MECHANICAL SPECIFICATIONS

PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM. DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE. WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. PROVIDE OPERATION MANUALS, MAINTENANCE MANUALS AND SCHEMATICS FOR ALL MECHANICAL EQUIPMENT INSTALLED. COORDINATION: COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOF WARRANTY. DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS. SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS SEAL CLASS "A". SHEET METAL SHALL BE GALVANIZED SHEET STEEI OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS. TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" X 2" X 1" X 18 GAUGE CHANNELS WITH MINIMUM 1" X 18 GAUGE STRAPS TO STRUCTURAL SUPPORT. ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1. FIBER GLASS DUCT BOARD IS AN ACCEPTABLE ALTERNATIVE IF APPROVED BY OWNER AND THE LOCAL BUILDING CODE OFFICIAL. PRODUCT AND INSTALLATION MUST MEET NAIMA STANDARDS AND OTHER APPLICABLE CODES AND REGULATIONS. EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, THEN WIPED DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT. DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS. DUCT INSULATION: MATERIAL FOR SUPPLY AND RETURN AIR DUCT ABOVE CEILING INSIDE THE BUILDING SHALL HAVE THE EQUIVALENT THERMAL RESISTANCE OF MINIMUM R-6. THE REQUIRED R VALUES ARE FOR INSTALLED INSULATION WITH 25% COMPRESSION AT THE CORNERS. PROVIDE PINS AND WASHERS IN ACCORDANCE WITH SMACNA REQUIREMENTS AND AS REQUIRED TO PREVENT INSULATION FROM SAGGING. PROVIDE ADEQUATE INSULATION AT THE SUPPLY AIR DIFFUSERS TO PREVENT CONDENSATION. FLEXIBLE DUCT : UL #181 LISTED, CLASS 1, AND CONTAIN A 0.1 PERM RATED POLYETHYLENE INNER LINER, WITH R-8 FIBERGLASS INSULATION. FLEXIBLE DUCTS SHALL BE SECURED TO RIGID SHEET METAL COLLARS AND AIR DIFFUSERS WITH NYLON TIES OR STAINLESS STEEL WORM GEAR STRAPS. SEAL ALL CONNECTIONS AND JOINTS AIRTIGHT. SUPPORT FLEXIBLE DUCTS FROM THE BUILDINGS STRUCTURE WITH MINIMUM 1" WIDE, 18 GAUGE, GALVANIZED STEEL STRAP AT MAXIMUM 4'-0" CENTERS. PROVIDE 4" WIDE SHEET METAL SADDLES AT EACH SUPPORT EACH STRAP. SAG OF FLEXIBLE DUCT BETWEEN HANGERS SHALL NOT EXCEED 1/2" PER FOOT OF SUPPORT SPACING. RADIUS FOR TURNS OF FLEXIBLE DUCTS SHALL BE A MINIMUM OF ONE DUCT DIAMETER. FLEXIBLE DUCT RUNS SHALL NOT EXCEED 10'-0" IN LENGTH AND SHALL BE THE SAME SIZE AS THE DIFFUSER NECK CONNECTION. ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED. RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM 1/2" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT. AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE. FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS. DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UN-INSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS. HVAC CONTROL SYSTEM: PROVIDE ALL THE NECESSARY CONTROLS AND CONTROL WIRING IN CONDUIT COMPATIBLE TO SYSTEMS SHOWN ON EQUIPMENT SCHEDULE M2.0. PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM SHALL ENABLE THE SUPPLY FAN AND CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN SPACE SET-POINT. SUPPLY FAN RUNS CONTINUOUSLY DURING THE OCCUPIED MODE. EACH THERMOSTAT SHALL HAVE A DEAD BAND OF AT LEAST 5 DEGREES (ADJ) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF, EACH THERMOSTAT SHALL HAVE SETBACK AND SET-UP CAPABILITY DURING THE UNOCCUPIED MODE. FOR SETBACK, THE HEATING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE DOWN TO 55 DEGREES. FOR SET-UP, THE COOLING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE UP TO 85 DEGREES OR TO PREVENT HIGH SPACE HUMIDITY LEVELS. EACH SYSTEM SHALL BE PROVIDED WITH A MOTORIZED OUTSIDE AIR DAMPER THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY CLOSING DURING PREOCCUPANCY BUILDING WARM-UP, COOL DOWN, AND SETBACK, EXCEPT WHEN VENTILATION REDUCES ENERGY COSTS (e.g., NIGHT PURGE) OR WHEN VENTILATION MUST BE SUPPLIED TO MEET CODE REQUIREMENTS. COMMISSIONING/VERIFICATION: HVAC CONTROL SYSTEM SHALL BE TESTED TO ENSURE THAT CONTROL ELEMENTS ARE CALIBRATED, ADJUSTED, AND IN PROPER WORKING CONDITION, AND THAT THE SYSTEM MEETS THE DESIGN REQUIREMENTS. TEST AND BALANCE: CONTRACT DIRECTLY A THIRD PARTY TO PROVIDE TEST AND BALANCE OF THE HVAC SYSTEM. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING. TEST AND ADJUST ALL MECHANICAL SYSTEM AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB PROCEDURAL STANDARDS-1999 OR AABC 2002, AND ASHRAE STANDARD 111. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE INDEPENDENT AND CERTIFIED WITH NEBB OR AABC, BALANCE ALL SYSTEMS WITHIN 5% OF AIR FLOW INDICATED ON DRAWINGS, AND REPORT ALL DISCREPANCIES TO THE HVAC CONTRACTOR FOR CORRECTION, MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER. COMPLETION REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS AND AN OPERATING AND MAINTENANCE MANUAL TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE OWNER. THE RECORD DRAWING SHALL BE OF THE ACTUAL INSTALLATION AND INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES. THE OPERATING AND MAINTENANCE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING; (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY; (D) HVAC CONTROLS SYSTEMS MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SYSTEM SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-PIONTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS; (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SET-POINTS.

HVAC GENERAL NOTES

THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
 THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE CODES AND

REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.

3. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. PROVIDE ALL DUCTWORK, MATERIALS, CONNECTIONS, ACCESSORIES, FITTINGS, OFFSETS, TRANSITIONS, DAMPERS AS REQUIRED FOR A COMPLETE WORKABLE

SYSTEM.

4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED LISTING. ALL EQUIPMENT, PIPING AND SUPPORTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL EQUIPMENT SHALL BE ANCHORED TO RESIST THE LATERAL FORCE REQUIREMENTS OF CHAPTER 16 OF THE 2021 INTERNATIONAL BUILDING CODE.

5. COORDINATE THE INSTALLATION OF THE HVAC SYSTEM WITH ALL OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. COORDINATE THE LOCATIONS OF PENETRATIONS AND FINAL LOCATION OF ALL EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE EQUIPMENT WEIGHTS, EQUIPMENT DIMENSIONS, PLATFORM SIZES & LOCATIONS, CURB SIZES & LOCATIONS, CONCRETE PAD SIZES AND LOCATIONS AST REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINATE LOCATIONS OF POWER, DISCONNECTS, AND CONTROL CONDUIT WITH THE ELECTRICAL CONTRACTOR. COORDINATE LOCATIONS OF ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL PLANS, ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL ELEVATIONS.

6. DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.

7. ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.

8. OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR EXHAUST DISCHARGE.
9. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE

CONSTRUCTED, ERECTED, INSULATED AND TESTED IN ACCORDANCE CHAPTER 6 OF THE 2021 INTERNATIONAL MECHANICAL CODE.

10. ALL EXHAUST FANS SHALL BE EQUIPPED WITH A BACK DRAFT DAMPER.
 11. DUCT AND AIR TRANSFER PENETRATIONS THRU BUILDING ASSEMBLIES REQUIRING

PROTECTION SHALL BE PROTECTED WITH FIRE DAMPERS, SMOKE DAMPERS, COMBINATION SMOKE/FIRE DAMPERS AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH SECTION 607 OF THE INTERNATIONAL MECHANICAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE 2021 INTERNATIONAL BUILDING CODE.

12. INSTALL SMOKED DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE 2021 INTERNATIONAL MECHANICAL CODE.

13. UNLESS NOTED OTHERWISE, ALL LINE VOLTAGE WIRING, CONDUIT, FINAL CONNECTIONS, DISCONNECTS, STARTERS, AND OVER CURRENT PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THESE MECHANICAL DRAWINGS AND/OR ELECTRICAL DRAWINGS AND/OR ELECTRICAL SECTION OF THE SPECIFICATIONS.

 INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECTICAL CONTRACTOR UNLESS NOTED OTHERWISE.

15. PROVIDE OWNER WITH THREE COPIES OF A CERTIFIED AIR BALANCE REPORT PREPARED IN BY A THIRD PARTY CERTIFIED BY THE AABC OR NEBB. TEST, ADJUST AND BALANCE THE HVAC SYSTEM IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. PROVIDE START-UP/TEST REPORTS FOR ALL AIR HANDLING EQUIPMENT, FANS, AND REFRIGERATION EQUIPMENT. TEST AND VERIFY PROPER OPERATION OF ALL MAKE-UP AIR/EXHAUST AIR INTERLOCK SYSTEMS AND THIER SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.

16. PROVIDE OWNER WITH THREE SETS OF AS-BUILT PLANS AND OPERATIONS AND MAINTENANCE MANUALS. CLEARLY IDENTIFY ALL EQUIPMENT WITH PERMANENT PLASTIC OR METAL LABELS/TAGS (PEN MARKING NOT ACCEPTABLE).

17. PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.
18. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
19.0

a) DUCTS FOR DEMAND CONTROLLED VENTILATION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE FAN MANUFACTURER'S INSTALLATION INSTRUCTIONS, THE PROVISIONS ASHRAE 62.2, TABLE 5.3, OR THE AIRFLOW SHALL BE MEASURED AS REQUIRED BY AND IN COMPLIANCE WITH ASHRAE 62.2, 5.4.

1) DUCTS FOR KITCHEN COOKTOPS OR RANGES SHALL BE SHOWN OF METAL WITH A SMOOTH INTERIOR.

a) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE INSTALLED IN ACCORDANCE WITH IMC 504.0.

b) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE RIGID METALLIC DUCTS WITH A MINIMUM MILL THICKNESS OF 16 (0.016-INCH), SHALL HAVE A MINIMUM 4-INCH DIAMETER AND A SMOOTH INTERIOR. THE COMBINED HORIZONTAL AND VERTICAL LENGTH OF THE DUCTS OF THE DUCTS SHALL BE 14-FEET, WHICH SHALL BE REDUCED BY 2-FEET FOR EVERY 90-DEGREE ELBOW IN EXCESS OF TWO ELBOWS.

c) LISTED CLOTHES DRYER TRANSITION DUCTS NOT MORE THAN 6-FEET IN LENGTH SHALL BE PERMITTED TO CONNECT THE DRYER TO THE EXHAUST DUCTS AS LONG AS THEY ARE NOT CONCEALED WITHIN CONSTRUCTION, AND THEY ARE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

		LEGEND
AxB		DUCT WORK (WIDTHXDEPTH)
AXB		LINED DUCT WORK (WIDTHXDEPTH DIMENSIONS ARE FOR I.D.)
		SUPPLY DUCT, SECTION
		RETURN DUCT, SECTION
		EXHAUST DUCT, SECTION
RORD		RISE OR DROP IN DIRECTION OF AIR FLOW
₹ Ⅲ †	FLEX. CONN.	FLEXIBLE CONNECTION
		DUCT TRANSITION, ROUND AND RECTANGULAR
-		SPLITTER DAMPER
-		EXTRACTOR AT BRANCH DUCT
		TURNING VANES
- \\\\		FLEXIBLE DUCT
5		SINGLE LINE DUCT WORK
	AVD	AUTOMATIC VOLUME DAMPER
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
	MD	MODULATING DAMPER
	AFD	AUTOMATIC FIRE DAMPER
- 3	AD	ACCESS DOOR
$-\boxtimes$	SD	SUPPLY DIFFUSER
	RR	RETURN REGISTER
<u> </u>	ER	EXHAUST REGISTER
	SWR	SIDE WALL SUPPLY REGISTER
	SWE	SIDE WALL RETURN OR EXHAUST
·······□──	LD	LINEAR DIFFUSER
— D.L. —	DL	DOOR LOUVER
— U.C. —	UC	UNDER CUT DOOR
	VAV	VARIABLE AIR VOLUME
(T)		THERMOSTAT
<u>(S)</u>		DUCT SMOKE DECTECTOR
	T/B	TO BELOW
	F/B	FROM BELOW
	T/A	TO ABOVE
	F/A	FROM ABOVE
	SPECIAL N	NOTICE TO CONTRACTORS

SPECIAL NOTICE TO CONTRACTORS

- . ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESNENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
- 2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.

3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

4. NO WORK SHALL BE DONE ON ANY PART OF THE BUILDING BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE WRITTEN APPROVAL OF THE CODE OFFICIAL. NO CONSTRUCTION SHALL BE CONCEALED WITHOUT BEING INSPECTED AND APPROVED.

MECHANICAL LIST OF DRAWINGS (LoD):

	ALLIST OF DIVAVIIVOS (LOD).	
SHEET TAG	TITLE	SCALE
√I 0.00	MECH GENERAL NOTES AND SPECIFICATIONS.	NTS
√I 0.01	MECHANICAL CODE CHECKING.	NTS
VI 1.01	MECHANICAL LAYOUTS	3/16"=1'-0"
M 2.01	MECHANICAL EQUIPMENT SCHEDULE.	NTS
M 3.01	HEAT LOADS CALCULATIONS & VENTILATION	NTS
И 4.01	MECHANICAL EQUIPMENT DATA SHEETS.	NTS
И 5.01	MECHANICAL GENERAL DETAILS -1	NTS
И 5.02	MECHANICAL GENERAL DETAILS -2	NTS
		•

SEAL:

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REVISIONS

MECH GENERAL NOTES
AND SPECIFICATIONS

Project Number: 02-021

Drawn By: MN

: Walter Green, Uncle Willie's

02.28.2023

M 0.00

MECHANICAL CODE CHECKING:

Intake Opening Protection. Air intake openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles. Openings in louvers, grilles and screens shall be sized, in any direction, not less than $\frac{1}{4}$ inch and not larger than $\frac{1}{2}$ inch for residential occupancies, and shall be protected against local weather conditions. Louvers that protect air intake openings in structures located in hurricane-prone regions, as defined in the Florida Building Code, Building, shall comply with AMCA 550. Outdoor air intake openings located in exterior walls shall meet the provisions for exterior wall opening protectives in accordance with the Florida Building Code, Building.

Exhaust Discharge. The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a public nuisance and not less than the distances specified in Section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic, crawl space, or be directed onto walkways.

Exceptions:

- 1. Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics.
- 2. Commercial cooking recirculating systems.
- 3. Where installed in accordance with the manufacturer's instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled domestic ductless range hoods shall not be required to discharge to the outdoors.

Location of Exhaust Outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances: For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious.

Exhaust Opening Protection. Exhaust openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles. Openings in screens, louvers and grilles shall be sized not less than 1/4 inch (6.4 mm) and not larger than 1/2 inch (12.7 mm). Openings shall be protected against local weather conditions. Louvers that protect exhaust openings in structures located in hurricane-prone regions, as defined in the Florida Building Code, Building, shall comply with AMCA Standard 550. Outdoor openings located in exterior walls shall meet the provisions for exterior wall opening protectives in accordance with the Florida Building Code, Building.

Domestic Clothes Dryer Ducts. Exhaust ducts for domestic clothes dryers shall conform to the requirements of Sections 504.8.1 through 504.8.6.

Material and Size. Exhaust ducts shall have a smooth interior finish and shall be constructed of metal a minimum 0.016 inch (0.4 mm) thick. The exhaust duct size shall be 4 inches (102 mm) nominal in diameter.

Duct Installation. Exhaust ducts shall be supported at 4-foot (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

Transition Ducts. Transition ducts used to connect the dryer to the exhaust duct system shall be a single length that is listed and labeled in accordance with UL 2158A. Transition ducts shall be not greater than 8 feet (2438 mm) in length and shall not be concealed within construction.

Duct Length. The maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections 504.8.4.1 through 504.8.4.3.

Length Identification. Where the exhaust duct equivalent length exceeds 35 feet (10 668 mm), the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.

Exhaust Duct Required. Where space for a clothes dryer is provided, an exhaust duct system shall be installed. Where the clothes dryer is not installed at the time of occupancy, the exhaust duct shall be capped at the location of the future dryer.

Exception: Where a listed condensing clothes dryer is installed prior to occupancy of structure.

505 Domestic Kitchen Exhaust Equipment

Domestic Systems. Where domestic range hoods and domestic appliances equipped with downdraft exhaust are provided, such hoods and appliances shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such ducts shall have smooth inner walls, shall be air tight, shall be equipped with a backdraft damper, and shall be independent of all other exhaust systems.

Exceptions:

In other than Group I-1 and I-2, where installed in accordance with the manufacturer's instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled ductless range hoods shall not be required to discharge to the outdoors. Ducts for domestic kitchen cooking appliances equipped with downdraft exhaust systems shall be permitted to be constructed of Schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:

- 2.1. The duct shall be installed under a concrete slab poured on grade.
- 2.2. The underfloor trench in which the duct is installed shall be completely backfilled with sand or gravel.
- 2.3. The PVC duct shall extend not more than 1 inch (25 mm) above the indoor concrete floor surface.
- 2.4. The PVC duct shall extend not more than 1 inch (25 mm) above grade outside of the
- building.
- 2.5. The PVC ducts shall be solvent cemented.

Insulation of Ducts.

General. Duct insulation shall conform to the requirements of Sections 604.2 through 604.13 and the Florida Building Code, Energy Conservation.

Surface Temperature. Ducts that operate at temperatures exceeding 120°F (49°C) shall have sufficient thermal insulation to limit the exposed surface temperature to 120°F (49°C).

Duct Construction and Installation.

General. An air distribution system shall be designed and installed to supply the required distribution of air. The installation of an air distribution system shall not affect the fire protection requirements specified in the Florida Building Code, Building. Ducts shall be constructed, braced, reinforced and installed to provide structural strength and durability.

Duct Sizing. Ducts installed within a single dwelling unit shall be sized in accordance with ACCA Manual D, the appliance manufacturer's installation instructions or other approved methods. Ducts installed within all other buildings shall be sized in accordance with the ASHRAE Handbook of Fundamentals or other equivalent computation procedure.

Duct Classification. Ducts shall be classified based on the maximum operating pressure of the duct at pressures of positive or negative 0.5, 1.0, 2.0, 3.0, 4.0, 6.0 or 10.0 inches (1 inch w.c. = 248.7 Pa) of water column. The pressure classification of ducts shall equal or exceed the design pressure of the air distribution in which the ducts are utilized.

Metallic Ducts. Metallic ducts shall be constructed as specified in the SMACNA HVAC Duct Construction Standards—Metal and Flexible.

Exception: Ducts installed within single dwelling units shall have a minimum thickness as specified in Table 603.4.

Minimum Fasteners. Round metallic ducts shall be mechanically fastened by means of not less than three sheet metal screws or rivets spaced equally around the joint.

Exception: Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion so as to prevent a hinge effect.

Nonmetallic Ducts. Nonmetallic ducts shall be constructed with Class 0 or Class 1 duct material and shall comply with UL 181. Fibrous duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards. The air temperature within nonmetallic ducts shall not exceed 250°F (121°C).

Gypsum Ducts. The use of gypsum boards to form air shafts (ducts) shall be limited to return air systems where the air temperatures do not exceed 125°F (52°C) and the gypsum board surface temperature is maintained above the airstream dew-point temperature. Air ducts formed by gypsum boards shall not be incorporated in air-handling systems utilizing evaporative coolers.

Phenolic Ducts. Nonmetallic phenolic ducts shall be constructed in accordance with the SMACNA Phenolic Duct Construction Standards.

Flexible Air Ducts and Flexible Air Connectors. Flexible air ducts, both metallic and nonmetallic, shall comply with Sections 603.6.1, 603.6.1.1, 603.6.3 and 603.6.4. Flexible air connectors, both metallic and nonmetallic, shall comply with Sections 603.6.2 through 603.6.4.

Flexible Air Ducts. Flexible air ducts, both metallic and nonmetallic, shall be tested in accordance with UL 181. Such ducts shall be listed and labeled as Class 0 or Class 1 flexible air ducts and shall be installed in accordance with Section 304.1.

Duct Length. Flexible air ducts shall not be limited in length.

Flexible Air Connectors. Flexible air connectors, both metallic and nonmetallic, shall be tested in accordance with UL 181. Such connectors shall be listed and labeled as Class 0 or Class 1 flexible air connectors and shall be installed in accordance with Section 304.1.

Connector Length. Flexible air connectors shall be limited in length to 14 feet (4267 mm).

Connector Penetration Limitations. Flexible air connectors shall not pass through any wall, floor or ceiling.

Rigid Duct Penetrations. Duct system penetrations of walls, floors, ceilings and roofs and air transfer openings in such building components shall be protected as required by Section 607. Ducts in a private garage that penetrate a wall or ceiling that separates a dwelling from a private garage shall be continuous, shall be constructed of sheet steel having a thickness of not less than 0.0187 inch (0.4712 mm) (No. 26 gage) or rigid foil-faced fiberglass and shall not have openings into the garage. Fire and smoke dampers are not required in such ducts passing through the wall or ceiling separating a dwelling from a private garage except where required by Chapter 7 of the Florida Building Code, Building.

Joints, Seams and Connections. All longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC Duct Construction Standards—Metal and Flexible and NAIMA Fibrous Glass Duct Construction Standards. All joints, longitudinal and transverse seams and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants or tapes.

Tapes and mastics used to seal fibrous glass ductwork shall be listed and labeled in accordance with UL 181A and shall be marked "181 A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat-sensitive tape. Tapes and mastics used to seal metallic and flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181 B-FX" for pressure-sensitive tape or "181 B-M" for mastic. Duct connections to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked "181 B-C." Closure systems used to seal all ductwork shall be installed in accordance with the manufacturer's instructions.

Exception: For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams of other than the snap-lock and buttonlock types.

Exhaust Fans. Where exhaust fans are installed, additional air shall be provided to replace the exhausted air. [NFPA 54:9.3.6.1]

Louvers, Grilles, and Screens. The required size of openings for combustion, ventilation, and dilution air shall be based on the net free area of each opening. Where the free area through a design of louver, grille, or screen is known, it shall be used in calculating the size opening required to provide the free area specified. Where the louver and grille design and free area are not known, it shall be assumed that wood louvers have 25 percent free area and metal louvers and grilles have 75 percent free area. Nonmotorized louvers and grilles shall be fixed in the open position. [NFPA 54:9.3.7.1]

Minimum Screen Mesh Size. Screens shall be not less than $\frac{1}{4}$ of an inch (6.4 mm) mesh. [NFPA 54:9.3.7.2]

Condensate Disposal. Condensate from cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas where it would cause a nuisance.

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REVISIONS

MECHANICAL CODE CHECKING

Project Number: 02-021

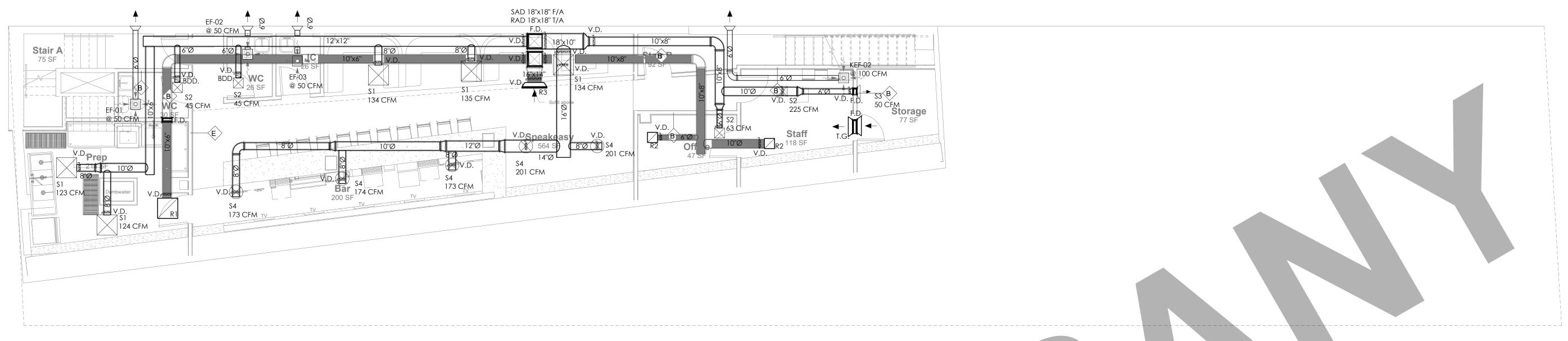
Date:

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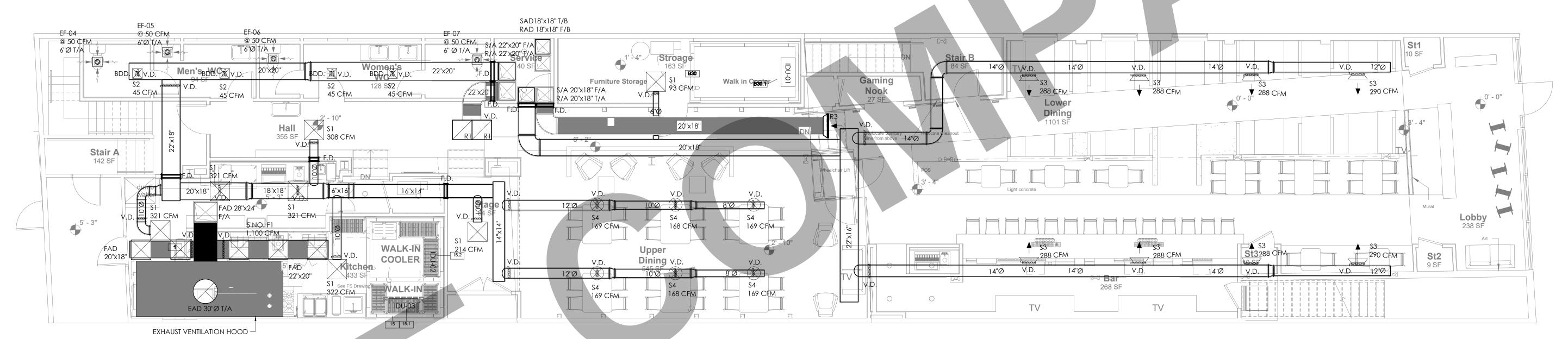
Client: Walter Green, Uncle Willie's

02.28.2023

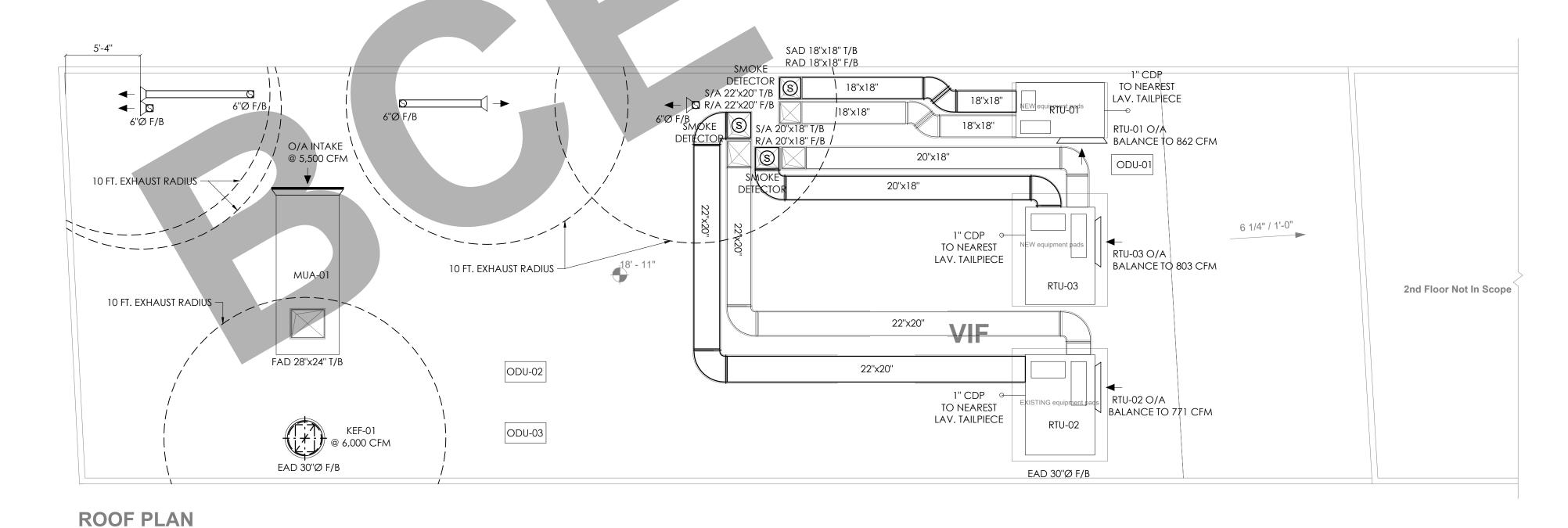
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BASEMENT PLAN



1st FLOOR PLAN



GENERAL NOTES:

- 1. MECHANICAL CONTRACTOR TO COORDINATE ROUTING AND LOCATION OF MECHANICAL COMPONENTS AND EQUIPMENT WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS PRIOR TO PERFORMING WORK.
- 2. CONTRACTOR TO CUT AND PATCH AS REQUIRED TO PERFORM THE WORK.
- ACCESS DOORS ARE REQUIRED FOR ANY COMPONENT REQUIRING ACCESS ABOVE HARD LID CEILINGS. COORDINATE SIZE, LOCATION AND FINISH WITH ARCHITECT PRIOR TO PERFORMING WORK.
- 4. REFER TO THE DIAGRAMS THAT APPLY TO THIS SHEET WHICH PROVIDE GENERAL GUIDANCE FOR INSTALLATION THOUGH NOT ALL COMPONENTS AND ACCESSORIES MAY BE SHOWN.
- 5. PRIOR TO INSTALLATION, CONFIRM SPECIFIC LOCATION FOR ALL THERMOSTATS / SENSORS WITH ARCHITECT. MOUNT AT 48" A.F.F. OR IN ACCORDANCE WITH ADA REQUIREMENTS. PROVIDE LOCKING COVERS.
- 6. COORDINATE AND CONFIRM BORDER, FRAME, FINISH, AND LOCATION WITH ARCHITECT PRIOR TO ORDERING.
- 7. ANY PENETRATIONS THROUGH WALL STUDS, FLOOR JOISTS, OR ROOF TO BE IN ACCORDANCE WITH THE LATEST ADOPTED BUILDING CODE.
- 8. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- O. CONTRACTOR TO CONFIRM ADEQUATE RETURN AIR PATH BACK TO MAIN
- AIR HANDLING UNIT.

