SCOPE OF WORK

REUSE EXISTING (2) 6.0 TON ROOF TOP UNITS AND PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM.

PROVIDE 2 NEW RESTROOM EXHAUST FANS & 1 NEW OTHER EXHAUST FAN AS SHOWN IN PLAN.

COORDINATE WITH GC ANY ADDITIONAL REFRIGERATION WORK REQUIRED AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT.

MECHANICAL PLAN NOTES

A. REUSE EXISTING (2) 6.0 TON ROOF TOP UNITS AND PROVIDE COMPLETE NEW DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO A/C UNIT SCHEDULE FOR ADDITIONAL REQUIREMENTS.

B. FOR SYSTEM OVER 2,000 CFM CHECK FOR DUCT MOUNTED AIR SMOKE DETECTORS AND MEET THE REQUIREMENTS OF U.L. 268A, INTERLOCKED TO SHUTDOWN A/C UNIT UPON DETECTION OF SMOKE. IF NECESSARY PROVIDE SMOKE DETECTOR WITH AN ANNUNCIATOR, ALARM AND POWER L.E.D.'S FOR VISIBLE AND AUDIBLE ALARM SIGNAL, AND VISIBLE TROUBLE SIGNAL. MOUNT ANNUNCIATOR ON ROOM SIDE OF CEILING.

C. ALL DUCTS WILL BE OF FIBERBOARD, FABRICATED AND INSTALLED IN ACCORDANCE WITH NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARD, LATEST EDITION OF SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS, SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL LATEST EDITION, AND 2020 FBC 7TH EDITION, SECTION 603. THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.

D. FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOW OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE.

E. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. IF EXISTING THERMOSTAT AND REMOTE SENSOR ARE NOT REUSABLE THEN PROVIDE NEW THERMOSTAT WITH LOCKABLE COVER. COORDINATE LOCATION OF THERMOSTAT. PROVIDE REMOTE SENSOR LOCATED 72" ABOVE FINISHED FLOOR NEAR LOCATION INDICATED. SEAL WALL OPENINGS WITH CAULK. COORDINATE LOCATION ON SITE WITH GENERAL CONTRACTOR AND EQUIPMENT.

F. ALL INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

1. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION:
2. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:

	SA PLENUM	RA PLENUM
UNCONDITIONED SPACES	R-4.2	R-4.2
UNVENTED ATTIC ABOVE INSULATED CEILING	R-6	R-4.2
EXTERIOR BUILDING	R-6	R-4.2

G. ALL SEAMS, JOINTS, ETC WILL BE SEALED TO MAKE AIR DUCT AIRTIGHT. PRESSURE SENSITIVE MATERIALS AND OTHERS APPROVED BY LATEST SMACNA. SEALING MATERIALS WILL BE USED.

H. ALL EVAPORATOR UNITS SHALL HAVE A FLOAT SWITCH TO CONTROL OVERFLOW THAT WILL AUTOMATICALLY SHUT DOWN THE RTU SYSTEM. THE DEVICE SHALL BE ATTACHED TO THE SECONDARY DRAIN OUTLET ON THE UNIT.

I. ALL CONDENSATE DRAINS WILL BE PVC FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST APPROVED PLACE OF DISPOSAL.

J. ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.

K. TESTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH 2020 FBC - ENERGY CONSERVATION, 7TH EDITION SECTION C408.2.2. BALANCING PROCEDURES SHALL BE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (N.E.B.B.), THE ASSOCIATED AIR BALANCE COUNCIL (A.A.B.C) NATIONAL STANDARDS OR EQUIVALENT PROCEDURES.

L. HANGER ATTACHMENTS TO THE STEEL STRUCTURE WILL BE RATED POWDER ACTUATED FASTENERS, "C" CLAMPS, WELDED STUDS, CLAMP HANGERS, JOIST CLAMPS OR OTHER METHODS RECOMMENDED BY SMACNA'S "METAL AND FLEXIBLE STANDARDS", CHAPTER 4, AND WILL HAVE A MINIMUM SAFETY MARGIN OF 4:1. SUSPENDED FROM TOP CHORD OF JOISTS, NOTHING FROM DECK OR CROSS BRACING.

M. ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.

N. 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 WALLS.

GREENACRES, FLORIDA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2020 FLORIDA BUILDING CODE AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
2. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2020 FLORIDA MECHANICAL CODE 7TH EDITION 401.
3. 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.
4. SMOKE DETECTOR SHALL MEET UL268A.
5. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
   - A. STANDARD OF HEATING- 2020 FLORIDA MECHANICAL CODE, 7TH EDITION 309.1
   - B. DUCT CONSTRUCTION AND INSTALLATION- 2020 FLORIDA MECHANICAL CODE, 7TH EDITION 603
   - C. AIR INTAKES, EXHAUSTS AND RELIEF - 2020 FLORIDA MECHANICAL CODE, 7TH EDITION 401.5
   - D. AIR FILTER - 2020 FLORIDA MECHANICAL CODE, 7TH EDITION 605
   - E. SMOKE DETECTION SYSTEM CONTROL- 2020 FLORIDA MECHANICAL CODE, 7TH EDITION 606
6. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
7. 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 2020 FLORIDA BUILDING CODE, MECHANICAL 403.3
8. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
9. 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 BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
10. VENTILATION SYSTEM SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THE SYSTEM SHALL BE BALANCED BY APPROVED METHOD - 2020 FLORIDA MECHANICAL CODE 7TH EDITION 403.3.1.5. CONTRACTOR TO SUBMIT THE AIR-BALANCE REPORT TO INSPECTOR OF RESPECTIVE BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.

GENERAL NOTES

A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET. PAY SPECIAL ATTENTION TO THE RESPONSIBILITY SCHEDULE. WORK DESIGNATED ON SCHEDULE SHALL BE CONSIDERED INCLUDED IN YOUR SCOPE OF WORK AND CONTRACT AMOUNT.

B. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING, OR PROCEEDING WITH WORK.

C. DRAWINGS/DETAILS ARE TO BE CONSIDERED DIAGRAMMATIC, NOT NECESSARILY SHOWING IN DETAIL OR TO SCALE ALL MINOR ITEMS. UNLESS SPECIFIC DIMENSIONS ARE SHOWN, THE STRUCTURAL, ARCHITECTURAL AND SITE CONDITIONS SHALL GOVERN EXACT LOCATIONS. CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK, AND CHECK/COORDINATE DRAWINGS OF ALL TRADES.

D. COORDINATE WITH THE WORK OF OTHERS SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DRIPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.

E. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

F. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.

G. USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN THE RETURN AIR PLENUM. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25, AND SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL EXPOSED WIRING IN THE PLENUM SHALL BE PLENUM RATED.

H. VERIFY LOCATION OF PERMISSIBLE NEW STRUCTURAL ROOF PENETRATIONS AND ADAPT THE REQUIRED DUCTS ACCORDINGLY. THE OPENINGS MUST BE LOCATED USING A REBAR LOCATOR, TRYING TO LEAVE A TRANSVERSE BAR WITHIN 4" FROM THE OPENING. LOCATE OPENINGS AT MID-DISTANCE BETWEEN THE STEMS OF THE DOUBLE TEE AND LONGITUDINAL REINFORCEMENT SHALL NEVER BE CUT. CALL THE ARCHITECTS OFFICE IN CASE OF UNEXPECTED DIFFICULTIES.

I. ALL A/C AND FRESH AIR ROUND EXPOSED DUCTS WILL BE SPIRAL GALVANIZED AND READY FOR PAINTING. ALL RECTANGULAR DUCTS OVER CEILINGS MAY BE SHEET METAL WITH EXTERNAL INSULATION AND EXPOSED DUCTWORK WITH INTERNAL INSULATION.

J. G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.

K. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

L. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.

M. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

MECHANICAL SYMBOLS

- EXHAUST FAN
- SUPPLY OR OUTSIDE AIR DUCT
- RETURN OR EXHAUST AIR DUCT
- INSULATED RIGID DUCTWORK
- DUCT TRANSITION
- MANUAL VOLUME DAMPER
- FLEXIBLE DUCTWORK R-6.0
- SUPPLY DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
- RETURN DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
- CEILING MOUNTED EXHAUST FAN
- MOTORIZED DAMPER
- MANUAL ON/OFF SWITCH
- WMS
- ROOF MOUNTED EXHAUST FAN OUTLET
- ROOFTOP UNIT
- EXHAUST FAN WITH LIGHT
- OPPOSED BLADE DAMPER
- DUCT SMOKE DETECTOR
- PROGRAMMABLE THERMOSTAT
- REMOTE SENSOR
- TEMPERATURE SENSOR
- Ø ROUND DUCT DIAMETER
- CFM CUBIC FEET/ MINUTE
- S/A SUPPLY AIR
- R/A RETURN AIR
- SG SUPPLY GRILLE
- CONDENSATE PIPING
- BD BACKDRAFT DAMPER
- PRESSURE DIFFERENTIAL SENSOR

NOTE: THIS PROJECT MAY NOT USE EVERY SYMBOL OR DEVICE APPEARING ON THIS LEGEND.

THERMOSTATIC CONTROLS

C403.2.4 HVAC SYSTEM CONTROLS

EACH HEATING AND COOLING SYSTEM SHALL BE PROVIDED WITH THERMOSTATIC CONTROLS AS SPECIFIED IN SECTION C403.2.4.1, C403.2.4.1.3, C403.2.4.2, C403.2.4.3, C403.2.12.5, C403.3.1, C403.4, OR C403.4.4.

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

C403.2.4.1.3 SET POINT 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.

EXCEPTIONS:

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 MAINTAIN ZONE 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 AND OPTIMUM START CAPABILITIES (MANDATORY)

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

INDIVIDUAL HEATING AND COOLING SYSTEMS WITH SETBACK CONTROLS AND DIRECT DIGITAL CONTROL SHALL HAVE OPTIMUM START CONTROLS. THE CONTROL ALGORITHM SHALL, AS A MINIMUM, BE A FUNCTION OF THE DIFFERENCE BETWEEN SPACE TEMPERATURE AND OCCUPIED SET POINT, THE OUTDOOR TEMPERATURE, AND THE AMOUNT OF TIME PRIOR TO SCHEDULED OCCUPANCY. MASS RADIANT FLOOR SLAB SYSTEMS SHALL INCORPORATE FLOOR TEMPERATURE INTO THE OPTIMUM START ALGORITHM.

EXISTING CONDITION NOTES

THE CONTRACTOR AND SUB CONTRACTOR **SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED**. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND SECOND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED. THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTAL AND VERTICAL, ELECTRICAL SERVICE/PANELS LOCATION AND VOLTS/PHASE, LOCATION/QTY. OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HUNG UNITS HAVE PROPER SUPPORT CONNECTIONS FOR EXISTING STRUCTURE, FIRE SPRINKLER MAIN RUNS, TOILET ROOM DIMENSIONS, DOOR SWING FOR DOORS TO REMAINED ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REIMBURSE THE ARCHITECT FOR THE REDESIGN FEE. THIS DOES NOT INCLUDE HIDDEN WORK I.E. PITCH OF SANITARY LINES, ACTUAL CONDITIONS OF EXISTING HVAC EQUIPMENT, STRUCTURAL COLUMNS/BEARING WALLS OR CONDITIONS OF GREASE INTERCEPTORS AND ETC.

OCCUPANCY CALCULATION PER 2020 FBC - MECHANICAL,7th EDITION,TABLE 403.3.1.1

LAUNDRY	2265 SQ. FT. @10 PEOPLE/1000SQ.FT.	23	PEOPLE
OFFICE	67 SQ. FT. @15 PEOPLE/1000SQ.FT.	2	PEOPLE
SERVICE AREA	108 SQ. FT. @15 PEOPLE/1000SQ.FT.	2	PEOPLE
	TOTAL	27	PEOPLE

VENTILATION REQUIREMENTS PER 2020 FBC - MECHANICAL 7th EDITION, TABLE 403.3.1.1

LAUNDRY	25 PEOPLE. X 25 CFM/PEOPLE. =	575	CFM
OFFICE	67 SQ. FT. X 0.06 CFM/SQ. FT. =	4	CFM
	2 PEOPLE. X 5.0 CFM/PEOPLE. =	10	CFM
SERVICE AREA	108 SQ. FT. X 0.12 CFM/SQ. FT. =	13	CFM
	2 PEOPLE. X 7.5 CFM/PEOPLE. =	15	CFM
OUTSIDE AIR REQUIRED		617	CFM
OUTSIDE AIR PROVIDED		620	CFM
AIR BALANCE			
O/A PROVIDED THROUGH RTU-1(E)		+310	CFM
O/A PROVIDED THROUGH RTU-2(E)		+310	CFM
BEF-1 (N)		-70	CFM
BEF-2 (N)		-70	CFM
EF-1 (N)		-70	CFM
BUILDING PRESSURE (BAROMETRIC RELIEF)		+410	CFM

FAN SCHEDULE

DESIGNATION	BEF-1 (N)	BEF-2 (N)	EF-1 (N)
STATUS	NEW	NEW	NEW
QUANTITY	1	1	1
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK
MODEL	SP-A90	SP-A90	SP-A90
CFM	70@ 0.3" W.C. ESP	70@ 0.3" W.C. ESP	70@ 0.3" W.C. ESP
AMPS	0.17	0.17	0.17
ACCESSORIES	BDD,LITE KIT	BDD,LITE KIT	BDD,LITE KIT
WEIGHT (LBS)	12	12	12
VOLTAGE (V/P/Hz)	115/60/1	115/60/1	115/60/1

NOTE:
1. PROVIDE DISCONNECT SWITCH.
2. BEF-1(N) & BEF-2(N) SHALL BE INTERLOCKED WITH RTU-2(E).
3. PROVIDE BACK DRAFT DAMPER.
4. EF-1(N) INTERLOCK WITH ROOM LIGHTS.

