	<u>DUCT SYMBOLS</u>	
DOUBLE LINE SYMBOL	<u>DESCRIPTION</u>	SINGLE LINE SYMBOL
<u>λ</u> 20×16 Υ	DUCT- FIRST NUMBER IS VISIBLE DIMENSION.	5
₽ R	RADIUS ELBOW W/VANE(S) (1.5=R/D STANDARD)	<u> </u>
	DUCT SECTION, POSITIVE PRESSURE	
	DUCT SECTION, NEGATIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) POSITIVE PRESSURE DUCT & AIRFLOW DN(RIGHT) POSITIVE PRESSURE	$\otimes \searrow \otimes$
	DUCT & AIRFLOW UP(LEFT) NEGATIVE PRESSURE DUCT & AIRFLOW DN(RIGHT) NEGATIVE PRESSURE	$\otimes \vee \otimes$
	DUCT & AIRFLOW UP(LEFT) NEG./POS. PRESSURE DUCT & AIRFLOW DN(RIGHT) NEG./POS. PRESSURE	
R Y	CHANGE OF ELEVATION=RISE (R), DROP (D)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
20x16	DUCT W/INTERNAL LINING CLEAR INSIDE DIMENSIONS SHOWN	
\	ACCESS DOOR=SIDE (L), BOTTOM (M), TOP (R)	AD √ ₹3 ₹3 →
\	FLEXIBLE CONNECTOR	\$ <u></u> ₩₩
⁸ IIIIIIII ₃	FLEXIBLE DUCT	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
FD	FD- FIRE DAMPER, SD-SMOKE DAMPER, FSD- FIRE/SMOKE DAMPER.	FSD →
(TYPE)	MANUAL VOLUME DAMPER-SPECIFIC TYPE, NO LABEL-BUTTERFLY, OBD-OPPOSED BLADED DAMPER, PBD-PARALLEL BLADE DAMPER	(TYPE)
M M	MOTORIZED DAMPER OR ZONE CONTROL DAMPER	\$
8	BRANCH TAP-W/45 DEG. ENTRY	5
	BRANCH TAP—CONICAL SPIN—IN	
	BRANCH TAP-STRAIGHT SPIN-IN	
\20×10]10×10\	TRANSITION	20x10 -10x10
	EXISTING DUCTWORK TO BE DEMOLISHED	
X	EXISTING DUCTWORK TO REMAIN	
RTU-# FCU-# XXX-#	HVAC — EQUIP AS NOTED	
	AIR DEVICE, SUPPLY— CEILING. CLEAR	
A X"ø X CFM	AIR DEVICE TAG SPIN-IN DIMENSION AIRFLOW (CFM)	
	AIR DEVICE, RETURN— CEILING.	
	AIR DEVICE, EXHAUST— CEILING.	
	AIR DEVICE, SUPPLY— SIDEWALL.	
-~-	AIR DEVICE, RETURN/EXHAUST— SIDEWALL.	

	MECHANICAL DRAWING LIST
M0.1	MECHANICAL GENERAL NOTES, SYMBOL LISTS & ABBREVIATIONS
M0.2	MECHANICAL NOTES
M1.0	MECHANICAL FLOOR & ROOF PLAN
M2.0	MECHANICAL DETAILS (1 OF 2)
M2.1	MECHANICAL DETAILS (2 OF 2)
M3.0	MECHANICAL SCHEDULES

CODE COMPLIANCE

- ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY. NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THESE PROJECT:
- INTERNATIONAL BUILDING CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- INTERNATIONAL MECHANICAL CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- INTERNATIONAL PLUMBING CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- INTERNATIONAL FUEL/GAS CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION, WITH GEORGIA AMENDMENTS.
- NATIONAL ELECTRICAL CODE 2020, WITH GEORGIA AMENDMENTS.

GENERAL MECHNANICAL NOTES AND SPECIFICATIONS MECHANICAL ABBREVIATIONS

CEILING DIFFUSER SUPPLY

CEILING DIFFUSER SUPPLY

CEILING DIFFUSER RETURN

CONDENSATE DRAIN PIPE

ENERGY EFFICIENCY RATIO

FLEXIBLE CONNECTION

INTEGRATED ENERGY

EFFICIENCY RATIO

SEASONAL ENERGY

EFFICIENCY RATIO

VOLUME DAMPER

ROOFTOP UNITS

CUBIC FEET OF AIR PER MINUTE

BACKDRAFT DAMPER

SUPPLY GRILLE

DOWN

BD

CDS

SG

CDS

CDR

CFM

CD

DN

EER

FC

IEER

VD

RTU

<u>GENERAL</u>

- 1. COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
- 2. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
- 3. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
- 4. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- 5. SUBMISSION OF BID PROPOSAL IS CONSIDERED AN ACKNOWLEDGEMENT THAT CONTRACTOR VISITED SITE, AND
- VERIFIED ALL EXISTING CONDITIONS, AND INCLUDED ANY MODIFICATIONS TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND OPERATIONAL MECHANICAL SYSTEM.
- 6. COORDINATE WITH OWNER AND ENGINEER FOR ANY DISRUPTION IN UTILITY SERVICES, PARTICULARLY THOSE THAT MIGHT AFFECT OTHER BUILDINGS.
- 7. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
- 8. TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR SHALL BE RETAINED BY THE PRIME CONTRACTOR TAB SHALL <u>NOT</u> BE A PART OF THE MECHANICAL CONTRACT.

CODES AND ORDINANCES

- 1. PERFORM ALL WORK PER LATEST VERSION OF INTERNATIONAL MECHANICAL CODE, AND APPLICABLE LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
- 2. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
- 3. NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.

<u>COORDINATION</u>

- 1. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS OF CONSTRUCTION, INCLUDING BEAMS, FLOOR AND WALL PENETRATIONS, CHASES, AND REFLECTED CEILING PLANS. VERIFY OPENING SIZES WITH EQUIPMENT FURNISHED.
- 2. COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
- 3. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND MECHANICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
- 4. ENGINEER/ ARCHITECT MUST BE GIVEN AT LEAST A TEN (10) WORKING DAY NOTICE TO PERFORM ALL TYPES OF INSPECTIONS. COORDINATE WORK SCHEDULE WITH ARCHITECT AND ENGINEER TO PLAN ACCORDINGLY FOR APPROPRIATE INSPECTIONS.
- 5. COORDINATE LIGHT LOCATIONS WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION OF AIR DEVICES. LIGHT LOCATIONS TAKE PRECEDENCE OVER AIR DEVICES.

ECONOMIZER

1. FOR SYSTEMS THAT REQUIRE ECONOMIZER, MECHANICAL CONTRACTOR SHALL PROVIDE A CONTROLLER EQUAL TO HONEYWELL JADE ECONOMIZER MODULE W7220. REFER TO ECONOMIZER DETAIL FOR ADDITIONAL INFORMATION.

RETURN AIR SYSTEMS

- 1. MECHANICAL DESIGN ASSUMES A MINIMUM 1" DOOR UNDERCUTS FOR ALL DOORS AND WALL PARTITIONS WITHIN CONDITIONED SPACES.
- 2. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER IF ANY DOOR OR PARTITION IS NOT PROVIDED WITH A MINIMUM 1" UNDERCUT OR IF ANY OF THE SPECIFIED SYSTEM RETURN PATHS ARE COMPROMISED DURING CONSTRUCTION IN ANY WAY.
- 3. AT A MINIMUM, THE CONTRACTOR SHALL PROVIDE A FIBERGLASS DUCTED TRANSFER BOOT/GRILL ABOVE CEILING FOR ANY DOOR OR PARTITION THAT IS NOT PROVIDED WITH A MINIMUM 1" UNDERCUT.
- 4. RETURN BOOT SHALL TERMINATE IN NEW RETURN AIR DEVICES. RETURN AIR DEVICES SHALL BE WHITE ALUMINUM PERFORATED LAY-IN TYPE WITH ALL NECESSARY MOUNTING HARDWARE TO MATCH OTHER RETURN DEVICES ON SITE. PROVIDE FRAMED AIR DEVICE IF IN HARD CEILING.

METAL DUCTS

- 1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. FOR CLARITY SAKE, MOST DUCTOFFSETS/RISES/DROPS ARE NOT SHOWN. RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL. SIZES SHOWN ARE INSIDE CLEAR DIMENSION.
- 2. PRIOR TO CONSTRUCTION, CONTRACTOR IS REQUIRED TO COORDINATE HEIGHTS OF DUCTWORK LAYOUT WITH EXISTING STRUCTURE, OTHER TRADES, AND PROPOSED CEILING HEIGHT TO CONFIRM ADEQUATE VERTICAL SPACE FOR STACKING.
- 3. CONSTRUCT AND LEAKAGE TEST ALL DUCTWORK BASED ON SMACNA REQUIREMENTS. COORDINATE PRESSURE CLASSES WITH EQUIPMENT SCHEDULI
- 4. ALL GALVANIZED SHEET METAL DUCT WORK SHALL COMPLY WITH SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS--METAL AND FLEXIBLE.
- 5. USE 2 GLASS FIBER-REINFORCED FABRIC JOINT AND SEAM TAPE. USE WATER BASED JOINT AND SEAM SEALER. USE FIRE RESISTANT SEALER FOR FILLING OPENINGS AROUND DUCT PENETRATIONS THROUGH WALLS. ACCEPTABLE PRODUCTS ARE DOW CORNING, FIRE STOP FOAM AND FIRE STOP SEALER OR EQUAL.
- 6. USE SHEET METAL SCREWS OR BLIND RIVETS COMPATIBLE WITH DUCT MATERIALS WHEN SECURING ALL DUCTWORK TO STRUCTURE.
- 7. PROVIDE TURNING VANES IN ALL SPLITS, TEES AND SWEPT 90 DEGREE ANGLE DUCT FITTINGS. MANUFACTURED TURNING VANES TO BE 1-1/2 WIDE, DOUBLE VANE, CURVED BLADES OF GALVANIZED SHEET STEEL SET 3/4" O.C. ACCEPTABLE MANUFACTURER'S ARE DUCTMATE INDUSTRIES, METALAIRE, WARD INDUSTRIES OR EQUAL.
- 8. WHERE RECTANGULAR TEE FITTINGS ARE SHOWN, PROVIDE FITTING WITH ADJUSTABLE DIVIDER SHEET AND TURNING VANES.
- WHERE RECTANGULAR MAIN AND BRANCH CONNECTIONS ARE SHOWN, PROVIDE EXTRACTOR VANES.
- PROVIDE MANUAL VOLUME CONTROL DAMPERS WHERE SHOWN ON DRAWINGS. DAMPERS TO HAVE NEOPRENE BLADE SEALS AND GALVANIZED STEEL FRAMES, TIE BARS, DAMPER AND BRACKETS. ACCEPTABLE MANUFACTURER'S ARE RUSKIN CO., NAILOR INDUSTRIES, FLEXMASTER OR EQUAL.
- 11. ABOVE INACCESSIBLE CEILINGS AND WHERE DUCT CONFIGURATION DOES NOT ALLOW FOR INSTALLATION OF DAMPER IN DUCTWORK OR DIFFUSER, PROVIDE REMOTE MANUAL DAMPER BY YOUNG REGULATOR, (BOWDEN CABLE CONTROL SYSTEM). CONTRACTOR MAY PROVIDE OPPOSED BLADE DAMPER THAT IS INTEGRAL TO GRD WITH ENGINEER'S APPROVAL.

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE INTERNATIONAL BUILDING CODE 2018, AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

CITY OF BRUNSWICK, GEORGIA BUILDING DEPARTMENT NOTES

- 1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- 2. VENTILATION FOR ALL AREA SHALL COMPLY WITH INTERNATIONAL MECHANICAL CODE 2018 CHAPTER 4.
- 3. AS PER 408.2.5 OF INTERNATIONAL ENERGY CONSERVATION CODE 2015, CONSTRUCTION DOCUMENT SHALL REQUIRE THAT, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER.
- 4. TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS OF EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS. THE TESTS WILL SHOW COMPLIANCE WITH INTERNATIONAL BUILDING CODE 2018 REQUIREMENTS AS OUTLINES IN SECTION [BC 1704].
- 5. THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM
- COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS. 6. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING
- A. VENTILATION SYSTEM BALANCING IMC 2018 403.1

SECTIONS OF THE INTERNATIONAL MECHANICAL CODE 2018:

- 7. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
- A. STANDARDS OF HEATING IMC 2018 309.1
- B. DUCT CONSTRUCTION AND INSTALLATION— IMC 2018 603 C. AIR INTAKES, EXHAUSTS AND RELIEF — IMC 2018 — 401.5
- D. AIR FILTERS IMC 2018 605 E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS — IMC 2018 - 606 F. GAS FIRED EQUIPMENT - IFGC 2018
- 8. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- 9. VENTILATION FOR ALL AREA SHALL COMPLY WITH IMC 2018-401.
- 10. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY IMC 2018 - 403.3.
- 11. SMOKE DETECTOR SHALL MEET UL268A.
- 12. SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION IMC 2018 606 TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.
- 13. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION
- 14. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- 15. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR - BALANCE REPORT TO INSPECTOR OF RESPECTIVE BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.

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MATTRESS WAREHOUSE

: 05.21.24

FOR CONSTRUCTION

MECHANICAL GENERAL NOTES, SYMBOL LISTS & ABBREVIATIONS M0.1

SECTION 230713 - DUCT INSULATION

1.1 QUALITY ASSURANCE

SURFACE-BURNING CHARACTERISTICS: ALL INSULATION SHALL HAVE COMPOSITE (INSULATION JACKET OR FACING AND ADHESIVE USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) A FLAME-SPREAD INDEX OF 25, AND SMOKE-DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOOR, 75, AND SMOKE-DEVELOPED INDEX OF 150 FOR INSULATION INSTALLED OUTDOORS; ACCORDING TO ASTME 84.

1.2 FIELD QUALITY CONTROL

A. FIELD INSPECTIONS: BY OWNER-ENGAGED AGENCY.

1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

A. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION:

B. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:

UNCONDITIONED SPACES: R-6 WITHIN BUILDING ENVELOPE ASSEMBLY: R-8 EXTERIOR OF BUILDING: R-8

1.4 ITEMS NOT INSULATED:

1. FIBROUS-GLASS DUCTS.

- 2. METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY
- WITH ENERGY CODE AND ASHRAE/IESNA 90.1. 3. FACTORY-INSULATED FLEXIBLE DUCTS.
- 4. FACTORY-INSULATED PLENUMS AND CASINGS.
- 5. FLEXIBLE CONNECTORS.
- 6. VIBRATION—CONTROL DEVICES. 7. FACTORY-INSULATED ACCESS PANELS AND DOORS.
- 8. DUCTS THAT HAVE INTERNAL ACOUSTICAL LINING.

1.5 PRODUCTS

A. THE FOLLOWING INSULATION MANUFACTURERS WILL BE ACCEPTABLE:

JOHNS-MANVILLE

2. OWENS-CORNING 1.6 ACOUSTICAL TREATMENT

1. WHERE SHOWN ON THE DRAWINGS, LOW PRESSURE DUCTWORK SHALL BE LINED WITH 1.5" THICK R-6 AS MANUFACTURED BY DUCTMATE, 1-1/2 POUND MINIMUM DENSITY, NEOPRENE COATED, FLEXIBLE FIBERGLASS DUCT LINER. LINING SHALL COMPLY WITH NFPA 90A AND SHALL HAVE A FLAME SPREAD CLASSIFICATION OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING NOT MORE THAN 50. DUCT SIZES

WHERE LINING IS INDICATED ON PLANS ARE MINIMUM INSIDE CLEAR DIMENSIONS REQUIRED,

END OF SECTION 230713

THERMOSTATIC CONTROL NOTES:

C403.2.4.1 THERMOSTATIC CONTROLS

THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.

EXCEPTION: INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES, GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED:

1. THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN +/-45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15 240 MM); AND

2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.2.4.1.2 DEADBAND

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS: 1. THERMOSTATS REQUIRING MANUAL CHANGEOVER BETWEEN HEATING AND COOLING

2. OCCUPANCIES OR APPLICATIONS REQUIRING PRECISION IN INDOOR TEMPERATURE CONTROL AS APPROVED BY THE CODE OFFICIAL.

C403.2.4.1.3 SETPOINT OVERLAP RESTRICTION

WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE PROVIDED WITH THE CAPABILITY TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.2.4.1.2.

C403.2.4.2 OFF-HOUR CONTROLS

EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.

1. ZONES THAT WILL BE OPERATED CONTINUOUSLY.

2. ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 6,800 BTU/H (2 KW) AND HAVING A READILY ACCESSIBLE MANUAL SHUTOFF SWITCH.

C403.2.4.2.1 THERMOSTATIC SETBACK CAPABILITIES

THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAINZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

C403.2.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES

AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.2.4.2.3 AUTOMATIC START CAPABILITIES

AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CAPABLE OF AUTOMATICALLY ADJUSTING THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

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FOR CONSTRUCTION

MECHANICAL NOTES M0.2

- MECHANICAL GENERAL NOTES

 A. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING
- B. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION. C. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL
- EQUIPMENT SELECTED. D. CONTRACTOR TO CONTACT THE LANDLORD'S ROOFING CONTRACTOR FOR ANY NECESSARY
- PENETRATIONS. KEEP ALL ADJOINING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS. GUARDS SHALL BE PROVIDED WHERE VARIOUS COMPONENTS THAT REQUIRE SERVICE AND ROOF HATCH OPENINGS ARE LOCATED WITHIN 10 FEET OF A ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR, ROOF, OR GRADE BELOW. THE GUARD SHALL EXTEND NOT LESS THAN 30 INCHES BEYOND EACH END OF COMPONENTS THAT REQUIRE SERVICE. THE TOP OF THE GUARD SHALL BE LOCATED NOT LESS THAN 42 INCHES ABOVE THE ELEVATED SURFACE ADJACENT TO THE

MECHANICAL ROOF PLAN KEY NOTES:

- NEW ROOFTOP UNIT IS PROVIDED. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCT 1) CONNECTIONS. SET OUTSIDE AIR AS INDICATED ON ROOFTOP UNIT SCHEDULES. MECHANICAL CONTRACTOR SHALL SCRIBE INTO UNIT POSITION OF OUTSIDE AIR DAMPER AND LABEL OUTSIDE AIR VOLUME AND PERCENT OF OUTSIDE AIR.
- CONNECT DRAIN LINES TO THE NEAREST APPROVED PLACED OF DISPOSAL AS PER LOCAL CODE. REFER PLUMBING PLANS FOR FURTHER DETAILS.
- EXISTING RTU CURB SHALL BE FIELD VERIFIED AND REUSED IF IN GOOD CONDITION. PROVIDE CURB ADAPTER IF REQUIRED.
- COORDINATE FINAL LOCATION OF EQUIPMENT WITH STRUCTURAL DRAWINGS AND CONFIRM THE SAME WITH ARCHITECT/OWNER.
- CONTRACTOR TO FILED VERIFY THE EXISTING ROOFTOP UNIT LOCATIONS AND TAGS AND REPLACE THE EXISTING RTUS WITH NEW ONES AT THE SAME LOCATION. CONTRACTOR TO PROVIDING THE SAME TAGS TO NEW ROOFTOP UNITS.
- 6 ALL OUTSIDE AIR INTAKE ON THE ROOF SHALL BE MINIMUM 10 FEET AWAY FROM ANY EXHAUST SOURCE.