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REVISIONS

MECHANICAL LAYOUTS

Project Number: 02-021 **Date:** 02.28.2023

Drawn By:

Client: Walter Green, Uncle Willie's

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SCHEDULE No. 1 GAS/ELEC. ROOF-TOP UNITS SCHEDULE

TAG	MANUFACTURER	MODEL	TOTAL COOLING (TONS)	HEATING CAPACITY INP./OUT.(MBH)	AIR FLOW @1.0 "W.G. (CFM)	O/A (CFM)	EER	MCA (A)	MOP (A)	VOLT/PH/HZ
RTU-01	CARRIER	48HC-A06	5	90 / 73.5	2,000	862	12.45	41.0	60.0	208/230-1-60
RTU-02	CARRIER	48HC-D08	7.5	90 / 73 - 180-148	3,000	771	12.0	41.0	50.0	208/230-3-60
RTU-03	CARRIER	48HC-A07	6	82 / 66 - 125/103	2,400	803	12.0	36.0	50.0	208/230-3-60

^{*} RTU-01/RTU-02/RTU-03 WILL BE EQUIPPED WITH ECONOMIZER FOR VENTILATION.

SCHEDULE No. 2 DIRECT GAS FIRED MUA SCHEDULE (or APPROVED EQUAL)

TAG	QTY	BRAND	MODEL#	DESIGN CFM	ESP	GAS TYPE	INPUT (MBH)	RPM	BHP	PHASE	VOLT
MUA-01	1	CAPTIVEAIRE	A2-D	5,500	0.25	NATURAL	600	954	3.57	1	120

SCHEDULE No. 3 HOOD ROOF CURB EXHAUST FAN SCHEDULE (APPROVED EQUAL)

TAG	QTY	BRAND	MODEL#	CFM	ESP	RPM	ВНР	VOLT	PHASE	HZ
KEF-01	1	CAPTIVEAIRE	DU240HFA	6,000	0.5	886	1.5	208	3	60

SCHEDULE No. 4 WALK-IN-COOLER/FREEZER INDOOR UNITS SCHEDULE

INDOOR UNIT	IDU-01 & 02	IDU-03
OUTDOOR UNIT	ODU-01 & 02	ODU-03
SERVING	WALK-IN-COOLERS	WALK-IN-FREEZER
MANUFACTURER	BOHN	BOHN
OUTDOOR MODEL	BCH0005MBACZA0000	BCH0022LBACZA0200
POWER SUPPLY	208-230/1/60	208-230/1/60
RLA (A)	5.4 A	12.4 A
MCA (A)	15.0	20.0
MOP (A)	15.0	25.0
NOMINAL CAPACITY (BTU/H)	8,840	10,780

SCHEDULE No. 5 CEILING EXHAUST FANS SCHEDULE

TAG	EF-01 TO 07	KEF-02
LOCATION	BATHROOMS	STAFF ROOM
SELECTED FLOW (CFM)	50	100
ESP (IN. H2O)	0.25"	0.25"
ELECTRICAL (V / PH / HZ)	120 / 1 / 60	120 / 1 / 60
POWER / Amps	25 W	25 W
MOTOR SPEED (RPM)	MULTI SPEED	MULTI SPEED
FAN TYPE	CEILING FANS	CEILING FANS
MANUFACTURER	PANASONIC	PANASONIC
MODEL	WHISPER FV-0511VKS2	WHISPER FV-0511VKS2

NOTES:

- 1. PROVIDE UL LISTING.
- 2. PROVIDE ENERGY STAR COMPLIANCE.
- 3. INTERLOCK WITH WALL SWITCH.
- 4. PROVIDE MOTOR WITH THERMAL OVERLOADS.

SCHEDULE No. 6 AIR OUTLETS

	TAG	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING
	S1	SUPPLY DIFFUSER	TITUS	24in. x 24in.	Duct Mounted
	S2	SUPPLY DIFFUSER	TITUS	12in. x 12in.	Duct Mounted
	S3	SUPPLY DIFFUSER	TITUS	16in. x 8in.	Duct Mounted
₹	S4	SUPPLY DIFFUSER	TITUS	12in.Ø	Duct Mounted
	R1	RETURN DIFFUSER	TITUS	24in. x 24in.	Duct Mounted
	R2	RETURN DIFFUSER	TITUS	12in. x 12in.	Duct Mounted
	R3	RETURN BELLMOUTH	TITUS	24in. x 16in.	Duct Mounted
	F1	FRESH AIR DIFFUSER	TITUS	24in. x 24in.	Duct Mounted

NOTES:

- 1. COORDINATE FINISH, COLOR, BORDER AND EXACT LOCATION WITH OWNER PRIOR TO ORDERING.
- 2. PROVIDE OPPOSED BLADE DAMPER ACCESSIBLE THROUGH DIFFUSER FACE FOR GYP BD. CEILING INSTALLATIONS.
- 3. PROVIDE DUCT TRANSITIONS AS REQUIRED.
- 4. RETURNS R1 ARE PROVIDED WITH PROPER FILTERS.

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REVISIONS

MECHANICAL EQUIPMENT SCHEDULES

Project Number: 02-021

ate: 02.28.2023

Drawn By:

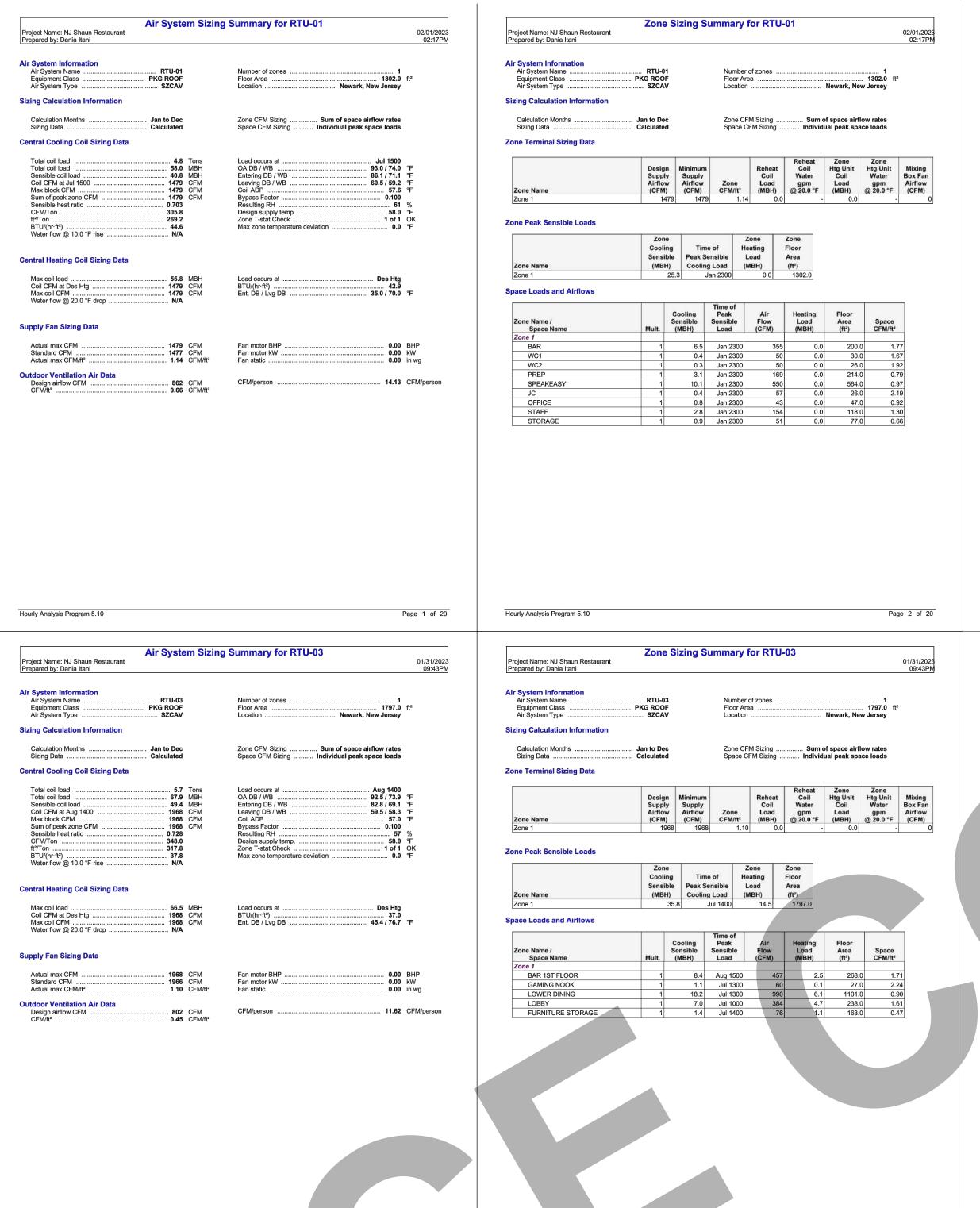
: Walter Green, Uncle Willie's

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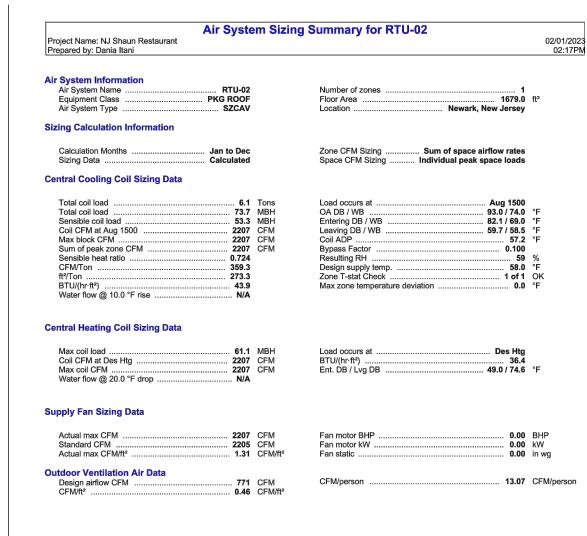
Thank You. Build All Dreams

M 2.01

113 Halsey Street Newark, NJ 07102



Page 1 of 16



Hourly Analysis Program 5.10

Page 2 of 16

Project Name: NJ Shaun Restaurant Prepared by: Dania Itani	Zone S	Sizing S	ummary	for RTU-	02			02/01/20 02:17
Air System Information Air System Name Equipment Class Air System Type	PKG ROOF		Floor An	ea			1679.0 ft ²	
Sizing Calculation Information								
Calculation Months Sizing Data					Sum o			
Zone Terminal Sizing Data								
	Design Supply Airflow	Minimum Supply Airflow	Zone	Reheat Coil Load	Reheat Coil Water gpm	Zone Htg Unit Coil Load	Zone Htg Unit Water gpm	Mixing Box Fa Airflow
Zone Name	(CFM)	(CFM)	CFM/ft ²	(MBH)	@ 20.0 °F	(MBH)	@ 20.0 °F	(CFM)
Zone 1	2207	2207	7 1.31	0.0	-	0.0	-	
Zone Name	Cooling Sensible (MBH)	Peak S	ensible l	eating Load	Floor Area			
		100000000000000000000000000000000000000	•	ИВН)	(ft²)			
Zone 1	39	100000000000000000000000000000000000000	g Load (I Jul 1400	22.3311	0.75.75			
	39	100000000000000000000000000000000000000	•	ИВН)	(ft²)			
Zone 1	i s	100000000000000000000000000000000000000	•	ИВН)	(ft²)	Floor Area (ft²)	Space CFM/ft²	
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1	Mult.	Cooling Sensible (MBH)	Jul 1400 Time of Peak Sensible Load	Air Flow (CFM)	(ft²) 1679.0 Heating Load	Area (ft²)	CFM/ft²	
Zone 1 Space Loads and Airflows Zone Name / Space Name	Mult.	Cooling Sensible	Jul 1400 Time of Peak Sensible	Air Flow (CFM)	(ft²) 1679.0 Heating Load	Area	CFM/ft²	_
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1 HALL KITCHEN	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load Jul 1300 Aug 1400	Air Flow (CFM)	(ft²) 1679.0 Heating Load (MBH)	Area (ft²) 355.0 433.0	CFM/ft² 0.6 2.0	9
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1 HALL KITCHEN MEN'S WC	Mult.	Cooling Sensible (MBH) 4.0 16.6	Jul 1400 Time of Peak Sensible Load Jul 1300 Aug 1400 Jul 1500	Air Flow (CFM) 217 905 100	Heating Load (MBH) 0.8 2.7	Area (ft²) 355.0 433.0 94.0	0.6 2.00 1.00	9
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1 HALL KITCHEN MEN'S WC SERVICE	Mult.	Cooling Sensible (MBH) 4.0 16.6 1.4	Jul 1400 Time of Peak Sensible Load Jul 1300 Aug 1400 Jul 1500 Jul 1500	Air Flow (CFM) 217 905 100 21	Heating Load (MBH) 0.8 2.7 1.0 0.4	Area (ft²) 355.0 433.0 94.0 40.0	0.6 2.0 1.0 0.5	9 6 3
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1 HALL KITCHEN MEN'S WC SERVICE UPPER DINING	Mult.	Cooling Sensible (MBH) 4.0 16.6 1.4 0.4 13.1	Jul 1400 Time of Peak Sensible Load Jul 1300 Aug 1400 Jul 1500 Jul 1500 Aug 1400	Air Flow (CFM) 217 905 100 21 713	Heating Load (MBH) 0.8 2.7 1.0 0.4 3.9	Area (ft²) 355.0 433.0 94.0 40.0 545.0	CFM/ft² 0.6 2.0 1.0 0.5 1.3	9 6 3
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1 HALL KITCHEN MEN'S WC SERVICE	Mult. S	Cooling Sensible (MBH) 4.0 16.6 1.4 0.4 13.1	Jul 1400 Time of Peak Sensible Load Jul 1300 Aug 1400 Jul 1500 Aug 1400 Jul 1500 Jul 1500 Jul 1500	MBH) 10.7 Air Flow (CFM) 217 905 100 21 713 100	(ft²) 1679.0 Heating Load (MBH) 0.8 2.7 1.0 0.4 3.9 1.3	Area (ft²) 355.0 433.0 94.0 40.0 545.0 128.0	CFM/ft² 0.6 2.0 1.0 0.5 1.3	9 6 3
Zone 1 Space Loads and Airflows Zone Name / Space Name Zone 1 HALL KITCHEN MEN'S WC SERVICE UPPER DINING	Mult.	Cooling Sensible (MBH) 4.0 16.6 1.4 0.4 13.1	Jul 1400 Time of Peak Sensible Load Jul 1300 Aug 1400 Jul 1500 Jul 1500 Aug 1400	Air Flow (CFM) 217 905 100 21 713	Heating Load (MBH) 0.8 2.7 1.0 0.4 3.9	Area (ft²) 355.0 433.0 94.0 40.0 545.0	CFM/ft² 0.6 2.0 1.0 0.5 1.3	9 6 3 1

AS PER IMC 2021 TABLE 403.3.1.1: MINIMUM VENTILATION RATES:

S.N.	SPACE NAME	AREA (FT2)	CFM/FT2	CFM-A	# OF OCC. PER 1000 FT2	# OF PERS.	CFM/PERS.	CFM-B	TOTAL CFM
BASEMENT									
1	PREP	214	0.12	26	20	5	7.5	38	63
2	BAR	200	0.18	36	100	20	7.5	150	186
3	SPEAKEASY	564	0.18	102	70	30	7.5	225	327
4	OFFICE	47	0.06	3	5	1	5	5	8
5	STAFF	118	0.06	7	5	1	5	5	112
6	STORAGE	77	0.12	9	-	-	-	0	9
7	JC	26	0.06	2	5	1	5	5	57
8	WC1	30	-	-	-	-	-	-	50
9	WC2	26	-	-	-	-	-	-	50
TO	OTAL	1,302	-	184	-	58	-	428	862
1ST FLOOR	-								
1	KITCHEN	433	0.12	52	20	9	7.5	68	119
2	HALL	355	0.06	21	-	-	-	0	21
3	STAGE	84	0.06	5	70	6	10	60	65
4	UPPER DINING	545	0.18	98	70	35	7.5	263	361
5	SERVICE	40	0.12	5	-	-	-	0	5
6	WOMEN'S WC	128	-	-	-	-	-	-	100
7	MEN'S WC	94	-	-	-	-	-	-	100
TO	OTAL	1,679	-	181	-	-	-	390	771
1ST FLOOR									
8	FURNITURE STORAGE	163	0.12	20	-	-	-	0	20
9	BAR	268	0.18	48	100	20	7.5	150	198
10	LOWER DINING	1,101	0.18	198		40	7.5	300	498
11	GAMING NOOK	27	0.18	5	20	1	7.5	8	12
12	LOBBY	238	0.06	14	30	8	7.5	60	74
TO	OTAL	1,797	-	285	-	-	-	518	803

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REVISIONS

HEAT LOADS
CALCULATIONS AND
VENTILATIONS

 Project Number:
 02-021

 Date:
 02.28.2023

Drawn By: MN

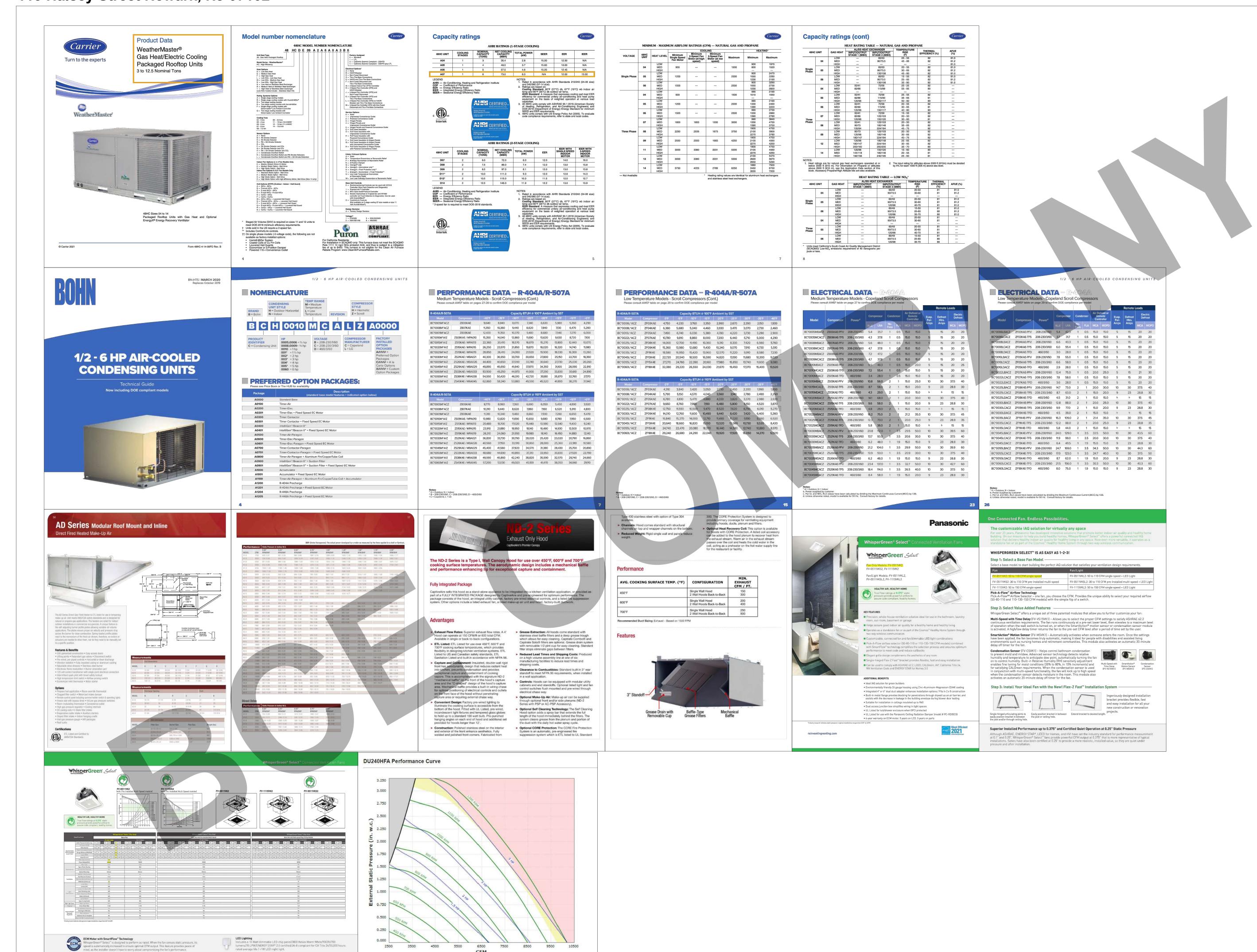
Client: Walter Green,

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Uncle Willie's

Hourly Analysis Program 5.10

113 Halsey Street Newark, NJ 07102



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REVISIONS

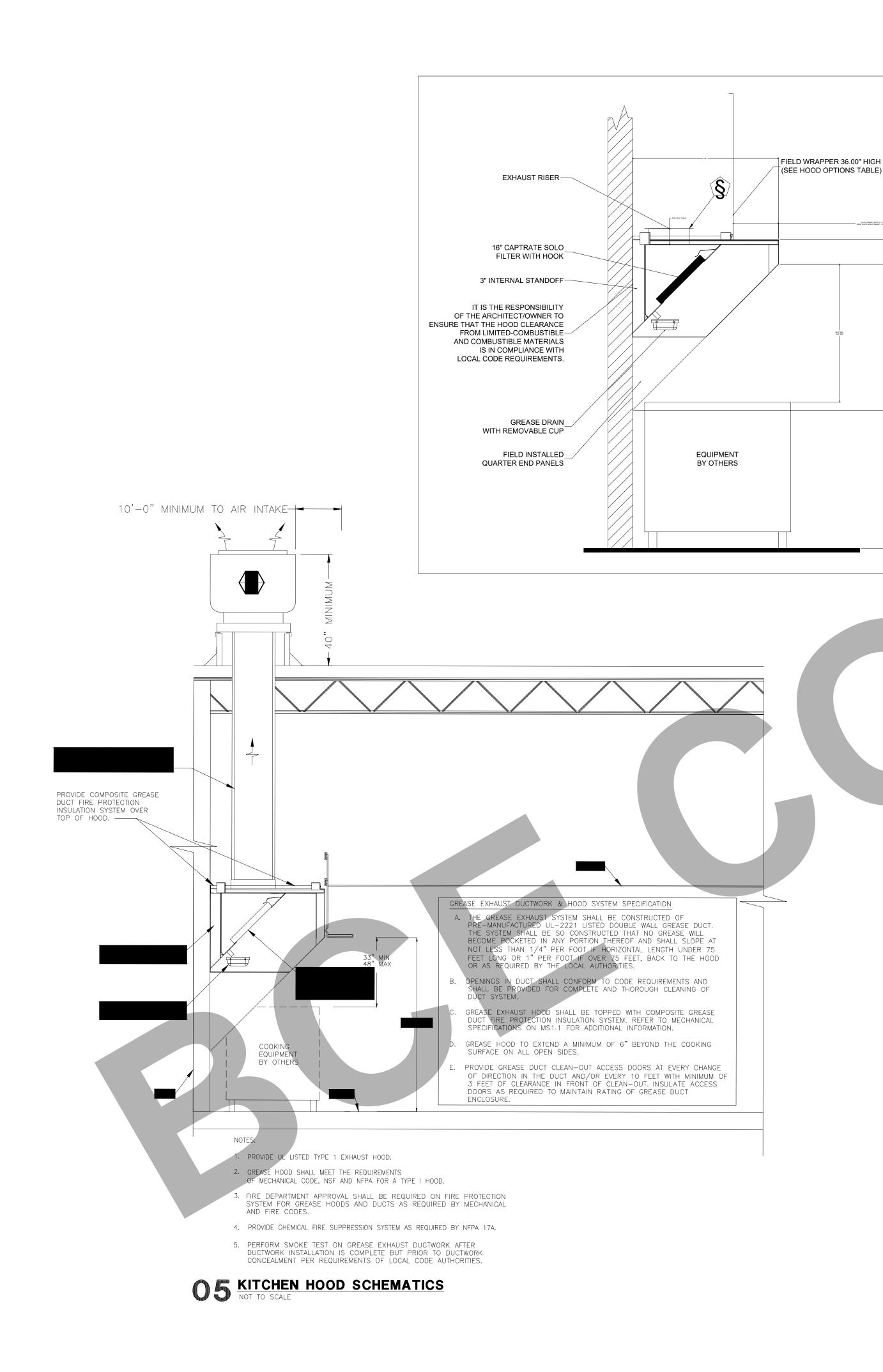
MECHANICAL EQUIPMENT DATASHEETS

Project Number: 02-021 **Date:** 02.28.2023

Drawn By:

Client: Walter Green, Uncle Willie's

M 4.01

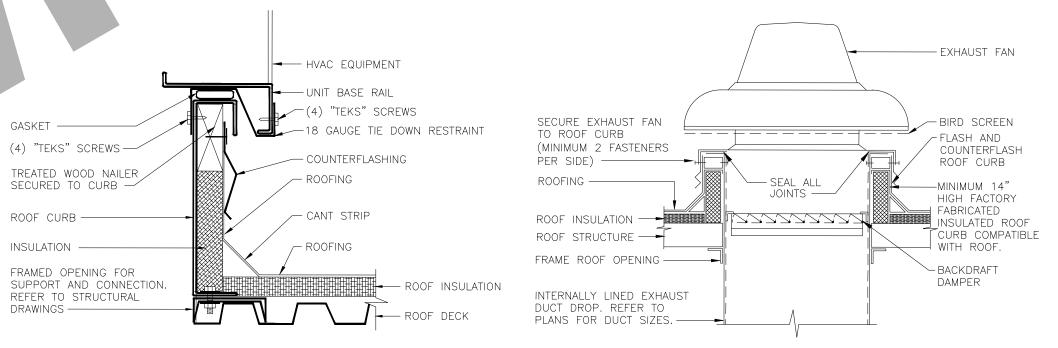


DIFFUSER CONNECTION DETAIL NOT TO SCALE

FACTORY WIRED TO WIRING IN LIQUID T FLEXIBLE CONDUIT CURB EXTENSION (OR 3/8" LAG SCREW 12" ON CENTER, MINIMUM 2 PER SIDE. - RESILIENT GASKET PREFABRICATED ROOF INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS. **ROOF MOUNTED GREASE EXHAUST FAN DETAIL**

— U.L. LISTED GREASE EXHAUST FAN

□



- FLEXIBLE DUCT CONNECTION

DIFFUSER STARTER COLLAR (MINIMUM 4"). —

INSULATED FLEXIBLE DUCT ———

PROTECTION SADDLE -

FLEXIBLE DUCT HELIX. SECURE INSULATION OVER DRAW BAND WITH ADDITIONAL DRAW BAND.

NOTES: 1) PROVIDE METAL OR "PANDUIT" DRAW BAND AT FLEXIBLE DUCT CONNECTION ON INTERIOR

3) PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF FLEXIBLE DUCT TO ROUND DUCT,

4) BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

2) PROVIDE BEADING ON ROUND METAL DUCT 12" OR LARGER IN DIAMETER.

ROOFTOP UNIT CURB DETAIL NOT TO SCALE

WRAPPED INSULATION COVERING RIGID ROUND DUCT ———

RIGID ROUND SHEET METAL DUCT ----

BALANCING HANDLE. LOCK INTO POSITION AND MARK PERMANENTLY.