ROOF TOP UNIT SCHEDULE

UNIT TAG	RTU -1 (E)	RTU -1 (E)
UNIT TYPE	ELECTRIC	ELECTRIC
MANUFACTURER	GOODMAN	GOODMAN
MODEL	CPC072XXX3BXXXBA (V.I.F)	CPC072XXX3BXXXBA (V.I.F)
STATUS	EXISTING	EXISTING
MOUNTING	ROOF	ROOF
NOMINAL CAPACITY	6 TONS	6 TONS
TOTAL COOLING MBH	71.0 (V.I.F)	71.0 (V.I.F)
SENSIBLE MBH	48.3 (V.I.F)	48.3 (V.I.F)
ELECTRIC HEATER (kW)	15.0 (V.I.F)	15.0 (V.I.F)
ELECTRIC HEATER MODEL	S.A.E	S.A.E
ESP (IN. OF W.C.)	S.A.E	S.A.E
EER / SEER	S.A.E	S.A.E
SUPPLY AIR (CFM)	2400 (V.I.F)	2400 (V.I.F)
OUTDOOR AIR (CFM)	310	310
VOLTAGE/PH/Hz	208-230/3/60	208-230/3/60
MCA (A)	51.0 (V.I.F)	51.0 (V.I.F)
MOCP (A)	60.0 (V.I.F)	60.0 (V.I.F)
WEIGHT (lbs)	S.A.E	S.A.E

NOTES FOR EXISTING RTU-1(E) & RTU-2(E)
1. EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
2. GC NEEDS TO VERIFY THE CONDITION OF THE EXISTING RTU.
3. S.A.E : SAME AS EXISTING. V.I.F - VERIFY IN FIELD.
4. CONTRACTOR TO FIELD VERIFY IF RTU IN WORKING AT THEIR 100% RATED CAPACITIES/LOADS. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF UNIT ON SITE.
6. IF REQUIRED , PROVIDE NEW THERMOSTAT AND TEMPERATURE SENSOR COMPATIBLE WITH EXISTING RTU. CO-ORDINATE FINAL LOCATION OF T-SENSOR WITH ARCHITECT/OWNER.
7. CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTU TO MATCH VALUES MENTIONED IN VENTILATION REQUIREMENT TABLE.
8. CLEAN/REPLACE RETURN AIR FILTERS.
9. CONTRACTOR TO FIELD VERIFY THE ELECTRIC HEATING CAPACITY OF EXISTING ROOF TOP UNIT. NOTIFY ARCHITECT/ ENGINEER IF ANY DISCREPANCY.

CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTIONS, WIRE SIZES, BREAKERS, DISCONNECT ETC. PRIOR TO ORDERING AND BID.

DIFFUSER/GRILLE SCHEDULE

MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
DESIGNATION	A	R	B	C	D
TYPE	SUPPLY	RETURN	SUPPLY	RETURN	SUPPLY
MODEL	TDC-AA	56FL	250-AA(2/3 WAY)	350RL	301FL
MOUNTING	CEILING	CEILING	CEILING	WALL	DUCT
LOCATION	AS SHOWN	AS SHOWN	BATHROOM	AS SHOWN	AS SHOWN
FACE SIZE	24" X 24"	24" X 24"	12"X12"	AS SHOWN	AS SHOWN
NECK SIZE	REFER TO TABLE A	-	REFER TO TABLE A	-	-
FRAME TYPE	LAY IN	LAY IN	FLANGED	FLANGED	FLANGED
ACCESSORIES	VOLUME DAMPER	-	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER

NOTES :
1. MAX. NC LEVEL 30 OR LESS.
2. PROVIDE SQUARE TO ROUND NECK ADAPTOR.
3. CONFIRM WITH ARCHITECT/OWNER FOR PAINT AND FINISH.
4. PROVIDE 4 WAY AIR THROW PATTERN UNLESS NOTES OR INDICATED.

NECK SIZE TABLE -A

NECK SIZE	CFM RANGE
Ø6"	0-100
Ø8"	101-200
Ø10"	201-400
Ø12"	401-600

MECHANICAL SCHEDULES | SCALE N.T.S. | 1

NY ENGINEERS

PROJECT

AAXON LAUNDRY

REVISIONS DATES:

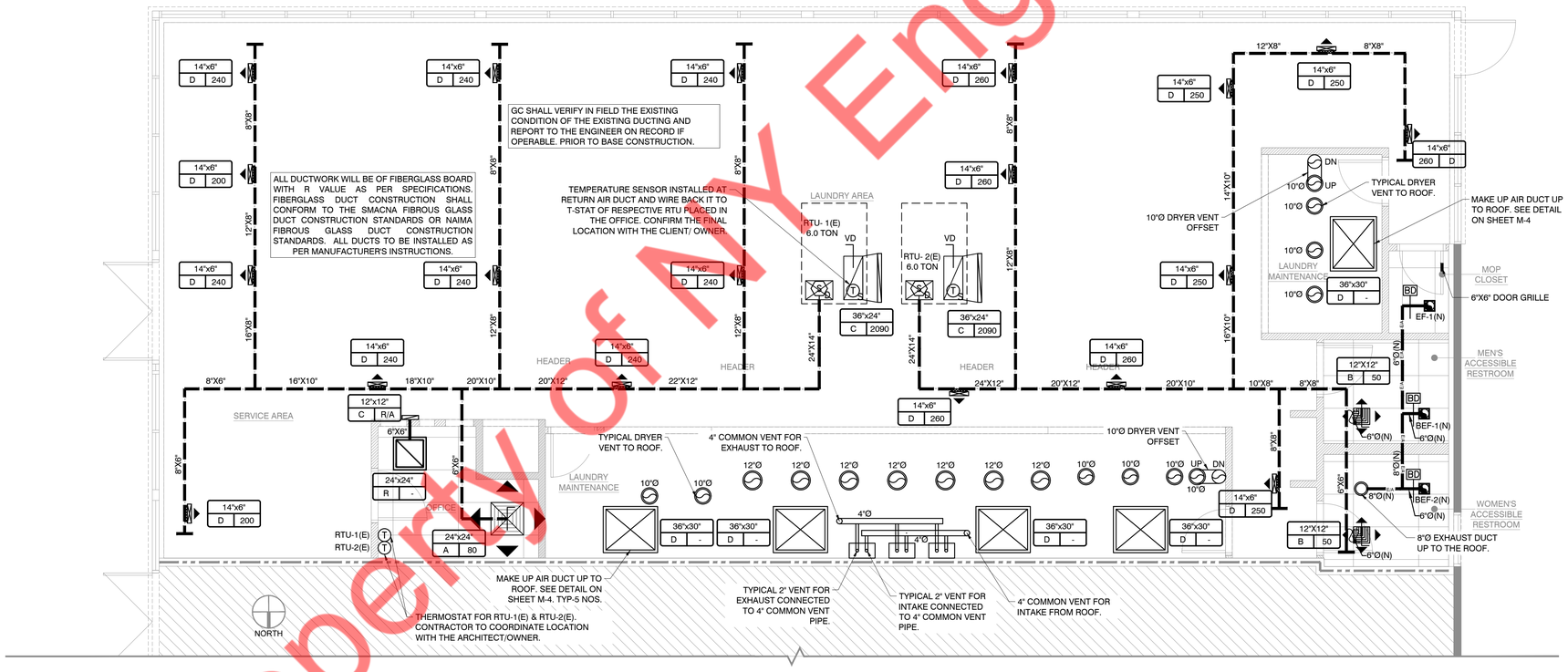
S.NO	DETAIL	DATE

PROFESSIONAL SEAL

NOT FOR PERMIT OR BID
NOT FOR CONSTRUCTION

MECHANICAL NOTES & SCHEDULES

M-1



HVAC FLOOR PLAN | SCALE 1/4" = 1'-0" | 1

NY ENGINEERS

PROJECT

AAXON LAUNDRY

REVISIONS DATES:

S.NO	DETAIL	DATE

PROFESSIONAL SEAL

HVAC FLOOR PLAN

M-2

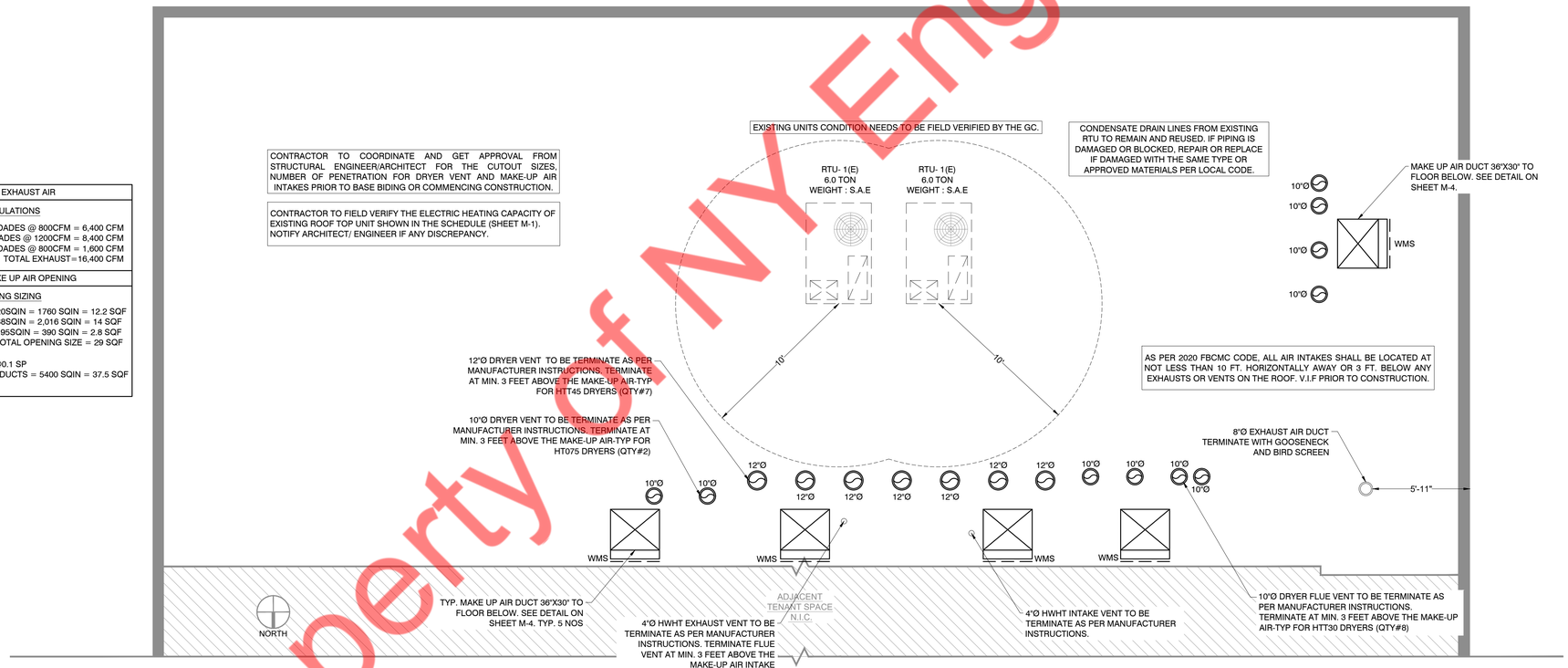
CALCULATION EXHAUST AIR	
DRYER EXHAUST VENT CALCULATIONS	
HTT30	8 UNIDADES @ 800CFM = 6,400 CFM
HTT45	7 UNIDADES @ 1200CFM = 8,400 CFM
HTT075	2 UNIDADES @ 800CFM = 1,600 CFM
	TOTAL EXHAUST= 16,400 CFM
CALCULATION MAKE UP AIR OPENING	
DRYER MAKE UP AIR OPENING SIZING	
HTT30	8 UNIDADES @ 220SQIN = 1760 SQIN = 12.2 SQF
HTT45	7 UNIDADES @ 288SQIN = 2,016 SQIN = 14 SQF
HT075	2 UNIDADES @ 195SQIN = 390 SQIN = 2.8 SQF
	TOTAL OPENING SIZE = 29 SQF
5 MAKE UP AIR DUCT 36X30 @0.1 SP	
36X30 = 1080 SQIN = 1080X5 DUCTS = 5400 SQIN = 37.5 SQF	
37.5 SQF > 29 SQF	

CONTRACTOR TO COORDINATE AND GET APPROVAL FROM STRUCTURAL ENGINEER/ARCHITECT FOR THE CUTOUT SIZES, NUMBER OF PENETRATION FOR DRYER VENT AND MAKE-UP AIR INTAKES PRIOR TO BASE BIDING OR COMMENCING CONSTRUCTION.

