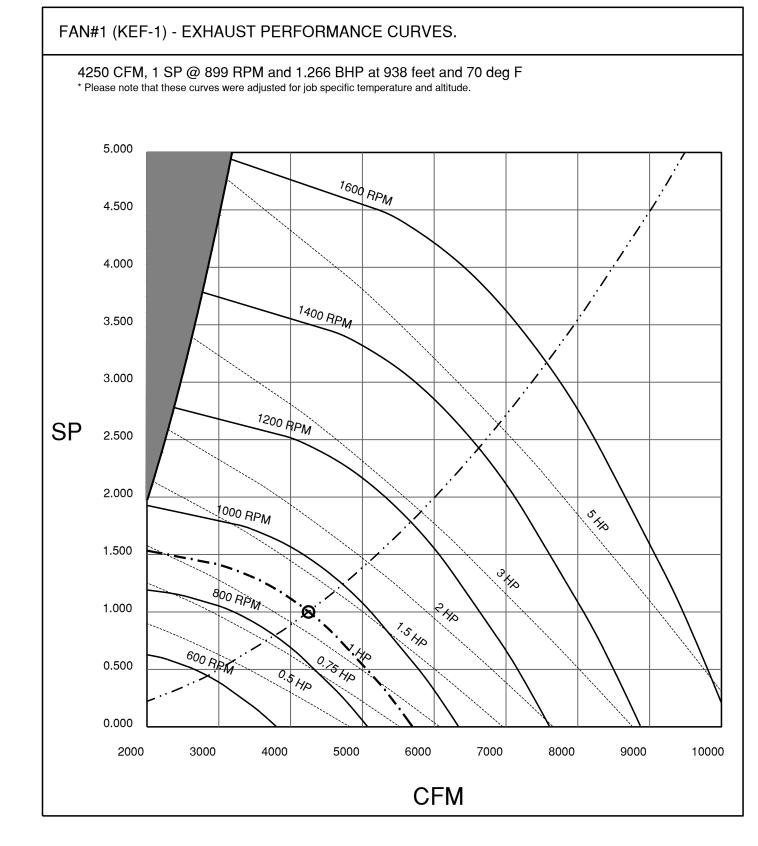
- ROOF MOUNTED FANS - RESTAURANT MODEL - UL705 AND UL762 AND ULC-S645 - AMCA SOUND AND AIR CERTIFIED - WIRING FROM MOTOR TO DISCONNECT SWITCH - WEATHERPROOF DISCONNECT - HIGH HEAT OPERATION 300°F (149°C) - GREASE CLASSIFICATION TESTING

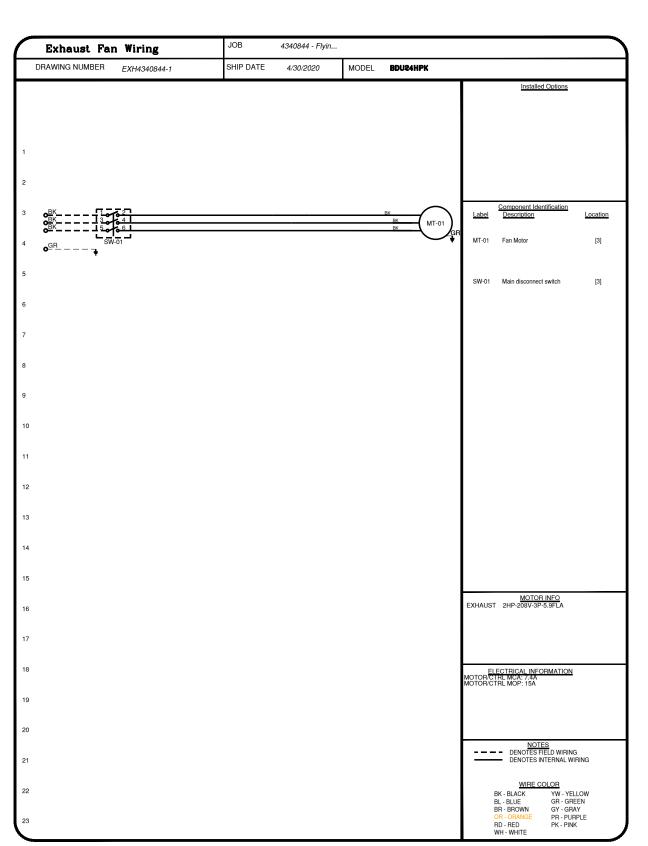
NORMAL TEMPERATURE TEST EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

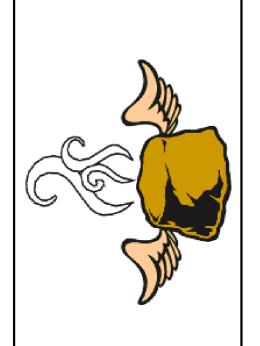
<u>OPTIONS</u> GREASE BOX.



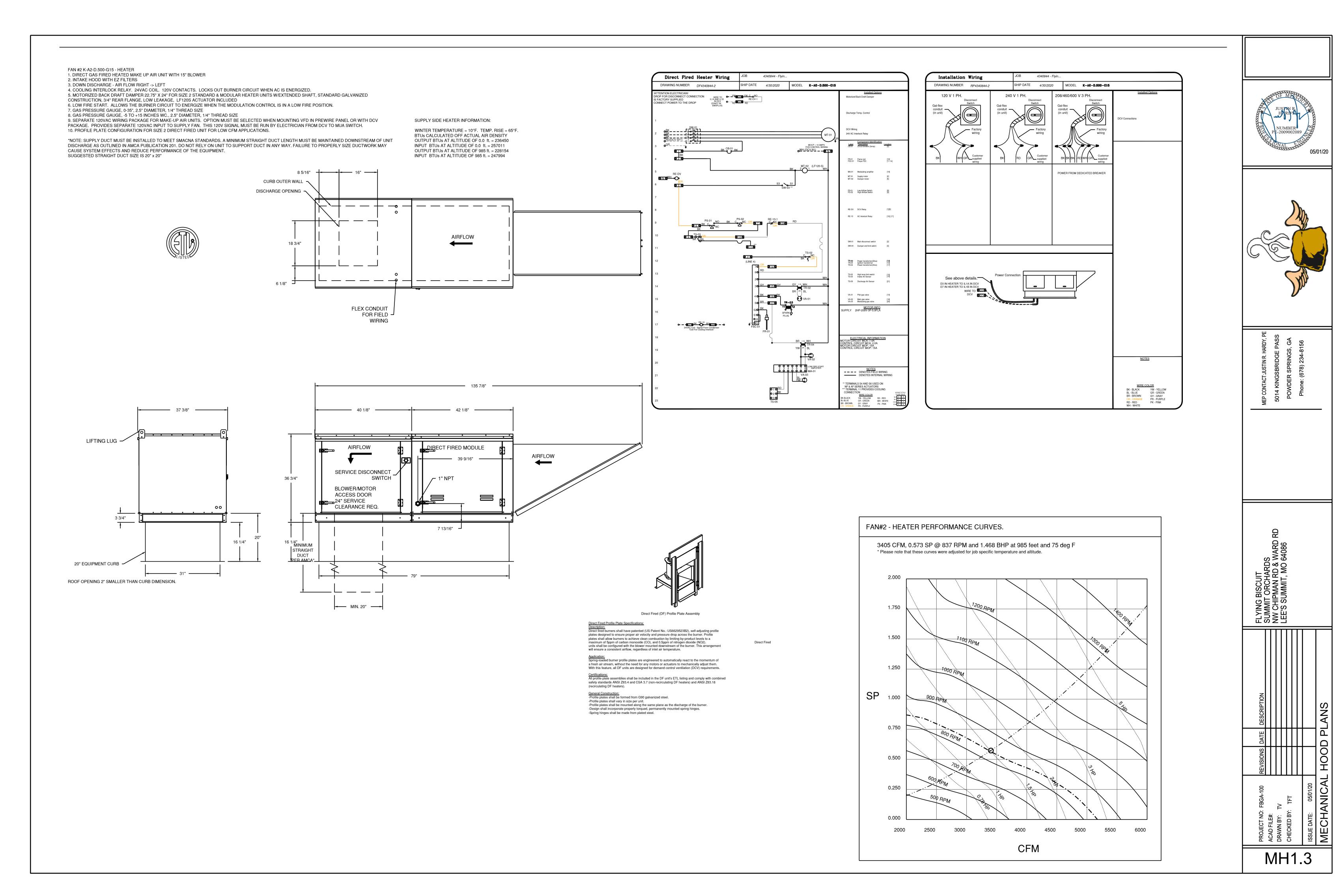






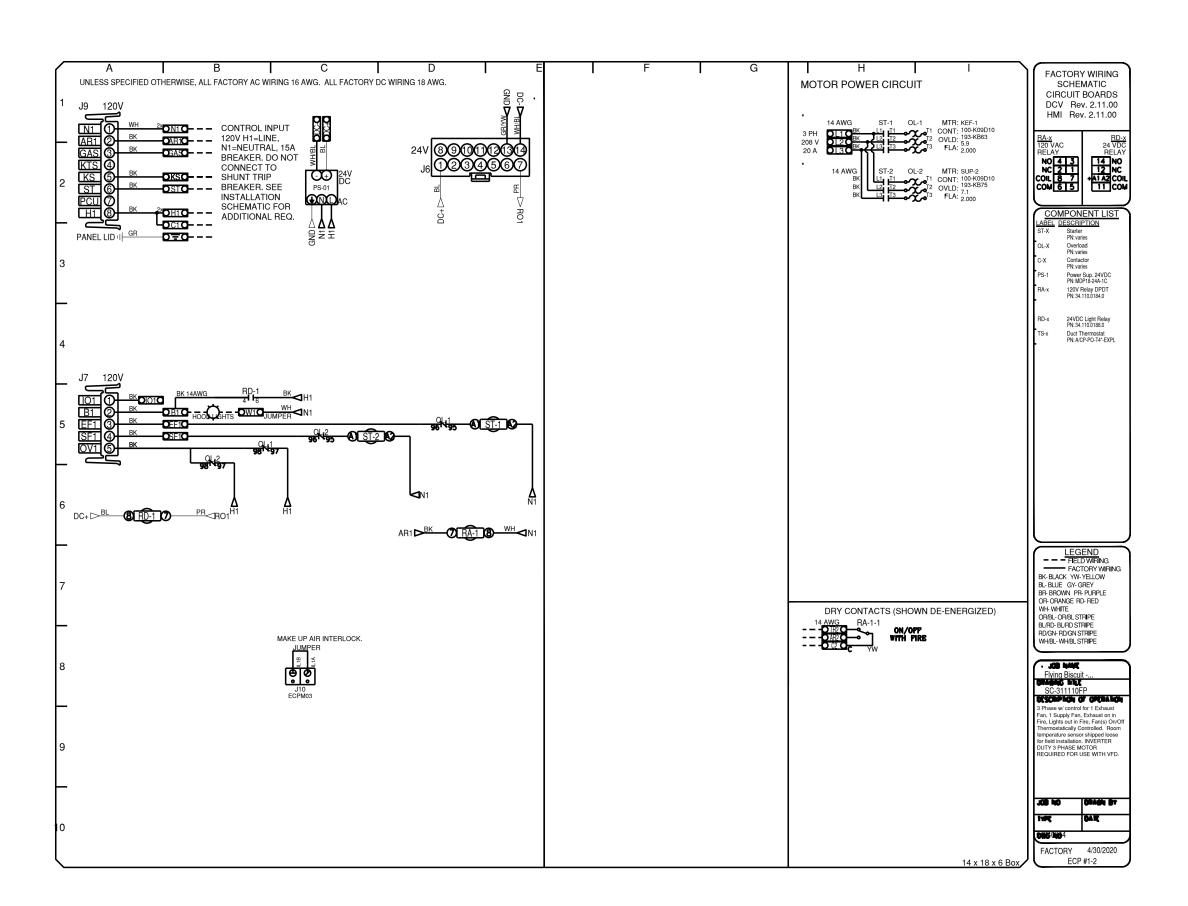


REVISIONS DATE DESCRIPTION					SNA
DATE					D D
REVISIONS					VICAL HOOD PLANS
jA-100	•	<u> </u>	<u>- </u>)5/01/20	ICAI



ELECTRICAL PACKAGE - Job#4340844

NO	TAG	PACKAGE #	LOCATION	SWITCH	HES	OPTION	FANS (CONTROLLE	D			
				LOCATION	QUANTITY		FAN TAG	TYPE	ф	H.P.	VOLT	FLA
		SC-311110FP	Utility Cabinet Left	03 - Utility Cabinet Left	1 Light	Smart Controls Thermostatic Control	KEF-1	Exhaust	3	2.000	208	5.9
'		5C-311110FP	Offility Cabillet Left	Hood # 1	1 Fan	Smart Controls Thermostatic Control		Supply	3	2.000	208	5.9



ELECTRICIAN NOTES :

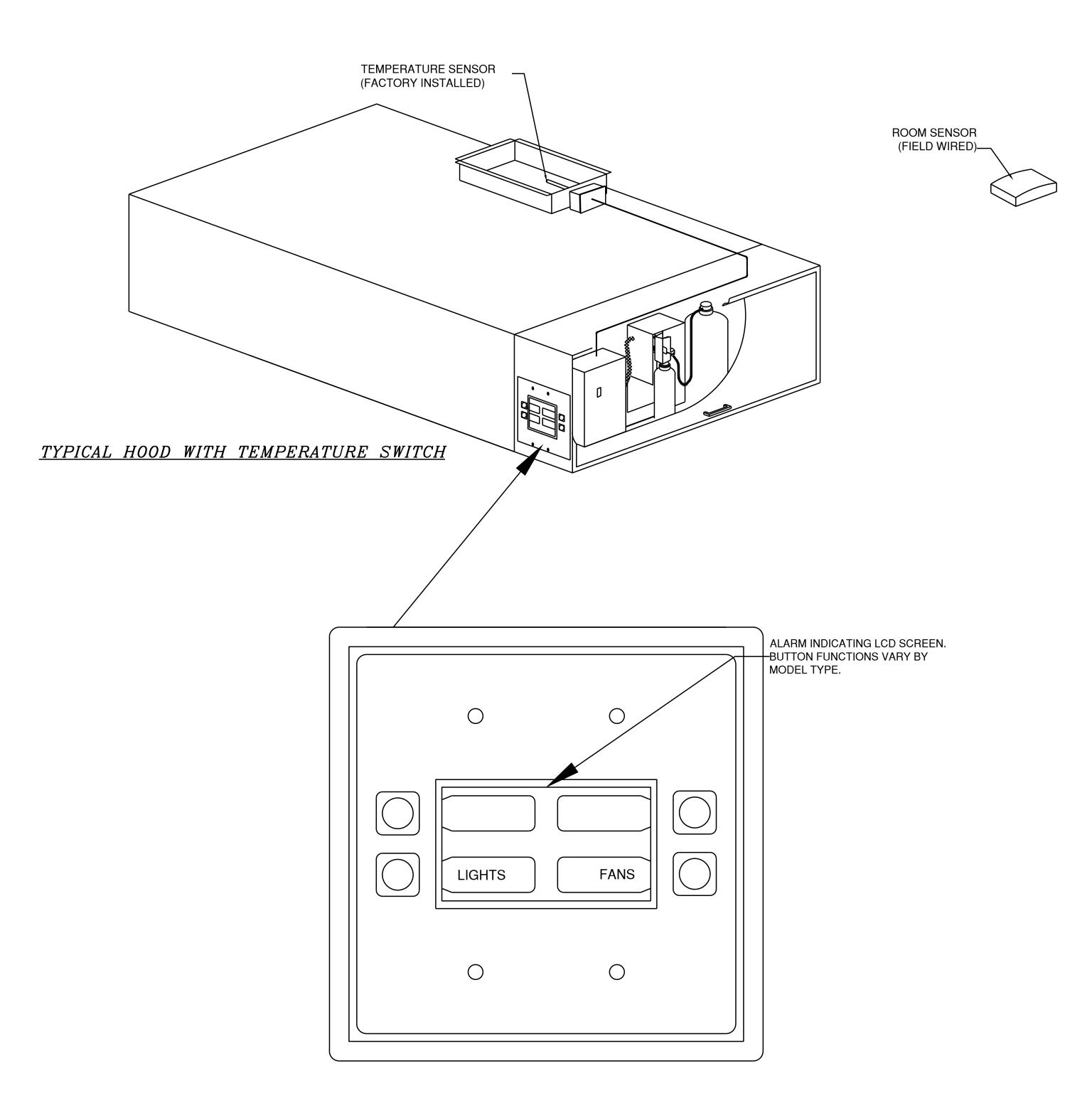
All Hood/Fan/EMS/UDS/PCU electrical connections and interconnections to be provided and installed by Electrician. Electrician to provide, install, and land wiring between hood lights, hood temp sensors, remote Ansul system microswitches, and any other component requiring an electrical connection to the Captive-Aire electrical package.

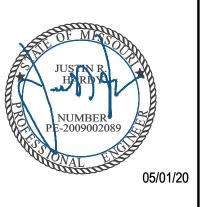
Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician.

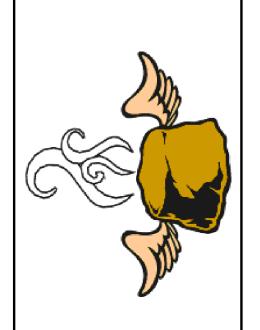
Light bulbs for kitchen hoods to be provided and installed by electrician.

TEMPERATURE SENSOR INTERLOCK

The Temperature Sensor Interlock option complies with IMC 2006 507.2.1.1 and NFPA 96 11.1.1 by interlocking with cooking appliances through means of a heat sensor to automatically activate exhaust fans during cooking operations.