BALANCING DAMPER ----

SUPPLY DUCT ---

TREATED WOOD NAILER

ROOF CURB —

INSULATION ----

DRAWINGS ----

FRAMED OPENING FOR

1" X 20 GAUGE GALVANIZED SUPPORT STRAP

/- SQUARE TO ROUND ADAPTER

- INSULATE BACKPAN OF DIFFUSER

(IF REQUIRED)

CEILING

SUPPLY DIFFUSER WITH LAY-IN FRAME

(SURFACE MOUNT FRAME SIMILAR)

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REVISIONS

MECHANICAL GENERAL

DETAILS - 1

Project Number: 02-021

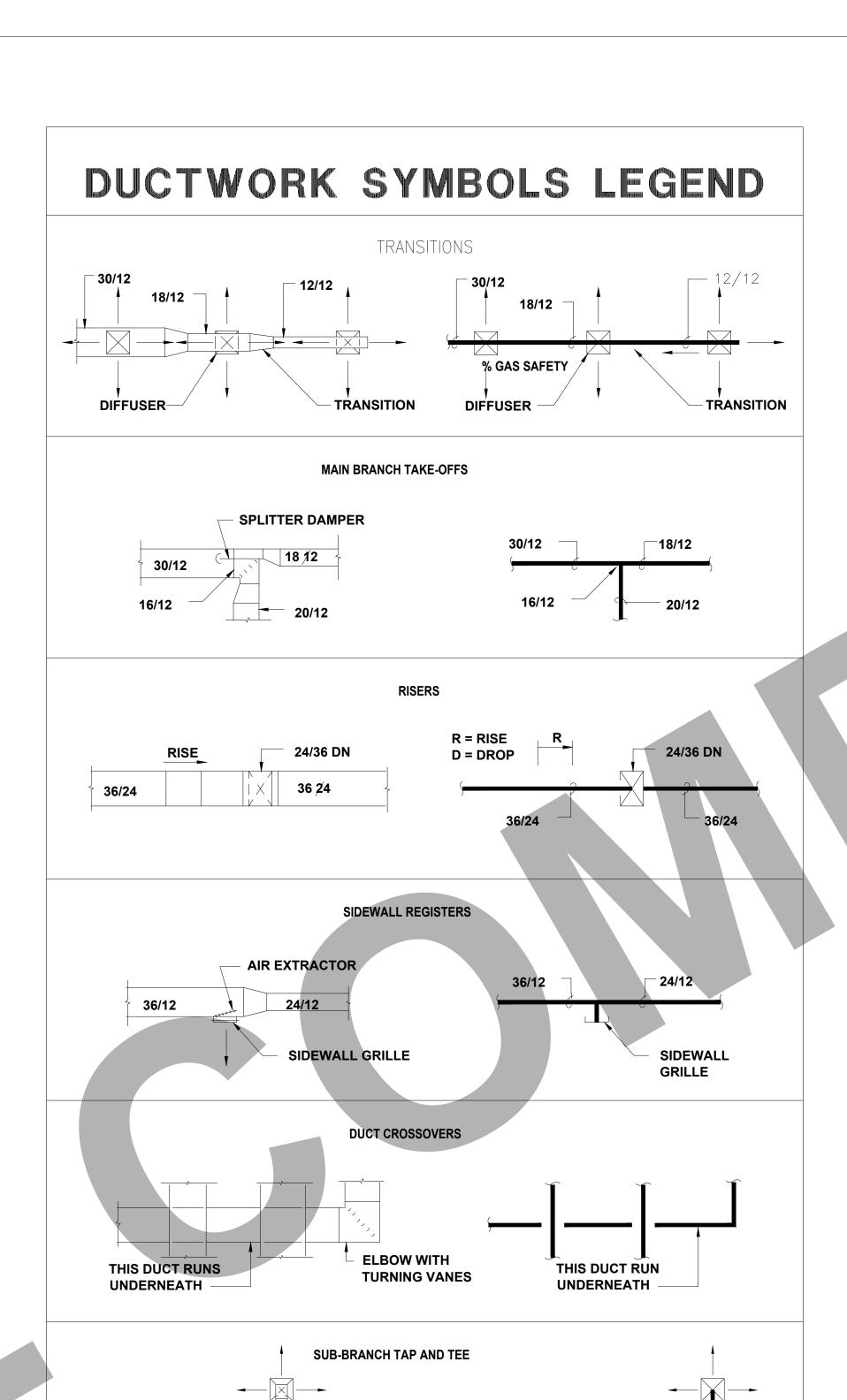
02.28.2023 Drawn By:

Walter Green, Client: Uncle Willie's

M 5.01

GENERAL NOTES

- 1. MECHANICAL CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL FEATURES OF BUILDING CONSTRUCTION WHICH MAY AFFECT HIS WORK AND SHALL B GOVERNED BY THESE AND OTHER SPECIFICATIONS, INCLUDIN THE GENERAL CONDITIONS AND PARTICULAR INSTRUCTIONS T ALL BIDDER AND SUPPLIERS
- 2. ALL WORK SHALL BE EXECUTED AND INSPECTED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND/OR STATE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THIS PARTICULAR CLASS OF WORK, AND EACH CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, TAXES, AND OTHER SIMILAR COSTS IN CONNECTION THEREWITH
- 3. PRIOR TO FABRICATION OF DUCTWORK, THE MECHANICAL CONTRACTOR SHALL EXAMINE AND VERIFY ALL CONDITIONS ABOVE AND BELOW THE CEILING WHICH MAY INTERFERE WITH THE DUCT SYSTEM AND NOTIFY THE ARCHITECT OF ANY CONFLICT ENCOUNTERED CONTRACTOR SHALL PROVIDE ALL OFFSETS, ETC WHICH MAY BE REQUIRED, WITHOUT ADDITIONAL COST TO THE OWNER
- 4. ALL SHEET METAL DUCT CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH "SMACNA" LOW PRESSURE DUCT CONSTRUCTION STANDARD
- 5. TURNING VANES SHALL BE INSTALLED IN ALL BENDS IN RECTANGULAR DUCT EXCEEDING 30"
- 6. ALL DUCTS SHALL BE SUPPORTED WITH 1"WIDE, 16 GAUGE, GALVANIZED STEEL BANDS.
- 7. ALL RECTANGULAR DUCT SHALL BE INSULATED WITH A MIN OF 1"INTERNAL LINER, 2 LBS DENSITY R-60 ALL ROUND DUCTS AND DIFFUSER TOPS SHALL HAVE A MIN 2" THICK OF FOIL BACKED BLANKET TYPE INSULATION R=4-4 2, WITH ALL JOINTS BUTTED AND TAPED
- 8. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL
- 9. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF SUPPLY AND RETURN AIR REGISTERS, DUCTS, GRILLES AND DIFFUSERS WITH LIGHTING AND CEILING PATTERNS
- 10. PROVIDE LATERAL BRACING OF ALL DUCTS AND PIPES AS REQUIRED BY CODE.
- 11. INSULATE AND SEAL ALL DUCTWORK PER CHAPTER 10 OF THE STATE MECHANICAL CODE (T-24, PART 4)
- 12. MOUNT ALL THERMOSTATS AT 48" ABOVE FINISHED FLOOR
- 13. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES
- 14. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE MECHANICAL ENGINEER
- 15. DUCT SMOKE DETECTOR SHALL BE INSTALLED BELOW THE ROOF
- 16. ALL MECHANICAL EQUIPMENT AND SYSTEMS INSTALLED AS PART OF PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2013 INTERNATIONAL MECHANICAL CODE AND THE 2013 INTERNATIONAL BUILDINGCODE AND THE 2013 INTERNATIONAL BUILDING ENERGY EFFICIENCY STANDARDS
- 17. OUTSIDE AIR FOR A HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM CLOSER THAN 10 FEET FROM AN APPLIANCE VENT OUTLET, VENT OPENING OF A PLUMBING SYSTEM, OR THE DISCHARGE OUTLET OF EXHAUST FAN, UNLESS THE OUTLET IS 3 FT ABOVE THE OUTSIDE AIR INLET (IMC 314 3)
- 18. PROVIDE 120 VOLT ELECTRICAL OUTLETS WITHIN 25 FT OF ALL MECH, EQUIPT. (IMC 309)
- 19. HEATING, VENTILATING, ANDAIR CONDITIONING SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS IN ACCORDANCE WITH IMC 317 1 REQUIREMENTS
 - A. AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE
 - B. ACCA MANUAL B
 - C. ASHRAE 111
 - D. NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING ADJUSTING BALANCING OF ENVIRONMENTAL SYSTEMS
 - E. SMACNA HVAC TESTING, ADJUSTING, AND BALANCING
- 20. MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL BE NON COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE DEVELOPED INDEX NOT TO EXCEED 50 WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723



12/8

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∠ SUB−BRANCH TAP

(1000 CFM MAX.)

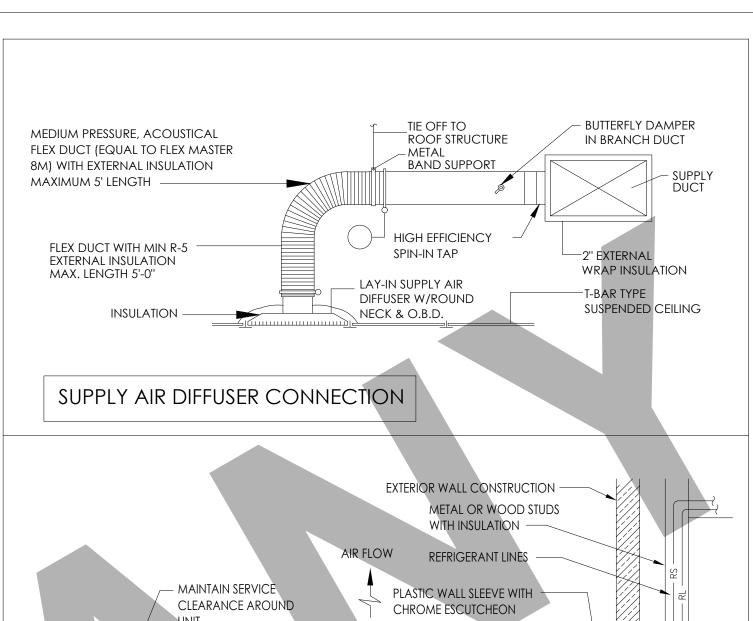
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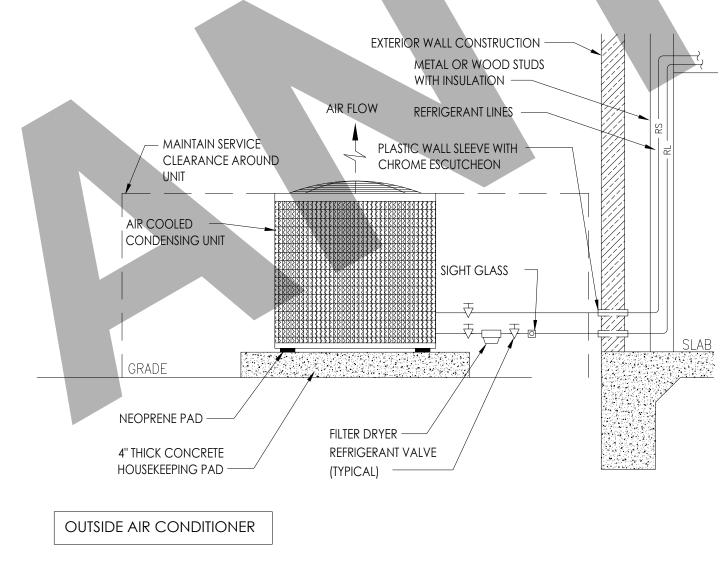
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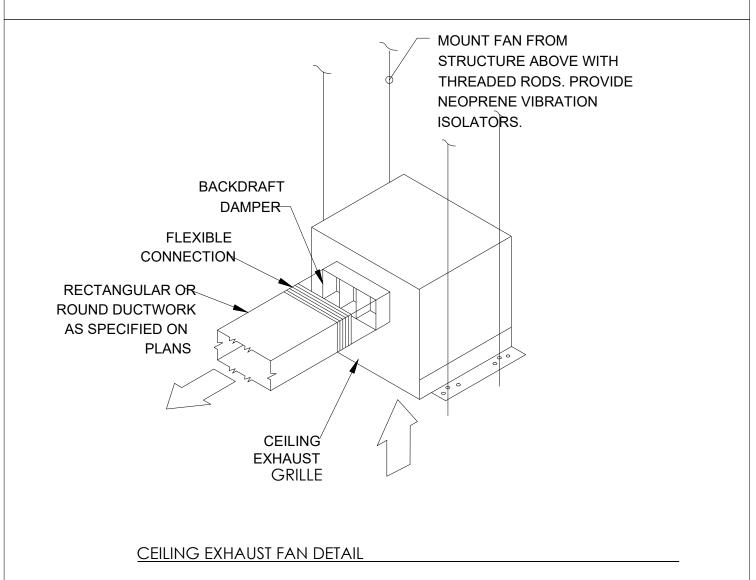
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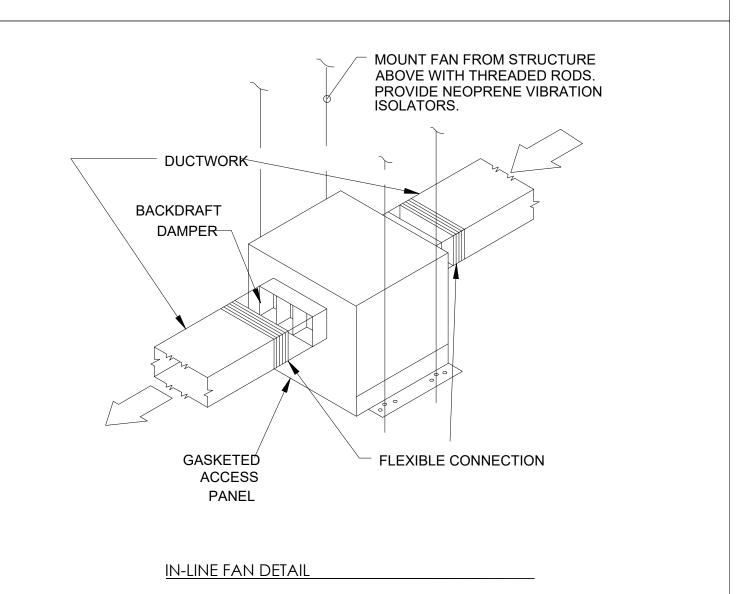
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REVISIONS

MECHANICAL GENERAL DETAILS - 2

Project Number: 02-021

Drawn By:

Client: Walter Green, Uncle Willie's

02.28.2023

M 5.02

GENERAL NOTES

- A. ALL EXISTING COMPONENTS OF THIS ELECTRICAL DIAGRAM ARE TO REMAIN AS INSTALLED AND ARE SHOWN FOR REFERENCE
- B. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION
- C. ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE. ALL ITEMS ARE ON AN OR EQUAL BASIS.
- D. ALL SINGLE PHASE BRANCH CIRCUITS (RECEPTACLES, LIGHTING, ETC.; ARE 1/2" CONDUIT OR EMT WITH THIN, 90C WIRING, UNLESS NOTED OTHERWISE. ALL OTHER CONDUIT AND WIRING SHALL BE AS INDICATED ON THE PLANS. ACTUAL ROUTING AND HOME RUN GROUPINGS ARE TO BE DETERMINED IN THE FIELD.
- E. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT FOR DETAILS AND ELEVATIONS. DO NOT SCALE FROM DIAGRAMMATIC DRAWINGS. EXACT LOCATIONS OF DEVICES AND PANELS ARE TO BE DETERMINED AND ROUGHED-IN DURING CONSTRUCTION TO AVOID INTERFERENCE, TO MEET USER REQUIREMENTS, TO PROVIDE ADEQUATE MOUNTING, AND TO MEET NEC LINEAR ACCESS AND CLEARANCE REQUIREMENTS.
- F. BACK TO BACK MOUNTING OF RECEPTACLES IS NOT PERMITTED. G. IN ADDITION TO THE NEC REQUIREMENTS FOR GFCI PROTECTION FOR RECEPTACLES, THE FOLLOWING RECEPTACLES SHALL ALSO HAVE GFCI PROTECTION: (1)-ALL RECEPTACLES LOCATED WITHIN 8 FEET OF A SINK, (2)-ALL RECEPTACLES WHICH ARE PROVIDED FOR CONVENIENCE IN SERVICING HVAC EQUIPMENT REGARDLESS OF LOCATION.AS REQUIRED TO ACCOMMODATE CONDUCTOR PULLING EASE, FIELD LIFE SAFETY.
- H. PROVIDE A LAMICOID NAMEPLATE (WHITE LETTERS ON BLACK BACKGROUND; ON EACH PANELBOARD, MOTOR STARTER, CONTACTOR, TRANSFORMER, ETC. LETTERS SHALL BE 0.75 INCH MAINIMUM.
- CONTRACTOR SHALL CUT AS REQUIRED TO INSTALL ELECTRICAL EQUIPMENT REPAIR OF FLOOR OR WALLS SHALL BE COORDINATED WITH GENERAL CONTRACTOR CONTRACTOR SHALL ALSO REPAIR ALL OPENINGS LEFT DUE TO EQUIPMENT REMOVAL.
- CONDUCTORS ARE COPPER UNLESS OTHERWISE SHOWN. ALL CONDUCTORS LARGER THAN #10 SHALL BE STRANDED.
- K. PANELBOARDS SHALL CONTAIN A TYPEWRITTEN DIRECTORY WITH A PLASTIC COVER AFFIXED TO THE INSIDE DOOR.
- L. ALL FIXTURES, DEVICES, CONDUIT, AND EQUIPMENT SHALL BE SECURED WITH APPROVED HANGERS AND ANCHORS AND IN ACCORDANCE WITH APPROVED STANDARDS OF INSTALLATION.
- M. ALL BREAKERS SHOWN IN THE PANELBOARD SCHEDULE SHALL BE RATED AS SHOWN FOR BOTH CIRCUIT CAPACITY AND FAULT CURRENT INTERRUPTING CAPACITY.
- N. ALL PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS, AND CONTACTORS SHALL BE NEMA 1, UNLESS OTHERWISE NOTED.
- O. ELECTRICAL CONTRACTOR MUST BE AVAILABLE AT TIME OF DBS INSPECTION. COORDINATE WITH GENERAL CONTRACTON.
- P. FIELD VERIFY THE AVAILABLE FAULT CURRENT AT THE LANDLORD'S EXISTING PANEL AND PROVIDE A NEW, FULLY RATED, PANEL TO MATCH EXISTING.
- Q. CONTRACTOR TO MAKE FINAL CONNECTIONS IN EMS PANEL FOR LANDLORD PROVIDED LIGHTING CIRCUITS. 50% OF THE GENERAL LIGHTING CIRCUITS SHOULD BE ROUTED THROUGH THE **CUSTOMER CONTROL ZONE.**

	GENERAL ELECTRICAL NOTES
#	DESCRIPTION
1	GENERAL CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE SUBMITTING BID.
2	ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2019 CALIFORNIA BUILDING CODE 2019 GREEN BUILDING CODE AND 2020 MILPITAS MUNICIPAL CODE".
3	GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES, ETC. REQUIRED.
4	GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR BOTH ROUGH ANI FINAL UNDER-WRITERS OR OTHER APPROVED INSPECTION AGENCY CERTIFICATES "ELECTRICAL INSPECTION". THESE CERTIFICATES SHALL B PRESENTED WITH REQUEST FOR FINAL PAYMENT.
5	IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE OPERATII ELECTRICAL SYSTEM. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL WIRING, EQUIPMENT, MATERIAL. ETC. REQUIRED, EXCEPT WHERE SPECIFICALLY NOTED AS BEING FURNISHED BY OTHERS. SHOULD THERE BE ANY QUESTIONS CONCERNING RESPONSIBILITY, THEY SHALL BE ADDRESSED TO ARCHITECT PRIOR TO BID. NO EXTRA CHARGES WILL BE ALLOWED.
6	ELECTRICAL SERVICE SHALL BE COORDINATED WITH THE EXISTING FIELD CONDITIONS.
7	CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL CONTROLS OWNER—SUPPLIED EQUIPMENT, MECHANICAL AND PLUMBING EQUIPMENT REQUIRED.
8	REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION DETAILS. ALL FIXTURE AND DEVICE LOCATIONS SHOWN ON ARCHITECTURAL DRAWINGS SUPERSEDE THOSE SHOWN ON ELECTRICAL PLANS.
9	CIRCUIT NUMBER ON THE DRAWINGS SHALL BE AS PER APPROVED PLA BRANCH CIRCUIT CONDUCTOR INSULATION SHALL BE COLOR CODED AN
10	SHALL BE 600 VOLT. TYPE THHN/THWN.
11	CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE INSULATION TYPE SUITABLE FOR THE TEMPERATURE. CABLES USED IN SPACES FOR ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE C.E.C REQUIREMENTS.
12	ALL WIRING USED IN RETURN OR DISCHARGE AIR PLENUMS SHALL BE PLENUM RATED OR INSTALLED PER METHODS APPROVED BY THE LATES EDITION OF THE C.E.C. FOR SUCH APPLICATION.
13	ALL WIRE AND CABLE CONDUCTORS SHALL BE COPPER WITH INSULATION RATED 600V. CONDUCTORS SIZED #10 AWG AND SMALLER SHALL BE SOLID OD STRANDED, AND CONDUCTORS SIZED LARGER THAN #10 AWG SHALL BE STRANDED WIRE.
14	BRANCH CIRCUITS FOR POWER AND LIGHTING SHALL NOT BE LESS THA #12 AWG. OR AS NOTED. WIRES ARE TO BE SIZED FOR THE APPROPRIATE VOLTAGE DROPS. SEE WIRE SIZE SCHEDULE ON THIS SHEET.
15	ALL DATA CABLES SHALL BE CAT6, PLENUM RATED. TO BE PROVIDED OWNER SELECTED VENDOR. ELECTRICAL WORK SHALL BE TO PROVIDE OUTLET BOXES AND "RING AND STRING" FOR PULLING OF CABLES IN CONCEALED SPACES.
16	CONTROL WIRING SHALL NOT BE LESS THAN #14 AWG UNLESS OTHERW NOTED.
17	HOMERUNS SHOWN ARE SCHEMATIC. CONTRACTOR MAY ORIGINATE HOMERUNS FROM DIFFERENT LOCATIONS. ALL WIRE INCLUDING HOMERUI SHALL BE DELINEATED ON AS-BUILT DRAWINGS.
18	ALL WIRING INSTALLED UNDER THIS CONTRACT SHALL BE TESTED FOR PROPER CONNECTIONS AND SHORT CIRCUITS PRIOR TO THE TURNING OVER OF WORK AS A COMPLETE UNIT.
19	PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH C.E.C. REQUIREMENTS EVEN IF IT IS NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUCTORS IN ALL RACEWAYS EVEN THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRALS CONDUCTORS. THE PLUMBING AND PIPING SYSTEM SHALL NOT BE USED AS A GROUND. ALL TRANSFORMER NEUTRALS SHALL BE GROUNDED TO BUILDING STEEL IN ACCORDANCE WITH NEC 250, 70
20	BUILDING STEEL IN ACCORDANCE WITH NEC 250-70. ALL CONDUITS PASSING THROUGH PARTITIONS ARE TO BE APPROPRIATELY SLEEVED AND SEALED.
21	FURNISH AND INSTALL ALL CONDUIT WITH PULL WIRES AS REQUIRED. A OUTLET BOXES SHALL BE STEEL, EXTRA DEEP WITH GROUNDING PIGTAL GROUNDING PUSH-CLIPS ARE NOT ACCEPTABLE.
22	ALL PENETRATIONS SHALL BE INSTALLED AND SEALED PER NATIONAL STATE AND LOCAL CODES
23	DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
24	GUARANTEE ALL WORK, MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL AND FINAL ACCEPTANCE.
	THIS DESIGN IS BASED ON INITIAL DESIGN DATA. GENERAL CONTRACTO TO SUPPLY AND INSTALL FEEDERS, FUSES AND CIRCUIT BREAKERS TO
25	MATCH THE NAMEPLATE RATING OF ALL EQUIPMENT. THIS SHALL BE INCLUDED IN THE INITIAL BID PROPOSAL AND NO EXTR SHALL BE ENTERTAINED.
26	Service equipment in other than dwelling units shall be legibly marked the field with the maximum available fault current. The field markings shall include the date the fault current calculation was performed and be of sufficient durability to withstand the environment involv ed. CEC 110.24(A).

	GENERAL ELECTRICAL NOTES
#	DESCRIPTION
27	LABEL ALL JUNCTION BOXES, OUTLETS, LIGHT SWITCH, ETC. WITH CIRCUIT NUMBER ON INTERIOR ON COVER PLATE. USE SELF—ADHESIVE "DYMO"
28	LABEL 1/8" HIGH LETTERS. GENERAL CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINTS AND SUPPORTS FOR ALL FLOOR, WALL, AND CEILING MOUNTED ELECTRICAL EQUIPMENT TO RESIST EARTHQUAKE EFFECTS DETERMINED IN ACCORDANCE WITH THE BUILDING CODE.
29	THE G.C. SHALL PROVIDE ALL EQUIPMENT. MATERIALS AND LABOR TO COMPLETE ALL ELECTRICAL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE INCLUDING THE INSTALLATION OF ALL THE EQUIPMENT MATERIALS AND SYSTEMS AND THE FINAL CONNECTIONS TO THE OWNER'S EQUIPMENT AND FIXTURES AS REQUIRED BY THE OWNER. THE G.C. SHALL ALSO FURNISH TEMPORARY WIRING AND LIGHTING TO PROVIDE A MINIMUM OF 25 FC IN WORK AREAS FOR USE OF ALL THE TRADES DURING CONSTRUCTION AND THE INSTALLATION OF THE OWNERS FIXTURES. THE G.C. IS RESPONSIBLE TO
30	REMOVE ALL TEMPORARY WIRING UPON COMPLETION OF CONSTRUCTION OF ALL TRADES. THIS CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL SUPPLEMENTARY SUPPORT, INCLUDING SUPPORT STEEL AS REQUIRED TO HANG ALL EQUIPMENT AND LIGHTING FROM THE EXISTING STRUCTURE IN ACCORDANCE WITH THE ARCHITECTURAL/STRUCTURAL SUPPORT AND
31	LOADING CRITERIA. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE FULLY DIMENSIONED COORDINATION DRAWINGS FOR ALL OF HIS RESPECTIVE WORK. THESE DRAWINGS MUST BE FULLY COORDINATED WITH ALL EXISTING CONDITIONS. ALL HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS PRIOR TO PREPARING COMPOSITE MULTI DISCIPLINE COORDINATION DRAWINGS.
32	ALL DISCONNECTING MEANS AND EQUIPMENT INDICATED ON THE DRAWING SHALL BE IDENTIFIED BY NAMEPLATE IN COMPLIANCE WITH CALIFORNIA ELECTRICAL CODE
33	ALL WIRING FOR THE EMERGENCY LIGHTING AND EMERGENCY SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA ELECTRICAL CODE
34	THE WIRING METHODS AND MATERIALS INDICATED IN THE SPECIFICATIONS AND ON THE DRAWINGS SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA ELECTRICAL CODE
35	THE ELECTRICAL SERVICE AND DISTRIBUTION SYSTEM AS INDICATED ON THE RISER DIAGRAM AND MATERIALS INDICATED IN THE SPECIFICATIONS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF CALIFORNIA ELECTRICAL CODE
36	ALL OVER CURRENT PROTECTION SHALL BE IN COMPLIANCE WITH THE CALIFORNIA ELECTRICAL CODE
37	ALL GROUNDING REQUIREMENTS OF THE COMPLETE ELECTRICAL DISTRIBUTION SYSTEM AND AS INDICATED IN THE SPECIFICATIONS SHALL BE IN ACCORDANCE WITH CALIFORNIA ELECTRICAL CODE
38	PRIOR IO ANY REQUIRED CUTTING AND PATCHING OF CONCRETE FLOOR AND/OR CUTTING OF ROOF, CONTRACTOR SHALL COORDINATE WITH BUILDING ENGINEER.
39	FOR ALL LIGHTING FIXTURES MOUNTED IN HUNG CEILING THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL INDIVIDUAL SUPPORT AT EACH CORNER OF RECESSED LIGHTING TROFFER CONNECTED TO BUILDING STEEL
40	ABOVE ALL CONDUIT AND MC CABLE MOUNTED ABOVE HUNG CEILING SHALL BE INDIVIDUALLY SUPPORTED IN THE SAME FASHION AS PER CEC REQUIREMENTS.
41	DO NOT SCALE FROM THESE DRAWINGS. PLANS ARE PREPARED WITH REQUIRED BRANCH CIRCUITS INDICATED BY CIRCUITS NUMBERS. PROVIDE AND INSTALL ALL CONDUITS. CONDUCTORS,
42	BOXES, MISCELLANEOUS FITTINGS, ETC. FOR A COMPLETE AND OPERABLE SYSTEM (HOME RUN SHOWN). BRANCH CIRCUIT INSTALLATION SHALL COMPLY WITH SPECIFICATIONS AND C.E.C.
43	ELECTRICAL RECEPTACLE, SWITCH AND CONTROL HEIGHTS (CBC 11B-308:) RECEPTACLE HEIGHTS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES (1219MM) MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES (381MM) MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF FINISHED FLOOF OR WORKING FLATFORM. IF THE REACH IS OVER AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN DEPTH, THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCED TO 44 INCHES (1118MM) FOR FORWARD APPROACH, OR 46 INCHES (1168MM) FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES (610MM) IN DEPTH. OBSTRUCTION SHALL NOT EXCEED MORE THAN 25 INCHES (635MM) FROM THE WALL BENEATH THE RECEPTACLE.
44	SWITCH AND CONTROL HEIGHTS: (CBC11B-308:) CONTROL OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, ALARMS OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE LOCATED NO MORE THAN 48 INCHES (1219MM) MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES (381MM) MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44

INCHES (1118MM) FOR FORWARD APPROACH, OR 46 INCHES (1168MM) FOR SIDE APPRÓACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES (610MM) IN DEPTH. PHYSICAL BARRIERS OR OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES (635MM) FROM THE WALL

BENEATH A CONTROL.

Ε	LECTRICAL LEGEND		WIRE	SCHED	ULE AND	NOTES	
	Lighting 4-ft x 2-ft Cool White LED Panel Light similar to GT 8GENERAL PURPOSE T 8 TROFFER '2X 4' 4LP T #8A 19LENS 1/4ELEC-33WATT	LOAD PER PH (KVA)	WIRE SIZE (AWG)		NGTH OF BRANCH TILIZATION VOLTA (240, 1PH, MAX V.D. 3%) 85 FT		NOTE AND REMAR
J	HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR XX AS TAGGED	< 1.92	#10	94 FT 144 FT	141 FT 217 FT	163 FT 250 FT	5 5
	⇒ STRAND STRIP LED 3 WATTS PER FEET CHARLOTTE DARK GREY PENDANT LAMP - 15WATT 15WATT		#6 #12 #10	230 FT 75 FT 125 FT	345 FT 113 FT 188 FT	398 FT 130 FT 217 FT	5 5 5
	PROJECTOR SIMILAR TO RH+A 25-50 DEGREE ZOOM ELLIPSOIDAL LED PROJECTOR - 15WATT	< 1.44	#8 #6 #12	192 FT 306 FT	289 FT 460 FT	334 FT 531 FT	5 5
	LIGHTING WALL MOUNTED MIMIK-10-B-CI-C_I 10WATT 3000K AN-96	< 1.26	#10	86 FT 143 FT 220 FT	129 FT 215 FT 330 FT	149 FT 248 FT 381 FT	
	LIGHTING WALL MOUNTED MIMIK-10-B-CI-C_I 10WATT 3000K AN-96	< 1.08	#12 #10 #8	100 FT 167 FT 256 FT	150 FT 250 FT 385 FT	173 FT 289 FT 445 FT	
0	RECESSED MOUNTED SPOT SIMILAR TO DN140B PSED-E IP54 D162 1 xLED10S/840 C	< 0.9	#12 #10 #12	120 FT 200 FT 150 FT	180 FT 300 FT 225 FT	240 FT 347 FT 260 FT	
	WITH POWER 11.5 WATT BATTEN LIGHT SKU 080784 BRAND LUCCI MAISON - 18 WATT	<0.72 #	#10	250 FT	376 FT NOTES	434 FT	
0	PENDANT LIGHT ZOE-Z3-600LM-11WATT 830 FO-V65	1	BRANCH C	CIRCUIT ROUGH-I			OF
S _M S S ₃	OCCUPANCY SENSOR ONE WAY LIGHTING SWITCH TWO WAYS LIGHTING SWITCH	2	CONJUNCTI ROUTING C	ION WITH THE LI DE BRANCH CIRC RUN, ROUTED PA	THE APPROPRIATE ENGTH OF THE PE SUIT WIRING (INCLI ARALLEL/PERPEND	ROPOSED FIELD V JDING VERTICAL (&
~ ~	EMERGENCY LIGHTING WALL MOUNTED WITH INTERNAL BACK UP BATTERY WITH MINIMUM 90 MINS AUTONOMY	3	PHASE OF	A PARTICULAR	R THE CORRESPON BRANCH CIRCUIT. ARE FOR UNCOA		
EXIT	EXIT SIGN WALL MOUNTED WITH INTERNAL BACK UP BATTERY WITH MINIMUM 90 MINS AUTONOMY	5	STEEL CON	nduit. 75 degre	EE C., OPERATING H" COLUMN IS TO	AT 60HZ.	
EXIT	EXIT SIGN CEILING MOUNTED WITH INTERNAL BACK UP BATTERY WITH MINIMUM 90 MINS AUTONOMY		ABE	BREVIATI	ONS AND	TAGS	
					1 4 5 5		O N I

SELF CONTAINED SMOKE/CARBON

DUPLEX RECEPTACLE - WALL MOUNTED @ +18

AFF UNLESS NOTED GFCI DENOTES: GROUD

DUPLEX RECEPTACLE - FLOOR MOUNTED IG DENOTES: IG TYPE

QUADRIPLEX RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED GFCI DENOTES: GROUD

NON-FUSED DISCONNECT SWITCH - SIZE AS

WALL MOUNTED ELECTRIC JUNCTION BOX

RACK FOR AUDIOVISUAL EQUIPMENT RACK

WALL MOUNTED SPEAKER

CEILING MOUNTED SPEAKER

CEILING MOUNTED

	ABBREVIATIONS AND TAGS										
ABB.	DESCRIPTION	ABB.	DESCRIPTION								
EWH	ELECTRIC WATER HEATER	SD	SMOKE DETECTOR								
(E)	EXISTING TO REMAIN	TEL	TELEPHONE								
EC	ELECTRICAL CONTRACTOR	TX	TRANSFORMER								
FA	FIRE ALARM	TV	TELEVISION								
FMT	FLEXIBLE METALLIC TUBING	UAC	UNDER ANOTHER CONTRACT								
GC	GENERAL CONTRACTOR	UAS	UNDER ANOTHER SECTION								
GFC I	GROUND FAULT INTERUPTER	UON	UNLESS OTHERWISE NOTED								
IG	ISOLATED GROUND	V.D.	VOLTAGE DROP								
LL	LANDLORD	W	WIRE								
LV	LOW VOLTAGE	WP	WEATHERPROOF								
AC 1	MECHANICAL UNIT TAG. SEE MECHANICAL DRAWINGS FOR ADDITIONAL DESCRIPTION.	<u>E-4</u> 4	DETAIL TAG. REFER TO DETAIL 4 ON SHEET NUMBER E-4.								