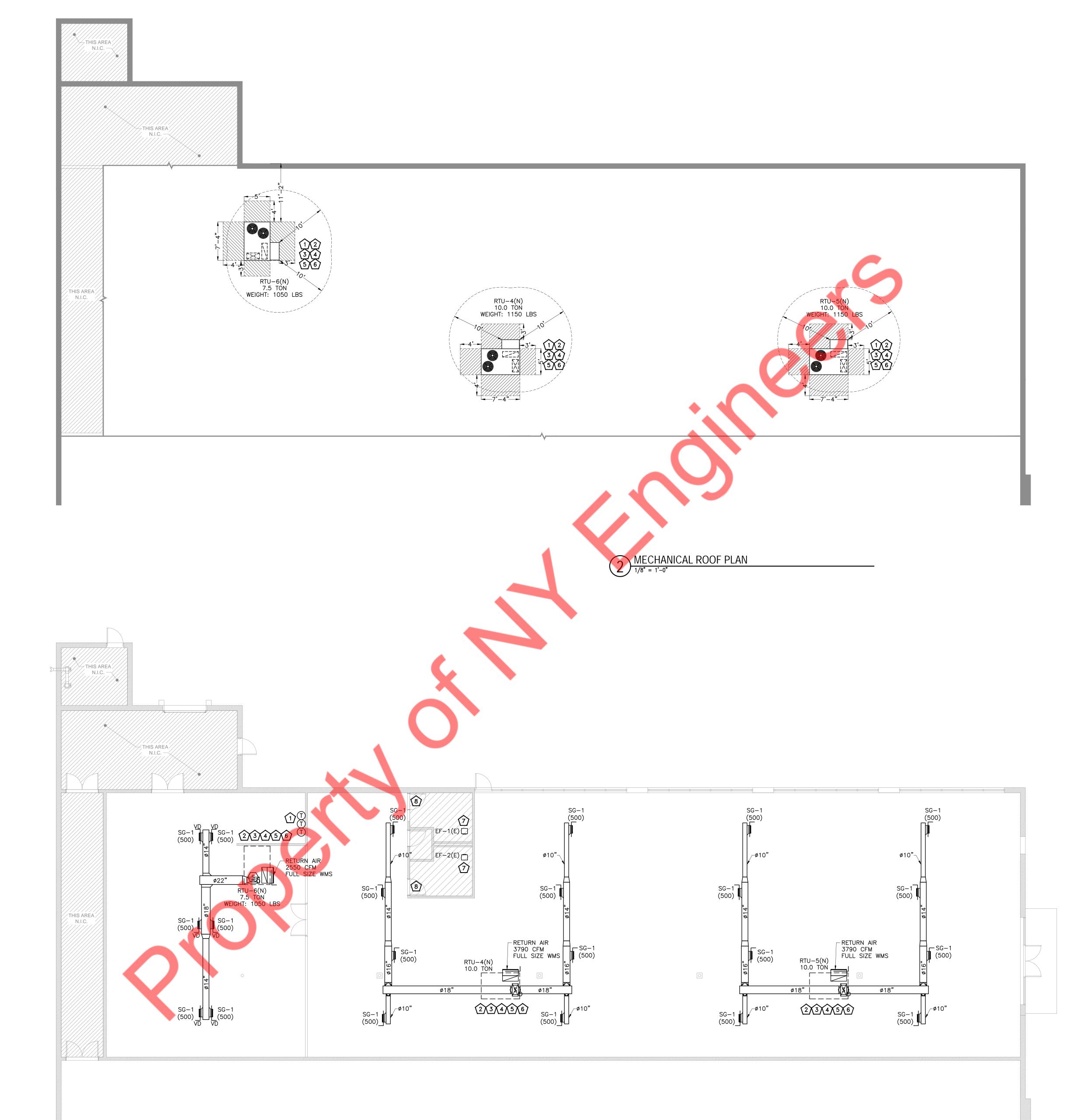


IF REQUIRED. PROVIDE ANY EXTRA DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES

- INFORM THE ENGINEER FOR ANY DISCREPANCIES FOUND BEFORE COMMENCING BIDS. CONTRACTOR SHALL BALANCE EACH AIR DIFFUSER WITH THE CFM SHOWN PLAN. C. DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR DUCTWORK ROUTING. OFFSET AND RUN DUCTWORK INSIDE THE STRUCTURE
- IN ORDER TO COMPLETE THE INSTALLATION. D. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURE
- E. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING
- F. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS. G. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON
- ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION. H. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL
- EQUIPMENT SELECTED. I. ALL EXPOSED ROUND DUCTWORK SHALL BE INTERNALLY INSULATED.
- J. ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED. K. COORDINATE FINAL LOCATION OF EQUIPMENT WITH STRUCTURAL DRAWINGS. TAKE NECESSARY PRECAUTIONS TO PREVENT DUST AND DIRT MIGRATING TO OCCUPIED AREAS OF
- THE BUILDING. THIS INCLUDES BLANKING OFF ANY RETURN AIR GRILLES/ DUCTS IN THE WORK AREA. PROVIDE TEMPORARY EXHAUST FANS, DUCTED DIRECTLY TO OUTDOORS, TO MAINTAIN NEGATIVE PRESSURE WITHIN THE WORK AREA. M. KEEP ALL ADJOINING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS.
- N. MECHANICAL CONTRACTOR TO COORDINATE ALL DUCT WORK, CROSSINGS, OVERLAPPING AND PENETRATIONS WITH SITE CONDITIONS AND AS PER EXISTING JOIST LAYOUT AND BEAM IN FIELD. MODIFY DUCT WORK WHEREVER REQUIRED.
- O. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS/SLABS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE
- P. CONTRACTOR TO CONTACT THE LANDLORD'S ROOFING CONTRACTOR FOR ANY NECESSARY PENETRATIONS.

MECHANICAL FLOOR PLAN KEY NOTES:

- LOCATION OF DIGITAL THERMOSTAT CONTROL. INSTALL AND WIRE THE HONEYWELL TH9320WF5003 WIFI 9000 COLOR TOUCH-SCREEN PROGRAMMABLE THERMOSTAT, SIZED 3.5" X 4.5", IN WHITE COLOR. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN AND PROVIDE LOCKABLE COVER.
- EXTEND FULL SIZE SUPPLY DUCTWORK FROM ROOFTOP UNITS TO SPACE. EXTEND AS SHOWN. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS.
- CONTRACTOR TO PROVIDE RIGID SPIRAL METAL DUCTWORK MADE OF GALVANIZED STEEL. ALL EXPOSED DUCTWORK AND AIR DEVICES TO BE PAINTED WHITE. FINAL FINISH SHALL BE COORDINATED WITH ARCHITECT/ OWNER.
- COORDINATE FINAL LOCATION OF EQUIPMENT WITH STRUCTURAL DRAWINGS AND CONFIRM THE SAME WITH ARCHITECT/OWNER.
- SMOKE DETECTOR SHALL BE FURNISHED/INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR TO SHUT DOWN CORRESPONDING RTU UNDER ALARM CONDITIONS. ALL WIRING SHALL BE IN CONDUIT PER N E C SMOKE DETECTOR SHALL BE SYSTEM SENSOR MODEL DH100ACDCLP OR EQUAL.
- 6 PROVIDE REMOTE TEMP. SENSOR MOUNTED IN RETURN DUCT AND WIRE BACK TO T-STAT.
- EXISTING CEILING MOUNTED EXHAUST FAN. INTERCONNECT EXHAUST FAN WITH RTU-4(N).
 CONTRACTOR TO FIELD VERIFY AND CONFIRM THE CONDITION OF THE EXISTING RESTROOM EXHAUST FAN ALONG WITH ITS ACCESSORIES. IF THE EXISTING EXHAUST FAN IS IN GOOD CONDITION SHALL REMAIN AND REUSE ALONG WITH ITS DUCTWORK, TERMINATION AND CONTROL. PROVIDE BACK DRAFT DAMPER IF REQUIRED. IF FOUND DAMAGE REPLACE WITH NEW ONE OF SAME TYPE.
- 8 PROVIDE 8"X8" DOOR GRILLE.



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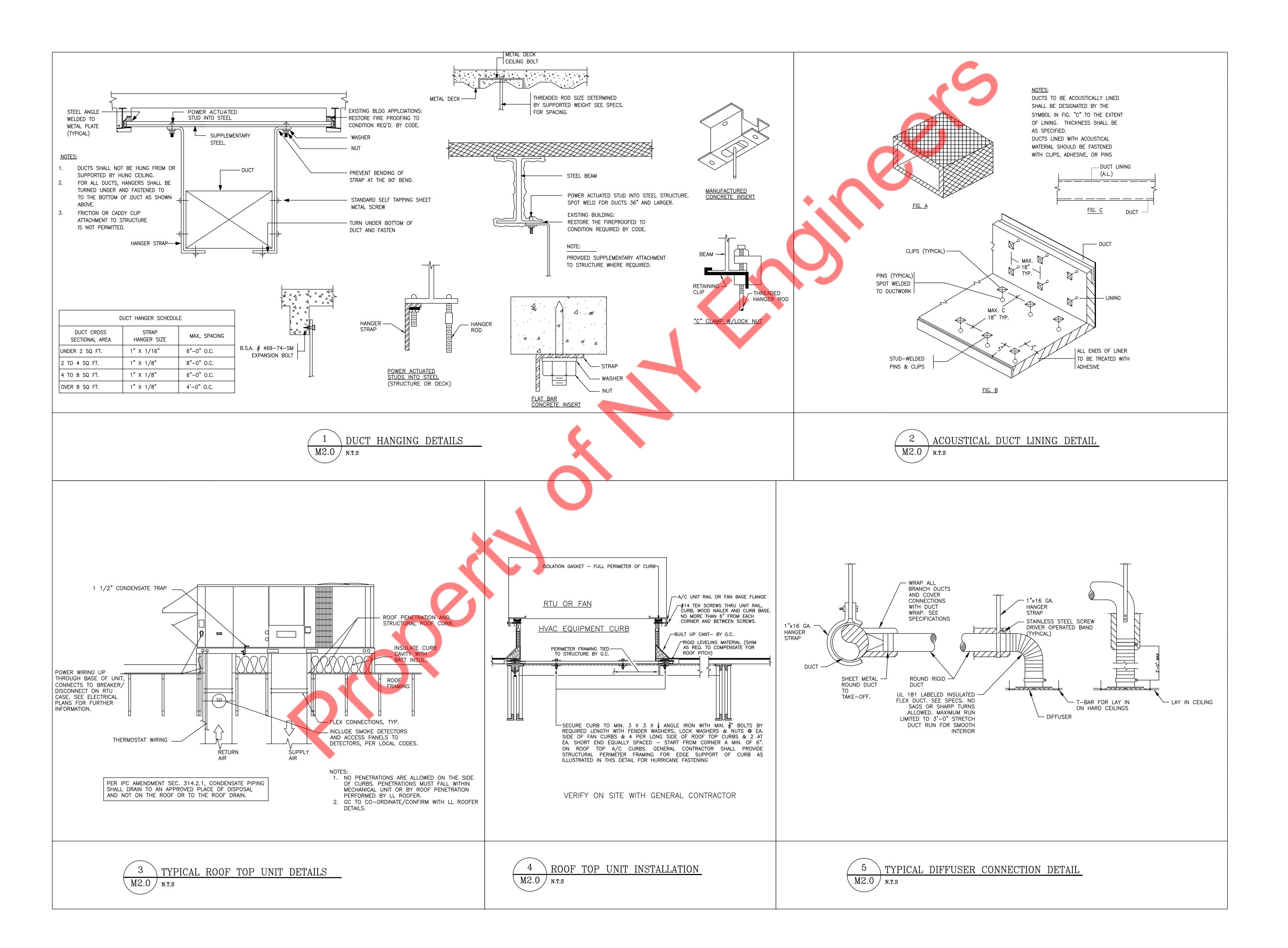
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FOR CONSTRUCTION

MECHANICAL FLOOR & ROOF PLAN



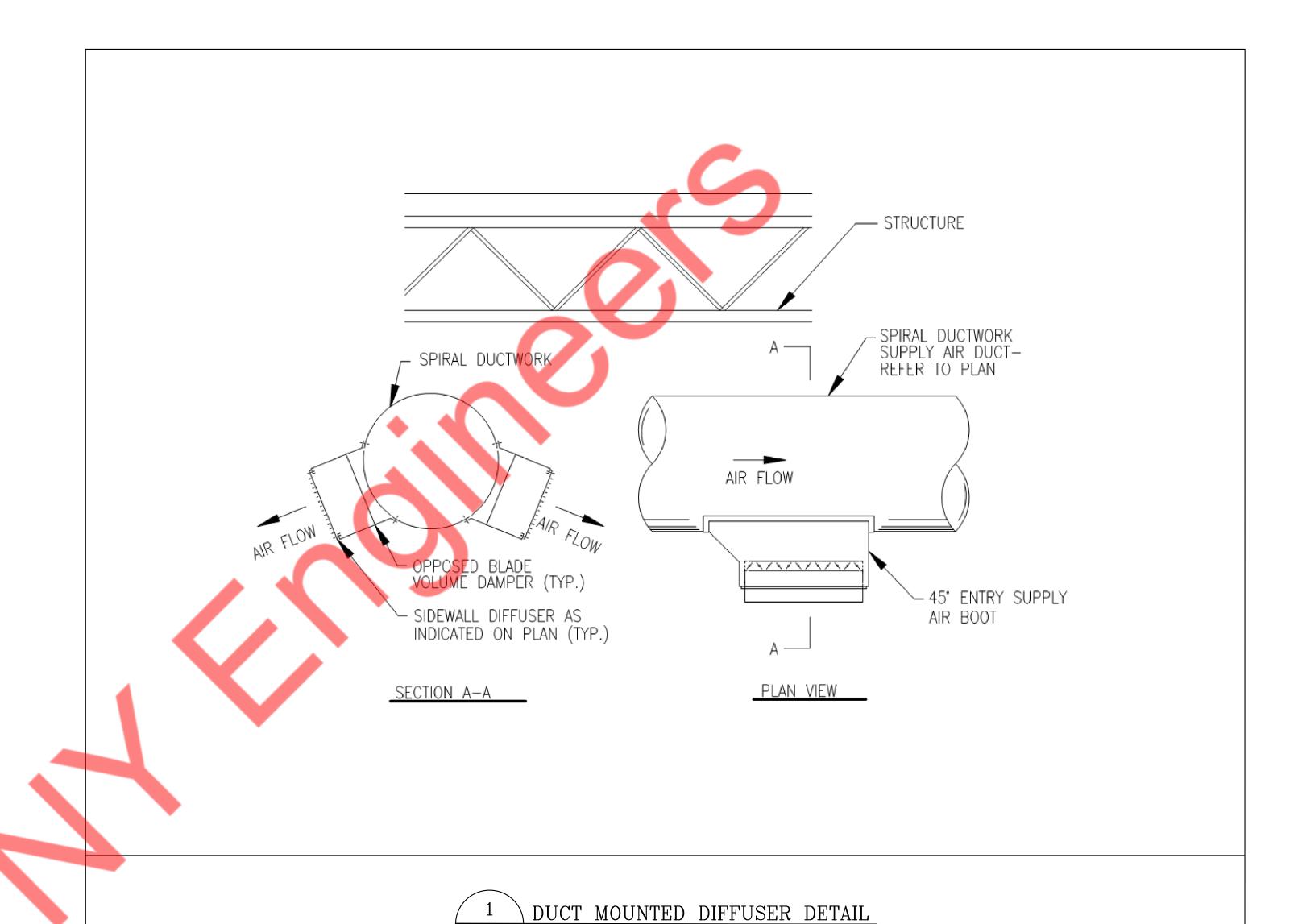


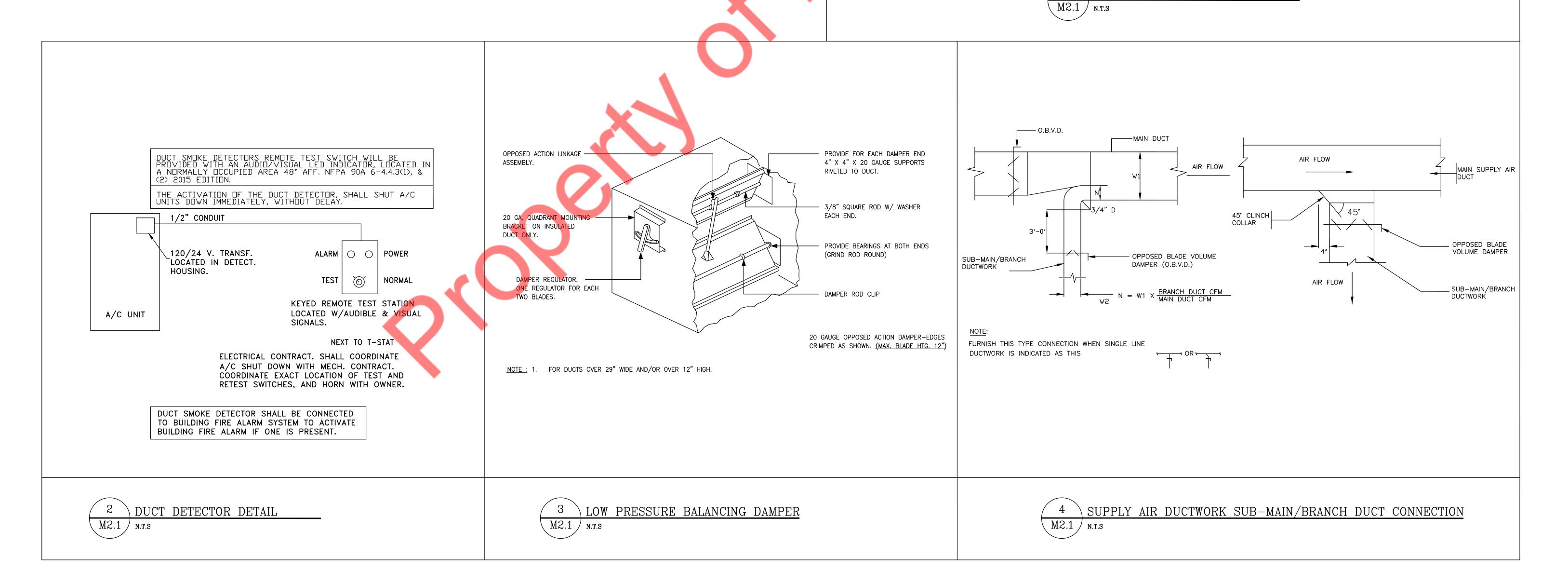
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MECHANICAL DETAILS (1 OF 2) M2.0





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MECHANICAL DETAILS (2 OF 2) M2.1

								POOE TOR III	NIT SCHEDULE										
						SUPPLY FAN	ΠΑΤΑ		S HEAT	COOLIN	NG DATA		ELECTRIC	ΔΙ ΠΔΤΔ				THEDNAM	
UNIT ID	MANUFACTURER	STATUS	MODEL	NOMINAL	TOTAL	OUTSIDE AIR	1	INPUT	OUTPUT	TOTAL	SENSIBLE			AL DATA		EER	IEER	THERMAL EFFICIENCY	OPERATING
OIII IB	TVI/ ITOT/ TOTOTET	3171103	Wiober	TONS	CFM	CFM	PRESSURE (IN. W.G.)		MBH	MBH	MBH	VOLTS	PHASE	MCA(A)	MOCP(A)	LLIX	12211	(%)	WEIGHT (LBS)
RTU-6(N)	CARRIER(OR EQUIVALENT)	NEW	48FCDM08	7.5	3000	450	1.0	125	103	90.5	66.0	460	3	19	20	11.2	15.0	82	1050
														30	11.0	15.0	82	1150	
RTU-5(N)	RTU-5(N) CARRIER(OR EQUIVALENT) NEW 48FCDM12 10.0 4000 210 1.0 180 148 125.8 96.2 460 3 25 30 11.0 15.0 82 1150															1150			
NOTES:			•			•									•				
1. PROVIDE	FULL PERIMETER 14" HIGH R	OOF CURB.																	
2. PROVIDE	DUCT MOUNTED SMOKE DE	TECTOR FOR RT	US IN SUPPLY SID	E.															
3. PROVIDE	2" MERV-8 FILTERS.																		
4. PROVIDE	HINGED PANELS FOR FILTER	ACCESS, FAN M	OTOR ACCESS,CO	MPRESSOR A	CCESS AND C	ONTROL COMP	PARTMENT ACCESS.												
5. CONTRAC	CTOR TO PROVIDE HONEYWE	LL TH9320WF5	003 WIFI 9000 C	OLOR TOUCH	I-SCREEN PRO	OGRAMMABLE 1	HERMOSTAT, SIZED 3.	5" X 4.5", IN V	VHITE COLOR.										
6. PROVIDE	HAIL GUARD.																		
7. PROVIDE	NON FUSED DISCONNECT SV	VITCH.																	
8. PROVIDE	WITH TUBE & FIN COIL SYST	EM.																	
9. PROVIDE	WITH DRAIN PAN OVERFLOW	V SWITCH.																	
10.PROVID	E WITH STANDARD CAP AND	PHASE MONITO	R SYSTEM.																
11.PROVID	E MULTISTAGE AIR VOLUME.																		
12.PROVID	E WITH GFCI FLD WIRED.																		
13.PROVID	E ULTRA LOW LEAK ENTHALPY	ECONOMIZER	WITH FDD AND B	AROMETRIC	RELIEF.														

			AIR BALANCE		
UNIT	AREA SERVED	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR(CFM)
RTU-6(N)	SEE PLAN	3000	450	2550	0
RTU-4(N)	SEE PLAN	4000	210	3790	0
RTU-5(N)	SEE PLAN	4000	210	3790	0
TOTAL		7000	870	6340	0
	BUILDING PRES	SSURE:	870	P	OSITIVE

CONTRACTOR TO ADJUST DAMPER ON FRESH AIR TAP TO PROVIDE OUTSIDE AIR AS MENTIONED IN ABOVE TABLE.

14.PROVIDE STD/MED/HIGH STATIC DIRECT DRIVE.

VENTILATION CALCULATION AS PER 2018 IMC WITH GEORGIA AMENDMENTS														
ROOM TAG	AREA	OCCUPANCY AS PER 2018 IMC/1000SQ.FT.		I NO OF CHAIR	FINAL OCCUPANCY	CFM/PERSON	CFM/SQ.FT	REQUIRED OA CFM		EXHUAST CFM/SQ.FT./FIXTURE	EXHAUST CFM	PROVIDED EXHAUST CFM		
RETAIL SPACE	1912	15	29	0	29	7.5	0.12	447	450	-	-	-		
WAREHOUSE	6848	0	0	0	0	10	0.06	411	420	-	•	-		
TOTAL	9760				20			OEO	970					

		MECHANICAL AIR TERMIN	AL DEVICES SCHED	ULE								
TAG	SIZE	DESCRIPTION	CONSTRUCTION	FINISH	BASIS OF DES	IGN	NOTES					
IAG	SIZE	SIZE DESCRIPTION CONSTRUCTION FINISH MANU										
SG-1	18"X6"	SUPPLY AIR GRILLE	ALUMINIUM	WHITE	TITUS	300FS	ALL					
1. PRO\	VIDE STANDARD \	WHITE FINISH FOR ALL AIR DEVICES UNLESS N	OTED OTHERWISE	ON PLAN.			,					
2. CON	. CONTRACTOR TO COORDINATE WITH ARCHITECT / OWNER FOR THE FINAL FINISH.											
3. MAX	. NC LEVEL 30 OR	LESS.										