CONTRACTOR TO FIELD VERIFY THE ELECTRIC HEATING CAPACITY OF EXISTING ROOF TOP UNIT SHOWN IN THE SCHEDULE (SHEET M-1). NOTIFY ARCHITECT/ ENGINEER IF ANY DISCREPANCY.

EXISTING UNITS CONDITION NEEDS TO BE FIELD VERIFIED BY THE GC.

CONDENSATE DRAIN LINES FROM EXISTING RTU TO REMAIN AND REUSED. IF PIPING IS DAMAGED OR BLOCKED, REPAIR OR REPLACE IF DAMAGED WITH THE SAME TYPE OR APPROVED MATERIALS PER LOCAL CODE.



AS PER 2020 FBCMC CODE, ALL AIR INTAKES SHALL BE LOCATED AT NOT LESS THAN 10 FT. HORIZONTALLY AWAY OR 3 FT. BELOW ANY EXHAUSTS OR VENTS ON THE ROOF. V.I.F PRIOR TO CONSTRUCTION.

HVAC ROOF PLAN | SCALE 1/4" = 1'-0" | 1

NY ENGINEERS

PROJECT

AAXON LAUNDRY

REVISIONS DATES:

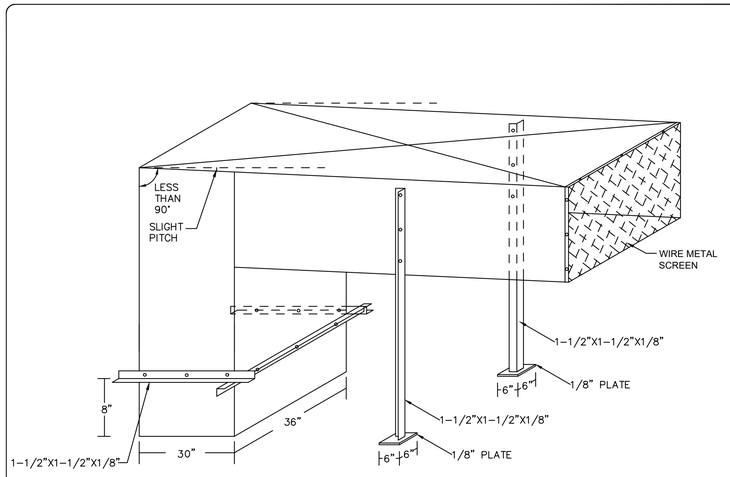
S.NO	DETAIL	DATE

PROFESSIONAL SEAL

NOT FOR PERMIT OR BID
NOT FOR CONSTRUCTION

HVAC ROOF PLAN

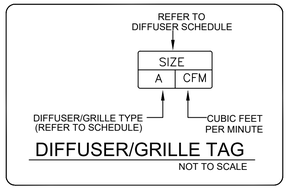
M-3



NOTE- INTAKE OPENING TO BE LOCATED 3 FT BELOW THE EXHAUST OR VENT

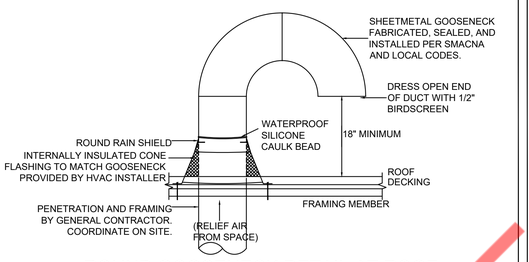
FRESH AIR DETAIL

NOT TO SCALE



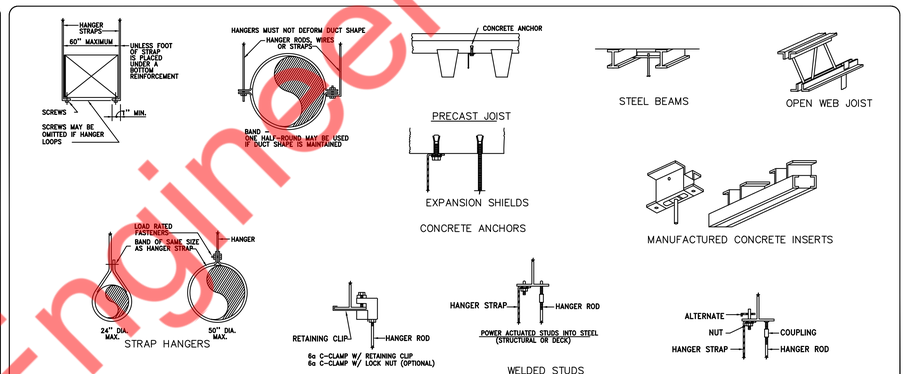
DIFFUSER/GRILLE TAG

NOT TO SCALE



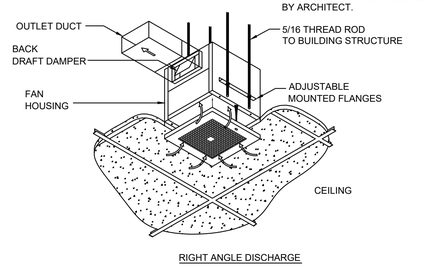
ROUND GOOSENECK DETAIL AT ROOF

NOT TO SCALE



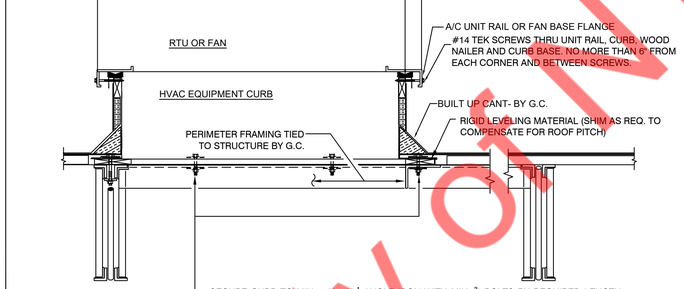
UPPER & LOWER ATTACHMENTS & DEVICES

NOT TO SCALE



CEILING EXHAUST FAN DETAIL

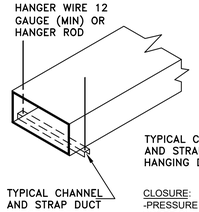
NOT TO SCALE

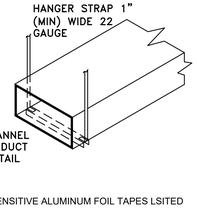


RTU INSTALLATION DETAIL

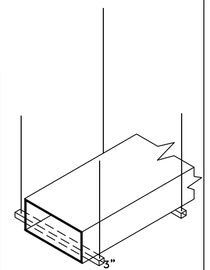
NOT TO SCALE

CHANNEL SELECTION		
DUCT WIDTH MIN.	CHANNEL GUAGE MIN.	CHANNEL PROFILE
LESS THAN 18"	22 3"x 2"	
LESS THAN 30"	18 3"x 2"	





DUCT SIZE,IN.	MAXIMUM HANGER SPACING
① WIDTH 48" OR GREATER	4'-0"
② LESS THEN 48"W X 12"H	6'-0"
③ WIDTH BETWEEN 24" & 48" & HEIGHT OVER 24"	6'-0"
④ WIDTH BETWEEN 24" & 48" & HEIGHT BETWEEN 12" & 24"	8'-0"
⑤ WIDTH LESS THAN 24" & HEIGHT GREATER THAN 12"	8'-0"
DUCT REINFORCING PER SMACNA REQUIRED	



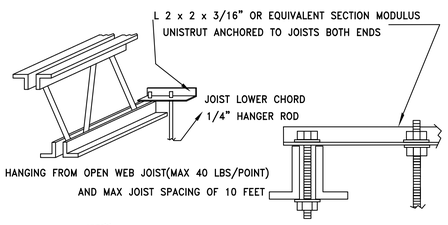
HANGER SPACING AND EXTENSION 3" WIDE CHANNELS

TYPICAL CHANNEL AND STRAP DUCT HANGING DETAIL

CLOSURE:
-PRESSURE SENSITIVE ALUMINUM FOIL TAPES LSITED UNDER UL 181A, PART I (P)
- HEAT ACTIVATED ALUMINUM FOIL/SCRIM TAPES LISTED UNDER UL 181A, PART II (H)
- MASTIC AND GLASS FABRIC TAPE CLOSURE SYSTEMS LISTED UNDER UL 181A, PART III (M)

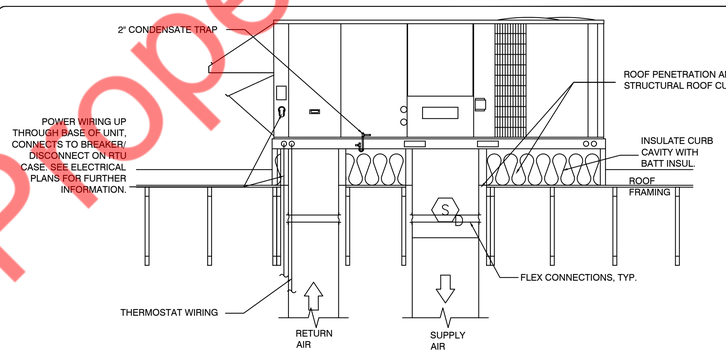
DUCT SUPPORTS

NOT TO SCALE



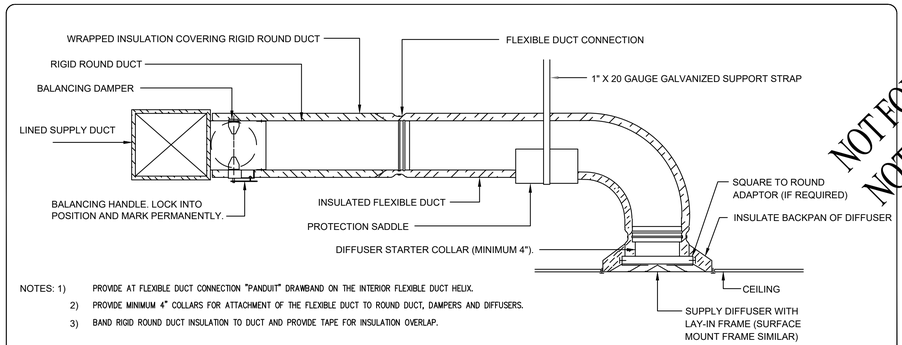
DUCT MOUNTING DETAIL

NOT TO SCALE



RTU UNIT SUPPORT

NOT TO SCALE



NOTES: 1) PROVIDE AT FLEXIBLE DUCT CONNECTION "PANDUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX.
2) PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEXIBLE DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
3) BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

DIFFUSER CONNECTION DETAIL-FLEX DUCT

NOT TO SCALE

NY ENGINEERS

PROJECT

AAXON LAUNDRY

REVISIONS DATES:

S.NO	DETAIL	DATE

PROFESSIONAL SEAL

NOT FOR PERMIT OR BID
NOT FOR CONSTRUCTION

HVAC DETAILS

M-4

System Checksums

By Trial

HVAC SYSTEM — **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 8 / 15
Outside Air: OADB/WB/HR: 92 / 78 / 122

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	6,895	563	7,457	6
Glass Solar	12,336	0	12,336	10
Glass/Door Cond	9,689	0	9,689	8
Wall Cond	3,156	352	3,508	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	0		0	0
Sub Total ==>	32,075	915	32,990	26
Internal Loads				
Lights	6,984	1,746	8,730	7
People	12,150	0	12,150	10
Misc	36,279	0	36,279	29
Sub Total ==>	55,414	1,746	57,160	45
Ceiling Load	104	-104	0	0
Ventilation Load	0	0	36,306	29
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-270	-270	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	87,593	2,288	126,186	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	6,991	8
Glass Solar	13,490	16
Glass/Door Cond	8,947	11
Wall Cond	3,174	4
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	0	0
Sub Total ==>	32,602	39
Internal Loads		
Lights	6,984	8
People	6,750	8
Misc	36,279	44
Sub Total ==>	50,014	60
Ceiling Load	104	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Dehumid. Ov Sizing		
Ov/Undr Sizing	0	0
Exhaust Heat		
Sup. Fan Heat		
Ret. Fan Heat		
Duct Heat Pkup		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	82,720	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 45

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-2,351	-2,530	5.59
Glass Solar	0	0	0.00
Glass/Door Cond	-15,692	-15,692	34.67
Wall Cond	-2,700	-3,014	6.66
Partition/Door	0	0	0.00
Floor	-2,166	-2,166	4.78
Adjacent Floor	0	0	0
Infiltration	-4,805	-4,805	10.61
Sub Total ==>	-27,714	-28,207	62.32
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-33	0	0.00
Ventilation Load	0	-17,555	38.78
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		499	-1.10
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-27,747	-45,263	100.00

TEMPERATURES

	Cooling	Heating
SADB	57.5	75.9
Ra Plenum	76.8	69.4
Return	75.4	69.4
Ret/OA	77.8	65.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	4,196	4,196
Terminal	4,196	4,196
Main Fan	4,196	4,196
Sec Fan	0	0
Nom Vent	620	620
AHU Vent	620	620
Infil	0	170
MinStop/Rh	0	0
Return	4,196	4,366
Exhaust	620	790
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	14.8	14.8
cfm/ft²	1.64	1.64
cfm/ton	403.07	
ft²/ton	245.72	
Btu/hr·ft²	48.84	-19.50
No. People	27	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	10.4	124.9	95.1	4,196	77.8	65.2	72.8	57.5	55.5	62.8
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	10.4	124.9								

AREAS

	Gross Total ft²	Glass ft²	Glass (%)
Floor	2,558		
Part	0		
Int Door	0		
ExFlr	117		
Roof	2,558	0	0
Wall	1,857	1,069	58
Ext Door	95	95	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-49.9	4,196	66.2	75.9
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-49.9			

Project Name: Aaxon Laundry
Dataset Name: AAXON LAUNDRY GREENACRES.TRC

SCOPE OF WORK

REUSE EXISTING 400AMP, 120/208V, 3-PHASE ELECTRICAL SERVICE. RELOCATE AND REUSE EXISTING 200AMP, 120/208V, 3-PHASE ELECTRICAL PANEL "A" & "B". PROPOSED NEW 200A, 120/208V, 3-PHASE ELECTRICAL SERVICE FOR THE TENANT SPACE. NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER AND FUSED DISCONNECT SWITCH. PROVIDE NEW (1) 200A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "G". PROVIDE NEW (4) 125A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "C", "D", "E" & "F". PROVIDE ALL NECESSARY EQUIPMENT, ALL WIRING AND LIGHTING FOR THE PROJECT SPACE. COORDINATE WITH G.C. FOR LOW VOLTAGE WIRING.