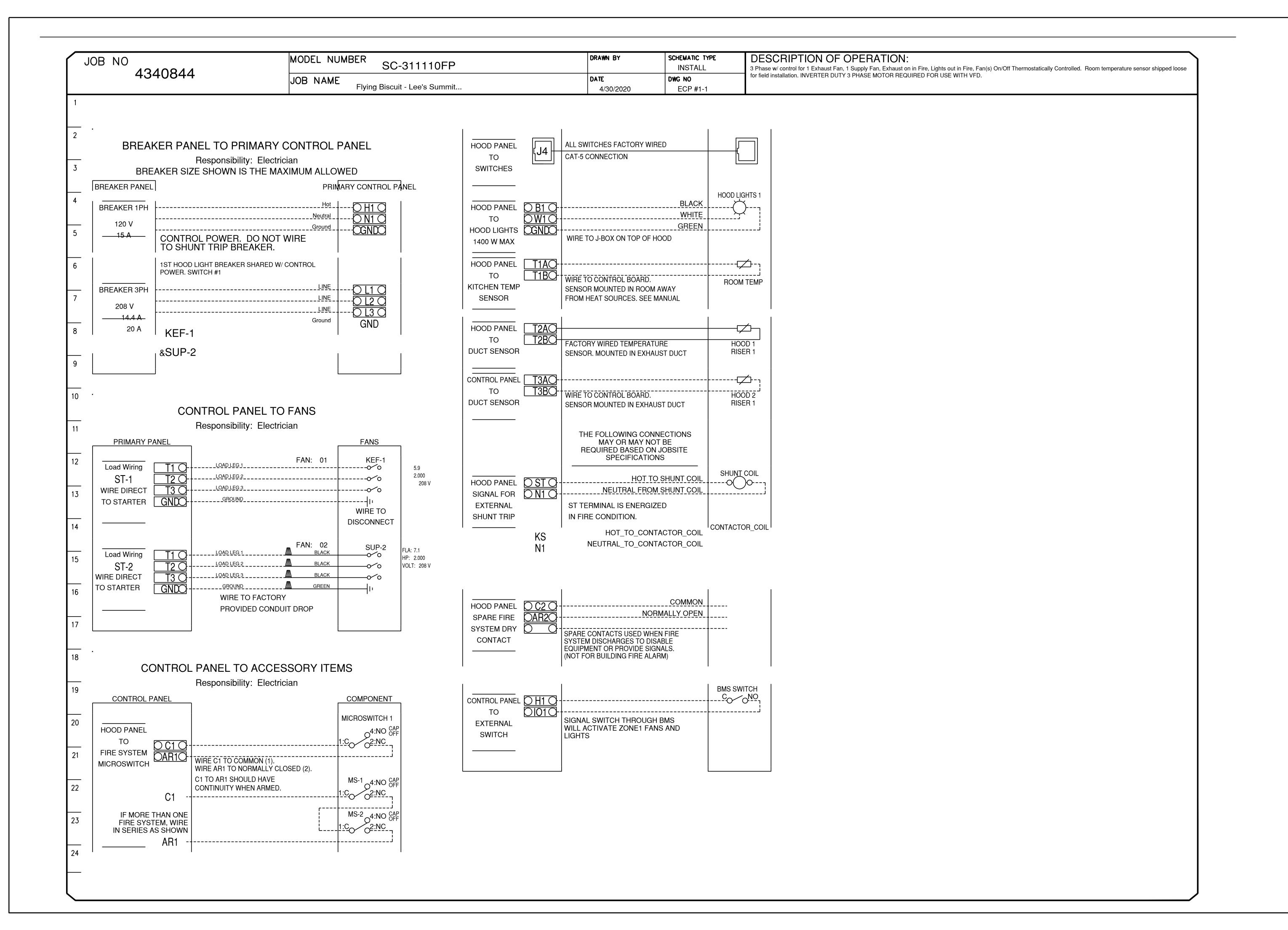


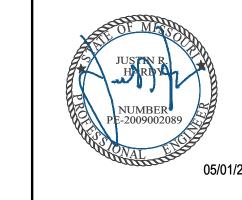


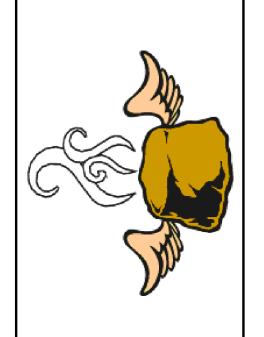
MEP CONTACT:JUSTIN R. HARDY, PE 5014 KINGSBRIDGE PASS POWDER SPRINGS, GA

FLYING BISCUIT
SUMMIT ORCHARDS
NW CHIPMAN RD & WARD RD
LEE'S SUMMIT, MO 64086

MH1.4





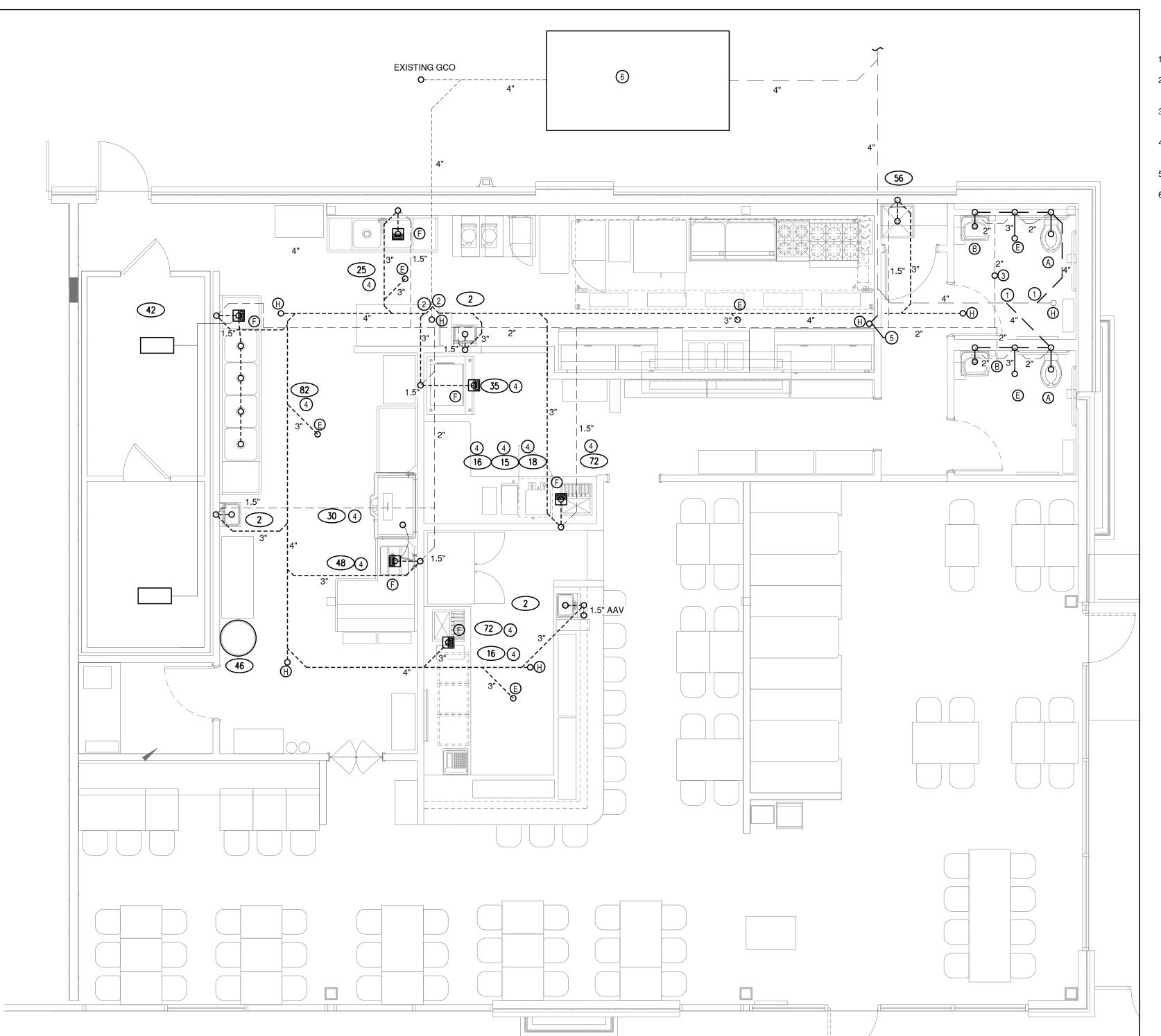


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FLYING BISCUIT
SUMMIT ORCHARDS
NW CHIPMAN RD & WARD RD
LEE'S SUMMIT, MO 64086

ROJECT NO: FBGA-100	REVISIONS	DATE	REVISIONS DATE DESCRIPTION
#1 11 000			
.CAD IEE#.			
RAWN BY: TV			
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HECKED BY: TFT			
SSUE DATE: US/UT/ZU			
MECHANICAL HOOD PLANS	HOO	D PI	ANS
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MH1.5



SANITARY WASTE AND VENT FLOOR PLAN

1/4" = 1'-0"

KEYED NOTES (SYMBOL 1), 2 , ETC.)

- 1. CONNECT TO EXISTING 4" SANITARY LINE PROVIDED BY LANDLORD.
- 2. CONNECT TO EXISTING 4" GREASE WASTE LINE PROVIDED BY LANDLORD TO LANDLORD PROVIDED 1500 GALLON GREASE TRAP.
- 3. 3" VENT THROUGH ROOF. MAINTAIN 10'-0" CLEARANCE FROM ALL FRESH AIR INTAKES.
- 4. INDIRECT WASTE LINE FROM ALL NEARBY EQUIPMENT OVER TO FLOOR SINK (TYP).
- 5. SHIFT EXISTING CLEAN OUT TO NEW LOCATION AS SHOWN.
- 6. EXISTING 1500 GALLON GREASE TRAP PROVIDED BY LANDLORD.

	DFU VALUES			
MARK	DESCRIPTION	QTY	DFU	TOTAL
® ®	FLOOR DRAIN	7	0	0
Ē	FLOOR SINK (3" TRAP)	5	5	25
F G	FLOOR SINK (4" TRAP)	3	6	18
133 303	HAND SINK – KITCHEN AREAS	2	2	4
801 J	UTILITY WASH SINK	1	5	5
A	WATER CLOSET	2	4	8
B	LAVATORY	2	1	2
306	4-COMPARTMENT WITH GREASE TRAP	1	6	6
		TOT	AL	68

SPECIAL NOTES

ALL INDIRECT WASTE OR WASTE PIPING RECEIVING THE DISCHARGE FROM A 4-COMP. SINK, STEAMER OR SIMILAR PIECE OF EQUIPMENT WHICH PRODUCES WATER AT A TEMPERATURE HIGHER THAN 125'F SHALL BE DWV COPPER OR CAST IRON 10'-0" (MIN) DOWNSTREAM FROM THE FROM THE OUTLET PRODUCING SUCH DISCHARGE. COORDINATE WITH EQUIPMENT SUPPLIER.

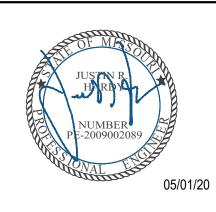
NOTE:
FOR PIPE SIZE INFORMATION.
SEE PIPING DIAGRAM, SHEET P2.0

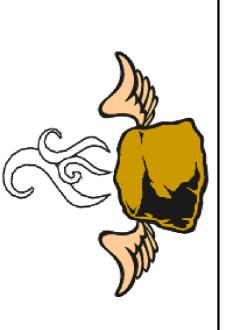
PLUMBING GENERAL NOTES

- 1. THE EQUIPMENT ROUGH-IN ITEMS AND THEIR DIMENSIONED LOCATIONS FOR ALL CONNECTIONS ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE IN SOME INSTANCES THE OWNER OR SUPPLIER MAY MAKE SUBSTITUTIONS OR THE EQUIPMENT ITEMS MAY VARY FROM WHAT IS SHOWN. THEREFORE, THESE ITEMS AND DIMENSIONS SHALL BE VERIFIED WITH THE EQUIPMENT SUPPLIER, OWNER AND/OR EQUIPMENT ROUGH-IN DRAWINGS. THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED, PRIOR TO CONSTRUCTION, OF ANY DEVIATIONS FROM WHAT IS SHOWN OR IMPLIED ON THESE DRAWINGS. FAILURE OF THE APPROPRIATE CONTRACTOR TO VERIFY ROUGH-INS OR THEIR LOCATIONS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATION AND/OR ADDITIONAL ROUGH-INS DIRECTLY UPON THE CONTRACTOR.
- 2. CONTRACTOR SHALL SUPPLY TO THE ARCHITECT SIX COPIES OF SHOP DRAWINGS FOR APPROVAL SO THE QUALITY OF INTENDED MATERIALS OR EQUIPMENT CAN BE REVIEWED BEFORE INSTALLATION. THERE WILL BE NO DRAW UNTIL SHOP DRAWINGS HAVE BEEN SUBMITTED AND REVIEWED BY ARCHITECT/ENGINEER.
- B. DO NOT SCALE THIS DRAWING. REFER TO ARCHITECTURAL FLOOR PLANS
- 4. THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED, IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.
- 5. VERIFY SERVICE POINTS AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITIES AND/OR LANDLORD (DOMESTIC WATER, SANITARY SEWER, GAS, ETC.)
- 6. THE CONTRACTOR SHALL COOPERATE FULLY AMONG THE TRADES.
- ALL ROOF PENETRATIONS FOR ROOF DRAINS AND PLUMBING/GAS/ REFRIGERANT PIPING SHALL BE MADE IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURER'S GUIDELINES. COORDINATE WITH ARCHITECTURAL DETAILS AND/OR LANDLORD FOR ROOF SYSTEM USED.
- PLUMBING CONTRACTOR SHALL VERIFY WITH THE LOCAL HEALTH
 DEPARTMENT AND/OR WATER COMPANY AS TO THE METER AND VALVING
 ARRANGEMENT OF THE DOMESTIC WATER SERVICE LINE WHICH ENTERS
 THE BUILDING. SHOULD A BACKFLOW PREVENTER ASSEMBLY AND/OR
 PRESSURE REDUCING VALVE ASSEMBLY BE REQUIRED, THE PLUMBER
 SHALL FURNISH AND INSTALL SAME PER LOCAL AND STATE
 REQUIREMENTS. THE BACKFLOW ASSEMBLY SHALL BE A "WATTS" SERIES
 #909 OR APPROVED EQUAL MEETING ASSE STANDARDS 1013, 1015 AND
 1020. IF BACKFLOW PREVENTER IS INSTALLED, PROVIDE PROPERLY SIZED
 THERMAL EXPANSION TANK IN SUPPLY PIPING OF WATER HEATER. IF
 WATER PRESSURE IS 65 PSI OR GREATER, A PRESSURE REDUCING
 VALVE ASSEMBLY SHALL BE A "WATTS" SERIES #25AUB-Z3 OR APPROVED
 EQUAL SET AT 50 LBS. DELIVERY PRESSURE UNLESS OTHERWISE NOTED.
- 9. THE WATER PIPING SYSTEM SHALL BE FLUSHED AND STERILIZED IN ACCORDANCE WITH LOCAL REGULATIONS.
- 10. THE POTABLE WATER SUPPLY SHALL BE PROTECTED AGAINST BACKFLOW AND SIPHONAGE BOTH NATURAL AND INDUCED. ALL EQUIPMENT CONNECTED TO THE POTABLE WATER SYSTEM BEING CAPABLE OF POLLUTING OR CONTAMINATING THE POTABLE WATER DISTRIBUTION SYSTEM OR ANY PART THEREOF BY MEANS OF A REVERSAL OF FLOW, PRESSURE DROP, PRESSURE LOSS, INDUCED VACUUM OR BY INJECTION BECAUSE OF ANY PRIMARY OR AUXILIARY PUMPING SYSTEM CONNECTED THERETO MUST BE ISOLATED AND CONTAINED BY MEANS OF APPROVED BACKFLOW DEVICES, CHECK VALVES, AIR GAPS OR VACUUM BREAKERS. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL THESE DEVICES PER LOCAL CODE REQUIREMENTS.
- 11. THE HOT AND COLD WATER SUPPLY BRANCHES FOR ALL EQUIPMENT HAVING QUICK CLOSING VALVES OF ANY TYPE SHALL HAVE WATER HAMMER ARRESTORS INSTALLED AT THE HIGH POINT ON THE END OF EACH BRANCH.
- 12. FURNISH AND INSTALL SHUTOFF OR BALL VALVE AND DIELECTRIC UNION ON ALL EQUIPMENT HOT AND COLD WATER LINES. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO EQUIPMENT. COORDINATE WITH EQUIPMENT SUPPLIER FOR EXACT REQUIREMENTS.
- 13. FURNISH & INSTALL 1/2" (MIN.) FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON ALL HOT, COLD, RECIRCULATING WATER LINES ABOVE SLAB AND ALL CONDENSATE FROM MECHANICAL UNITS.
- 14. WATER PIPE AND FITTINGS SHALL BE COPPER OR BRASS PER CODE.
 ABOVE GROUND SHALL BE TYPE L RIGID COPPER. BELOW GROUND SHALL
 BE TYPE K SOFT COPPER WITH NO JOINTS PERMITTED BELOW GROUND.
 ALL JOINTS SHALL BE MADE WITH 95-5 SOLDER OR EQUAL.
- 15. BARRIER FREE LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT 500R BY BROCAR (1-800-827-1207) OR EQUAL. ABRASION RESISTANT EXTERIOR COVER SHALL BE SMOOTH AND HAVE 1/8" MIN. WALL OVER CUSHIONED FOAM INSERT. FASTENERS SHALL REMAIN SUBSTANTIALLY OUT OF SIGHT.
- INSERT. FASTENERS SHALL REMAIN SUBSTANTIALLY OUT OF SIGHT.

 16. VERIFY MOUNTING HEIGHTS OF ALL BARRIER FREE FIXTURES WITH ARCH.
 PLANS
- 17. INSTALL 1" FIBERGLASS INSULATION W/ALL-SERVICE JACKET ON ALL ROOF LEADERS ABOVE CEILING.
- 18. FURNISH AND INSTALL CONDENSATE LINES FROM ANY MECHANICAL EQUIPMENT AS REQUIRED. ANY CONDENSATE LINE RUN ABOVE THE CEILING OR IN A LOCATION WHERE THE PIPE'S SWEATING COULD CAUSE DAMAGE, SHALL BE INSULATED. RUN FULL SIZE TO DRAIN OR AS INDICATED ON PLANS. TURN DOWN WITH REQUIRED AIR GAP.

- 19. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL COPPER INDIRECT WASTE PIPING REQUIRED FROM EQUIPMENT TO FLOOR DRAINS, OPEN RECEPTACLES, OR FLOOR SINKS. PIPING SHALL COMPLY WITH STATE AND LOCAL CODES. COORDINATE WITH ALL EQUIPMENT SUPPLIERS AND SIZE AS REQUIRED BY PIECE OF EQUIPMENT SERVED. HOLD PIPING TIGHT TO WALL WHERE APPLICABLE. PROPERLY SECURE AS REQUIRED. COORDINATE WITH CASEWORK SUPPLIER FOR MAXIMUM CLEARANCE UNDER CARINETS.
- 20. ALL EXPOSED GAS PIPING SHALL BE PAINTED TO MATCH ADJACENT WALL.
- 21. ALL VENT PIPE TO BE COMPATIBLE WITH STRUCTURE, MECHANICAL EQUIPMENT AND DUCTWORK, ELECTRICAL EQUIPMENT AND LIGHTING.
- 22. THE NATURAL GAS TO THE EQUIPMENT SHALL BE LOW PRESSURE. THE REGULATOR OUTLET PRESSURE SHALL BE 7" WATER COLUMN. IF THE GAS COMPANY IS UNABLE TO PROVIDE THIS PRESSURE, IMMEDIATELY CONTACT THE A/E OR OWNER FOR INSTRUCTIONS. GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL, U.O.N.
- PROVIDE CHROME PLATED ESCUTCHEONS AT ALL WALL PENETRATIONS.
- 4. WASTE AND VENT PIPING SHALL BE CAST IRON. CONTRACTOR MAY USE SCHEDULE 40 OR 80, TYPE 1, GRADE 1, POLYVINYL CHLORIDE COMPOUNDS AS DEFINED AND DESCRIBED IN TENTATIVE SPECIFICATIONS FOR RIGID
- 25. WASTE AND VENT PIPING SHALL BE CAST IRON. CONTRACTOR MAY USE SCHEDULE 40 OR 80, TYPE 1, GRADE 1, POLYVINYL CHLORIDE COMPOUNDS AS DEFINED AND DESCRIBED IN TENTATIVE SPECIFICATIONS FOR RIGID PVC (ASTM DESIGNATION: D 2665, D 2949, F891 OR SCHEDULE 40 OR 30 ACRYLONITRILE-BUTADIENE-STYRENE COMPOUND AS DEFINED AND DESCRIBED IN STANDARD SPECIFICATIONS FOR ABS (ASTM DESIGNATION: D2661 OR F 628) IN LIEU OF CAST IRON WASTE AND VENT PIPING IF PERMITTED BY CODE. INSTALL PVC OR ABS PIPING PER CODE. PLUMBING CONTRACTOR SHALL INSTALL 4" SOIL, WASTE AND GREASE WASTE PIPING WITH A MINIMUM SLOPE OF 1/8" PER FOOT OR AS REQUIRED BY CODE.
- 26. ALL FLOOR SINKS AND TRENCH DRAINS SHALL HAVE MEMBRANE CLAMPS. SEE ARCH. SHEETS FOR FLOOR SLOPES AROUND DRAINS. (IF REQ'D)
- 27. ALL NEW V.T.R'S SHALL BE EXTENDED TO A MINIMUM OF 12" ABOVE PARAPET HEIGHT AND MAINTAINED 10'-0" MINIMUM FROM ALL OUTSIDE AIR INTAKES.
- 28. MATERIALS, EQUIPMENT, ASSEMBLIES AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF NATIONALLY RECOGNIZED TESTING ORGANIZATION SUCH AS THE UL, ASTM, ASSE, AWWA, AGA AND NFPA AS WELL AS THE MOST CURRENT VERSION OF THE STATE CODE AND LOCAL AMENDMENTS.
- 29. ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE PER LOCAL CODE REQUIREMENTS. REPLACE ANY AND ALL CONTRACTOR SUPPLIED DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF PROJECT.
- 30. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.
- 31. ALL EQUIPMENT, FIXTURES AND MATERIALS SHALL BE NEW AND UNUSED, AND INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS (U.O.N.). PROVIDE COMPLETE WITH ALL TRIM, STOPS, HANGERS, CARRIERS, SUPPORTS, ETC. INCLUDING PROVISIONS FOR BARRIER FREE USE, IF REQUIRED. WHERE FIXTURES ARE ACCESSIBLE, THEY MUST COMPLY WITH ALL FEDERAL A.D.A. REGULATIONS.
- 32. CONTRACTOR SHALL GUARANTEE ALL WORK FOR WHICH MATERIALS ARE FURNISHED, FABRICATED OR FIELD ERECTED, ALL FACTORY ASSEMBLED EQUIPMENT FOR WHICH NO SPECIFIC MANUFACTURER'S GUARANTEE IS FURNISHED AND ALL WORK IN CONNECTION WITH THE INSTALLATION OF MANUFACTURER'S GUARANTEED EQUIPMENT. THIS CONTRACTOR'S GUARANTEE SHALL EXIST FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL OWNER ACCEPTANCE OF THE WORK AND SHALL APPLY TO ALL DEFECTS IN MATERIALS AND/OR WORKMANSHIP OF ANY KIND.
- 33. BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND AND STATE LAWS.
- 34. ALL PERMITS AND FEES REQUIRED FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR AND INCLUDED IN THE BID PRICE.
- 35. ALL PLUMBING FIXTURES AND PIPING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF STATE AND/OR LOCAL CODES. COOPERATE AS REQUIRED WITH ALL AUTHORITIES HAVING JURISDICTION TO INSURE THAT PROPER MATERIALS AND WORKMANSHIP ARE USED. REQUIREMENTS OF STATE AND LOCAL CODES AND AUTHORITIES TAKE PRECEDENCE OVER ANY INFORMATION WHICH IS INDICATED OR IMPLIED ON THESE DRAWINGS.
- 36. THIS SYMBOL INDICATES ITEM TO BE FURNISHED BY OWNER OR KITCHEN EQUIPMENT SUPPLIER. COORDINATE INSTALLATION AND FINAL CONNECTION REQUIREMENTS WITH SUPPLIER. FIELD VERIFY SIZES AND LOCATIONS OF ALL SUPPLIER. FIELD VERIFY SIZES AND LOCATIONS OF ALL WATER, WASTE, INDIRECT WASTE, GAS AND/OR ELECTRICAL CONNECTIONS PRIOR TO INSTALLATION (TYPICAL ALL PLUMBING EQUIPMENT).
- 37. SEE PLUMBING ROUGH-IN DRAWINGS PROVIDED BY KITCHEN EQUIPMENT SUPPLIER FOR MORE INFORMATION.
- 38. ALL INDIRECT WASTE, WASTE PIPING OR FIXTURE WHICH RECEIVES THE DISCHARGE FROM A DISHWASHER, STEAMER OR SIMILAR PIECE OF EQUIPMENT WHICH PRODUCES SIMILAR PIECE OF EQUIPMENT WHICH PRODUCES WATER AT A TEMPERATURE HIGHER THAN 125°F SHALL BE DWV COPPER OR CAST IRON A MINIMUM OF 10'-0" DOWNSTREAM FROM THE OUTLET PRODUCING SUCH DISCHARGE. COORDINATE WITH KES.
- 39. ALL INDIRECT WASTE PIPING FROM EQUIPMENT TO ABOVE FLOOR RECEPTOR SHALL BE 1" (MIN.) COPPER UNLESS LARGER SIZE IS INDICATED BY EQUIPMENT OPENING OR KES.