	FAN SCHEDULE														
UNIT ID MANUFACTURER CFM ESP(IN W.G.) RPM HP VOLTS/PH FLA(A) WEIGHT (LBS) MODEL NO															
EF-1(E)	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	1,2,3,4					
EF-2(E)	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	1,2,3,4					
NOTES: S.A.E : SAME A	AS EXISTING. VIF: VERIF	Y IN FIELD.													
.) REUSE ALL EXISTING	ACCESSORIES ALONG WI	TH DUCTW	ORK. REPLACE WITH	I NEW IF REQU	IRED.										
2) PROVIDE NEW BACK	DRAFT DAMPER IF EXIST	TING FOUN	D DAMAGED OR NO	Γ PROVIDED.											
) INTERLOCK WITH RT	Ū-4(N).														
I) REPAIR OR REPLACE	WITH THE SAME TYPE IF	EXISTING F	OUND DAMGED.												

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MECHANICAL SCHEDULES M3.0

			ELECTRICAL SYMBOLS LIST						
	LIGHTING		POWER AND TELECOMMUNICATION		ELECTRICAL AE	BBREVIA ⁻	TONS		
	LIGHTING FIXTURE AND OUTLET BOX. HALF SHADED FIXTURE OR	J	JUNCTION BOX WITH BLANK COVER PLATE	A	AMPERES	EA	EACH		
	"EM" INDICATES FIXTURES WITH INTEGRAL BATTERY PACK FOR EMERGENCY SERVICE, U.O.N.		DUPLEX WALL MOUNTED RECEPTACLE	A/C, AC	AIR CONDITIONING UNIT	EF	EXHAUST FAN		
	LUMINAIRE TYPE : INDICATE BY LIPPERCASE LETTER SEE LIGHTING EXTURE	\bigoplus_{GFI}	DUPLEX WALL MOUNTED GFI RECEPTACLE	AFF	ABOVE FINISHED FLOOR	ЕМ	EMERGENCY		
	SCHEDULE.	# GFI	DOUBLE DUPLEX RECEPTACLE - 20A-1P, 125V, NEMA 5-20R.	AIC	AMPS INTERRUPTING CAPACITY	EMT	ELECTRICAL METALLIC TUBING		
	- CIRCUIT NUMBER : INDICATED BY NUMBER SWITCHING INDICATED BY LOWER CASE LETTERS.	- "		AWG	AMERICAN WIRE GAUGE	FDR	FEEDER		
O 2	SWITCHING INDICATED BY LOWER CASE LETTERS.	CL	DUPLEX CELLING MOUNTED RECEPTACLE	С	CONDUIT	FL	FLOOR		
● EM —	DENOTES LUMINAIRE ON EMERGENCY CIRCUIT.	⊕	QUAD CONVENIENCE RECEPTACLE — 20A-1P, 125V, NEMA 5-20R MOUNTED FLUSH IN FLOOR.	CKT	CIRCUIT	G	GROUND		
• NL	DENOTES FIXTURES DESIGNATED AS NIGHTLIGHT, WIRED TO 24 HOURS UNSWITCHED CIRCUIT.	FL FL		CU	COPPER	GFI	GROUND FAULT INTERRUPTER		
			TELEPHONE OUTLET, WALL—MOUNTED, TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE	DN	DOWN	WH	WATER HEATER		
	SWITCHES AND CONTROLS		ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4"DIAMETER GROMMETED OPENING.	DWG	DRAWING	HZ	HERTZ		
φ Τ	20A TOGGLE SWITCH U.O.N.		DATA OUTLET — (1) PORT U.N.O, TEL / DATA OUTLET TO BE	JB	JUNCTION BOX	PWR	POWER		
\$ _a	ZUA TUGGLE SWITCH U.U.N.		PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH	KCMIL	ONE THOUSAND CIRCULAR MILS	R	REMOVE		
\$ _{0S}	WALL MOUNTED OCCUPANCY SENSOR		1 1/4" DIAMETER GROMMETED OPENING.	KVA	KILOVOLT-AMPERES	REC	RECEPTACLE		
•	WIRING SYSTEMS	lacksquare	TELEPHONE/DATA OUTLET, 4"SQUARE OUTLET BOX WITH SINGLE GANG COLLAR AND BLANK PLATE. PROVIDE 3/4" E.C., U.O.N., UP TO HUNG CEILING AND	KW	KILOWATTS	SPEC	SPECIFICATION		
3	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION,	v	TERMINATE WITH 90° ELBOW, BUSHING AND DRAG WIRE.	МСВ	MAIN CIRCUIT BREAKER	SW	SWITCH		
<u>3</u> UP-	NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF $1\#12\ $ Ø, $1\#12\ $ N. & $1\#12\ $ G. IN $3/4$ C, UNLESS OTHERWISE NOTED.		MOTORS AND CONTROLS	MIN	MINIMUM	TELE	TELEPHONE		
3 5	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF		NON FUSED DISCONNECT SWITCH AMPERAGE, AND NUMBER OF POLES AS NOTED.	MLO	MAIN LUGS ONLY	TYP	TYPICAL		
UP-	2#12 ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.			N	NEUTRAL	U.O.N.	UNLESS OTHERWISE NOTED		
3 5 7	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF		30A/240V NON FUSED DISCONNECT SWITCH	NIC	NOT IN CONTRACT	V	VOLT/VOLTAGE		
JP-	3#12 Ø, $3#12$ N. & $3#12$ G. IN $3/4$ °C, UNLESS OTHERWISE NOTED.		60A/240V NON FUSED DISCONNECT SWITCH	NTS	NOT TO SCALE	VA	VOLT AMPERE		
	UNDERGROUND		100A/240V NON FUSED DISCONNECT SWITCH	W	WIRE	WP	WEATHER PROOF		
	ELECTRICAL DRAWING LIST		200A/240V NON FUSED DISCONNECT SWITCH	WH	WALL HEATER	E	EXISTING		
	LLLUINIUAL URAVVIING LIST	M	MOTORIZED DAMPER.	GP	GENERAL PURPOSE	RCP	RECIRCULATION PUMP		
E0.1	ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES	S _T	THERMAL OVERLOAD SWITCH AT MOTOR. PROVIDE THERMAL ELEMENTS AS			1			
E0.2	ELECTRICAL SPECIFICATIONS SHEET 1 OF 2		PER MOTOR RATING.		CODE COMPLIANCE				

ANNOTATION

POWER DISTRIBUTION

INDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR.

BRANCH PANELBOARD, 208Y/120V-SURFACE OR FLUSH MOUNTED,

DETAIL REFERENCE: DETAIL NUMBER INDICATED ON

TOP; DRAWING NUMBER INDICATED ON BOTTOM

MANUAL MOTOR SWITCH

KEYED NOTE REFERENCE

SIZE AS NOTED.

E/2-1

ELECTRICAL SPECIFICATIONS SHEET 2 OF 2

ELECTRICAL LIGHTING PLAN

ELECTRICAL DETAILS SHEET

ELECTRICAL PANEL SCHEDULE

ELECTRICAL RISER DIAGRAM

ELECTRICAL FLOOR POWER PLAN

ELECTRICAL ROOF POWER PLAN

GENERAL NOTES

(APPLY TO ALL "E" DRAWINGS)

- 1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE STATE ELECTRICAL CODE, 2020 NEC WITH AMENDMENTS, LOCAL JURISDICTION REQUIREMENTS, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.
- 2. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.
- 3. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
- 4. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.
- 5. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH
- 6. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
- 7. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING,
- HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.

 8. CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
- 9. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
- 10. CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE-EXISTING CONDITIONS OR BETTER.
- 11. MINIMUM SIZE OF CONDUIT SHALL BE 34", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
- 12. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
- 13. PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CANCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
- 14. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.

20. ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY.

NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT

CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THESE PROJECT:

INTERNATIONAL BUILDING CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.

INTERNATIONAL MECHANICAL CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.

INTERNATIONAL PLUMBING CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.

INTERNATIONAL FUEL/GAS CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.

INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION, WITH GEORGIA

NATIONAL ELECTRICAL CODE 2020.

FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.

- 15. FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.
- 16. ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINTIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.

 17. ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
- 18. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER.
 THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- 19. ALL CONDUITS AND EQUIPMENT TO BE CONCEALED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.

TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.

- 21. OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE—RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE—RATED BOXES OR PUTTY PADS ARE UTILIZED.
- 22. COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITH THE ENGINEER AND OWNER BEFORE
- 23. COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS.

 COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.
- 24. REFER TO ARCHITECTURAL PLANS FOR FINAL LOACTIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
- 26. LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF
- 7. NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANELBOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANELBOARD.

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FOR CONSTRUCTION

ELECTRICAL
SYMBOLS LIST,
ABBREVIATIONS
& GENERAL
NOTES
E0.1

ELECTRICAL SPECIFICATIONS

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS
- AS APPLICABLE ARE PART OF THIS CONTRACT. B. DRAWING ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH

EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS

- REQUIRED, MAINTAIN HEADROOM AND SPACE CONDITIONS. C. BIDDERS, BEFORE SUBMITTING PROPOSALS, SHALL VISIT AND CAREFULLY EXAMINE THE AREA AFFECTED BY THIS WORK TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS, REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION
- D. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOROPERATION.MAINTANANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWING MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- F. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.
- F. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES. AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
- G. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
- H. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.
- J. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT, PROVIDE EQUIPMENT CURBS AS REQUIRED.
- K. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT ND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE. ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
- THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- M. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- N. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
- P. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATED OF INSPECTION AND APPROVAL.
- GENERAL PROVISIONS FOR ELECTRICAL WORK:
- A. DEFINITIONS
- 1) "PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
- 2) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
- 3) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE. AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
- 4) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
- 5) "WIRING": RACEWAY. FITTINGS, WIRE, BOXES, AND RELATED ITEMS.
- 6) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
- 7) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
- 8) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
- TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.
- C. QUALITY ASSURANCE
- 1) QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND LISTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
- 2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.
- 3) CURRENT CHARACTERISTICS:
- a. SERVICE: 120/208 VOLT, 1 PHASE, 3 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.
- b. DISTRIBUTION: 120/208 VOLT, 1 PHASE, 3 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL
- 4) HEIGHTS OF OUTLETS:
- a. FROM FINISHED FLOOR TO CENTERLINE OF OUTLETS FOR:

WALL SWITCHES: 4 FT-0 IN.

- RECEPTACLES AND TELEPHONES: 1 FT-6 IN.

- WALL FIXTURES: 7 FT-0 IN. - MOTOR CONTROLLERS: 5 FT-0 IN. - CLOCKS: 7 FT 6 IN
- b. EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.
- D. PRODUCT DELIVERY, STORAGE AND HANDLING
 - 1) MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE
 - 2) ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR, MINOR DEVIATIONS SHALL BE PERMITTED, CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.
- 1) NAMEPLATES: PROVIDE BLACK LAMICOID SHEET WITH 3/4 IN. WHITE LETTERING, FASTENED WITH EPOXY CEMENT FOR EACH DISCONNECT SWITCH, CIRCUIT BREAKER, PANEL, CABINET, TRANSFORMER, ENCLOSURE, MOTOR CONTROLLER AND THE LIKE. NAMEPLATES SHALL DESCRIBE THE NAME AND NUMBER OF EACH
- 2) CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG. INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.
- 3) INSERTS AND SUPPORTS:
- a. INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED.

WITH END CAPS AND CLOSURE STRIPS.

- SINGLE ROD: SIMILAR TO GRINNELL FIG. 281. - MULTI-ROD: SIMILAR TO FEE AND MASON SERIES 9000
- CLIP FORM NAILS FLUSH WITH INSERTS.
- MAXIMUM LOADING 75 PERCENT OF RATING.
- b. SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPLATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR REVIEW.
- c. GROUPED LINES AND SERVICES: TRAPEZE HANGERS OF BOLTED ANGLES OR CHANNELS.
- d. WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.
- F. PAINT SHALL BE THE BEST GRADE FOR ITS PURPOSE. DELIVER IN ORIGINAL SEALED CONTAINERS AND APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COLORS SHALL BE AS SELECTED BY ARCHITECT OR ENGINEER. UTILIZE GALVANIZED IRON PRIMER ON PANEL AND PULL BOXES, AFTER FABRICATION. UTILIZE HOT DIPPED GALVANIZED OR DIPPED IN ZINC BASED PRIMER FOR: OUTLET BOXES, JUNCTION BOXES, CONDUIT HANGERS, RODS, INSERTS AND SUPPORTS. ZINC BASED PRIMER WITH FINISH TO MATCH SURROUNDINGS SHALL BE USED FOR MARRED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.
- G. BRUSH AND CLEAN WORK PRIOR TO CONCEALING. PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.
- H. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES. RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH
- I. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
- SCOPE OF WORK:
- A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE 2020 NATIONAL ELECTRICAL COD AMENDMENTS, AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
- B. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLIED OR SPECIFIED HEREIN.
- C. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER, DATE IS EARLIER, THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDED THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR
- D. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS
- E. CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE GEORGIA BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES
- F. AREAS WITH NO ELECTRICAL WORK SHALL REMAIN AS IS. CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS TO ALL AREAS NOT COVERED BY THIS RENOVATION AND SHALL PROVIDE 48 HOUR NOTICE TO LANDLORD OF ANY PLANNED POWER INTERRUPTIONS OR SIGNAL SYSTEM OUTAGES.
- SHOP DRAWINGS
- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT FQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SE COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND
- B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED: 1) PROJECT NAME AND LOCATION
- 2) NAME OF ARCHITECT AND ENGINEER
- 3) ITEM IDENTIFICATION
- 4) APPROVAL STAMP OF PRIME CONTRACTOR
- C. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
- 1) SAFETY/DISCONNECT SWITCHES
- 2) FUSES
- 3) CIRCUIT BREAKERS 4) LOADCENTER (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG
- 5) RACEWAYS
- 6) WIRE AND CABLE
- 7) WALL SWITCHES

- 8) INSERTION RECEPTACLES
- LIGHTING FIXTURES.
- ASSIST AND PROVIDE ALL NECESSARY INFORMATION, DIAGRAMS SKETCHES, ETC. TO THE HVAC CONTRACTOR, FOR THE PREPARATION OF COORDINATED SHOP DRAWINGS INDICATING ROUTING OF FEEDERS, CONTROL CONDUITS, RECESSED FIXTURES AND ADJACENT NEARBY PIPING AND DUCTWORK WHERE APPLICABLE. CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT FOUR(4) BOOKBOUND OPERATING AND SERVICE MANUALS WHICH SHALL INCLUDE COPIES OF ALL SHOP DRAWING. PROVIDE SHOP DRAWINGS FOR PANELS, FIXTURES, WIRING DEVICES, CONDUIT, CABLE, DISCONNECT SWITCH, RELAYS, CONTRACTORS, AND OTHER SYSTEMS AS DIRECTED BY THE ENGINEER.
- AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED
- UNDER THIS CONTRACT. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE
- INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER. C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME. ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
- D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED NDICATING THE AS INSTALLED CONDITIONS OF THE WORK. "AS-BUILT" DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AFTER COMPLETION OF THE INSTALLATION.
- 6. LOW-VOLTAGE DISTRIBUTION EQUIPMENT:
 - A. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
- B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE
- C. DISCONNECT SWITCHES SHALL BE FUSED OR NONFUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY, EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NONFUSED, LOAD BREAK, HAVING MAXIMUM RATINGS OF 20 AMP AT 600 VOLTS AND 30 AMP AT 240 VOLTS. TWO-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGEMAN NO. 6808F. THREE-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGEMAN NO. 7810F. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE- QUICK-BREAK, UL CLASS R UP TO 600 AMP. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800 AMP. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.
- 7. FUSES:
- A. CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMAN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.
- B. MOTOR CIRCUITS ALL INDIVIDUAL MOTOR CIRCUITS WITH FULL LOAD AMPERE RATINGS (FLA) OF 480 AMPERES OR LESS SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMANN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.
- C. ALL FUSES SHALL BE PROVIDED BY SAME MANUFACTURER.
- D. PROVIDE 1 SPACE MATCHING FUSE FOR EACH SET OF 3. E. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE-QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE. MULTI-POLE TYP BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT-TRIPPING, OPEN A ND CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1. EXCEPT AS NOTED, FRAMI IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
- 1) 120 VOLTS, 100-AMP FRAME: 10,000 AMPS, 1 POLE. 2) 120/240 VOLTS, 225-AMP FRAME: 22,000 AMPS MINIMUM
- DISTRIBUTION PANELBOARDS, CIRCUIT BREAKER TYPE:
 - A. THREE PHASE, 4 OR 5 WIRE, COPPER BUS BARS, WITH 2, 3, OR 4 WIRE BRANCHES, AS NOTED. CAPACITY OF PANEL AND CIRCUITS, AS NOTED BELOW. PANELBOARD TO HAVE GROUND BUS SAME SIZE AS PHASE BUSES.
 - CABINETS: CODE GAUGE GALVANIZED SHEET STEEL PRIMED AND PAINTED WITH TRIM AND DOOR, TYPE AS NOTED, LAP AND RIVET CORNERS OR FORM AS APPROVED.
 - C. TRIM: ONE PIECE FULL FINISH PRIMED AND PAINTED SHEET STEEL. TRIM SHALL BE MOUNTED WITH A CONTINUOUS PIANO HINGE CONFIGURED IN SUCH A MANNER THAT IT SHALL BE POSSIBLE TO GAIN FULL ACCESS TO CIRCUIT BREAKERS AND WIRING GUTTERS WITHOUT REMOVING THE TRIM. PROVIDE A MULTI-PIN CYLINDER LOCK (YALE, CORBIN OR EQUAL) TO LATCH THE TRIM. KEYS SHALL BE
- D. HARDWARE: MULTI-PIN, CYLINDER LOCKS WITH MILLED KEYS. ALL PANELS SHALL BE KEYED ALIKE, DOOR OVER 48" HIGH SHALL BE QUIPPED WITH A CHROME PLATED VAULT HANDLE, BUILT—IN LOCK AND 3-POINT CATCH FASTENING DOOR AT TOP, BOTTOM AND
- CENTER HINGES: CONCEALED, CONTINUOUS PIANO HINGE AS DESCRIBED
- DIRECTORY HOLDER: MEAL FRAME WITH NONBREAKABLE TRANSPARENT COVER AND DIRECTORY CARD. ENTRIES TO BE TYPEWRITTEN BY ELECTRICAL CONTRACTOR. PROVIDE AN ENGRAVED LAMINATED NAMEPLATE ADJACENT TO EACH BRANCH BREAKER. MOUNT WITH SELF TAPPING MACHINE SCREWS.
- FURNISH MULTI-CABLE LUGS WHERE REQUIRED. DOUBLE LUGGING
- NOT PERMITTED. SECURE LUGS TO BUS BY STUD BOLTS. PANELBOARD CONSTRUCTION FOR BOLTED TYPE BREAKERS. MINIMUM SHORT CIRCUIT RATING 25,000 AMPERES, RMS SYMMETRICAL FOR ALL 120/208V APPLICATIONS. INDIVIDUAL CIRCUIT BREAKERS SHALL HAVE MINIMUM 100A FRAME, TRIPS SIZED AS SHOW ON THE PLANS.
- MINIMUM GUTTER SPACES: PANELS WITH 225 AMPERE MAINS, 5-34" MINIMUM, 400 AMPERES AND OVER, MINIMUM GUTTERS 8". FOR PANELS WITH THROUGH FEEDERS, INCREASE GUTTER WIDTH BY 2" MINIMUM AND PROVIDE A SHEET STEEL BARRIER BETWEEN THE PANEL GUTTER AND THE THROUGH FEEDER PORTION OF THE BACK BOX. BRANCH CIRCUIT BREAKERS SHALL BE MECHANICALLY INTERLOCKED WHEN SHOWN ON DRAWINGS.
- DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.
- K. PANELBOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.
- PANELBOARD SHALL HAVE ENGRAVED WHITE CORE. BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).
- DISTRIBUTION PANELBOARDS, SWITCH AND FUSE: A. THREE PHASE, 3 OR 4 WIRE WITH COPPER BUS BARS. ALL

THROUGH BUS SHALL BE INSULATED.

