A NEW EVENTS CENTER AT **OCONEE SPRINGS PARK** PUTNAM COUNTY BOARD OF COMMISSIONERS

APPLICABLE CODES

BUILDING: 2012 INTERNATIONAL BUILDING CODE / 2014, 2015, & 2017 GEORGIA AMENDMENTS

PLUMBING: 2012 INTERNATIONAL PLUMBING CODE / 2014, AND 2015 GEORGIA AMENDMENTS

MECHANICAL: 2012 INTERNATIONAL MECHANICAL CODE/ 2014 AND 2015 GEORGIA AMENDMENTS

ELECTRICAL: 2017 NATIONAL ELECTRICAL CODE / NO AMENDMENTS

GAS: 2012 INTERNATIONAL FUEL GAS CODE / 2014 AND 2015 GEORGIA AMENDMENTS

FIRE: 2012 INTERNATIONAL FIRE CODE WITH GEORGIA AMENDMENTS

ENERGY: 2009 INTERNATIONAL ENERGY CONSERVATION CODE WITH 2014 AND 2015 GEORGIA AMENDMENTS

LIFE SAFETY: 2012 NFPA 101 LIFE SAFETY CODE WITH GEORGIA AMENDMENTS

HANDICAP: 2010 ADA STANDARDS FORACCESSIBLE DESIGN / GEORGIA AMENDMENTS

BUILDING FEATURES

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CONSTRUCTION TYPE (NFPA 101) TYPE II (0,0,0) FIRE PROTECTION: NOT SPRINKLED NUMBER OF STORIES: ONE GROSS AREA: 1,848 SQUARE FEET **TYPE OCCUPANCY: ASSEMBLY** OCCUPANT LOAD (NFPA 101): 125 NUMBER OF EXITS - 4



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GENERAL NOTES

- 1- COMPLY WITH APPLICABLE STANDARDS OF THE AMERICAN CONCRETE INSTITUTE, STANDARD NO. 318 LATEST EDITION AND ACI DOCUMENT 301, WITH EXCLUSIONS NOTED.
- 2- CONCRETE SHALL BE OF NORMAL WEIGHT (150 PCF) AND SHALL DEVELOP A MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. AIR-ENTRAINING ADMIXTURES, ASTM DESIGNATION C260, WILL BE REQUIRED IN ALL CONCRETE AND COURSE GROUT. INTERIOR SLABS THAT ARE TO RECEIVE A HARD TROWEL FINISH SHALL HAVE NO MORE THAN 3% TOTAL AIR CONTENT. NO MATERIALS WITH FREE CHLORIDE IONS WILL BE PERMITTED. SLUMP SHALL BE 4" (È1")
- 3- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, HAVING A MIN. YIELD POINT STRENGTH OF 60 KSI. ANCHOR BOLTS AND TIE RODS SHALL CONFORM TO ASTM F1554 (GRADE 36) RODS WITH THREADED ENDS AS SHOWN ON DETAILS. NUTS SHALL CONFORM TO ASTM A563.
- 4- DRAINAGE FILL UNDER SLABS ON GRADE: CLEAN UNCOATED GRAVEL OR CRUSHED STONE (NO. 57 STONE), FREE FROM SHALE OR OTHER SOFT MATERIAL. ROLL DRAINAGE FILL THOROUGHLY AND TAMP TO LEVEL OF AT LEAST THE THICKNESS SHOWN WHEN TAMPED AND COVERED WITH VAPOR BARRIER.
- 5- VAPOR BARRIER SHALL BE 6 MILS THICK POLYETHELYNE FILM LAID IN GREATEST PRACTICAL LENGTHS AND LAPPED 12" MIN.
- 6- FIBROUS CONCRETE REINFORCEMENT (REQUIRED IN ALL SLABS ON GRADE): 100 PERCENT VIRGIN POLYPROPYLENE, FIBRILLATED FIBERS CONTAINING NO REPROCESSED OLEFIN MATERIALS AND SPECIFICALLY MANUFACTURED FOR USE AS CONCRETE SECONDARY REINFORCEMENT. VOLUME PER CUBIC YARD SHALL EQUAL A MINIMUM OF 0.1% (1.5 POUNDS). FIBERS SHALL BE MINIMUM S" LENGTH, 80 KSI MINIMUM TENSILE STRENGTH, SP. GR. OF 0.9 AND LESS THAN 100 DENIER. FIBERS ARE FOR THE CONTROL OF CRACKING DUE TO DRYING, SHRINKAGE, AND THERMAL EXPANSION/CONTRACTION, REDUCTION OF PERMEABILITY, INCREASED IMPACT CAPACITY, SHATTER RESISTANCE ABRASION RESISTANCE, AND ADDED TOUGHNESS. FIBER MANUFACTURER MUST DOCUMENT COMPLIANCE WITH APPLICABLE BUILDING CODES AND ASTM C-1116 TYPE III 4.1.3 AND ASTM C-1116 (REF. ASTM C-1018) PERFORMANCE LEVEL I/5 OUTLINE IN SECTION 21, NOTE 17. FIBER REINFORCING SHALL BE PLACED IN THE CONCRETE MIX ONLY AT THE BATCH PLANT. ALL ADDITIONS, MIXING, FINISHING, CURING OR OTHER OPERATIONS RELATED TO THE USE OF THE FIBER MATERIAL SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. ALLOWABLE FIBERS AND MANUFACTURERS ARE FIBERMESH BY FIBERMESH COMPANY, FORTA ECONO-NET BY FORTA CORP., OR GRACE FIBERS BY W.R. GRACE CO.
- 7- USE OF CURING COMPOUNDS IS PROHIBITED FOR INITIAL CURING, INITIAL CURING SHALL BE BY PONDING, CONTINUOUS SPRINKLING, SAND KEPT MOIST OR MOISTURE RETAINING COVER (6 MIL. POLY). CURING PROCEDURE SHALL CONTINUE FOR AT LEAST 7 DAYS AFTER CONCRETE IS PLACED.
- 8- FOUNDATION DESIGN ASSUMES SITE IS LEVELED TO ACCOMODATE MINIMUM FOOTING COVER SHOWN. CONTACT A GEOTECHNICAL ENGINEER TO DEVELOP STRUCTURAL FILL REQUIREMENTS AS NEEDED.

9- SOIL BEARING CAPACITY SHALL BE A MINIMUM OF 2500 PSF.







- 4" THICK 3000 PSI CONCRETE SLAB REINF. WITH FIBERMESH OVER 6 MIL VAPOR

BARRIER, 4" GRAVEL BED AND EARTH

FILL COMPACTED TO 95%

FOUNDATION AND FLOOR SLAB PLAN



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— 4'-0" X 4'-0" X 2'-0"







NOTE: PROVIDE AN ALLOWANCE OF \$6000 FOR THE PURCHASE, INCLUDING SALES TAX AND INSTALLATION OF ALL APPLIANCES. INCLUDED IN THE ALLOWANCE ARE: 1 DISHWASHER **1 REFRIGERATOR** 1 ELECTRIC RANGE **1 GARBAGE DISPOSAL** 1 RANGE HOOD WITH FAN





EXTERIOR:

Ferrous Metals One Coat: S-W) B50N2 Ken Kromik Metal Primer Two Coats: (S-W) B-54 Exterior Gloss Enamel Galvanized Metals One Coat: (S-W) B50W3 Galvite Two Coats: (S-W) B-54 Exterior Gloss Enamel

INTERIOR:

Steel One Coat: (S-W) DTM Acrylic Primer Two Coats: (S-W) DTM Acrylic Finish Coating

Galvanized Metals One Coat: (S-W) B50W3 Galvite Two Coats: (S-W) A-40 Classics 99 Semi-Gloss

Wood (Painted) One Coat: S-W) B49W2 Enamel Undercoater Two Coats: (S-W) A-40 Classic 99 Semi Gloss

Wood (Stain finish) Wood doors, One Coat: (S-W) A48 Interior Stain One Coat: Varnish sand and sealer One Coat: (S-W) A67V1 Marvethane Gloss One Coat: (S-W) A67F1 Marvethane Satin

Gypsum Board One Coat: (S-W) B28Wl Primer Sealer Two Coats: (S-W) Classic 99 Flat Latex

GYPSUM BOARD INSTALLATION: A.Gypsum board shall be installed at locations noted on drawings.

- B.Gypsum board shall be secured to wood studs at 8" o. c. at joints and 12" o. c. in field. Drive screws 3/8 inch from ends or edges of board to provide a uniform dimple 1/32 inch deep.
- C. Gypsum board shall be taped, sanded and ready to receive specified finish.
- D.Casing beads shall be installed where gypsum board abuts other material.
- E. Corner beads shall be installed at all outside corners.
- F. Install wall partition boards horizontally.
- G.Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16- inch open space between boards. Do not force into place.
- H.Locate end joints over supports. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.

- I.Provide sound attenuation blankets in all interior gypsum board/wood stud walls. Extend from bott plate to top plate. Sound attenuation blankets shall be snug fit at joints, against wood studs and at penetrations of pipes thru wall, leaving no open areas. Provide sound/attenuation blankets in gypsum board walls of plumbing chases plumbing chases.
- J.Provide corner guard at all outside corners of gypsum board walls. Bottom at 4" above finish floor. Secure to wall with 3 chrome plated screws on each leg.
- K.Provide control joints in wallboard where length of wall exceeds 30 feet. Control joints shall cut wallboard from top to bottom to control stresses in wallboard. Architect shall approve location of all control joints.
- FINISHING GYPSUM BOARD JOINTS: A. Provide a Level 5 (highest quality) finish to all gypsum board surfaces in accordance with guidelines and procedures outlined in the United States Gypsum Company Gypsum Construction Handbook.





- CAULK







LEFT SIDE ELEVATION

METAL BUILDING RAKE TRIM

REAR ELEVATION

SCALE 1/4" = 1'-0"







SCALE 1/4" = 1'-0"



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SCALE 1/4" = 1'-0"







 $\underline{\text{DETAIL}} \underbrace{\binom{2}{\text{A-7}}}_{\text{SCALE 1'' = 1'-0''}}$ **TYPICAL SIDEWALL SECTION**



4" THICK 3000 PSI CONCRETE SLAB REINF. WITH FIBERMESH OVER 6 MIL VAPOR BARRIER, 4" GRAVEL BED AND EARTH FILL COMPACTED TO 95%

- STAINED CONCRETE

/---- 3/4" ADVANTECH - 2 X 10 FLOOR SYSTEM 5/8" PAINTED GYPAUM BOARD

– METAL BUILDING RAFTER



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Provide all plumbing items indicated on the drawings, described herein or otherwise required for a complete and proper installation, includina:

A. Plumbina fixtures, fittings and equipment.

B. Hot and cold water systems. C. Drain waste and vent piping systems.

D. Indirect waste piping, including all valves, traps, piping and accessories for all equipment. Size per equipment requirements.

Comply with all applicable codes, standards and ordinances, including requirements of the Georgia State Minimum Standard Plumbing Code (2012 International Plumbing Code with all Georgia State Amendments). Georaia State Minimum Standard Gas Code (2012 International Gas Code with all Georaia State Amendments), and the DOJ 2010 ADA Standards for Accessible Design.

The contractor should not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearance. The contractor shall verify all actual dimensions and clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or to actual building construction, shall be made at no additional cost to the owner.

The submission of a bid or proposal will be construed a evidence that the contractor has familiarized himself with the plans and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized unless these difficulties could not have been foreseen, even though proper examination had been made.

Fabrication or ordering of any material or equipment prior to verification of site conditions shall be done at the contractor's risk.