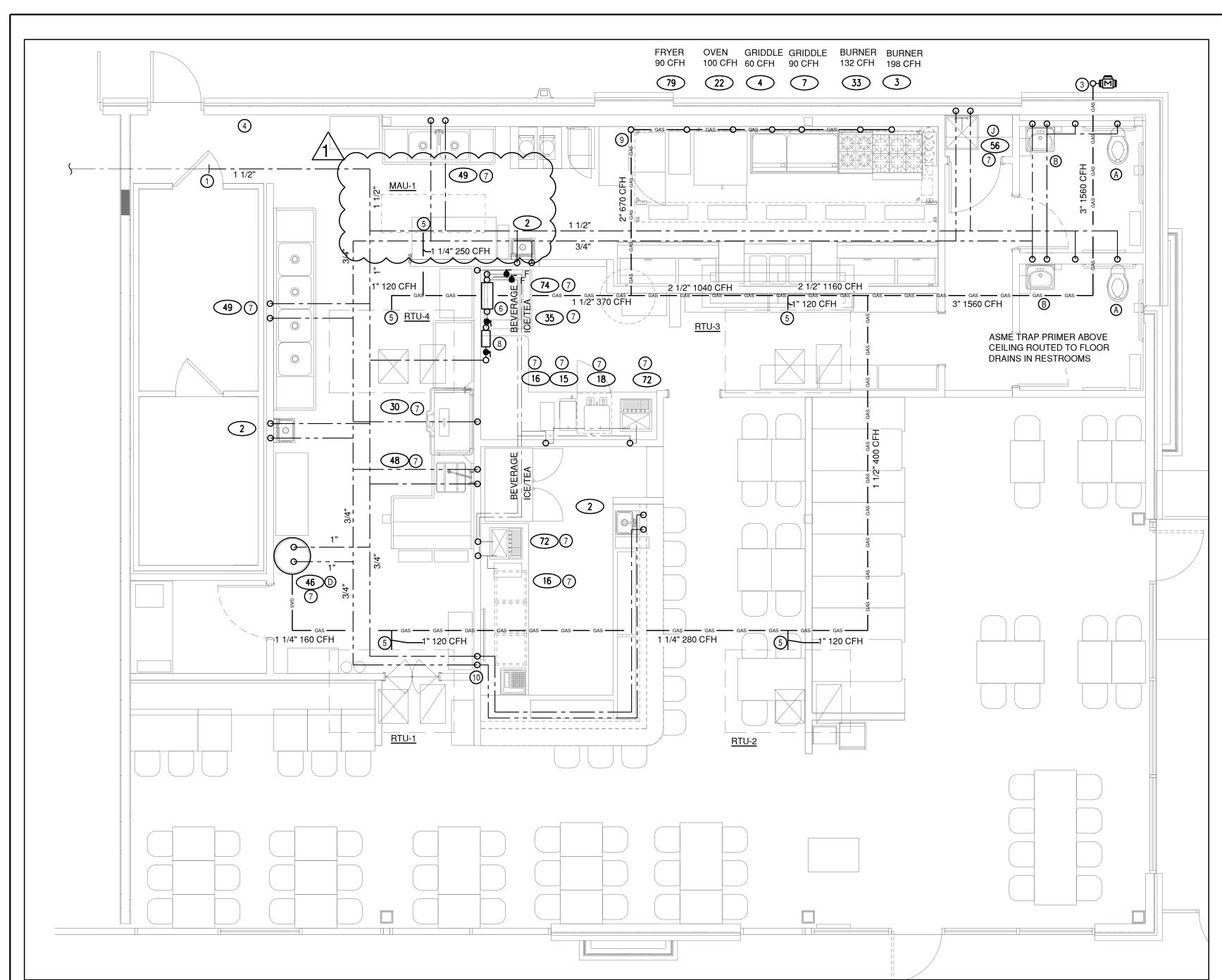


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Phone: (678) 234-8156

FLYING BISCUIT SUMMIT ORCHARDS NW CHIPMAN RD & WARD RD LEE'S SUMMIT, MO 64086

REVISIONS DATE DESCRIPTION									MASTE AND VENT FLOOR PLAN	
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P1 0



DOMESTIC WATER AND GAS FLOOR PLAN

1/4" = 1'-0"

KEYED NOTES (SYMBOL 1), (2), ETC.)

- CONNECT TO 1 1/2" WATER LINE STUB-IN AND 1" METER BY LANDLORD. TENANT CONTRACTOR TO PROCURE/PROVIDE/INSTALL BACKFLOW PREVENTOR AND SERVICE ACTIVATION PER LANDLORD AND UTILITY CO. REQUIREMENTS. CONTRACTOR TO VERIFY AVAILABLE TIE IN LOCATION. PROVIDE BALL TYPE SHUT-OFF VALVE.
- 2. NEW 3" GAS LINE AND METER (1560 CFH). RUN LINE INTO BUILDING ABOVE CEILING LINE. HOLD TIGHT TO STRUCTURE. DEVELOPED LENGTH NOT TO EXCEED 150'. COORDINATE REQUIREMENTS WITH LOCAL JURISDICTION, UTILITY COMPANY AND BUILDING DEPARTMENT.
- 3. COORDINATE ALL UTILITY STUB-INS WITH LANDLORD.
- PANELS. DO NOT CROSS OVER PANELS.
- 5. GAS UP THROUGH ROOF TO ROOF MOUNTED EQUIPMENT.

- 10. DROP 1/2" HW AND CW DOWN IN WALL AND RUN UNDER COUNTER TO FIXTURES.

GAS PIPING NOTES

- 2. GAS PIPING SHALL BE BLACK STEEL OR AS PERMITTED BY CODE.
- OTHERWISE REQUIRED BY CODE.
- WITH ARCHITECT FOR COLOR.
- NFPA #54 (L.P.G.) OR NFPA #96 (COMMERCIAL COOKING EQUIPMENT).
- 6. GAS PIPE SIZES 2-1/2" AND GREATER SHALL BE WELDED, IF REQUIRED BY CODE.
- 7. GAS CONNECTIONS PER ANSI ZZ1.69
- SHALL NOT BE REDUCED IN SIZE UNTIL THE POINT OF FINAL CONNECTION TO THE EQUIPMENT BEING SERVED.
- SLEAVED AND VENTED TO TO THE ATMOSPHERE.
- GAS POWERED KITCHEN EQUIPMENT. PLUMBING CONTRACTOR TO INSTALL REGULATORS.

- 4. ELECTRICAL PANEL LOCATION. ALL PIPING TO BE ROUTED AROUND
- 6. WATER FILTER SYSTEM. SEE ARCH PLANS.
- 7. PROVIDE CODE-APPROVED BACK-FLOW PREVENTER.
- 8. NEW WATER BOOSTER SYSTEM INSTALLED UPSTREAM OF FILTERS BY CONTRACTOR, FURNISHED BY SODA EQUIPMENT VENDOR. COORDINATE WITH SODA VENDOR FOR EXACT LOCATION. VERIFY 40 PSI IS AVAILABLE AND NOTIFY SODA VENDOR IF 40 PSI NOT AVAILABLE.
- 9. GAS PIPING DOWN THROUGH CEILING WITH AUTOMATIC GAS SHUT-OFF BENEATH CEILING. REFER TO DETAIL. HOLD GAS TIGHT TO WALL AT

- 1. GAS PIPING SIZED FOR THE TOTAL CONNECTED LOAD ±100' FROM METER TO FARTHEST CONNECTION, 7" WATER COLUMN 0.6 SPECIFIC GRAVITY, 0.5" PRESSURE LOSS.
- 3. GAS PIPING CONNECTIONS SHALL BE THREADED UNLESS
- 4. EXTERIOR GAS PIPING SHALL RECEIVE ONE COAT EACH OF A RUST AND WEATHER RESISTANT PRIMER AND TOP COAT. COORDINATE
- 5. ALL GAS BURNING EQUIPMENT SHALL BE INSTALLED PER NFPA #58,

- 8. ALL VALVES AND FITTINGS SHALL BE LINE SIZE. GAS PIPING BRANCHES
- 9. ALL GAS PIPING LOCATED IN CONCEALED SPACES SHALL BE
- 10. KITCHEN EQUIPMENT PROVIDER TO PROVIDE NATURAL GAS REGULATORS FOR

CONN	ECTED GAS	LOA	AD SC	HE	DULE
MARK	ITEM	CONN. SIZE	INPUT CFH EACH	QTY.	SUBTOTAL CFH
RTU-1	ROOFTOP UNIT	1"	120	1	120
RTU-2	ROOFTOP UNIT	1"	120	1	120
RTU-3	ROOFTOP UNIT	1"	120	1	120
RTU-4	ROOFTOP UNIT	1"	120	1	120
MAU-1	ROOFTOP UNIT	1"	250	1	250
	MEG	CHANICA	L EQUIPM	ENT CF	H: 750
	8 EYE BURNER	3/4"	198	1	198
	36" GRIDDLE	3/4"	90	1	90
	24" GRIDDLE	3/4"	60	1	60
	4 EYE BURNER	3/4"	132	1	132
	OVEN	3/4"	100	1	100
	FRYER	3/4"	90	1	90
		COOKING	G EQUIPM	ENT CFI	H: 670
	WATER HEATER	1"	160	1	160
				1	ı

WATER HEATER CFH:

TOTAL CFH:

160

1560

DOMESTIC WATER NOTE:

- THE WATER SUPPLY CONNECTION TO CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED AGAINST BACKFLOW BY A DUAL CHECK VALVE W/ATMOSPH. VENT CONFORMING TO NSF STD. NO. 25
- (OR AS REQD BY CODE). THE VALVE AND THE PIPING DOWNSTREAM THEREFROM SHALL NOT
- BE AFFECTED BY CARBON DIOXIDE GAS.

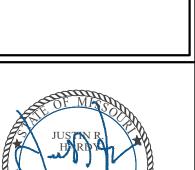
WATER HAM	MER A	ARRES	TOR S	CHEDULE
PDI UNITS	A	В	С	D
FIXTURE UNITS	1-11	12-32	33-60	61–113

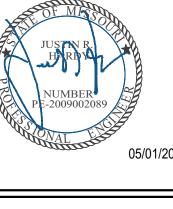
SPECIAL NOTES

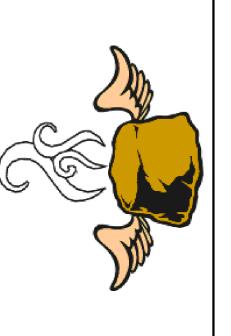
ALL INDIRECT WASTE OR WASTE PIPING RECEIVING THE DISCHARGE FROM A 4-COMP. SINK, STEAMER OR SIMILAR PIECE OF EQUIPMENT WHICH PRODUCES WATER AT A TEMPERATURE HIGHER THAN 125°F SHALL BE DWV COPPER OR CAST IRON 10'-0" (MIN) DOWNSTREAM FROM THE FROM THE OUTLET PRODUCING SUCH DISCHARGE. COORDINATE WITH EQUIPMENT SUPPLIER.

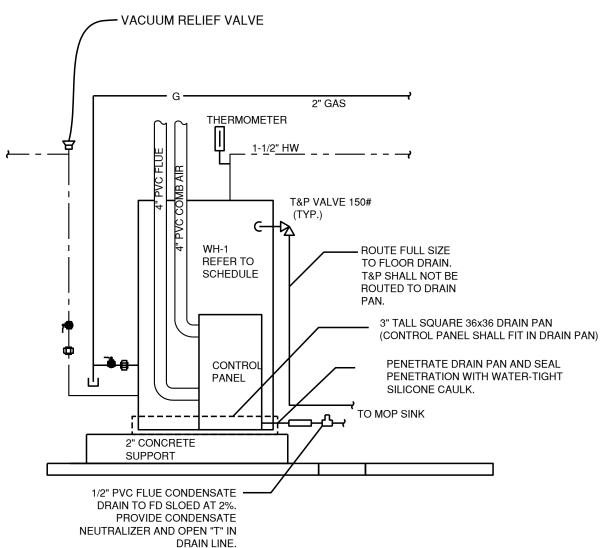
		PLUMB	ING FIXTUR	E SCI	HEDU	JLE			
						COLD	нот	TEMP.	
A	ADA COMPLIANT	ZURN	Z5665-BWL	WHITE	4"	1"			ECOVANTAGE FLUSH VALVE, 1.28 GPF, ELONGATED FLOOR MOUNTED, TOP SPUD TOILET, HARD WIRED — NO WALL PLUG.
B	ADA LAVATORY	ZURN	Z5344	WHITE	1-1/2"	1/2"		1/2"	20"x18" VITREOUS CHINA WALL-MOUNTED LAVATORY WITH 4" CENTER FAUCET HOLES. PROVIDED WITH HANGER PLATE AND HOLES FOR CONCEALED ARM CARRIER SYSTEMS. ZURN #Z6955-XL-S-LL, BATTERY POWERED, LEAD FREE FAUCET ON 4" CTRS, 0.5 GPM VANDAL-RESISTANT PRESSURE COMPENSATING MALE AERATOR. ADA COMPLIANT.
©	WALL HYDRANT	ZURN	Z1321-C-06			1/2"			ANTI-SIPHON, AUTOMATIC DRAINING NON FREEZE WALL HYDRANT COMPLETE WITH INTEGRAL BACKFLOW PREVENTER, COPPER CASING, ALL BRONZE INTERIOR PARTS, NON TURNING OPERATING ROD WITH FREE-FLOATING COMPRESSION CLOSURE VALVE, AND COMBINATION 3/4 FEMALE SOLDER AND 3/4 MALE PIPE THREAD INLET CONNECTION STANDARD.
0	WATER HEATER	RHEEM TANK	HE-55-160			3/4"	3/4"		PROVIDE CONCENTRIC DIRECT VENT, SEALED COMBUSTION; 90% EFFICIENT WITH PVC VENTS
(E)	FLOOR DRAIN	ZURN	ZB415-3NH		3",4"				FLOOR DRAIN, DURA-COATED CAST IRON BODY INTH BOTTOM OUTLET, COMBINATION INVERTIBLE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND "TYPE B" POLISHED BRONZE, LIGHT-DUTY STRAINER.
Ð	FLOOR SINK	ZURN	Z1910-3NH		3",4"				8" SQ. TOP, 6" DEEP, DOME STRAINER. HALF, 3/4 OR NO GRATE AS INDICATED ON PLANS
\oplus	FLOOR CLEANOUT	ZURN	ZB1400-3NH		SIZE		1		8" SQ. TOP, 6" DEEP, ROUND, POLISHED BRONZE TOP.
<u> </u>	MOP BASIN	Zurn	Z1996-24		3"	1/2"	1/2"		FAUCET JP1996-SF W/VACUUM BREAKER, INTEGRAL STOPS, JP1996-HH HOSE AND BRACKET & JP1996-MH MOP HANGER BRACKET.
(GREASE TRAP				4"				1500 GALLON IN GROUND GREASE INTERCEPTOR BY LANDLORD.
M	WALL CLEANOUT	ZURN	ZB1446-3		LINE SIZE				ROUND, POLISHED BRONZE TOP.
(F)	FLOOR SINK (OUTSIDE OF KITCHEN)	ZURN	ZN1910		3",4"				8-1/2" SQ. TOP, 6" DEEP, DOME STRAINER. HALF, 3/4 OR NO GRATE AS INDICATED ON PLANS

- 1. CONTRACTOR SHALL PROVIDE AND INSTALL A WALL CARRIER FOR EACH FIXTURE WHICH IS WALL HUNG, UNLESS OTHERWISE NOTED. PROVIDE APPROPRIATE CARRIER PER FIXTURE TYPE AND
- 2. CONTRACTOR SHALL PROVIDE AND INSTALL ZURN, WATTS, P.P.P.INC. (OR EQUAL) TRAP PRIMERS TO SERVE ALL FLOOR DRAINS REQUIRING PROTECTION PER CODE.
- 3. CONTRACTOR SHALL PROVIDE AND INSTALL SHOCK ARRESTORS FOR BRANCH PIPING SERVING FIXTURES WITH QUICK CLOSING VALVES. SHOCK ARRESTORS SHALL BE BY P.P.P., ZURN OR EQUAL, SIZED PER PDI REQUIREMENTS.
- 4. ACCEPTABLE ALTERNATE MANUFACTURERS FOR ITEMS INCLUDING BUT NOT LIMITED TO:
- 4.a. WATER CLOSETS: AMERICAN STANDARD, KOHLER, ELJER, CRANE, MANSFIELD 4.b. LAVATORIES: AMERICAN STANDARD, KOHLER, ELJER, CRANE, MANSFIELD
- URINALS: AMERICAN STANDARD, KOHLER, ELJER, CRANE, MANSFIELD
- 4.d. FLOOR SINKS, FLOOR DRAINS AND CLEANOUTS: ZURN, WADE, J.R. SMITH. (VERIFY MEMBRANE CLAMPS ARE AVAILABLE WHERE SPECIFIED IN SCHEDULE)
- 4.e. WATER HEATERS: RINNAI, PALOMA.
- 4.f. HOSE BIBBS/WALL HYDRANTS: ZURN, CHICAGO FAUCET, T&S BRASS, WOODFORD. 5. ENCLOSE ALL SUPPLIES AND P-TRAPS OF BARRIER FREE LAVATORIES WITH A PROTECTIVE INSULATING MATERIAL AND A SMOOTH JACKET (TRAP WRAP OR EQUAL).
- 6. WHEN INSTALLING ALTRO SHEET VINYL, IT IS CRITICAL THAT THE CLEANOUTS, FLOOR SINKS, AND TRENCH DRAINS BE A SURFACE MEMBRANE CLAMPING TYPE. USE CERTIFIED ALTRO INSTALLER AND
- FOLLOW ALL ALTRO DETAILS.