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SEAL:

REVISIONS

Project Number: 02-021 02.28.2023

A.B Drawn By: Walter Green,

Uncle Willie's

Thank You. Build All Dreams

GENERAL NOTES ABBREVIATIONS

E0.00

PART 1	GENERAL
1.01	SCOPE OF WORK: Furnish and Install all materials and equipment and provide all labor, tools, transportation, superintendence and services required and necessary to complete the work shown on the drawings and/or specified herein. Also include all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete installation including all accessories and appurtenances required for testing the system. It is the intent of the drawings and specifications that all systems be complete, and ready for operation. REGULATORY REQUIREMENTS:
1.02	Code compliance is mandatory. Nothing in these Drawings and Specification spermits work not conforming to these codes. Where work is shown to exceed minimum code requirements, comply with drawings and specifications. All work and materials shall comply with the latest rules, codes and regulations, including, but not limited to the following: 1. Occupational Safety and Health Act Standards (OSHA). 2. NFPA #70: National Electric Code (NEC), 3. NFPA #101: Life Safety Code. 4. State Fire Marshal. 5. Local Utilities Companies.
1.03	LICENSE, FEES AND PERMITS: Electrical contractor shall pay for all licenses, permits and inspection fees required by the authority having jurisdiction and shall arrange for all required inspections.
1.04	SAFETY AND INDEMNITY: The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of work. This requirement will apply continuously and not be limited to normal working hours. No act, service, drawing review or construction review by the Owner, the Engineers or their Consultants, is intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
1.05	DRAWINGS AND SPECIFICATIONS: All drawings and all Divisions of these specifications shall be considered as a whole and work of this Division shown anywhere therein shall be furnished under this Division. Drawings are diagrammatic and indicate the general arrangement of equipment and wiring. Most direct routing of conduits and wiring is not assured. Exact requirements shall be governed by conditions of the job. Consult all other drawings in preparation of the bid. Extra lengths of wiring or addition of pull or junction boxes, etc., necessitate by such conditions shall be included in the bid.
1.06	CONDITIONS AT SITE: The electrical contractor shall have examined the site and familiarized themselves with all discernible existing conditions. No extra payment will be allowed for work
1.07	required because of these conditions, whether specifically mentioned or not. WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS: Only quality workmanship will be accepted. Haphazard or poor installation will be cause for rejection of work.
	SHOP DRAWINGS AND MATERIALS LISTS: Submit to Owner in a single package six (6) copies of complete shop drawings and materials list, as noted below, for review within fifteen (15) days after award of
1.08	contract. Submittals required as follows: 1. Wiring devices: switches, receptacles, device plates. 2. Enclosures for utility company metering. 3. Main fused disconnect switch. 4. Panelboards. 5. Disconnect switches. 6. Lighting fixtures, lamps and lighting control equipment.
1.09	SUBSTITUTIONS: One or more makes of materials or methods may have been specified to establish the standard of quality, workmanship, finish and design required, but other materials or methods equal in quality, workmanship, finish, design, and guaranteed performance, will be accepted. However, all changes and substitutions shall be requested in letter form and shall be accompanied with a statement of the amount of money to be returned to the contract if the substitution is permitted. No work involving materials submitted for substitution shall proceed until written acceptance is received from the Owner. The Owner is the sole judge of acceptability of preferred substitutions. If a substitution item is permitted, and any re—design effort is thereby necessitated, the required redesign shall be at the Contractor's expense.
1.10	COORDINATION: Coordinate work with other trades to avoid conflict and to provide correct rough—in and connection for equipment furnished under other trades that require electrical connections. Inform Contractors of other trades of the required access to and clearances around electrical equipment to maintain service ability and code compliance. Verify equipment dimensions and requirements with provisions specified under this Section. Check actual job conditions before fabricating work. Report necessary changes in time to prevent needless work. Changes or additions, subject to additional compensation, which are made without written authorization and an agreed price,
1.11	shall be at the Contractor's risk and expense. CUTTING AND PATCHING: All cutting and patching required for work of this Division is included herein. Coordination with General Contractor and other trades is imperative. Contractor shall bear the responsibility for and the added expense of adjusting for improper holes, supports, etc.
1.12	ACCEPTANCE DEMONSTRATION: Upon completion of the work, at a time to be designated by the Owner, the Contractor shall demonstrate for the Owner the operation of the electrical installation including any and all special items installed by him or installed under his supervision. Properly set automatic time switches to perform switching operations in accordance with schedules provided by the Owner's representative, and demonstrate (using the manufacturer's operating instructions) how to override and/or test time switches programming.
1.13	RECORD DRAWINGS, EQUIPMENT DATA: Maintain one set of clean working drawings at the job site and enter daily such "as—built" information as feeder and service routes, pull box locations and changes in layout or arrangement which occur during construction. Deliver completed drawings to the Owner. Deliver to the Owner's representative three copies of data sheets or other current manufacturers' publications for each item of electrical equipment furnished for the project including at least these data: 1. Technical description and replaceable parts list. 2. Physical description and installation instructions. 3. Main fused disconnect switch.
1.14	4. Manufacturer's Warranty. CLEAN—UP: Rid the premises of scrap materials, trash and debris both during construction and at completion of the project.
1.15	Leave the building and surrounding area in a clean and orderly condition. GUARANTEE: Guarantee the installation free from defects of workmanship and materials for a period of one year after Date of Certification of final payment and promptly remedy any defects developing during this period, without charge.
1.16	TEMPORARY SERVICES: Provide adequate and safe temporary electrical power and lighting throughout the construction and finishing of the premises. In addition to special or unusual requirements, provide at least these items: 1. Three 20-amp circuits for construction power tools. Provide GFI temporary circuits with coverplates to meet OSHA requirements. 2. Three or more light strings suspended approximately one foot below the height of finish ceiling with lamps spaced not more than twelve feet on centers. Strings shall be run the length of the store space parallel to the demising walls, with one string within eight feet of each wall and one (or more) intermediate string(s) arranged to limit the spacing between rows to sixteen feet or less. 3. Flood lighting and task lighting for painting and other finish work. When permanent electrical service is operable, disconnect and remove from the premises the materials and equipment used for temporary power and lighting, and restore modifications and repair damage caused by the installation, use or removal of temporary service provisions.

	ELECTRICAL SPECIFICATIONS	_
PART 2	PRODUCTS	
2.01	MATERIAL APPROVAL: All materials must be new and bear Underwriter's Laboratories label. Materials that are not covered by UL testing standards shall be tested and approved by an independent testing laboratory or a governmental agency. Material not in accordance with these specifications may be rejected either before or after installation. CONDUITS AND OTHER RACEWAYS:	
2.02	 A. Rigid Steel: Hot-dipped galvanized. B. Intermediate Metal Conduit (IMC): Hot-dipped galvanized. C. Electrical Metallic Tubing (EMT): Electro-galvanized. D. Wireway: Code gauge steel, with knockouts and hinged cover, corrosion resistant gray baked enamel finish. E. Provide fittings and accessories approved for the purpose equal in all respects to the conduit or raceway. EMT connectors and couplings shall be steel setscrew type indoors and steel 	
2.03	with the compression type in wet locations and outdoors. Wires AND CABLES: A. For power and lighting system 600V or less: 1. Conductor: minimum size #12 AWG. a. #12 and #10 AWG solid copper. b. #8 AWG and larger shall be stranded copper. 2. Insulation type: a. #12 to #1 AWG: THWN for wet or underground and THHN for dry locations. b. #1/0 through #4/0 AWG: XHHW (55 mils). c. #250 MCM and larger: XHHW (65 mils). d. Grounding wire: TW. B. For signal and communications circuit: 1. Special cables shall be as specified on drawings. 2. Conductors for general use shall be stranded copper conductor, #16 AWG minimum, with THWN insulation for underground or wet locations and THHN insulation for dry locations. C. Acceptable Products: General Electric, Anaconda, Okonite, Paranite or Triangle products conforming or exceeding applicable IPCEA standards.	
2.04	OUTLET BOXES, JUNCTION AND PULL BOXES: A. Outlet boxes: 4" square x 1-1/2" deep (or larger) galvanized sheet steel KO-type with plaster ring and cover for general interior use and cast metal type FS or FD with matching screw covers for exterior and exposed interior locations (gasketed in damp or wet locations). B. Junction boxes shall be same as outlet boxes up to 42 cu. in. and codegauge steel in larger sizes with surface or flush-type screw-mounted trim covers, both boxes and covers inhibitor-primed and painted inside out. C. Pull boxes shall be same as junction boxes unless indicated otherwise on the drawings, with covers. D. Telephone outlet boxes shall be the type and size required by the serving telephone company but not smaller than 4-11/16" square x 2-1/8" deep with	
2.05	single-gang ring and Sierra #S-754N split plate bushing. WIRING DEVICES AND PLATES: Wiring devices and plates shall be by Pass and Seymour or approved equal. Standard design: a. Switch and receptacles devices shall be plastic bodies, color per architect. b. Wall plates shall be metal type 430, stainless steel, color per architect. c. Isolated ground receptacles shall be white with orange triangle as required per NEC, manufactured by "Leviton" # 5362-IGW or approved equal.	
2.06	CONDUIT HANGERS: For individual conduit runs not directly fastened to the structure, use rod hangers manufactured by Caddy, Unistrut or Powerstrut. For multiple conduit runs, use Unistrut or Powerstrut trapeze type conduit support designed for maximum deflection not greater than 1/8".	
2.07	WIRE CONNECTORS: For wire sizes #8 AWG and smaller: Insulated pressure type (with live spring) rated 105 degrees C, 600V, for building wiring and 1000V in signs or fixtures. Scotchlok or Ideal. For wire size #6 AWG and larger: T & B or equivalent compression type with	
2,08	 3M #33+ or Plymouth "Slipknot Grey" tape insulation. PANELBOARDS: A. Construction: Cabinets shall be of code gauge, galvanized steel, surface or flush mounted as indicated. Doors shall be of cold-rolled steel with concealed hinges and flush catch and lock. All panels shall be keyed alike. Panels located adjacent to each other shall have identically sized enclosure and trims. Minimum panel width shall be 20". Finish exposed part with one coat of primer and one coat of light grey enamel suitable for overpainting in field if desired. B. Bus Bars: Provide ground block with full complement of terminals in addition to insulated neutral bus. Future breaker spaces shall have complete provision including busses and connecting hardware. C. Manufacturers: Panelboards shall be General Electric Type "AQ" or type "AE" or equivalent products of Eaton, Square—D or Siemens—ITE. 	
2.08	 D. Circuit Breakers: Shall be quick—make, quick—break, molded case type: 120/240 Volt Panels: Shall be General Electric Type "Q" line, bolt—on type, with minimum symmetrical interrupting capacity as shown. 2. Provide multi—pole units with common trip element. 3. Circuit breakers used on "ON—OFF" control of fluorescent lighting (panelboard switching) shall be Underwriters' Laboratories listed and marked "SWD" to indicate their suitability. E. Identification: Provide screwed—on (no adhesives) bakelite or photo—etched 	
0.00	metallic nameplate identification on outside of each panel showing panel designation, voltage and phase in minimum 1/8" high letters. Each panel shall contain a metal-framed circuit directory inside cover, with plastic protector. F. Complete shop drawings are required. See Article 1.08. INDIVIDUALLY MOUNTED MOTOR CONTROLLERS: A. For Polyphase Motors: Combination motor circuit protector and magnetic starter, with 3-leg overload protection. Provide two interlock contacts of the interchangeable open-close type. Provide hand-off-automatic selector switch, motor running pilot light and reset button in cover. Circuits 300V and over	
2.09	shall be provided with 120V control transformers. B. Starters for fractional horsepower 120V motors shall be manual type unless shown otherwise, equipped with built—in overload protection. C. Acceptable manufacturers: General Electric, Siemens, Square D, Eaton, and Westinghouse.	
2.10	 LIGHTING: A. Furnish and install all fixtures complete, including lamps and ballast ready for service. B. Supports: Proper supports and mounting accessories, such as hangers, stems, yokes, plaster frames, etc. shall be provided as required by the type of ceiling installed. Where swivel canopies or ball aligners are specified, they shall couse fixture to hang plump regardless of ceiling slope. C. Fixture Designation: Fixture types are designated on drawings. Where only one fixture designation is shown, it applies to all fixtures in that room or area. For exact fixture count and location refer to reflected ceiling plan. D. Wire 1—lamp and 3—lamp fluorescent fixtures in tandem where required by code. E. Ballasts: Advance, GE, or Approved high frequency electronic, full light output, energy saving, Class "P", high power factor, ETL certified, sound rating "A" or as indicated on drawings. 	
2.11	MISCELLANEOUS MATERIALS: A: Safety Switches: Heavy duty type, 600V, horsepower rated for motors, fused or non-fused as required. Mount in enclosure with NEMA rating as required for the specific application General Electric, Square D or Westinghouse.	

1		
	PART 2	PRODUCTS
	2.12	DRY TYPE TRANSFORMERS: General: Equipment shall conform to or exceed requirements of NEMA, ANSI Standard C89.2 for Dry Type Transformers for General Applications. Acceptable products are those of General Electric Company's "QL," Line or equivalent Square D, Siemens—ITE, or Eaton. Electrical Ratings: 1. Primary windings voltage: 480 Volts, 3—Phase, delta. Secondary windings voltages: 240Y/120 Volts, 3—Phase grounded. Frequency: 60 Hz. KVA rating: As shown on drawings. Taps: Six (6) 2.5% full capacity taps; 2 above and 4 below, rated voltage. Impedance: For transformers larger than 75 KVA, 4.5% minimum, 5.75% maximum. 2. Winding temperature rise shall be 150 degrees Centigrade in accordance with UL Specification Article 506. 3. Transformer shall be capable of operating at 100% of nameplate rating continuously while in an ambient temperature not exceeding 40 degrees Centigrade. 4. Transformer shall meet the daily overload requirements of ANSI Standard C57.96. Vibration Isolation, Factory—Installed: Provide neoprene rubber pads to isolate core and coil assembly from transformer enclosure. Installation: 1. Anchor transformer securely with minimum 1/2" diameter bolts. Strength of bolts used to secure the transformer shall be sufficient to resist shear and uplift produced by force equal to 1/2 of the equipment mass applied horizontally at center of gravity. 2. Provide 1" thick high resiliency pads to isolate transformer from floor or platform. Korfund "Elasto Rib" or equivalent. 3. Use flexible conduits at least 24" long for electrical connections. 4. Provide grounding of each transformer secondary including all conduits, wires, and connectors in accordance with NEC 250—26 and any local additional regulations.
	PART 3	EXECUTION
	3.01	GENERAL: A: Electric system layouts indicated on the drawings are generally diagrammatic and shall be followed as closely as actual construction and work of other trades will permit. Govern exact routing of cable and wiring and the locations of outlets by the structure and equipment served. Take all dimensions from architectural drawings. B. Consult all other drawings, verify scales and report any dimensional discrepancies or other conflicts with Owner before submitting bid. C. All home runs to panelboards are indicated as starting from the outlet neares the panel and continuing in the general direction of that panel. Continue such

PART 3	EXECUTION
	 GENERAL: A: Electric system layouts indicated on the drawings are generally diagrammatic and shall be followed as closely as actual construction and work of other trades will permit. Govern exact routing of cable and wiring and the locations of outlets by the structure and equipment served. Take all dimensions from architectural drawings. B. Consult all other drawings, verify scales and report any dimensional discrepancies or other conflicts with Owner before submitting bid. C. All home runs to panelboards are indicated as starting from the outlet neares
3.01	C. All home runs to panelboards are indicated as starting from the outlet neares the panel and continuing in the general direction of that panel. Continue such circuits to the panel as though the routes were completely indicated. Terminate homeruns of signal, alarm, and communication systems in a similar manner.
	D. Avoid cutting and boring holes through structure or structural members wherever possible. Obtain prior approval of Owner and conform to all structure requirements when cutting or boring the structure is necessary and permitted. E. Furnish and install all necessary hardware, hangers, blocking, brackets, bracing,
	runners, etc. required for equipment specified under this Section. F. Provide necessary backing required to insure rigid mounting of outlet boxes. WIRING METHODS:
	A. Install all wiring in raceway or use MC cable. Where approved by all Applicable codes.Conduit shall be rigid steel, IMC or EMT as follows: 1. Above ground: Use rigid steel, IMC or EMT. a. Wet locations: Rigid steel or IMC only.
3.02	 b. Locations subject to mechanical injury: Rigid steel or IMC only. c. Dry locations and not subject to mechanical injury: EMT, IMC or rigid steel conduit. 2. Underground: Use rigid steel. B. Use flexible conduits in the following applications: 1. Recessed lighting fixtures. 2. Motor connections.
	3. At building joints. At wet locations, flexible conduit shall be liquid tight type.
	INSTALLATION OF CONDUITS: A. General:
	 Run all conduit concealed unless otherwise noted or shown. Run all conduit parallel to or at right angles to center lines of columns and beams. Conduits above ceilings shall not obstruct removal of ceiling tiles, lighting fixtures, air diffusers, etc.
	4. Conduits shall not cross any duct shaft or area designated as future duct shaft horizontally. Conduit risers when allowed in duct shaft must be coordinated with Mechanical work to avoid any conflict.
3.03	B. Conduit Supports: 1. Support conduits with Underwriter's Laboratories listed steel conduit supports at intervals required by the National Electric Code. Wires or sheet metal strips are not acceptable for conduit support. Use conduit
	hangers for all conduits not directly fastened to structure and for all multiple conduit runs. Do not attach any conduit to mechanical ducts o pipes.
	2. Individual conduits 1/2" and 3/4" size for lighting may be supported from ceiling support wires with Caddy clips only if acceptable to local code. Only one conduit is permitted to be attached to any ceiling support wire Hang such conduit so as not to affect level of ceiling.
	3. Avoid attaching conduit to fan plenums. When it is necessary to support conduit from fan plenum, provide a length of flexible conduit between portion attached fan plenum and portion attached to the building to minimize transmission of vibration to the building structure.

minimize transmission of vibration to the building structure.

1. Furnish and install required power supply conduit and wiring to all

2. Furnish and install a disconnect switch immediately ahead of and

4. Furnish and install manual thermal protection for all motors not

Color coding shall be continuous for wire #12 through #10 AWG. Phase conductors #8 and larger and nconductors of any size in cable assemblies may have colored phasing

Brown Orange Yellow Gray

adjacent to each magnetic motor starter or appliance unless the motor appliance is located adjacent and within sight of the serving panelboard, circuit breaker or switch. Verify all equipment nameplate current ratings

3. Install all rough—in work for equipment from approved shop drawings to

5. Furnish 120 Volt power to each control panel and time switch requiring

Phase A Phase B Phase C Neutral Ground

Green

Black Red Blue White Green

equipment. See below for other wiring required.

suit the specific requirements of the equipment.

integrally equipped with thermal protection.

CONNECTIONS TO EQUIPMENT:

tape at terminations. Color code wires as follows:

| Voltage

120/208V 277/480V prior to installation.

a source of power to operate.

PART 3	EXECUTION
3.06	INSTALLATION OF WIRES: A. Pull no wire into any portion of the conduit system until all construction work which might damage the wire has been completed. B. Install all wire continuous from outlet to outlet or terminal to terminal. Splices in cables when required shall be made in handholes, pull boxes or junction boxes. Make branch circuit splices in outlet boxes with 8" of correctly color—coded tails left in the box. C. Splices in wires and cables shall be made utilizing materials and methods described herein before. D. Make all ground, neutral and line connections to receptacle and wiring device terminals as recommended by manufacture. Provide ground jumper from outlet box to ground terminal of devices when the device is not approved for grounding through the mounting screws. E. Provide Brady wire markers where number of conductors in a box exceeds four. F. Megger and record insulation resistance of all 600 Volt insulated conductors size #4/0 and larger using 500 Volt megger for one minute. Make tests with circuits isolated from source and load.
3.07	IDENTIFICATION: A. Provide nameplates for switchgears, panelboards, and all similar devices. Nameplates shall be screwed (no adhesives) engraved bakelite or photo—etched metallic nameplate identification showing panel designation, voltage and phase in minimum 1/4" high letters. B. Provide dymo labels on all lighting switches and convenience and special purpose receptacles to show panel and circuit number to which the device is connected. C. Each panelboard shall contain a metal—framed circuit directory inside cover, with plastic protector. D. Panelboard Schedule: After completion of work, provide typewritten updated panelboard schedules for all panelboards.

REMODELING WORK: Existing electrical wiring which will not be made obsolete and which will be disturbed due to construction changes required by this contract shall be restored to operating condition. Where construction changes require, outlets and conduit runs shall be relocated. Extend conduits and pull in new wiring or install junction boxes and splice in new B. Outlets from which fixtures, switches, receptacles, and/or other electrical devices are moved and which are not replaced or reused shall be removed, where outlets boxes, etc., are completely removed, the contractor shall cut off conduits and remove wiring. C. Where conduits extending through floors are to be abandoned, the contractor shall cut and cap or plug conduit, and the conduit shall not protrude above the D. Where existing conduit is to be abandoned, the conduit shall be removed if i is exposed, in a crawl space or in accessible ceiling. Where it is impossible to remove the conduit, it shall be cut off and capped or E. Remove all existing wiring not reused or required to maintain continuity circuits to remain. F. The contractor shall be held fully responsible for the proper restoration of all existing surfaces requiring patching, plastering, painting and/or other repairs due to the installation of electrical work under the terms of this specification. Close all openings, repair all surfaces, etc., as required. G. Maintain circuit continuity to areas outside of this work. Provide new conduit and conductors as required to maintain continuity and maintain area as existing.

A. Electrical service and separately derived alternating current system shall be grounded in accordance with NEC Article 250—3 to 250—26, inclusive. B. Ground non-current carrying metal parts of electrical equipment enclosures, rames, conductor raceways or cable trays to provide a low impendance path 🛚 foi line—to—ground fault current and to band all non—current carrying metal parts together. Provide ground conductor in each raceway system in addition to conductors shown.

Equipment ground conductor shall be electrically and mechanically continuous from the electrical circuit source to the equipment to be grounded. Size ground conductors per NEC Article 250—95 unless larger conductors are shown on drawings C. Grounding conductors shall be identified with green insulation. Where green insulation is not available on larger sizes, black insulation shall be used and suitable identified with green tape at each junction box or device enclosure.

END OF SECTION

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REVISIONS

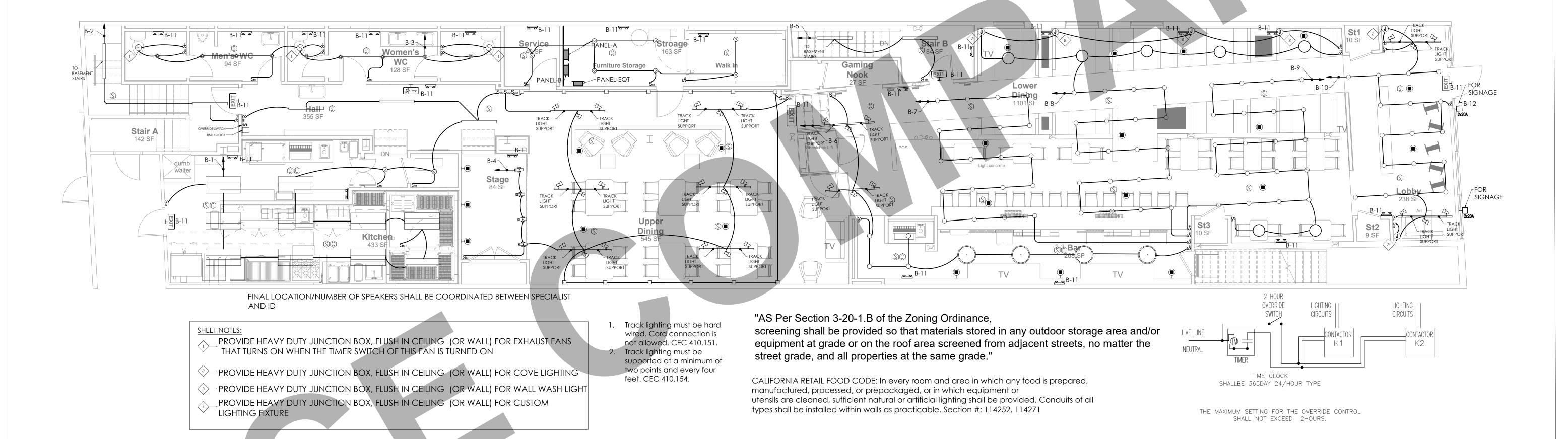
ELECTRICAL SPECIFICATIONS

Project Number: 02-021 02.28.2023

Drawn By:

Walter Green, Uncle Willie's

E1.00



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REVISIONS

FIRST FLOOR LIGHTING LAYOUT

Project Number: 02-021

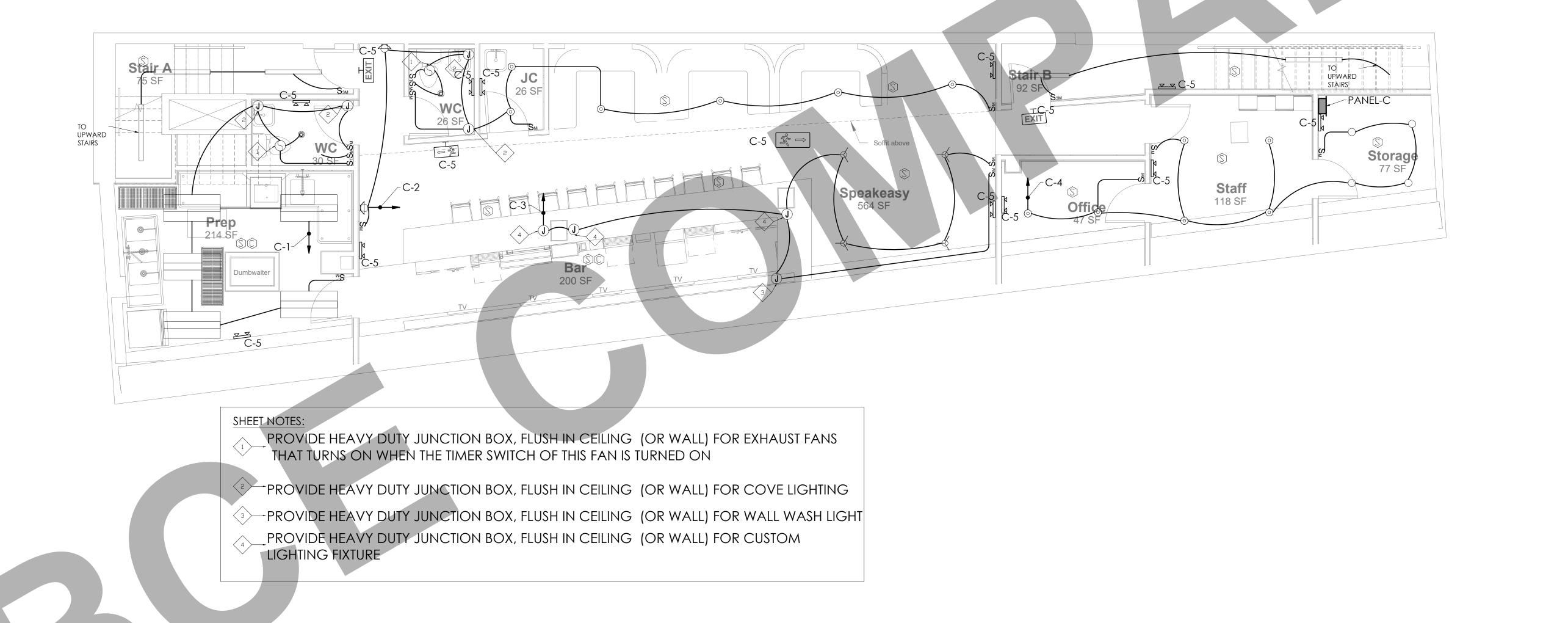
e: 02.28.2023

Uncle Willie's

Drawn By: A.B

Client: Walter Green,

E2.00



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REVISIONS

BASEMENT FLOOR LIGHTING LAYOUT

Project Number: 02-021

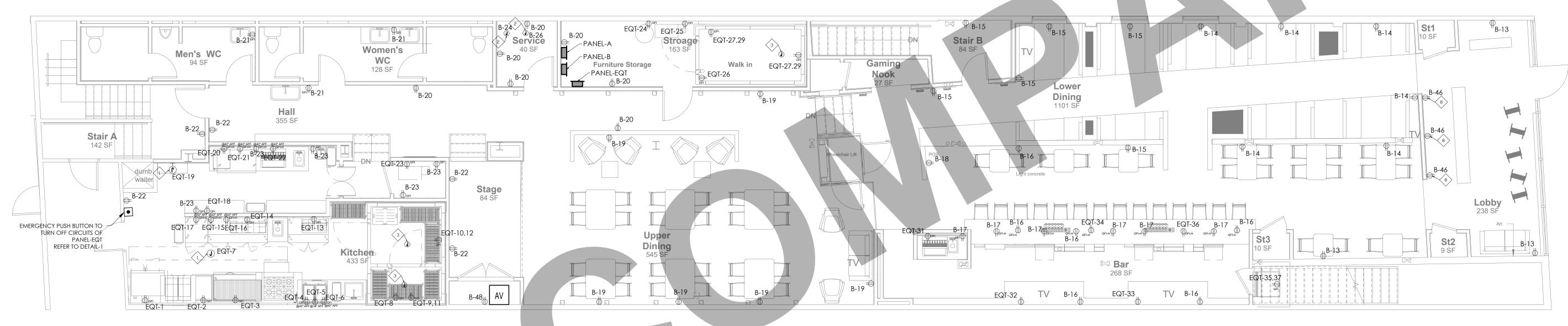
 Date:
 02.28.2023

 Drawn By:
 A.B

Client: Walter Green,

Uncle Willie's

E2.10



Section 3-20-1.B of the Zoning Ordinance, reening shall be provided so that materials stored any outdoor storage area and/or Page 3 of 4

from adjacent streets, no matter the street grade, and all properties at the same grade.