ELECTRICAL PLAN NOTES

1. ELECTRICAL CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET.
2. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL NEW ELECTRICAL WORK INDICATED. CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL OWNER HAS DIRECTED CORRECTIVE ACTION TO BE TAKEN.
3. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATIONS INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. EXISTING CONDITIONS OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING HIS BID.
4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 EDITION OF THE NATIONAL ELECTRIC CODE AND ALL CODES AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION.
5. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION FOR ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.
6. ALL ELECTRICAL NOT BEING REUSED MUST BE REMOVED IN ITS ENTIRETY.
7. ALL CONDUIT IN OR UNDERGROUND OR IN CONCRETE MUST BE RIGID GALVANIZED STEEL.
8. CIRCUIT BREAKERS AND PANELS TO BE BOLT ON TYPE.
9. ALL EQUIPMENT SHALL BE APPROVED BY UL OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY.
10. ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250.146
11. SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL.
12. ALL LOW VOLTAGE MUST BE IN CONDUIT TO ABOVE THE DROP CEILING. BRIDAL RINGS OR "J" HOOKS REQUIRED.
13. SEPARATE PERMITS ARE REQUIRED FOR ALL LOW VOLTAGE SUCH AS TELEPHONE, DATA, THERMOSTAT, MUSIC, ALARMS ETC.
14. SEPARATE PERMIT REQUIRED FOR SIGNAGE.
15. PRIOR TO ANY CONSTRUCTION WORK BEGINNING AN ON-SITE MEETING WITH GENERAL CONTRACTORS IS REQUIRED.
16. ELECTRICIAN MUST BE ON SITE FOR ALL INSPECTIONS.
17. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER AND UNLESS OTHERWISE NOTED THHN INSULATION.
18. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, PLASTIC AND CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
19. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
20. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE N.E.C. OR LOCAL CODES.
21. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
22. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
23. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
24. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE THAT CERTIFICATE OF OCCUPANCY IS ISSUED. WARRANTY SHALL BE PROVIDED IN WRITING. PROVIDE COPY TO LL.
25. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
26. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
27. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT.
28. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER AND TELEPHONE COMPANIES.
29. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND PROVIDE ALL NECESSARY CONTROL WIRING.
30. ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE CIRCUIT BREAKERS.
31. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, DEVICES, ETC. FOR ALL OUTLETS AS INDICATED.
32. MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UL LIST OF APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF N.E.C. NEMA, AND IECE.
33. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR CUT SHEETS OF LIGHTING FIXTURES, SWITCHES, AND OTHER ELECTRICAL ITEMS FOR APPROVAL BY ENGINEER/ARCHITECT.
34. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND FIRED CAULKING REQUIRED OF HIS WORK.
35. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/TYPE WRITTEN DIRECTORIES.
36. ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F. UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.
37. ALL LIGHT SWITCHES TO BE AT 42" A.F.F.
38. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL ELECTRICAL WIRING FOR HVAC SYSTEM INCLUDING CONTROLS, THERMOSTATS, POWER, ETC. SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
39. BREAKER AND PANELS -- ALL CURRENT CARRYING BUSSES SHALL BE COPPER. ALL GROUND BUS BARS SHALL BE COPPER. PANEL BOARD ENCLOSURES SHALL BE FURNISHED WITHOUT PRE-PUNCHED CONCENTRIC HOLES. A.I.C. RATINGS SHALL BE AS INDICATED ON PANEL BOARD SCHEDULES.
40. DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.
41. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, WITH OVERLOAD RELAYS IN EACH HOT LEG.
42. THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACT SHALL FURNISH AND INSTALL.
43. CONTRACTOR SHALL CONFIRM WITH ANY AND ALL REQUIREMENTS SUCH AS: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, TRANSFORMER SIZE, SCHEDULED DOWN TIME FOR OWNERS CONFIRMATION, ETC. ANY CONFLICTS SHALL BE BROUGHT TO ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK.
44. VOLTAGE DROP FOR ALL BRANCH CONDUCTORS SHALL NOT EXCEED 3%. WHERE VOLTAGE DROP EXCEEDS 3%, CONTRACTOR SHALL INCREASE SIZE OF CONDUCTORS.
45. CONTRACTOR SHALL PROVIDE GFI TYPE BREAKER FOR ALL EXTERIOR 120V CIRCUITS OR GFI PROTECTION -- FOR THE WHOLE CIRCUIT.
46. GAS PIPING SHALL BE BONDED.
47. ELECTRICAL CONTRACTOR SHALL COORDINATE SERVICE ENTRY WITH SERVICE PROVIDER PRIOR TO DETERMINING EXACT LOCATION OF THE METER BOX IN ORDER TO AVOID DISCREPANCIES BETWEEN DRAWINGS AND JOB CONDITIONS.
48. ALL OUTDOOR EQUIPMENT SHALL BE WEATHERPROOF.
49. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE. PROVIDE A COPY TO LL.
50. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.
51. ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6'-0" OR LESS).
52. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL OR IN RIGHT ANGLES TO THE BUILDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY. NO CONDUIT TO BE SUPPORTED FROM THE ROOF DECK.
53. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED.
54. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
55. ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS.
56. 7-DAY 24-HOUR TIME CLOCK IS REQUIRED TO CONTROL STOREFRONT ENTRY LIGHTS, SHOW WINDOW LIGHTS, SHOW WINDOW RECEPTACLES AND STOREFRONT SIGNAGE. ILLUMINATED STOREFRONT SIGNS MUST REMAIN LIT DURING ALL MALL BUSINESS HOURS.
57. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
58. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.
59. TENANT IS REQUIRED TO MAKE A FIELD SURVEY OF THE EXISTING ELECTRICAL SERVICE TO ENSURE THAT THE TOTAL CONNECTED LOAD DOES NOT EXCEED THE ELECTRICAL SERVICE. ANY/ALL MODIFICATIONS OR UPGRADES NEEDED ARE SUBJECT TO LANDLORD'S PRIOR APPROVAL AND WILL BE COMPLETED BY TENANT/TENANT'S GC AT TENANT'S SOLE EXPENSE.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXHAUST FAN
	EXHAUST FAN WITH LIGHT
S	SPEAKERS @ CEILING
J	JUNCTION BOX
	BATTERY BACK UP EXIT LIGHT
	BATTERY BACK UP EMERGENCY LIGHT
$	WALL SWITCH (SINGLE)
$T	WALL SWITCH (TIMER) WITH WIFI COMPATIBILITY.
$D	DIMMER WALL SWITCH WITH WIFI COMPATIBILITY.
$OS	OCCUPANCY SENSOR WALL SWITCH WITH WIFI COMPATIBILITY.
DS	DAY LIGHT SENSOR
MD	MD MOTORIZED DAMPER
USB	DUPLEX RECEPTACLE WITH USB PROVISION.
	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
	QUADRUPLEX RECEPTACLE
CL	CEILING MOUNTED DUPLEX RECEPTACLE
	DEDICATED DUPLEX RECEPTACLE
	ELECTRICAL PANEL
	DISCONNECT SWITCH
TV	TELEVISION OUTLET
TEL	TELEPHONE/DATA OUTLET
	DATA OUTLET
CL	CEILING MOUNTED DATA OUTLET
A	30A/208V NON FUSED DISCONNECT SWITCH
B	60A/208V NON FUSED DISCONNECT SWITCH

ABBREVIATIONS:

ABOVE FINISH FLOOR= A.F.F.	BELOW COUNTER= BC
COUNTER TOP LEVEL= C	PUSH BUTTON= PB
GROUND FAULT INTERRUPTER= GFCI	UNDER CABINET= UC
VERIFY PRIOR TO INSTALL= VH	VAPOR PROOF= VP
WEATHER PROOF= WP	SALVAGED = S
WASHER = WA	DRYER = DR
ABOVE COUNTER = AC	ROOF TOP UNIT= RTU
EXHAUST FAN=EF	BATHROOM EXHAUST FAN=BEF

GENERAL LIGHTING NOTES

A. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE AND LOWER CASE LETTER DENOTES SWITCHING SCHEME.

B. ALL EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR.

EXISTING CONDITIONS NOTES

STOP AND READ

THE CONTRACTOR AND SUB-CONTRACTORS **SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED**. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND 2ND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED, THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTALLY AND VERTICAL, ELECTRICAL SERVICE /PANELS LOCATION AND VOLTS/PHASE, LOCATION/QTY OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HUNG UNITS HAVE PROPER SUPPORT CONNECTIONS FOR EXISTING STRUCTURE. FIRE SPRINKLER MAIN RUNS. TOILET ROOM DIMENSIONS, DOOR SWING FOR DOORS TO REMAIN AND ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REIMBURSE THE ARCHITECT FOR THE REDESIGN FEE. THIS DOES NOT INCLUDE HIDDEN WORK I.E. PITCH OF SANITARY LINES, ACTUAL CONDITIONS OF EXISTING HVAC EQUIPMENT, STRUCTURAL COLUMNS/BEARING WALLS OR CONDITIONS OF GREASE INTERCEPTORS AND ETC.

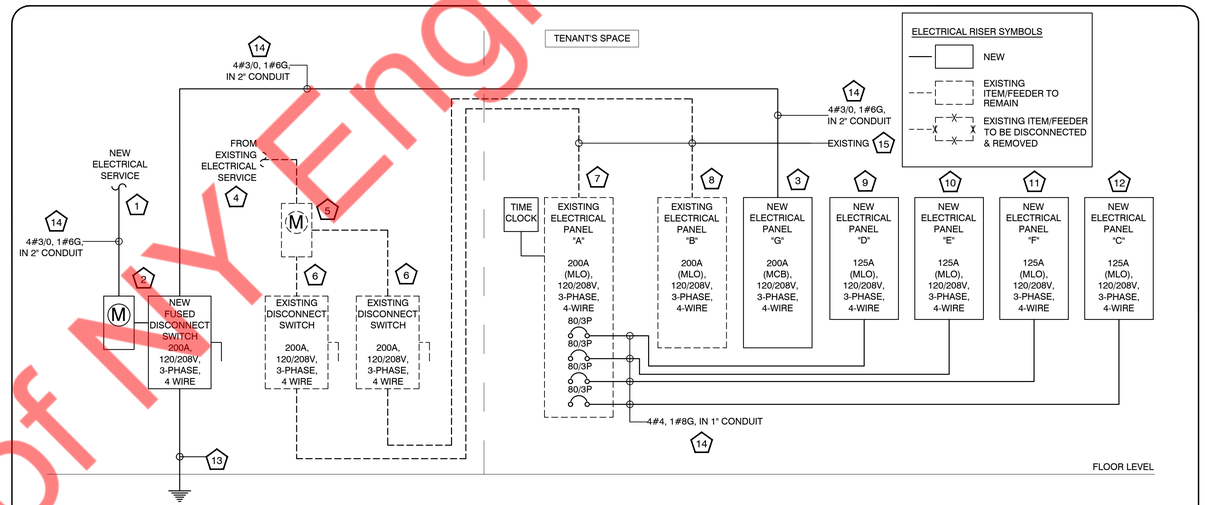
LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	NUMBER OF FIXTURES	LAMP TYPE	TOTAL WATTS	MOUNTING
	A	LED FIXTURE - ATTACH TO B.O. (E) WEB JOIST ABOVE	SLG LIGHTING	TSC-8-100-G1-4K	120	14	LED	75 WATTS	PENDENT
	A1	LED FIXTURE - B.O. FIXTURE HEIGHT - ATTACH TO B.O. (E) WEB JOISTS ABOVE.	TBD	TBD	120	3	TBD	TBD	PENDENT
	B	WALL MOUNTED FIXTURE - MOUNTING HEIGHT 9'-0"	SLG LIGHTING	TSC-4-30-G1-4K	120	7	LED	25 WATTS	WALL
	C	2X4 RECESSED LAY-IN FIXTURE	LITHONIA LIGHTING	BLC-2X4-400LM-ADSM-40K	120	5	LED	32.22 WATTS	RECESSED
	D	2X2 RECESSED LAY-IN FIXTURE	LITHONIA LIGHTING	BLC-2X2-400LM-ADSM-40K	120	5	LED	36 WATTS	RECESSED
	XUC	EXIT /EMERGENCY COMBO SIGN	BEST LIGHTING PRODUCT	LEDCXTE2R(W OR B)	120	4	LED	4 WATTS	WALL
	-	DIRECTIONAL EXIT SIGN	BEST LIGHTING PRODUCT	RMEZXTEU	120	4	LED	4 WATTS	WALL
	EU	EMERGENCY LIGHT	BEST LIGHTING PRODUCT	LEDR1(B IF BLACK)	120	6	LED	1 WATTS	WALL
$D	DS	DIMMER WALL SWITCH	COMMERCIAL LIGHTING INDUSTRIES	CLI-NAROSDS	120	-	-	-	WALL
$T	T	TIMER WALL SWITCH	LEVITON	6124	120	-	-	-	WALL
$OS	OS	OCCUPANCY WALL SWITCH	LEVITON	ODS10	120	-	-	-	WALL
$3OS	OS	OCCUPANCY WALL SWITCH (MULTI LOCATION CONTROL)	SCHNEIDER	SLSUWS1277N/ SLSUWS3277N	120	-	-	-	WALL
	(E)	EXISTING LIGHTING FIXTURE TO REMAIN	-	-	-	-	-	-	-

REFER TO SHEET A-2 - REFLECTED CEILING PLAN IN ARCHITECTURAL DRAWINGS FOR MORE INFORMATION ON COLORS AND TRIMS REQUIRED.