- B. NEMA CLASS 1 CONSTRUCTION TO ACCOMMODATE FUSIBLE. INDIVIDUALLY ENCLOSED SWITCHES, FRONT REMOVABLE, SWITCH AND DOOR INTERLOCKS. COVERS TO BE PAD-LOCKABLE.
- PANELBOARD SHALL BE CONSTRUCTED OF CODE-GAUGE STEEL, GRAY FINISH OVER RUST INHIBITOR. FOR SURFACE MOUNTING. BOX AND PANEL FRAME SHALL BE FLANGED AND REINFORCED FOR RIGID

- SUPPORT OF INTERIOR AND ACCURATE ALIGNMENT OF INTERIOR WITH FRONT. TRIMS TO BE FASTENED TO BACK BOX WITH SCREWS.
- D. ALL BRANCH SWITCHES SHALL HAVE INDIVIDUAL ENGRAVED LAMICOID NAMEPLATES (BLACK WITH WHITE CORE).
- E. DISTRIBUTION PANELBOARD CONSTRUCTION MINIMUM SHORT CIRCUIT RATING 25,000 AMPERES, REMS SYMMETRICAL FOR ALL 120/208V APPLICATIONS. APPLICATIONS.
- F. DISCONNECTS
 - 1) DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND SHALL BE HORSEPOWER RATED.
 - 2) SWITCHING MECHANISM SHALL BE QUICK-MAKE, QUICK-BREAK, SINGLE THROW WITH EXTERNAL OPERATING HANDLE MECHANCIALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE ACCESS TO INTERIOR WHEN DISCONNECT IS IN OFF POSITION ONLY. PROVIDE MEANS TO LOCK OPERATING HANDLE IN THE OPEN AND CLOSED POSITION. DESIGNATE ON THE ENCLOSURE THE OPEN AND CLOSED POSITION OF THE OPERATING HANDLE.
- 3) SWITCHES SHALL BE OF THE DOUBLE STATIONARY CONTACT TYPE. 4) SWITCHES SHALL BE EQUIPPED WITH REJECTION TYPE FUSE HOLDERS, FUSIBLE AS SHOWN ON THE DRAWINGS; PROVIDE COMPLETE WITH FUSES AS SCHEDULED.
- G. INSTALLATION
- 1) DISTRIBUTION PANELBOARD SHALL BE MOUNTED TO STRUCTURAL STEEL CHANNEL (KINDORF) WHICH SHALL BE BOLTED TO THE WALL USING EXPANSION ANCHORS FOR LARGE PANELS.
- H. IDENTIFICATION
- 1) PROVIDE NAMEPLATE AT EACH SWITCH IDENTIFYING THE LOAD
- 2) NAMEPLATES SHALL BE MOUNTED ON THE FRONT COVER SECURED WITH SELF-TAPPING SCREWS OR NUTS AND BOLTS, NAMEPLATES SHALL BE LAMINATED PHENOLIC, BLACK WITH A MINIMUM OF 1 HIGH WHITE LETTERING.
- I. DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE MINIMUM OF 30" WIDE AND 10" DEEP.
- POWER PANELBOARDS SHALL BE SIMILAR TO GENERAL ELECTRIC TYPE "OMR", AS MANUFACTURED BY ATLAS SWITCH COMPANY,
- ELECTRIC SWITCHBOARD COMPANY OR APPROVED EQUAL. K. PANELBOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS
- PANELBOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).

OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.

- B. MATERIALS
- 1) RACEWAYS:
- RIGID STEEL CONDUIT: FULL-WEIGHT PIPE, GALVANIZED,
- ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED THREADLESS.
- FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP,
- GALVANIZED. WIREWAYS: WIRE SHALL BE AS NOTED, MINIMUM NO. 16 STEEL WITH GROUND CONTINUITY. FINISH ENAMEL. COVERS SHALL BE SCREW-ON.
- e. SURFACE METAL RACEWAY: SIZE AS NOTED. BASE 0.04 IN., COVER 0.25 IN. MATERIAL SHALL BE STEEL. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW-ON.
- 2) FITTINGS AND ACCESSORIES: a. RIGID STEEL: NONSPLIT, THREADED, STEEL OR MALLEABLE

IRON. ZINC DIE CAST NOT PERMITTED.

- b. ELECTROMETALLIC TUBING: COMPRESSION TYPE. GALVANIZED RIGID STEEL ELBOWS, 2 IN. OR LARGER. c. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH
- INSULATED THROAT.

WITH MINIMUM 6 IN. SEPARATION.

- d. BUSHINGS: METALLIC INSULATED TYPE.
- a. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL, 4 IN. SQUARE OR OCTAGON FOR FIXTURES. BOXES ABOVE CEILING SHALL BE 1-1/2 IN. DEEP. BOXES IN CEILING OR SLAB SHALL BE 3 IN. DEEP. BOXES IN WALL FOR FIXTURES SHALL BE 2-3/4 IN. DEEP. BOXES IN WALL FOR RECEPTACLES AND SWITCHES SHALL BE 1-1/2IN. DEEP. FURNISH WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WITHOUT FIXTURE OR DEVICE FURNISH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS
- b. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW-ON COVERS, EXCEPT AS NOTED. FURNISH WITH INSULATED SUPPORTS FOR CABLES. LOCATIONS SHALL BE AS NOTED OR REQUIRED AND ACCESSIBLE. PROVIDE BARRIERS IN NEW AND RENOVATED BOXES BETWEEN 120/208 VOLT 265/460 VOLT WIRING AND BETWEEN EMERGENCY AND NORMAL WIRING. FLOOR BOXES SHALL BE SUITABLE FOR CONDUIT AND DEVICES NOTED. RAISED OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH ABOVE FLOOR FITTING. TELEPHONË: BUSHED HOLE. POWER: DUPLEX RECEPTACLE OR OTHER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY. FLUSH OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH FLUSH FLOOR FITTING FOR TELEPHONE AND FLUSH DUAL FLAP COVER WITH DUPLEX RECEPTACLE FOR

POWER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY.

- PROVIDE RACEWAYS ONLY AS HEREIN SPECIFIED, EXCEPT AS NOTED. RACEWAYS SHALL BE RUN CONCEALED, EXCEPT AS NOTED. PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS, PROVIDE U-BOLTS AT EACH
 - FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING ON SLAB. FOR THROUGH-THE-FLOOR SYSTEMS, UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE-THROUGH-FLOOR BOX SYSTEM. FOR ABOVE FLOOR FITTINGS TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE RATING OF FLOOR.
 - SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS. SPACING OF SUPPORTS SHALL BE A MINIMUM OF 10 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS AND PER CODE AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE MASONRY WITH FOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK, MACHINE SCREWS ON METAL, BEAM CLAMPS ON FRAMEWORK, WOOD SCREWS ON WOOD. AND PAN THROUGH STRAPS IN METAL DECK. NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED. WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPLATES.
 - EXPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. PROVIDE CLEARANCE WITH WATER, STEAM OR OTHER PIPING (MINIMUM 3 IN. SEPARATION FROM STEAM AND HOT WATER PIPES, EXCEPT 1 IN. FROM PIPE COVER AT CROSSINGS AND 18 IN. FOR PARALLEL RUNS). FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE. RUN VERTICALLY ONLY.
 - MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR, AND IN FLEXIBLE CONDUIT FOR FEEDERS AND MOTOR TERMINAL CONNECTIONS.

EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FISH OR PULL

WIRE, GALVANIZED OR NYLON ROPE.

- RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS. PAINT MALE THREADS OF FIELD-THREADED CONDUIT WITH GRAPHITE-BASE PIPE COMPOUND AND BUTT CONDUIT ENDS. TOUCH UP MARRED SURFACES AND FIELD-CUT THREADS, CRC-COLD GALVANIZED. EMT SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY, IN DRY LOCATIONS, DRY WALLS HUNG CEILINGS, HOLLOW BLOCK WALLS AND FURRED SPACES. EMT SHALL NOT BE PERMITTED IN RAISED FLOORS. FLEXIBLE STEEL CONDUIT SHALL BE UTILIZED FOR SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICAL. FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE: PROVIDE MINIMUM 4 FT AND MAXIMUM 6 FT LENGTHS. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMER AND OTHER VIBRATING EQUIPMENT: PROVIDE WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH: 18 IN. WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END. FOR EXPANSION JOINT CROSSINGS. CROSS AT RIGHT ANGLES AND ANCHOR ENDS.
- CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAY COUPLING.
- EXPANSION FITTINGS SHALL BE INSTALLED AT RIGHT ANGLES WITH CLIP JOINT CENTERED IN EXPANSION JOINT. PROVIDE A LENGTH OF RUN IN ACCORDANCE MANUFACTURER'S

RECOMMENDATIONS, PRESET FITTINGS SHALL ALLOW FOR

ALL COUPLINGS SHALL BE COMPRESSION TYPE. NO SET

TEMPERATURE VARIATION. RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION:

SEAL OPENING WITH FIRE SEALANT.

- D. PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH NATIONAL ELECTRIC CODE ARTICLE 300.19. CABLE SUPPORTS SHALL UTILIZE A ONE-PIECE PLUG WITH POZI-GRIP WEDGING PLUG AS MANUFACTIURED BY OZ-GEDNEY. TYPE SF SHALL BE USED FOR ARMORED CABLE.
- INSTALL CABLE SUPPORTS AT THE TOP OF A VERTICAL RISE AND PROVIDE INTERMEDIATE ADDITIONAL SUPPORTS AS REQUIRED TO LIMIT SUPPORTED CONDUCTOR LENGTHS TO NOT GREATER THAN THOSE SPECIFIED IN TABLE 300.19(A). A. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING
- AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY, VERIFY OUTLET LOCATIONS IN FINISHED SPACES WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150 VOLTS TO GROUND.
- D. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. CONCEAL JUNCTION AND PULL BOXES IN FINISHED SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. BOXES SHALL BE ACCESSIBLE. SUPPORT BOXES FROM BUILDING STRUCTURE, INDEPENDENT OF CONDUIT. PROVIDE FLOOR-TO-CEILING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON SUPPORT MOTOR TERMINAL BOXES: COORDINATE WITH MOTOR BRANCH CIRCUIT CONDUIT AND WIRING; ADD BOX VOLUME WHERE
- REQUIRED. E. FIRE SEALANTS: PROVIDE FOR RACEWAYS AND WIRE PASSING THROUGH FLOOR SLOTS, SLEEVES OR OPENINGS IN
- FIRE-PARTITIONS ROOMS. F. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING 1 CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE

25 OHMS

WIRE AND CABLE A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE

REFERENCE SHALL BE AWG EXCEPT AS NOTED.

- B. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER) GENERAL USE CABLING SHALL BE NO. 12 MINIMUM. AT 120 VOLTS AND OVER 100 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. AT 265 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM.
- C. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM. AT 120 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 12 MINIMUM. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.
- D. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCEA STANDARDS. TYPE THW OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED. TYPE SFF-2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG C. FOR UNGROUNDED ISOLATED BRANCH CIRCUITS PROVIDE CROSS-LINKED POLYETHYLENE INSULATION (TYPE XHHW).

ARMORED CABLE (BX) SHALL BE UTILIZED FOR BRANCH

HOSPITAL GRADE 'BX'.

CIRCUITS IN DRY HOLLOW LOCATIONS, HUNG CEILINGS, AND

BLOCK WALLS. WHEN USED IN LIEU OF WIRING IN CONDUIT,

STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF

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: 05.21.24

FOR CONSTRUCTION

ELECTRICAL SPECIFICATIONS SHEET 1 OF 2

ELECTRICAL SPECIFICATIONS (CONT.)

F. COLOR CODING SHALL BE AS FOLLOWS:

120/208 VOLT SYSTEM: 277/480 VOLT SYSTEM: BLACK FOR A PHASE BLUE FOR C PHASE SLUE FOR C PHASE YELLOW FOR C PHASE

BLUE FOR C PHASE

1) NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT. EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.

- WHERE COLOR—CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6 IN. OF COLOR TAPING IN ACCESSIBLE LOCATIONS.
- G. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS. FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.
- H. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION—TYPE OF TWIST—ON SPRING—LOADED CONNECTORS AND CLEAR NYLON—INSULATED COVERING. COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISEIZE COMPOUND ON
- I. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF 120/208 AND 265/460 VOLT SYSTEMS, EXCEPT 460 VOLT MOTOR BRANCH CIRCUIT WIRING AND RELATED 120 VOLT CONTROL WIRING. THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED
- J. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS.
- K. PERFORM CONTINUITY AND INSULATION TESTS. MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP.
- PERFORM TESTS PRIOR TO CONNECTING EQUIPMENT AND IN PRESENCE OF AUTHORIZED REPRESENTATIVES. SUBMIT WRITTEN REPORT OF RESULTS. CORRECT OR REPLACE CABLE TESTING BELOW MANUFACTURER'S STANDARDS.

11. WIRING DEVICES:

- A. WIRING DEVICES SHALL BE SPECIFICATION GRADE UNLESS OTHERWISE SPECIFIED. ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.
- B. LOCAL WALL SWITCHES SHALL BE ROCKER TYPE, QUIET OPERATING, RATED 20 AMP, 120/277 VOLT, AC. SIMILAR TO LEVITON DECORA SERIES A5621 (SINGLE POLE), A5623 (3-WAY) AND A5624 (4-WAY).
- C. STRAIGHT BLADE RECEPTACLES SHALL BE COMMERCIAL SPECIFICATION GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT, DECORA SERIES BY LEVITON. GROUNDED, EXCEPT AS NOTED.
- 1)SINGLE GANG, RECESSED, DUPLEX RECEPTACLE: TAMPER RESISTANT, 2-POLE, 3-WIRE GROUNDING, 15A, 125V, NEMA 5-20R; LEVITON 689 SERIES (COLOR AS SPECIFIED BY ARCHITECT).
 2) USB CHARGER/ DUPLEX TAMPER-RESISTANT RECEPTACLE:
- E. DEVICE PLATES: SEE ARCHITECT FOR TYPE. FOR RECEPTACLES
- WITH OTHER THAN 120 VOLT, INSCRIBED VOLTAGE AVAILABLE.

 F. COLORS: COORDINATE COLORS WITH ARCHITECT.

TAMPER RESISTANT,

G. MOUNTING ORIENTATION OF RECEPTACLES (HORIZONTAL OR VERTICAL): COORDINATE WITH ARCHITECT.

12. LIGHTING FIXTURES:

DESCRIPTIONS.

- A. FIXTURES TO BE AS SPECIFIED BY ARCHITECT AND SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED AND EQUIPPED WITH ALL NECESSARY SOCKETS, BALLASTS, SUPPORTING HARDWARE AND ACCESSORIES. REFER TO DRAWINGS FOR INDIVIDUAL FIXTURE
- B. FIXTURE CATALOG NUMBERS USED TO ILLUSTRATE EQUIPMENT TYPE DO NOT NECESSARILY DENOTE REQUIRED MOUNTING EQUIPMENT OR ACCESSORIES. PROVIDE ACCESSORIES TO SUIT.
- C. BALLAST: CLASS P, HIGH POWER FACTOR, LOWEST AVAILABLE NEMA RATED NOISE LEVEL, ET1 AND CBM APPROVED. ENERGY SAVING TYPE. TRIGGER START FOR 24—INCH LAMPS AND RAPID START FOR 48—INCH. TWO LAMP BALLASTS; NO THREE LAMP BALLASTS. BALLASTS SHALL BE ADVANCE MAGNETEK, UNIVERSAL OR EQUAL.
- D. LED DRIVERS SHALL BE ELECTRONIC TYPE, LABELED AS COMPLIANT WITH RADIO FREQUENCY INTERFERENCE (RFI) REQUIREMENTS OF FCC TITLE 47, PART 15 AND COMPLY WITH NEMA SSL 1 "ELECTRONIC DRIVERS FOR LED DEVICES, ARRAYS OR SYSTEMS". LED DRIVERS SHALL HAVE A SOUND RATING OF "A", HAVE A MINIMUM EFFICIENCY OF 85% AND BE RATED FOR A THD OF LESS THAN 20% AT ALL INPUT VOLTAGES.
- E. DIMMABLE LED DRIVERS SHALL BE CAPABLE OF DIMMING WITHOUT LED STROBING OR FLICKER ACROSS THEIR FULL DIMMING RANGE. PROVIDE TYPE OF LED DRIVER AS PER LIGHTING FIXTURE SCHEDULE, DIMMABLE LED DRIVERS SHALL BE 0-10V WHERE NOT

F. CONTINUOUS ROW, TWO LAMP STRIP FIXTURES SHALL BE STAGGERED TYPE.

- G. EXIT SIGNS SHALL BE PRECISION DIE—CAST ALUMINUM HOUSING WITH LASER—FORMED ACRYLIC LEGEND. EXIT SIGNS SHALL COMPLY WITH UL 924 AND BE MEA APPROVED FOR USE IN GEORGIA. AC POWERED WITH PREMIUM LONG—LIFE NICKEL CADMIUM BATTERY WITH STANDARD UL LISTED 3—HOUR RUN TIME. PROVIDE WITH INTEGRAL AUTOMATIC CHARGER IN A SELF CONTAINED POWER PACK. LED INDICATOR WITH PUSH TO TEST SWITCH.
- 13. TELEPHONE CONDUIT SYSTEM:
- A. PROVIDE COMPLETE SYSTEM OF: RACEWAYS AND ACCESSORIES, OUTLET BOXES, SLEEVES AND FISHWIRES.
- B. EQUIPMENT SHALL CONFORM TO REQUIREMENTS OF TELEPHONE COMPANY.
- C. OUTLETS SHALL BE:
- 1) WALL: 4 IN. SQUARE WITH BUSHED COVER PLATE.
- D. PROVIDE FISHWIRES, IN RACEWAYS OVER 10 FT LONG.
- E. CONDUIT SHALL BE 3/4 IN. MINIMUM. FURNISH EMPTY CONDUIT FROM OUTLET BOX TO BUSHED END THRU WALL 6" BELOW THE PLASTER CEILING.
- F. FACE RACEWAYS IN ROOMS SHALL HUBBELL HBL500, HBL750 OR HBL2000 SERIES OR AS ACCEPTABLE.

14. GROUNDING AND BONDING:

A. PROVIDE GROUNDING SYSTEM IN ACCORDANCE WITH (2020 NATIONAL ELECTRICAL CODE WITH AMENDMENTS), AND THESE SPECIFICATIONS. THE WIRING SYSTEM SHALL BE INSTALLED AS REQUIRED TO PROVIDE A CONTINUOUSLY GROUNDED SYSTEM.

- WHERE FLEXIBLE CONDUIT IS USED FOR PART OF A CONDUIT RUN, EXCEPT LIGHTING BRANCH CIRCUITS, AN INSULATED GROUNDING CONDUCTOR SHALL BE PROVIDED IN THE CONDUIT AND CONNECTED TO GROUNDING BUSHINGS AT EACH END OF THE
- B. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.
- C. EXTEND EXISTING SYSTEM GROUND TO INCLUDE ALL THE ELECTRICAL EQUIPMENT IN THE SCOPE OF WORK.
- D. WHERE FLEXIBLE METALLIC CONDUIT IS USED AN INTERNAL BONDING CONDUCTOR SHALL BE INSTALLED.
- E. IN ADDITION, FURNISH A SEPARATE INSULATED GREEN EQUIPMENT GROUND CONDUCTOR WHERE INDICATED ON DRAWINGS AND FOR THE FOLLOWING BRANCH CIRCUITS:
 1) CIRCUITS SERVING ANY WALL BOX DIMMER.
- 2) CIRCUITS SERVING ANY ISOLATED GROUND RECEPTACLES.
 TERMINATE GROUND DIRECTLY AT AN EQUIPMENT GROUNDING
 CONDUCTOR TERMINAL OF THE SOURCE AT THE SOURCE, OR
 AS OTHER WISE NOTED ON DRAWINGS.
- 3) CIRCUITS SERVING ANY DUPLEX OR SIMPLEX COMPUTER RECEPTACLES
- 4) ANY CIRCUIT SERVED VIA AN ISOLATION TRANSFORMER OR COMPUTER POWER DISTRIBUTION UNIT.