"AS Per Section 3-20-1.B of the Zoning Ordinance, screening shall be provided so that materials stored in any outdoor storage area and/or

equipment at grade or on the roof area screened from adjacent streets, no matter the street grade, and all properties at the same grade."

SHEET NOTES:

PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING (OR WALL) FOR KEF

- PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR GWH
- PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR INDOOR UNIT POWERED FROM OUTDOOR UNIT
- 4-PROVIDE NEMA 3R DISCONNECT SWITCH FOR MUA
- 5-PROVIDE NEMA 3R DISCONNECT SWITCH FOR KEF
- 6-PROVIDE NEMA 3R DISCONNECT SWITCH FOR ODU
- PROVIDE NEMA 3R DISCONNECT SWITCH FOR RTU
- ®—OUTLET FOR CHARGING STATIONS

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REVISIONS

FIRST FLOOR
POWER LAYOUT

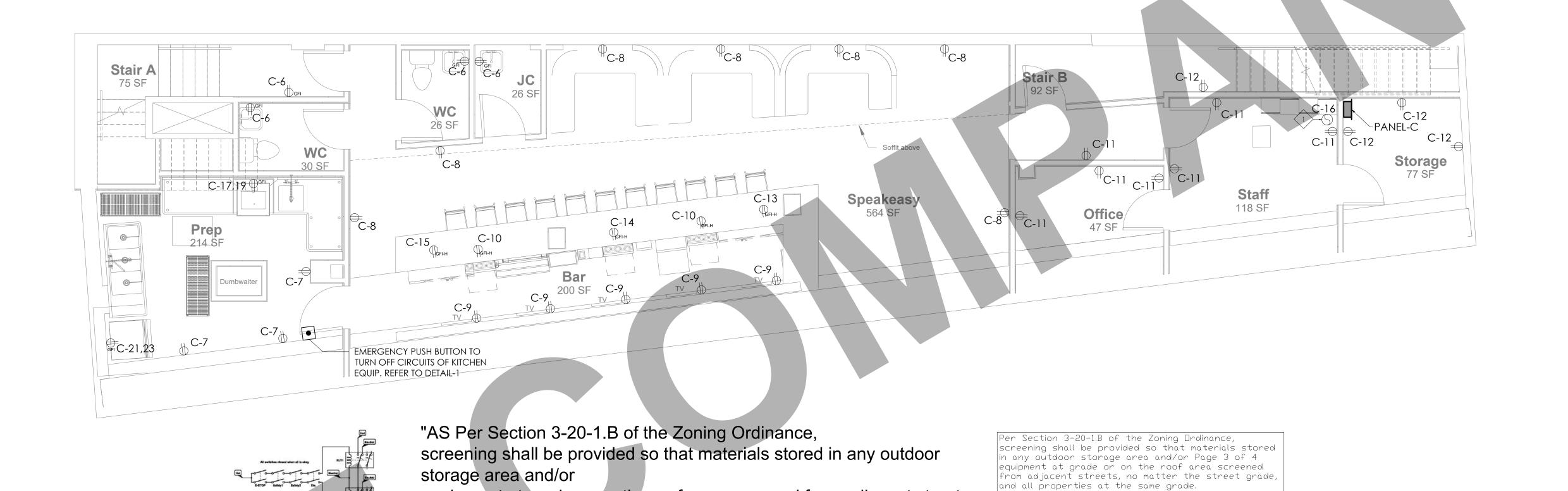
Project Number: 02-021

Drawn By: A.B

ient: Walter Green, Uncle Willie's

02.28.2023

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equipment at grade or on the roof area screened from adjacent streets,

no matter the street grade, and all properties at the same grade."

DETAIL-1

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REVISIONS

BASEMENT FLOOR POWER LAYOUT

Project Number: 02-021

rawn Bv: A.

02.28.2023

Client: Walter Green, Uncle Willie's

E0.40

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ROOF PLAN

SHEET NOTES:

- PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING (OR WALL) FOR KEF
- 2-PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR GWH
- PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR INDOOR UNIT POWERED FROM OUTDOOR UNIT
- PROVIDE NEMA 3R DISCONNECT SWITCH FOR MUA
- 5-PROVIDE NEMA 3R DISCONNECT SWITCH FOR KEF
- PROVIDE NEMA 3R DISCONNECT SWITCH FOR ODU
- PROVIDE NEMA 3R DISCONNECT SWITCH FOR RTU

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REVISIONS

ROOF FLOOR
POWER LAYOUT

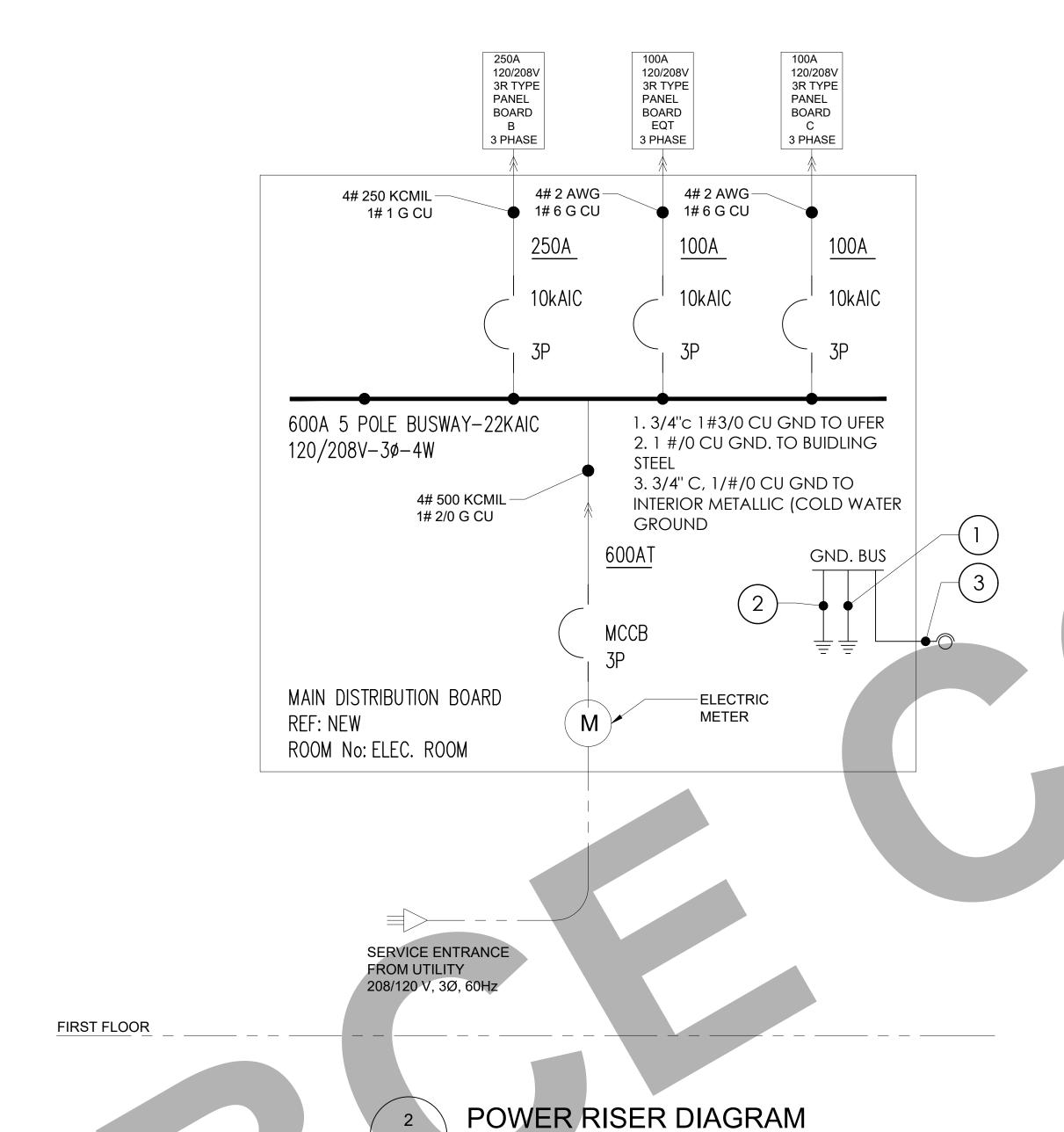
Project Number: 02-021

02.28.2023

Drawn By:

Client: Walter Green, Uncle Willie's

E3.20



E-1

SCALE

NTS

NEUTRAL BUS MAIN BONDING JUMPER (1)#6 TO PHONE BARE COPPER CONDUCTOR, BOARD PER SIZE PER NEC 250-102(C)(1) NEC 800-40(D) GROUND BUS MINIMUM OF 20'-0" OF 1/2" **BONDING JUMPER** REBAR IN BUILDING WALL TO PANEL BOARD FOOTING, (NEC 250-50C) **ENCLOUSER, SIZE** PER NEC 250-102(C)(1) BARE COPPER CADWELD GROUNDING ELECTRODE OPTIONAL FOR EXISTING CONDUCTOR SLAB UFER.3/4" X 10' (NEC 250-66) GROUND ROD(NEC 250-52) CADWELD VALVE, **METER** BUILDING STRUCTURAL OR SUPPLY SIDE STEEL (NEC 250-52(A)(2) UNION PIPE CLAMP TYPICAL METAL COLD WATER SERVICE ENTRANCE (PROVIDE SIMILAR JUMPER CONNECTION TO FIRE PROTECTION WATER NOTE: ALL GROUNDING SHALL BE INSTALLED IN ACCORDANCE SERVICE ENTRANCE) WITH ARTICLE 250-50 OF THE NATIONAL ELECTRICAL CODE, SIZE (NEC 250-50A) OF CONDUCTORS PER ONE-LINE

GROUNDING DETAIL

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REVISIONS

SINGLE LINE DIAGRAM & GROUNDING DETAILS

Project Number: 02-021

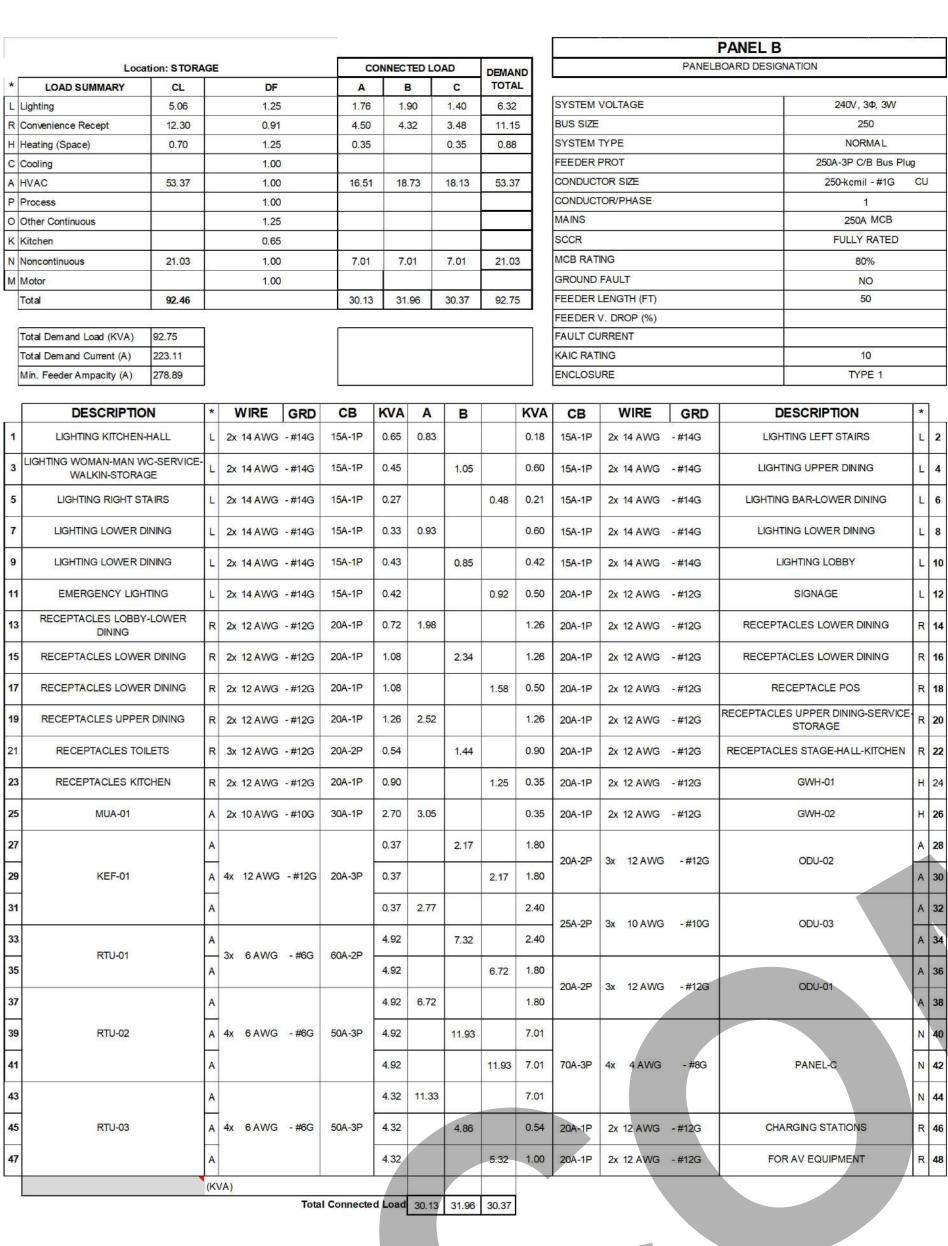
02.28.2023

Walter Green,

Drawn By: A.B

Uncle Willie's

E4.00



	Locati	on: STORAGE		CON	NNECTED L	_OAD	DEMAND
*	LOAD SUMMARY	CL	DF	Α	В	С	TOTAL
L	Lighting		1.25		5.5		
R	Convenience Recept		#DIV/0!			2	
Н	Heating (Space)		1.25				
С	Cooling		1.00):	85	
Α	HVAC		1.00				
Р	Process		1.00				
0	Other Continuous		1.25				
K	Kitchen		6.00				
N	Noncontinuous	152.10	1.00	50.70	50.70	50.70	152.10
M	Motor		1.00				
	Total	152.10		50.70	50.70	50.70	152.10

DECODIDE		200	MUDE		 1/3/4		
				200	 	60	
Min. Feeder Ampacity (A)	457.37						
Total Demand Current (A)	365.90						
Total Demand Load (KVA)	152.10						
	_	_					

PANELBOARD I	DESIGNATION					
SYSTEM VOLTAGE	240V, 3Ф, 3W					
BUS SIZE	600					
SYSTEM TYPE	NORMAL					
FEEDER PROT	600A-3P C/B Bus Plug					
CONDUCTOR SIZE	500-kcmil - #2/0G CU					
CONDUCTOR/PHASE	2					
MAINS	600A MCB					
SCCR	FULLY RATED					
MCB RATING	80%					
GROUND FAULT	NO					
FEEDER LENGTH (FT)	50					
FEEDER V. DROP (%)	0.279					
FAULT CURRENT						
KAIC RATING	22					
ENCLOSURE	TYPE 3R					

PANEL A

	DESCRIPTION	*	WIRE G	RD	СВ	KVA	Α	В		KVA	СВ		WIRE	GRD	DESCRIPTION	*	
1		N				30.57	37.58			7.01						N	2
3	PANEL-B	N	4x 250-kcmil - ‡	#1G	250A-3P	30.57		37.58		7.01	100A-3P	4x	2 AWG	- #6G	PANEL-C	N	4
5		N				30.57			37.58	7.01						N	6
7		N				13.12	13.12								SPACE		8
9	PANEL-EQT	N	4x 2 AWG - #	#6G	100A-3P	13.12		13.12							SPACE		10
11		N				13.12			13.12					,			12
		(K\	/A)		,		,	30	2)								
				Total	Connected	d Load	50.70	50.70	50.70								

	Loca	Location: STORAGE CONNECTED LOAD	CONNECTED LOAD					
*	LOAD SUMMARY	CL	DF	А	В	С	TOTAL	-
L	Lighting	1.03	1.25	0.41	0.40	0.22	1.29	SYSTEM VOLTAGE
R	Convenience Recept	6.46	1.00	2.40	1.36	2.70	6.46	BUS SIZE
Н	Heating (Space)		1.25					SYSTEM TYPE
С	Cooling		1.00		2 3			FEEDER PROT
A	HVAC	0.03	1.00		0.03		0.03	CONDUCTOR SIZE
P	Process		1.00					CONDUCTOR/PHASE
0	Other Continuous		1.25		, , , , , , , , , , , , , , , , , , ,			MAINS
K	Kitchen	20.40	6.00	8.64	2.40	9.36	13.26	SCCR
N	Noncontinuous		1.00					MCB RATING
М	Motor		1.00					GROUND FAULT
	Total	27.92		11.45	4.19	12.28	21.03	FEEDER LENGTH (FT)
				-				FEEDER V. DROP (%)
	Total Demand Load (KVA)	21.03						FAULT CURRENT

Total Demand Current (A) 50.60

Min. Feeder Ampacity (A) 63.25

Min. Feeder Ampacity (A) 77.00

	DESCRIPTION	*	WIRE	GRD	CB	KVA	Α	В		KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	LIGHTING PREP. ROOM	L	2x 14 AWG	-#14G	15A-1P	0.25	0.41			0.16	15A-1P	2x 14 AWG	- #14G	LIGHTING SPEAKEASY & TOILETS	L	2
3	LIGHTING SPEAKEASY	L	2x 14 AWG	-#14G	15A-1P	0.25		0.40		0.15	15A-1P	2x 14 AWG	- #14G	LIGHTING OFFICE-STAFF-STORAGE	L	4
5	EMERGENCY LIGHTS	L	2x 14 AWG	-#14G	15A-1P	0.22			0.94	0.72	20A-1P	2x 12 AWG	- #12G	RECEPTACLES TOILETS-STAIRS	R	6
7	RECEPTACLES PREP. ROOM	R	2x 12 AWG	-#12G	20A-1P	0.54	1.80			1.26	20A-1P	2x 12 AWG	- #12G	RECEPTACLES SPEAKEASY	R	8
9	RECEPTACLES TVs FOR BAR	R	2x 12 AWG	-#12G	20A-1P	1.00		1.36		0.36	20A-1P	2x 12 AWG	- #12G	RECEPTACLES BAR	R	1
1	RECEPTACLES OFFICE-STAFF	R	2x 12 AWG	-#12G	20A-1P	1.26			1.98	0.72	20A-1P	2x 12 AWG	- #12G	RECEPTACLES STORAGE-STAIRS	R	1
3	BACK BAR COOLER	к	2x 12 AWG	-#12G	20A-1P	0.84	1.44			0.60	20A-1P	2x 12 AWG	-#12G	DRAINBOARD CABINET	R	1
5	BACK BAR COOLER	к	2x 12 AWG	-#12G	20A-1P	0.84		0.87		0.03	20A-1P	2x 12 AWG	- #12G	KEF-02	Α	1
7	DISHWASHER-DOOR TYPE	к	3x 4 AWG	-#4G	704 30	7.80			7.80					SPACE		1
9	DISHWASHER-DOOR TYPE	К	3x 4 AWG	- #46	70A-2P	7.80	7.80							SPACE		2
1	MODULAR CRESCENT CUBER-AIR	K				1.56		1.56						SPACE		2

KAIC RATING

ENCLOSURE

Loc	ation: STORAG	E	CON	CONNECTED LOAD					
LOAD SUMMARY	CL	DF	Α	В	С	TOTAL			
Lighting		1.25							
Convenience Recept		#DIV/0!							
Heating (Space)		1.25							
Cooling		1.00							
HVAC	0.06	1.00	0.06			0.06			
Process		1.00							
Other Continuous		1.25				6			
Kitchen	39.30	6.00	15.53	9.52	14.26	25.55			
Noncontinuous		1.00							
M Motor		1.00							
Total	39.36		15.59	9.52	14.26	25.61			
	100		20						
Total Demand Load (KVA)	25.61								
Total Demand Current (A)	61.60								
			1						

PAN	PANEL EQT									
PANELBOA	RD DESIGNATION									
SYSTEM VOLTAGE	240V, 3Φ, 3W									
BUS SIZE	100									
SYSTEM TYPE	NORMAL									
FEEDER PROT	100A-3P C/B Bus Plug									
CONDUCTOR SIZE	2 AWG - #6G CU									
CONDUCTOR/PHASE	1									
MAINS	100A MCB									
SCCR	FULLY RATED									
MCB RATING	80%									
GROUND FAULT	МО									
FEEDER LENGTH (FT)	50									
FEEDER V. DROP (%)	0.701									
FAULT CURRENT										
KAIC RATING	10									
ENCLOSURE	TYPE 1									

SPACE

PANEL C

PANELBOARD DESIGNATION

240V, 3Φ, 3W

100

NORMAL

100A-3P C/B Bus Plug

100A MCB

FULLY RATED

80%

2 AWG - #6G CU

DESCRIPTION	*	WIRE	GRD	СВ	KVA	Α	В		KVA	CB	WIRE	GRD	DESCRIPTION	*	
DOUBLE-DECK CONVECTION OVEN	к	2x 12 AWG -	#12G	20A-1P	1.92	2.04			0.12	20A-1P	2x 12 AWG	-#12G	24" GRIDDLE	к	2
REFRIGERATOR CHEF BASE	к	2x 12 AWG -	#12G	20A-1P	0.54		1.98		1.44	20A-1P	2x 12 AWG	-#12G	COUNTERTOP HEATED WELLS	К	4
DRAWER WARMER	к	2x 12 AWG -	#12G	20A-1P	1.36			2.80	1.44	20A-1P	2x 12 AWG	-#12G	COUNTERTOP HEATED WELLS	к	6
KEF	А	2x 12 AWG -	#12G	20A-1P	0.06	0.74			0.68	20A-1P	2x 12 AWG	-#12G	WALKIN COOLER - FREEZER WITH FLOOR	К	8
	к			* 21597 E263	0.24		0.48		0.24			8842 (2020)		к	10
EVAPORATOR BLOWER	K	3x 12 AWG	- #12G	20A-2P	0.24			0.48	0.24	20A-2P	3x 12 AWG	-#12G	EVAPORATOR BLOWER	К	12
SOLID DOOR SANDWICH/SALAD UNIT	к	2x 12 AWG -	#12G	20A-1P	0.70	1.56			0.86	20A-1P	2x 12 AWG	-#12G	REFRIGERATED PREP TABLE		14
1 INFINITE	к	2x 12 AWG -	#12G	20A-1P	1.80		3.60		1.80	20A-1P	2x 12 AWG	-#12G	1 INFINITE		16
WORKTOP SOLID DOOR FREEZER	K	2x 12 AWG -	#12G	20A-1P	0.60			2.64	2.04	20A-1P	2x 12 AWG	-#12G	FOOD WARMER WITH LIGHTS		18
KEF	K	2x 12 AWG -	#12G	20A-1P	0.36	3.36			3.00	30A-1P	2x 10 AWG	-#10G	COFFEE/TEA BREWER	К	20
UNDERCOUNTER REFRIGERATOR	K	2x 12 AWG -	#12G	20A-1P	0.28		0.64		0.36	20A-1P	2x 12 AWG	-#12G	ICE COOLED DROP IN DISPENSER	К	22
COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR	К	2x 8 AWG -	#8G	35A-1P	3.60			4.80	1.20	20A-1P	2x 12 AWG	-#12G	CO2 BULK STORAGE TANK	К	24
COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR	к	2x 8 AWG -	#8G	35A-1P	3.60	4.28			0.68	20A-1P	2x 12 AWG	- #12G	WALKIN COOLER WITH FLOOR	K	26
BEVERAGE COOLING SYSTEM,	К				1.14		1.38		0.24			10022		K	28
REMOTE 2 PHASES 9.5A	K	1502 00m 01000000	- #12G	20A-2P	1.14			1.38	0.24	20A-2P	3x 12 AWG	-#12G	EVAPORATOR BLOWER	K	30
ICE COOLED DROP IN DISPENSER	к	2x 12 AWG -	#12G	20A-1P	0.60	1.44			0.84	20A-1P	2x 12 AWG	- #12G	BACK BAR PROFILE	K	32
BACK BAR PROFILE	к	2x 12 AWG -	#12G	20A-1P	0.84		1.44		0.60	20A-1P	2x 12 AWG	- #12G	UNDERBAR ALL-IN-ONE STATION	К	34
MODULAR CRESCENT CUBER - AIR-	к				2.16			2.76	0.60	20A-1P	2x 12 AWG	-#12G	UNDERBAR ALL-IN-ONE STATION		36
COOLED	K	3x 12 AWG	- #12G	20A-2P	2.16	2.16							SPACE		38
SPACE													SPACE		40
SPACE												Ÿ	SPACE		42
	DOUBLE-DECK CONVECTION OVEN REFRIGERATOR CHEF BASE DRAWER WARMER KEF EVAPORATOR BLOWER SOLID DOOR SANDWICH/SALAD UNIT 1 INFINITE WORKTOP SOLID DOOR FREEZER KEF UNDERCOUNTER REFRIGERATOR COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A ICE COOLED DROP IN DISPENSER BACK BAR PROFILE MODULAR CRESCENT CUBER - AIR- COOLED SPACE	DOUBLE-DECK CONVECTION OVEN K REFRIGERATOR CHEF BASE K DRAWER WARMER K KEF A EVAPORATOR BLOWER K SOLID DOOR SANDWICH/SALAD UNIT K 1 INFINITE K WORKTOP SOLID DOOR FREEZER K KEF K UNDERCOUNTER REFRIGERATOR K COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR K COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR K BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A K ICE COOLED DROP IN DISPENSER K MODULAR CRESCENT CUBER - AIR-COOLED K KEP K MODULAR CRESCENT CUBER - AIR-COOLED K K SPACE	DOUBLE-DECK CONVECTION OVEN	DOUBLE-DECK CONVECTION OVEN	DOUBLE-DECK CONVECTION OVEN REFRIGERATOR CHEF BASE K 2x 12 AWG -#12G 20A-1P REFRIGERATOR CHEF BASE K 2x 12 AWG -#12G 20A-1P KEF A 2x 12 AWG -#12G 20A-1P KEF A 2x 12 AWG -#12G 20A-1P KEF A 2x 12 AWG -#12G 20A-1P EVAPORATOR BLOWER K 3x 12 AWG -#12G 20A-1P 1 INFINITE K 2x 12 AWG -#12G 20A-1P WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P UNDERCOUNTER REFRIGERATOR K 2x 12 AWG -#12G 20A-1P UNDERCOUNTER REFRIGERATOR K 2x 12 AWG -#12G 20A-1P COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A ICE COOLED DROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P BACK BAR PROFILE K 2x 12 AWG -#12G 20A-1P 20A-2P K 2x 8 AWG -#8G 35A-1P 3x 12 AWG -#12G 20A-1P 20A-2P K 2x 12 AWG -#12G 20A-1P A 2x 12 AWG -#12G 20A-1P BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A K 2x 12 AWG -#12G 20A-1P BACK BAR PROFILE K 2x 12 AWG -#12G 20A-1P A 3x 12 AWG -#12G 20A-1P MODULAR CRESCENT CUBER - AIR-COOLED K 2x 12 AWG -#12G 20A-1P A 3x 12 AWG -#12G 20A-1P BACK BAR PROFILE K 2x 12 AWG -#12G 20A-1P	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 REFRIGERATOR CHEF BASE K 2x 12 AWG -#12G 20A-1P 0.54 DRAWER WARMER K 2x 12 AWG -#12G 20A-1P 0.54 KEF A 2x 12 AWG -#12G 20A-1P 0.06 KEF A 2x 12 AWG -#12G 20A-1P 0.06 EVAPORATOR BLOWER K 3x 12 AWG -#12G 20A-1P 0.24 SOLID DOOR SANDWICH/SALAD UNIT K 2x 12 AWG -#12G 20A-1P 0.70 1 INFINITE K 2x 12 AWG -#12G 20A-1P 0.70 WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P 0.60 KEF K 2x 12 AWG -#12G 20A-1P 0.60 WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P 0.36 UNDERCOUNTER REFRIGERATOR K 2x 12 AWG -#12G 20A-1P 0.28 COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR K 2x 8 AWG -#8G 35A-1P 3.60 COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR K 2x 8 AWG -#8G 35A-1P 3.60 BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A K 2x 12 AWG -#12G 20A-1P 0.60 BACK BAR PROFILE K 2x 12 AWG -#12G 20A-1P 0.60 BACK BAR PROFILE K 2x 12 AWG -#12G 20A-1P 0.60 MODULAR CRESCENT CUBER - AIR-COOLED K 3x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED K 3x 12 AWG -#12G 20A-1P 0.84 SPACE	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 2.04 REFRIGERATOR CHEF BASE K 2x 12 AWG -#12G 20A-1P 0.54 DRAWER WARMER K 2x 12 AWG -#12G 20A-1P 0.54 KEF A 2x 12 AWG -#12G 20A-1P 0.06 0.74 KEF A 2x 12 AWG -#12G 20A-1P 0.06 0.74 EVAPORATOR BLOWER K 3x 12 AWG -#12G 20A-1P 0.06 0.74 SOLID DOOR SANDWICH/SALAD UNIT K 2x 12 AWG -#12G 20A-1P 0.70 1.56 1 INFINITE K 2x 12 AWG -#12G 20A-1P 0.70 1.56 WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P 0.60 KEF K 2x 12 AWG -#12G 20A-1P 0.60 KEF K 2x 12 AWG -#12G 20A-1P 0.60 UNDERCOUNTER REFRIGERATOR K 2x 12 AWG -#12G 20A-1P 0.28 COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR K 2x 8 AWG -#8G 35A-1P 3.60 COCA COLA 28" (2) SHELF BIB SHELVING W/ CARBONATOR K 2x 8 AWG -#8G 35A-1P 3.60 4.28 BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A K 2x 12 AWG -#12G 20A-1P 0.60 1.14 BACK BAR PROFILE K 2x 12 AWG -#12G 20A-1P 0.60 1.44 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84 MODULAR CRESCENT CUBER - AIR-COOLED ROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.84	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 2.04 REFRIGERATOR CHEF BASE K 2x 12 AWG -#12G 20A-1P 0.54 1.98 DRAWER WARMER K 2x 12 AWG -#12G 20A-1P 0.54 1.98 KEF A 2x 12 AWG -#12G 20A-1P 0.06 0.74 EVAPORATOR BLOWER K 3x 12 AWG -#12G 20A-1P 0.06 0.74 EVAPORATOR BLOWER K 2x 12 AWG -#12G 20A-1P 0.06 0.74 SOLID DOOR SANDWICH/SALAD UNIT K 2x 12 AWG -#12G 20A-1P 0.70 1.56 1 INFINITE K 2x 12 AWG -#12G 20A-1P 0.70 1.56 WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P 0.80 3.60 WORKTOP SOLID DOOR FREEZER K 2x 12 AWG -#12G 20A-1P 0.86 3.36 UNDERCOUNTER REFRIGERATOR K 2x 12 AWG -#12G 20A-1P 0.28 0.64 COCA COLA 28' (2) SHELF BIB SHELVING W/ CARBONATOR K 2x 8 AWG -#8G 35A-1P 3.60 4.28 BEVERAGE COOLING SYSTEM, REMOTE 2 PHASES 9.5A K 2x 12 AWG -#12G 20A-1P 0.80 1.14 ICE COOLED DROP IN DISPENSER K 2x 12 AWG -#12G 20A-1P 0.80 1.44 MODULAR CRESCENT CUBER - AIR-COOLED K 2x 12 AWG -#12G 20A-1P 0.84 1.14 MODULAR CRESCENT CUBER - AIR-COOLED K 2x 12 AWG -#12G 20A-1P 0.84 1.14 MODULAR CRESCENT CUBER - AIR-COOLED K 2x 12 AWG -#12G 20A-1P 0.84 1.44 SPACE	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 2.04	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-IP 1.92 2.04 0.12	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 2.04 0.12 20A-1P	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 2.04 0.12 20A-1P 2x 12 AWG	DOUBLE-DECK CONVECTION OVEN K 2x 12 AWG -#12G 20A-1P 1.92 2.04 No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.98 No. 1.44 20A-1P 2x 12 AWG -#12G 20A-1P No. 1.44 No. 1.44 20A-1P 2x 12 AWG -#12G 1.44 No. 1.44 No.	DOUBLE-DECK CONVECTION OVEN K 22 12 AWG - #12G 20A-1P 1.92 2.04	DOUBLE DECK CONVECTION OVEN K 2x 12 AWG -#326 20A-1P 152 2.04