REFER TO CS-5 FOR VENDORS INFORMATION (*)
EXISTING FIXTURES ARE ACCEPTABLE. IF THEY NEED TO BE REPLACED, REPLACE W/ EXACT MATCH OR MATCH SCHEDULE.

SUBSTITUTIONS TO THE ABOVE FIXTURE SCHEDULE MUST BE SUBMITTED 14 DAYS PRIOR TO BID & REVIEWED BY THE ARCHITECT, ENGINEER & OWNER. SUBSTITUTIONS WILL NOT BE REVIEWED AFTER THIS TIME.
SUBMITTAL PACKAGES MUST INCLUDE COLOR, CUT SHEETS, ALL PHOTOMETRIC & FIXTURE SAMPLES FOR ALL DECORATIVE FIXTURES, LANDSCAPE FIXTURES & OUTDOOR FIXTURES. WITHOUT THIS INFORMATION NO REVIEW WILL BE PROVIDED



ELECTRICAL RISER KEYED NOTES:

1. NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL INCOMING SERVICE FEEDER FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/ UTILITY COMPANY FOR EXACT DETAILS ABOUT THE PROVISION OF THE SERVICE. COORDINATE EXACT LOCATION OF METER AND DISCONNECT BEFORE COMMENCING ANY WORK.
2. NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER AND FUSED DISCONNECT SWITCH. E.C. SHALL COORDINATE EXACT LOCATION WITH UTILITY/ARCHITECT/OWNER IN FIELD.
3. NEW 200A (MCB), 120/208V, 3-PH, 4W ELECTRICAL PANEL "G" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD. BASE BID ACCORDINGLY.
4. EXISTING 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY THE EXACT RATING, VOLTAGE, PHASE, LOCATION, ELECTRICAL DISTRIBUTION AND OPERABLE CONDITION IN FIELD. PROVIDE NEW IF FOUND INOPERABLE. INFORM ENGINEER IF ANY DISCREPANCY FOUND. BASE BID ACCORDINGLY.
5. EXISTING 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY THE EXACT RATING, VOLTAGE, PHASE, LOCATION, ELECTRICAL DISTRIBUTION AND OPERABLE CONDITION IN FIELD. PROVIDE NEW IF FOUND INOPERABLE. INFORM ENGINEER IF ANY DISCREPANCY FOUND. BASE BID ACCORDINGLY.
6. EXISTING 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL DISCONNECT SWITCH FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY THE EXACT RATING, VOLTAGE, PHASE, LOCATION, ELECTRICAL DISTRIBUTION AND OPERABLE CONDITION IN FIELD. PROVIDE NEW IF FOUND INOPERABLE. INFORM ENGINEER IF ANY DISCREPANCY FOUND. BASE BID ACCORDINGLY.
7. RELOCATE EXISTING 200A(MLO), 120/208V, 3-PHASE, 3-WIRE ELECTRICAL PANEL "A". E.C. SHALL VERIFY THE EXACT RATING, SIZE, OPERABLE CONDITION, LOCATION AND CONNECTION OF EXISTING ELECTRICAL PANEL "A" IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND PRIOR TO BID.
8. RELOCATE EXISTING 200A(MLO), 120/208V, 3-PHASE, 3-WIRE ELECTRICAL PANEL "B". E.C. SHALL VERIFY THE EXACT RATING, SIZE, OPERABLE CONDITION, LOCATION AND CONNECTION OF EXISTING ELECTRICAL PANEL "B" IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND PRIOR TO BID.
9. NEW 125A (MLO), 120/208V, 3-PH, 4W ELECTRICAL PANEL "D" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD. BASE BID ACCORDINGLY.
10. NEW 125A (MLO), 120/208V, 3-PH, 4W ELECTRICAL PANEL "E" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD. BASE BID ACCORDINGLY.
11. NEW 125A (MLO), 120/208V, 3-PH, 4W ELECTRICAL PANEL "F" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD. BASE BID ACCORDINGLY.
12. NEW 125A (MLO), 120/208V, 3-PH, 4W ELECTRICAL PANEL "C" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD. BASE BID ACCORDINGLY.
13. PROVIDE 1#4/0 CU GROUNDING ELECTRODE CONDUCTOR.
14. E.C TO FIELD VERIFY THE EXACT LENGTH OF THE CABLE AND CHECK THE VOLTAGE DROP IS UNDER LIMIT PER NEC BEFORE INSTALLATION.
15. EXISTING FEEDER/CONNECTION SHALL REMAIN. E.C. TO VERIFY OPERABLE CONDITION, EXACT POWER DISTRIBUTION, LOCATION AND CONNECTION OF FEEDER IN FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL RISER GENERAL NOTES:

1. ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSE ONLY. E.C TO VERIFY EXACT POWER DISTRIBUTION & OPERABLE CONDITION OF EXISTING DEVICES IN FIELD AND INFORM ENGINEER FOR ANY DISCREPANCY.
2. E.C. SHALL VERIFY THE EXISTING INCOMING SERVICE AMPERAGE, VOLTAGE, NUMBER OF PHASES, WIRE SIZE AND DISTRIBUTION IN FIELD.
3. E.C. TO COORDINATE FAULT CURRENT (ISC) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
4. E.C. SHALL VERIFY THE EXACT POWER DISTRIBUTION & INCOMING CONNECTION TO ALL PANELS IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND.

ELECTRICAL RISER | SCALE N.T.S. | 1

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ELECTRICAL PLAN NOTES AND RISER DIAGRAM

E-1

ELECTRICAL LIGHTING PLAN KEYED NOTES:

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

B. EXISTING LIGHT FIXTURE IN THIS AREA DENOTED BY (E) SHALL REMAIN CONNECTED TO THE RESPECTIVE EXISTING ELECTRICAL HOUSE PANEL ALONG WITH THEIR CONTROLS. E.C. SHALL VERIFY THE CONTROLS IN THE FIELD AND REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

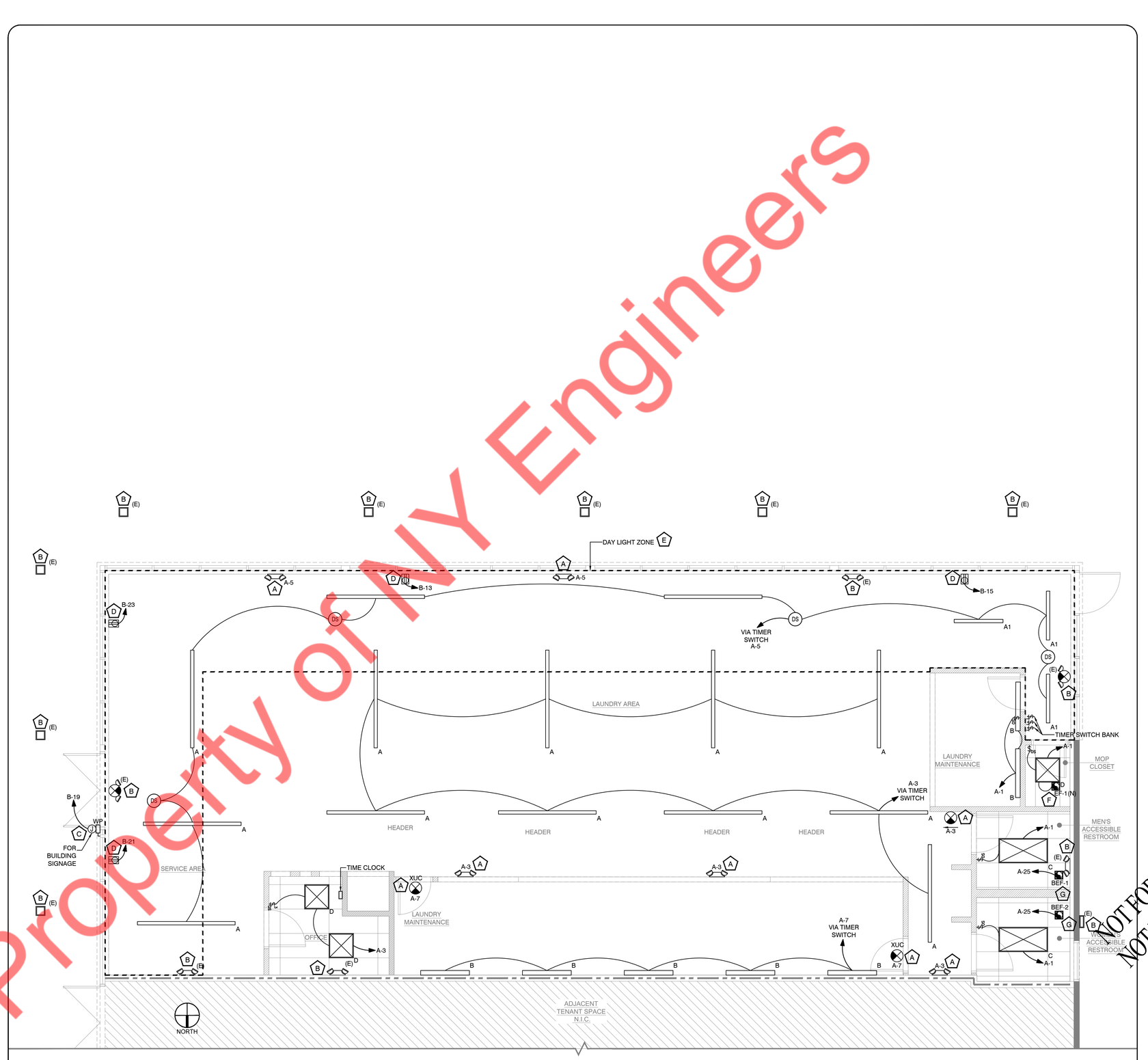
C. PROVIDE ACCESSIBLE WEATHERPROOF JUNCTION BOX WITH TOGGLE DISCONNECT SWITCH FOR BUILDING SIGNAGE. E.C TO COORDINATE THE BUILDING SIGNAGE CONNECTION REQUIREMENTS AND FINAL QUANTITIES WITH SIGN VENDOR PRIOR TO START OF WORK. BASE BID ACCORDINGLY.

D. PROVIDE SHOW WINDOW RECEPTACLE AS PER NEC 210.62. VERIFY EXACT LOCATION WITH ARCHITECT.

E. LIGHTING IN THIS AREA SHALL BE CONTROLLED BY DAYLIGHT SENSOR.

F. EXHAUST FAN EF-1(N) SHALL BE CIRCUITED AND CONTROLLED ALONG WITH THE LIGHT FIXTURE IN THE SAME ROOM.

G. EXHAUST FAN BEF-1(N) &BEF-2(N) SHALL BE INTERLOCKED WITH RTU-2(E). E.C. TO REFER HVAC DRAWINGS FOR MORE DETAILS.



LIGHTING PLAN | SCALE 1/4" = 1'-0" | 1

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LIGHTING PLAN

E-2

ELECTRICAL POWER PLAN KEYED NOTES:

A. RELOCATE EXISTING 200A(MLO), 120/208V, 3-PHASE, 3-WIRE ELECTRICAL PANEL "A". E.C. SHALL VERIFY THE EXACT RATING, SIZE, OPERABLE CONDITION, LOCATION AND CONNECTION OF EXISTING ELECTRICAL PANEL "A" IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND PRIOR TO BID.