16. LOADCENTERS

- O. LOAD CENTERS SHALL COMPLY WITH UL67 AND MEET FEDERAL SPECIFICATION W-P-115c.
- P. CIRCUIT BREAKERS SHALL BE OF THE PLUG-IN, THERMAL MAGNETIC, MOLDED CASE TYPE, AND SHALL HAVE THE TRIP RATINGS AND NUMBER OF POLES SHOWN IN SCHEDULES ON THE CONTRACT DRAWINGS. FOR BLANK (SPACE) COMPARTMENTS, PROVIDE FULL RATED BUS. TANDEM OR DUPLEX TYPE CIRCUIT BREAKERS SHALL NOT BE PERMITTED. ONLY ONE WIRE SHALL BE INSTALLED UNDER EACH CIRCUIT BREAKER LUG. TIE-BARS SHALL NOT BE USED TO CREATE MULTI-POLE CIRCUITS. MAXIMUM 42 CIRCUITS ALLOWED.
- Q. BUSES SHALL BE HARD DRAWN COPPER OF 98 PERCENT CONDUCTIVITY AND SHALL HAVE CROSS SECTIONAL AREAS LARGE ENOUGH TO LIMIT THE TEMPERATURE RISE, WHEN CARRYING FULL LOAD, TO 35 DEGREES C. ABOVE AN AMBIENT INSIDE THE ENCLOSURE OF 55 DEGREES C. AS DEFINED IN IEEE STANDARD RULES. MAIN BUS CAPACITY SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS.
- R. ENCLOSURES MANUFACTURED IN CODE GAUGE AND SIZE BOXES FOR FLUSH MOUNTING AS INDICATED ON PLANS COMPLETE WITH TRIM, DOORS AND LOCKS. ALL LOCKS SHALL BE KEYED ALIKE. MINIMUM GUTTER SPACES SHALL BE 5-3/4". SIDES, TOP AND BOTTOM, INCREASE FOR THROUGH FEEDERS. PROVIDE 25% COPPER GROUND BUS AND 100% COPPER NEUTRAL BUS AND INCREASE NEUTRAL BUS INDICATED. ALL LOAD CENTERS SHALL BE 14 %" WIDE AND 3 %" DEEP.
- S. THE CIRCUIT DIRECTORY SHALL BE TYPEWRITTEN AND PROVIDED INSIDE EACH PANEL DOOR TO INDICATE EQUIPMENT AND/OR AREA SERVED. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER. THE TYPEWRITTEN LIST INDICATING CIRCUIT NUMBERS, OUTLETS SUPPLIED AND THEIR LOCATIONS SHALL BE PROVIDED.
- T. SHORT CIRCUIT RATING OF PANELBOARDS SHALL NOT BE LESS THAN AS INDICATED ON THE CONTRACT DRAWINGS OR SPECIFIED HEREIN. WHERE NOT INDICATED OR SPECIFIED THE MINIMUM SHORT CIRCUIT RATING SHALL BE EQUAL TO THE INTERRUPTING CAPACITY OF THE LOWEST RATED CIRCUIT BREAKER IN THE PANELBOARD, BUT IN NO CASE LESS THAN 22,000/10,000 AMPERES R.M.S. SYMMETRICAL SERIES RATING FOR 208Y/120 VOLT. SERIES RATED LOAD CENTERS SHALL BE USED TO ACHIEVE REQUIRED SHORT CIRCUIT RATINGS.

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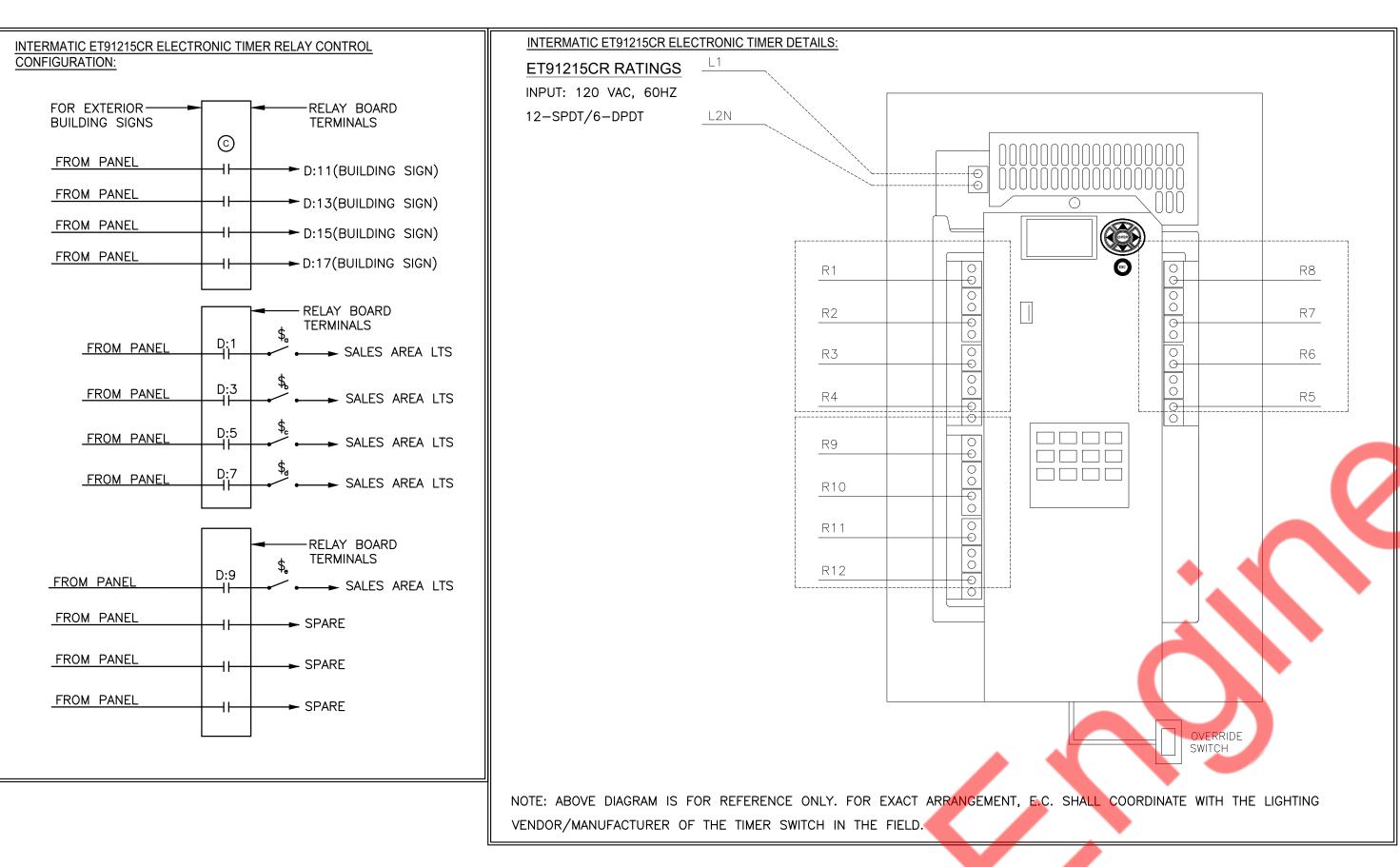
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ELECTRICAL
SPECIFICATIONS
SHEET 2 OF 2
FO 3



				LIGI	Í TIN	IG FIXTURE SCHEDU	LE			
TY	YPE	DESCRIPTION	MANUFACTURE R		c	ATALOGUE#	MOUNTING	VOLTAGE	WATTAGE (W)	REMARK
,	Α	LINEAR SUSPENDED LIGHT	SIGNIFY	290-	6-L-	B-QQ-08-G-D-E-T-A 6-3-144	SUSPENDED	120	46.6	
E	ΕX	EXIT LIGHT	TBD		₹	TBD	WALL	120	3	
Y	Y1	EMERGENCY LIGHT	TBD			TBD	WALL	120	3	

ELECTRICAL LIGHTING LAYOUT KEYED WORK NOTES:

JUNCTION BOX WITH TOGGLE SWITCH PER NEC FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. VERIFY ITS EXACT LOCATION WITH THE LANDLORD/ TENANT AND CONNECT TO SIGN PER MANUFACTURE'S INSTRUCTION. ROUTE CIRCUIT TO PANEL VIA TIMECLOCK AS INDICATED ON PLAN.

B COORDINATE & VERIFY EXACT LOCATION OF SWITCH BANK WITH OWNER/ LANDLORD/ ARCHITECT IN FIELD.

© E.C SHALL COORDINATE WITH THE OWNER/ LANDLORD/ ARCHITECT FOR EXACT LOCATION OF THE INTERMATIC ET91215CR ELECTRONIC TIMER IN THE FIELD.

EXISTING LIGHT FIXTURE IN THE EXISTING RESTROOMS SHALL REMAIN AS IT IS. E.C. SHALL VERIFY THE EXACT EXISTING LIGHTING CONTROLS PROVIDED, THEIR OPERATING CONDITIONS IN FIELD. THE EXISTING LIGHTING CONTROLS SHALL BE IN COMPLIANCE WITH 2015 IECC CODES. IF REQUIRED PROVIDE NEW CONTROLS AS PER CODE REQUIREMENT. INFORM ENGINEER/OWNER/ARCHITECT ON RECORD FOR ANY DISCREPANCIES/ISSUES BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.

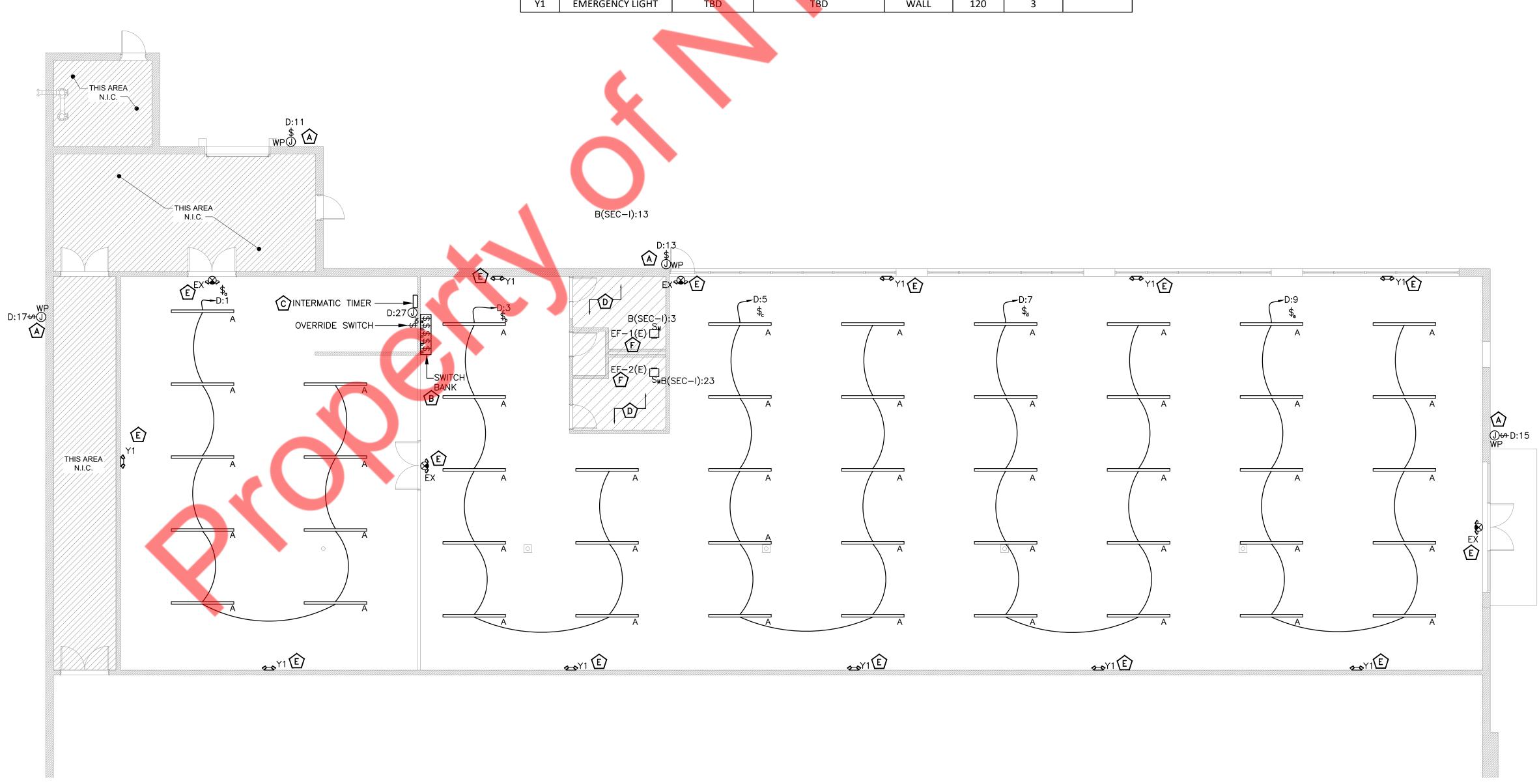
CONNECT ALL EMERGENCY EGRESS LIGHTING FIXTURES TO THE NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES.

EXISTING RESTROOM EXHAUST FANS ALONG WITH ITS ELECTRICAL FIXTURE AND CONNECTION SHALL REMAIN AS IT IS AND SHALL REMAIN CONNECTED TO THE EXISTING PANEL. E.C SHALL VERIFY OPERABLE CONDITION OF THE ELECTRICAL CONNECTION AND PROVIDE NEW IF FOUND INOPERABLE. E.C SHALL CROSS VERIFY THE EXACT BRANCH BREAKER FEEDING RESPECTIVE EXHAUST FAN. ADJUST THE CIRCUIT NAMES/ BRANCH BREAKERS AS PER SITE CONDITION. INTERCONNECT EXHAUST FANS TO RTU-4(N). BASE BID ACCORDINGLY.

- ELECTRICAL LIGHTING GENERAL NOTES:

 1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES (DEVICES) & RELAY CONTROLS.
- ALL LIGHTING, EXCEPT FOR EMERGENCY LIGHTS, SHALL BE
 CONNECTED TO THE "INTERMATIC ET91215CR ELECTRONIC TIMER".

 EXACT LOCATION OF ALL LUMINARIES, EXACT MOUNTING HEIGHT.
- 3. EXACT LOCATION OF ALL LUMINARIES, EXACT MOUNTING HEIGHT SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH—IN.
- 4. MINIMUM CONDUCTOR SIZE FOR 120V BRANCH CIRCUIT SHALL BE 12-AWG WITH HOMERUNS OVER 100 LINEAR FEET, A MINIMUM WIRE SIZE OF 10-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARDS. FOR 120V BRANCH CIRCUITS FOR HOMERUNS OVER 150 LINEAR FEET A MINIMUM WIRE SIZE OF 8-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARDS.
- 5. AL WIRING SHALL BE IDENTIFIED BY PANEBOARD & CIRCUIT NUMBER(S) IN ALL CABINET, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICES OR TERMINATION POINTS, ETC.
- 6. CONTRACTOR ARE ADVISED TO UPDATE THE EMERGENCY LIGHT FIXTURES LOCATIONS/ QUANTITY PER SITE REQUIREMENT UP ON FINAL INSPECTION OR PER LOCAL A.H.J. REQUIREMENT.



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FOR CONSTRUCTION

ELECTRICAL LIGHTING PLAN E1.0

EXIST. LOADING DOCK RAMP N.I.C. EXIST. OH DOOR TO REMAIN 11)SHOW WINDOW SHOW WINDOW 11)SHOW WINDOW (11)SHOW WINDOW 11) SHOW WINDOW-(AFF D:10 (D:8AFF (B(SEC-I):27 D:6AFF B(SEC-I):29 B(SEC-I):27 B(SEC-I):27 B(SEC-I):17 B(SEC-I):33 1 EXISTING "MDP" 2 EXISTING PANEL "A" 4 5 EXISTING PANEL "B" 3 EXISTING 75KVA TRANSFORMER BELOW B(SEC−I):25 😝 6 EXISTING PANEL "D"

B(SEC-I):2

B(SEC-I):12

B(SEC-I):2

EXIST. WALL

TO REMAIN-

B(SEC-I):11 B(SEC-I):11 B(SEC-I):11 B(SEC-I):13 B(SEC-I):13 B(SEC-I):13

B(SEC-I):4

B(SEC-I):10

B(SEC-I):4

B(SEC-I):10

B(SEC-I):19

B(SEC#I):6

B(SEC-I):12

B(SEC−I):25 →

SHOW WINDOW(1)

SHOW WINDOW

B(SEC-I):6

RELOCATED

⊖B(SEC-I):9

⊕D:23

THIS AREA D:21

⊖D:21

- POWER DRAWING NOTES

 ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL AS SHOWN ON PLAN, CIRCUIT NUMBER INDICATED, U.O.N.
- 2. COORDINATE EXACT SCOPE OF WORK WITH OWNER/LANDLOARD PRIOR TO BID.
- 3. COORDINATE LOCATIONS OF ALL OUTLETS WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
- 4. ELECTRICAL DEVICES MOUNTED OUTDOOR SHALL BE NEMA 3R RATED FOR OUTDOOR USE.

ELECTRICAL RISER DIAGRAM KEYED WORK NOTES:

- EXISTING 400A(M.L.O), 277/480V, 3-PHASE, 4-WIRE MAIN DISTRIBUTION PANEL "MDP" FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "MDP", REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 150A(M.L.O), 277/480V, 3—PHASE, 4—WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 75KVA 3-PHASE TRANSFORMER "T1" WITH PRIMARY 277/480V AND SECONDARY 120/208V FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING TRANSFORMER, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 225A(M.C.B), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B SEC-I" FOR THE PROJECT SPACE TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 225A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B SEC-II" FOR THE PROJECT SPACE TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 100A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "D" FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- E.C SHALL VERIFY/PERFORM THE INSTALLATION OF ELECTRICAL PANELS IN COMPLIANCE WITH NEC ARTICLE 110.26(A) AND (B). E.C. SHALL FIELD VERIFY THAT THE PANELS ARE UNOBSTRUCTED AND THE AREA WHERE THE PANELS ARE PLACED SHALL NOT BE USED AS A STORAGE SPACE.
- RECEPTACLE NEAR DESK. E.C. TO COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION & MOUNTING HEIGHT PRIOR TO ROUGH-IN.
- EXISTING WATER HEATER (WH-E) ALONG WITH ITS ELECTRICAL CONNECTIONS SHALL REMAIN AND SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL PANEL. VERIFY THE OPERABLE CONDITION OF EXISTING ELECTRICAL CONNECTION. REPLACE IF INOPERABLE. E.C SHALL CROSS VERIFY THE EXACT BRANCH BREAKER FEEDING EXISTING WATER HEATER. ADJUST THE CIRCUIT NAMES/ BRANCH BREAKERS AS PER SITE CONDITION. BASE BID ACCORDINGLY.
- EXISTING RECEPTACLE IN THIS AREA SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL PANEL AS IT IS. VERIFY THE OPERABLE CONDITION OF EXISTING ELECTRICAL CONNECTION. REPLACE IF INOPERABLE. E.C SHALL CROSS VERIFY THE EXACT BRANCH BREAKER FEEDING EXISTING RECEPTACLE. ADJUST THE CIRCUIT NAMES/BRANCH BREAKERS AS PER SITE CONDITION. PROVIDE ADDITIONAL RECEPTACLE IF REQUIRED COORDINATE EXACT REQUIRED WITH LANDLOARD/ARCHITECHT. BASE BID ACCORDINGLY.
- PROVIDE SHOW WINDOW RECEPTACLE AS PER N.E.C. 210.62. VERIFY EXACT LOCATION WITH ARCHITECT.
- RECEPTACLE FOR CAMERA. E.C. TO COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION & MOUNTING HEIGHT PRIOR TO ROUGH—IN.

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MATTRESS WAREHOUSE

FOR CONSTRUCTION : 05.21.2

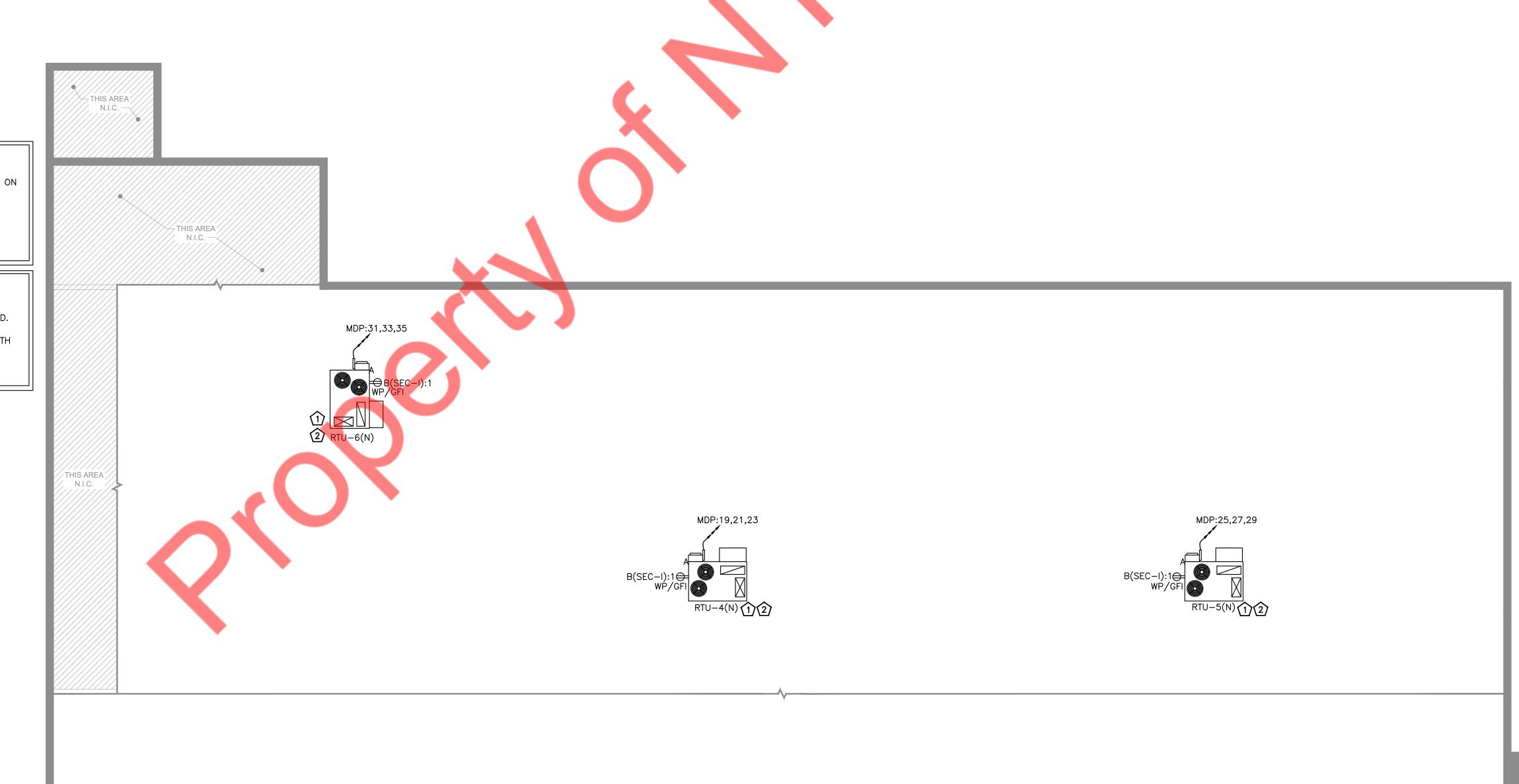
ELECTRICAL
FLOOR POWER
PLAN
F2 0

POWER ROOF PLAN NOTES

- A. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL AS SHOWN ON PLAN, CIRCUIT NUMBER INDICATED, U.O.N.
- B. COORDINATE LOCATIONS OF ALL OUTLETS WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
- C. ELECTRICAL DEVICES MOUNTED OUTDOOR SHALL BE NEMA 3R RATED FOR OUTDOOR USE.