All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings.

Coordinate with all trades and verify all equipment rough-in items and locations with the equipment supplier or contractor. All re-work and corrections required due to lack of coordination shall be the contractor's responsibility, and done at no cost to the owner.

Submit shop drawings and material data submittals to the engineer for approval before installation. No substitutions shall be allowed without prior approval by the engineer. Product data for piping, insulation, valves, specialties and all fixtures and equipment scheduled and specified here.

All equipment and flue materials shall be U.L. listed.

Installation shall comply with manufacturer requirements including all clearances recommended for proper operation of service. All serviceable parts shall be readily accessible.

Below ground sanitary drain, roof drainage, overflow roof drainage, and vent piping shall be solid-wall ASTM D2665 schedule 40 PVC. Install underground, PVC plastic drainage piping according to ASTM D2321. Above ground sanitary drain, roof drainage, overflow roof drainage, and vent piping shall be cellular-core ASTM F891 schedule 40 PVC. Install aboveground PVC piping according to ASTM D 2665. All aboveground piping shall be adequately supported. Sanitary drain, roof drainage, overflow roof drainage, and vent piping shall have PVC Socket Fittings (ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe). Slope at 1/8 inch per foot continuously toward

All above ground domestic water distribution piping shall be ASTM D 2846, SDR11, schedule 40 CPVC with socket fittings. All piping shall be adequately supported. Disinfect all domestic water piping after installation. All underground domestic water distribution piping shall be ASTM D 1785 schedule 40 PVC with ASTM D 2466 PVC socket fittings. Wrap piping larger than 2" in return air plenums with fire barrier plenum rated wrap.

public sewer. Wrap piping in return air plenums with fire barrier plenum rated wrap.

Insulate all above ceiling domestic water piping with 3/4" flexible elastomeric. Flexible Elastomeric Insulation shall be closed—cell, sponge— or expanded—rubber materials. Comply with ASTM C 534, Type I for tubular materials.

Above ground natural gas piping shall be ASTM A53; Type E or S; Grade B; Schedule 40; black steel with malleable iron threaded fitting per ASME 16.3 Class 150. Flexible connectors shall comply be ANSI Z21.24 of copper alloy. Gas stops shall have bronze body with AGA stamp and bronze plug with lever handle. Valves shall be ASME B16.33 with IAS-listed bronze body. Coordinate connection of gas service and installation of meter with gas utility company. All piping shall be adequately supported. Prime & paint all exposed outdoor piping.

HW & CW Valves: Use pipe size valves, as shown below: A. Ball: Spears CPVC True Union.

B. Check: Spears CPVC True Union.

Fixture tailpieces, wall escutcheon, and traps for lavatories and sinks shall be brass tubing, semi-cast, or cast iron: All brass tubing shall be 17 gage, chrome plated. Excemption: If the fixture tailpieces and traps are located in cabinets, the tailpiece & trap shall be schedule 40 PVC. Grid drains for public lavatories. Basket strainers for break room sinks.

Thermometers shall comply with standard ASME B40.200.

Lavatory/ Sink supply fittings: NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components – Health Effects," for supply-fitting materials that will be in contact with potable water. Standard: ASME A112.18.1/CSA B125.1. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type valve with inlet connection matching supply piping. Wheel handle operation. Risers: Chrome-plated, soft-copper flexible tube for exposed applications and ASME A112.18.6, braided- or corrugated-stainless-steel, flexible hose for conceal behind cabinet applications.

Provide ADA Supply and Drain Protective Shielding Guards on ADA fixtures that piping is exposed. Supply and Drain Protective Shielding Guards shall comply with ICC A117.1 and Americans with Disabilities Act (ADA) requirements. Manufactured plastic wraps shall cover hot and cold water supplies, trap, and drain piping.

All pipe hangers, clamps and channels shall be adequately sized to carry pipe loads and prevent sagging.

All other materials not specifically described but required for a complete and proper installation of work of this section, shall be new, first quality of their respective kinds, and as selected by the contractor subject to acceptance by the engineer.

Lay out the plumbing system in careful coordination with the drawings, determining proper elevations for all components of the system and using only the minimum number of bends to produce a satisfactorily functioning system. Follow the general layout shown on the drawings in all cases except where other work may interfere. Unless shown otherwise, lay out all pipes to fall within partition, wall floor, or roof cavities, and to not require furring other than as shown on the drawings.

Do not cut into or reduce the size of any load-carrying member without the prior approval of the architect. Install all pipes to clear all beams and obstructions.

Extend all plumbing vents above roof to parapet height.

Permanently close and make weatherproof any openings or penetrations of the building envelope made for plumbing systems. All wall and floor penetrations shall be sleeved. All exterior wall or foundation wall penetrations shall use a mechanical seal.

Coordinate all roof penetrations with architectural plans and building and roofing trades.

Provide shut-off balls valves and unions at all water connections to equipment and appliances. Provide chrome plate brass stops and rigid chrome plated brass supplies at all fixtures.

pipe.

No work shall be covered until it has been inspected and accepted by the local authority and the enaineer.

Install piping in concealed locations, unless otherwise indicated and except in equipment rooms, and service areas. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal. Install piping to permit valve servicing. Install piping at indicated slopes. Install piping free of sags and bends. Install fittings for changes in direction and branch connections. Install piping to allow application of insulation. Select system components with pressure rating equal to or greater than system operating pressure. Install escutcheons for penetrations of walls, ceilings, and floors. Verify final equipment locations for roughing—in.

All vents thru roof (VTR) shall be offset a minimum of 10'-0" from all outside air intakes.

Provide Plastic Pipe Markers on all aboveground plumbing piping that Comply with ASME A13.1. Minimum information indicating flow direction arrow and identification of fluid being conveyed. Install labeling on pipe at intervals of not more than 20 feet and at least once in each room.

PLUMBING SPECIFICATIONS(CONTINUED)

Isolate all dissimilar metals with "EPCO" dielectric unions, except for brass or bronze valves with steel

Protect the potable water supply against backflow and siphonage from equipment, fixtures, etc., using approved backflow and anti-siphon devices.

Thoroughly clean all piping and equipment. Removing all dirt, rust, oil, and plaster.

Test Sanitary drainage piping by plugging all openings and filling with water to a height equal to a 10 foot head. Allow to stand one hour or longer as required. Repair leaking joints and then re-test.

Test water lines at 100 PSIG. Retain for 24 hours, repair all leaks and retest.

The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. All labor and materials necessary to repair or replace the system, or portions thereof, during that time shall be warranted for a period of one (1) year from the repair or replacement.

Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

Seal fixtures to wall and floor surfaces with sealant, color to match fixture.

Approved manufactures: (Items submitted shall be approved by architect and engineer. Architect and engineer reserve the right to reject any item substituted for basis of design item for any reason.)

China Fixtures: American Standard, Kohler, Toto, Zurn, Sloan

Faucets: Delta, T&S Brass, Chicago Faucets, Zurn, Kohler, Grohe, Moen, Speakman, Symmons

Supplies & Traps: Engineered Brass CO., Mcguire, Charlotte Pipe, Brasscraft, IPS, Watts, Zurn Floor Drains & Cleanouts: Zurn, Jay R Smith, Proset, Watts, Mifab, Wade, Josam, Sioux Chief, Oatey

Water Heaters: A.O. Smith, Lochinar, Bradford White, State, Vaughn

Toilet Seats: Bemis, Centoco, Church Seats, Olsonite, Beneke, Zurn, Mainline

Stainless Steel Sinks: Dayton, Elkay, Just, Kohler, Moen, Sterling, Just ADA Protective Shielding Pipe Covers: Engineered Brass, McGuire, Plumberex, TRUEBRO, Zurn, Oatey Fixture Supports: MIFAB, Jay R. Smith, Wade, Watts, Zurn

Mixing Valves: Armstrong, Leonard, Powers, Symmons, Lawler

Wall Hydrants/ Hose Bibbs: MIFAB, Jay R. Smith, Wade, Watts, Woodford, Zurn

Expansion Tanks: AMTROL, State, Watts, Wilkins Outlet Boxes: Acorn, IPS, Oatey

Brass Valves: American, Crane, Watts, Apollo

CPVC Valves: American, NIBCO, Spears

Air Admittance Valves: Studor. Oatev





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		WA	STE	WATER	SUPPLY	WATER F	IX. CONN.	
#	FIXTURE TYPE	BELOW FLOOR	FIXTURE CONN.	COLD	НОТ	COLD	НОТ	MODEL NUMBER
WC1	TANK TYPE ADA WATER CLOSET WITH RIGHT HAND TRIP LEAVER	3"	3"	1/2"		3/8"		KOHLER K—3999 WATER CLOSET. BEMIS 1655SSCT SEAT
WC2	TANK TYPE ADA WATER CLOSET	3"	3"	1/2"		3/8"		KOHLER K—3999 WATER CLOSET. BEMIS 1655SSCT SEAT
WC3	TANK TYPE WATER CLOSET	3"	3"	1/2"		3/8"		KOHLER K—3999 WATER CLOSET. BEMIS 1655SSCT SEAT
LAV	ADA DROP-IN LAVATORY	2"	1-1/4"	1/2"	1/2"	1/2"	1/2"	KOHLER K-2196-8 LAVATORY. MOEN 9220F05 FAUCET.
SNK	TWO COMPARTMENT SINK	2"	1-1/2"	1/2"	1/2"	1/2"	1/2*	ELKAY NEPTUNE NLX3322104 SINK, MOEN 5923 FAUCET.
OB1	ICE MAKER BOX WITH WATER HAMMER ARRESTOR			1/2"		1/2"		WATER TITE W9701 HA
HB	EXTERIOR HOSE BIBB			3/4"		3/4"		ZURN Z1346
FC0	FLOOR CLEANOUT	4"	4"					ZURN CO-2449. PROVIDE CARPET MARKER FOR CARPET FLOORS
GCO	GRADE CLEANOUT	4"	4 "					ZURN Z1400
MV	MIXING VALVE			3/4"	3/4"	3/4"	3/4"	LEONARD TM-26-LF.
AAV	AIR ADMITTANCE VALVE	1-1/2"	1-1/2"					STUDOR MIN-VENT.
FD	FLOOR DRAIN	3"	3 "					SIOUX CHIEF 842-3-P-NR FLOOR DRAIN. RECTORSEAL "SURESEAL PLUS" WATERLESS TRAP PRIMER.
OB2	DISHWASHER BOX WITH WATER HAMMER ARRESTOR				1/2"		1/2"	WATER TITE AB9302HA.

SHOWER DIMENSIONS SHALL BE COORDINATED WITH ARCHITECT BEFORE INSTALLATION.

	WA	TER HEATER &	TANK SCHEDU	LE						
MARK	MANUFACTURER	MODEL NUMBER	TYPE	GPH @ 100* RISE	GALLON	KW				
WH1	BRADFORD WHITE	RE240S6	Residential electric	19	40	4.5				
ET	ZURN/WILKINS	XT-8	EXPANSION TANK		2.1					
CONTRACTOR SHALL CONSULT THE ELECTRICAL DOCUMENTS FOR VOLTAGE AND PHASE										

	LEGE	END	
	BALL VALVE		COLD WATER
	CHECK VALVE		HOT WATER
	BALANCING VALVE		HOT WATER RETURN
o	PIPE UP		VENT
C	PIPE DOWN		SEWER
PDI-B	- PDI UNIT - WATER HAMMER ARRESTOR	CW	COLD WATER
U.G.	UNDER GROUND	HW	HOT WATER
(TYP)	TYPICAL	HWR	HOT WATER RETURN
N.T.S.	NOT TO SCALE		
VTR	VENT THRU ROOF		

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MECHANICAL SPECIFICATIONS

ductwork with mastic sealant.