Total Connected Load 15.59 9.52 14.86

SEAL:

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REVISIONS

PANEL BOARDS SCHEDULES

Project Number: 02-021 **Date:** 02.28.2023

Walter Green,

Drawn By: A.B

Uncle Willie's

E5.00

PLUMBING SPECIFICATIONS

THE WORK INCLUDES MODIFICATION TO THE EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/OR ORDINANCES AND IS SUBJECT TO INSPECTION. HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION. WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS. AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PIPING SYSTEMS - GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING. PROVIDE AN ISOLATING DIALECTIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION. PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETC. AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETC. INCLUDED ARE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS. SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS. VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING. CONDENSATE AND INDIRECT DRAIN PIPING:PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV(SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS. CLEANOUTS: PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN, AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE, CONFORMING TO CODE REQUIREMENTS. PROVIDE SUITABLE WALL OR FLOOR CLEANOUTS WITH ACCESSORIES TO OBSCURE FROM VIEW. WATER DISTRIBUTION PIPING: LAYOUT WATER PIPING SO THAT THE ENTIRE SYSTEM CAN BE DRAINED. HOT AND COLD WATER PIPING SHALL BE 1/2" MIN. CPVC PIPE WITH SOLVENT FITTING. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. INSTALL CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS). PIPE INSULATION: INSULATE (AS ALLOWED BY CODE) ALL LISTED SERVICE PIPING AS FOLLOWS. DOMESTIC COLD/HOT WATER, HOT WATER RETURN, STORM WATER PIPING, PROVIDE 1" PREFORMED FIBERGLASS. ASJ/SS-11, FLAME SPREAD 25, SMOKE DEVELOPED 50, ASTM C-547. FOR CONDENSATE PIPING PROVIDE 1/2" THICK INSULATION OF SAME CHARACTERISTICS AS LISTED FOR 1" ABOVE. WHERE PERMITTED BY LOCAL CODES, PROVIDE 1/2" SELF-ADHESIVE UNICELLULAR FOAM PIPE INSULATION WITH PRE-FORMED PVC FITTING COVERS - EQUAL TO SELF-ADHESIVE ARMSTRONG 2000 WITH K FACTOR OF 0.27 AT 75 DEGREES MEAN TEMPERATURE. INSULATE ANY EXPOSED CONDENSATE PIPING WITH WASTE TEMPERATURE BELOW 60 DEGREES F. SHUTOFF VALVES, WITH UNIONS SHALL BE PROVIDED FOR SERVICE TO EACH PLUMBING FIXTURE, FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM, TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. VALVES SHALL BE EQUAL TO JENKINS #902-T BALL VALVE, CHROME-FINISHED BRONZE, TEFLON SEATS AND PACKING, 400 LB. W.O.G., SOLDER END. ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED. PIPING SYSTEM- PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PEMITTED BY CODE/LOCAL AUTHORITIES. INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. PROCEED AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL, FOR SANITARY JOINT, AND OMIT ESCUTCHEONS. REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS. TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE, FOR FOUR (4) HOURS MINIMUM. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED. ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOFING WARRANTY.

GENERAL NOTES

- 1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- 2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2021 INTERNATIONAL PLUMBING CODE, 2021 INTERNATIONAL BUILDING CODE, 2021 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS.
 REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- 4. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS. PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.
- 6. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.
- 7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.
- 8. ALL HOT WATER PIPING AND RE-CIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE
- CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.
 PIPING:
- A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC SCHEDULE 40) PIPE
- B. WATER PIPE SHALL BE CPVC PIPE
- C. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE
- D. INSIDE GAS PIPING SHALL BE BLACK IRON SCHEDULE 40 WITH MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON SCHEDULE 40 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.
- E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.
- F. PIPING: PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES
- 11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT.
 ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.
 12. CLEANOUTS SHALL BE INSTALLED PER THE INTERNATIONAL PLUMBING
- CODE.

 13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH.
- EXTERIOR WALLS, ROOFS, OR FLOORS.

 14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE STRUCTURE.
- 15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.
- 16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.
- 17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.
- 18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.
- 19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.
- 20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.
- 21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.
- 25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
- 26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS
 27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED
- UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF COMTAMINATION.

 28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN-DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR

PLUME	BING LEG	GEND
SYMBOL	ABBRV.	DESCRIPTION
	SS or W	NEW SEWER OR WASTE
	V	NEW VENT
-	CW	NEW COLD WATER
	HW	NEW HOT WATER
	G	NEW GAS
	CD	NEW CONDENSATE DRAIN
CA	CA	COMPRESSED AIR
φ	FCO	FLOOR CLEANOUT
Ю	WCO	WALL CLEANOUT
O	FD	FLOOR DRAIN
	FS	FLOOR SINK
Ş-=	TP	TRAP PRIMER & TRAP PRIMER PIPING
$\overline{}$	SOV	SHUT-OFF VALVE
<u> </u>	CV	CHECK VALVE
	PRV	BACKFLOW PREVENTER W SOV'S
<u> </u>	T&P	
	DN	PIPE DOWN
 0	UP	PIPE UP
	POC	POINT OF CONNECTION
7	-	PLUMBING NOTE CALL-OUT
	ABV	ABOVE
	AFF	ABOVE FINISH FLOOR
	AP	ACCESS PANEL
	BEL	BELOW
	BLDG	BUILDING
	CLG	CEILING
	CONT	CONTINUATION
	EL	ELEVATION
	FIN	FINISH
	FL	FLOOR
	GR	GRADE
	NTS	NOT TO SCALE
	OC	ON CENTER
	S= %_	SLOPE AT A PERCENTAGE
	SHT	SHEET
	TYP	TYPICAL
	VTR	VENT THRU ROOF

PLUMBING / GENERAL NOTES

BATHTUBS AND WHIRLPOOL BATHTUBS. THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES.

BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER.

SHOWERS AND TUB-SHOWERS COMBINATIONS IN ALL BUILDINGS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION OF BOTH THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION. VALVES SHALL BE ADJUSTED TO DELIVER A MAXIMUM MIXED WATER

SETTING OF 120 DEGREES FAHRENHEIT. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION.

VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED

1-INSTALL TEMPERATURE AND PRESSURE RELIEF VALVE WITH MINIMUM 34" DRAIN PIPE AND TERMINATE TO THE EXTERIOR OF THE BUILDING OVER WINDOW, DOOR OR VISIBLE LOCATION. DISCHARGE FROM A RELIEF VALVE INTO A WATER HEATER PAN SHALL BE PROHIBITED

2-PROVIDE (ON THE PLANS) A GAS PIPING DIAGRAM OF THE GAS PIPING SYSTEM THAT INCLUDES ALL PIPE SIZES, PIPE LENGTHS AND BTU RATINGS.

3-SUBMIT GAS LOAD CALCULATIONS IN ACCORDANCE WITH IPC TABLE 12-8 TO VERIFY THE PIPE SIZES ARE ADEQUATE FOR THE MAXIMUM DELIVERY CAPACITY OF CUBIC FEET OF GAS PER HOUR.

4- A WHOLE HOUSE HAS TEST IS REQUIRED UPON COMPLETION OF THE INSTALLATION, ALTERATION, OR REPAIR OF ANY GAS PIPING.

THE CITY SHALL BE NOTIFIED WHEN GAS PIPING IS READY FOR INSPECTION.

5- 2 GPM SHOWER FIXTURE, MAX.1.5 GPM BATHROOM FAUCET, MAX. 2 GPM KITCHEN FAUCET, AND MAX 1.28 WATER CLOSET TO CONFORM TO CITY GREEN REQUIREMENTS.

BATHROOMS: PROVIDE AN EXHAUST FAN (AT LEAST 50 CFM) DUCTED TO THE OUTSIDE (MINIMUM 4" DIAMETER FLEX DUCT WITH A MAXIMUM LENGTH OF 70")WITH A MINIMUM VENTILATION RATE OF 100 CFM, IDENTIFY THE REQUIREMENT FOR A BACKDRAFT DAMPER ON THE DUCT, AN ENERGY STAR COMPLIANT EXHAUST FAN THAT IS CONTROLLED BY A HUMIDITY SENSOR THAT IS CAPABLE OF BEING ADJUSTED BETWEEN ≤ 50-PERCENT TO 80-PERCENT HUMIDITY; AND A SEPARATE SWITCH FROM THE LIGHT UNLESS THE FAN IS ALLOWED TO OPERATE WITH THE LIGHT SWITCHED OFF.

6-NOTE THAT ALL PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6"
ABOVE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE. VENTS
SHALL TERMINATE NOT LESS THAN 10" FROM OR 3' ABOVE ANY WINDOW,
DOOR OPENING AIR INTAKE, OR VENT SHAFT NOR 3' FROM LOT LINE.
IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED PRESSURE REGULATOR SHALL BE INSTALLED.

NON-REMOVABLE BACK FLOW PRE-VENTER OR BIBB-TYPE VACUUM BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED, THE ENTIRE LENGTH OF HOT WATER PIPES SHALL BE INSULATED.

NOTES:

1-Projects which disturb less than one acre of soil shall manage storm water drainage during construction by one of the following: A. Retention basins. B. Where storm water is conveyed to a public drainage system, water shall be filtered by use of a barrier system, wattle or other approved

2-Site grading or drainage system will manage all surface water flows to keep water from entering buildings (swales, water collection, French drains, etc.). CGC Section 4.106.3. Exception: Additions not altering the drainage path.

3-When a shower is provided with multiple shower heads, the sum of flow to all the heads shall not

exceed 1.8 gpm @ 80 psi, or the shower shall be designed so that only one head is on at a time. CGC Section 4.303.1.3.2.

4-Landscape irrigation water use shall have weather or soil based controllers. CGC Section 4.304.1.

5-The plans that a minimum of 65% of construction waste is to be recycled. CGC Section 4.408.1.

6-The contractor shall submit a Construction Waste Management Plan, per CGC Section 4.408.2.
7-The builder is to provide an operation manual (containing information for maintaining appliances, etc.) for the owner at the time of final inspection. CGC Section 4.410.1.
8-The gas fireplace(s) shall be a direct-vent sealed- combustion type. Woodstove or pellet stoves

must be US EPA Phase II rated appliances. CGC Section 4.503.1.

WATER SAVING STANDARDS.

THE WATER SAVING PERFORMANCE STANDARDS FOR A PLUMBING FIXTURE ARE THOSE ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), CURRENT REVISION, OR THE FOLLOWING STANDARDS, WHICHEVER ARE THE MORE RESTRICTIVE 1-THE MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET OR A FAUCET AERATOR SHALL NOT EXCEED 0 5 GALLONS OF WATER PER MINUTE AT A PRESSURE OF 60 POUNDS PER SQUARE INCH WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES. 2- THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A TOILET SHALL NOT EXCEED AN AVERAGE OF 1 28 GALLONS WHEN TESTED IN ACCORDANCE WITH ANSI TESTING

3- THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A URINAL AND THE ASSOCIATED FLUSH VALVE, IF ANY, SHALL NOT EXCEED AN AVERAGE OF ONE GALLON WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

SPECIAL NOTICE TO CONTRACTORS

- 1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
- 2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- 3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

PLUMBING LIST OF DRAWINGS (LoD):

SHEET TAG	TITLE	SCALE
P 0.00	PLUMBING GENERAL NOTES AND SPECIFICATIONS.	NTS
P 0.01	PLUMBING CODE CHECKING.	NTS
P 1.01	WATER SUPPLY LAYOUTS.	3/16"=1'-0"
P 2.01	SANITARY LAYOUTS.	3/16"=1'-0"
P 3.01	GAS LAYOUTS.	3/16"=1'-0"
P 4.01	GAS RISER DIAGRAM, WATER HEATER SIZING & SCHED.	NTS
P 5.01	PLUMBING GENERAL DETAILS - 1	NTS
P 5.02	PLUMBING GENERAL DETAILS -2	NTS
P 6.01	WATER SUPPLY RISER DIAGRAM	NTS
P 6.02	INDIRECT WASTE RISER DIAGRAM	NTS
P 6.03	SEWER RISER DIAGRAM	NTS

SEAL:

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REVISIONS

PLUMBING GENERAL NOTES AND SPECIFICATIONS

Project Number: 02-021

Drawn By:

Client: Walter Green, Uncle Willie's

02.28.2023

P 0.00

PLUMBING CODE CHECKING AND GENERAL SCHEDULES.

Cleanouts are required at the upper most terminals of all horizonal waste lines. Please provide cleanouts location within the floor plan.

ABS/PVC vent terminations up through the roof exposed to sunlight are required to be protected by water based synthetic latex paints." 906.1

FIXTURE TYPE	MAXIMUM FLOW RATE
Water closets	1.28 gallons/flush
Urinals	0.125/0.5 gallon/flush
Hand-Held Shower Heads	1.8 gpm @ 80 psi
Lavatory, private	1.2 gpm @60 psi
Lavatory, public	0.5 gpm @60 psi
Sink Faucets	2.2 gpm @ 60 psi / 1.8 gpm @ 80 psi

ALL PIPE BELOW 4"Ø PIPE SIZE TO BE SLOPED 2%. ALL PIPES GREATER THAN 4"Ø PIPE SIZE SHALL BE SLOPED 1%.

Water piping and cooling system line insulation thickness and conductivity Piping shall be insulated to the thickness as follows:

- All domestic hot water system piping conditions listed below, whether buried or unburied, must be insulated and the insulation thickness shall be selected based on the conductivity range in TABLE 120.3-A and the insulation level shall be selected from the fluid temperature range based on the thickness requirements in TABLE 120.3A
- The first 5 feet of hot and cold-water pipes from the storage tank. All piping with a nominal diameter of 3/4 inch (19 millimeter) or larger
- All piping associated with a domestic hot water recirculation system regardless of the pipe diameter. e) All hot water piping from the heat source to the kitchen fixtures
- "Galvanized malleable iron, galvanized wrought iron, or galvanized steel are prohibited materials for water supply and building water piping

Each valve needs a hose bibb or other fitting allowing for flushing the water heater when the valves are closed.

PLUMBING PIPING MATERIAL SCHEDULE											
PIPING SYSTEM	LOCATION	ACCEPTABLE PIPING MATERIAL									
DOMESTIC	BELOW GRADE	ASTM B 88 TYPE K SOLDERED COPPER									
WATER	ABOVE GRADE	PEX A COMPRESSION JOINT									
WASTE	BELOW AND ABOVE GRADE	ASTM D 2665 PVC SCHEDULE 40, SOCKET FITTINGS DWV									
& VENT	FROM SECOND TO FIRST FLOOR	ASTM A 888 CAST IRON, NO HUB SYSTEM									

MINIMUM PIPE SIZE PER FIXTURE

FIXTURE UNIT	DR (INCH)	VENT (IN.)
SHOWER	2	2
WATER CLOSET	4	2
LAVATORY	2	2
KITCHEN SINK	2	2
DISHWASHER	2	2
ВАТНТИВ	2	2
LAUNDRY MACHINE	2	2

DOMESTIC WATER PIPE SIZING TABLE

BC PLUMBING CODE (2021) SECTION 2.6.3.1

DOMESTIC WATER PIPE SIZING IN ACCORDANCE WITH ASPE PLUMBING ENGINEERING DESIGN HANDBOOK VOL. 2.

BC PLUMBING CODE (2021) SECTION 2.6.3.2.

THIS TABLE IS TO BE USED IN CONJUNCTION WITH THE HYDRAULIC LOAD REQUIREMENTS FOR EACH FIXTURE.

BC PLUMBING CODE (2021) SECTION 2.6.3.5.

DOMESTIC WATER PIPE SIZING IN ACCORDANCE WITH THE MAXIMUM PERMITTED WATER VELOCITIES AS RECOMMENDED BY THE PIPE AND FITTING

* PEX VALUES ARE BASED UPON UPONOR AQUAPEX.

										•								
PIPE A	MATERIAL		PEX*		PE	ΞX*	DUCTILE	EIRON & ST STEEL	TAINLESS	CC)PPER (TYP	E L)	CC	OPPER (TYP	EK)	COPPER	R (TYPE K)	
POTABLE W	VATER SYSTEM	DCW / DHW 2.4 m/s (8 ft/s)			DHWR 0.6 m/s (8 ft/s)		[DCW / DHV	V	DCW				DHW			DHWR	
	I ALLOWABLE OCITY						2.4 m/s (8 ft/s)			1.5 m/s (5 ft/s)			1.2 m/s (4 ft/s)			0.9 m/s (3 ft/s)		
[MM]	[INCH]	L/S	GPM	FU	L/S	GPM	L/S	GPM	FU	L/S	GPM	FU	L/S	GPM	FU	L/S	GPM	
15 MM	1/2"	0.28	4.4	4.5	0.07	1.1	0.36	5.7	7	0.23	3.6	3.5	0.18	2.9	2.5	0.06	1	
20 MM	3/4"	0.55	8.8	11.5	0.14	2.2	0.77	12.2	17	0.48	7.6	9	0.38	6.0	7.5	0.32	5	
25 MM	1"	0.92	14.5	20.5	0.23	3.6	1.26	20.0	30	0.81	12.8	18	0.65	10.3	14	0.60	9.5	
32 MM	1-1/4"	1.36	21.8	34	0.34	5.4	1.80	28.5	54	1.24	19.7	29	0.99	15.7	22	1.01	16	
40 MM	1-1/2"	1.91	30.3	55	0.48	7.5	2.80	44.4	102	1.75	27.7	46	1.40	22.2	34	1.51	24	
50 MM	2"	3.27	51.9	138	0.82	12.9	4.92	78.0	265	3.04	48.2	120	2.43	38.5	81	2.59	41	

					PLU	JMBI	NG	FIXTURE SCHEDULE
FIXT.	DESCRIPTION	MANUFACTURER	MODEL	W	ROU V	GH-IN CW	HW	REMARKS
3CS-1 3-COMPARTMENT SII		SELECT BY ARCH/OWNER	-	3"	2"	3/4"	3/4"	SELECTED BY ARCHITECT/OWNER. VERIFY FOR EXACT SPECIFICATION AND MODEL NUMBER OF PLUMBING FIXTURE WITH ARCHITECT AND OWNER PRIOR TO ORDERING AND INSTALLATION
HS-1	HAND SINK	SELECT BY ARCH/OWNER	-	2"	2"	1/2"	1/2"	SELECTED BY ARCHITECT/OWNER. VERIFY FOR EXACT SPECIFICATION AND MODEL NUMBER OF PLUMBING FIXTURE WITH ARCHITECT AND OWNER PRIOR TO ORDERING AND INSTALLATION
TP-1	TRAP PRIMER	WATTS	LFTP300-DR	-	-	1/2"	-	WATTS DRAINAGE LFTP300-DR PRESSURE DROP ACTIVATED LEAD FREE*BRASS TRAP PRIMER WITH EPDM SEALS, INTEGRAL AIR GAP, AND 1/2"SWEAT OR NPT THREADED CONNECTIONS. OPERATING PRESSURE 25 PSI - 125 PSI. TESTED AND APPROVED IN CONFORMANCE WITH ASSE STANDARD 1018. SPECIFY MODEL LFTP300-DU-DR FOR DISTRIBUTION UNIT.
FCO	FLOOR CLEANOUT	WATTS	CO-200-S	PIPE SIZE	-	-	-	WATTS DRAINAGE CO-200-S EPOXY COATED CAST IRON FLOOR CLEANOUT WITH 5"X5" SQUARE ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB (STANDARD) OUTLET.
wco	WALL CLEANOUT	WATTS	CO-380	PIPE SIZE	-	-	-	WATTS DRAINAGE CO-380 CAST IRON CLEANOUT WITH GASKETED BRASS COUNTERSUNK PLUG, AND NO HUB CONNECTION.
FS-1	FLOOR SINK	WATTS	FS-780	2"	2"	-	-	WATTS DRAINAGE FS-780 12" SQUARE X 6" DEEP 14 GA. TYPE 304 STAINLESS STEEL SANITARY FLOOR SINK WITH LOOSE SET CAST STAINLESS STEEL GRATE, DOME BOTTOM STRAINER, AND NO HUB (STANDARD) OUTLET.
FD-1	FLOOR DRAIN	WATTS	FD-320-Y	2"	2"	-	-	WATTS DRAINAGE FD-320-Y EPOXY COATED CAST IRON AREA DRAIN WITH ANCHOR FLANGE, WEEPHOLES, 8"DIAMETER FIXED TOP WITH HEEL PROOF DUCTILE IRON GRATE, AND NO HUB (STANDARD) OUTLET
WC-1	WATER CLOSET (ADA APPROVED)			4"	2"	3/4"	-	DELTA MODEL # C41908-WH4.5547(411) TURNER 2-PIECE 1.28 GPF SINGLE FLUSH ROUND FRONT TOILET IN WHITE. TOILET SHALL BE ADA AND ASME A112.19.1 COMPLIANT (OR APPROVED EQUAL).
LAV-1	LAVATORY (ADA APPROVED)			2"	2"	1/2"	1/2"	"KOHLER" HUDSON MODEL K-2849 WHITE VITREOUS CHINA WALL MOUNTED LAVATORY WITH 4" CENTERS OR APPROVED EQUAL. INCLUDE MODEL K-7401-5A FAUCET WITH STANDARD AERATOR AND WRISTBLADE HANDLES. LAVATORY AND FAUCETS SHALL BE ADA AND ASME A112.19.1M COMPLIANT (OR APPROVED EQUAL)

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REVISIONS

PLUMBING CODE CHECKING AND GENERAL SCHEDULES

Project Number: 02-021

Drawn By:

Walter Green, Uncle Willie's

02.28.2023

P 0.01

WATER CONSERVING PLUMBING FIXTURES AND FITTINGS

All Water closets: 1.6 gal/flush. Water closets shall conform to the hydraulic performance requirements of ASME A112.19.2/CSA B45.1. Water closet tanks shall conform to ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124.

Urinals: 1.0 gal/flush

both underground and in buildings."

412.2 Hand-Held Shower Heads: 2.5 gpm @ 80 psi. Hand-held showers shall conform to ASME A112.18.1/CSA B125.1.

412.4 Multiple showerheads: supplied with a single-tempered water supply pipe shall have the water supply for such showers controlled by an approved automatic temperature control mixing valve that conforms to ASSE 1069 or CSA B125.3

Private Lavatories: 2.2 gpm @ 60 psi. Lavatories shall conform to ASME A112.19.1/CSA B45.2, ASME

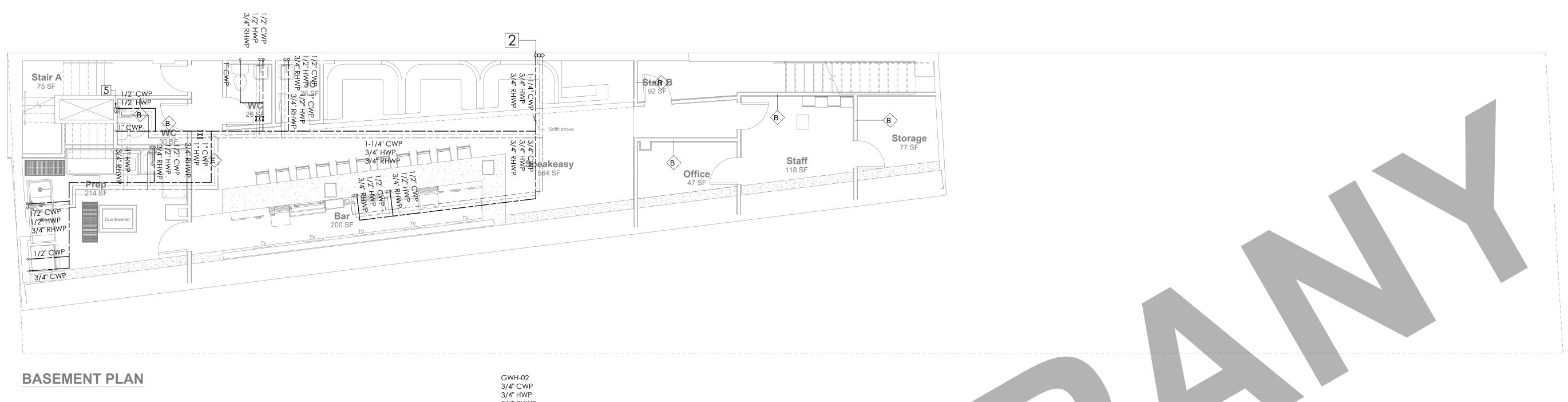
A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124.

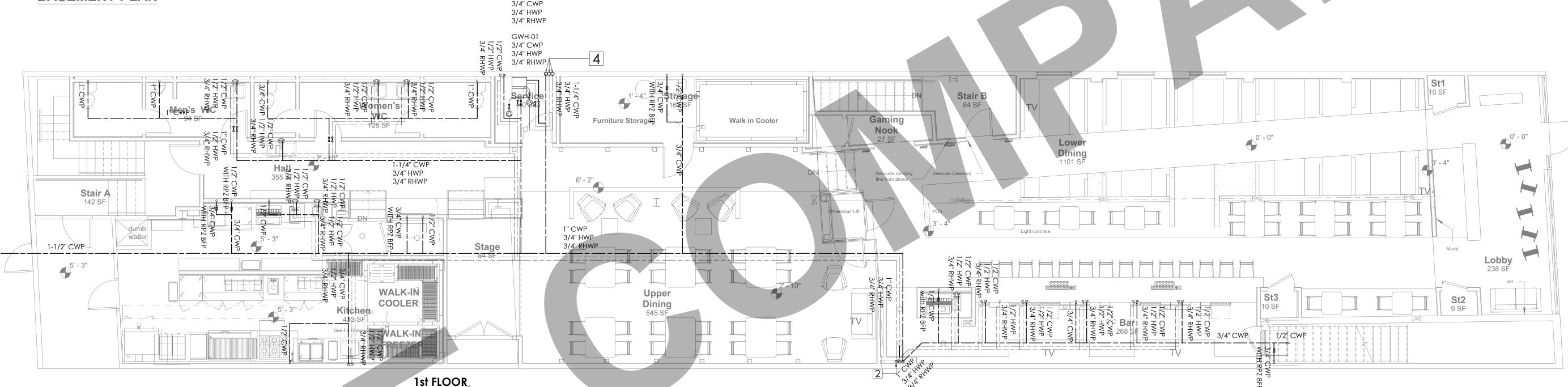
604.4 Metering Faucets: 0.25 gallons per cycle

604.4 Kitchen Faucets: 2.2 gpm @ 60 psi

PLUMBING FIXTURE CERTIFICATION REQUIRED:

A plumbing fixture certification must be completed and signed by either a licensed general contractor, or a plumbing subcontractor, or the building owner certifying the flow rate of the fixtures installed. A copy of the certification can be obtained from the development services department.