B. RELOCATE EXISTING 200A(MLO), 120/208V, 3-PHASE, 3-WIRE ELECTRICAL PANEL "B". E.C. SHALL VERIFY THE EXACT RATING, SIZE, OPERABLE CONDITION, LOCATION AND CONNECTION OF EXISTING ELECTRICAL PANEL "B" IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND PRIOR TO BID.

C. NEW 125A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "C". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.

D. NEW 125A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "D". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.

E. NEW 125A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "E". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.

F. NEW 125A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "F". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.

G. 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.

H. E.C. SHALL COORDINATE WITH THE OWNER/MANUFACTURER FOR THE EXACT POWER AND ELECTRICAL CONNECTION REQUIREMENTS OF WASHER/DRYER PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.

I. NEW PROPOSED WATER HEATER WH-1, WH-2, WH-3, WH-4 & WH-5. E.C. SHALL COORDINATE REQUIREMENT WITH PLUMBING CONTRACTOR. COORDINATE LOCATION WITH MANUFACTURER AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.

J. NEW 200A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "G". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.

K. ALL OUTLETS HEIGHT & FINAL LOCATION TO BE VERIFY IN FIELD WITH OWNER.

L. DATA PANEL TO BE PROVIDED BY OTHERS. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.

M. PANEL TO BE INSTALLED BY MILLWORK MANUFACTURE.

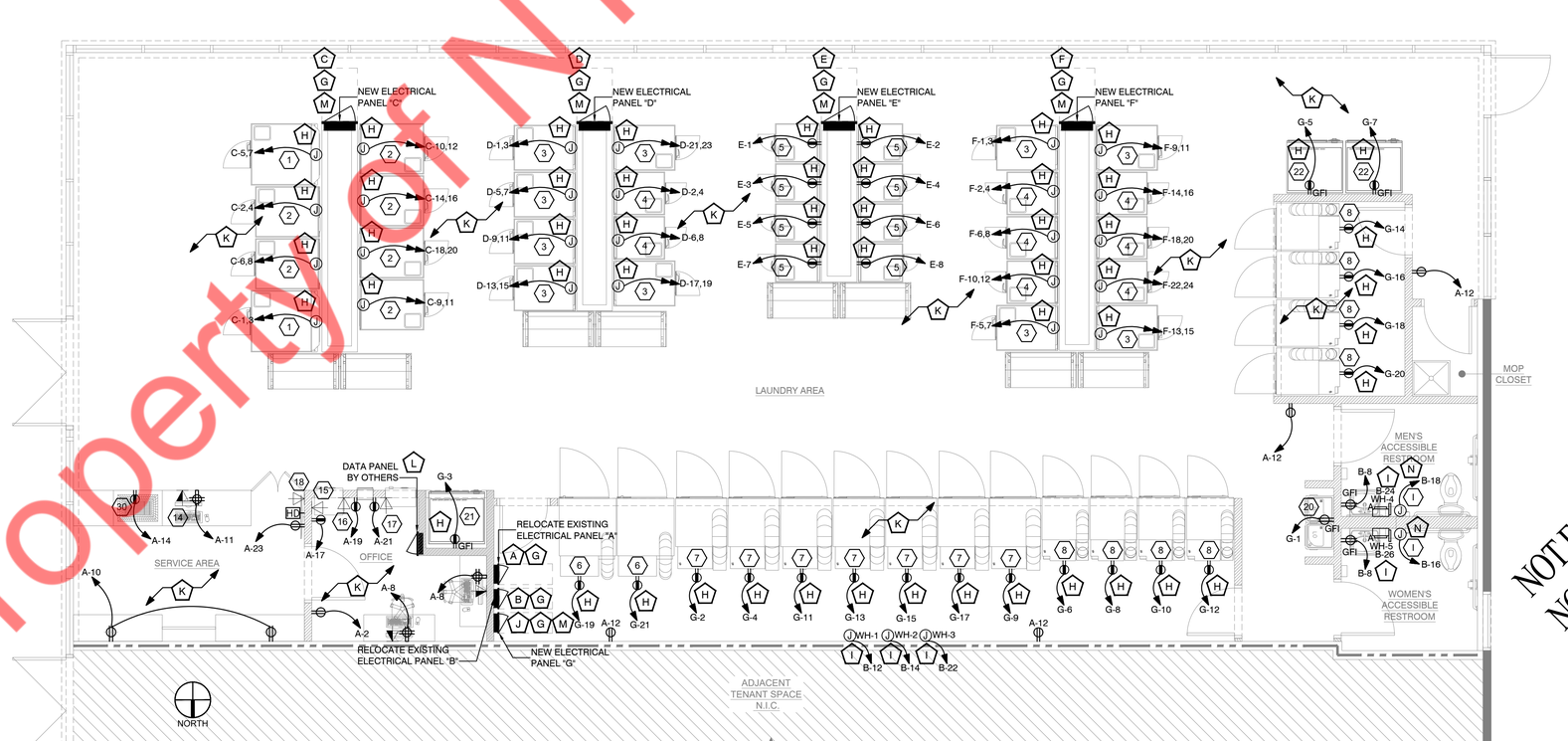
N. JUNCTION BOX FOR HAND DRYER. E.C. TO COORDINATE EXACT LOCATION AND REQUIREMENT OF HAND DRYER WITH ARCHITECT/OWNER PER ADA REQUIREMENTS AND PROVIDE ELECTRICAL CONNECTION. BASE BID ACCORDINGLY.

EQUIPMENT SCHEDULE:

C	QUANTITY	DESCRIPTION	MANUFACTURER	MODEL NO.	VOLTAGE	PHASE	AMPS	kW
1	2	80 LB WASHER	HUEBSCH	HCT080	208	1	12	2.50
2	6	60 LB WASHER	HUEBSCH	HCT060	208	1	10	2.08
3	10	40 LB WASHER	HUEBSCH	HCT040	208	1	7	1.46
4	8	30 LB WASHER	HUEBSCH	HCT030	208	1	6	1.25
5	8	20 LB WASHER	HUEBSCH	HCT020	120	1	8	0.96
6	2	75 LB STACK TUMBLE DRYER	HUEBSCH	HT075	120	1	12	1.44
7	7	45 LB STACK TUMBLE DRYER	HUEBSCH	HTT45	120	1	20	2.40
8	8	30 LB STACK TUMBLE DRYER	HUEBSCH	HTT30	120	1	16	1.92
14	1	POINT OF SALES (POS)	-	-	-	-	-	-
15	1	BILL CHANGER	AMERICAN CHANGER	AC7705	120	1	8	0.96
16	1	VALUE CENTER	HUEBSCH	204759	120	1	5	0.60
17	1	COIN CENTER	AMERICAN CHANGER	COIN HOPPER	120	1	8	0.96
18	1	48" TV	-	-	-	-	-	-
20	1	HIGH-LOW DRINKING FOUNTAIN	ELKAY	EZSTL8LC	120	1	5	0.60
21	1	VENDING MACHINE	TBD	TBD	-	-	-	-
22	2	VENDING MACHINE	TBD	TBD	-	-	-	-
30	1	DIGITAL SCALE	TBD	TBD	-	-	-	-
I	2	HAND DRYER	BOBRICK	B-715	120	1	10	1.20

GENERAL NOTE:

1. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT QUANTITIES, POWER AND CONNECTION REQUIREMENTS WITH THE ARCHITECT/OWNER/MANUFACTURER PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.



POWER PLAN — SCALE 1/4" = 1'-0" — 1

NY ENGINEERS

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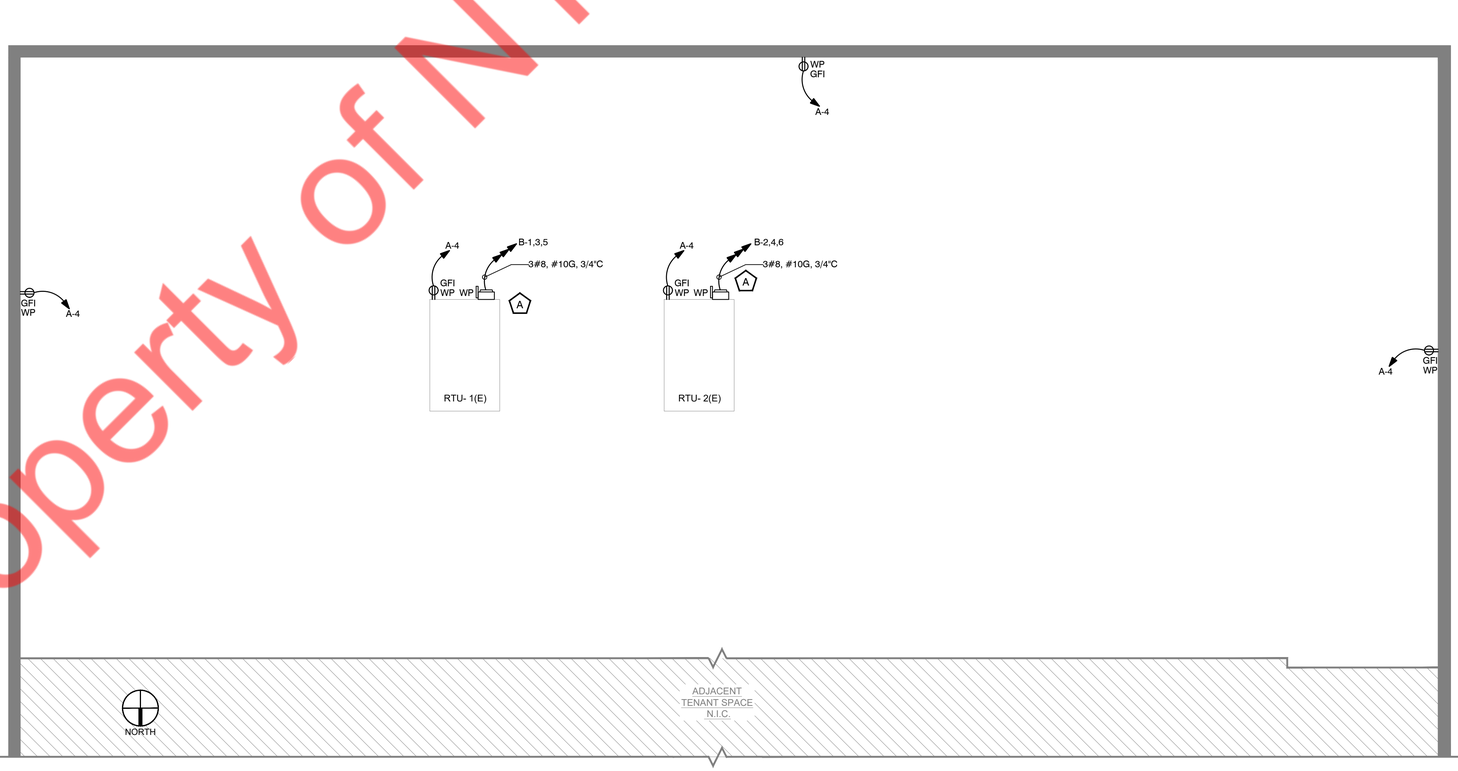
POWER PLAN

E-3

ELECTRICAL ROOF POWER PLAN KEYED NOTES:

(A) ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR THE EXISTING RTU-1 & RTU-2 EXACT ELECTRICAL POWER REQUIREMENTS AND CONNECTION IN FIELD. ELECTRICAL CONTRACTOR SHALL VERIFY EXISTING ELECTRICAL CONNECTION OF EXISTING RTU-1 & RTU-2 AND OPERABLE CONDITION. PROVIDE NEW IF FOUND INOPERABLE AS PER MECHANICAL CONTRACTOR REQUIREMENTS. BASE BID ACCORDINGLY.