1) Provide all heating, ventilation and air conditioning items indicated on the drawings, described in this specification or required for a complete and proper installation.

- 2) Comply with all pertinent codes, ordinances and reaulations. Refer to website community Affairs http://www.dca.state.ga.us/development/constructioncodes/programs/codes2.asp for current Codes Editions.
- 3) The contractor shall not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearances. The contractor shall verify all actual dimensions and clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or the actual building construction, shall be made at no additional cost to the owner.
- 4) Furnish without extra charge, any additional material and labor required to comply with the above codes and standards, even though the work may not be described in the contract documents. Where the requirements of the contract documents exceed the requirements of the above codes and standards, the contract documents shall take precedence.
- 5) All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings and shall be
- 6) Cooperate and coordinate with other trades in order that all systems in the work may be installed in the best arrangement.
- 7) Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Notify Architect of any discrepancies. Do not proceed until unsatisfactory conditions have been corrected.
- 8) Avoid interference with structure, and with work of other trades. Install all equipment per manufacturer's instructions. Install accessible parts, including equipment, coils, valves, dampers, controls, and filters with adequate clearance for inspection, adjustments, repair and replacement.
- 9) All other materials not specifically described but required for a complete and proper installation shall be as selected by the contractor subject to acceptance by the Engineer. 10) All ductwork shall be fabricated from galvanized sheet metal duct and conform to SMACNA "HVAC Duct Construction Standards—Metal and Flexible. Seal all joints in
- 11) Flexible duct: Flexmaster: Atco UPC#30(R-4.2): Atco UPC#31 (R-8) or Thermaflex. Type 3. insulated. 5'-0" Maximum length unless noted otherwise. Class 1 rating with R-value of 4.2 when located inside building insulation envelope and R-8 when located outside building insulation envelope. Install with no more than 135 degrees maximum of total bends per run. Maximum individual bend shall not exceed 45 degrees each. Support at five feet on centers with hangers having at least 2-inches of width at duct contact points.
- 12) Duct Liner: Owens Corning Aeroflex Plus, or equivalent. Incombustible glass fiber complying with ASTM C 1071; flexible blanket; impregnated surface and edges coated with acrylic polymer shown to be fungus and bacteria resistant by testing to ASTM G 21. Apparent Thermal Conductivity: Maximum of 0.31 at 75 degrees F. Service Temperature: 250 degrees F. Density: 1.5 pounds/cubic foot. Install using adhesive (50% coverage) and galvanized steel fasteners with welded press-on head Thickness: 1-inch.
- 13) Condensate drain piping shall be ASTM D2665 PVC with solvent welded fittings. Drain piping shall be no smaller than the drain connection size on equipment. Slope at 1/8 inch per foot continuously toward drains. All indoor condensate drain piping shall be insulated with preformed flexible plastic cellular foam. All outdoor condensate drain piping shall be primed and painted with a coating system recommended by the piping manufacturer for protection against deterioration from weather and UV—light exposure. All piping shall be adequately supported to maintain proper slope and avoid sagging.
- 14) Refrigerant piping shall conform to manufacturer's recommendations and installation instructions. Refrigerant piping shall be ASTM B280 Type ACR or ASTM B88 Type L drawn copper tubing with wrought copper fittings. Insulate suction line with ½" thick flexible foamed plastic cellular foam (Armaflex or equivalent). All piping shall be adequately supported. Insulation installed outdoors shall be painted with two coats of Armacell WB coating or equivalent.
- 15) Thermostats: Provide 24 volt, programmable 24 hour, 7 day thermostat to control heating stages in sequence with delay between stages and supply fan to maintain temperature setting. For Heat Pumps include system selection switch heat-off-cool and fan control switch (auto-on), emergency heat switch (auxiliary/emergency heat indicator lights).
- 16) Provide fire and smoke rated flexible connections between fans and ducts. Material shall comply with NFPA 90A requirements for material in supply air stream.
- 17) Install all equipment in accordance with manufacturer's instructions and recommendations including clearances recommended for proper operation or service. All filters and serviceable parts shall be readily available.
- 18) Indoor duct insulation: Foil-faced fiberglass, Owens Corning type 75 or equal, 2" thick, unless the insulated duct is outside building insulation envelope (attic, crawlspace or unconditioned space) in which case the duct insulation thickness shall be 3" thick. Duct shall have a flame spread rating of not more than 25 and smoke developed rating of not more than 50. Glass-Fiber Insulation: All service duct wrap with foil scrim and having backing and a k-value of 0.30 at 75° F mean temperature and an average maximum density of 0.75 lb/cu. ft.
- 19) All supply, return and outside air ducts shall be insulated. Install acoustical duct liner on the interior surface of the first five (5) linear feet of supply duct downstream and the last five (5) linear feet of return duct upstream of all air handlers and rooftop units. Insulate the concealed tops of all ceiling mounted supply air diffusers with foil—faced fiberglass, 1.5#/cubic foot density, 2" thick. Seal edges to ceiling grid with foil faced tape to provide vapor tight seal.
- 20) All low pressure duct branches shall contain manual balancing dampers. Manual balancing dampers shall also be installed in the continuation of the main, if the main duct is smaller or the same size as the branch duct, or if the continuation of the main serves only one device.
- 21) Make all duct elbows right angle type with single —thickness turning vanes or construct with centerline radius 1—1/2 times the duct width.
- 22) Duct sizes shown on plans are clear, interior dimensions. Duct sizes shown shall be enlarge to allow for liner at locations of interior liner.
- 23) Do not cut into or reduce the size of any structural member without the permission of the Architect.
- 24) Provide weather-proof flashing at all duct and pipe penetrations through the building walls and roof. As a minimum, flashings shall be designed and installed in accordance
- with SMACNA standards. Flashings shall be guaranteed weatherproof for the duration of the guarantee. 25) Support all HVAC units, ductwork, piping and other appurtenances from structure, provide vibration isolation at all fans which are not internally isolated. Provide hanger rod
- with built in rubber-in-shear isolator. Between drain pan and unit provide 4 each rubber-in-shear isolator. Do not attach vibration isolator to drain pan. Do not screw or drive fasteners into non-structural components such as roof decks or non-load bearing walls.
- 26) Thoroughly clean all components and remove all dirt, scale, oil, and other foreign substances. Provide clean air filters for all equipment.
- 27) Perform all tests necessary to demonstrate the integrity of the complete installation to the approval of the Engineer and all other authorities having jurisdiction. Make all adjustments necessary and balance the completed system in accordance with the data shown. Balance the systems in accordance with NEBB or AABC standards. Acceptable tolerances shall be minus ten percent to plus five percent of all measurements. Balancing shall be done by an independent licensed (by NEBB or AABC) TAB contractor. Make the following tests and submit reports to the Architect:
- a) Airflow rate at each supply, return and exhaust outlet or inlet.
- b) Total airflow rate and total static pressure for each supply and exhaust fan. Test exhaust fans with room doors closed.
- c) Motor speed, for multiple speed fans (e.g. high, medium, low). d) For direct drive fans, provide speed settings and actual rpm, including ECM motor driven fans
- e) Provide fan and motor rom for belt driven fans. Provide sheave sizes.
- f) Outside airflow rate to each HVAC unit and supply fan.
- g) Motor current (and compare with nameplate data) at all motors.
- h) Entering and leaving air dry-bulb and wet-bulb conditions at all cooling coils
- i) Heat output capacity for unit heaters, heating devices and coils (kW or MBH).
- i) Manufacturer, model and serial number for each piece of HVAC equipment scheduled on drawings.
- k) Calibrate thermostats to be within one degree of actual temperature at thermostat.
- I) Verify that all HVAC devices operate as scheduled or indicated (i.e. ON-OFF, 2-stage, variable output (SCR heaters), etc.

28) The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. Compressors shall include a minimum of five (5) year parts only warranty from the manufacturer. All labor and materials necessary to repair or replace the system or portions thereof, during that time shall be warranted for a period of one (1) year from the repair of replacement.

29) SUBMITTALS AND SUBMITTAL PROCEDURES:

- b. Transmit each submittal electronically in PDF format
- included in file.
- a. Deliver submittals electronically to the Design Professional.

- k. Provide space for the Contractor and the Architect/ review stamps.
- n. Submittals not requested will not be recognized or processed.

30) Instruct Owner's representative in the operation of the systems, using the operation and maintenance manual as a teaching aid.

- equivalent) wired to shut unit down in case of condensate overflow.
- relav.
- normal range, unless otherwise indicated.
- shapes and plates: steel shapes complying with ASTM A 36/A 36M.
- ASTM C 920, type S, grade NS, class 25, use 0.

- 44) Acceptable Manufacturers are:

Air Handlers & Heat Pumps. Packaged Units: Carrier, Trane, York, Lennox.

Louvers/Dampers/Fire Dampers: Controls-provided with unit

- e. Manufacturers' warranties.

- and bird screen. Provide normally closed gravity backdraft damper.

Fans:

a. Contractor shall review the submittal data and check for the purpose of compliance with safety requirements, verification of dimensions, contract documents and methods and means prior to submitting to design professional. Contractor shall indicate approval by indicating such on the submittal.

c. Sequentially number submittal files and transmittal form. Revise submittals with original number and a sequential alphabetic suffix. File names shall describe item

d. Identify Project, the Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy. Each file shall include an index of items included in file. e. Apply the Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

f. Submittal data for all items in project shall be submitted at one time. Submittal shall be divided into groups with file sizes not exceeding 6 MB. If there is unavailable data such as control submittal, etc., these may be submitted later if not doing so would delay project progress. Data shall include capacities, complete installation instructions, dimensional data and electrical data, BHP, motor HP, operating weights and load distribution at mounting points.

h. Schedule submittals to expedite the Project, and coordinate submission of related items.

i. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

j. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

I. When revised for resubmission, identify all changes made since previous submission. m. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

o. Provide files containing only related items (such as piping, equipment, air distribution, etc.)

31) Provide an operation and maintenance manual. As a minimum, the manual shall contain:

a. A complete list of all equipment and appurtenances with equipment designations (per Drawings), manufacturers, and catalog numbers. b. Copies of manufacturers' brochures and instructions for operation and maintenance of all mechanical equipment, including replacement parts lists. c. Typed system operation and maintenance instructions, including inspection, lubrication, and service instructions and schedules. d. List of names, addresses and phone numbers of distributors of all equipment and appurtenances.

32) Horizontal Air Handler unit: Indoor fan-coil unit shall be direct-expansion horizontal heat pump air handler with electric strip heat suspended from structure with auxiliary drip pan and condensate drain. Provide float switch in drip pan to shut down unit if pan begins to fill. Unit shall be complete with cooling coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral temperature sensing. Cabinet shall be fully insulated for improved thermal and acoustic performance. Condensate pan shall have internal trap and auxiliary drip pan under coil header. Provide condensate trap recommended by manufacturer. Air filters shall be 1 inch thick alass fiber, disposable type arranged for easy replacement. Provide number of stages as scheduled. Provide condensate overflow switch (Rectorseal Safe-T-Switch Model SS1 or

33) Air Source Heat Pumps (HP-1, 2, 3): outdoor-mounted, air-cooled split system outdoor section suitable for rooftop installation, consisting of a hermetic compressor, an air-cooled coil, propeller-type blow-thru outdoor fans, accumulator, full refrigerant charge (R-410A), and control box. Unit shall function as the outdoor component of an air-to air cooling system and used in a refrigeration circuit matched to the indoor unit. Unit construction shall comply with ANSI/ASHRAE 15, latest revision, the NEC, and UL standards. Unit shall be equipped with Refer to Schedule on Drawings for additional specifications.