1st FLOOR PLAN

BASEMENT FROM 2021 NSPC- TABLE B.5.2:

WATER SUPPLY FIX	TURE UNI	rs flow	WSFU:		
FIXTURE	COLD	нот	TOTAL	QTY.	TOTAL WSFU
DISHWASH	0.0	1.5	1 .5	1	1.5
SERVICE SINK	2.3	2.3	3.0	1	3.0
3- COMP. SINK	1.1	1.1	1.5	1	1.5
PRERINSE	2.3	2.3	3.0	1	3.0
MIXOLOGY UNIT	0.5	0.5	0.5	1	0.5
HAND SINK	1.1	1.1	1.5	1	2.5
WATER CLOSET	2.5	0.0	2.5	2	5.0
LAVATORY	0.8	0.8	1.0	2	2.0
CUBER-AIR-COOLED	0.5	0.0	0.5	1	0.5
COLDDRINK	0.5	0.0	0.5	1	0.5
TOTAL BUIL	DING WS	FU =			20.0

FROM 2021 IPC-GA - TABLE 604.3:
WATER SUPPLY FIXTURE UNITS FLOW WSFU:

FIXTURE	COLD	НОТ	TOTAL	QTY.	TOTAL WSFU
CARBUNATOR	0.5	0.0	0.5	2	1.0
DROP-IN SINK	1.1	1.1	1.5	3	4.5
COLD DRINK	0.5	0.0	0.5	4	2.0
DISPENSER	0.5	0.0	0.5	2	1.0
COFFEE BREWER	0.5	0.0	1.5	1	1.5
HAND SINK	1.1	1.1	1.5	3	4.5
WATER CLOSET	2.5	0.0	2.5	3	7.5
LAVATORY	0.8	0.8	1.0	4	4.0
URINAL	4.0	0.0	4.0	1	4.0
MOP SINK	2.3	2.3	3.0	1	3.0
ALL IN ONE STATION	0.5	0.0	0.5	2	1.0
FIXTURE	COLD	нот	TOTAL	QTY.	TOTAL WSFU
3 COMP SINK	1.1	1.1	1.5	1	1.5
RINSER	1.5	0.0	1.5	2	1.5
SERVICE SINK	2.3	2.3	3.0	1	3.0
TOTAL BUILDING WSFU = 40.0				40.0	

ITEM	WSFU	SIZE
COLD	47.9	1.5
нот	29.9	1.5
COMBINED	60.0	1.5

WA	ATER SUPPLY SHEET NOTES:
1	—-DCW, DHW RISE TO HIGH LEVEL.
2	DCW & DHW DROP IN WALL.
3	— DCW FROM BELOW GRADE UP IN WALL.
4	—- DHW DOWN TO BELOW GRADE.
5	DCW/DHW/RHW TO FIXTURE CONNECTIO

GENERAL NOTES:

- 1. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE EXACT PIPE SIZES, INVERT ELEVATIONS, PRESSURES FOR LOCATIONS OF ANY SEWER, WATER PIPING AND WATER METER WITH CIVIL UTILITIES DRAWINGS, AND ANY OTHER ENGINEER AS APPLICABLE.
- PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE PIPE ROUTING WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS.
- 3. REFER TO MECHANICAL PLANS FOR PLUMBING SPECIFICATION OF MATERIAL, INSULATION AND INSTALLATION REQUIREMENTS.
- 4. CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN COORDINATION AND LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND FIXTURES.
- 5. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CUTTING AND PATCHING.
- 6. ALL NOTCHING, BORING, AND CUTTING OF HOLES IN WALL STUDS AND FLOOR JOISTS SHALL BE
- PERFORMED BASED ON THE LATEST ADOPTED AND APPROVED EDITION OF THE BUILDING CODE.

 7. ALL PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
- 8. ALL WATER PIPING SHALL BE INSTALLED ON INTERIOR SIDE OF THE BUILDING WALL INSULATION.
- 9. CONTRACTOR SHALL PROVIDE VALVES LOCATED ABOVE LAY-IN CEILING OR 24"x24" CEILING ACCESS PANEL COORDINATE FINAL LOCATION AND SIZE WITH ARCHITECT. PROVIDE BALANCING VALVES FOR HOT WATER RETURN SYSTEM AS REQUIRED.
- 10. ALL SANITARY DRAINAGE PIPING 4" AND SMALLER SHALL BE SLOPED AT $\frac{1}{4}$ " PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT.
- 11. ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT AND PROVIDE ACCESSIBLE
- CLEANOUTS AT ALL CHANGES OF DIRECTION.

 12. VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.

 13. REFER TO THE PLUMBING DIAGRAMS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO
- PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM OR NOT.

 14. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING AND SHALL TERMINATE
- VERTICALLY NOT LESS THAN 6 INCHES (152 MM) ABOVE THE ROOF NOR LESS THAN 1 FOOT (305 MM) FROM A VERTICAL SURFACE.

 15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FEET (3048 MM) FROM, OR NOT LESS THAN 3 FEET
- 15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FEET (3048 MM) FROM, OR NOT LESS THAN 3 FEET (914 MM) ABOVE, AN OPENABLE WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT, OR NOT LESS THAN 3 FEET (914 MM) IN EVERY DIRECTION FROM A LOT LINE, ALLEY AND STREET EXCEPTED.

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REVISIONS

WATER SUPPLY LAYOUTS

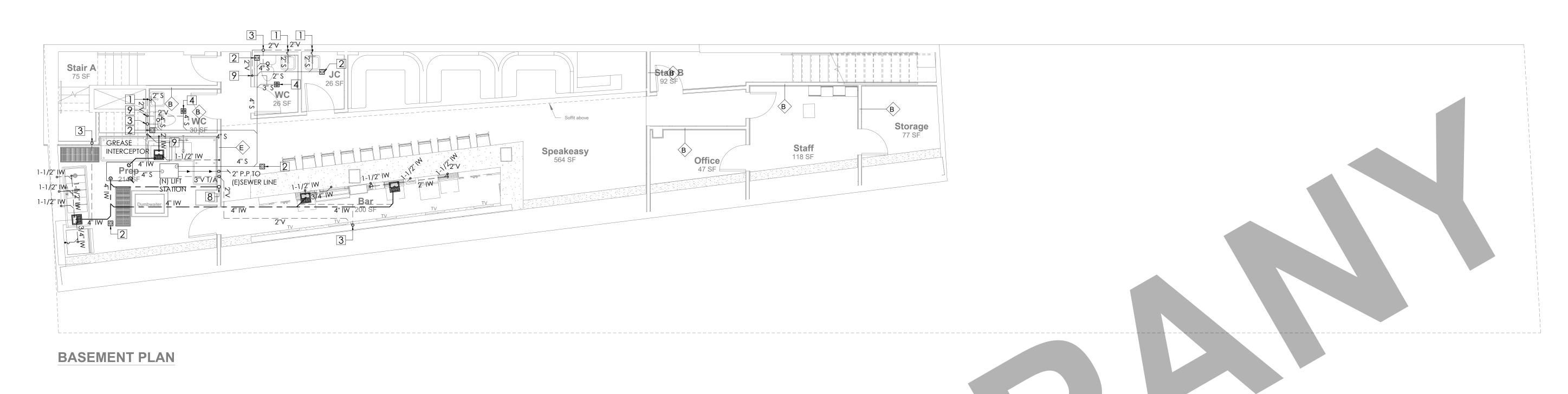
Project Number: 02-021

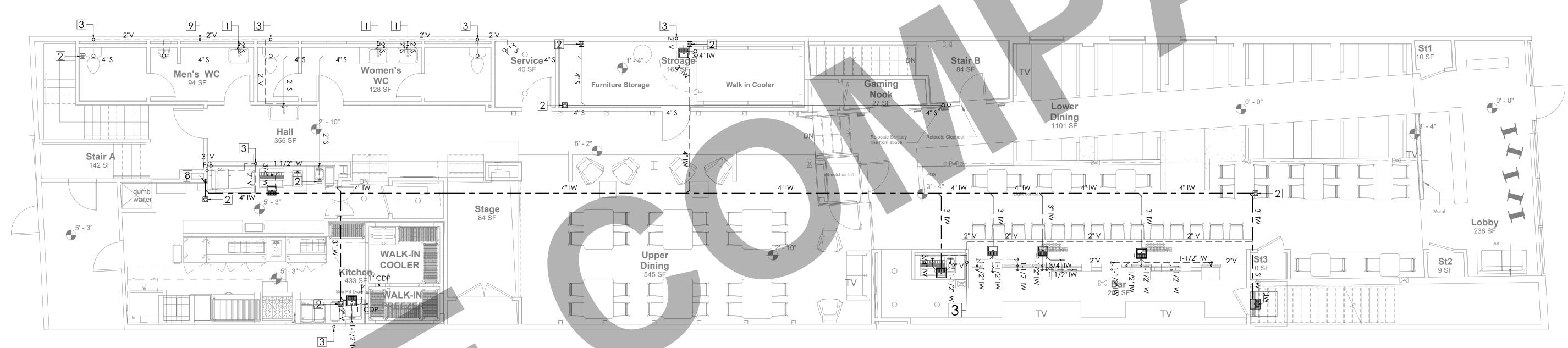
 Date:
 02.28.2023

 Drawn By:
 MN

Client: Walter Green, Uncle Willie's

P 1.01





1st FLOOR PLAN

BASEMENT FROM 2021 NSPC - TABLE 11.4.1: DIRECT WASTE FIXTURE UNIT VALUES (DFU)

	_		
FIXTURE	D.F.U	QTY.	TOTAL D.F.U
SERVICE OR MOP SINK	3.0	1	3.0
WATER CLOSET	4.0	2	8.0
LAVATORY	1.0	2	2.0
TOTAL BUILDIN	IG DFU =		13.0

1ST FLOOR FROM 2021 NSPC - TABLE 11.4.1: DIRECT WASTE FIXTURE UNIT VALUES (DFU)

FIXTURE	D.F.U	QTY.	TOTAL D.F.U
SERVICE OR MOP SINK	3.0	1	3.0
HAND SINK	2.0	1	3.0
WATER CLOSET	4.0	3	12.0
LAVATORY	1.0	3	3.0
URINAL	4.0	1	4.0
TOTAL BUILDING DFU =		22.0	

BASEMENT FROM 2021 NSPC - TABLE 11.4.1: INDIRECT WASTE FIXTURE UNIT VALUES (DFU)

FIXTURE	D.F.U	QTY.	TOTAL D.F.U
DRAINBOARD CABINET	2.0	3	6.0
ICE BIN	1.0	2	2.0
MIXOLOGY UNIT	2.0	1	2.0
SINGLE HAND SINK	2.0	1	2.0
CUBER-AIR-COOLED	1.0	1	1.0
3-COMP SINK	3.0	1	3.0
PRE-RINSE	2.0	3	6.0
DISHTABLE	2.0	1	2.0
TOTAL BUILDIN	IG DFU =		24.0

1ST FLOOR FROM 2021 NSPC - TABLE 11.4.1: INDIRECT WASTE FIXTURE UNIT VALUES (DFU)

FIXTURE	D.F.U	QTY.	TOTAL D.F.U
DROP-IN SINK	2.0	2	4.0
EVAPORATOR BLOWER	1.0	3	3.0
DROP-IN DISPENSER	1.0	1	1.0
DRAINBOARD CABINET	2.0	4	8.0
SINGLE HAND SINK	2.0	2	4.0
ALL-IN ONE STATION	2.0	2	4.0
3-COMP SINK	2.0	1	2.0
DRIPTRAY	1.0	2	2.0
DROP-IN SINK	2.0	1	2.0
ICE-COOLED DISPENSER	1.0	1	1.0
CRESCENT CUBER	1.0	1	1.0
ICE STORAGE	1.0	1	1.0
TOTAL BUILDII	NG DFU =		33.0

1. P

SANITARY SHEET NOTES:

 $2 \longrightarrow 4$ " FLOOR CLEAN-OUT.

 $4 \longrightarrow 3''$ FLOOR DRAIN.

6 WASTE DROP

8 INDIRECT WASTE

GREASE INTERCEPTOR SIZING:

- TOTAL IW. DFU = 57.0

- 57.0 DFU = 57.0 GPM

- 1 DFU = 1.0 GPM

- 1ST FLOOR I.W DFU = 33.0

- 2ND FLOOR IW. DFU = 24.0

AS PER NEW JERSEY PLUMBING CODE 2021:

GREASE INTERCEPTOR SIZE = 1,800 GALLONS.

SIZING OF G.I. SHALL BE FOR MIN. OF 30 MINUTES.

MIN. GREASE INTERCEPTOR SIZE = $57 \times 30 = 1,710$

 $3 \longrightarrow 3$ " VENT STACK TO ABOVE.

 $5 \longrightarrow 4$ " SOIL DROP FROM ABOVE.

 $7 \longrightarrow SOIL DROP AND 4"VENT RISE.$

1 --- WASTE DROP AND 2" VENT RISE.

GENERAL NOTES:

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HOT WATER RETURN SYSTEM AS REQUIRED.

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- 14. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING AND SHALL TERMINATE VERTICALLY NOT LESS THAN 6 INCHES (152 MM) ABOVE THE ROOF NOR LESS THAN 1 FOOT (305 MM) FROM A VERTICAL SURFACE.
- 15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FEET (3048 MM) FROM, OR NOT LESS THAN 3 FEET (914 MM) ABOVE, AN OPENABLE WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT, OR NOT LESS THAN 3 FEET (914 MM) IN EVERY DIRECTION FROM A LOT LINE, ALLEY AND STREET EXCEPTED.

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REVISIONS

SANITARY LAYOUTS.

Project Number: 02-021

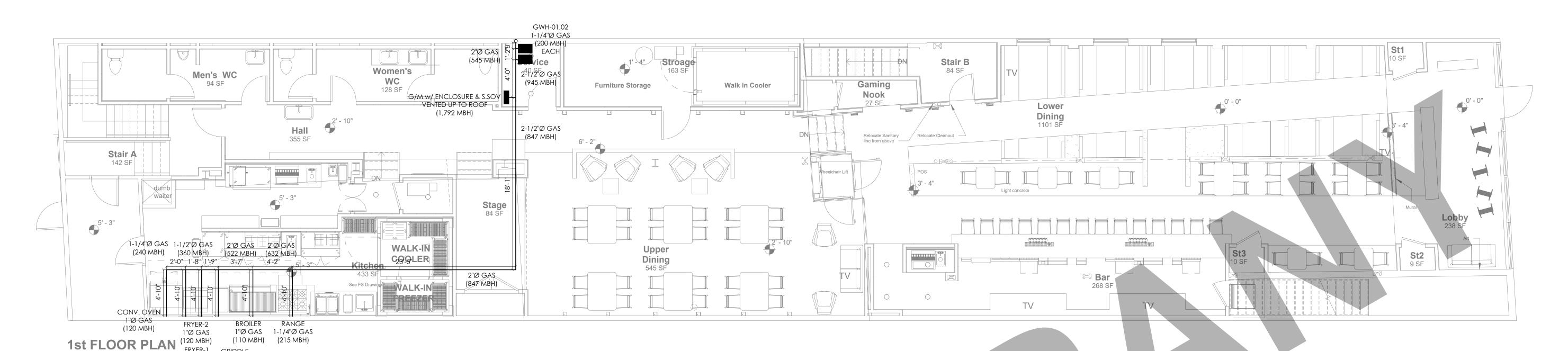
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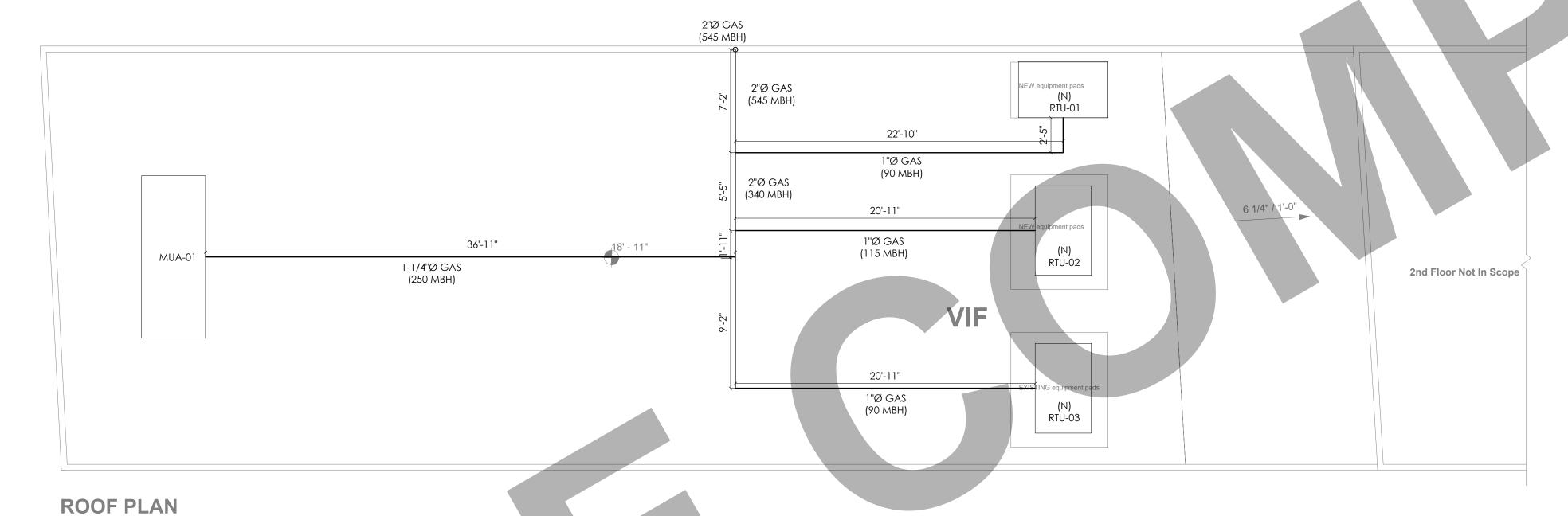
 Drawn By:
 MN

Client: Walter Green, Uncle Willie's

P 2.01

(120 MBH) (162 MBH)





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REVISIONS

GAS LAYOUTS.

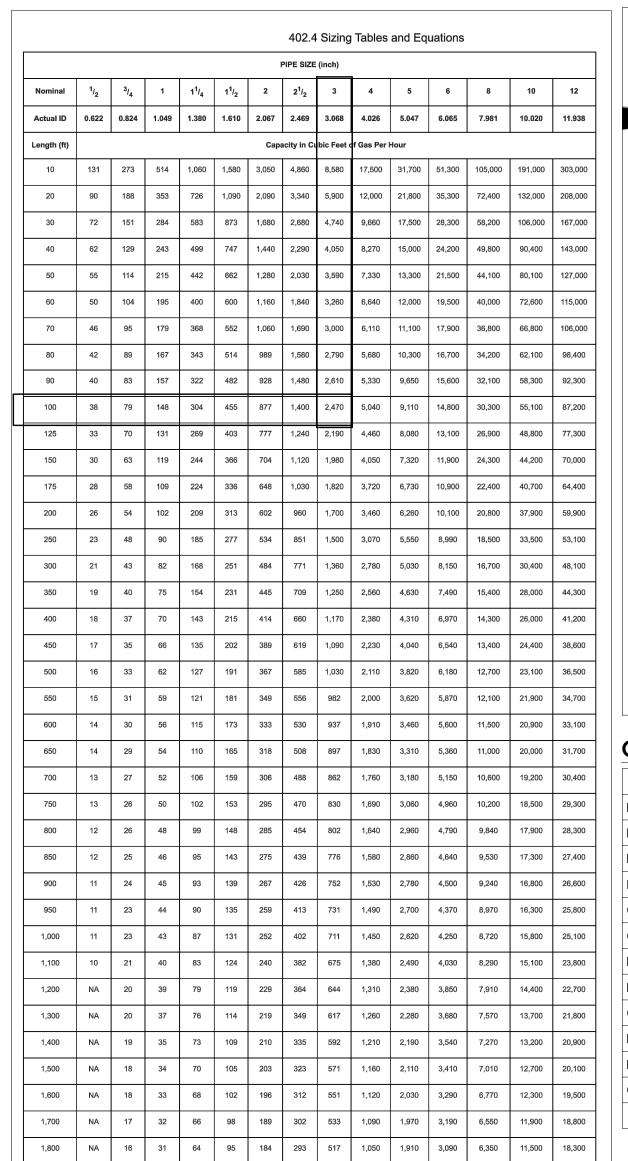
Project Number: 02-021

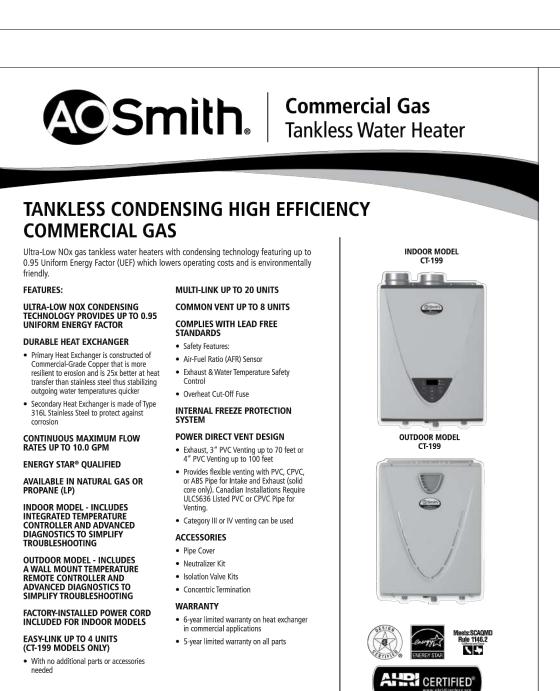
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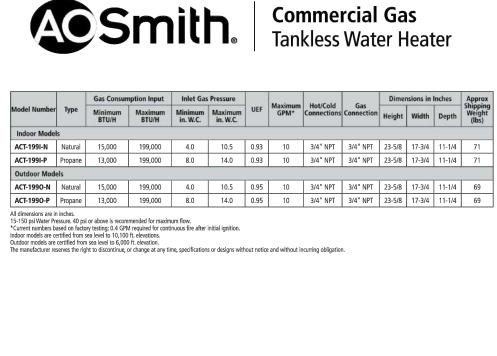
Client: Walter Green, Uncle Willie's

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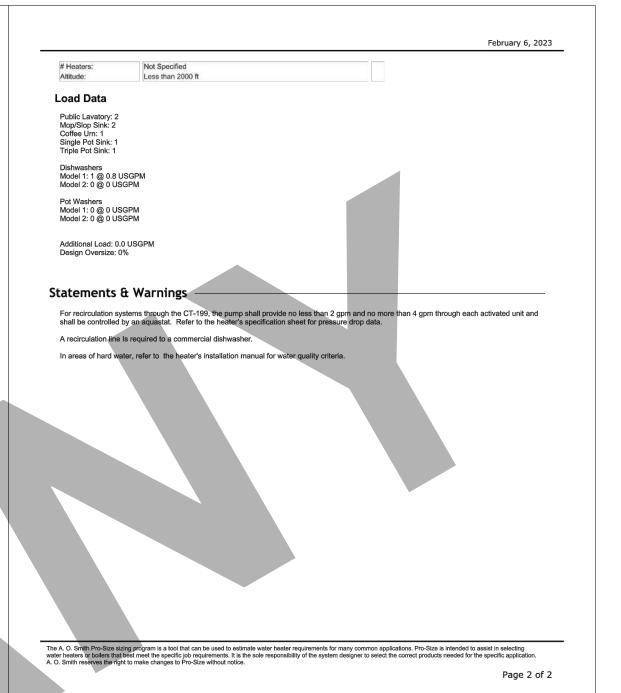
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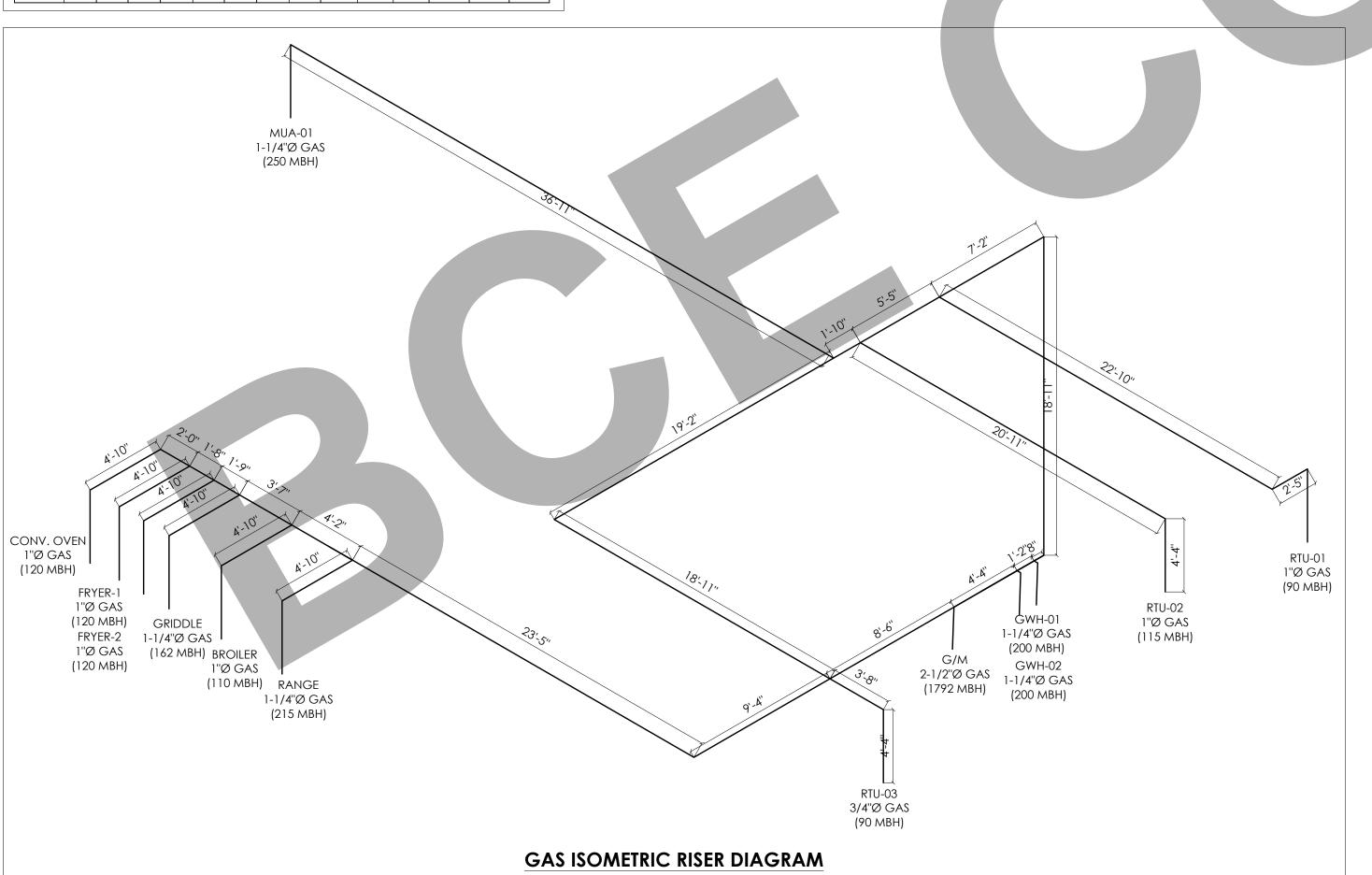


GAS UNITS A	AND MBH:
ITERA	MDII

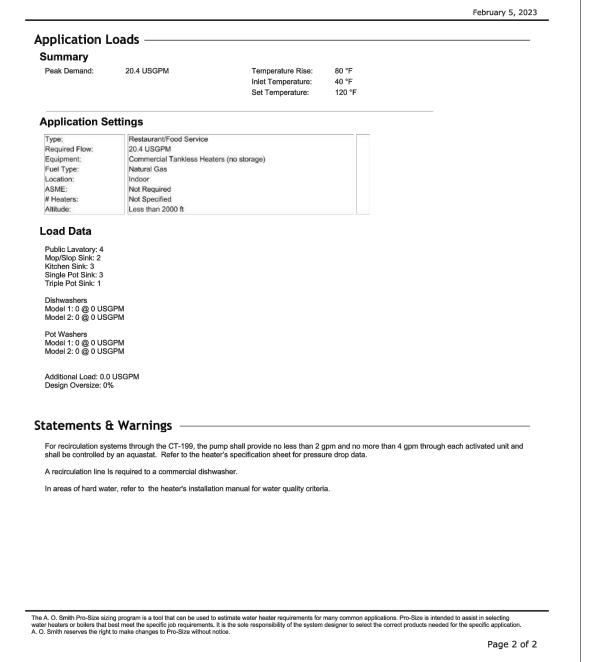
www.hotwater.com | 800-527-1953 Toll-Free USA | A. O. Smith Corporation | 500 Tennessee Waltz Parkway | Ashland City, TN 37015

ITEM	MBH
RTU-01	90
RTU-02	115
RTU-03	90
MUA-01	250
GWH-01	200
GWH-02	200
RANGE	215
BROILER	110
GRIDDLE	162
FRYER-01	120
FRYER-02	120
CONV. OVEN	120
TOTAL =	1792

GAS PIPE MATERIAL IS METALLIC SCHD. 40
GAS PIPE LENGTH FROM G/M TO FARTHEST EQUIPMENT IS APPRX 75 FT.







SCHEDULE No. 1 GAS WATER HEATER SCHEDULE

TAG	GWH-01,02
LOCATION	SERVICE
MANUFACTURER	AO SMITH
MODEL	ACT-199I-N
ТҮРЕ	GAS
GPM (@ 76°F RISE)	3.4
MAX. GAS INPUT (BTU/hr)	15,000 / 199,000
APPROX. WEIGHT (lbs)	71
WIDTH x DEPTH (in.)	17.75" x 11.25"
HEIGHT (in)	23.625"
WATER CONNECTION SIZE	3/4"
GAS INLET CONNECTION	3/4"
RE-CIRCULATING PUMP	INTEGRATED

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GAS RISER DIAGRAM, WATER HEATER SIZING AND SCHEDULE.