1) WATER HEATER (SET AT 140° F) SHALL MEET ALL LATEST LOCAL & NATIONAL ENERGY CONSERVATION STANDARDS. 2) INSTALL WATER HEATER PER MANUFACTURERS REQUIREMENTS.

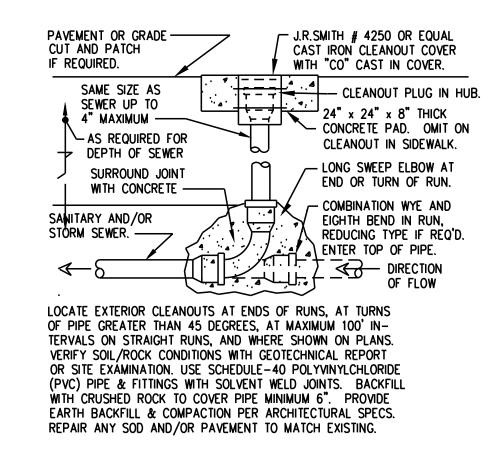
3) FLUE AND AIR INTAKE SHALL BE 3" PVC. INSTALL THROUGH THE THE BACK WALL OF THE BUILDING. TOTAL EQUIVALENT LENGTH OF INTAKE AND EXHAUST TO NOT EXCEED 50'. 4) ALL WATER PIPING SHALL BE INSULATED. SEE

SPECIFICATIONS.

5) PLUMBER SHALL PROVIDE COMBUSTION ANALYSIS TO VERIFY ACCEPTABLE CO AND CO2 FLUE GAS LEVELS. REFER TO INSTALLATION MANUAL. RESULTS OF ANALYSIS SHALL BE DELIVERD TO THE ENGINEER FOR APPROVAL PRIOR TO TURN-OVER. 6) CONDENSATE LINE MUST BE PITCHED AT LEAST 1/4" PER FOOT (0.64 cm per 0.3 m)TO PROPERLY DRAIN. IF THIS CANNOT BE DONE OR A VERY LONG LENGTH OF CONDENSATE HOSE IS USED - INCREASE THE CONDENSATE LINE TO A MINIMUM OF 1" (2.5 CM) ID AND PLACE A TEE IN THE LINE AFTER THE CONDENSATE NEUTRALIZER TO PROPERLY REDUCE VACUUM LOCK IN THE DRAIN LINE. 7) PLASTIC PIPE SHOULD BE THE ONLY MATERIAL USED FOR THE CONDENSATE LINE. STEEL, BRASS,

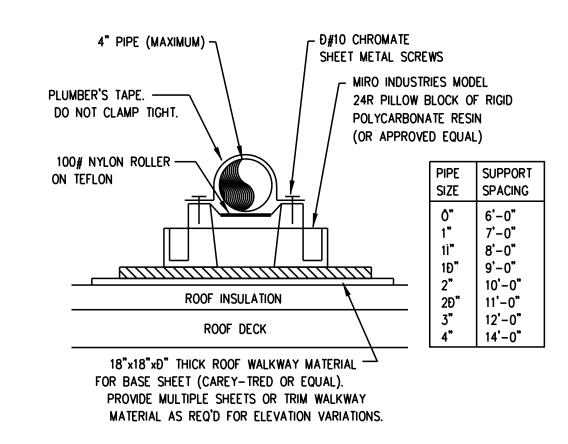
COPPER OR OTHERS WILL BE SUBJECT TO CORROSION OR DETERIORATION. 11. PRECHARGE EXPANSION TANK AIR CHAMBER TO MATCH THE INLET WATER PRESSURE AT THE WATER HEATER SUPPLY. 12. GRUNDFOS UP 15-18 RECIRC PUMP. 2 GPM@12'

COMMERCIAL NATURAL GAS WATER HEATER DETAIL

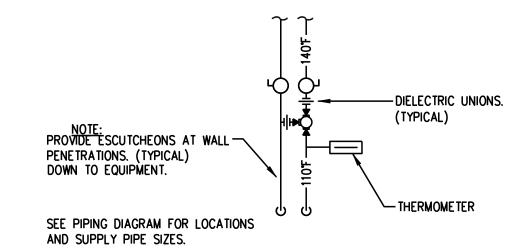


EXTERIOR CLEANOUT

NO SCALE



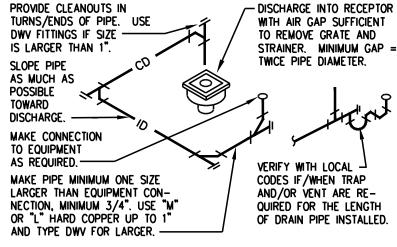
ROOFTOP PIPING SUPPORT DETAIL SCALE: NONE



SYMMONS THERMIXER MODEL 5-110-CK (OR EQUAL) FOR SINGLE SINK APPLICATIONS. 2 SYMMONS THERMIXER MODEL 5-120-CKX (OR EQUAL) FOR WALL HYDRANTS, 2, 3 OR 4 SINK APPLICATIONS. SUPPLIED WITH REMOVABLE PISTON AND THERMAL MOTOR, SEPARATE CHECK STOPS, ROUGH BRONZE FINISH. INSTALL IN SUPPLY PIPING BELOW ABOVE CEILING. SET TEMPERATURE AT 110°F.

MIXING VALVE PIPING SCHEMATIC NO SCALE

PROVIDE CLEANOUTS IN



ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

INDIRECT/CONDENSATE DRAIN NO SCALE

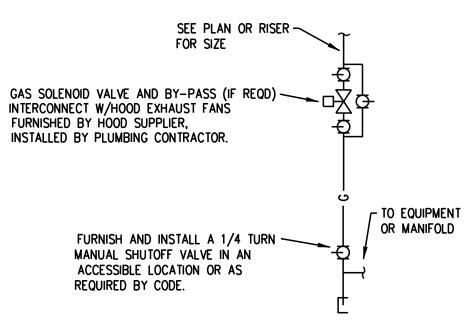
ROUND SECURED GASKETED NICKEL BRONZE ADJUSTABLE TOP WITH "CO" CAST IN COVER. PROVIDE CLEANOUT TOP WITH VARIATIONS SUITABLE FOR FLOOR COVERING (CARPET MARKER, RECESSED FOR TILE, SCORIATED FOR UNFINISHED FLOORS). PROVIDE GASKETED PLASTIC PLUG IN CAST IRON BODY. USE TEFLON JOINT COMPOUND ON PLUG THREADS. CLEAN THE TOP OF EXPOSED FCO AFTER INSTALLATION.

- FLOOR SLAB ON GRADE AS REQUIRED FOR - SAME SIZE AS SEWER DEPTH OF SEWER HUB AND SPIGOT CAST IRON PIPE - LONG SWEEP ELBOW AT BELOW FLOOR. COMBINATION WYE AND EIGHTH BEND IN RUN. ENTER TOP OF PIPE. SEWER LINE —

OF PIPE GREATER THAN 45 DEGREES, AT 50' INTERVALS ON STRAIGHT RUNS, AND/OR WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 18" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCO REQUIREMENTS.

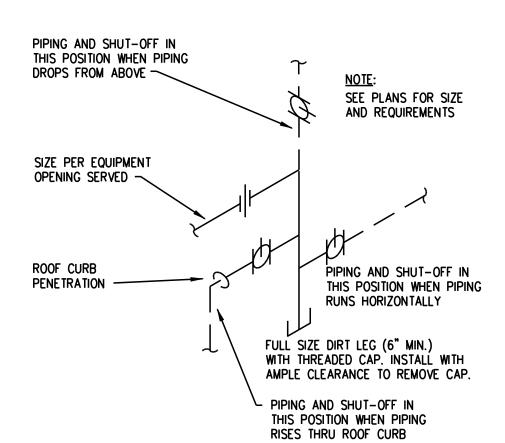
FLOOR CLEANOUT

NOT TO SCALE



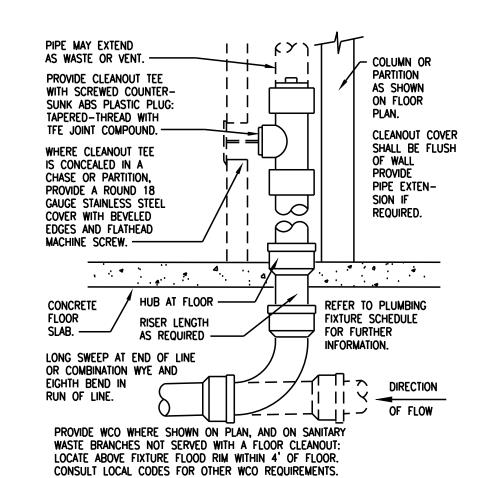
AUTOMATIC GAS SHUTOFF VALVE

NOT TO SCALE



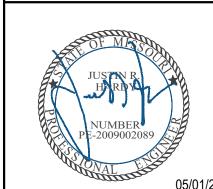
LOCATIONS OF VALVES AND PIPING ARE DIAGRAMMATIC AND MAY VARY PER UNIT SUPPLIED. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL USE DIELECTRIC UNIONS FOR ALL PIPE CONNECTIONS BETWEEN DISSIMILAR METALS.

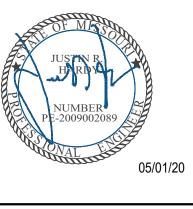
DIRT LEG DETAIL
NO SCALE

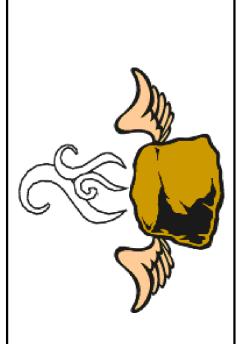


WALL CLEANOUT

NOT TO SCALE







P2.0

	ELECTRIC	CAL LE	GEND
00	FLUORESCENT TROFFER, TYPE AS NOTED	=	DUPLEX RECEPTACLE 18" AFF OR AS NOTED, NEMA 5-20R
	FLUORESCENT TROFFER, TYPE AS NOTED PROVIDE WITH EMERGENCY BALLAST	WP -	WEATHER PROOF DUPLEX RECEPTACLE 18" AFF OR AS NOTED, NEMA 5-20R
	FLUORESCENT TROFFER, TYPE AS NOTED	USB	WEATHER PROOF DUPLEX RECEPTACLE AFF AS NOTED, NEMA 5-20R W/ USB CHARGER
	FLUORESCENT TROFFER, TYPE AS NOTED PROVIDE WITH EMERGENCY BALLAST	€	DUPLEX RECEPTACLE ABOVE COUNTER OR AS NOTED, NEMA 5-20R
0	RECESSED CAN FIXTURE, TYPE AS NOTED	#	QUAD RECEPTACLE 18" AFF OR AS NOTED, NEMA 5-20R
•	RECESSED CAN FIXTURE, TYPE AS NOTED PROVIDE WITH EMERGENCY BALLAST	IG E	DUPLEX RECEPTACLE 18" AFF OR AS NOTED, NEMA 5-20R
Ю	FLUORESCENT STRIP FIXTURE	9	SPECIAL PURPOSE RECEPTACLE 18" AFF OR AS NOTED, SEE SCHEDULE
O-	WALL MOUNTED FIXTURE, TYPE AS NOTED	Ю/0	WALL / CEILING MOUNTED JUNCTION BOX
\$	PENDANT FIXTURE, TYPE AS NOTED	60/3/1	UNFUSED DISCONNECT SWITCH RATING/POLES/NEMA RATING
*	PENDANT FIXTURE, TYPE AS NOTED PROVIDE WITH EMERGENCY BALLAST	60/3/3R/40	FUSED DISCONNECT SWITCH RATING/POLES/NEMA RATING/FUSE SIZE
222	TRACK LIGHT FIXTURE, TYPE AS NOTED	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	MOTOR
H	EMERGENCY LIGHT	<u> </u>	GROUND
-4	EXIT/EMERGENCY LIGHT COMBINATION	**	TRANSFORMER
⊗ 8 6	CEILING MOUNTED EXIT SIGN	M	UTILITY GRADE METER
-⊗ -⊗ - <u>©</u>	WALL MOUNTED EXIT SIGN	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
\$	SINGLE POLE SWITCH, 44" AFF	▼	TELEPHONE OUTLET, PROVIDE 4" BOX SINGLE GANG PLASTER RING, 3/4" C ABOVE CEILING
\$\$	TWO SINGLE POLE SWITCHES GANGED TOGETHER FOR INNER/OUTER CONTROL OF LAMPS, 44" AFF	▽	DATA OUTLET, PROVIDE 4" BOX SINGLE GANG PLASTER RING, 3/4" C ABOVE CEILING
\$\$\$	THREE SINGLE POLE SWITCHES GANGED TOGETHER 44" AFF	₩	TELEVISION/CABLE OUTLET
\$ ₃	THREE WAY SWITCH, 44" AFF	•	TELEPHONE OUTLET, PROVIDE 4" BOX FLUSH IN FLOOR, 3/4" C ABOVE CEILING
\$ ₃ \$ ₃	TWO THREE WAY SWITCHES GANGED TOGETHER FOR INNER/OUTER CONTROL OF LAMPS, 44" AFF	•	DATA OUTLET, PROVIDE 4" BOX FLUSH IN FLOOR, 3/4" C ABOVE CEILING
\$ ₄	FOUR WAY SWITCH, 44" AFF	•	DOOR HOLD-OPEN DEVICE
\$₀	WALL BOX DIMMER 1000W UNLESS NOTED DIFFERENTLY 44" AFF	T	TRANSFORMER, SEE ONE LINE
\$ _{WP}	WEATHER PROOF SWITCH, 44" AFF	S 4	SPEAKER STROBE
\$ _M	MOTOR RATED SWITCH, 44" AFF OR AS NOTED	⊠⊲	HORN
\$os	COMBINATION SWITCH AND OCCUPANCY SENSOR, 44" AFF TYPE WSD OR EQUAL	Ø	PULL STATION
\$⊤	DIGITAL TIMER SWITCH, 44" AFF	₽ ₽	FIRE ALARM STROBE, MIN 75 CANDELA CEILING / WALL MOUNT
⊚ _x	CEILING MOUNTED OCCUPANCY SENSOR	-	DUCT MOUNTED SMOKE DETECTOR
.	WALL MOUNTED OCCUPANCY SENSOR, 44" AFF	<u>s</u>	SMOKE DETECTOR
TO	TIME CLOCK	Э	HEAT DETECTOR
LC	LIGHTING CONTACTOR	(19)	TAMPER SWITCH
0	PHOTO CELL	FS	FLOW SWITCH
S	8" CONE SPEAKER IN CEILING EC TO PROVIDE BLACK SPEAKER		RACEWAY CONCEALED IN WALL OR ABOVE CEILING
<u></u>	8" CONE SPEAKER IN WALL EC TO PROVIDE BLACK SPEAKER		RACEWAY EXPOSED
	VOLUME CONTROL		RACEWAY CONCEALED IN FLOOR SLAB, BELOW SLAB OR GRADE BELOW SLAB OR GRADE, OR UNDER RAISED ACCESS FLOOR
	PLYWOOD EQUIPMENT BACKBOARD 4'X8' UNLESS NOTED OTHERWISE		DENOTES CONDUIT TURNING UP IN PLAN VIEW
<u>CCTV</u> ≰	CLOSED CIRCUIT TELEVISION CAMERA		DENOTES CONDUIT TURNING DOWN IN PLAN VIEW
XXXX	SHORT CIRCUIT AVAILABLE CURRENT		STUB UP

(NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS AND ARE USED AS APPLICABLE TO THIS PROJECT)

ABBREVIATIONS

A, AMPS	AMPERES	FLA	FULL LOAD AMPERES	NO	NORMALLY OPEN,
A/C	AIR CONDITIONER	GND	GROUND		NUMBER
AC	ALTERNATING CURRENT	GALV	GALVANIZED	NTS	NOT TO SCALE
AF	AMPERE FRAME	GRS	GALVANIZED RIGID STEEL	PNL	PANELBOARD
AFF	ABOVE FINISHED FLOOR	GFCI	GROUND FAULT	PVC	POLYVINYL CHLORIDE
AFG	ABOVE FINISHED GRADE		CIRCUIT INTERRUPTER	RGS	RIGID GALVANIZED
AIC	AMPERE	GFI	GROUND FAULT INTERRUPTER	RMC	STEEL CONDUIT RIGID METALLIC
	INTERRUPTING CURRENT	HD	HEAT DETECTOR	TAIVIC	CONDUIT (GALVANIZED)
AL	ALUMINUM	HP	HORSEPOWER	RMS	ROOT-MEAN-SQUARE
ANSI	AMERICAN NATIONAL	IMC	INTERMEDIATE METAL CONDUIT	RNC	RIGID NON-METALLIC
	STANDARDS INSTITUTE	ISC	INTERRUPTING SHORT CIRCUIT	1410	CONDUIT
AWG	AMERICAN WIRE GAUGE	IG	ISOLATED GROUND	SCA	SHORT CIRCUIT
BC	BARE COPPER	INST	INSTANTANEOUS		AVAILABLE
BKBD	BACKBOARD	JB	JUNCTION BOX	SWBD	SWITCHBOARD
С	CONDUIT	KAIC	KILO (THOUSAND) AMPERES	SWGR	SWITCHGEAR
СВ	CIRCUIT BREAKER		INTERRUPTING CAPACITY	TBD	TO BE DETERMINED
CKT	CIRCUIT	KCMIL	KILO (THOUSAND)	TCP	TEMPERATURE CONTROL
CU	COPPER		CIRCULAR MILS		PANEL
DIST	DISTRIBUTION	KV	KILO (THOUSAND) VOLTS	TD	TIME DELAY
DN	DOWN	KVA	KILO (THOUSAND)	TEL	TELEPHONE
DP	DISTRIBUTION PANEL		VOLT-AMPERES	TVSS	TRANSIENT VOLTAGE
DWG	DRAWING	KW	KILO (THOUSAND) WATTS		SURGE SUPPRESSION
EB EC	ENCASED BURIAL	KWH	KILO (THOUSAND) WATT-HOURS	TYP	TYPICAL
	EMPTY CONDUIT ENERGIZED ELECTRICAL WORK	LFMC	LIQUID-TIGHT FLEXIBLE	UG	UNDERGROUND
EEW EGC		MOD	METAL CONDUIT	UON	UNLESS OTHERWISE
EGC	EQUIPMENT GROUNDING CONDUCTOR	MCB	MAIN CIRCUIT BREAKER	00.1	UNDERGROUND PULLBOX
ELR	END-OF-LINE RESISTOR	MCM MCCB	THOUSAND CIRCULAR MILS	V	VOLTS
		MLO	MOLDED CASE MAIN LUGS ONLY	VA	VOLT-AMPERES
EWC	ELECTRIC WATER COOLER	N	NEUTRAL	VFD	VARIABLE
<e> <er></er></e>	EXISTING EXISTING TO REMAIN	NEC	NATIONAL ELECTRICAL	VID	FREQUENCY DRIVE
<ex></ex>		INLO	CODE		
	EXISTING FIDE ALABM	NESC	NATIONAL ELECTRICAL	WH	WATER HEATER
FA FAA	FIRE ALARM FIRE ALARM ANNUNCIATOR	NESC	SAFETY CODE	WP	WEATHERPROOF
FACP	FIRE ALARM CONTROL PANEL	NIC	NOT IN CONTRACT	WT	WATERTIGHT
FACE	I INL ALARIVI CONTROL PANEL	NL NL	NIGHT LIGHT	XFMR	TRANSFORMER
		INL	NIGHT LIGHT		

ELECTRICAL SPECIFICATIONS

A. DEFINITIONS:

- "PROVIDE": FURNISH AND INSTALL, COMPLETE AND READY FOR OPERATION.
- "INSTALL": RECEIVE, MOUNT, AND CONNECT, COMPLETE AND READY FOR OPERATION.
 "FURNISH": SUPPLY, DELIVER TO JOB SITE, PROTECT AND STORE.
- B. WORK INCLUDED: PROVIDE ALL LABOR, TOOLS, MATERIAL, EXCAVATION, BACKFILL, CUTTING, PATCHING, TESTING, ADJUSTING, AND TRADE COORDINATION REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL INSTALLATION, AS DESCRIBED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- C. CODES, RULES, AND REGULATIONS: COMPLY WITH ALL CODES ENFORCED BY THE LOCAL INSPECTION AUTHORITY, THE EDITION OF THE NATIONAL ELECTRICAL CODE BEING ENFORCED FOR THIS PROJECT BY THE LOCAL INSPECTION AUTHORITY, ALL APPLICABLE LAWS AND ORDINANCE, NFPA FIRE CODES, STANDARD BUILDING CODE. GIVE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS, AND PAY ALL INSPECTION AND OTHER FEES REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- D. MATERIALS: ALL MATERIAL SHALL BE NEW, AND SHALL COMPLY WITH THE INDICATED STANDARDS. ALL MATERIAL SHALL BE U/L LABELED OR U/L LISTED. ALL MATERIAL SHALL BE OF A SUITABLE TYPE AND RATING FOR THE INTENDED USE, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE INSTRUCTIONS AND RECOMMENDATIONS OF THE MANUFACTURER.