34) Provide a duct smoke detector on the supply duct of each air handling unit or rooftop unit with design airflows exceeding 2,000 CFM, and where smaller air handling units serve common areas and the sum of these air handling units' airflows exceed 2,000 CFM. Install detector in accordance with the International Mechanical Code with Georgia Amendments. Detectors shall be provided by the electrical/fire alarm subcontractor and shall be installed by the mechanical subcontractor. For other fans, such as exhaust fans with design airflows exceeding 2,000 CFM, coordinate with the electrical/fire alarm subcontractor to provide room or duct smoke detectors. Provide contacts to automatically shut down all such fan motors when smoke is detected, to indicate detector status to the fire alarm system, and to require a manual reset of the shut-down

35) Grilles, Registers and Diffusers: Grilles, registers, and diffusers as indicated on the drawings have been selected from the catalog of the manufacturer noted as the basis of design. Sizes, types, and performance of the devices to be provided must be coordinated to insure conformity with design basis. Sidewall supply grilles and registers shall have vertical front blades; sidewall return grilles shall have horizontal blades. Grilles and registers with borders shall have felt or rubber gaskets cemented to the back face and holding screws not over 18 inches on centers around the perimeter. Holding screws shall be counter-sunk to fit flush with face of grille or register. Grilles passing air through partitions shall be as described for wall return grilles, one for each side of partition. Register dampers shall be of the gang-operated, opposed blade type, operated through the face of the register. Operating mechanism shall not project through the register face. Mounting frame shall be coordinated with architectural reflected ceiling plans. Construction shall be of steel or aluminum as scheduled, with frame type to match ceiling construction. Sidewall supply grilles and registers shall be double-deflection type, with vertical front vanes. Construction shall be of steel, with 3/4 inch blade spacing. Return air grilles, return air registers, exhaust grilles, exhaust registers and transfer air grilles located in ceilings shall be constructed of aluminum with "egg-crate" design, with 1/2 inch x 1/2 inch x 1/2 inch x 1/2 inch grids. Frame style shall be compatible with ceiling construction. Install wall grilles and registers with horizontal edges parallel to ceiling. Concentric diffuser assemblies at roof top units shall have paint-ready exterior finish and 1-inch lined supply and return ducts that transition to diffuser size within 24 inches vertically of the bottom of roof top unit curb.

36) Basic motor requirements: basic requirements apply to mechanical equipment motors, unless otherwise indicated. Motors 1/2 hp and larger: Polyphase, unless otherwise scheduled. Motors smaller than 1/2 hp: single phase. Frequency rating: 60 Hz. Service factor: according to NEMA MG 1, general purpose continuous duty, design type "B." Enclosure: open drip-proof, unless otherwise indicated. Efficiency: motors shall have a higher efficiency rating than industry standard average motor as delineated in IEEE Standard 112, test method 13. Thermal protection: where indicated or required, internal protection automatically opens power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal protection device automatically resets when motor temperature returns to

37) Hanaers and supports: Building attachments: concrete inserts or structural-steel fasteners appropriate for building materials, and beam clamps. Hanaer materials: galvanized, sheet steel or round, threaded steel rod. Hangers installed in corrosive atmospheres: electrogalvanized, all-thread rod or galvanized rods with threads painted after installation. Straps and rod sizes: comply with SMACNA's "HVAC Duct Construction Standards——Metal and Flexible" for sheet steel width and thickness and for steel rod diameters. Duct attachments: sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials. Trapeze and riser supports galvanized steel

38) Sealant materials: joint and seam sealants, general: the term "sealant" is not limited to materials of adhesive or mastic nature but includes tapes and combinations of open-weave fabric strips and mastics. Joint and seam tape: 2 inches wide; glass-fiber fabric reinforced. Joint and seam sealant: one-part, nonsag, solvent-release-curing, polymerized butyl sealant, formulated with a minimum of 75 percent solids. Flanged joint mastics: one-part, acid-curing, silicone, elastomeric joint sealants, complying with

39) Gravity Ventilators: Heavy gauge arched sheet aluminum with interlocking seams or spun aluminum with base for curb mounting. Provide matching pre-fabricated roof curb

40) All HVAC equipment such as AH, CU, EF, AC, HP, and RTU shall have visible nameplates with their associated marks on them.

41) Louvers: 4" deep, 12 gauge (0.081) etched and 30 minute clear anodized extruded aluminum, drainable blades and frame; back mounted 1/2" mesh 19 aauae screen: flanae frame. Louver shall be rated for no water carry-through at 900 face velocity, 0.15" maximum pressure drop for 4-foot square sample tested according to AMCA Standard 500, 1973. American Warming LE-33 (alum.); Ruskin [ELF-6375D; Louvers & Dampers IEL-6; Industrial Louvers 653 alum.; Vent Products #4650; Shipman LE-33 (alum.); Arrow United EA615-D (alum.); Greenheck ESD-403. Provide adapter to match corrugations in metal panel.

42) Ceiling Ventilator shall have corrosion resistant galvanized steel housing with four-point mounting capability. It shall be ducted to a cap on wall using 8" round ductwork. Blower assembly shall be removable, have a centrifugal-type blower wheel and a permanently lubricated motor designed for continuous operation. Non-metallic damper/duct connector shall be included. Air delivery shall be no less than scheduled and sound level no greater than scheduled. All air and sound ratings shall be certified by HVI. Ceiling ventilator shall be Energy Star® qualified and have an energy efficient permanent split capacitor motor.

43) Kitchen Hood (KH-1): Provide under cabinet kitchen hood as scheduled. Kitchen hood shall be 30" wide. Hood shall have UL rated, class 2 filter located in the middle of the hood. Provide Grease filter GD-06, and Charcoal Filter CF-06. Hood body shall be made of 24 gauge, grade 430 stainless steel. Painted hood shall be 23 gauge cold rolled commercial grade (CRCQ) steel, Auto welded. Hood shall have fully enclosed PSC 4 pole motor. Variable speed, thermally protected, permanently lubricated. Rated 115/120 Volts, 60 Hz. Hood shall have enclosed in a polycarbonate lens, 60 watt max. Type A15 appliance lamp, complete with night light setting. Hood shall exhaust to outside by 10"x4" exhaust duct thru wall or 7" round ductwork thru roof or wall as per drawing. Provide duct adapter and damper. Provide Stainless steel finish for the hood.

Grilles, Registers & Diffusers: Titus, Nailor, Price, Tuttle & Bailey (Color selection submitted to Architect)

Twin-City, Cook, Greenheck, PennBarry, Acme, American CoolAir

United Enertech, Greenheck, Ruskin, Arrow United, Lloyd Industries (Color selection submitted to Architect) Provide thermostats by same manufacturer as equipment

AMERIC OF A WC=	IEMBER AN INSTITUT RCHITECTS N S PLAN E OR S PLAN E OR E OR E OR E OR E OR E OR E OR E OR	
ENTS CENTER AT	PRINGS PARK	F COMMISSIONERS EATONTON, GA.
A NEW EVI	OCONEE S	TNAM COUNTY BOARD O

DATE: 4-27-18

		KITCHEN	HOOD SCHEI	DULE								SPL	lt syste	MAIRH	IANDLER S	CHEDULE			
	CEM	WIDTH		LAY_OUT BASIS			τοται	04	MOTOP				COOLING - D	Х	HEATING	DOWER	WEICHT	LAY-OUT BASIS:	
MARK	HI/LO	IN	VOLITS/TT	AIRKING MODEL	REMARNS	MARK	CFM	CFM	H.P.	S.P.	SENS	TOTAL	EADB/	LADB/	ELECTRICAL	VOLTS/PH	(LBS)	CARRIER	REMARKS
KH-1	250/150	30"	120/1	QZ SERIES	1: 2: 3: 4: 5					(IN W.G.)	MBH	MBH	(⁰ F)	(°F)	HEAT (KW)			MODEL NO.	
	,					AH-1	700	100	1/2	0.55	18.0	23.0	77.0/64.0	55/54	3.8	208/1ø	200	FV4CNF002L00	1: 2: 3: 4: 5: 7: 8
						AH-2	1750	315	3/4	0.60	45.0	54.0	78.0/65.0	55/54	7.5	208/1ø	200	FV4CNB006L00	1: 2: 3: 4: 5: 6: 7: 8
2. Hood to be ex 3. provide roof (4. verify electric 5. provide stinles	1. WIRE FLO 2. VERIFY E 3. PROVIDE 4. PROVIDE 5. FLOAT AG	AT ACTIVATED LECTRICAL REQ CONDENSATE T FLOAT ACTIVAT CTIVATED COND	DRAIN PAN UIREMENTS RAP(S) AS TED CONDEN ENSATE SW	SWITCH IN WITH ELECT RECOMMENI SATE SWITC TCH SHALL	Series with Rical Plan Ded by Man Ch Wired TC Be Providi	+ J.U H DRAIN OU S WHICH TA NUFACTUREF SHUT AIR ED AND INS	JTLET SWITC AKES PRECI R AND ROU HANDLING STALLED BY	H. EDENCE OVER TE CONDENSA UNIT DOWN II HVAC CONTR	This infor The Piping NCASE of (MATION. TO OUTSIDE. CONDENSATE OVE	ERFLOW. SWITC	сн то ве 1	OCATED IN THE DRAIN	PAN BELOW UNIT.					
	FIRE SUP	PRESSION	SYSTEM FO	r kitchen ho	OD	6. INSTALL 7. VARIABLE 8. PROVIDE	DUCT SMOKE D SPEED AIR-H A SINGLE POIN	ETECTOR RE ANDLING UN T CONNECTI	EFER TO ME IT WITH ECI ION.	CHANICAL F M MOTOR.	PLAN FOR L	OCATION.							
MARK	SERVES	GURE	LAY-OUT BAS DIAN SAFTY SOLUT	sis: Nons, INC	REMARKS	9. DUCT SM	OKE DETECTORS	5 SHALL BE	PROVIDED	BY ELECIRI	CAL CONTR	ACTOR ANL	INSTALLED E	SY HVAC CU	IN IRACIOR.				
FS-1	KH–1		GURDIAN III	1: 2: 3: 4	AIR COOLED HEATPUMP UNIT SCHEDULE														