ROOF POWER PLAN | SCALE 1/4" = 1'-0" | 1

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ROOF
POWER PLAN

E-4

PANEL: A(E)

120/208V	VOLTS,	**3**	PHASE,	**4**	WIRE	**MOUNTING:**	RECESSED
MAIN CB	NA	**MLO:**	200A	**BUS:**	200A MIN.	**LOCATION:**	MAINTENANCE AREA
						AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	LAUNDRY MAINTENANCE+MOP CLOSET+RESTROOMS LIGHTING+EF-1 (N)	L	1.08	2#12, #12G, 3/4"C	1.80			2#12, #12G, 3/4"C	0.72	R	GENERAL RECEPTACLES	20	2
3	20	LAUNDRY+OFFICE LIGHTING	L	0.73	2#12, #12G, 3/4"C		1.63		2#12, #12G, 3/4"C	0.90	R	ROOF RECEPTACLES	20	4
5	20	LAUNDRY AREA LIGHTING (DAYLIGHT ZONE)	L	0.60	2#12, #12G, 3/4"C			0.60				SPARE	20	6
7	20	MAINTENANCE AREA LIGHTING	L	0.12	2#12, #12G, 3/4"C	0.48			2#12, #12G, 3/4"C	0.36	R	OFFICE RECEPTACLES	20	8
9	20	SPARE					0.36		2#12, #12G, 3/4"C	0.36	R	SERVICE COUNTER RECEPTACLES	20	10
11	20	14_POS RECEPTACLE	R	0.36	2#12, #12G, 3/4"C			1.08	2#12, #12G, 3/4"C	0.72	R	GENERAL RECEPTACLES	20	12
13	20	SPARE				0.60			2#12, #12G, 3/4"C	0.60	E	30_DIGITAL SCALE	20	14
15	20	SPARE					0.00					SPARE	20	16
17	20	15_BILL CHANGER RECEPTACLE	R	0.96	2#12, #12G, 3/4"C			0.96				SPARE	20	18
19	20	16_VALUE CENTER RECEPTACLE	R	0.60	2#12, #12G, 3/4"C	0.60						SPARE	20	20
21	20	17_COIN CENTER RECEPTACLE	R	0.96	2#12, #12G, 3/4"C		0.96					SPARE	20	22
23	20	18_48" TV RECEPTACLE	R	0.18	2#12, #12G, 3/4"C			0.18				SPARE	20	24
25	20	BEF-1 & 2	M	0.04	2#12, #12G, 3/4"C	0.04						SPARE	20	26
27	20	SPARE					0.00					SPARE	20	28
29	20	SPARE						0.00				SPARE	20	30
31			O	5.82		8.38				2.56	O			32
33	80A-3P	NEW PANEL "C"	O	5.82	4#4, #8G, 1"C		8.38		4#4, #8G, 1"C	2.56	O	NEW PANEL "E"	80A-3P	34
35			O	5.82				8.38		2.56	O			36
37			O	3.74		8.18				4.44	O			38
39	80A-3P	NEW PANEL "D"	O	3.74	4#4, #8G, 1"C		8.18		4#4, #8G, 1"C	4.44	O	NEW PANEL "F"	80A-3P	40
41			O	3.74				8.18		4.44	O			42
TOTAL CONNECTED LOAD (KVA)						**20.09**	**19.52**	**19.39**						

PANEL: B(E)

120/208V	VOLTS,	**3**	PHASE,	**4**	WIRE	**MOUNTING:**	RECESSED
MAIN CB	NA	**MLO:**	200A	**BUS:**	200A MIN.	**LOCATION:**	MAINTENANCE AREA
						AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1			H	6.12		12.25				6.12	H			2
3	60A-3P	RTU-1 (E)	H	6.12	EXISTING		12.25		EXISTING	6.12	H	RTU-2 (E)	60A-3P	4
5			H	6.12				12.25		6.12	H			6
7	20	SPARE				0.36			EXISTING	0.36	R	RESTROOM RECEPTACLES	20	8
9	20	SPARE					0.00					SPARE	20	10
11	20	SPARE						0.10	2#12, #12G, 3/4"C	0.10	O	WATER HEATER (WH-1)	20	12
13	20	SHOW WINDOW RECEPTACLE	R	1.80	EXISTING	1.90			2#12, #12G, 3/4"C	0.10	O	WATER HEATER (WH-2)	20	14
15	20	SHOW WINDOW RECEPTACLE	R	1.80	EXISTING		3.00		2#12, #12G, 3/4"C	1.20	O	I_HAND DRYER WOMEN RESTROOM	20	16
17	20	SPARE						1.20	2#12, #12G, 3/4"C	1.20	O	I_HAND DRYER MEN RESTROOM	20	18
19	20	BUILDING SIGNAGE	L	1.20	EXISTING	1.20						SPARE	20	20
21	20	SHOW WINDOW RECEPTACLE	R	1.80	2#12, #12G, 3/4"C		1.90		2#12, #12G, 3/4"C	0.10	O	WATER HEATER (WH-3)	20	22
23	20	SHOW WINDOW RECEPTACLE	R	1.80	2#12, #12G, 3/4"C			3.24	2#12, #12G, 3/4"C	1.44	O	WATER HEATER (WH-4)	20	24
25	20	SPARE				1.44			2#12, #12G, 3/4"C	1.44	O	WATER HEATER (WH-5)	20	26
27		SPACE					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 CONNECTED LOAD (KVA)						**17.15**	**17.15**	**16.79**						

PANEL: C(N)

120/208V	VOLTS,	**3**	PHASE,	**4**	WIRE	**MOUNTING:**	RECESSED
MAIN CB	NA	**MLO:**	125A	**BUS:**	125A MIN.	**LOCATION:**	LAUNDRY
						AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20A-2P	1_80 LB WASHER	O	1.25	2#12, #12G, 3/4"C	2.29			2#12, #12G, 3/4"C	1.04	O	2_60 LB WASHER	20A-2P	2
3			O	1.25			2.29			1.04	O			4
5	20A-2P	1_80 LB WASHER	O	1.25	2#12, #12G, 3/4"C			2.29	2#12, #12G, 3/4"C	1.04	O	2_60 LB WASHER	20A-2P	6
7			O	1.25		2.29				1.04	O			8
9	20A-2P	2_60 LB WASHER	O	1.04	2#12, #12G, 3/4"C		2.08		2#12, #12G, 3/4"C	1.04	O	2_60 LB WASHER	20A-2P	10
11			O	1.04				2.08		1.04	O			12
13		SPACE				1.04			2#12, #12G, 3/4"C	1.04	O	2_60 LB WASHER	20A-2P	14
15		SPACE					1.04			1.04	O			16
17		SPACE						1.04	2#12, #12G, 3/4"C	1.04	O	2_60 LB WASHER	20A-2P	18
19		SPACE				1.04				1.04	O			20
21		SPACE					0.00					SPACE		22
23		SPACE						0.00				SPACE		24
25		SPACE				0.00						SPACE		26
27		SPACE					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 CONNECTED LOAD (KVA)						**6.66**	**5.41**	**5.41**						

PANEL: D(N)

120/208V	VOLTS,	**3**	PHASE,	**4**	WIRE	**MOUNTING:**	RECESSED
MAIN CB	NA	**MLO:**	125A	**BUS:**	125A MIN.	**LOCATION:**	LAUNDRY
						AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C	1.35			2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	2
3			O	0.73			1.35			0.62	O			4
5	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C			1.35	2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	6
7			O	0.73		1.35				0.62	O			8
9	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C		0.73					SPACE		10
11			O	0.73				0.73				SPACE		12
13	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C	0.73						SPACE		14
15			O	0.73			0.73					SPACE		16
17	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C			0.73				SPACE		18
19			O	0.73		0.73						SPACE		20
21	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C		0.73					SPACE		22
23			O	0.73				0.73				SPACE		24
25		SPACE				0.00						SPACE		26
27		SPACE					0.00					SPACE		28
29		SPACE						0.00				SPACE		30
31		SPACE										SPACE		32
33		SPACE										SPACE		34
35		SPACE										SPACE		36
37		SPACE										SPACE		38
39		SPACE										SPACE		40
41		SPACE										SPACE		42
TOTAL CONNECTED LOAD (KVA)						**4.16**	**3.54**	**3.54**						

PANEL: E(N)

120/208V	VOLTS,	**3**	PHASE,	**4**	WIRE	**MOUNTING:**	RECESSED
MAIN CB	NA	**MLO:**	125A	**BUS:**	125A MIN.	**LOCATION:**	LAUNDRY
						AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	5_20 LB WASHER	O	0.96	2#12, #12G, 3/4"C	1.92			2#12, #12G, 3/4"C	0.96	O	5_20 LB WASHER	20	2
3	20	5_20 LB WASHER	O	0.96	2#12, #12G, 3/4"C		1.92		2#12, #12G, 3/4"C	0.96	O	5_20 LB WASHER	20	4
5	20	5_20 LB WASHER	O	0.96	2#12, #12G, 3/4"C			1.92	2#12, #12G, 3/4"C	0.96	O	5_20 LB WASHER	20	6
7	20	5_20 LB WASHER	O	0.96	2#12, #12G, 3/4"C	1.92			2#12, #12G, 3/4"C	0.96	O	5_20 LB WASHER	20	8
9		SPACE					0.00					SPACE		10
11		SPACE						0.00				SPACE		12
13		SPACE				0.00						SPACE		14
15		SPACE					0.00					SPACE		16
17		SPACE						0.00				SPACE		18
19		SPACE				0.00						SPACE		20
21		SPACE					0.00					SPACE		22
23		SPACE						0.00				SPACE		24
25		SPACE				0.00						SPACE		26
27		SPACE					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 CONNECTED LOAD (KVA)						**3.84**	**1.92**	**1.92**						

ELECTRICAL PANEL SCHEDULE ABBREVIATIONS

L = LIGHTING
R = RECEPTACLE
H = HVAC
M = MOTOR
E = EQUIPMENT
O = OTHER

PANEL SCHEDULE GENERAL NOTES

1. ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. INFORM ENGINEER FOR ANY DISCREPANCIES BEFORE PURCHASE OF ANY EQUIPMENTS/WIRES OR DEVICES.
2. ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
3. REFER TO ARCHITECTURAL SHEET A-1.1 FOR EQUIPMENT PLAN & SCHEDULE. E.C. SHALL VERIFY THE BREAKER, CABLE, ELECTRICAL LOAD, PLUG, RECEPTACLES AND CONDUIT REQUIREMENT/SIZES/RATINGS FOR ALL EQUIPMENTS WITH EQUIPMENT SUPPLIER/MANUFACTURER AND PROVIDE THE ELECTRICAL CONNECTION PER MANUFACTURER RECOMMENDATIONS /REQUIREMENTS. BASE BID ACCORDINGLY.
4. E.C. SHALL COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTOR/EQUIPMENT MANUFACTURER FORE EXACT ELECTRICAL REQUIREMENTS FOR CABLE AND BREAKERS AND ACCORDINGLY PROVIDE THE ELECTRICAL BREAKER AND CABLES IN FIELD. BASE BID ACCORDINGLY.

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ELECTRICAL PANEL SCHEDULES

E-5

PANEL:	F(N)										MOUNTING:	RECESSED
120/208V	VOLTS,	3	PHASE,		4	WIRE					LOCATION:	LAUNDRY
MAIN CB	NA	MLO:	125A	BUS:	125A	MIN.					AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C	1.35			2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	2
3			O	0.73			1.35			0.62	O			4
5	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C			1.35	2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	6
7			O	0.73		1.35				0.62	O			8
9	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C		1.35		2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	10
11			O	0.73				1.35		0.62	O			12
13	20A-2P	3_40 LB WASHER	O	0.73	2#12, #12G, 3/4"C	1.35			2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	14
15			O	0.73			1.35			0.62	O			16
17	20	SPARE						0.62	2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	18
19	20	SPARE				0.62				0.62	O			20
21		SPACE					0.62		2#12, #12G, 3/4"C	0.62	O	4_30 LB WASHER	20A-2P	22
23		SPACE						0.62		0.62	O			24
25		SPACE				0.00						SPARE	20	26
27		SPACE					0.00					SPARE	20	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 CONNECTED LOAD (KVA)						4.68	4.68	3.95						

PANEL:	G(N)										MOUNTING:	RECESSED
120/208V	VOLTS,	3	PHASE,		4	WIRE					LOCATION:	MAINTENANCE AREA
MAIN CB	200A	MLO:	NA	BUS:	225A	MIN.					AIC RATING:	VERIFY IN FIELD

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	20_HIGH-LOW DRINKING FOUNTAIN RECEPTACLE	E	0.60	2#12, #12G, 3/4"C	3.00			2#10, #10G, 3/4"C	2.40	O	7_45 LB STACK TUMBLE DRYER	30	2
3	20	21_VENDING MACHINE RECEPTACLE	E	1.20	2#12, #12G, 3/4"C		3.60		2#10, #10G, 3/4"C	2.40	O	7_45 LB STACK TUMBLE DRYER	30	4
5	20	22_VENDING MACHINE RECEPTACLE	E	1.20	2#12, #12G, 3/4"C			3.12	2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	6
7	20	22_VENDING MACHINE RECEPTACLE	E	1.20	2#12, #12G, 3/4"C	3.12			2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	8
9	30	7_45 LB STACK TUMBLE DRYER	O	2.40	2#10, #10G, 3/4"C		4.32		2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	10
11	30	7_45 LB STACK TUMBLE DRYER	O	2.40	2#10, #10G, 3/4"C			4.32	2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	12
13	30	7_45 LB STACK TUMBLE DRYER	O	2.40	2#10, #10G, 3/4"C	4.32			2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	14
15	30	7_45 LB STACK TUMBLE DRYER	O	2.40	2#10, #10G, 3/4"C		4.32		2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	16
17	30	7_45 LB STACK TUMBLE DRYER	O	2.40	2#10, #10G, 3/4"C			4.32	2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	18
19	20	6_75 LB STACK TUMBLE DRYER	O	1.44	2#12, #12G, 3/4"C	3.36			2#12, #12G, 3/4"C	1.92	O	8_30 LB STACK TUMBLE DRYER	20	20
21	20	6_75 LB STACK TUMBLE DRYER	O	1.44	2#12, #12G, 3/4"C		1.44					SPARE	20	22
23	20	SPARE						0.00				SPARE	20	24
25	20	SPARE				0.00						SPACE		26
27		SPACE					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 CONNECTED LOAD (KVA)						13.80	13.68	11.76						

NY ENGINEERS

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ELECTRICAL PANEL SCHEDULES

E-5.1

WATER HEATER SCHEDULE	
MANUFACTURER	CHRONOMITE
MODEL	CM-15L/208
EQUIPMENT TAG	WH-4,5
STATUS	NEW
QUANTITY	2
CAPACITY	INSTA - HOT
FUEL	ELECTRIC
KW	#2 X 3.12 KW
RECOVERY	0.5 GPM*
VOLTAGE	208/1/60
AMPERAGE	15
WEIGHT (EMPTY)	5 LBS.