E. DRAWINGS

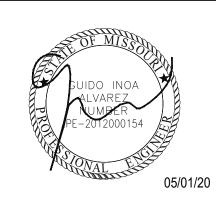
- 1. THE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW ALL OF THE REQUIRED DETAILS OF THE WORK. ALL MATERIALS CUSTOMARILY CONSIDERED TO BE A PART OF THE ELECTRICAL WORK AND REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE
- 2. THE CONTRACTOR SHALL REFER ALSO TO THE ARCHITECTURAL DRAWINGS AND TO THE DRAWINGS OF ALL OTHER TRADES TO COORDINATE THE ELECTRICAL INSTALLATION. WHERE ELECTRICAL EQUIPMENT IS SHOWN ON ARCHITECTURAL DRAWINGS OR DETAILS, THE EQUIPMENT SHALL BE INSTALLED AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
- 3. EQUIPMENT OF OTHER TRADES IS SHOWN SCHEMATICALLY ON THE ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL EXAMINE THE DRAWINGS OF THE TRADE PROVIDING THE EQUIPMENT BEFORE ROUGHING IN THE CONNECTIONS FOR IT. THE CONTRACTOR SHALL CONNECT THE EQUIPMENT WHERE ACTUALLY INSTALLED, INCLUDING WIRING THROUGH ANY LINE VOLTAGE CONTROLLERS, WITHOUT ANY
- ADDITIONAL COST TO THE OWNER.

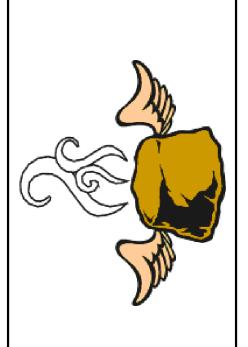
 4. PRIOR TO ROUGHING IN CIRCUITS FOR EQUIPMENT FURNISHED BY OTHER TRADES, AND PRIOR TO RELEASING FOR MANUFACTURE PANELBOARDS, STARTERS OR MOTOR CONTROL CENTERS FEEDING SUCH EQUIPMENT, THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL PROVISIONS BEING PLANNED WITH THE TRADE PROVIDING THE EQUIPMENT AND SUBMIT ANY CONFLICTS IN WRITING TO THE ARCHITECT.
- 5. THE ARCHITECT MAY DIRECT THE RELOCATION OF ANY ELECTRICAL OUTLET, FIXTURE, OR OTHER EQUIPMENT TO A LOCATION WITHIN 10 FEET OF THE LOCATION SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER PROVIDED SUCH RELOCATION IS DIRECTED PRIOR TO THE INSTALLATION OF THE OUTLET, FIXTURE OR EQUIPMENT BEING RELOCATED.
- D. SUBMITTAL DOCUMENTS: PRODUCT DATA AND SHOP DRAWINGS SHALL BE SUBMITTED IN SIX COPIES TO THE ARCHITECT FOR REVIEW PRIOR TO THE RELEASE OF THE MATERIAL FOR MANUFACTURE. REVIEW OF SUBMITTALS BY THE ARCHITECT WILL BE ONLY FOR GENERAL CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS. REVIEW WILL BE MADE ONLY OF INFORMATION CLEARLY AND SPECIFICALLY INDICATED IN THE SUBMITTAL, AND DOES NOT IMPLY THE ACCEPTABILITY OF DETAILS WHICH ARE NOT SO DESCRIBED IN THE SUBMITTAL. REVIEW OF THE SUBMITTAL DOCUMENTS BY THE ARCHITECT DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH ALL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. SUBMITTAL IS REQUIRED FOR PANELBOARDS AND LOADCENTERS, LIGHT FIXTURES, WIRING DEVICES, FIRE ALARM DEVICES, AND SURFACE ALUMINUM RACEWAY.
- G. AS-BUILT DRAWINGS: AS-BUILT DRAWINGS SHALL BE MAINTAINED AT THE JOBSITE, AND SHALL BE AVAILABLE FOR REVIEW DURING CONSTRUCTION. AS-BUILT DRAWINGS SHALL BE KEPT CURRENT DURING THE COURSE OF CONSTRUCTION OF THE WORK. SUBMIT AS-BUILT DRAWINGS TO THE ARCHITECT AT THE COMPLETION OF THE PROJECT
- H. TESTING: TEST ALL PARTS OF THE WORK TO VERIFY COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. VERIFY TIGHTNESS OF ALL MECHANICAL AND ELECTRICAL CONNECTIONS. VERIFY INTEGRITY OF ALL WIRING SYSTEMS TO ASSURE CONTINUITY, ABSENCE OF UNINTENTIONAL GROUNDS, AND INTEGRITY OF REQUIRED GROUNDS.
- I. CHANGE REQUEST (CHANGE ORDER) APPROVAL: CHANGE REQUESTS WILL NOT BE CONSIDERED UNLESS THE CONTRACTOR'S DETAILED LABOR AND MATERIAL ESTIMATE DESCRIBING THE CHANGE IS SUBMITTED TO THE ARCHITECT ALONG WITH THE CHANGE REQUEST, WITH MATERIAL PRICES AND LABOR UNITS ASSIGNED TO EACH LINE ITEM OF THE ESTIMATE. MATERIAL PRICES SHALL BE THE ACTUAL PRICE PAID BY THE CONTRACTOR FOR MATERIAL PURCHASED OR THE ACTUAL PRICE QUOTED TO THE CONTRACTOR BY THE MATERIAL VENDOR PROPOSED BY THE CONTRACTOR.
- J. COORDINATION WITH THE WORK OF OTHERS: COORDINATE WITH EACH TRADE FURNISHING EQUIPMENT REQUIRING ELECTRICAL SERVICE TO INSURE THAT THE CHARACTERISTICS SHOWN ON THE DRAWINGS FOR THE CIRCUIT SERVING THE EQUIPMENT ARE COMPATIBLE WITH THE REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED. CIRCUIT BREAKERS, FUSES, DISCONNECT SWITCHES AND ASSOCIATED BRANCH CIRCUITS SHOWN ON THE DRAWINGS TO FEED HVAC EQUIPMENT, KITCHEN EQUIPMENT, ELEVATOR MOTORS, AND OTHER EQUIPMENT HAVE BEEN SELECTED BASED UPON THE CHARACTERISTICS OF EQUIPMENT BY ONE MANUFACTURER AND MAY NOT BE CORRECT FOR THE EQUIPMENT BEING PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE THE OPERATING CHARACTERISTICS OF THE EQUIPMENT ACTUALLY BEING PROVIDED AND SHALL PROVIDE AT NO ADDITIONAL COST TO THE OWNER CIRCUIT BREAKERS, FUSES, DISCONNECT SWITCHES AND BRANCH CIRCUITS AS REQUIRED BY THAT EQUIPMENT.
- K. EXISTING WORK: THE EXISTING ELECTRICAL INSTALLATION SHALL REMAIN AS-IS AND IN OPERATION EXCEPT WHERE OTHERWISE REQUIRED. GIVE WRITTEN NOTICE OF ANY UNFORESEEN EXISTING CONDITIONS WHICH MAY AFFECT THE WORK. WORK INVOLVING EXISTING SYSTEMS OR EXISTING SPACES SHALL BE ACCOMPLISHED WITH MINIMUM INCONVENIENCE TO THE OWNER, AND SHALL BE DONE IN A MANNER AND TIME APPROVED BY THE OWNER. ANY INTERRUPTIONS SHALL BE DURING TIMES DESIGNATED BY THE OWNER.
- L. DEMOLITION: IN THE AREA SHOWN ON THE ARCHITECTURAL DRAWINGS TO BE DEMOLISHED REMOVE ALL EXISTING CONDUITS, CONDUCTORS, BOXES, FIXTURES, SERVICE ENTRANCE CONDUCTORS, DISTRIBUTION EQUIPMENT, AND ALL OTHER ELECTRICAL EQUIPMENT NOT SHOWN TO REMAIN. UNLESS OTHERWISE INDICATED, MATERIAL BEING REMOVED INCLUDING WIRE, CONDUIT, AND HANGING MATERIALS BEING REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES. EQUIPMENT NOTED TO REMAIN THE PROPERTY OF THE OWNER SHALL BE STORED ON SITE AS DIRECTED BY THE ARCHITECT. COORDINATE WITH OTHER TRADES AND DISCONNECT MOTORS, HEATERS, OR OTHER EQUIPMENT AS REQUIRED FOR THE DEMOLITION OF OTHER TRADES WORK. CUT OFF ALL IN FLOOR CONDUITS, GRIND SMOOTH WITH FLOOR AND PREPARE FOR PATCHING BY OTHERS. REMOVE CONDUCTORS AND DEVICES FROM WALL AND CEILING OUTLETS AND PREPARE OUTLET FOR PATCHING BY OTHERS. CONTRACTOR SHALL DENOTE ALL DEMOLISHED CIRCUITS ON EXISTING PANEL DIRECTORIES AND NOTE ALL SPARE BREAKERS.

M. BASIC MATERIALS AND METHODS:

- 1. ALL WORK SHALL BE SUPPORTED FROM STRUCTURAL ELEMENTS OF THE BUILDING, EXCEPT CEILING MOUNTED EQUIPMENT SUCH AS LIGHT FIXTURES, DETECTORS, REMOTE LAMPS, ETC. CEILING MOUNTED EQUIPMENT SHALL BE SUPPORTED FROM CEILING STRUCTURAL MEMBERS, INDEPENDENT OF CEILING TILES. SIZE AND SPACING OF SUPPORTS SHALL BE DETERMINED BY THE LOAD TO BE SUPPORTED SUCH THAT THE WORKING LOAD OF SUPPORTS WILL NOT EXCEED A SAFETY FACTOR OF 4:1. PLASTIC ANCHORS ARE NOT ACCEPTABLE. ELECTRICAL WORK SHALL NOT BE SUPPORTED FROM PIPING, DUCTS, OR WORK OF OTHER TRADES.
- 2. PROVIDE ENGRAVED PLASTIC NAMEPLATES FOR ALL SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, STARTERS, DISCONNECTS, PRIMARY SELECTOR SWITCHES, AND TRANSFORMERS. INDICATE EQUIPMENT NAME, CIRCUIT SOURCE AND NUMBER, CIRCUIT SIZE, AMPERE RATING, VOLTAGE AND PHASE. NAMEPLATES SHALL BE BLACK MICARTA WITH 0.25" WHITE LETTERS.

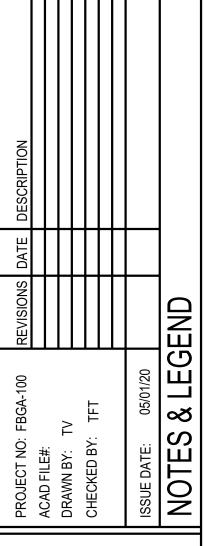
- 3. ALL PENETRATIONS OF FIRE RATED WALLS, SLABS, PARTITIONS, AND CEILINGS SHALL BE FIREPROOFED WITH A U.L. LISTED SYSTEM THAT WILL MAINTAIN THE ORIGINAL FIRE RATING OF THE PENETRATED STRUCTURE. ALL FIREPROOFING MATERIALS APPLIED AT ANY ONE PENETRATION SHALL BE THE PRODUCT OF ONE MANUFACTURER AND SHALL BE APPLIED AS DESCRIBED BY THE U.L. FIREPROOFING SYSTEM BEING CONSTRUCTED. FIREPROOFING OF SLEEVES, CABLE TRAYS, TROUGHS, AND NIPPLES TO BE USED FOR LOW VOLTAGE CABLES SHALL BE INDEFINITELY NON-HARDENING AND REMOVABLE WITH COMMON HAND TOOLS.
- 4. BACKBOARDS SHALL BE 8 FT. HIGH BY LENGTH SHOWN ON THE DRAWINGS AND SHALL BE U/L LABELED FIRE TREATED PLYWOOD.
- 5. PROVIDE ALL POWER WIRING AND CONNECTIONS FOR ALL ELECTRICALLY OPERATED EQUIPMENT. POWER WIRING INCLUDES WIRING THROUGH ANY LINE VOLTAGE CONTROL DEVICES, SUCH AS THERMOSTATS AND MANUAL STARTERS. INSTALL ALL STARTERS AND CONTACTORS EXCEPT THOSE FURNISHED AS AN INTEGRAL PART OF THE EQUIPMENT.
- 6. CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT NOT INSTALLED IN A PLENUM SPACE SHALL BE MADE WITH A SHORT LENGTH OF LIQUIDTIGHT FLEXIBLE CONDUIT, MINIMUM 18", INSTALLED IN A MANNER TO PERMIT MOVEMENT OF EQUIPMENT.
- 7. PERFORM ALL EXCAVATING, BACKFILLING, CUTTING AND REPAIRING REQUIRED FOR INSTALLATION OF FLECTRICAL WORK.
- 8. CONTRACTOR SHALL X-RAY FLOOR SLABS PRIOR TO ALL CORE DRILLINGS.
- N. CONDUIT: FEEDERS AND BRANCH CIRCUIT HOME RUNS SHALL BE CONSTRUCTED OF EMT WITH ALL STEEL SET-SCREW FITTINGS. CONNECTORS SHALL BE INSULATED THROAT TYPE. PROVIDE METALLIC BUSHINGS WITH PLASTIC INSERTS FOR 3" OR LARGER. CONDUITS FEEDING OR CONNECTING TO EQUIPMENT PROVIDED BY OTHER TRADES SHALL NOT BE INSTALLED UNTIL SUCH EQUIPMENT IS INSTALLED OR UNTIL SPECIFIC ROUGH-IN INSTRUCTIONS ARE PROVIDED BY THE TRADE PROVIDING THE EQUIPMENT. UNLESS OTHERWISE INDICATED, CONDUITS SHALL BE CONCEALED. RACEWAYS INSTALLED IN OR UNDER SLABS, ON GRADE, OR AS EXTERIOR DUCT BANKS SHALL BE PVC COATED RMC. RUN EXPOSED CONDUITS PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. TWO OR MORE RACEWAYS RUN TOGETHER SHALL BE INSTALLED ON GANG TRAPEZE TYPE HANGERS. SUCH RACEWAYS ASSEMBLIES SHALL BE RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. CONDUITS EMBEDDED IN SLABS SHALL HAVE A MINIMUM OF 1" COVER OF CONCRETE ON ALL SIDES. OUTSIDE DIAMETER OF CONDUIT SHALL NOT EXCEED 1/3 OF THE SLAB THICKNESS, AND SHALL NOT BE LARGER THAN 1 1/4". PROVIDE 0.25" NYLON PULL TAPE IN ALL EMPTY CONDUITS. BRANCH CIRCUITS MAY UTILIZE TYPE MC ARMORED CABLE ASSEMBLY WITH COPPER CONDUCTORS AND FULL SIZE EQUIPMENT GROUNDING CONDUCTORS FOR INDIVIDUAL DROPS TO DEVICES. TYPE MC CABLE SHALL BE SUPPORTED A 48" INTERVALS AND SHALL NOT LAY ON THE CEILING GRID OR INTERFERE WITH THE REMOVAL OF CEILING SIZE EQUIPMENT GROUNDING CONDUCTORS.
- O. CONDUCTORS: ALL BUILDING WIRE SHALL BE 600 VOLT RATED THHN OR THWN COPPER, STRANDED FOR SIZES \$8AWG AND LARGER, SOLID FOR SIZES 10 AND SMALLER UNLESS APPLIED FOR CONTROL. ALL BUILDING WIRE AND SPECIAL CABLES FOR SYSTEMS SHALL BE INSTALLED IN A RACEWAY. ALL WIRE AND CABLE SHALL BE DELIVERED TO THE JOBSITE IN ORIGINAL UNBROKEN PACKAGES, CARTONS OR REELS, WITH THE MANUFACTURERS NAME, UL LABEL, AND CHARACTERISTICS OF THE PRODUCT PLAINLY VISIBLE. ALL WIRE AND CABLE SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA. WIRES SHALL BE COLOR CODED AS FOLLOWS (A,B,C,N,G): 120/208-BLACK, RED, BLUE, WHITE, GREEN; 480/277 BROWN, ORANGE, YELLOW, GRAY, GREEN. SPLICES SHALL BE COMPRESSION TYPE. CONTROL CONDUCTORS SHALL BE TERMINATED WITH INSULATED CONNECTORS, T&B STAKON. 120 VOLT CIRCUITS WITH HOMERUN LENGTH OVER 100 FEET AND 277 VOLT CIRCUITS WITH A HOMERUN LENGTH OVER 200 FEET SHALL HAVE #10 MINIMUM HOMERUN CONDUCTORS. ALL THREE PHASE BRANCH CIRCUITS WITH A COMMON NEUTRAL SHALL HAVE #10 MINIMUM NEUTRAL.
- P. BOXES: OUTLET BOXES SHALL BE SHEET STEEL, MINIMUM 4" SQUARE, MINIMUM 1.5" DEEP, WITH PLASTER RING IN PLASTER OR BRICK CONSTRUCTION. OUTLETS BOXES IN POURED CONCRETE SHALL BE CONCRETE RINGS. MASONRY BOXES SHALL BE USED IN MASONRY OR TILE CONSTRUCTION. OUTLET BOXES FOR SURFACE ALUMINUM RACEWAY SHALL BE 4-11/16 WITH PLASTER RINGS ORIENTED HORIZONTALLY. BOXES SHALL BE SECURELY ANCHORED IN PLACE, AND SHALL BE SUPPORTED INDEPENDENT OF THE RACEWAY SYSTEM. PULL BOXES SHALL BE GALVANIZED SHEET STEEL, MINIMUM 12 GAUGE, WITH SCREW COVERS, AND WELDED CONSTRUCTION. WELDS SHALL BE COLD GALVANIZED. USING PERMANENT WATER PROOF WIDE BLACK MARKER, CLEARLY LABEL COVER OF ALL BRANCH CIRCUIT JUNCTION AND PULL BOXES WITH PANEL AND CIRCUIT NUMBER OF CIRCUITS CONTAINED IN OR PASSING THROUGH THE BOX. BRANCH CIRCUIT AND FEEDER JUNCTION AND PULL BOXES USED WITH EMERGENCY FEEDERS AND CIRCUITS SHALL BE PAINTED RED. PROVIDE ENGRAVED LAMINATED PLASTIC LABEL ON COVER OF EACH FEEDER PULL OR JUNCTION BOX INDICATING FEEDER DESIGNATION, SOURCE, LOAD, AND VOLTAGE.
- Q. WIRING DEVICES: SWITCHES FOR LIGHTING CIRCUITS SHALL BE 120/277 VOLT, 20 AMP, A.C. ONLY, QUIET TYPE, WITH GROUND BONDING SCREW, SPECIFICATION GRADE. MOMENTARY CONTACT SWITCHES SHALL BE SINGLE POLL DOUBLE THROW, CENTER OFF GE #5935 OR EQUAL. DUPLEX RECEPTACLES SHALL BE 15 AMP HUBBELL 5262 OR EQUAL. DEDICATED DUPLEX RECEPTACLES SHALL BE 20AMP HUBBELL IG5362 OR EQUAL. SPECIAL RECEPTACLES SHALL BE OF SIMILAR CONSTRUCTION. FACE PLATES SHALL BE SMOOTH NYLON OR THERMOSET PLASTIC. ADJACENT OUTLETS SHALL BE INSTALLED IN MULTI-GANG BOXES WITH A SINGLE MULTI-GANG FACE PLATE. RECEPTACLES CONNECTED TO AN EMERGENCY CIRCUIT SHALL BE RED. COORDINATE COLOR OF DEVICES AND FACEPLATE WITH ARCHITECT.
- R. GROUNDING: ALL FEEDERS AND BRANCH CIRCUITS SHALL BE PROVIDED WITH INSULATED GREEN EQUIPMENT GROUNDING CONDUCTOR.
- S. LIGHTING: SPARE FLUORESCENT LAMPS SHALL MATCH BUILDING STANDARD UNLESS NOTED OTHERWISE. INCANDESCENT LAMPS SHALL BE 130VOLT. NEW BALLASTS SHALL BE SOILD STATE ELECTRONIC. EXIT FIXTURES SHALL MATCH BUILDING STANDARD. FIXTURE LOCATIONS SHALL BE AS SHOWN ON THE REFLECTED CEILING PLAN. PROVIDE LAY-IN FIXTURES WITH TWO REMOVABLE CLIPS ATTACHING FIXTURE TO CEILING GRID. FLANGED FIXTURES SHOWN TO BE INSTALLED IN CONTINUOUS ROWS SHALL NOT HAVE INTERMEDIATE FLANGES. ALL PENDANT FIXTURES SHALL BE MOUNTED TO STRUCTURE. SEISMIC SUPPORT WIRES AND/OR COMPRESSION STRUTS FOR LAY-IN FIXTURES SHALL BE SUBJECT TO LOCAL AHJ LATEST REQUIREMENTS.
- T. FIRE ALARM DEVICES: NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING BUILDING ADDRESSABLE FIRE ALARM SYSTEM. INSTALL NEW DEVICES AND CONNECT TO NEAREST SIGNALING OR NOTIFICATION DEVICE CIRCUIT WITHIN THE AREA. CONTRACTOR SHALL VERIFY CIRCUIT HAS CAPACITY FOR ADDED LOAD. SYSTEM SHALL BE CERTIFIED BY FIRE ALARM VENDOR AFTER COMPLETION OF WORK.
- U. PANELBOARDS: DEAD FRONT PANEL CONSTRUCTION WITH SEPARATELY MOUNTED INTERIOR TRIM. MAIN AND BRANCH DEVICES SHALL BE BOLT-ON. MULTI-POLE BREAKERS SHALL BE COMMON TRIP. WIDTH SHALL NOT EXCEED 22" FOR PANELBOARD AND ENCLOSURE SHALL MATCH BUILDING STANDARD. PROVIDE GROUND BUS IN PANELBOARD AND PROVIDE DEVICE MOUNTING HARDWARE WHERE A SPACE IS SCHEDULED. PANEL AND OCPD SHORT CIRCUIT RATINGS SHALL BE AT LEAST 10% GREATER THAN AVAILABLE SHORT CIRCUIT CURRENT AT PANELBOARD.
- V. DRY-TYPE TRANSFORMERS: TRANSFORMERS SHALL BE DRY-TYPE, ENCLOSED, SELF-COOLED, VENTILATED TYPE, DEAD-FRONT DRIP PROOF. PRIMARY AND SECONDARY TAPS SHALL BE ACCESSIBLE FROM THE FRONT. TRANSFORMERS SHALL MEET OR EXCEED BUILDING STANDARD TRANSFORMERS SPECIFICATIONS. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN THE PRIMARY FEED TO THE TRANSFORMER, SUPPLEMENTAL GROUND TO NEAREST ACCESSIBLE PRIMARY STRUCTURAL MEMBER OR EQUIPMENT ROOM GROUND BUS BAR. SIZE PER NEC AND RUN IN CONDUIT WITH BOND BUSHING AT EACH END. NEUTRAL AND GROUNDING CONDUCTOR SHALL BE BONDED TO ENCLOSURE.