		KITCHEN	HOOD SCHE	DULE								SPL	lt systi	EM AIR	HANDLER SO	CHEDULE			
MARK	CFM	WIDTH	VOLTTS/PH	LAY-OUT BASIS:	REMARKS		TOTAL	OA	MOTOR	EXTERNAL			COOLING -		HEATING AUXILIARY	POWER	WEIGHT	Lay-out basis:	RFMARKS
	HI/LO	IN		AIRKING MODEL		MARK	MARK CFM CFM		H.P.	S.P.	SENS	TOTAL	EADB/		ELECTRICAL	VOLTS/PH	(LBS)	CARRIER	
KH–1	250/150	30"	120/1	QZ SERIES	1: 2: 3: 4: 5					(IN W.G.)	MBH	MBH	(⁰ F)	(°F)	HEAT (KW)			MODEL NO.	
						AH-1	700	100	1/2	0.55	18.0	23.0	77.0/64.0	55/54	3.8	208/1ø	200	FV4CNF002L00	1: 2: 3: 4: 5: 7: 8
						AH-2	1750	315	3/4	0.60	45.0	54.0	78.0/65.0	55/54	7.5	208/1ø	200	FV4CNB006L00	1: 2: 3: 4: 5: 6: 7: 8
1. FILTER FOR TH 2. HOOD TO BE E	i e kitchen hood to be i Exhausted to outside h	LOCATED IN THI IORIZONTALLY T	e Middle. Hru 7"ø duct. p	ROVIDE MANUFACTURE	R DUCT ADAPTER AND DAMPER.	AH-3	1750	315	3/4	0.60	45.0	54.0	78.0/65.0	55/54	7.5	208/1ø	200	FV4CNB006L00	1: 2: 3: 4: 5: 6: 7: 8
3. PROVIDE ROOF	CAP ON ROOF WITH ROO	F CURB FOR R	ANGE HOOD EXHA																
MARK	SERVES	GUR	LAY-OUT BAS	sis: Tions, inc	REMARKS	9. DUCT SM	IOKE DETECTO	rs shall be	e provided	by electri	ICAL CONTF	RACTOR AND) INSTALLED	BY HVAC C	CONTRACTOR.				
FS–1	KH–1		GURDIAN III		1: 2: 3: 4							AIR	COOLED	HEATP	ump unit s	CHEDULE			
1. FIRE SUPPRES 2. FIRE SUPPRES 3. FOLOW LOCAL 4. INTERLOCK RA	sion system to be loca sion system to be prov fire protection codes .NGE to FS-1 such that	ATED IN THE CA MDED AND INST FOR INSTALLING RANGE TURNS	BINET ABOVE KITO ALLED BY GUARD G FIRE SUPPRESSI OFF WHEN FS-1	CHEN HOOD PER MANU IAN SAFETY SOLUTION, ON SYSTEM. IS ON.	FACTURERS INSTRUCTIONS. INC QUALIFIED INSTALLER.	MARK	AHU SERVED	HEAT PUM HEATING CAP (MBH)	IP NC Ti	MINAL DNS	REFRIG	OA TEMP SUMMER (DB)	OA TEMP WINTER (DB)	Weight (LBS)	POWER VAC/PH	BASIS	s of design	NOTES	
						HP-1	AH-1	24.0	2.	0 1	R-410A	95.0	17.0	270	208/1ø	25HCB6	24A003	1: 2: 3: 4: 5: 6	
						HP-2	AH-2	47.0	5.	0 1	R-410A	95.0	17.0	270	208/1ø	25HCB6	60A003	1: 2: 3: 4: 5: 6	
						HP-3	AH-3	47.0	5.	0 1	R-410A	95.0	17.0	270	208/1ø	25HCB6	60A003	1: 2: 3: 4: 5: 6	

PRODUCT -OUTSIDE WALL

'FORTRESS', MP-1 OR EQUIVALENT

CONDENSATE PIPE SLEEVE THROUGH WALL DETAIL 3 SCALE: N.T.S.

PROVIDE WITH DEFROST CONTROLS, LOW AMBIENT HEAD PRESSURE CONTROLS, AND ANTI-SHORT CYCLE TIMER. PROVIDE COIL GUARD.

PROVIDE POWER CONNECTION TO INDOOR UNIT PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.

PROVIDE LIQUID LINE SOLENOID, CRANKCASE HEATER, TXV, START CAPACITOR AND RELAY AS RECOMMENDED BY MANUFACTURER FOR LONG LINE APPLICATIONS. TWO-STAGE HEAT PUMP UNIT.

HEAT PUMP UNITS SHALL BE LOCATED ON GROUND. REFER TO CONDENSING UNIT INSTALLATION DETAIL PROVIDED.

								FAN SCHEDULE		
MARK	CFM	ext. Sp in W.G.	DRIVE TYPE	MOTOR (HP/W)	MAX FAN (RPM)	MAX SONES	POWER/ PHASE	BASIS OF DESIGN	SERVES	NOTES
EF-1	140	0.25	DIRECT	128 W	965	2.5	115/1	GREENHECK SP-B150	RESTROOM/SHOWER ROOM	1: 2: 3: 4: 5
EF-2	140	0.25	DIRECT	128 W	965	2.5	115/1	GREENHECK SP-B150	RESTROOM/SHOWER ROOM	1: 2: 3: 4: 5

VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION. INTERLOCK FAN WITH LIGHT. PROVIDE 15 MINUTE TIME DELAY. PROVIDE FACTORY SOLID STATE FAN SPEED CONTROLLER.

DIRECT DRIVE CENTRIFUGAL CEILING FAN. PROVIDE FACTORY SUPPLIED DISCONNECT SWITCH, BACK DRAFT DAMPER, MOTOR WITH THERMAL OVERLOAD AND FLEXIBLE DUCT CONNECTION. PROVIDE MANUFACTURER'S DESIGNER GRILL.

						LOUVER SCHEDULE
MARK	SIZE W X H (INCHES)	MIN. FREE AREA (SQ. FT.)	MAXIMUM PRESS. DROP (IN. W.G.)	FINISH (Color By Architect)	BASIS OF DESIGN	NOTES
L-1	36"X24"	2.78	0.08	ENAMEL	GREENHECK ESD 403	1: 2: 3
1 100						

TOP OF LOUVER AT BOTTOM OF STRUCTURE. REFER TO ARCHITECTURAL PLANS FOR FURTHER INFORMATION. STATIONARY LOUVER, PROVIDE WITH BIRDSCREEN AND FACTORY BAKED ENAMEL FINISH. COORDINATE COLOR WITH ARCHITECT (PROVIDE COLOR SAMPLES WITH SUBMITTAL). PROVIDE FULL SIZE 18" DEEP SHEET METAL PLENUM BEHIND LOUVER.

					AIR DEVIC	e schei	DULE		
MARK	SERVICE	NECK SIZE	SIZE	MATERIAL	TYPE	PATTERN	Mounting Type	LAYOUT BASIS	NOTES
S1	SUPPLY	SEE PLANS	24"X 24"	STEEL	SQUARE CONC.	4-WAY	SURFACE	TITUS TMS	1:2:3
S2	SUPPLY	SEE PLANS	NECK+ 1-3/4"	STEEL	DOUBLE DEFLECTION REGISTER	2-WAY	DUCT MOUNT	TITUS S300FS	6:7
S3	SUPPLY	SEE PLANS	12" X 12"	STEEL	SQUARE CONC.	4-WAY	SURFACE	TITUS TMS	1:2:3
R1	RETURN	SEE PLANS	24"X24"	ALUMINUM	EGGCRATE		SURFACE	50F	1:4
R2	RETURN	SEE PLANS	NECK + $1 - 3/4$ "	STEEL	LOUVERED RETURN GRILL		WALL	350RL	5:8

PROVIDE STANDARD WHITE FINISH. INSULATE BACK OF DEVICE. BALANCE AIRFLOW TO QUANTITY SHOWN. PROVIDE FULL SIZE SHEET METAL PLENUM ON TOP OF GRILLE FOR CONNECTION TO DUCT. CONSULT ARCHITECT FOR GRILL FINISH. ADJUST DEFLECTORS FOR TWO-WAY THROW. GRILL SHALL BE SAME COLOR AS EXPOSED DUCT. CONSULT ARCHITECT FOR DUCT FINISH. PROVIDE MANUFACTURER'S RETURAN AIR DAMPER ADJUSTABLE FROM THE FACE OF GRILL.

FORDHAN	& COMPAN	VAY FORDHAM, ARCHITECT A	S. CHICKASAW TRAIL SPARTA, GA	I. 478-251-1758 E-MAIL rfordham@windstrea	
	Ø	RA'	745 S. C	PH. 47	

DATE: 4-27-18

2) PROVIDE 4"X4"WELDED WIRE MESH REINFORCING AT CENTER LINE FOR THE CONCRETE PAD.

AIRCOOLED CONDENSING UNIT SLAB MOUNTED

3) PAD MAY BE PREFABRICATED DIVERSITECH ULTRALITE EQUIPMENT PAD OR EQUIVALENT.

NOTE: 1) THIS DETAIL IS FOR HEAT PUMP UNIT 5 TONS AND UNDER

5

SCALE: N.T.S.

rtu	PACKAGED ROOFTOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN FOR SHOP VENTILATION
VAC, PH	VOLTS ALTERNATING CURRENT, NUMBER OF PHASES
W, KW	WATTS, KILOWATTS
UH	Uhit heater
A	AUDIBLE/VISUAL ALARM DEVICE CONNECTED TO DUCT SMOKE DETECTOR
	ACCESS DOOR
$1 \rightarrow $	CONTROL DAMPER-OPPOSED BLADE
	CONTROL DAMPER-PARALLEL BLADE
	BACKDRAFT DAMPER
	RADIUS ELBOW (R=1.5)
	VANED ELBOW
	MANUAL VOLUME DAMPER (MVD), MOTOR OPERATED DAMPER (MOD)
XXX	X INDICATES SECTION NUMBER/XX INDICATES ON WHICH DRAWING SECTION APPEARS
	CONNECT NEW TO EXISTING
	TERMINATION POINT OF DEMOLITION

F—, <u>SCD</u> —, <u>SD</u> —	FIRE DAMPER, SMOKE DAMPER, SMOKE DETECTOR
	CEILING SUPPLY DIFFUSER
	CEILING RETURN OR EXHAUST AIR
	S.A. DUCT OUT OF TU BOX WITH DUCT LINFR FOR THR FIRST FIVE FEFT OF DUCT OUT OF TU BOX
	SIDEWALL REGISTER OR GRILLE
	CHANGE IN PIPE OR DUCT SIZE OR SHAPE
R	REFRIGERANT PIPING
<u> </u>	CONDENSATE OR OTHER DRAIN PIPING
	EIROW TURNED DOWN OR TURNED UR IN DIDING
	TINE CLOCK
Ø	
<u> </u>	UNDER-CUT DOOR 3/4, UNLESS UTHER SIZE NUTED
E16	NDICATES EQUIPMENT ON PLANS; TOP TIEM SHOWS TYPE OF EQUIPMENT AND BOTTOM TIEM SHOWS SPECIFIC MARK NUMBER
4 (S1) 8"ø 300	TEM IN HEXAGON SHOWS AIR DEVICE MARK NUMBER, ITEM ABOVE LINE SHOWS NECK SIZE, ITEM BELOW LINE SHOWS AIR FLOW THROUGH DEVICE, AND NUMBER IN FRONT SHOWS QUANTITY IF MORE THAN ONE
AFF	Above finished floor
AH	AIR HANDLING UNIT
BD	BYPASS DAMPER
BTUH, MBH	BRITISH THERMAL UNITS, THOUSAND BRITISH THERMAL UNITS
CAP	CAPACITY
CFM	çubic feet per minute
CLG	CEILING
CU	Condensing Unit
DB, WB	DRY BULB TEMPERATURE, WET BULB TEMPERATURE
EA. EG	EXHAUST AIR. EXHAUST GRILLE
FF	EXHAUST FAN
FXT SP	EXTERNAL STATIC PRESSURE (USUALLY EXPRESSED IN INCHES OF WATER IN GAGE)
HP	HEAT PLIMP LINIT
	DACKACED DODETOD LINIT
VAC, PH	VOLIS ALTERNATING CURRENT, NUMBER OF PHASES
W, KW	WATTS, KILOWATTS
UH	
(A)	AUDIBLE/VISUAL ALARM DEVICE CONNECTED TO DUCT SMOKE DETECTOR
	ACCESS DOOR
	CONTROL DAMPER-OPPOSED BLADE
	CONTROL DAMPER-PARALLEL BLADE
	BACKDRAFT DAMPER
	RADIUS ELBOW (R=1.5)
	VANED ELBOW
	MANUAL VOLUME DAMPER (MVD), MOTOR OPERATED DAMPER (MOD)
	X INDICATES SECTION NUMBER/XX INDICATES ON WHICH DRAWING SECTION APPEARS