ELECTRICAL POWER ROOF PLAN KEYED WORK NOTES:

- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE MECHANICAL UNITS IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH—IN AND PROVIDE AS REQUIRED. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES



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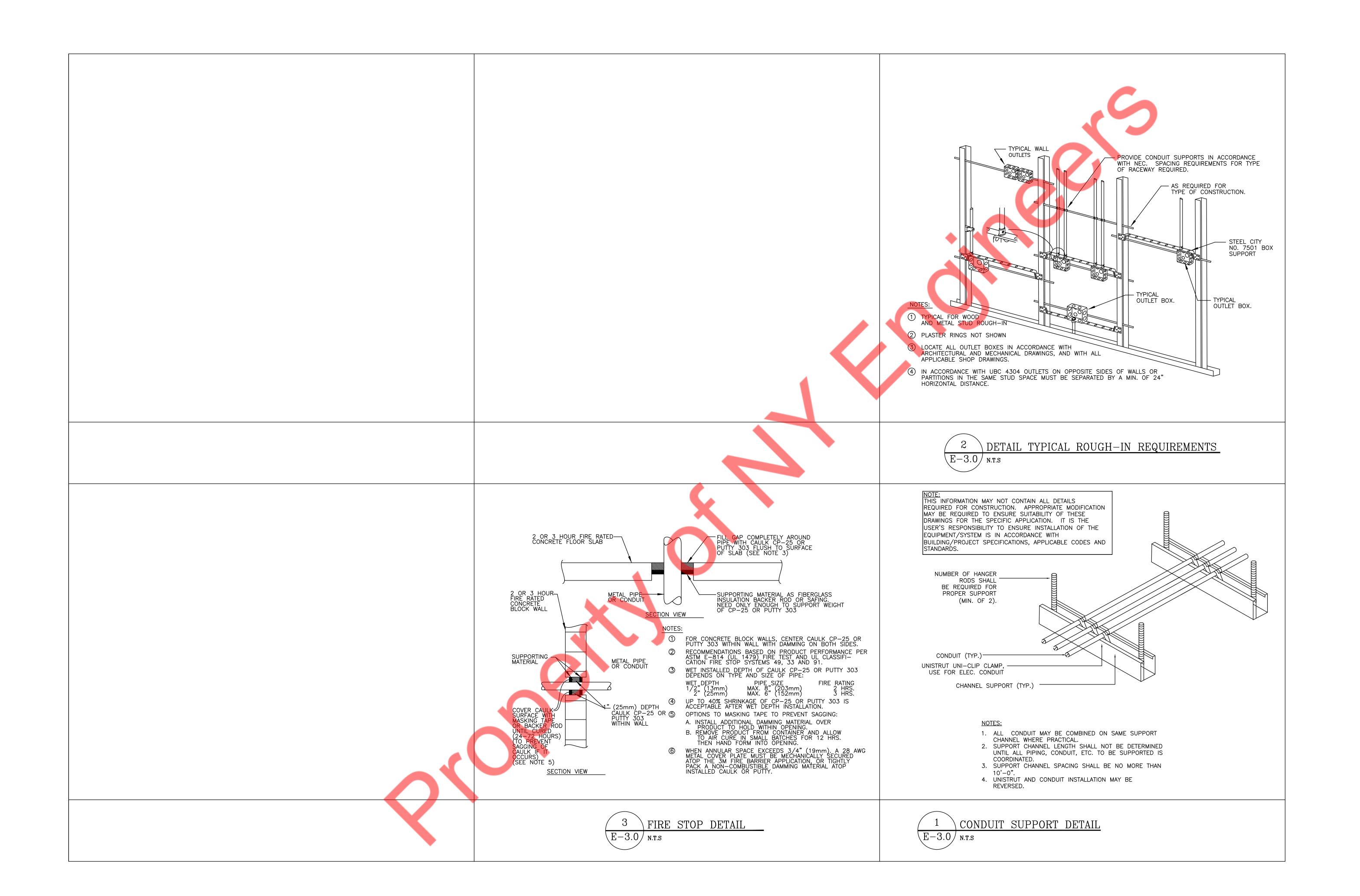
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FOR CONSTRUCTION : 05.21.24

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ELECTRICAL ROOF POWER PLAN E2.1

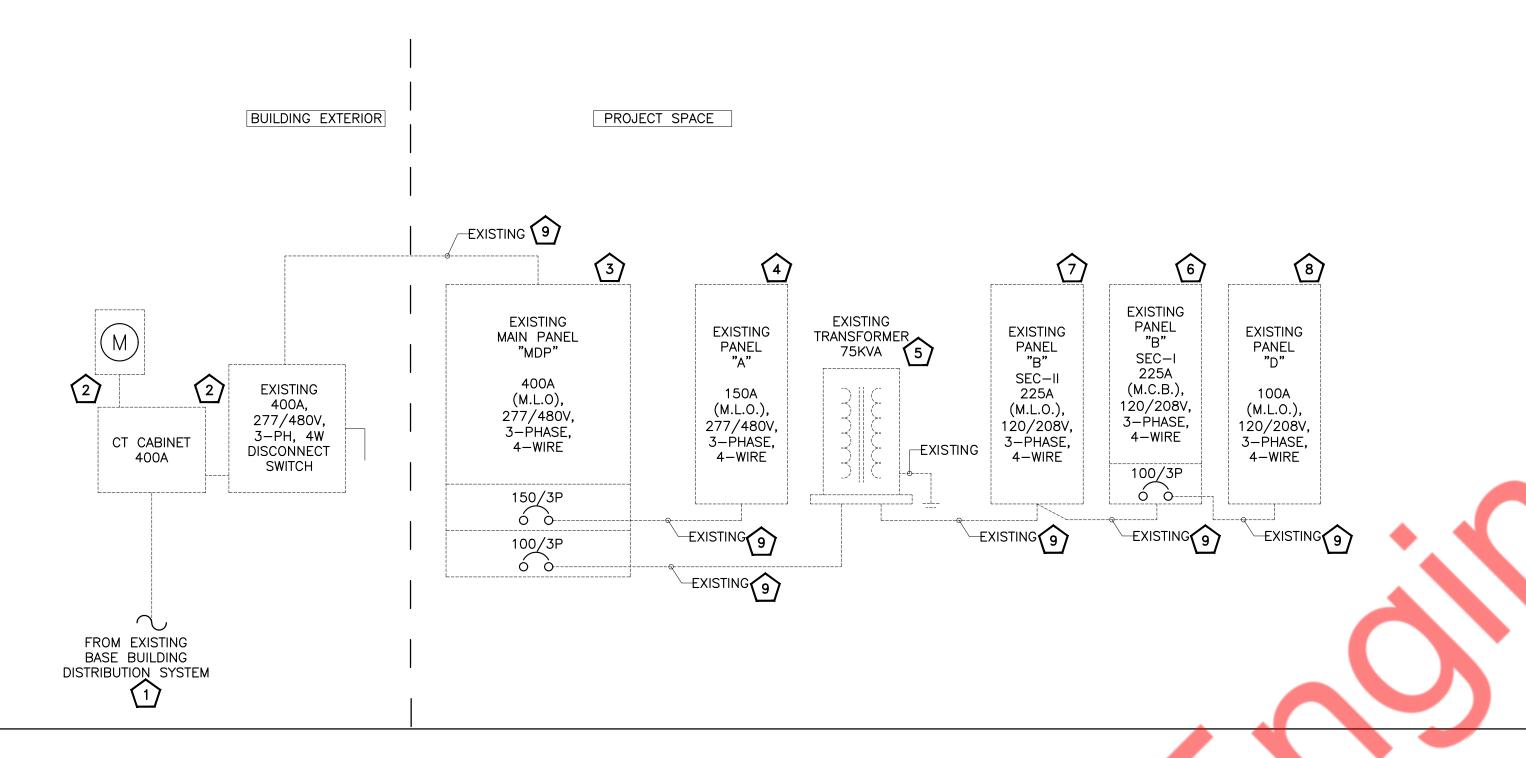


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ELECTRICAL DETAILS SHEET E-3.0

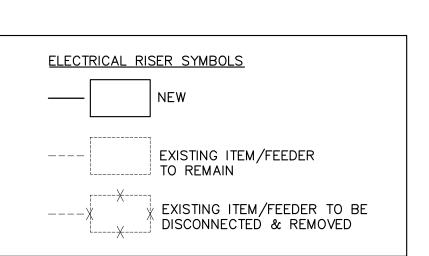


ELECTRICAL RISER KEYED NOTES:

- EXISTING 400A, 277/480V, 3-PHASE ELECTRICAL SERVICE FOR THE PROJECT SPACE FROM BASE BUILDING POWER DISTRIBUTION SYSTEM SHALL REMAIN. E.C SHALL GET INFORMATION ABOUT THE EXISTING POWER DISTRIBUTION PRIOR TO COMMENCING ANY WORK AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES PRIOR TO BID.
- EXISTING 400A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL METER, CT CABINET AND DISCONNECT SWITCH FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL COORDINATE WITH BASE BUILDING/LANDLORD/OWNER FOR THE EXACT LOCATION OF THE EXISTING METER AND EXACT POWER DISTRIBUTION IN THE FIELD. E.C. SHALL VERIFY THE OPERABLE CONDITION OF EXISTING METER, CT CABINET AND DISCONNECT SWITCH REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 400A(M.L.O), 277/480V, 3—PHASE, 4—WIRE MAIN DISTRIBUTION PANEL "MDP" FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "MDP", REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 150A(M.L.O), 277/480V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 75KVA 3-PHASE TRANSFORMER "T3" WITH PRIMARY 277/480V AND SECONDARY 120/208V FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING TRANSFORMER, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 225A(M.C.B), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B SEC-I" FOR THE PROJECT SPACE TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 225A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B SEC-II" FOR THE PROJECT SPACE TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 100A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "D" FOR THE PROJECT SPACE SHALL REMAIN. E.C TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING PANEL, REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- 9 EXISTING FEEDERS SHALL REMAIN. E.C TO VERIFY OPERABLE CONDITION OF FEEDERS IN FIELD AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL GENERAL NOTE:

- A. ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
- B. E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
- C. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
- D. E.C. TO VERIFY OPERABLE CONDITIONS OF EXISTING DEVICES IN FIELD. REPLACE/RECTIFY IF FOUND IN OPERABLE. BASE BID ACCORDINGLY.
- E. EXISTING ELECTRICAL DISTRIBUTION TO BE MAINTAINED AND UTILIZED TO SERVE PROJECT SPACE. POWER RISER DIAGRAM INDICATED FOR REFERENCE PURPOSES ONLY



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ELECTRICAL RISER **E4.0**

PANEL:	MDP (F)													MOUNTING:	SURFACE		
I AIVEL.	10101 (2)													Wioditinto.	JOH! ACL		
480Y/277		VOLTS,	3	PHASE,			4	WIRE						LOCATION:	ELECTRICAL RO	OM	
			K:KITCHEN/EQUIPMENTS, C		HVAC, M: N	MOTOR, O:0		171112								···	
MAIN CB		NA NA	MLO:	400A		BUS:	EXISTING	MIN,						FED FROM:	EXISTING DISCO	NNECT SWITC	:H
CKT NO.	TRIP		DESCRIPTION OF LOAD		LOAD	LOAD	MINIMUM BRANCH	PE	R PHASE (K	/A)	MINIMUM BRANCH	LOAD	LOAD	DESCRIPTIO	N OE LOAD	TRIP	CKT NO.
CKI NO.	AMPS		DESCRIPTION OF LOAD		TYPE	(KVA)	CIRCUIT	Α	В	С	CIRCUIT	(KVA)	TYPE	DESCRIPTION	N OF LOAD	AMPS	CKI NO.
1	_							0.00									2
3	60/3P	SPARE							0.00					SPARE		35/3P	4
5								0.00		0.00							6
7	25/25	CDARE						0.00	0.00					CDADE		25 /25	8
9 11	35/3P	SPARE							0.00	0.00				SPARE		35/3P	10
13								0.00		0.00							14
15	35/3P	SPARE						0.00	0.00					SPARE		35/3P	16
17	33,31	0.72							0.00	0.00				-		33,31	18
19					Н	5.27		5.27									20
21	20/3P	RTU-4	$\langle 1 \rangle$		Н	5.27	3#12, #12G, 3/4"C		5.27					SPARE		35/3P	22
23			Ù		Н	5.27				5.27							24
25					Н	6.93		6.93									26
27	30/3P	RTU-5	(2)		Н	6.93	3#10, #10G, 3/4"C		6.93					SPARE		35/3P	28
29					Н	6.93				6.93							30
31	_				Н	6.93		6.93									32
33	30/3P	RTU-6	(3)		Н	6.93	3#10, #10G, 3/4"C		6.93					SPACE			34
35					Н	6.93		0.00		6.93							36
37 39	35/3P	SPARE						0.00	0.00					SPARE		35/3P	38 40
41	33/3F	SPARE							0.00	0.00				SPARE		33/3F	40
43								13.60		0.00		13.60	0				44
45	35/3P	SPARE						13.00	13.60		EXISTING	13.60	0	EXISTING 75KVA TRANS	FORMER	100A/3P	46
47	1									13.60		13.60	0				48
49								0.21				0.21	0				50
51	35/3P	SPARE							0.21		EXISTING	0.21	0	PANEL A		150A/3P	52
53]									0.21		0.21	0				54
			TOTAL CONNECT	ED LOAD (KVA)				32.93	32.93	32.93							

PANEL:	A (E)														MOUNTING:	SURFACE		
480Y/277		VOLTS,	3		PHASE,			4	WIRE						LOCATION:	ELECTRICAL ROO	ОМ	
OTE:"NOTE:	L:LIGHTIN	G, R: RECEPTACL	ES, K:KITCHEN/EQUIPN	MENTS, C: REF	RIGERATION, H: I	HVAC, M: N	10TOR, 0:0	OTHER/MISCILLANEOUS "	_						_			
MAIN CB		NA	MLO:		400A		BUS:	EXISTING	MIN,						FED FROM:	EXISTING DISCO	NNECT SWITC	:H
CKT NO.	TRIP AMPS		DESCRIPTION O	F LOAD		LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PE A	R PHASE (K	VA)	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION	I OF LOAD	TRIP AMPS	CKT NO.
1	20	SPARE							0.00						SPARE		20	2
3	20	SPARE							0.00	0.00					SPARE		20	4
	20	SPARE								0.00	0.50	EXISTING	0.50	ı	RESTROOM LIGHTS		20	6
7	20	SPARE							0.00		0.00	27.101.1110	0.50	_	SPARE		20	8
9	20	SPARE								0.00					SPARE		20	10
11	20	SPARE									0.00				SPARE		20	12
13	20	SPARE							0.00						SPACE			14
15	20	SPARE								0.00					SPACE			16
17	20	SPARE									0.00				SPACE			18
19	20	SPARE							0.00						SPACE			20
21	20	SPARE								0.00					SPACE			22
23	20	SPARE									0.00				SPACE			24
25	20	SPARE							0.00						SPACE			26
27	20	SPARE								0.00					SPACE			28
29		SPACE									0.00				SPACE			30
31		SPACE							0.00						SPACE			32
33		SPACE								0.00					SPACE			34
35		SPACE									0.00				SPACE			36
37		SPACE							0.00						SPACE			38
39		SPACE								0.00					SPACE			40
41		SPACE									0.00				SPACE			42
			TOTAL C	ONNECTED L	OAD (KVA)				0.00	0.00	0.50							

208Y/120		VOLTS,	3	PHASE,		4	WIRE						LOCATION:	ELECTRICAL ROOM	1	
NOTE:"NOTE: I	LLIGHTING	G, R: RECEPTACLES,	K:KITCHEN/EQUIPMENTS, C: RE	FRIGERATION, H: HVAC, M:	MOTOR, O:	OTHER/MISCILLANEOUS "										
MAIN CB		225A	MLO:	NA	BUS:	EXISTING	MIN,						FED FROM:	EXISTING 75KVA 1	RANSFORM	ER
CKT NO.	TRIP		DESCRIPTION OF LOAD	LOAD	LOAD	MINIMUM BRANCH	PE	R PHASE (K\	/A)	MINIMUM BRANCH	LOAD	LOAD	DESCRIPTIO	N OF LOAD	TRIP	CKT NO.
	AMPS			ТҮРЕ	(KVA)	CIRCUIT	Α	В	С	CIRCUIT	(KVA)	TYPE			AMPS	_
1	20	RECEPTACLE ROO	F	R	0.54	2#12, #12G, 3/4"C	1.26			2#12, #12G, 3/4"C	0.72	R	FLOOR RECEPTACLE		20	2
3	20	EXHAUST FAN#1		M	0.50	EXISTING		1.22		2#12, #12G, 3/4"C	0.72	R	FLOOR RECEPTACLE		20	4
5	20	WATER HEATER R		R	0.50	EXISTING			1.22	2#12, #12G, 3/4"C	0.72	R	FLOOR RECEPTACLE		20	6
7	20	WATER COOLER R	ECEPTACLE	R	0.50	2#12, #12G, 3/4"C	1.22			2#12, #12G, 3/4"C	0.72	R	FLOOR RECEPTACLE		20	8
9	20	RECEPTACLE-SALE	S AREA	R	0.54	2#12, #12G, 3/4"C		1.26		2#12, #12G, 3/4"C	0.72	R	FLOOR RECEPTACLE		20	10
11	20	RECEPTACLE-SALE	S AREA	R	0.54	2#12, #12G, 3/4"C			0.72	2#12, #12G, 3/4"C	0.18	R	FLOOR RECEPTACLE		20	12
13	20	RECEPTACLE-SALE	S AREA	R	0.36	2#12, #12G, 3/4"C	0.36						SPARE		20	14
15	20	RECEPTACLE-SALE	S AREA	R	0.36	2#12, #12G, 3/4"C		0.36					SPARE		40/2P	16
17	20	RECEPTACLE-SALE	S AREA	R	0.18	2#12, #12G, 3/4"C			0.18				SPAIL		40/21	18
19	20	RECEPTACLE ON D	DESK	R	0.72	2#12, #12G, 3/4"C	0.72						SPARE		20	20
21	20	RECEPTACLE ON D	DESK	R	0.72	2#12, #12G, 3/4"C		0.72					SPARE		20	22
23	20	EXHAUST FAN#2		M	0.50	EXISTING			0.50				SPARE		20	24
25	20	RECEPTACLE-SALE	S AREA	R	0.54	2#12, #12G, 3/4"C	0.54						SPARE		20	26
27	20	RECEPTACLE-SALE	S AREA	R	0.54	2#12, #12G, 3/4"C		0.54					SPARE		20	28
29	20	RECEPTACLE-SALE	S AREA	R	0.36	2#12, #12G, 3/4"C			0.36				SPARE		20	30
31	20	RECEPTACLE-SALE	S AREA	R	0.36	2#12, #12G, 3/4"C	0.36						SPARE		20	32
33	20	RECEPTACLE-SALE	S AREA	R	0.36	2#12, #12G, 3/4"C		0.36					SPARE		20	34
35	20	SPARE							0.00				SPARE		20	36
37	20	SPARE					9.63				9.63	0				38
39	20	SPARE						9.63		EXISTING	9.63	0	PANEL D		100/3P	40
41	20	SPARE							9.63		9.63	0				42
			TOTAL CONNECTED	LOAD (KVA)	1		14.09	14.09	12.61						1	-

MOUNTING: SURFACE

PANEL SCHEDULE GENERAL NOTES:

PANEL: B(SEC-I)(E)

- A. ALL CIRCUITING SHOWN IN FOR ELECTRICAL PANEL "MDP", "A", "B(SEC-I)", "B(SEC-II)", "D" ARE FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING OF THE
- EXISTING DEVICES IN FIELD AND INFORM ENGINEER FOR DISCREPANCIES.
- B. ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE. C. E.C. SHALL PROVIDE NEW CIRCUIT BREAKERS IN PLACE OF EXISTING CIRCUIT BREAKERS WHEREVER NECESSARY TO BE IN LINE WITH THE PANEL SCHEDULE.
- D. CHECK COMPATIBILITY OF NEWLY ADDED BREAKER WITH THE EXISTING PANEL BEFORE PURCHASING. BASE BID ACCORDINGLY.