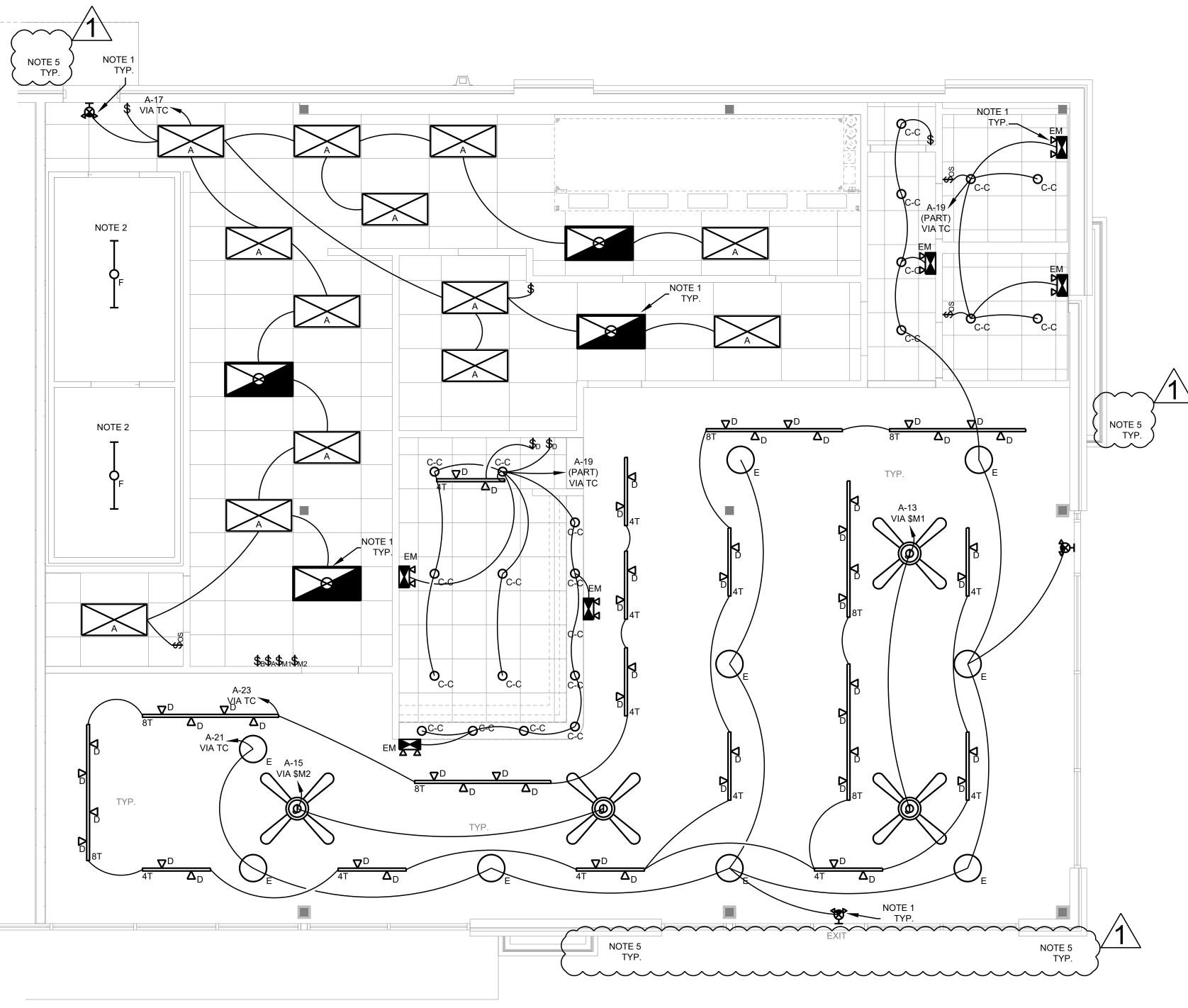




MEP CONTACT.JUSTIN R. HARDY, PE 5014 KINGSBRIDGE PASS POWDER SPRINGS, GA

FLYING BISCUIT SUMMIT ORCHARDS NW CHIPMAN RD & WARD RD LEE'S SUMMIT, MO 64086





	LIGH	ITING SCH	IEDULE	
SYMBOL	MFG	CATOLOG#	LAMP	DESCRIPTION
A	LITHONIA	2GTL	50W LED MVOLT	2x4 LIGHT, INVERTED LENS IN COOKING/ SERVING AREA
Ос-с	HUBBELL, PRESCOLITE	LBP6-6LBP11L35KAZ	12W 11L MVOLT	RECESSED CAN LIGHTS W/CHROME TRIM IN BAR/SOFFIT/RR HALLWAY - SHATTERPROOF LENS
\triangle_{D}	JUNO	R600L G2 30K 80CRI PDIM UNF BL	10W LED	TRACK HEAD, BLACK FLARED STEP CYLINDER
4T	JUNO, TRAC MASTER	T 4FT BL / T21 BL	N/A	4' TRACK, BLACK
8T	JUNO, TRAC MASTER	T 8FT BL / T21 BL	N/A	8' TRACK, BLACK
E	IKEA	HEKTAR, 19" DIA. DARK GREY	9.5W LED E26 600 LUMEN GLOBE OPAL WHITE	PENDANT LIGHT, SUSPENDED THROUGHOUT DINING
⊢—○ _F	LITHONIA	DMW-232 120/ 277V SEAL TITE	(2) F32T8/ TL735	SURFACE MOUNTED COOLER FLUORESCENT LIGHT, PROVIDED W/COOLER/FREEZER
EM/EX	MULE	SQC-LED-1-R-BB-REM	INCLUDED	EXIT/EMERGENCY COMBO, BLACK HOUSING
EM	MULE	SQ-LED-B	INCLUDED	2 HEAD EMERGENCY UNIT, BLACK HOUSING
EX1	MULE	MX-B-R-BL	INCLUDED	LED EXIT SIGN, BLACK, RED LETTERS W/ BATTERY BACK UP
ÅEX2	MULE	ASRLED-1-WP	INCLUDED	EXTERIOR REMOTE EMERGENCY HEAD

COMcheck Software Version 4.1.2.1 Interior Lighting Compliance Certificate

	90.1 (2007) Standard				
Project Title:	FLYING BISCUIT				
Project Type:	New Construction				
Construction Site: SUMMIT ORCHARDS NW CHIPMAN RD & V LEE'S SUMMIT, MO 6	WARD RD	Designer/C	ontractor:		
Allowed Interior Lig	hting Power				
	A	В	С		D
	Area Category	Floor Area (ft2)	Allowed Watts / ft2		ved V B X C
1-Dining: Cafeteria/Fast	Food	2906	1.40		4068
		To	tal Allowed W	atts =	406
1-Dining: Cafeteria/Fa	54W:	Fixture 1 1	Fixtures 17 22	50 12	
LED 2: C-C: LED A L Track lighting 1: D: W LED 3: E: LED A Lam	/attage based on current limiting device capacity	0	0 9	500 10	
Track lighting 1: D: W LED 3: E: LED A Lam	/attage based on current limiting device capacity np 9W:			10	
Track lighting 1: D: W LED 3: E: LED A Lam	/attage based on current limiting device capacity		9	10	,
Track lighting 1: D: W LED 3: E: LED A Lam Interior Lighting PA Interior Lighting Co Compliance Statement: specifications, and othe designed to meet the 90	/attage based on current limiting device capacity ap 9W:	1 ument is consistent with osed interior lighting sys	9 Total Propose the building platems have bee	10 ed Watts =	
Track lighting 1: D: W LED 3: E: LED A Lam Interior Lighting PA Interior Lighting Co Compliance Statement: specifications, and othe designed to meet the 90	/attage based on current limiting device capacity np 9W: SSES: Design 58% better than code Impliance Statement The proposed interior lighting design represented in this document of calculations submitted with this permit application. The proposed in the last part of the composition of the proposed in the last permit application. The proposed in the last permit application. The proposed in the last permit application. The proposition of the proposed in the last permit application.	1 ument is consistent with osed interior lighting sys	9 Total Propose the building platems have bee	10 ed Watts = ans, en	

Project Title: FLYING BISCUIT Report date: 04/30/2

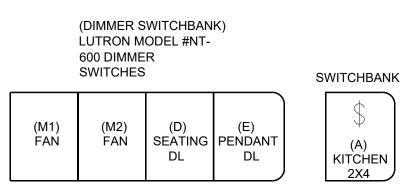
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LIGHTING FLOOR PLAN

1/4" = 1'-0"

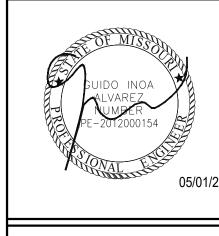
LIGHTING NOTES:

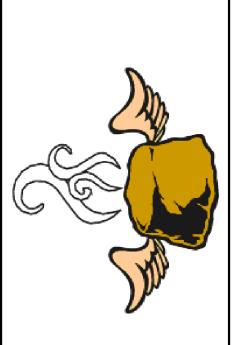
- PROVIDE NON-CONTACTED, NON-SWITCHED HOT CONDUCTOR OF SAME CIRCUIT TO EACH EMERGENCY LIGHTING FIXTURE, EXIT SIGN AND NIGHT LIGHT. LABEL CIRCUITS IN PANELBOARD AS "EMERGENCY LIGHTING CIRCUIT".
- FIXTURE PROVIDED WITH WALK-IN COOLER. CONTRACTOR TO PROVIDE POWER TO COOLER AS SPECIFIED IN KITCHEN EQUIPMENT SCHEDULE.
- 3. PROVIDE SWITCHBANK FOR LIGHTING. PROVIDE DIMMERS FOR DINING FIXTURES AND A MOTOR RATED SWITCH FOR THE FANS.
- 4. INTERLOCK EXHAUST FANS WITH LIGHTS.
- 5. EXTERIOR WALL MOUNTED EMERGENCY LIGHTS ARE EXISTING.



SWITCH BANK DETAIL

N.T.S.

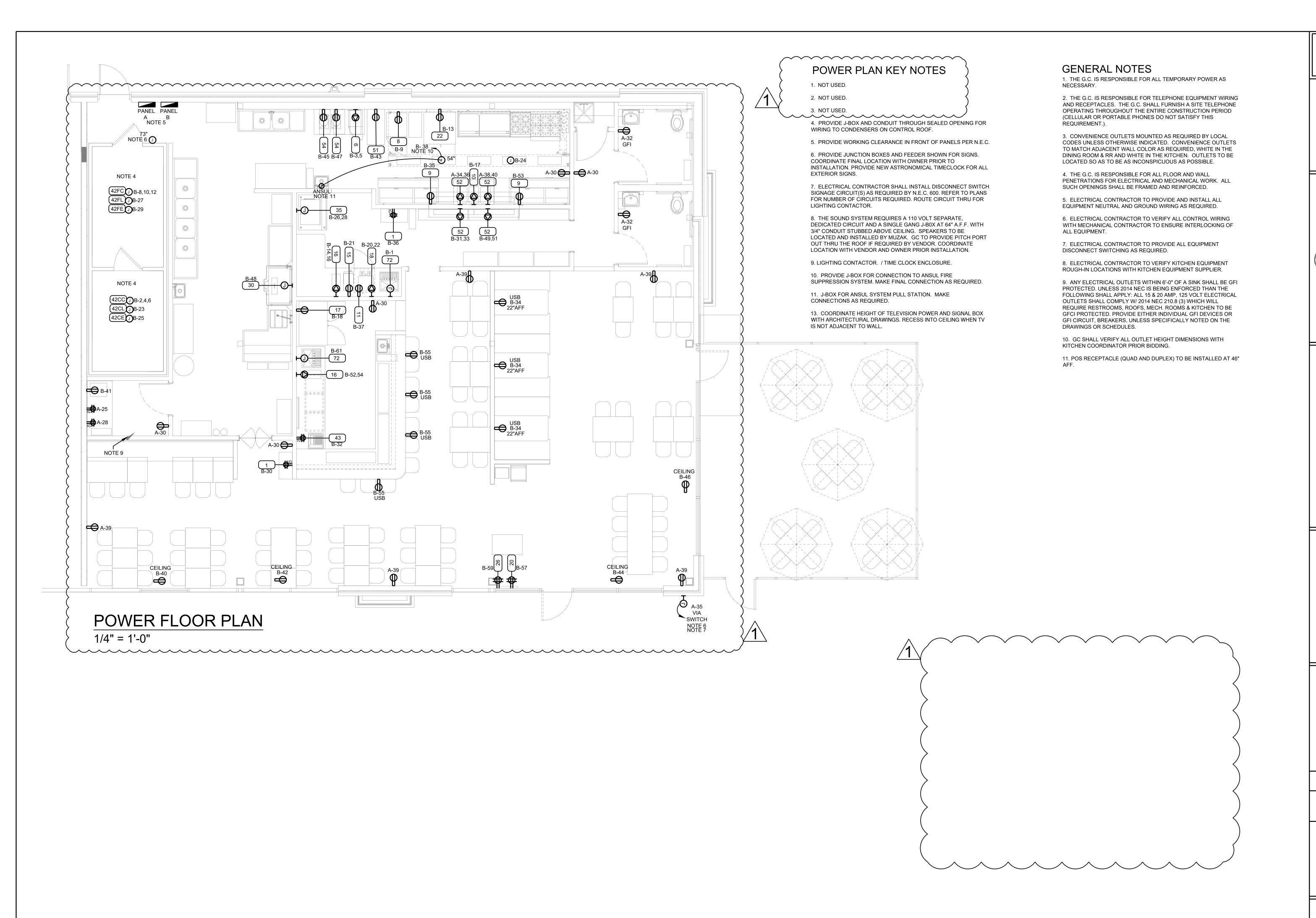




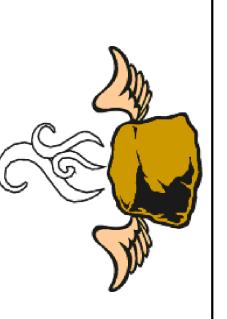
MEP CONTACT:JUSTIN R. HARDY, PE 5014 KINGSBRIDGE PASS POWDER SPRINGS, GA

FLYING BISCUIT
SUMMIT ORCHARDS
NW CHIPMAN RD & WARD RD
LEE'S SUMMIT, MO 64086

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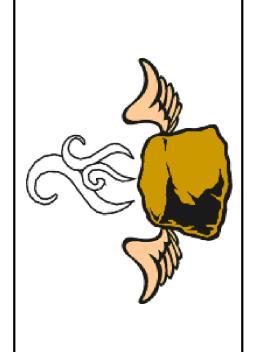
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FLYING BISCUIT
SUMMIT ORCHARDS
NW CHIPMAN RD & WARD RD
LEE'S SUMMIT, MO 64086

NO	ents.						
REVISIONS DATE DESCRIPTION	Bldg. Dept. Comments.						
DATE	07/23/20						
REVISIONS	1						A IQ A
): FBGA-100		2	•	Y: TFT		. 05/01/20	R FI OOR DI AN