MECHANICAL SYMBOLS & ABBREVIATIONS LEGEND

NEW PIPE, DUCTWORK OR EQUIPMENT

24x12 _____24x12 _____DUCT SIZE: FIRST DIMENSION IS SIDE DRAWN

FLEXIBLE ROUND DUCTWORK

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ELECTRICAL SPECIFICATIONS

DIVISION 16

ELECTRICAL

SECTION A: GENERAL ELECTRICAL REQUIREMENTS

. THESE PLANS AND SPECIFICATIONS APPLY TO THE OCONEE SPRINGS PARK EVENT CENTER, EATONTON, GEORGIA. THE WORK DESCRIBED BY THESE PLANS AND SPECIFICATIONS APPLY TO THE INDICATED PROJECT AND MAY NOT BE MODIFIED OR REUSED WITHOUT WRITTEN APPROVAL OF THE ENGINEER. 2. ALL WORK SHALL BE PERFORMED BY LICENSED ELECTRICAL CONTRACTOR WITH MINIMUM OF TWO YEARS OF EXPERIENCE, LIST OF PREVIOUS JOBS AND REFERENCES SHALL BE MADE AVAILABLE UPON REQUEST. CONTRACTOR SHALL PROVIDE ADEQUATE

INSURANCE FOR PERSONNEL AND SHALL REPAIR ANY DAMAGE OCCURRING AS THE RESULT OF THIS PROJECT SITE AND RELATED PROPERTY. 3. ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE NFPA IOI, ADA CODE, GA ACCESSIBILITY CODE, STATE OF GEORGIA ENERGY CODE AND ALL OTHER APPLICABLE CODES AND ORDINANCES.

4. ALL PERMITS AND FEES SHALL BE OBATINED AND PAID FOR BY THE CONTRACTOR. 5. ALL EQUIPMENT, MATERIAL, AND DEVICES SHALL BE LISTED OR RECOGNIZED BY UNDERWRITER'S LABORATORY OR ELECTRICAL TESTING LABORATORY AND USED AND INSTALLED IN ACCORDANCE WITH IT'S LISTING.

6. ALL WORK PERFORMED SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE THE FINAL COMPLETION DATE EXCEPT FOR FUSES AND LAMPS IN LIGHT FIXTURES. UPON NOTIFICATION OF A PROBLEM. THE CONTRACTOR SHALL INVESTIGATE THE PROBLEM WITHIN 48 HOURS UNLESS A DIFFERENT TIME PERIOD IS AGREED TO. THE CONTRACTOR SHALL INVESTIGATE, REPAIR OR REPLACE ALL FAULTY EQUIPMENT WITHIN A REASONABLE TIME PERIOD WITHOUT CHARGE TO THE OWNER.

7. THE TERM "PROVIDE" SHALL BE UNDERSTOOD TO MEAN, OBTAIN THE ITEM DESCRIBED, INSTALL ITEM IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND MANUFACTURER'S RECOMMENDATIONS.

8. ALL PENETRATIONS MADE IN FIRE RATED BUILDING PORTIONS SHALL BE SEALED WITH A LISTED RESISTANT MATERIAL SUITABLE FOR THE APPLICATION.

9. ALL INSTALLATIONS OF ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO INSTALLATION. IO. PLANS ARE DIAGRAMMATIC AND SHOW THE LOCATION OF THE EQUIPMENT, RACEWAY AND FIXTURES, AND ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED AT THE BUILDING SITE.

II. CONTRACTOR SHALL VERIFY AND COORDINATE ALL EQUIPMENT AND DEVICE LOCATIONS WITH OWNER'S PROJECT MANAGER PRIOR TO INSTALLATION.

12. EQUIPMENT POWER SUPPLY AND WIRING REQUIREMENTS: THE CONTRACTOR SHALL SUBMIT FOR REVIEW A TABULATED SHEET OF EQUIPMENT POWER SUPPLY AND WIRING REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT REQUIRING POWER AS SPECIFIED IN DIVISION 15. REQUIREMENTS SHALL BE IDENTIFIED BY HORSEPOWER OR KW, OPERATING AMPERAGE, REQUIRED VOLTAGE AND PHASE REQUIREMENTS, AND MANUFACTURERS SUGGESTED OVERCURRENT CIRCUIT PROTECTION DEVICE SIZE AND MINIMUM CIRCUIT AMPACITY SIZE. WHERE THE ELECTRICAL REQUIREMENTS SUBMITTED FOR MECHANICAL EQUIPMENT DIFFERS FROM THE BRANCH CIRCUITRY SHOWN ON THE ELECTRICAL DRAWINGS (WHEN USING THE BASIS OF DESIGN UNIT LISTED IN THE MECHANICAL SCHEDULES/SPECIFICATIONS OR A SIMILAR UNIT OF THE SAME SIZE FROM LISTED ALTERNATE MANUFACTURERS), THE CONTRACTOR SHALL MAKE THE NECESSARY ADJUSTMENTS TO THE BRANCH CIRCUITRY PER THE CURRENT NEC AT NO ADDITIONAL COST TO THE OWNER. WHEN CHANGES ARE MADE TO POWER REQUIREMENTS FOR EQUIPMENT DUE TO OWNER, ARCHITECT/ENGINEER APPROVED VALUE ENGINEERING CHANGES TO EQUIPMENT, THE COST MUST NE INCLUDED IN THE VALUE ENGINEERING OVERALL CHANGE ORDER COST. COSTS DUE TO ADJUSTMENTS IN BRANCH CIRCUITRY TO EQUIPMENT DUE TO VALUE ENGINEERING CHANGES WILL NOT BE ALLOWED AFTER THE OVERALL VALUE ENGINEERING CHANGE ORDER HAS BEEN APPROVED. IN ALL CASES, POWER WIRING REQUIREMENTS FOR MECHANICAL EQUIPMENT MUST BE PROVIDED TO THE ENGINEER BEFORE OR AT THE SAME TIME AS THE SHOP DRAWINGS FOR THE ELECTRICAL DISTRIBUTION GEAR OR EQUIPMENT. IN NO CASE SHALL THE ELECTRICAL DISTRIBUTION GEAR OR EQUIPMENT BE ORDERED OR BRANCH CIRCUITRY ROUGHED IN PRIOR TO ENGINEER REVIEW AND COMMENT ON THIS DOCUMENT. ANY EQUIPMENT ORDERED OR BRANCH CIRCUITRY ROUGHED IN ON THE JOBSITE WITHOUT THIS REVIEW AND COMMENT WILL BE TOTALLY AT THE CONTRACTORS RISK.

SECTION B: BASIC MATERIALS

I. ALL CONDUCTORS USED FOR 600 VOLTS OR LESS SHALL BE HIGH GRADE COPPER CONDUCTORS WITH 75 DEGREE C, THHN OR THWN THERMOPLASTIC INSULATION. ALL NDUCTORS SHALL BE MADE IN THE USA. ALL CONDUCTORS ROUTED IN UNDERGROUND CONDUIT SHALL BE RATED FOR WET LOCATIONS. 2. ALL INTERIOR 120 VOLT, 20 AMP POWER AND LIGHTING WIRING SHALL BE INSTALLED

IN ELECTRICAL METALLIC TUBING OR "MC" CABLE (IF NOT EXPOSED) FOR ALL INTERIOR CIRCUITS UNLESS OTHERWISE NOTED. IF "MC" CABLE IS USED, HOMERUNS SHALL BE IN 3/4 IN. EMT. POWER CIRCUITS FOR HVAC EQUIPMENT SHALL BE IN 3/4" ELECTRICAL METALIC CONDUIT MINIMUM. ALL CONDUIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. IT SHALL NOT BE SUPPORTED FROM DUCTWORK, PIPING, CEILING GRID OR CEILING GRID SUPPORTS, OR ANY OTHER NON-STRUCTURAL ITEM. CONDUIT SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC. CONDUIT IN EXPOSED STRUCTURE AREAS SHALL BE EMT. GALVANIZED RIGID STEEL CONDUIT SHALL BE USED IN AREAS WHERE IT WILL BE EXPOSED TO PHYSICAL DAMAGE.

3. CONDUIT UNDERGROUND SHALL BE SCHEDULE 40 PVC. IF MORE THAN ONE CONDUIT IS PROVIDED IN A SINGLE TRENCH, THE CONDUIT SHALL BE RACKED WITH SPACERS EVERY FOUR FEET TO MAINTAIN A MINIMUM SPACING BETWEEN CONDUIT OF TWO INCHES. BACKFILL USED FOR UNDERGROUND INSTALLATIONS SHALL BE FREE OF FOREIGN MATTER. WHERE EXPOSED TO WEATHER, CONDUIT SHALL BE GALVANIZED RIGID STEEL OR INTERMEDIATE METALLIC CONDUIT. THE CONDUIT SHALL BE TERMINATED WITH LISTED FITTINGS AND ALL CONDUIT ENDS SHALL BE REAMED AND SMOOTH. ALL CONDUIT ENDS IN BOXES SHALL BE PROVIDED WITH INSULATED BUSHINGS.

4. A #12 INSULATED COPPER GROUND CONDUCTOR SHALL BE INCLUDED IN ALL BRANCH CIRCUITS RATED 20 AMPERES. ALL OTHER CIRCUITS AND FEEDERS WILL BE PROVIDED WITH AN INSULATED COPPER CONDUCTOR SIZED AS NOTED OR IN ACCORDANCE WITH THE NEC, WHICHEVER IS GREATER.

5. THE MINIMUM SIZE OF ALL CONDUCTORS NOT OTHERWISE INDICATED IS #12 AND THE MINIMUM SIZE OF ALL CONDUIT UNLESS OTHERWISE INDICATED IS 1/2 IN. 6. ALL JUNCTION BOXES SHALL BE PROVIDED WITH COVERS AND ALL UNUSED OPENINGS SHALL BE PLUGGED. ALL JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. COVERS OF BOXES SHALL BE LABELED WITH THE CIRCUIT NUMBER WITH A BLACK PERMANENT MARKER IN 3/4 IN. HIGH LETTERS (LEGIBLE HANDWRITTEN LETTERING IS ACCEPTABLE).

7. ALL OUTLET BOXES SHALL BE SQUARE METAL BOXES. PROVIDE PLASTER RINGS FOR ALL OUTLET BOXES CONTAINING DEVICES TO PROVIDE A FIRM MOUNTING SUPPORT FOR THE DEVICE.

8. ALL CONVENIENCE RECEPTACLES SHALL BE SPECIFICATION GRADE 20 AMP RECEPTACLES, OWNER TO SELECT COLOR.

9. ALL LIGHT SWITCHES SHALL BE SPECIFICATION GRADE 20 AMP TOGGLE SWITCHES FULL LOAD RATED FOR TUNGSTEN-HALOGEN LAMPS, OWNER TO SELECT COLOR.

IO. PROVIDE FACEPLATES FOR ALL RECEPTACLES AND SWITCHES. COORDINATE STYLE AND COLOR WITH OWNER'S PROJECT MANAGER. II. PROVIDE BETWEEN 12 AND 24 INCHES OF LIQUID TIGHT FLEXIBLE CONDUIT BETWEEN RIGID CONDUIT AND ANY EQUIPMENT CONTAINING MOTORS. THE FLEXIBLE CONDUIT SHALL BE SUPPORTED TO PREVENT THE CONDUIT FROM RESTING ON THE GROUND OR CONCRETE PAD.