ELECTRICAL PANEL SCHEDULE KEYED WORK NOTES:

- 1. PROVIDE NEW (1)20/3P BREAKER IN PLACE OF (1)30/3P BREAKER . BASE BID ACCORDINGLY.
- 2. PROVIDE NEW (1)30/3P BREAKER IN PLACE OF (1)60/3P BREAKER . BASE BID ACCORDINGLY.
- 3. PROVIDE NEW (1)30/3P BREAKER IN PLACE OF (1)35/3P BREAKER . BASE BID ACCORDINGLY.

PANEL:	B(SEC-II)(E)													MOUNTING: SURFACE		
208Y/120		VOLTS,	3		PHASE,			4	WIRE						LOCATION: ELECTRICAL RO	OOM	
OTE:"NOTE:	L:LIGHTING	G, R: RECEPTACLES,	K:KITCHEN/EQUII	PMENTS, C: RE	FRIGERATION, H:	HVAC, M: I	MOTOR, O:	OTHER/MISCILLANEOUS "									
MAIN CB		NA	MLO:		NA		BUS:	EXISTING	MIN,						FED FROM: EXISTING 75KV	VA TRANSFORM	ER
CKT NO.	TRIP		DESCRIPTION	OFLOAD		LOAD	LOAD	MINIMUM BRANCH	PE	R PHASE (K)	/A)	MINIMUM BRANCH	LOAD	LOAD	DESCRIPTION OF LOAD	TRIP	CKT NO.
	AMPS					TYPE	(KVA)	CIRCUIT	Α	В	С	CIRCUIT	(KVA)	TYPE		AMPS	Citi ito:
43	20	SPARE							0.00						SPARE	20	44
45	20	SPARE								0.00					SPARE	20	46
47	20	SPARE									0.00				SPARE	20	48
49	20	SPARE							0.00						SPARE	20	50
51	20	SPARE								0.00					SPARE	20	52
53	20	SPARE									0.00				SPARE	20	54
55	20	SPARE							0.00						SPARE	20	56
57	20	SPARE								0.00					SPARE	20	58
59	20	SPARE									0.00				SPARE	20	60
61	20	SPARE							0.00						SPARE	20	62
63	20	SPARE								0.00					SPARE	20	64
65	20	SPARE									0.00				SPARE	20	66
67	20	SPARE							0.00						SPARE	20	68
69	20	SPARE								0.00					SPARE	20	70
71	20	SPARE									0.00				SPARE	20	72
73	20	SPARE							0.00						SPARE	20	74
75	20	SPARE								0.00					SPARE	20	76
77	20	SPARE									0.00				SPARE	20	78
79	20	SPARE							0.00						SPARE	20	80
81	20	SPARE								0.00					SPARE	20	82
83	20	SPARE									0.00				SPARE	20	84
	1	1	TOTAL	L CONNECTED	LOAD (KVA)	1		ı	0.00	0.00	0.00				1	1	

PANEL:	D(E)												MOUNTING: SURFACE		
208Y/120	VOLTS,	3	PHASE	,		4	WIRE						LOCATION: ELECTRICAL R	OOM	
OTE:"NOTE:	L:LIGHTING, R: RECEPTACLES,	K:KITCHEN/EQUI	PMENTS, C: REFRIGERATION, F	H: HVAC, M: I	MOTOR, O:O	THER/MISCILLANEOUS "									
MAIN CB	NA	MLO:	100A		BUS:	EXISTING	MIN,						FED FROM: PANEL B		
	TRIP			LOAD	LOAD	MINIMUM BRANCH	PE	R PHASE (K\	/A)	MINIMUM BRANCH	LOAD	LOAD		TRIP	
CKT NO.	AMPS	DESCRIPTION	OF LOAD	TYPE	(KVA)	CIRCUIT	Α	В	C	CIRCUIT	(KVA)	TYPE	DESCRIPTION OF LOAD	AMPS	CKT NO.
1	20 LIGHTING - SALES	AREA		L	0.42	2#12, #12G, 3/4"C	2.02			2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	2
3	20 LIGHTING - SALES	AREA		L 👍	0.37	2#12, #12G, 3/4"C		1.97		2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	4
5	20 LIGHTING - SALES	AREA		L	0.47	2#12, #12G, 3/4"C			2.07	2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	6
7	20 LIGHTING - SALES	AREA		L	0.47	2#12, #12G, 3/4"C	2.07			2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	8
9	20 LIGHTING - SALES	AREA		L	0.47	2#12, #12G, 3/4"C		2.07		2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	10
11	20 EXTERIOR BUILDIN	IG SIGN(LEFT SEC	OND WALL)		1.00	2#12, #12G, 3/4"C			2.60	2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	12
13	20 EXTERIOR BUILDIN	IG SIGN(LEFT)		T	1.00	2#12, #12G, 3/4"C	2.60			2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	14
15	20 EXTERIOR BUILDIN	IG SIGN(FRONT)		L	1.00	2#12, #12G, 3/4"C		2.60		2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	16
17	20 EXTERIOR BUILDIN	IG SIGN(REAR)	A 44		1.00	2#12, #12G, 3/4"C			2.60	2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	18
19	20 RECEPTACLE-CAM	ERA		R	0.18	2#12, #12G, 3/4"C	1.78			2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	20
21	20 RECEPTACLE-STOR	AGE AREA		R	0.90	2#12, #12G, 3/4"C		2.50		2#12, #12G, 3/4"C	1.60	R	SHOW WINDOW RECEPTACLE	20	22
23	20 RECEPTACLE-SALE	S AREA		R	0.36	2#12, #12G, 3/4"C			1.08	2#12, #12G, 3/4"C	0.72	R	RECEPTACLE-SALES COULUM	20	24
25	20 EXTERIOR OUTLET			R	0.18	2#12, #12G, 3/4"C	0.90			2#12, #12G, 3/4"C	0.72	R	RECEPTACLE-SALES COULUM	20	26
27	20 TIMER			0	0.50	2#12, #12G, 3/4"C		0.50					SPARE	20	28
29	20 SPARE								0.00				SPARE	20	30
31	20 SPARE						0.00						SPARE	20	32
33	20 SPARE							0.00					SPARE	20	34
35	20 SPARE		_						0.00				SPARE	20	36
37	20 SPARE						0.00						SPARE	20	38
39	20 SPARE							0.00					-		40
41	20 SPARE								0.00				-		42
		тота	L CONNECTED LOAD (KVA)	'	1		9.37	9.64	8.35		П			1	

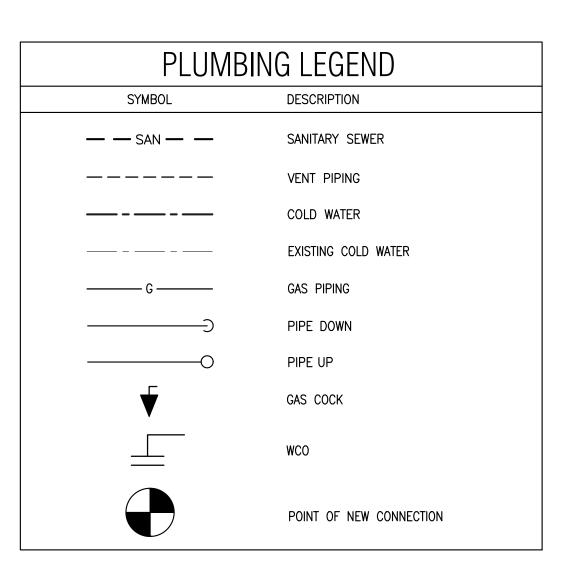
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MATTRESS WAREHOUSE

FOR CONSTRUCTION

ELECTRICAL PANEL SCHEDULE E5.0



PLUMBING ABBREVIATIONS

COLD WATER SANITARY EXISTING WATER HEATER

EXISTING LAVATORY EXISTING WATER CLOSET EXISTING MOP SINK WATER COOLER EXISTING

PLUMBING DRAWING LIST

WALL CLEANOUT

PO.1 PLUMBING SYMBOLS, ABBREVIATIONS & SPECIFICATIONS

PO.2 PLUMBING DETAILS

P1.0 PLUMBING WATER PIPING PLAN

P2.0 PLUMBING SANITARY AND VENT PIPING PLAN

P3.0 GAS PLAN

P4.0 PLUMBING RISERS AND SCHEDULES

CODE COMPLIANCE

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY. NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THESE PROJECT:

- INTERNATIONAL BUILDING CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- B. INTERNATIONAL MECHANICAL CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- INTERNATIONAL PLUMBING CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- D. INTERNATIONAL FUEL/GAS CODE, 2018 EDITION, WITH GEORGIA AMENDMENTS.
- INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION, WITH GEORGIA AMENDMENTS.
- NATIONAL ELECTRICAL CODE 2020, WITH GEORGIA AMENDMENTS.

PLUMBING SPECIFICATIONS:

1. BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS

1.01 SCOPE

- A. PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
- B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING AND NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.
- C. OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.
- D. THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.
- E. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK. THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE SUCH THAT NO ADDITIONAL COMPENSATION SHALL BE FORTHCOMING FOR UNFORESEEN EXISTING
- F. IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.
- G. ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.
- H. COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE
- I. MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.
- J. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.
- K. THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. 1.02 SUBMITTALS
- A. SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.
- PIPE AND FITTINGS VAI VFS
- HANGERS AND SUPPORTS PLUMBING PIPING LAYOUT
- TESTS 6. PLUMBING FIXTURES
- WATER HEATERS & ACCESSORIES 8. FLOOR DRAINS
- MIXING VALVES 10. ALL SCHEDULED PLUMBING EQUIPMENT
- B. SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.
- C. THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.
- D. SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.
- E. SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVICING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.
- F. FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.
- G. RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S)

1.03 SUBSTITUTIONS

- A. ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.
- B. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS. 1.04 DEFINITIONS
- A. FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE
- B. INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.

C. PROVIDE: TO FURNISH AND INSTALL.

WITH RELATED ACCESSORIES.

- D. PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.
- E. REFER TO THE INTERNATIONAL PLUMBING CODE 2018 (WITH GEORGIA) AMENDMENTS) FOR ADDITIONAL DEFINITIONS.

1.04 DRAWINGS

- A. THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT. RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.
- B. PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.
- C. REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.
- D. REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.
- E. VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.
- F. LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

A. SANITARY AND VENT PIPING:

- 1. ABOVE GRADE/ UNDERGROUND PIPING SHALL BE CAST IRON PIPE
- WHICH SHOULD COMPLY WITH ASTM A74; ASTM A883; STANDARD/CISPI 301. 2. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO
- 3. ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

B. WATER PIPING:

1.05 PRODUCTS

- 1. ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
- 2. FITTINGS IN DOMESTIC WATER PIPING SHALL BE COPPER OR COPPER ALLOY AS PER TABLE 604.1, 2018 INTERNATIONAL PLUMBING CODE (WITH GEORGIA AMENDMENTS).
- 3. JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
- 4. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
- 5. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
- ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE FIRE—RETARDANT. FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY SECTION C403.2.10 REFER WITH 2015 INTERNATIONAL ENERGY CONSERVATION CODE (WITH GEORGIA AMENDMENTS) BELOW TABLE.

	MINIMUM P	IPE INSULATION	THIC	KNESS					
FLUID OPERATING	INSULATION	CONDUCTIVITY	NOMINAL PIPE OR TUBE SIZE (INCHES)						
TEMPERATURE RANGE AND USAGE (*F)	CONDUCTIVITY BTU·IN./ (H·FT2·*F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8		
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5		
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0		

- 7. WATER DISTRIBUTION SYSTEM AS PER INTERNATIONAL ENERGY CONSERVATION CODE (WITH GEORGIA AMENDMENTS) 2015 C404.7. HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE I'HROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE
- FOLLOWING: a. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
- b. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

8. AS PER INTERNATIONAL ENERGY CONSERVATION CODE (WITH GEORGIA AMENDMENTS) 2015 C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

9. HEATED WATER SUPPLY PIPING SHALL BE IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE 2015 (WITH GEORGIA AMENDMENTS) SECTION C404.5.1 OR C404.5.2. THE FLOW RATE THROUGH 1/4-INCH PIPING SHALL BE NOT GREATER THAN 0.5 GPM. THE FLOW RATE THROUGH 5/16-INCH PIPING SHALL BE NOT GREATER THAN 1 GPM. THE FLOW RATE THROUGH 3/8-INCH PIPING SHALL BE NOT GREATER THAN 1.5 GPM. HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER IECC 2015 C404.5.1. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE		iping len <mark>gt</mark> h Eet)
(INCHES)	PUBLIC LAV	OTHER FIXTURES
3%"	3'	50'
1/2"	2'	43'
3/4"	0.5'	21'
1"	0.5	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

C. MIXING VALVES

- VALVE BODY SHALL BE MADE OF CAST BRASS. THE INTERNAL COMPONENTS SHALL BE MADE OF BRASS OR STAINLESS STEEL.
- TYPES A, C & D VALVES: VALVE SHUTS OFF IN FULL COLD SITION AND MUST PASS THROUGH COLD RANGE BEFORE DELIVERING WARM. AND/OR HOT WATER. TEMPERATURE LIMIT SET 105°F MAXIMUM DELIVERY TEMPERATURE. IF ONE SUPPLY SHOULD FAIL, THE OTHER WILL AUTOMATICALLY AND INSTANTLY SHUT DOWN. DELIVERY CAPACITY IS 15GPM @ 45 PSIG DIFFERENTIAL.
- 3. TYPES OF VALVES: TYPE A- THERMOSTATICALLY OPERATED BY MEANS OF BI-METALLIC STRIP, OR EXPANSION BELLOWS; TYPE B-SINGLE HANDLE MECHANICAL MIXER, OR INDIVIDUAL HOT AND COLD CONTROL VALVES; TYPE C- PRESSURE BALANCING SHOWER VALVE/PISTON OPERATED MIXING VALVE: TYPE D- BALANCED PRESSURE OPERATION, WITH INTEGRAL DIAL THERMOMETER INDICATING DELIVERED WATER TEMPERATURE.
- 4. EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH TEMPERATURE CUT-OFF SWITCH. ALL INTERNAL CIRCUITS SHALL BE FUSED. THE OUTER JACKET SHALL BE OF BAKED ENAMEL FINISH AND SHALL BE PROVIDED WITH FULL SIZE CONTROL COMPARTMENT FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANEL AND SHALL ENCLOSE THE TANK WITH FOAM INSULATION. ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCK SHALL BE PROVIDED. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

D. HANGERS AND SUPPORTS:

- 1. HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.
- 2. SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.
- 3. ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVED SUPPORTS..
- 4. SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

E. VALVES:

- 1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.
- 2. ALL FIXTURES WITH THE EXCEPTION O FLUSHOMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
- 3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.
- 4. ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.
- 5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
- 6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

F. SLEEVES AND ESCUTCHEONS:

- 1. SLEEVES THROUGH STRUCTURAL CONCRETE MEMBERS AND SLEEVES FOR WALLS BELOW GRADE AND FLOORS ON GRADE SHALL BE STANDARD WEIGHT GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH OTHER THAN STRUCTURAL COMPONENTS OF THE BUILDING SHALL BE 20 GAGE GALVANIZED SHEET METAL WITH LOCK SEAM JOINTS. USG THERMAFIBER SAFING INSULATION SHALL BE INSTALLED BETWEEN PIPE AND SLEEVE.
- 2. PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILINGS, AND FLOORS AND SHALL BE MINIMUM 20 GAGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.

G. DRAINAGE ACCESSORIES

- GENERAL:
- a. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.
- b. SECURE EXTERNAL COMPONENTS IN PLACE WITH VANDA RESISTANT FASTENERS OR DEVICES WHICH CANNOT BE REMOVED WITHOUT SPECIAL TOOLS.

2. DEVICES:

- a. CLEANOUT & CLEANOUT PLUG
- THREADED PIPE FITTING OR CAST IRON FERRULE WITH GAS TIGHT CLEANOUT PLUG
- PLUG SHOULD BE CAST BRASS OR BRONZE, WITH THREADED END, AND RAISED OR COUNTERSUNK HEAD.
- LUBRICATE THREADS OF CLEANOUT PLUG WITH ANTI-SEIZE LUBRICANT BEFORE FINAL INSTALLATION.
- b. CLEANOUT WALL PLATE
- IT SHOULD BE ROUND, STAINLESS STEEL OR POLISHED CHROME PLATED BRONZE COVER PLATE WITH STAINLESS STEEL VANDAL RESISTANT FASTENER TO SECURE TO CLEANOUT PLUG. . CLEANOUT DECK PLATE
- IT SHOULD BE STANDARD DUTY FLOOR CLEANOUT FITTING WITH DATED CAST IRON BODY; ROUND, POLISHED NICKEL BRONZE SCORIATED TOP SECURED TO CLEANOUT PLUG WITH STAINLESS STEEL VANDAL RESISTANT FASTENER: THREADED HEIGHT ADJUSTMENT, CAST IRON HEAD, GAS TIGHT CLEANOUT PLUG, AND CONNECTION TO MATCH PIPING OPTION SELECTED.

INDIRECT WASTE FUNNEL

- c. IT SHOULD BE COMBINATION OF FUNNEL DRAIN AND P TRAP WITH POLISHED CHROME PLATED CAST BRASS CONSTRUCTION WITH 4" TOP DIA., 4" DEEP WITH THREADED OUTLET.
- I. INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.
- J. VERIFY EXACT LOCATIONS OF ALL EXISTING UTILITIES.
- K. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE L. ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT

WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND

SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.

- M. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.
- N. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. REMOVE PROTECTIVE COATINGS PRIOR TO INSTALLATION.
- O. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.
- P. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.

R. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.

RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

FLUSHING.

- Q. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.
- S. PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.
- T. PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.
- U. ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS. V. ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR
- W. WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM, REMOVING ALL STRAINERS, VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE G. ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE
- X. AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY

CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL

- Y. ALL PIPING INSTALLED ON THE ROOF SHALL BE SUPPORTED BY "PILLOW BLOCK" PIPE STANDS AS MANUFACTURED BY MIRO INDUSTRIES. OR APPROVED EQUAL. WOOD PIPE SUPPORTS SHALL NOT BE ACCEPTABLE. PROVIDE TRAFFIC/WALK PADS BELOW ALL PIPE STANDS.
- Z. INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS. ON FINISHED SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

- AA.PROVIDE WATER HAMMER ARRESTERS ON SUPPLY PIPING TO ALL FLUSHOMETER VALVES AND QUICK-CLOSING VALVES.
- AB. UNLESS OTHERWISE INDICATED, TRAPS SEALS AT ALL FLOOR DRAINS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMING DEVICE.
- AE. MAINTAIN ALL REQUIRED AND RECOMMENDED CLEARANCES FOR ALL PLUMBING SYSTEM COMPONENTS AND EQUIPMENT.
- AF. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL PLUMBING V.T.R.SAND ALL OUTDOOR AIR INTAKES. OFFSET VENT STACKS AND STACK VENTS IF AND AS REQUIRED BELOW ROOF TO MAINTAIN SUCH CLEARANCE WHETHER OR NOT SUCH OFFSET IS INDICATED ON THE DRAWINGS. PROVIDE ALL REQUIRED SEISMIC SUPPORTS.

INSTALLATION

2.01 GENERAL

- A. ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY A CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ANY EXISTING ROOF WARRANTIES.
- B. EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.
- C. EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT. D. COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK
- E. REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE

AND THE CONSTRUCTION SCHEDULE.

BUILDING CONDITIONS.

PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND

SCALE AND FOREIGN MATERIAL, FROM INSIDE AND OUTSIDE,

- COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING
- NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED

WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL

- PRIOR TO DISCONNECTING AND CONNECTING NEW WORK TO EXISTING SYSTEMS, THE PLUMBING CONTRACTOR SHALL NOTIFY THE PROPERTY MANAGER AND OFFER A PROPOSED SCHEDULE OF WORK. ESB WILL AUTHORIZE CONNECTIONS AND COORDINATE NECESSARY SHUT DOWNS AND DRAIN DOWNS AS REQUIRED. SHUT DOWNS AND DRAIN DOWNS MAY BE PERFORMED BY THE PLUMBING CONTRACTOR ONLY AFTER RECEIVING ESB AUTHORIZATION, AND SHOULD BE PERFORMED UNDER SUPERVISION OF ESB PERSONNEL. THREE (3) DAYS ADVANCE NOTICE TO THE PROPERTY MANAGER IS REQUIRED.
- K. THE PLUMBING CONTRACTOR IS ADVISED THAT DUE TO THE NATURE OF THE OPERATIONS AND TENANT REQUIREMENTS. CONNECTIONS TO EXISTING SYSTEMS MAY HAVE TO BE MADE AFTER REGULAR WORKING HOURS. THE PROPERTY MANAGER WILL ADVISE THE PLUMBING CONTRACTOR OF THE TIME CONSTRAINTS UPON RECEIPT AND APPROVAL OF THE PLUMBING CONTRACTOR'S REQUEST FOR SHUT DOWN AND CONNECTION TO EXISTING SYSTEMS.
- WHEN CONNECTING TO EXISTING STACKS AND RISERS, PROVISION IS TO BE MADE FOR FUTURE CONNECTIONS BY PROVIDING CAPPED AND VALVED OUTLETS ON DOMESTIC WATER RISERS AND PLUGGED OUTLETS ON THE SANITARY AND VENT STACKS.
- A. INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES. B. ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO
- VALVES AT MAIN SHUT-OFF VALVES AND ALL LOW POINTS IN PIPING. C. USE EXISTING CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME.

BUILDING STRUCTURE. MAINTAIN GRADIENT. SLOPE PIPING AND ARRANGE

SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN

ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE

RESPONSIBILITY OF THE CONTRACTOR.

2.02 ABOVE GRADE

2.03 INSULATION PIPING FROM A WATER HEATER TO THE TERMINATION OF THE HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.10. ON BOTH THE INLET AND OUTLET PIPING OF A STORAGE WATER HEATER OR HEATED WATER STORAGE TANK, THE PIPING TO A HEAT TRAP OR THE FIRST 8 FEET (2438MM) OF PIPING, WHICHEVER IS LESS,

SHALL BE INSULATED.

- TESTING A. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS.
- CORRECT ALL DEFICIENCIES FOUND. B. TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE
- CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER. C. THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR
- WALL, PARTITION OR BEAM. D. THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT

BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR,

- E. ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER HE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID
- F. WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.
- AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN. H. ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES
- AND THE OWNER'S REPRESENTATIVE. I. ALL EQUIPMENT WILL BE FACTORY TESTED.

FOR THIS CONTRACT.

THE TESTS ARE TO BE CONDUCTED.

- J. CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.
- L. REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

M. TESTING REQUIREMENTS a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125

NO VARIATION FOR 120 MINUTES.

- b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH
- c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER. d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.
- N. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.
- O. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

PROMPTLY REPAIRED.

A. EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE

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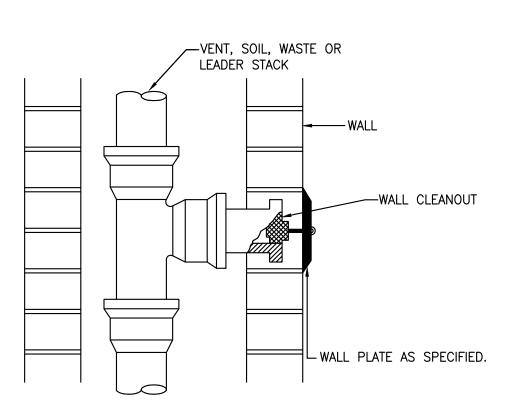
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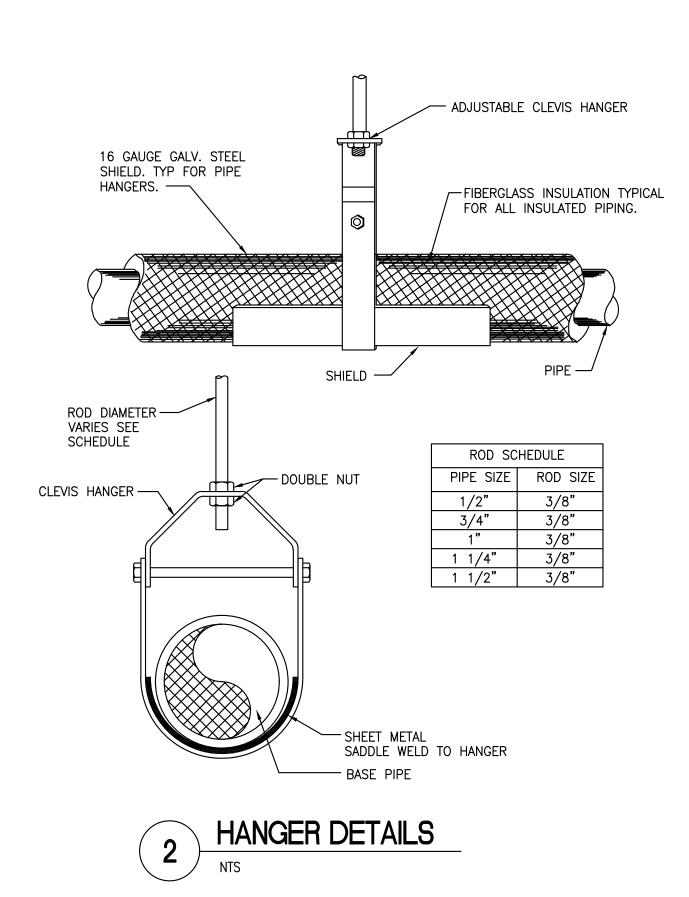
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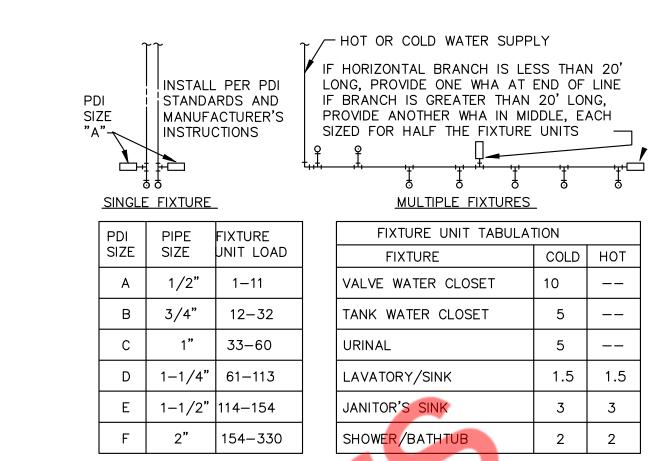
FOR CONSTRUCTION :05.21.24

PLUMBING SYMBOLS, **ABBREVIATIONS &** SPECIFICATIONS



1 WALL CLEANOUT





PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND 0-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN .INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE . SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

WATER HAMMER ARRESTER DETAILS

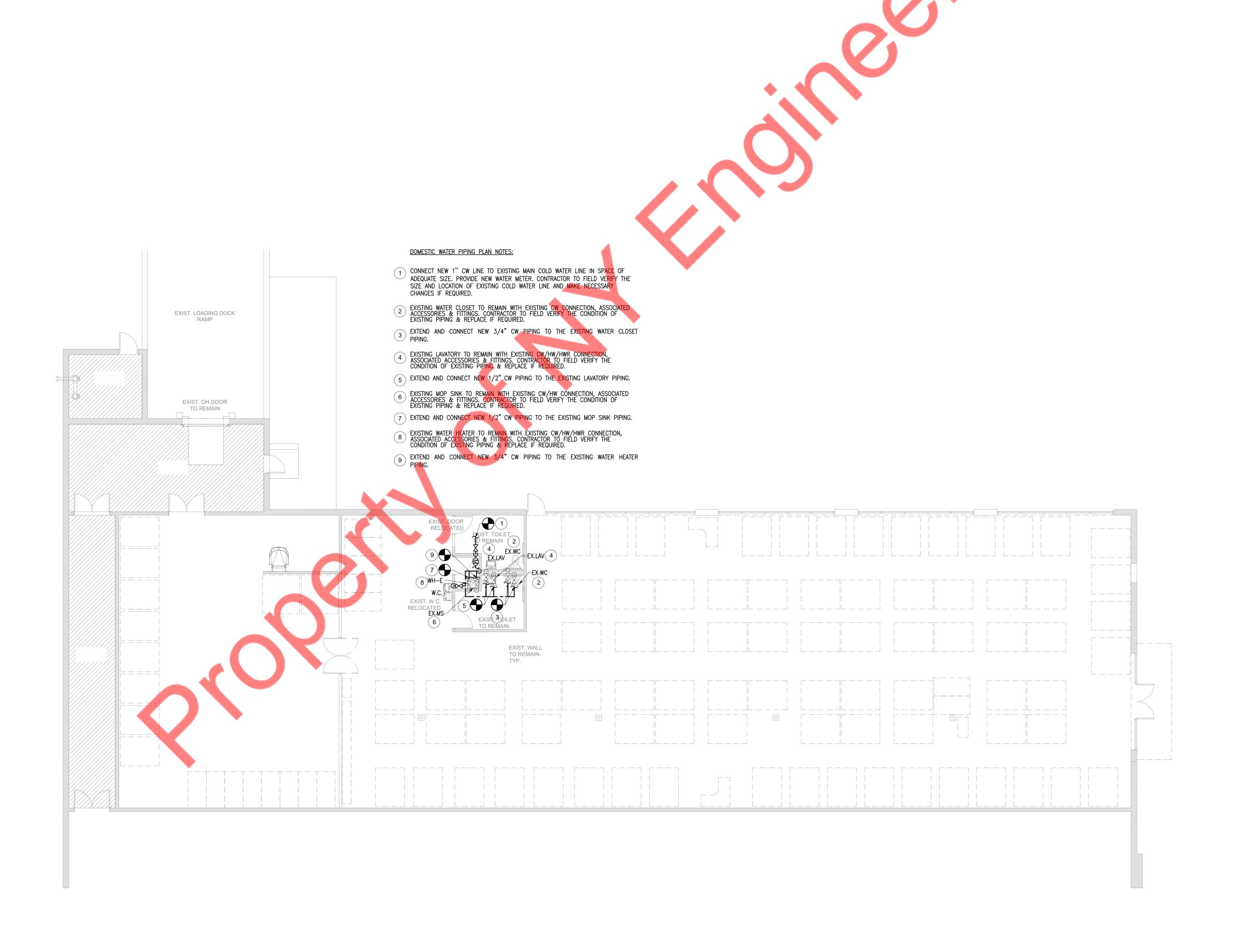
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PLUMBING DETAILS P0.2



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PLUMBING
WATER PIPING
PLAN
P1.0

SANITARY AND VENT PIPING PLAN NOTES: EXIST. LOADING DOCK RAMP EXIST. OH DOOR TO REMAIN W.C. OF EX.LAV EXIST. W.C. RELOCATED TO REMAIN.

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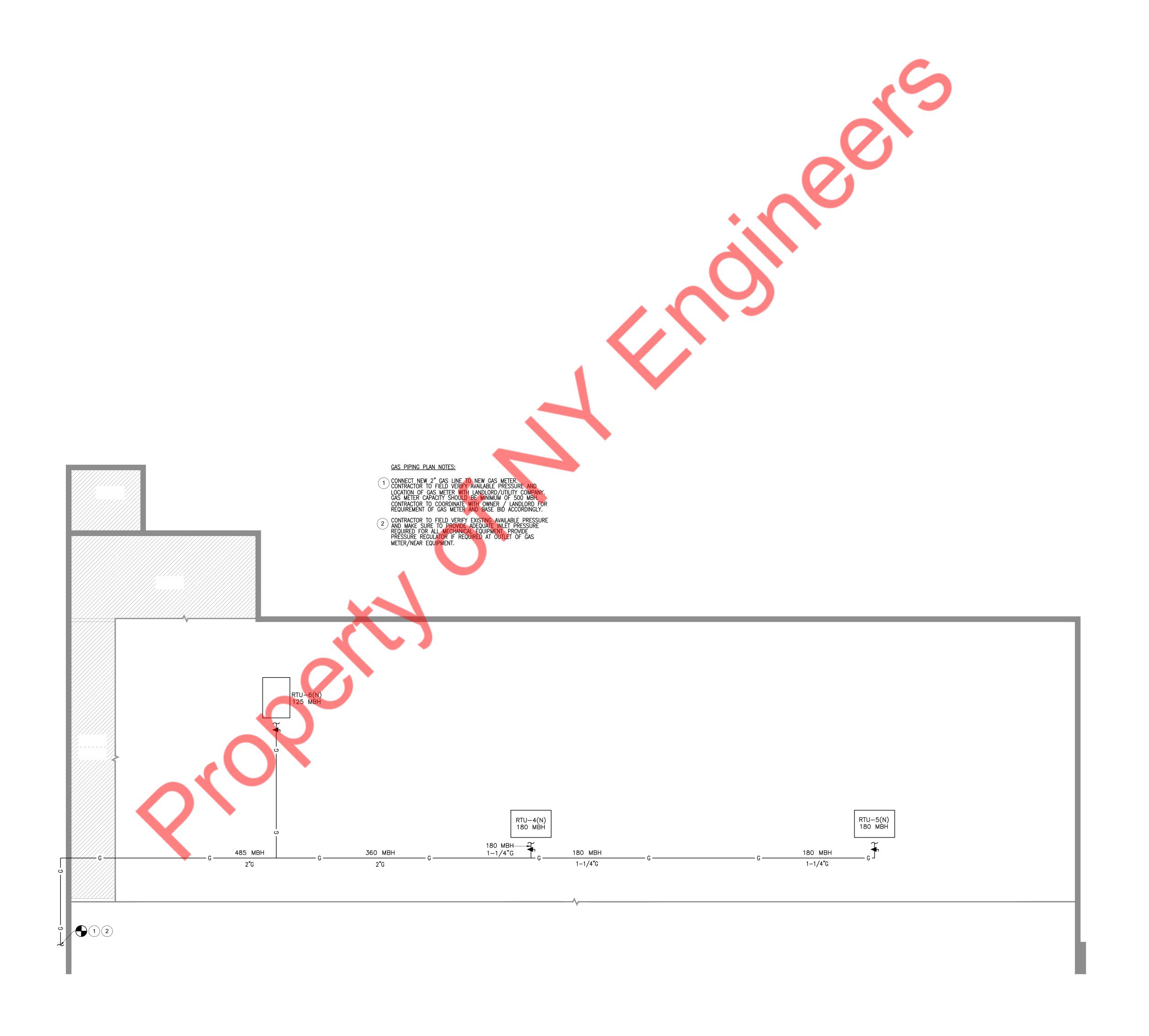
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PLUMBING
SANITARY AND
VENT
PIPING PLAN
P2.0



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> GAS PLAN P3.0

		PLI	UMBING FIXTURE SCH	<u>EDULE</u>							
LEGEND	PLUMBING FIXTURE	DESCRIPTION	CATALOG NUMBER	CONNECTION SIZE - INCHES							
		FIXTURE DESCRIPTION MANUFACTURER CATALOG NUMBER			SOIL/WASTE	VENT	COLD WATER	HOT WATER			
EX.WC	EXISTING WATER CLOSET	EXISTING TO REMAIN	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	E	_			
EX.LAV	EXISTING LAVATORY	EXISTING TO REMAIN	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	E	E			
EX.MS	EXISTING MOP SINK	EXISTING TO REMAIN	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	E	E			
W.C.	WATER COOLER	EXISTING TO RELOCATE	EXISTING TO RELOCATE	EXISTING TO RELOCATE	2"	1½"	1/2"	_			

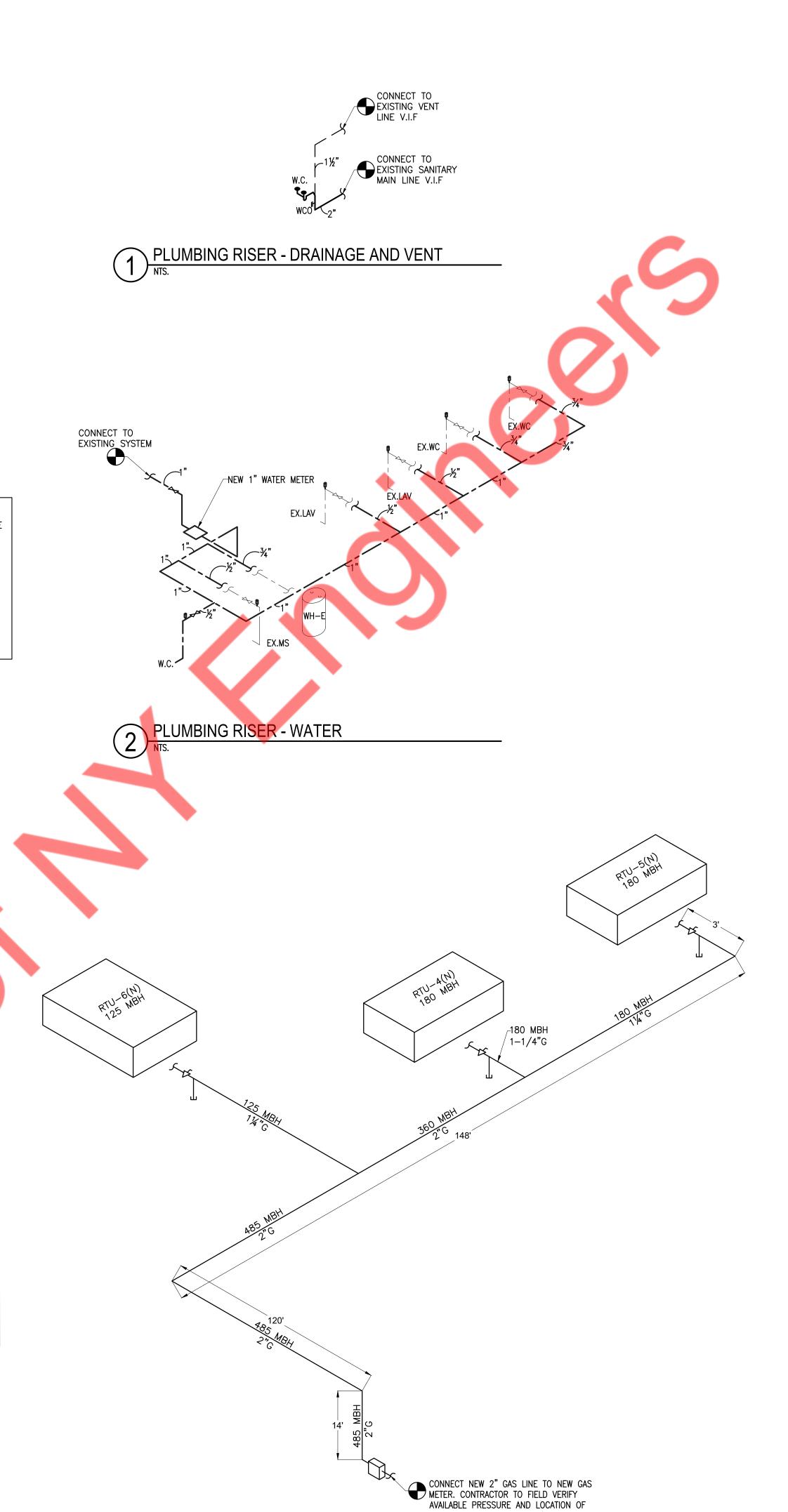
NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.

GENERAL NOTES: PLUMBING RISER

WHEN NOT SHOWN ON PLANS, INDIVIDUAL FIXTURE CONNECTIONS SHALL BE SIZE AS SHOWN ON PLUMBING FIXTURE SCHEDULE.

ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

PROVIDE WATER HAMMER ARRESTORS FOR EACH GROUP OF FIXTURES WHETHER INDICATED OR NOT ON PLAN. PROVIDE ACCESS PANEL WHERE LOCATED IN INACCESSIBLE CEILING OR WALL.



GAS METER WITH LANDLORD/UTILITY
COMPANY. GAS METER CAPACITY SHOULD
BE MINIMUM OF 500 MBH. CONTRACTOR
TO COORDINATE WITH OWNER / LANDLORD
FOR REQUIREMENT OF GAS METER AND
BASE BID ACCORDINGLY.

GAS LOAD	SUMMARY		
EQUIPMENT TAG	QTY.	SIZE	MBH LOAD
RTU-4(N)	1	1¼"	180
RTU-5(N)	1	1¼"	180
RTU-6(N)	1	1¼"	125
	TOTAL GAS	LOAD(MBH)	485

GAS PIPE SIZING PER 2018 INTERNATIONAL FUEL GAS
CODE (WITH GEORGIA AMENDMENTS)

LOW PRESSURE SYSTEM
(AS PER TABLE 402.4(2))

INLET PRESSURE - <2 PSI
PRESSURE DROP - 0.5 IN. W.C.
EQUIVALENT LENGTH OF PIPE 14+120+148+3 = 285
+ FITTINGS (+40%) = 400 FEET

NATURAL GAS PIPING SYSTEM
PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE CONNECTION. PROVIDE ALL TESTS, METERS, INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWD FITTINGS
GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
VERIFY ALL EQUIPMENT BTU'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING TO 2018 INTERNATIONAL FUEL GAS CODE WITH

GEORGIA AMENDMENTS, TABLE 402.4(2)

PLUMBING RISER - GAS NTS.

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PLUMBING
RISERS &
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P4.0