KITC	HEN EQUIPMENT SCHEDULE																				
	EQUIPMENT						TPLU	MBINO					TELEC	TRICAL							REMARKS
NO.	ITEM	MANUFACTURER	MODEL NUMBER	FURN. BY	NST. BY	FINAL	WA	ER		ASTE	ID	GAS	LOAD		PHASE	ANADO	Прилитт	DEVIC		Iuco:	**ALL GAS REGULATORS PROVIDED WITH EQUIPMENT FROM KES WILL WILL REQUIRE SUPPLEMENTAL REGULATORS ON GAS LINES OVER 1/2 PSI**
1	WALL MOUNTED POS SYSTEM	MICROSS	BY VENDOR	VENDOR			- HVV	CW -	- DIR.	- INDIF	IR. SIZ -	ZE BTU/HR -	- VOL15	HZ -	- PHASE	AMPS -	-	*	- DISC.	-	COORDINATE WITH MICROSS FOR INSTALLATION
2	WALL MOUNTED HAND SINK WITH SPLASH GUARDS	ADVANCE TABCO	7-PS-40	KES	KES		1/2"	1/2"	1 1/2"	-	-	-	-	ļ	-	•	-		-	-	-
3	6 EYE BURNER 24" FLAT TOP GRIDDLE	SOUTHBEND SOUTHBEND	HDO-36 HDG-24	KES KES	KES KES	GC GC	-	<u> </u>		-		" 198,000 " 120,000	-	-	 - -	-	-		-		REQUIRES DORMONT 1675KIT-48 QUICK DISCONNECT HOSE REQUIRES DORMONT 1675KIT-48 QUICK DISCONNECT HOSE
5	UNDER BAR REFRIGERATION (NOT USED)	TRUE	TBB-24-48G-HC-LD	KES		GC	-	-	- -	-	-	-	115	60	1 :	- 2.1	- -	-	 -	-	NEMA 5-15 PLUG
6	MICROWAVE (ON COUNTERTOP)	AMANA	HDC18SD2	KES	KES		-	-	-	-	<u> </u>	-	208	60	1 :	20	3000W	*	-	60"	NEMA 6-20 PLUG (MICROWAVE ON WORK TABLE)
7	36" FLAT TOP GRIDDLE HOT HOLDING CABINET	SOUTHBEND CATER-HOFFMAN	HDG-36 HL1-18	KES		GC	-	-	-	-	3/4"	60,000	-	-		- 15	- 4750\\	-	-	18"	REQUIRES DORMONT 1675KIT-48 QUICK DISCONNECT HOSE
9	REFRIGERATED SALAD TOP	HOSHIZAKI	CRMR72-18	KES KES	KES KES		-	 -	-	-	╬	 -	120	60	1 1		1750W 1/3 HP	*	+		NEMA 5-20 PLUG NEMA 5-15 PLUG
10	3 WELL HOT FOOD TABLE	EAGLE GROUP DIMEN.	SHT3-120	KES	KES	_	-	-	-	-		-	120	60-1PH	1		2250W	*	-		NEMA 5-30 PLUG
1	UNDER COUNTER REFRIGERATOR	ATOSA	MGF8401GR	KES	KES	_															
2	PASS THRU WINDOW	KLINES WELDING	CUSTOM	KES	KES KES	_	-	-	-		_		-	-		-	- _			-	SEE SHEET A3.1 DETAIL 10 FOR DETAILS
<u>3</u> 4	RACK DOLLY BAG IN THE BOX	CARLISLE COCA COLA	C223614 BY VENDOR	KES VENDOR			- -	-	- -	-		-	-	- -		<u> </u>	- -		-	-	COORDINATE WITH COCA COLA FOR INSTALLATION
5	TEA BREWER	BUNN	TB-6	VENDOR	VEND	GC	-	3/8"	-	-	_	-	120	-	- '	14.4	1730W	*	-	44"	COORDINATE WITH ROYAL CUP FOR INSTALLATION
6	COFFEE BREWER	BUNN	ICB-DV TALL	VENDOR			-	3/8"			_		208			20	4/0LID	*		44"	L14-30 NEMA PLUG
<u>7</u>	2 GLASS DOOR REACH IN REFRIGERATOR ESPRESSO MACHINE	TRUE VKI	GDN-43-HC-TSL01 ECCELLENZA	KES VENDOR	KES		-	3/4"	1		+	+	115 120	60		6.5 1300	1/2HP -	*	+	18" 44"	NEMA 5-15 PLUG COORDINATE WITH MANUFACTURE FOR PLUG
<u>。 </u>	50" TV	BY OWNER	BY OWNER		GC		-	-	-	_		-	-	-	 -	1300	-	_	-	-	GC TO PROVIDE BLOCKING IN WALL FOR TV MOUNTING
20	PAGER SYSTEM	CONTINENTAL	1R	OWNER	OWNE	ROWNE	R-	-	-	-		-	115	60	1		6.9	*	-	18"	NEMA 5-15 PLUG
1 2	PAN RACK STACKED CONVECTION OVENS	KELMAX BLODGET	SPG INTERNATIONAL ZEPH-100-GDBL	KES	KES KES		-	-	-	-	-	- " 100,000	115	-	-	- 9	- 1/2HP	<u> </u>	-	-	2 WIDE WITH COOLING COOL AND BLUC
2 3	DISHWASHING MACHINE (NOT USED)	CHAMPION	UH130B	KES KES		GC	1/2"	<u>-</u>	- 5/8"	 -	3/4" -	-	115 208	60	1 1	-	1/2FT -	*	-	 -	2 WIRE WITH GROUND CORD AND PLUG
4	18'-0" HOOD	CAPTIVE AIRE	CUSTOM	KES		GC	<u> </u>	<u> </u>	<u> </u>	<u> </u>	-	<u> </u> -	-	<u> </u>	<u> -</u> .	<u> </u>			<u> </u>	<u> -</u>	REFER TO ENGINEERING DRAWINGS FOR HOOD DETAILS
5	2 COMPARTMENT SINK	CLINES WELDING	сиѕтом	KES	KES		1/2"	1/2"	1 1/2"	-	4	-	-	-		-	-		-	-	-
6 <u> </u>	BUZZER STAND	- ADVANCE TABCO	- CRB-32L	OWNER KES	OWNER KES	GC	R-	- -	- -	- -	<u> </u>	-	115	60	1	2.4 -	1/8HP -	*	<u> </u>	72"	NEMA 5-15 PLUG, REQUIRES PLYWOOD BACKING FOR MOUNTING
<u>7</u> 8	UNDERBAR SINK TRASH CAN (ADD AREA MAGNETS FOR TRASH CANS IN DISH WASH)	BY VENDOR	BY VENDOR	VENDOR				<u> </u>	1	1	-	1	-	1-	 	=			†		INCLUDED IN SMALL WARES PACKAGE
9	DIRTY DISH TABLE W/ UNDER SHELF & DOUBLE SIDED RACK	CLINES WELDING	CUSTOM	KES	KES	GC	<u>-</u>					-		<u> </u>	<u> -</u> .	<u> </u>					COORDINATE WITH ECOLAB FOR INSTALLATION
	DISH MACHINE	ECOLAB	BY VENDOR	VENDOR			1/2"	-	2"	-	-	-	115	60	1 -		-	*	-	18"	COORDINATE WITH ECOLAB FOR INSTALLATION
1	CLEAN DISH TABLE	CLINES WELDING	BY VENDOR	VENDOR -	VEND -	GC -	 -	<u> -</u> -	 -	-	-	- -	<u> -</u>	- -	- -	<u>-</u>	<u>-</u> -	-	- -	 -	COORDINATE WITH ECOLAB FOR INSTALLATION
<u>2</u> 3	COCKTAIL STATION (NOT USED) 4 EYE BURNER	SOUTH BEND	- HDO-24	KES	KES	GC	†-	 -	 -	 	3/4	4" 132,000	-	1-	 -	-	-	*	†-	-	REQUIRES DORMONT 1675KIT-48 QUICK DISCONNECT HOSE
ļ	14"X60" 3 TIER CHROME WIRE SHELVING	ADVANCE TABCO	EG-14-60	KES	KES		-	-	-	-	-	-	-	_	-	_	-			-	REQUIRES 4 38" POSTS
5	ICE MACHINE WITH BIN	SCOTSMAN	C1030MA-32	KES	KES		-	3/8"	-	3/4"		-	208	60	1	16.0	1 1/2 HP	*		18"	GC TO CHECK FINAL CONNECTIONS.
<u>,</u>	30"X42" STAINLESS STEEL WORK TABLE W/UNDERSHELF 30"X60" STAINLESS STEEL WORK TABLE W/ UNDER SHELF	KLINGER'S KLINGER'S	BSG3042 BSG3060	KES KES	KES KES		 -	-	-	-		-			-	_	-	*	<u> -</u>	-	<u> </u>
3	30"X60" STAINLESS STEEL WORK TABLE W/ UNDER SHELF 30"X60" STAINLESS STEEL WORK TABLE	KLINGER'S	NSBG3060	KES	KES		+	-	<u> -</u> -	 -	╫	<u>-</u>	<u> </u>	<u> -</u> _		_	- _		+	 -	-
)	GLASS RACK (NOT USED)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
0	30"X18" STAINLESS STEEL WORK TABLE W/ UNDERSHELF	KLINGER'S	BSG3018	KES	KES		-	-	-	-	-	-	-	-		-	-		ļ-	-	-
1	TRASH CAN W/LID 8'-6" HIGH WALK-IN FREEZER/COOLER	BY VENDOR KOLPACK	BY VENDOR LOT	VENDOR KES		GC GC	-	+		-	-	-	 -	-	 - 	<u>-</u>	-		 -	-	INCLUDED IN SMALL WARES PACKAGE GC TO COORDINATE WITH KES AND SUPPLIER FOR INSTALLATION
<u>² </u>	COUNTER TOP POS SYSTEM	MICROSS	BY VENDOR	VENDOR			<u> -</u> 	 -	<u> -</u> _	<u> </u>	- -	 -	 -	- _	 -	-	- _		 -	- -	COORDINATE WITH RES AND SUFFLIER FOR INSTALLATION COORDINATE WITH MICROSS FOR INSTALLATION
4	BABY CHANGING STATION	KOALA	KB100-00	KES	KES	GC	-	_	-	-	-	-	-	-		<u> </u>	-			_	REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
5	CO2 TANK	NUCO	BY VENDOR	VENDOR	VEND	_	-	-	-	-			-	-	- -	-	 		ļ-	_	COORDINATE WITH NUCO FOR INSTALLATION
6 7	WATER HEATER PRE RINSE FAUCET ASSEMBLY	BY GC T&S BRASS	BY GC B-O313-CR-B	GC KES	GC KES	GC	- 1/2"	1/2"	- _	 -			<u>-</u>	- -	- -	<u>-</u>	- _		 -	_	REFER TO ENGINEERING PLANS FOR WATER HEATER SPECIFICATIONS
<u>/</u> 8	PRE-RINSE FAUCET	T&S BRASS	B-0113	KES	KES		1/2"	1/2"	[1_	-		 -	 -	1.		<u> </u>		 -	<u> -</u>	- -
9	12" SWING NOZZLE FAUCET	T&S BRASS	B-0231	KES	KES	GC	1/2"	1/2"	_	-		_	_	-		-	_		-	_	-
0	INGREDIENT BIN (13 1/8"Wx29-1/4"Dx28"H, 3" EXTRA WIDE CASTERS)	RUBBERMAID	PROSAVE 27088	KES	KES		-	-	-	-	-	-	-	-		-	-		-	-	-
<u>1</u>	BREADING STATION 48" HEAT LAMP	AYRKING HATCO	BBS-U-4221 GRAH-48	KES KES	KES KES		-	+	-	-	-	-	115 208	60	1 1	1.6	184W 1100W		+	•	MOUNT ABOVE FIRST SHELF IN PASS THRU WINDOW, HARD WIRED.
<u>~</u> 3	WALL MOUNTED MENU HOLDER	BY OWNER	CUSTOM	VENDOR		GC	<u> -</u>	_	<u> -</u>	-	+	-	-	-	 	-	-	<u> </u>	 -	_	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
4	WAFFLE IRON	WARING	WW200	KES	KES		-	<u> -</u>	-	-	-	-	120	-	ļ-	11.6W	1400W				
<u>; </u>	24"H TRASH CAN	BY VENDOR	BY VENDOR	VENDOR	VEND		-	-	-	-	- -	-	-	-	-	-	-		-	-	INCLUDED IN SMALL WARES PACKAGE
,	MOP SINK 24"X48" STAINLESS STEEL SLANTED DISH RACK	BY GC KLINES WELDING	BY GC	GC -	GC -	GC -	-	 -	 -	-		 -	<u> -</u> -	<u> -</u>	- -	-	-		-	-	PROVIDE SUNK-IN MOP SINK WERE AVALIBLE -
3	14"X36" WALL MOUNTED S.S SHELF W/ BRACKETS	KLINES WELDING	-	KES	KES	GC	 -	-	1-	-	 -	-	-	1-	- .	-	-		-	-	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
)	18"X36" WALL MOUNTED S.S SHELF W/ BRACKETS	KLINES WELDING	-	KES	KES	GC	<u> -</u>	-	<u> </u>	ļ-	<u> </u>	-	-	-		-	-	<u> </u> -	<u> </u> -	-	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
)	14"X48 WALL MOUNTED S.S. SHELF W/ BRACKETS	KLINES WELDING	-	KES	KES KES		<u> -</u>	<u> -</u>	<u> -</u>	-	<u> -</u>	<u> </u> -	-	<u> -</u>	<u> -</u> -	-	-		-	-	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
<u> </u>	18"X48" WALL MOUNTED S.S. SHELF W/ BRACKETS 14"X60" WALL MOUNTED S.S SHELF W/ BRACKETS	KLINES WELDING KLINES WELDING	-	KES KES	KES		 -	- -	 -	- -	 -	- -	 -	1-	- -	-	- -	-	 -	-	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
	18"X60" WALL MOUNTED S.S. SHELF W/ BRACKETS	KLINES WELDING	-	KES	KES		<u> </u> -	<u> </u>	<u> </u> -	<u> </u>	_ -	-	-	-	<u> -</u> .	<u> </u>			1-	<u> </u> -	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
	18"X54" WALL MOUNTED S.S. SHELF W/ BRACKETS	KLINES WELDING	-	KES	KES		-	-	-]-	1	-	-	ļ-	-	-	-		<u> </u> -	-	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
	14"X42" 2 TEIR CHROME WIRE SHELVING	ADVANCE TABCO	EG-14-36	KES	KES		-	-	 -	-	<u> </u>	-	-	1-	-		-			-	REQUIRES 4 38" POSTS
, ,	18"X60" 5 TEIR EPOXY WIRE DRY STORAGE SHELVING 24"X24" 5 TIER EPOXY WIRE DRY STORAGE SHELVING		EG-1860 EG-2424	KES KES	KES KES		- -	-	 -	 -	 -	- -	-	- -	- -	-	- -		 -	-	REQUIRES 4 86" POSTS
}	24"X30" 5 TIER EPOXY WIRE DRY STORAGE SHELVING	ADVANCE TABCO	EG-2442	KES	KES	GC	-	-	<u> </u>	-		-	-	<u> </u>		•	-		-	-	REQUIRES 4 86" POSTS
	24"X48" 5 TIER EPOXY WIRE DRY STORAGE SHELVING	ADVANCE TABCO	EG-2448	KES	KES		-	-	-	-	-	-	-	-	-		-		-		REQUIRES 4 86" POSTS
	24"X60" 5 TIER EPOXY WIRE DRY STORAGE SHELVING 18"X60" SOLID STAINLESS STEEL WALL SHELF	ADVANCE TABCO KLINES WELDING	EG-2460 WS18-60	KES KES	KES KES		- -	-	- -	- -	- -	- -	-	- -	- -	<u>. </u>	-		- -	- -	REQUIRES 4 86" POSTS SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
	SODA/ICE COMBO MACHINE	COCA COLA	BY VENDOR	VENDOR			-	-	1-	-	 -	-	120	60	- :	2.25	-		-	-	COORDINATE WITH COCA COLA FOR INSTALL. FILTERED WATER 50PSI MIN.
	COKE BAR GUN (NOT USED)																				
	WATER FILTER	PENTAIRE EVERPURE	EV9328-06	KES	KES	GC _	-	-	-	-	<u> -</u>	-	-	-	-	-	-		-	-	-
	36" DUNNAGE RACK OFFICE DESK	BY OWNER	BY OWNER	- OWNER	GC	GC	- -	 -	 -	- -	 -	- -	 -	1-	- -	-	- -		- -	-	GC TO COORDINATE WITH OWNER FOR INSTALLATION
	FLOOR MOUNTED SAFE	KES	KES	KES	GC		<u> </u> -	<u> </u> -	<u> </u> -	<u> </u>	_ -	-	<u> </u>	-	<u> -</u> .	<u> </u>	<u>-</u>		-	<u> </u> -	-
	HOSTESS STAND	BY GC	BY GC	GC	GC	GC	-	-	[-	-	<u> </u>	-	-	-	-	-	-		-	-	REFER TO SHEET A5.1 FOR DETAILS
	FRYER	PROCORE	TF3-N	KES	KES	GC	-	-	[-	-	3/4"	90,000	-	<u>-</u>	 -	-	-		-	-	
	24" DUNNAGE RACK 48" DUNNAGE RACK	+		_				<u> </u>	1		_			1	+ +						
)	4 COMPARTMENT SINK	ADVANCE TABCO	FC-4-2424-24RL	KES	KES	GC	1/2"	1/2"	1 1/2"	<u> </u>	_ -	-	-	-	<u> -</u> .	<u> </u>			<u> </u> -	<u> </u> -	-
3	CHEMICAL STORAGE RACK			VENDOR			-	-	-	-	<u>-</u>	-	-	ļ-	-	•	-		-	-	SHELVING REQUIRES PLYWOOD BACKING IN WALL FOR MOUNTING
	TOILET PAPER DISPENSER	TORK ELEVATION	473208	VENDOR VENDOR			-	-	-	-	- -	-	-	[-	-	-	-		-	-	
<u></u>	SOAP DISPENSER PAPER TOWEL DISPENSER	ARRAY GP enMOTION	517493 59462A	VENDOR			- -	- -	 -	- -	 -	- -	- -	- -	- -	-	- -		- -	-	
7	HIGH CHAIRS	-	-	VENDOR			 -	-	 -	-	 -	-	-	-	 - .	-	-		1-	-	
	BOOSTER SEATS	1	1	VENDOR	VEND	1 -	1-	-	1-	1-	<u> </u>	1-	1_	1_	1. 1.	_	i		1_	-	