12. PROVIDE WEATHERPROOF RECEPTACLE WITHIN 25 FEET OF EACH PIECE OF EXTERIOR EQUIPMENT. THIS RECEPTACLE SHALL BE MOUNTED HORIZONTALLY WITH METAL HINGED "IN USE" COVER MOUNTED TO OPEN UP. THIS OUTLET SHALL BE A GFCIRECEPTACLE. THIS RECEPTACLE SHALL BE BE MOUNTED IN DIE CAST NON CORRODING METAL BOX. I3. WHEN OUTLETS OR BOXES ARE INDICATED INSTALLED ON OPPOSITE SIDES OF THE SAME WALL. THE CONTRACTOR SHALL ADJUST THE LOCATION TO OFFSET THE OUTLETS WITH A WALL STUD PROVIDING SEPERATION.

SECTION C: DISTRIBUTION EQUIPMENT

I. CONTRACTOR SHALL PROVIDE CONDUCTORS ACCORDANCE WITH THE PLANS.

2. SEPERATELY MOUNTED CIRCUIT BREAKERS ENCLOSURES IN INDOOR APPLICATIONS AND IN WET LOCATIONS. ALL CIRCUIT BREAKER ENCLO COVERS AND PROVISIONS FOR PADLOCKING THE 3. ALL EQUIPMENT CONTAINING MOTORS SHALL MEANS WITHIN TEN FEET OF THE UNIT UNLESS MEANS SHALL AS A MINIMUM BE A NON-FUSED MATCH THE EQUIPMENT. PROVIDE OTHER DEVIC NEMA TYPE IENCLOSURES INDOORS AND NEMA

4. PROVIDE GFCICIRCUIT BREAKERS AND RECEP AND IN THESE SPECIFICATIONS. THESE DEVICES

5. PROVIDE PANELS AS SCHEDULED ON PLANS THERMAL-MAGNETIC BREAKERS WITH A MINIMUM FOR 120/208V OR AS INDICATED ON THE PLAN DEGREE C RATED TERMINATIONS. PANEL NOTEI MOUNT PANELS WITH TOP OF PANEL 6 FT. AB PAINTED PLYWOOD BACKBOARD FOR ALL PANE TOGGLE BOLTS. PANEL MANUFACTURERS: SQUA ALL CURRENT CARRYING PARTS SHALL BE COF 6. SYSTEM COORDINATION: THE MANUFACTURE SERIES RATED EQUIPMENT BASED ON U.L. LIST SHALL VERIFY THE AVAILABLE SHORT CIRCUIT TRANSFORMER.

7. PROVIDE EACH PANELBOARD WITH A TYPEWF INSIDE A PLASTIC COVERING (EVERY CIRCUIT A LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT NDETIFICATION SHALL INCLUDE SUFFICIENT DE DISTINGUISHED FROM ALL OTHERS). THE DIREC NSIDE A STEEL FRAME PROVIDED INSIDE THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE AND THE AREAS SERVED.

8. PROVIDE NAMEPLATES FOR ALL PANELBOAR CIRCUIT BRAKERS, COMBINATION STARTERS, CON DISTRIBUTION EQUIPMENT PANELS. MOUNT NAM ALL SURFACE MOUNTED PANELS AND EQUIPMEN PLASTIC PLATES WITH 3/16 IN. HIGH WHITE LE NAME PLATES SHALL BE INSTALLED PARALLE USFAGE OF EACH DEVICE OR BRANCH CIRCUIT CONTRACTOR TO COORDINATE EXACT EQUIPMEN SECURE NAMEPLATES VIA EPOXY GLUE.

SECTION D: LIGHTING

. TYPES AND SPECIFIC REQUIREMENTS ARE PRI SCHEDULE ON THE PLANS. ALL LIGHT FIXTURE DRIVERS, BALLASTS, AND FULLY FUNCTIONING 2. ALL LED FIXTURES SHALL BE U.L. LISTED REPLACEMENT WARRANTY FOR DEFECTIVE OR DRIVERS, AND FOR LUMINAIRES EXHIBITING INADE MATERIAL, FIXTURE FINISH, WORKMANSHIP, AND INCLUDE TRANSPORTATION, REMOVAL, AND INSTA

3. RATED LUMINAIRE WATTAGE SHALL BE ACT EFFICIENCY DUE TO SUB-OPTIMAL LOADING OF

4. DRIVERS SHALL BE CAPABLE OF ACCEPTING LIGHTING FIXTURE SCHEDULE AND CAPABLE OF HAVE A CLASS A RATING, TOTAL HARMONIC DI NOT CONTAIN ANY POLYCHLORINATED BIPHENYL 5. ALL LED FIXTURES SHALL BE TESTED TO OUTDOOR FIXTURES SHALL BE IP65 RATED. LED SHALL HAVE A SYSTEM LIFETIME OF 50,000 AND SHALL MAINTAIN A MINIMUM OF 85% OF I HOURS OF OPERATION. LED'S SHALL HAVE COL GREATER.

6. ALL SURFACE MOUNTED FIXTURES SHALL B STRUCTURE. ALL CEILING MOUNTED FIXTURES AND BRACED TO PREVENT MOVEMENT IF IMPAC 7. ALL RECESSED FIXTURES IN LAY IN TYPE IPS TO EASTEN FIRMLY TO CELLING SUPPO SUPPORTED AT EACH CORNER OF A FIXTURE.

8. CONNECTION TO ALL FIXTURES IN LAYIN CE FOUR TO SIX FEET IN LENGTH. A GROUND CON CONNECTION.

9. ALL LENSES ON FIXTURES SHALL BE 0.125 I SHALL BE 22 GAUGE STEEL MIN. AND HAVE A WHITE FINISH.

		LIGHTING FIXTURE SCHEDL	JLE
	TYPE A	DESCRIPTION PENDANT MOUNT CHOSEN BY ARCHITECT/OWNER.(200 WATTS MAX)	MANUFACTU
AND CONDUIT FOR ALL FEEDERS IN SHALL BE MOUNTED IN NEMA TYPE I			
SURES SHALL BE PROVIDED WITH HINGED COVERS. BE PROVIDED WITH A DISCONNECTING OTHERWISE NOTED. THIS DISCONNECTING SWITCH OR TOGGLE STARTER SIZED TO	В	2 FT.X 4 FT. SURFACE CONTEMPORARY LOW PROFILE ARCHITECTURAL TROFFER WITH ACRYLIC CENTER LENS AND MATTE WHITE POWDER PAINT REFLECTOR. (VERIFY CEILING TYPE) LAMPS: LED, 4800 LUMENS MINIMUM, 45 WATTS, 3500 DEGREE K	LITHONIA "E SERIES CO "LCAT" SER"
3R OUTDOORS. PTACLES AS INDICATED ON THE PLANS S SHALL BE CLASS A GFCIDEVICES. G. CIRCUIT BREAKERS SHALL BE	С	4 FT LED STRIPLIGHT, PROVIDE WITH LENS , SURFACE MOUNTED. LAMPS: LED, 5000 LUMENS, 42 WATTS, 3500 DEGREE K	LITHONIA "Z SERIES, COL "LCS" SERIE
NS. BREAKERS SHALL HAVE 65/75 D SHALL BE SERVICE ENTRANCE RATED. OVE FLOOR, PROVIDE 3/4 IN., GREY LS SECURED TO WALL WITH I/4 IN. RE D, GE, SEIMENS, AND CULTER HAMMER. PPER.	ΟΑ	DRIVER: UNV. VOLT DRIVER ARCHITECTURAL VANDAL RESISTANT WALL LUMINAIRE, UV STABALIZED MOLDED POLYCARBONATE AND HIGH IMPACT LENS ; UL LISTED FOR WET LOCATION LAMPS: LED: 2000 LUMENS, 35 WATTS, 4000 DEGREE K	JUNO "STO SERIES, FAI "TR" SERIES BROWNLEE
R OF THE PANELBOARDS SHALL PROVIDE ED TEST RESULTS. THE CONTRACTOR CURRENT AT THE SERVING RITTEN CIRCUIT BREAKER DIRECTORY CARD ND CIRCUIT MODIFICATION SHALL BE I, AND SPECIFIC PURPOSE OR USE. THE	<u>م که</u>	DRIVER: UNV VOLT LED 2 HEAD EMERGENCY UNIT, LOW PROFILE CONTEMPORARY DESIGN WITH THERMOPLASTIC HOUSING, IMPACT RESISTANT.90 MINUTE BATTERY. LAMPS: LED (2) 1.5W	COMPASS " SERIES, LIT "ELM2 LED' SURELITES
TAIL TO ALLOW EACH CIRCUIT TO BE TORY AND COVERING SHALL BE LOCATED DOOR OF EACH PANELBOARD. THE E LOAD FED BY EACH CIRCUIT BREAKER RDS, DISCONNECT SWITCHES, ENCLOSED		BALLAST:UNV.VOLT LED, RED LETTER COMMODITY GRADE COMBO THEMOPLASTIC UNIT, IMPACT RESISTANT HOUSING, UNIVERSAL MOUNTING, 90 MINTUTE BATTERY AND OUTDOOR REMOTE HEAD. LAMPS: LED (2) 1.5W	EVENLITE " COMPASS " SERIES, LIT "ECR LED" 1
IFACTORS, AND ALL OTHER ELECTRICAL IEPLATES ON EXTERIOR OF THE DOOR OF NT. NAME PLATES SHALL BE LAMINATED ITERS ETCHED ON BLACK BACKGROUND. TO EQUIPMENT LINES. THE NAME OR SHALL BE ETCHED IN THE NAMEPLATE. NT IDENTIFICATION WITH THE OWNER.	LIGHTIN NOTES: I. CONT	BALLAST:UNV. VOLT <u>G FIXTURE SCHEDULE</u> RACTOR TO VERIFY ALL VOLTAGES, GRID AND CEILING TYPES WITH THE ARCH RACTOR TO VERIFY ALL VOLTAGES, GRID AND CEILING TYPES WITH THE ARCH	HITECT AND (
ROVIDED ON THE LIGHTING FIXTURE (S SHALL BE PROVIDED WITH LAMPS, AT COMPLETION OF PROJECT. AND HAVE A MINIMUM OF 5 YEAR ON-SITE NON-STARTING LED SOURCE ASSEMBLIES, EQUATE LUMEN OUTPUT.IT SHALL COVER SHIPPING. ON-SITE REPLACEMENT SHALL ALLATION OF NEW FIXTURE. JAL, ACCOUNTING FOR ANY REDUCTION IN DRIVERS. () THE VOLTAGE INDICATED ON THE DIMMING IF REQUIRED. DRIVERS SHALL STORTION OF LESS THAN 20%, AND SHALL _ (PCB). (ES LM-79 AND IES LM-80 STANDARDS. D'S, DRIVERS AND ALL COMPONENTS HOURS OR MORE AT 25 DEGREES CELSIUS NITAL LUMEN OUTPUT AFTER 55,000 OR RENDERING INDEX (CRI) OF 80 OR (E INDEPENDENTLY SUPPORTED FROM SHALL BE SUPPORTED FROM STRUCTURE CTED. CELINGS SHALL BE PROVIDED WITH GRID T GRID. THE CELING GRID SHALL BE SILING SHALL BE BY FLEXIBLE CONDUIT OF NDUCTOR WILL BE INCLUDED WITH THIS INCH THICK MINIMUM. ALL HOUSINGS POST FABRICATION HIGH REFLECTIVE		CONNECT TO BLDG. CONNECT TO BLDG. SERVICE POINT SERVICE POINT OR OFFICATED. PROVIDE BOLT-ON RECHANICAL LUC CONCRETTE ENCASED CONCRETTE ENCASED CONCRETTE ENCASED CONCRETTE ENCASED CONCRETTE ENCASED CONCRETTE ENCASED SERVICE GROUNDING DE SERVICE GROUNDING DE	
		KEYED NOTES: (THIS SHEET ONLY) METER BASE SUPPLIED BY POWER COMPANY AND INSTALLED BY CONCONTRACTOR TO PAY ALL COSTS FOR METER BASE AND SERVICE S	JTRACTOR. HOWN.
		2) 3#600, 3 ¹ / ₂ IN.C. 3) SEE SERVICE GROUNDING DETAIL. 2/E-I.	