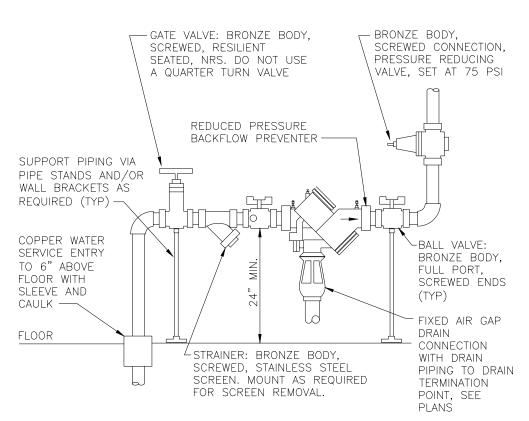
 Project Number:
 02-021

 Date:
 02.28.2023

Client: Walter Green, Uncle Willie's

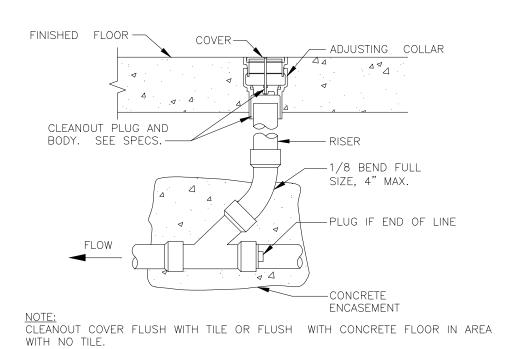
Drawn By:

P 4.01

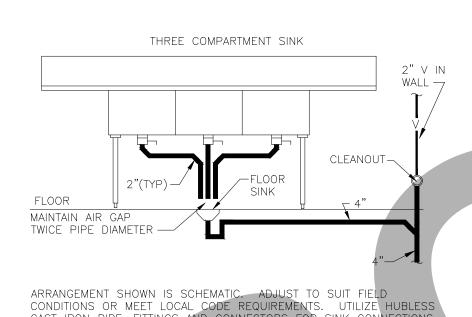


DETAIL SHOWS GENERAL SCHEMATIC REQUIREMENTS, PROVIDE BACKFLOW PREVENTER OF TYPE AND MANUFACTURER APPROVED BY LOCAL AUTHORITIES. PROVIDE PRESSURE REDUCING VALVE ONLY IF PRESSURE EXCEEDS 80 PSI - VERIFY. STRAINER AND REDUCING VALVE MAY BE INSTALLED IN VERTICAL PIPE IF SPACE LIMITATIONS REQUIRE IT. CLEAN STRAINER BEFORE TURNING BUILDING OVER TO OWNER. PROVIDE ANY REQUIRED CERTIFICATION OF TEST OF BACKFLOW PREVENTER

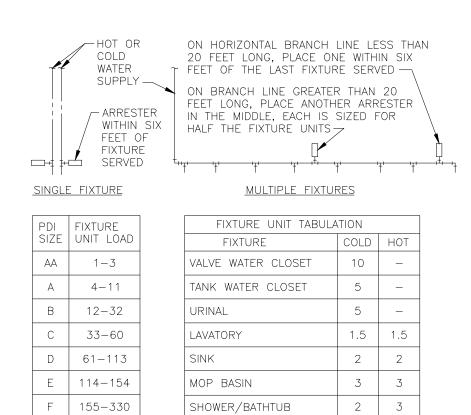
DOMESTIC WATER SERVICE ENTRY



FLOOR CLEAN-OUT
NOT TO SCALE



CAST IRON PIPE, FITTINGS AND CONNECTORS FOR SINK CONNECTIONS.



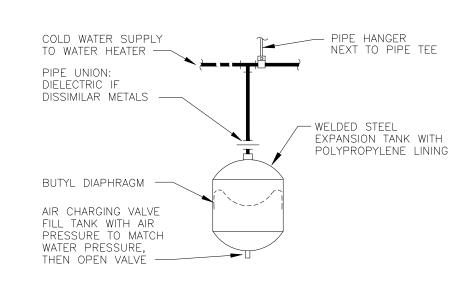
PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 OR ANSI #A112.26.1M CERTIFICATION. SIZE AND INSTALL PER PDI #WH-201 STANDARD OR MANUFACTURER'S INSTRUCTION. THE TABLES ABOVE ARE BASED ON THE SIOUX CHIEF PRODUCT LINE. IF PRESSURE IS IN EXCESS OF 65 PSIG THEN UPSIZE THE

ARRESTER BY ONE (EXAMPLE: AN 'A' ARRESTER WOULD BECOME A 'B' ARRESTER.)

DRINKING FOUNTAIN

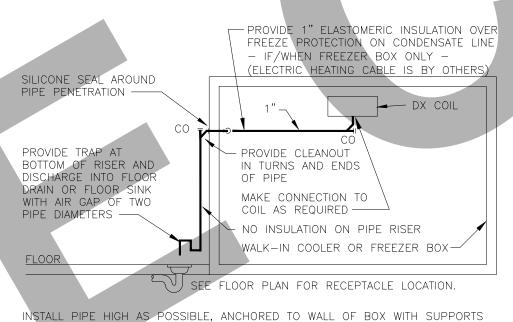
0.5

WATER HAMMER ARRESTERS NOT TO SCALE



PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. MAKE PIPE SAME SIZE AS TANK FITTING. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED EXPANSION TANK INSTALLATION SHALL OCCUR ONLY WHEN THERE IS A BACKFLOW PREVENTION DEVICE INSTALLED WITHIN THE TENANT SPACE WATER SYSTEM OR BUILDING WATER SYSTEM.

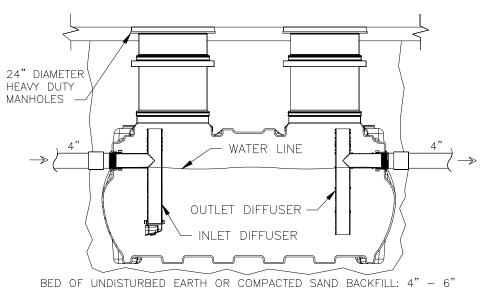
SMALL EXPANSION TANK NOT TO SCALE



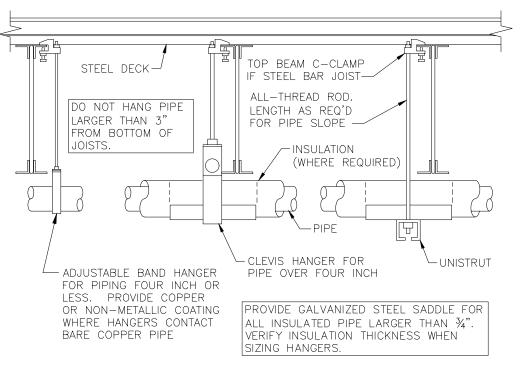
STALL PIPE HIGH AS POSSIBLE, ANCHORED TO WALL OF BOX WITH SUPPORTS MAXIMUM SIX FOOT CENTERS. USE TYPE "M" HARD COPPER TUBE AND TTINGS WITH LEAD-FREE SOLDER JOINTS. SLOPE HORIZONTAL PIPE AT MINIMUM

PERCENT. REFER TO LOCAL CODE FOR INDIRECT DRAIN REQUIREMENTS.

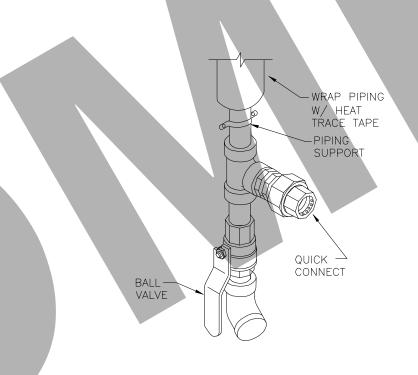
WALK-IN COOLER/FREEZER DRAIN



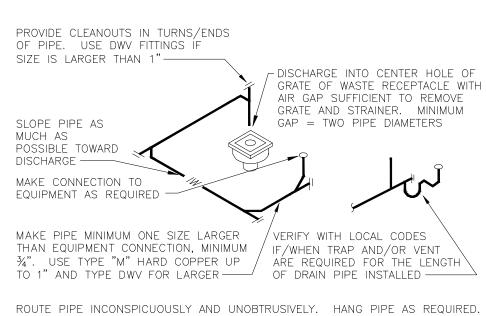
GB-250 - 100 GPM - 277 GALLON CAPACITY: DETAIL SHOWS GENERAL SCHEMATIC REQUIREMENTS. CONTRACTOR SHALL SUBMIT PROPOSED GREASE INTERCEPTOR INSTALLATION PLANS AND SPECIFICATIONS TO LOCAL AUTHORITIES FOR THEIR APPROVAL BEFORE ACQUISITION. SEE MANUFACTURER INSTALLATION MANUAL FOR ADDITIONAL INSTRUCTIONS.



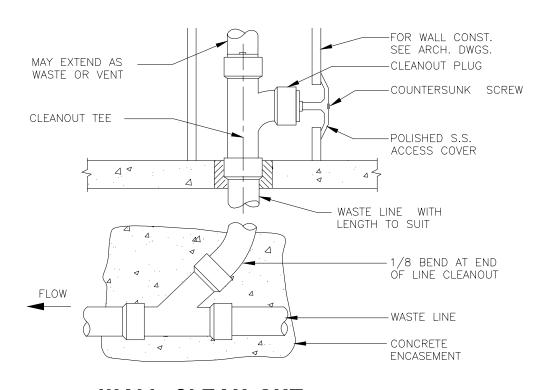
PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12'-0"; 3"=11'-0"; $2\frac{1}{2}"=10'-0"$; 2"=9'-0"; $1\frac{1}{2}"=8'-0"$; 1¼"=7'-0"; 1" & ¾"=6'-0"; ½"=5'-0". CAST IRON: 10'-0" AND ONE NEAR ALL JOINTS. STEEL: 4"=14'-0"; 3"=12'-0"; $2\frac{1}{2}"=11'-0"$; 2"=10'-0"; $1\frac{1}{2}"=9'-0"$; 1"=7'-0"; $\frac{3}{4}$ "=6'-0"; $\frac{1}{2}$ "=5'-0". LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEE JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF ! CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES FOR FURTHER INFORMATION.



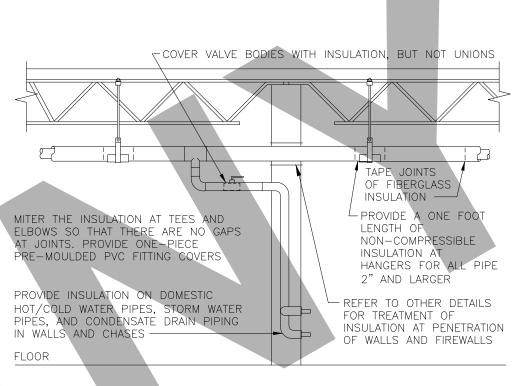
USED COOKING OIL RECOVERY NOT TO SCALF



DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

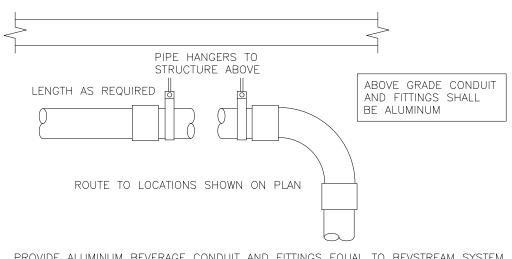


WALL CLEAN-OUT
NOT TO SCALE



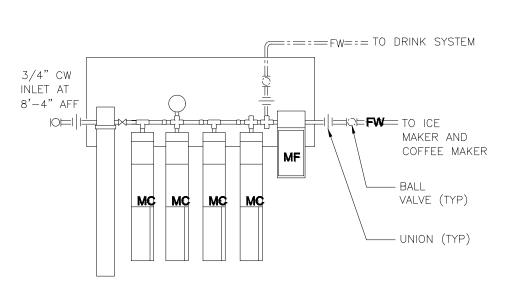
PROVIDE FIBERGLASS INSULATION WITH ALL—SERVICE JACKET WITH VAPOR BARRIER ALL COLD/HOT WATER PIPING AND CONDENSATE DRAIN PIPE. REFER TO ICATIONS FOR FURTHER INFORMATION REGARDING INSULATION. INSTALL ALL ITEMS PER SPECIFICATIONS AND MANUFACTURERS INSTRUCTIONS. MAINTAIN VAPOR BARRIER ON COLD PIPING BY MEANS OF SEALANT AND TAPE. FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES SHALL NOT EXCEED 25/50. SEAL EXPOSED ENDS OF FIBERGLASS INSULATION WITH ADHESIVE MASTIC.

PIPE INSULATION

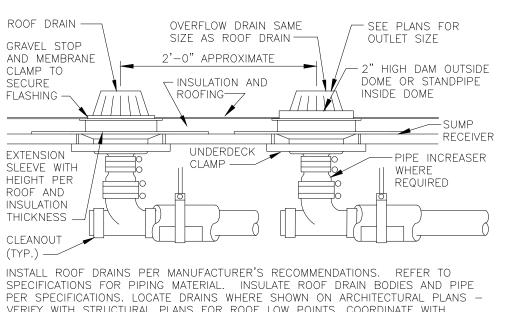


PROVIDE ALUMINUM BEVERAGE CONDUIT AND FITTINGS EQUAL TO BEVSTREAM SYSTEM (WWW.BEVSTREAM.COM). USE MINIMUM QUANTITY OF FITTINGS WITH LONG SWEEP ELBOWS AT BOTH ENDS WITH A MINIMUM RADIUS OF 30" ON 6" OR SMALLER AND 48" ON 8" OR LARGER. AVOID ELBOWS IN HORIZONTAL RUN IF AT ALL POSSIBLE. GENERAL CONTRACTOR SHALL SEAL ENDS OF CONDUIT WITH FOAM AFTER BEVERAGE LINES ARE INSTALL IN CONDUIT. COORDINATE WITH FOOD SERVICE DRAWING FOR EXACT SIZE AND LOCATION OF CONDUIT. CUT CONCRETE FLOOR SLAB, BACKFILL, REPAIR VAPOR BARRIER AND PATCH SLAB PER ARCHITECT'S REQUIREMENTS.

BEVERAGE CONDUIT - ABOVE SLAB NOT TO SCALE



REFER TO KITCHEN EQUIPMENT DRAWINGS FOR FILTER REQUIREMENTS.



VERIFY WITH STRUCTURAL PLANS FOR ROOF LOW POINTS. COORDINATE WITH ROOFING CONTRACTOR, REFER TO STRUCTURAL DRAWINGS AND COORDINATE THEREWITH IF REQUIRED FOR SUPPLEMENTARY STEEL AROUND ROOF OPENING. ARRANGEMENT SHOWN IS SCHEMATIC -- ADJUST TO SUIT ACTUAL CONDITIONS.

ROOF DRAIN AND OVERFLOW NOT TO SCALE

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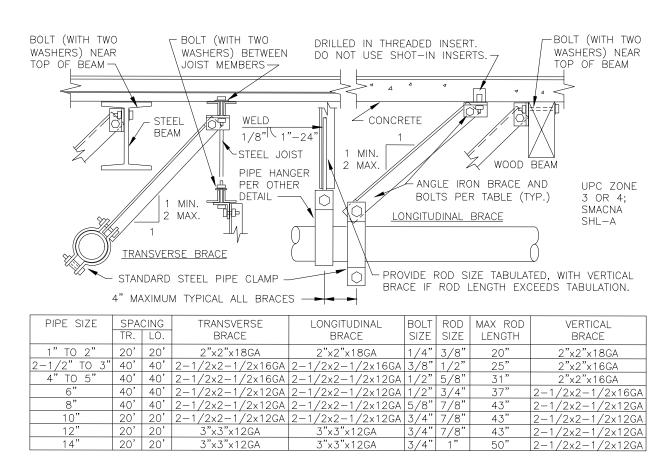
PLUMBING GENERAL DETAILS - 1

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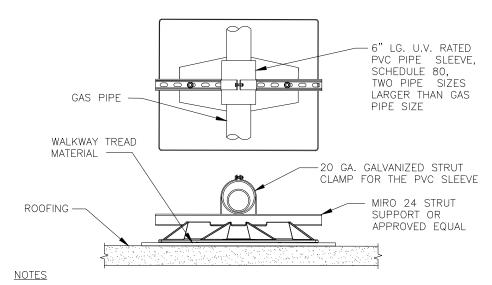
Uncle Willie's

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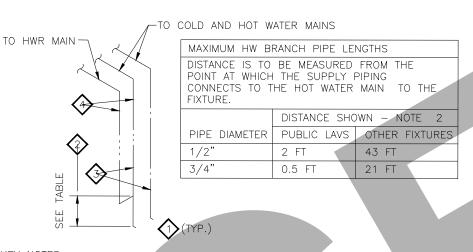
DO NOT BRACE ANY PIPES WHERE TOP OF PIPE TO BOTTOM OF UPPER ATTACHMENT IS LESS THAN 12". BRACE GAS, OIL AND AIR PIPES 1" AND LARGER. BRACE ALL PIPES IN EQUIPMENT ROOMS 1-1/4" AND LARGER. BRACE ALL OTHER PIPE 2-1/2" AND LARGER. BRACE HUBLESS CAST IRON PIPE ON EACH SIDE OF ANY CHANGE IN DIRECTION OF 90 DEGREES OR MORE. MAXIMUM HANGER ROD LENGTH IS 6 FEET. WHERE LENGTH OF RUN EXCEEDS LONGITUDINAL BRACE SPACING, PROVIDE 2 FEET OFFSET IN PIPE AND LOCATE BRACE AT MID RUNS. REFER TO CURRENT EDITION OF SMACNA "SEISMIC RESTRAINT MANUAL" FOR ALTERNATIVE ATTACHMENTS AND ADDITIONAL INFORMATION AND REQUIREMENTS. (THIS DETAIL APPLIES IN THE ABSENCE OF OTHER LOCAL CODE REQUIREMENTS.)

SEISMIC BRACING FOR PIPE



- 1. SUPPORT REQUIRED 10'-0" O.C. AND AT ALL CHANGES IN DIRECTION. 2. INCREASE IN HEIGHT AS REQUIRED FOR ROUTING ABOVE ROOF MOUNTED

ROOF GAS PIPE SUPPORT

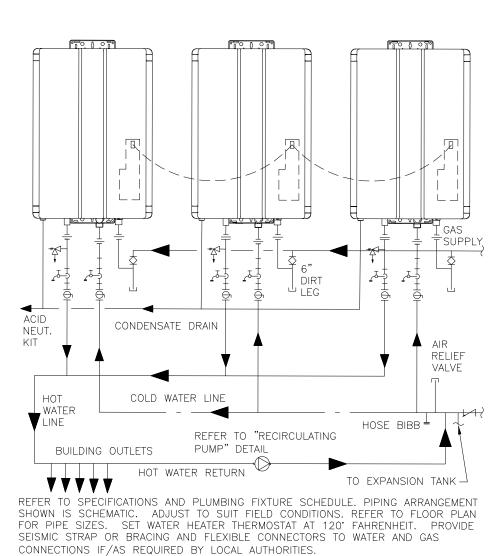


- KEY NOTES

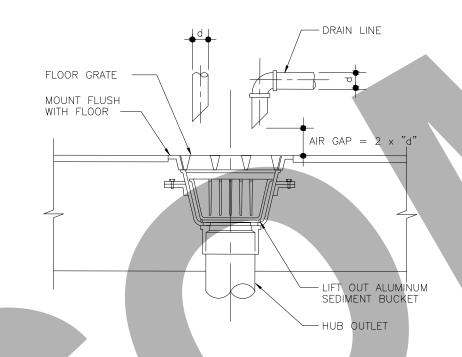
 1. HOT WATER PIPING SHOWN ON FLOOR PLANS AND ISOMETRIC IS SHOWN FOR PLAN CLARITY. HOT WATER PIPING SHALL LOOP DOWN INTO WALL AS SHOWN.

 2. SEE TABLE FOR MAXIMUM ALLOWED DISTANCE OF PIPING FROM HOT WATER MAIN TO FIXTURE.
- 3. PIPE SIZE TO FIXTURE PER PLANS.
 4. PIPE SIZE FOR HOT WATER DISTRIBUTION PIPING PER PLANS.

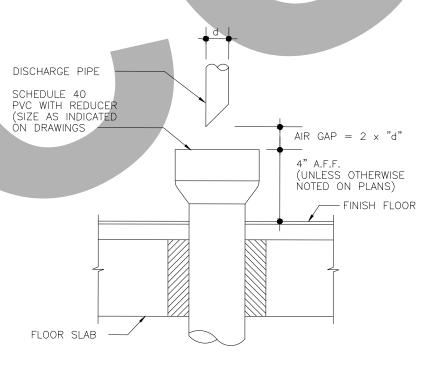
PUBLIC HANDWASHING RECIRC.



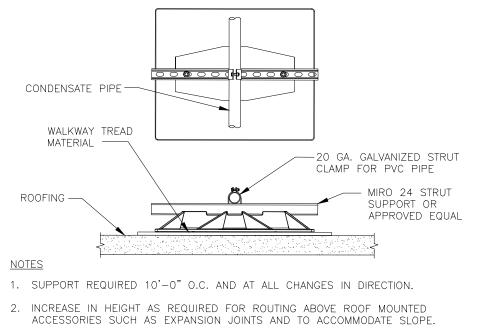
TANKLESS GAS WATER HEATERS NOT TO SCALE



FLOOR SINK NOT TO SCALE



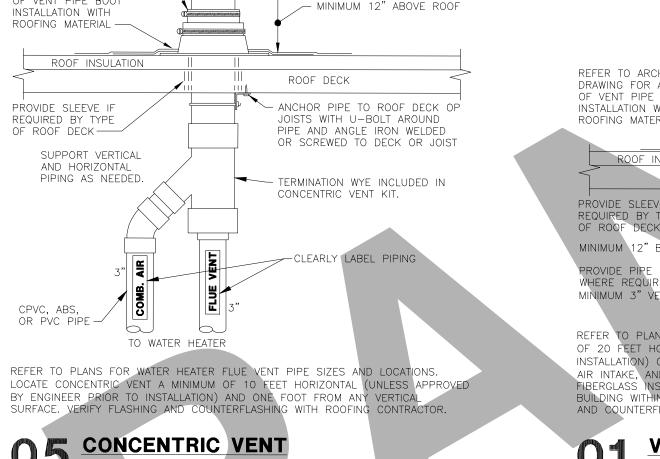
HUB DRAIN



ROOF CONDENSATE PIPE SUPPORT

DRAIN HEAD - DRAIN BODY - INSIDE CAULK

8 FLOOR DRAIN NOT TO SCALE



-TERMINATE WATER HEATER

FLUE VENT THROUGH ROOF

TERMINATION FITTINGS. INSTALL

AND CONCENTRIC VENT

PER MANUFACTURER'S

SPECIFICATIONS

O 5 CONCENTRIC VENT

TO WATER HEATER

GRADUATED STEPPED PVC BOOT,

AND ADJUSTABLE STAINLESS

STEEL CLAMPS. SET BASE IN

ROOF INSULATION

SUPPORT VERTICAL

PIPING AS NEEDED.

AND HORIZONTAL

BED OF MASTIC -

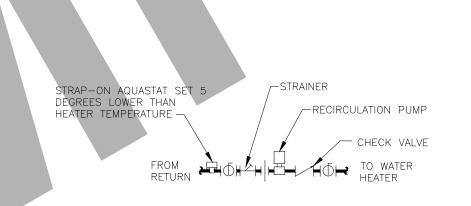
REFER TO ARCHITECT'S DRAWING FOR APPLICATION

OF VENT PIPE BOOT

INSTALLATION WITH ROOFING MATERIAL -

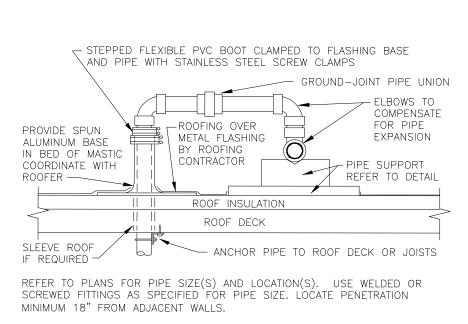
PROVIDE SLEEVE IF

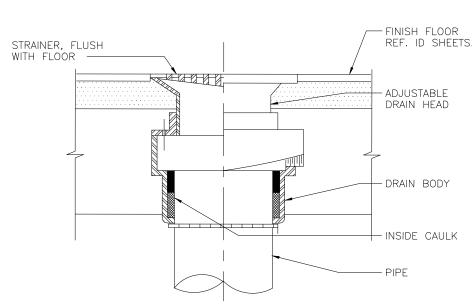
OF ROOF DECK-

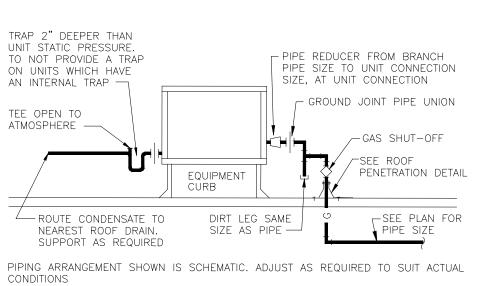


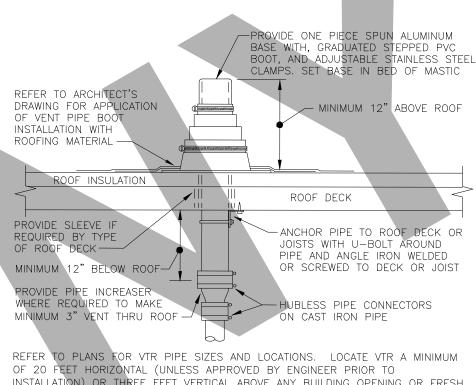
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS REFER TO WATER HEATER DETAIL FOR MORE INFORMATION

RECIRCULATION PUMP NOT TO SCALE



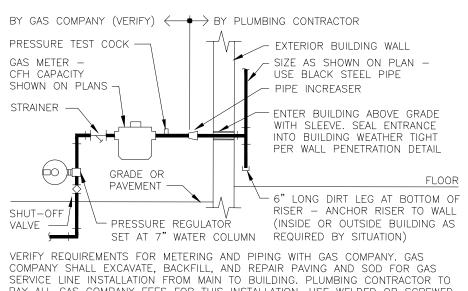






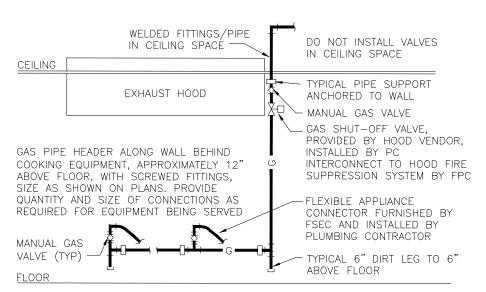
INSTALLATION) OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL—SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. VERIFY FLASHING AND COUNTERFLASHING WITH ROOFING CONTRACTOR.

VENT THRU ROOF (VTR)



PAY ALL GAS COMPANY FEES FOR THIS INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER SPECIFICATIONS. PAINT EXPOSED METAL GAS PIPE, FITTINGS AND ITEMS LIGHT GREEN. PROVIDE SEISMIC GAS VALVE AS REQUIRED; COORDINATE

GAS SERVICE NOT TO SCALE



ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONDITIONS. ATTACH RISER AND HEADER TO WALL WITH 1" CLEARANCE BEHIND PIPE. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION

COOKING APPLIANCE GAS PIPE NOT TO SCALE

PLUMBING GENERAL DETAILS - 2

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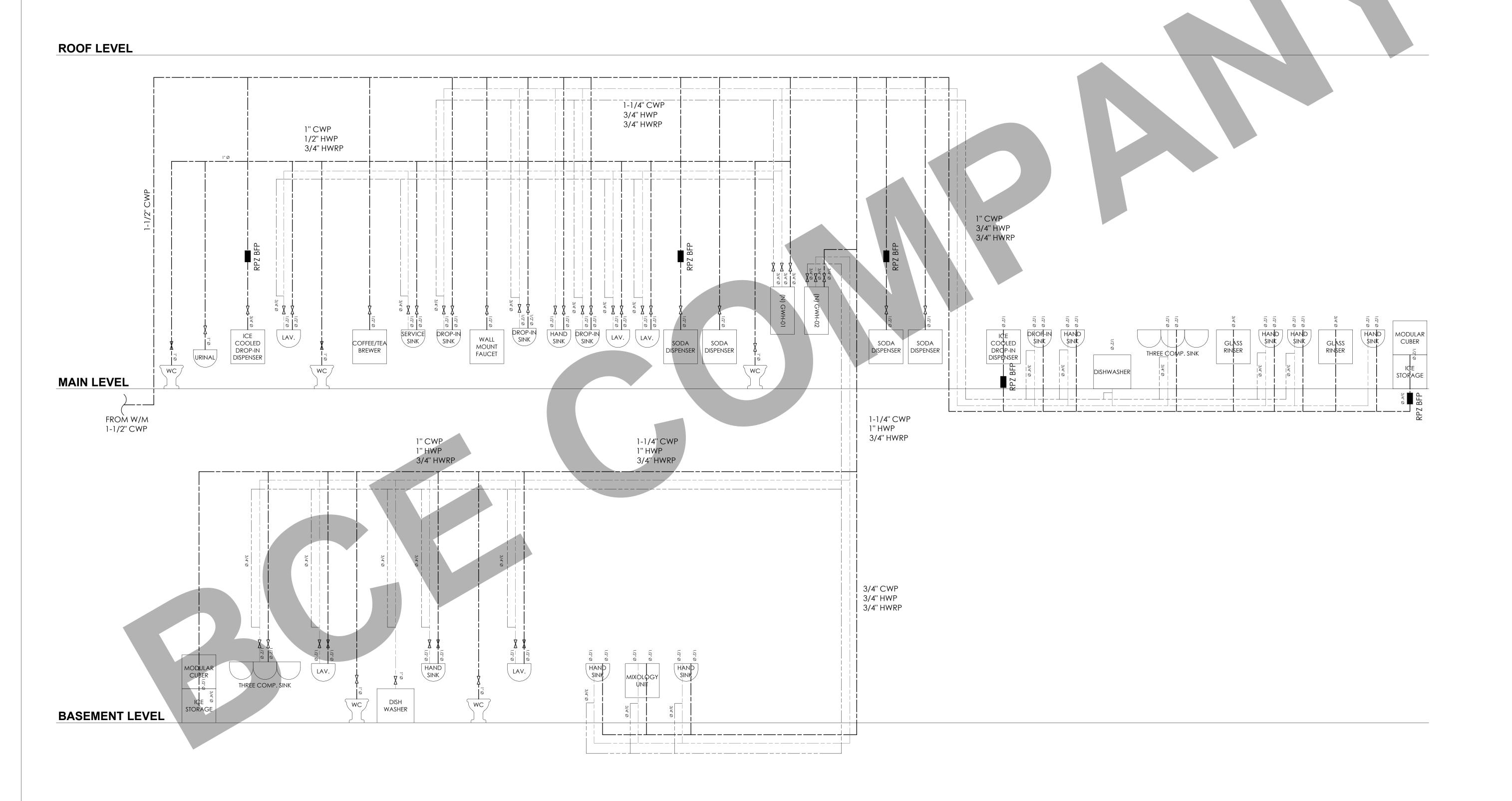
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Project Number: 02-021 02.28.2023

Client: Walter Green, Uncle Willie's

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Drawn By:



WATER SUPPLY RISER DIAGRAM

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Drawn By: MN

Client: Walter Green,

Uncle Willie's

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