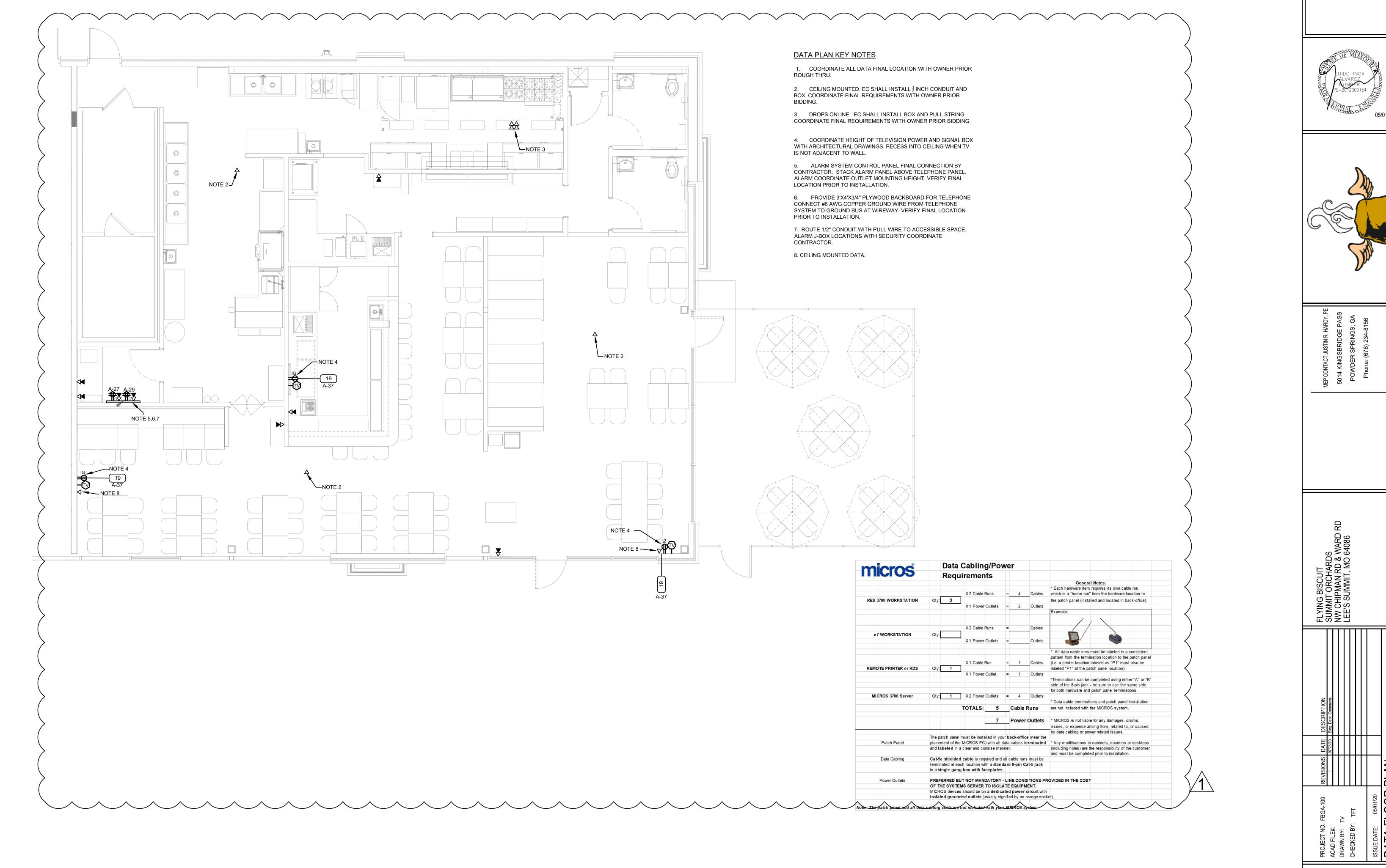


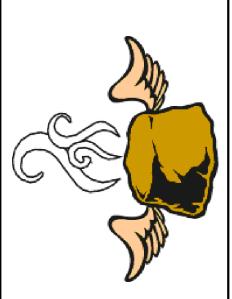


MEP CONTACT:JUSTIN R. HARDY, P
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POWDER SPRINGS, GA

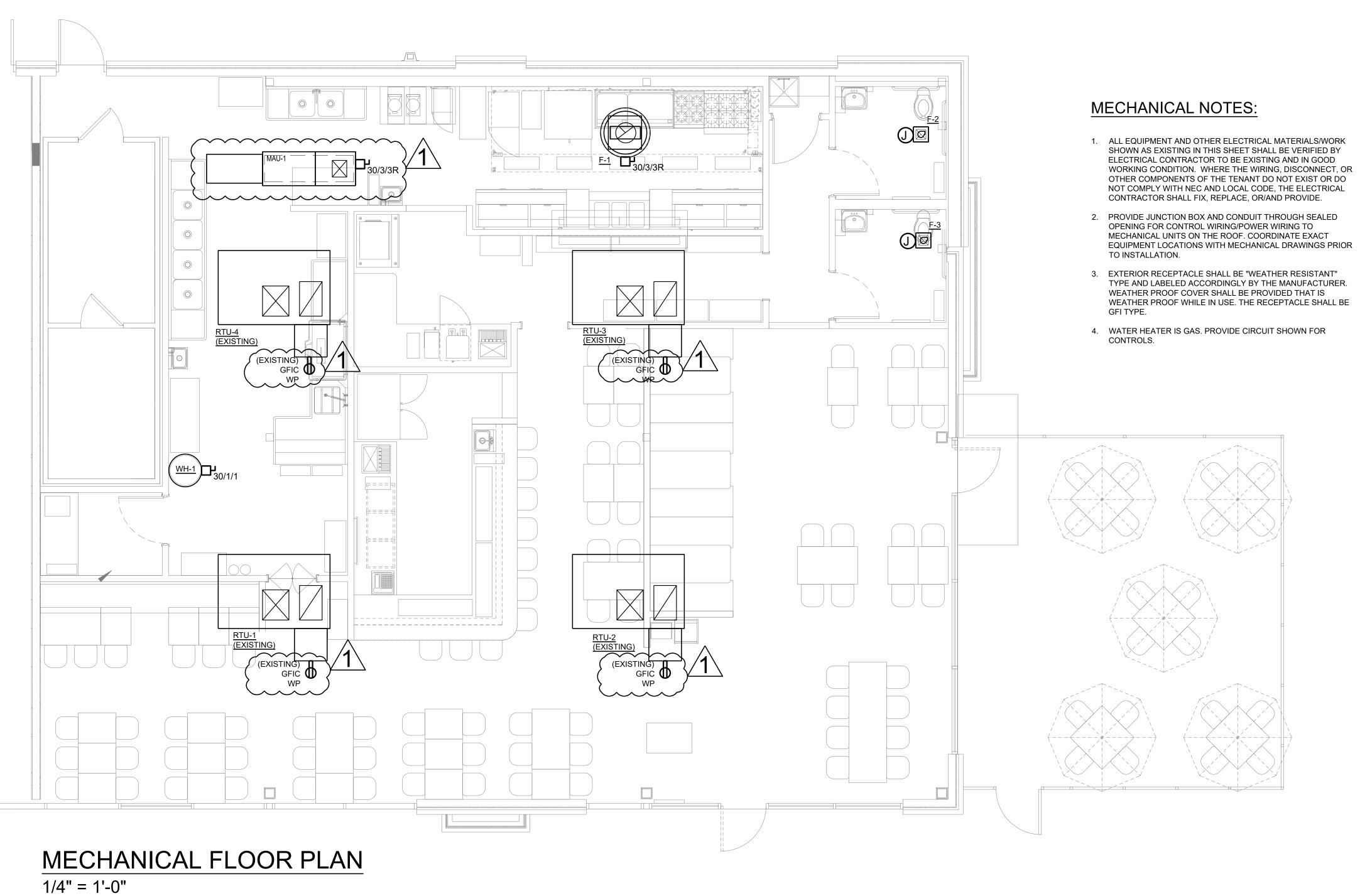
FLYING BISCUIT SUMMIT ORCHARDS NW CHIPMAN RD & WARD RD LEE'S SUMMIT, MO 64086

REVISIONS DATE DESCRIPTION					
DATE					111
REVISIONS					EDULE
): FBGA-100	2	; TFT		05/01/20	EN SCHEDNLE





REVISIONS DATE DESCRIPTION	07/23/20 Bldg. Dept. Comments.						
DATE	07/23/20						
REVISIONS	1						PLAN
: FBGA-100		2	•	.: TFT		05/01/20	FLOOR PLAN



 ALL EQUIPMENT AND OTHER ELECTRICAL MATERIALS/WORK SHOWN AS EXISTING IN THIS SHEET SHALL BE VERIFIED BY ELECTRICAL CONTRACTOR TO BE EXISTING AND IN GOOD WORKING CONDITION. WHERE THE WIRING, DISCONNECT, OR OTHER COMPONENTS OF THE TENANT DO NOT EXIST OR DO

- WEATHER PROOF WHILE IN USE. THE RECEPTACLE SHALL BE

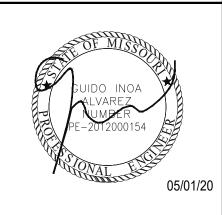
MECHANICAL EQUIPMENT SCHEDULE 4.34 36.2 45.0 45 4.34 36.2 45.0 45 A-14,16,18 3 # 6 ,1# 10 G- 1 "C. 60 3 NF BY DIVISION 23 0.94 7.8 9.4 20 BY DIVISION 23

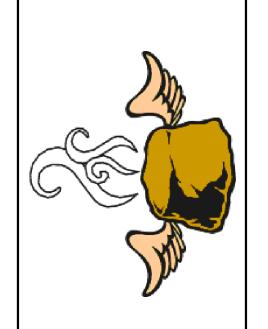
A-42 2 # 12 ,1# 12 G- 1/2 "C.

MOTOR RATED SWITCH

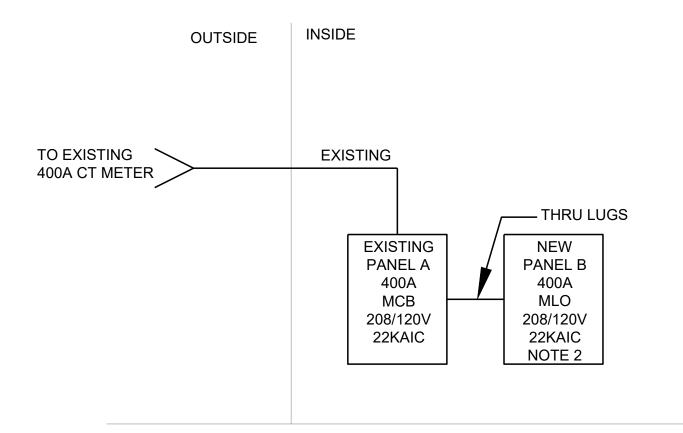
BY DIVISION 26

0.05 0.4 20.0 20





TION	nments.				
DESCRIP ⁻	Bldg. Dept. Comments.				AN-
DATE	07/23/20				RPI
REVISIONS DATE DESCRIPTION	-				FLOOR PLAN

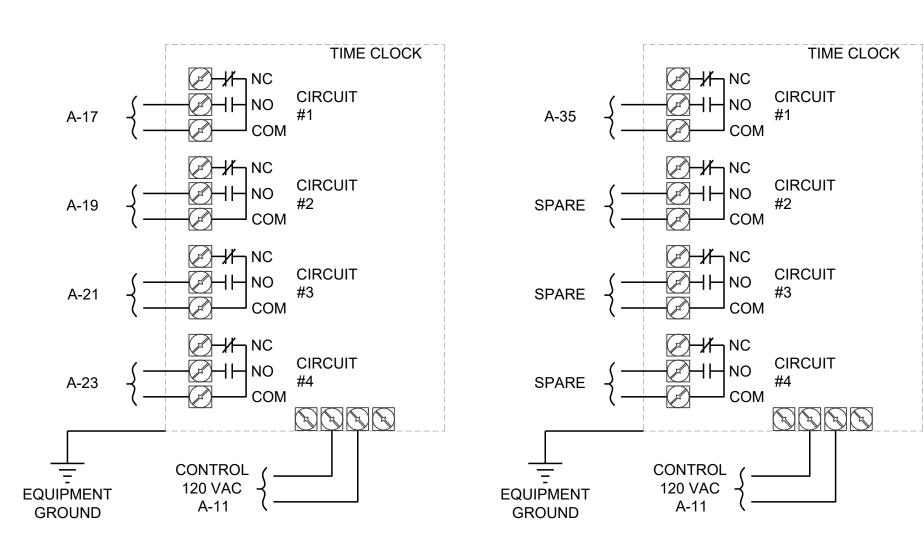


RISER DIAGRAM NOTES:

- 1. ALL EQUIPMENT AND OTHER ELECTRICAL MATERIALS/WORK SHOWN AS EXISTING IN THE RISER DIAGRAM SHALL BE VERIFIED BY ELECTRICAL CONTRACTOR TO BE EXISTING AND IN GOOD WORKING CONDITION. WHERE THE METER, DISCONNECT, FEEDER OR OTHER COMPONENTS OF THE TENANT FEEDER DO NOT EXIST AS SHOWN, THE ELECTRICAL CONTRACTOR SHALL PROVIDE.
- GC/EC SHALL REPLACE EXISTING PANEL B FROM 42 CKTS TO NEW 66 CRTS.

RISER DIAGRAM

N.T.S.



TIME CLOCK N.T.S.

LOAD SUM	MARY				
			VOLTAGE:	208	Y/ 120V
OVD 044400	_				
CIRCUIT DESCRIPTION	PANEL A	PANEL B		CONNECTED	DEMAND
LIGHTING	4.2	0.0		4.20	5.25
RECEPTACLE	15.0	15.2		30.20	20.10
MOTOR	3.7	0.0		3.70	8.88
HEATING	0.0	0.0		0.00	52.1
COOLING	52.1	0.0		52.10	
KITCHEN	0.0	43.0		43.00	27.95
MISCELLANEOUS	2.2	2.2		4.40	4.40
		NE	W TOTAL DIV	ERSIFIED KVA	119
		NEV	V TOTAL DIVE	ERSIFIED AMPS	329

	Α.		ELECTRICAL ROOM				400A	MCD			EXISTIN	IC.	
	A		ELECTRICAL ROOM				400A	MCB			EXISTIN		
MPS	POLES	TYPE	CIRCUIT DESCRIPTION	KVA	CKT	A	В	С	CKT	KVA	CIRCUIT DESCRIPTION	TYPE POI	ES AN
20	1		SPARE		1	4.34			2	4.34		AC	
20	1		SPARE		3		4.34		4	4.34	RTU-1 (EXISTING)	AC 3	4:
20	1		SPARE		5			4.34	6	4.34		AC	
20	1		SPARE		7	4.34			8	4.34		AC	
20	1		SPARE		9		4.34		10	4.34	RTU-2 (EXISTING)	AC 3	45
20	1	R	TC	0.60	11			4.94	12	4.34		AC	
20	1		FAN	1.80	13	6.14			14	4.34		AC	
20	1	M	FAN	1.80	15		6.14		16	4.34	RTU-3 (EXISTING)	AC 3	4:
20	1	L	LIGHTING - KITCHEN	0.85	17			5.19	18	4.34		AC	
20	1	L	LIGHTING - COUNTER/BATHROOMS	0.74	19	5.08			20	4.34		AC	
20	1	L	LIGHTING - PENDANT	0.46	21		4.80		22	4.34	RTU-4 (EXISTING)	AC 3	45
20	1	L	LIGHTING - TRACK	0.98	23			5.32	24	4.34		AC	
20	1		OFFICE DATA	1.20	25	3.00			26	1.80	ROOF RECEPTACLE (EXISTING)	R 1	2
20**	1	R	TELEPHONE BACKBOARD	1.20	27		2.40		28	1.20	OFFICE DATA	R 1	2
20**	1	R	TELEPHONE BACKBOARD	1.20	29			3.00	30	1.80	RECEPT ACLE GENERAL	R 1	2
20	1		SPARE		31	1.20			32	1.20	BATHROOM RECEPTACLE	R 1	2
20	1	R	TIME CLOCK CONTROL	0.60	33		1.15		34	0.55	HEAT LAMP (52)	2	2
20	1		SIGN	1.20	35			1.75	36	0.55	()		
20	1	R	TV	1.80	37	2.35			38	0.55	HEAT LAMP (52)		2
20	1		GENERAL RECEP	1.80	39		2.35		40	0.55	` /		
20	I	R	WH-1	0.60	41			0.70	42	0.10	F-2/F-3	M 1	2
				HASE TO	TAL	26.5	25.5	25.2	KVA				
PROVI	DE ISOI	LATED (ROUND								TOTAL CONNECTED LOAD	77 KV	214
ROVID	E HACI	R T YPE (CIRCUIT BREAKER								TOTAL DEMAND LOAD	76 KV	1 212

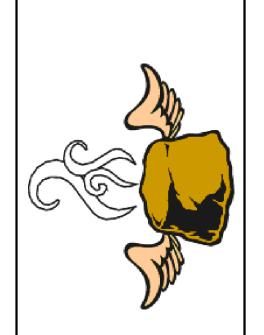
L	LIGHTING	4.2		5.3
R	RECEPTACLE	15.0		12.5
M	MOTOR	3.7	2.4	4.3
Н	HEATING	0.0		52.1
AC	AC	52.1		
K	KITCHEN	0.0	65%	0.0
	MISCELLANEOUS	2.2		2.2
T	T RANSFORMED OR SUB PANEL	0.0		0.0
FILL I	N KVA OF LARGEST MOTOR	•		

AND DIVERSITY FACTOR FOR KITCHEN

PANEL NAME B		ME	LOCATION:	VOLTAGE: 208 Y/120V 3 PHASE				ASE	MOUNTING / ENCLOSURE: SURFACE / N.					
			BACK OF HOUSE	400A MLO							NEW			
AMPS	POLES	TYPE	CIRCUIT DESCRIPTION	KVA	CKT	A	В	С	CKT	KVA	CIRCUIT DESCRIPTION	TYPE	POLE	S AMPS
20	1	K	SODA MACHINE (72)	0.96	1	1.86			2	0.90		K		1
20	2	K	MICROWA VE (6)	1.50	3		2.40		4	0.90	WALK-IN COOLER CONDENSER (42C)	K	3	20
20	2	K	MICROWA VE (6)	1.50	5			2.40	6	0.90	1	K	1	
20	1		SPARE		7	0.90			8	0.90		K		
20	1	K	HOLDING CABINET (8)	1.75	9		2.65		10	0.90	WALK-IN FREEZER CONDENSER (42F	K	3	20
20	1		SHUNT TRIP		11			0.90	12	0.90		K	1	
20	1	K	CONVECTION OVEN (22)	0.96	13	2.52			14	1.56	COFFEE BREWER (16)	K	2	20
20	1		SHUNT TRIP		15		1.56		16	1.56	` ′	K		20
30	1	K	3 WELL HOTE FOOD (10)	2.25	17			3.88	18	1.63	2 GLASS DOOR REACH-IN REFRIG (17)) K	1	20
20	1		SPARE		19	1.20			20	1.20	ESPRESSO MACHINE (18)	K	2	20
20	1		TEA BREWER (15)	1.73	21		2.93		22	1.20	1	K		
20	1	K	WALK-IN COOLER LIGHTS (42CL)	0.36	23			0.86	24	0.50	HOOD CONTROL SYSTEM (24)	K	1	20
20	1	K	WALK-IN COOLER EVAP (42CE)	0.22	25	1.92			26	1.70	ICE MACHINE (35)	K	_ 2	20
20	1	K	WALK-IN FREEZER LIGHTS (42FL)	0.36	27		2.06		28	1.70	` '	K		
20	1	K	WALK-IN FREEZER EVAP (42FE)	0.22	29			2.02	30	1.80	POS(1)	K	1	20**
20 2	2		HEAT LAMP (52)	0.55	31	2.35			32	1.80	POS (43)	K	1	20**
			` ′	0.55	33		2.35		34	1.80	BOOTH RECEPTACLES	R	1	20
20	1		REFRIGERATED SALAD TOP (9)	0.77	35			2.57	36	1.80	POS(1)	K	1	20**
20	1	K	UC FRIDGE (11)	0.28	37	0.64			38	0.36	ANSUL	K	1	20
20	1		SPARE		39		1.20		40	1.20	SHOW WINDOW	R	1	20
20	1	R	SOUND SYSTEM	1.20	41			2.40	42	1.20	SHOW WINDOW	R	1	20
20	1		BREADING STATION (51)	0.30	43	1.50			44	1.20	SHOW WINDOW	R R	1	20
20	1		WAFFLE IRON (54)	1.40	45		2.60		46	1.20	1		1	20
20	1	K	WAFFLE IRON (54)	1.40	47			3.20	48	1.80	0 DISH MACHINE (30)		1	20
20	2		HEAT LAMP (52)	0.55	49	0.55			50		SPARE		1	20
20	-		HEAT LAWF (32)	0.55	51		2.11		52	1.56	COFFEE BREWER (16)	K	2	20
20	1	K	REFRIGERATED SALAD TOP (9)	0.77	53			2.33	54	1.56	COFFEE BREWER (10)	K	7 -	20
20	1	R	RECEPTACLE BOOTHS	1.80	55	1.80			56		SPARE		1	20
20	1	R	PAGE SYSTEM (20)	1.00	57		1.00		58		SPARE		1	20
20	1	R	BUZZER STAND (26)	1.00	59			1.00	60		SPARE		1	20
20	1		SODA MACHINE (72)	0.96	61	0.96			62		SPARE		1	20
20	1	R	ALARM	1.80	63		1.80		64		SPARE		1	20
20	1	R	SPARE		65				66		SPARE		1	20
			PI	HASE TO	OTAL	16.2	22.7	21.6	KVA				-	
*PROVIDE ISOLATED GROUND								TOTAL CONNECTED LOAD	60 KVA		168 A			
PROVIDE SHUNT TRIP TYPE BREAKER								TOTAL DEMAND LOAD		3 KVA	119 A			

	LIGITING	0.0		0.0			
	RECEPTACLE	15.2		12.6			
	MOTOR	0.0	2.4	0.0			
	HEATING	0.0		0.0			
,	AC	0.0					
	KITCHEN	43.0	65%	28.0			
	MISCELLANEOUS	2.2		2.2			
	TRANSFORMED FROM SUB PANEL	0.0		0.0			
LL IN KVA OF LARGEST MOTOR							
ID DIVERSITY FACTOR FOR KITCHEN							





MEP CONTACT:JUSTIN R. HARDY, PE 5014 KINGSBRIDGE PASS POWDER SPRINGS, GA

PATE DESCRIPTION
SUMMIT ORCHARDS
NW CHIPMAN RD & WARD RD
LEE'S SUMMIT, MO 64086

E4.0