	<u>LIGHTING FIXTURE SCHEDL</u>	JLE
PE	DESCRIPTION	MANUFACTURER
А	PENDANT MOUNT CHOSEN BY ARCHITECT/OWNER.(200 WATTS MAX)	
В	2 FT.X 4 FT.SURFACE CONTEMPORARY LOW PROFILE ARCHITECTURAL TROFFER WITH ACRYLIC CENTER LENS AND MATTE WHITE POWDER PAINT REFLECTOR.(VERIFY CEILING TYPE)	LITHONIA "BLT" SERIES COLUMBIA "LCAT" SERIES
	LAMPS: LED,4800 LUMENS MINIMUM,45 WATTS,3500 DEGREE K Driver: unv.volt	
С	4 FT LED STRIPLIGHT, PROVIDE WITH LENS , SURFACE MOUNTED.	LITHONIA "ZLIN" SERIES, COLUMBIA "LCS" SERIES,
	LAMPS: LED, 5000 LUMENS,42 WATTS,3500 DEGREE K Driver: unv.volt driver	
AC	ARCHITECTURAL VANDAL RESISTANT WALL LUMINAIRE, UV STABALIZED MOLDED POLYCARBONATE AND HIGH IMPACT LENS ;UL LISTED FOR WET LOCATION	JUNO "STONEWALL" SERIES, FAIL SAFE "TR" SERIES
	LAMPS: LED:2000 LUMENS,35 WATTS,4000 DEGREE K Driver: unv volt	BROWNLEE "7700
١	LED 2 HEAD EMERGENCY UNIT, LOW PROFILE CONTEMPORARY DESIGN WITH THERMOPLASTIC HOUSING, IMPACT RESISTANT.90 MINUTE BATTERY.	COMPASS "CU2" SERIES, LITHONIA "ELM2 LED" SERIES,
	LAMPS: LED (2)1.5W BALLAST:UNV.VOLT	SURELITES "SELI7" EVENLITE "TCL"
× 1	LED, RED LETTER COMMODITY GRADE COMBO THEMOPLASTIC UNIT, IMPACT RESISTANT HOUSING, UNIVERSAL MOUNTING , 90 MINTUTE BATTERY AND OUTDOOR REMOTE HEAD.	COMPASS "CC" SERIES, LITHONIA "ECR LED" SERIES,
4	LAMPS: LED (2)1.5W BALLAST:UNV.VOLT	

KEYED NOTES: (THIS SHEET ONLY)

- IN METER BASE SUPPLIED BY POWER COMPANY AND INSTALLED BY CONTRACTOR. CONTRACTOR TO PAY ALL COSTS FOR METER BASE AND SERVICE SHOWN.
- 2 3#600, 3¹/₂IN.C.
- 3 SEE SERVICE GROUNDING DETAIL, 2/E-I.

- ▲ SERVICE ENTRANCE RATED, 400A/2P/3R ENCLOSED CIRCUIT BREAKER, IOKAIC MINIMUM.
- 5→ 3#600, #3G., 4 IN.C.

GENERAL NOTES:

- A. THIS PLAN INDICATES AREAS TO BE CONTROLLED BY MOTION SENSORS. SINCE COVERAGES AND DEVICES VARY BETWEEN MANUFACTURERS IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE PROPER DEVICE LOCATION, ORIENTATION AND QUANTITIES WITH THE MANUFACTURER OF THE SYSTEM BEING INSTALLED TO MEET THE SPECIFIED CRITERIA.
- B. ALL AREA'S OF THIS PLAN REQUIRE OCCUPANCY SENSOR COVERAGE EXCEPT FOR SHOWROOM, SERVICE DRIVE (LANES) AND SERVICE BAYS. SEE LIGHTING SENSOR LEGEND 2/E-2 (TYPICAL).
- C. THERE ARE NO SWITCHPACKS SHOWN ON THIS PLAN. PROVIDE SWITCHPACKS AS REQUIRED WITH SENSORS. SWITCHPACKS ARE TO BE RATED AT 20A. PROVIDE ONE SWITCHPACK PER 20A LIGHTING CIRCUIT OR PER INDIVIDUAL AREA BEING CONTROLLED.
- D. CEILING SENSORS ARE TO BE MOUNTED AWAY FROM ANY STRONG AIRFLOW. COORDINATE LOCATION OF SENSOR WITH MECHANICAL AND LIGHTING PLANS.
- E. ALL SENSORS SHALL BE CEILING MOUNTED EXCEPT WHERE CEILING HEIGHTS EXCEED 15 FT .- O IN. PROVIDE SENSOR WITH ADAPTOR PLATE FOR JUNCTION BOX MOUNTING (JUNCTION BOX SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING) JUNCTION BOX SHALL BE SUPPORTED FROM STRUCTURE UTILIZING A 3/81N. THREADED ROD. WHERE CEILING HEIGHTS EXCEED 15 FT.-O IN. WALL MOUNT SENSORS AT 12 FT.-O IN.
- F. PROVIDE UNSWITCHED HOT CONDUCTOR TO ALL EMERGENCY AND EXIT LIGHTS.

KEYED NOTES: (THIS SHEET ONLY)

- SEE ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT OF FIXTURE.
- 2> LOCATE P.E. CELL FACING NORTH, CLEAR OF MAN MADE LIGHT SOURCES. J-BOX TO HOUSE P.E. CELL SHALL BE RECESSED MOUNTED WITH STAINLESS STEEL COVER.
- 3 ROUTE VIA EXTERIOR LIGHTING CONTACTOR/TIMECLOCK LOCATED ADJACENT PANEL "A". PHOTO CELL SHALL CONTROL DUSK TILL DAWN OPERATION. TIMECLOCK SHALL INTERRUPT CIRCUIT DURING MIDNIGHT HOURS. TIMECLOCK SHALL BE 365 DAY, DIGITAL, PROGRAMMABLE WITH 20A RATED CONTACTS. USE #10'S ENTIRE CIRCUIT.

NOT TO SCALE

(SEE MANUFACTURERS RECOMMENDATION FOR SCHEMATIC WHERE MULTIPLE SENSORS OCCUR IN SAME SPACE.)

AMERICAN INSTITUTE OF ARCHITECTS W E PLAN U ATONTON RK COMMISSIONER \square TER \mathcal{O} PRING CEN EVENTS OF \mathbf{v} BOARD [L] NEW Y C **–** OUN Ū PUTNAM

MEMBER

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DATE: 5-17-18

GENERAL NOTES:

A. COORDINATE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT. PRIOR TO ELECTRICAL ROUGH-IN.

- B. ALL FLEXIBLE CONDUIT SHALL BE METALLIC WATERPROOF.
- C. COORDINATE EXACT CONDUIT REQUIREMENTS FOR THERMOSTATS TO ALL AIR HANDLING UNITS.SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS. D. FIRE SEAL ALL FIREWALL PENETRATIONS.

KEYED NOTES: (THIS SHEET ONLY) SWITCH FOR GARBAGE DISPOSAL.

	120	240										STORAGE
3		2.10	-	I	PANEL	A	4			MOUN	TING	SURFACE
	4	400		MAIN AMPS 400								LUGS
ION	VOLI	VOLI AMPS		BRKK		BUS	CKT	BRKK		VULI AMPS		DESCRIPTION
	A	В	AMP			CONIN		Ρ		В	A	
REC.	1200	10.0.0	20			A	2	Ζ	35	7760	3360	AHU-I
REC.		1200	20		5	В	4			3360		
LTS.	1128		20		5	Α	6	2	60		5760	AHU-2
С.		1200	20		7	В	8			5760		
•	528		20		9	А	10	2	60		5760	AHU-3
		400	20			В	12			5760		
	1200		20		13	А	14	2	30		2250	WATER HEATER
		1500	20		15	В	16			2250		
	1500		20		17	А	18		20			SPARE
		1200	20		19	В	20		20			SPARE
0	500		20	1	21	А	22		20			SPARE
		600	20	1	23	В	24		20			SPARE
	4500		50	2	25	А	26		20			SPARE
		4500			27	В	28		20			SPARE
	1944		25	2	29	А	30		20		400	RECEPT.
		1944			31	В	32		20	400		RECEPT.
	4500		60	2	33	А	34	-	20		400	RECEPT.
		4500			35	В	36	-				SPACE
	4500		60	2	37	Α	38					SPACE
		4500			39	В	40	1				SPACE
	21500	21544								17530	17930	
		•	•									
	BUS A	39430			REMA	RKS:	ΙΟ ΚΑ	IC	MINIMUN	N		
	BUS B	39074	-				*PRO	/IDE	GFCIE	BREAKER		
	TOTAL	78504	-				SEE N	101	ΕΑΑ			

NOTE AA: PROVIDE HANDLE TIES FOR ALL 2 AND 3 CIRCUIT MULTI-WIRE BRANCH CIRCUITS IN ACCORDANCE WITH 2017 NEC ARTICLE 210.4. MULTI-WIRE BRANCH CIRCUITS MUST BE GROUPED AND PHYSICALLY TIED TO DISCONNECT ALL UNGROUNDED CONDUCTORS SIMULTANEOUSLY.

MECHANICAL EQUIPMENT POWER SCHEDULE									
	VOLTAGE/	CIRCUIT	PANEL NAME/	FEEDER	DISCONNECT SWITCH	NOTES			
	PHASE	DREAKER	CIRCUIT NUMBER						
	208V/IØ	25A/2P	A-29	3#10,3/4 IN.C.	30A/2P/3R				
	208V/IØ	60A/2P	A-33	2#6, #IOG., 3/4 IN.C.	60A/2P/3R	2			
	208V/IØ	60A/2P	A-37	2#6, #IOG., 3/4 IN.C.	60A/2P/3R	2			
	208V/IØ	35A/2P	A-2	2#8, #IOG., 3/4 IN.C.	60A/2P	2			
	208V/IØ	60A/2P	A-6	2#6, #IOG., 3/4 IN.C.	60A/2P	2			
	208V/IØ	60A/2P	A-10	2#6, #IOG., 3/4 IN.C.	60A/2P	2			
	120V/1Ø	20A/IP	-	3#12,1/2 IN.C.	BUILT-IN	3			
	120V/1Ø	20A/IP	-	3#12,1/2 IN.C.	BUILT-IN	3			
	120V/1Ø	20A/IP	A-23	3#12,1/2 IN.C.	MOTOR RATED SWITCH				
ATER	240V/IØ	30A/2P	A-14	3#10,1/2 IN.C.	30A/2P				
I. SEE MECHANICAL FOR EXACT CONTROL REQUIREMENTS. 2. PROVIDE DUCT SMOKE DETECTOR IN RETURN AIR DUCT. 3. INTERLOCK AND POWER FAN VIA LIGHTING CIRCUIT IN AREA SERVED. PROVIDE I5 MIN. TIME DELAY RELAY.									

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DATE: 5-17-18

SHEET NO. E-3