NOTES:

1. * @ 43°F TEMPERATURE RISE.

WATER HEATER SCHEDULE	
MANUFACTURER	NAVIEN
MODEL	NPE-240A
EQUIPMENT TAG	WH-1,2,3
STATUS	NEW
QUANTITY	3
CAPACITY	TANKLESS
FUEL	GAS
CFH	199 X 3
RECOVERY	21.3 GPM*
ENERGY FACTOR	0.96
VOLTAGE	120/1/60
AMPERAGE	2 EACH
WEIGHT (EMPTY)	82 LBS.
VENT	3"

NOTES:

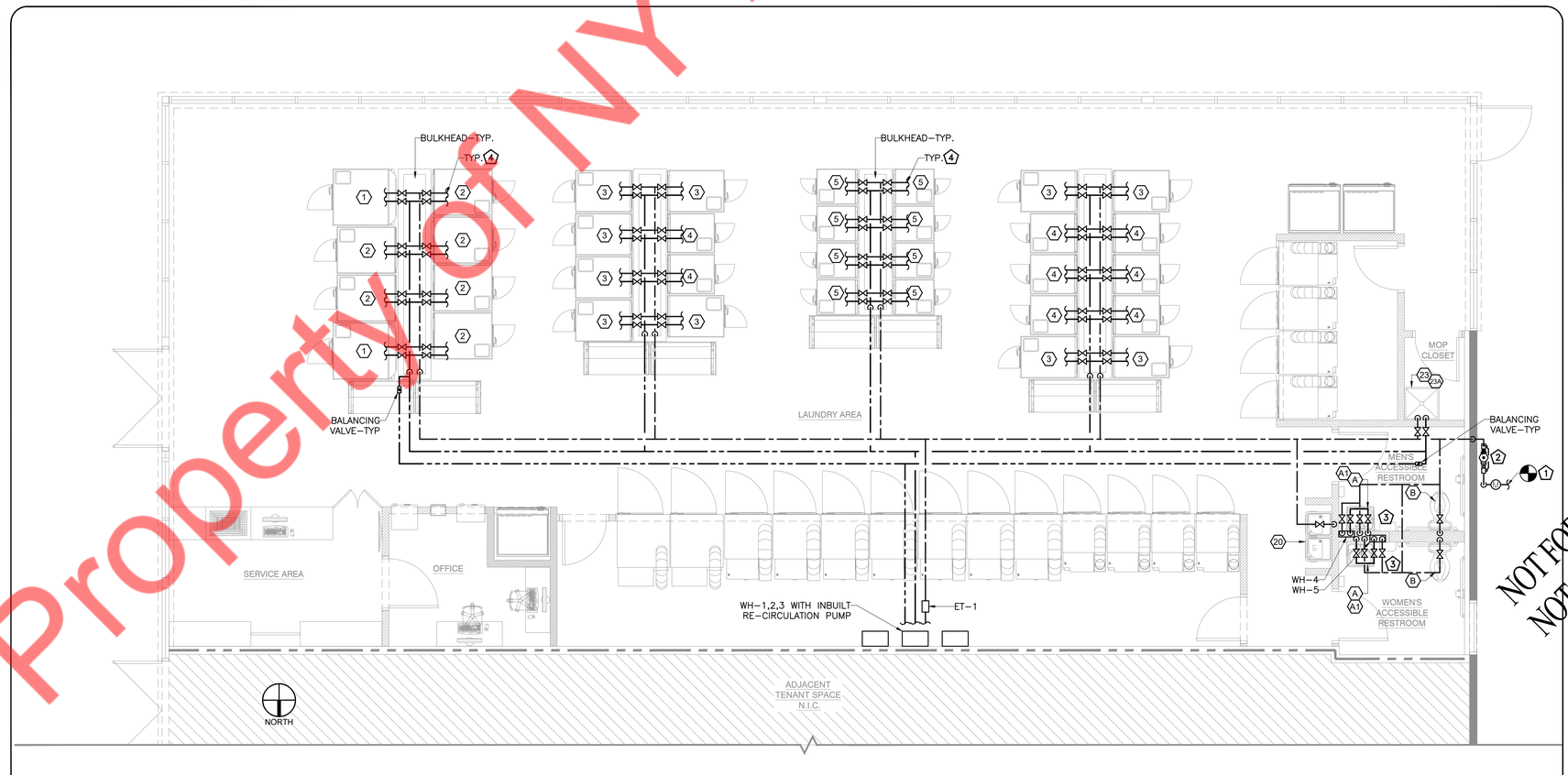
1. * @ 55°F TEMPERATURE RISE.
2. INSTALL NEW EXPANSION TANK (ET-1) AMTROL MODEL THERM-X-TROL ST-5C-DD, 2.0 GAL PER LOCAL CODE REQUIREMENTS

GENERAL NOTES

1. CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2020 FLORIDA ENERGY CONSERVATION CODE (REFER NOTES ON SHEET P-1).
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
4. NEW WATER HEATER DRAIN SPILLS TO FLOOR DRAIN.

WATER PLAN KEY NOTE

1. CONNECT NEW 2" CW LINE TO EXISTING WATER MAIN LINE. CONTRACTOR TO UPGRADE THE EXISTING WATER SERVICE LINE. PROVIDE NEW SHUT OFF VALVE IN NEW CW LINE AT THE POINT OF CONNECTION. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING CW PIPING.
2. PROVIDE NEW 2" BFP AND WATER METER IN THE LOCATION OF EXISTING BFP AND WATER METER. CONTRACTOR TO VERIFY THE LOCATION OF BFP AND WATER METER ON SITE. WATER METER SHOULD BE PLACED INSIDE THE PIT.
3. CONTRACTOR SHALL PROVIDE ASSE 1070 APPROVED MIXING VALVE TO THE LAVATORY.
4. PROVIDE A TEMPERATURE ACTUATED MIXING VALVE COMPLYING WITH ASSE 1017.



WATER SUPPLY PLAN | SCALE 1/4" = 1'-0" | 1

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WATER PLAN

P-3

PLUMBING GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
2. PLUMBING CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING OR PRECEDING WITH WORK.
3. ALL EQUIPMENT WHICH IS TO REMAIN MUST BE REFURBISHED TO A LIKE NEW CONDITION.
4. PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
5. ALL MATERIALS SHALL BE NEW.
6. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
7. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
8. PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. PLUMBING CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
9. DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
10. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
11. VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
12. EXPOSED WATER PIPING SHALL BE TYPE "L" COPPER FOR 2" AND UNDER. WATER PIPING IN WALLS AND UNDERGROUND MAY BE "PEX" TYPE PIPING THAT MEETS ANSI/NSF STANDARD 61.
13. SOIL, WASTE, VENT AND RAINWATER PIPING SHALL BE PVC BUT MAY NOT RUN THRU RATED ASSEMBLIES OR IN PLENUMS.
14. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
15. FURNISH AND INSTALL WATER HAMMER ARRESTORS CONFIRMING TO ASSE 1010 AT EACH PLUMBING FIXTURE GROUP AS PER CODE WITH GOOD ENGINEERING PRACTICE
16. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS; EXCEPT AT WATER HEATER AS PER CODE.
17. ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
18. ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATING AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
19. PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE WITHIN 72 HOURS OF NOTIFICATION AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED. PROVIDE COPY TO LL.
20. PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
21. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
22. NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
23. WATER PIPING INSULATION SHALL BE 1" THICK ARMAFLEX INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR ALL HOT WATER PIPING. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING, ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX INSULATION.
24. CONDENSATE DRAIN LINES TO BE RUN UNDER SLAB IN PVC SCH40 PIPE AND STUBBED OUT OF WALL TO UNIT. TIE-IN OF A/C TO BE BY OTHERS. PVC PIPING WITH 1/2" THICK ARMAFLEX INSULATION MAY BE USED IN LOCATIONS WHERE ALLOWED BY LOCAL CODES. SEE PLUMBING DRAWINGS FOR SIZE AND LOCATION OF PIPING. PVC WILL BE MIN. SCHEDULE 40 FOR SIZE AND LOCATION OF PIPING. PVC WILL BE MIN. SCHEDULE 40.
25. PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
26. NO JOINTS UNDERGROUND FOR COPPER.
27. PLUMBING FIXTURES SHALL COMPLY WITH 2020 FLORIDA PLUMBING CODE.
28. WATER HAMMER ARRESTORS AS PER 2020 FLORIDA PLUMBING CODE.
29. PLUMBING CONTRACTOR SHALL REVIEW ALL BID DOCUMENTATION.
31. PLUMBING CONTRACTOR SHALL REVIEW WALL FINISHES @ LOCATION REQUIRING BARRIER-FREE COMPLIANCE (EXAMPLE: CENTER LINE TO TOILET)
32. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE. PROVIDE A COPY TO LL.
33. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.
34. ALL COMPONENTS IN THE DOMESTIC WATER SYSTEM SHALL BE LEAD FREE IN ACCORDANCE WITH FBC PL 605.2 AND 605.2.1 PER WPB FBC 107.2.1
35. HORIZONTAL PIPES SHALL BE SUPPORTED IN ACCORDANCE WITH FBC PL TABLE 308.5
36. SLOPE OF DRAINAGE PIPING SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" TO 6" AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" AND SMALLER.

PLUMBING LEGEND

—SAN—	SANITARY PIPING (BELOW GROUND)
—WSAN—	WASHER SANITARY (BELOW GROUND)
—V—	VENT PIPING
	DOMESTIC COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	PIPE RISE
	PIPE DROP
	CAPPED END OF PIPE
FCO	FLOOR CLEAN OUT
	P-TRAP
AAV	AIR ADMITTANCE VALVE
S.O.V.	SHUT-OFF VALVE
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
	GATE VALVE
	BALANCING VALVE
	WATER HAMMER ARRESTER
	GAS SHUTOFF VALVE
FD	FLOOR DRAIN
	POINT OF CONNECTION
	THERMOSTATIC MIXING VALVE

SCOPE OF WORK

PROVIDE ALL PLUMBING FOR NEW COMMERCIAL LAUNDRY SERVICES INCLUDING ALL WATER, SANITARY AND GAS LINES AND CONNECT TO EXISTING / NEW UTILITIES. PROVIDE NEW GAS INSTANTANEOUS TYPE WATER HEATER, DRAIN TROUGH WITH REMOVABLE LINT FILTER AND EXTERIOR LINT INTERCEPTOR.

COORDINATE WITH GC AND MECHANICAL CONTRACTOR FOR ANY REQUIRED CONDENSATE LINES.

ENERGY CONSERVATION NOTES

1. AS PER 2020 FLORIDA ENERGY CONSERVATION CODE SECTION C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.10 OF MINIMUM PIPE INSULATION THICKNESS

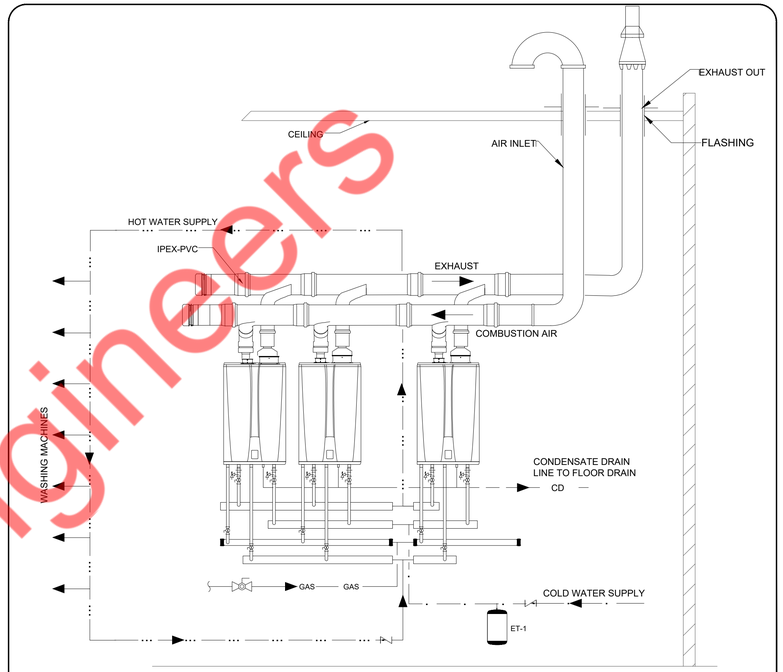
MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./ (H· FT2· °F)	MEAN RATING TEMPERATURE, °F	<1	1 TO <1½	1½ TO <4	4 TO <8	≥8
141-200	0.25-0.29	125	1.5	1.5	2	2	2
105-140	0.21-0.28	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

2. AS PER 2020 FLORIDA ENERGY CODE SECTION C404.6.1, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RE-CIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE.
3. AS PER 2020 FLORIDA ENERGY CODE SECTION C404.7, 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).

EXISTING CONDITION NOTES

STOP AND READ

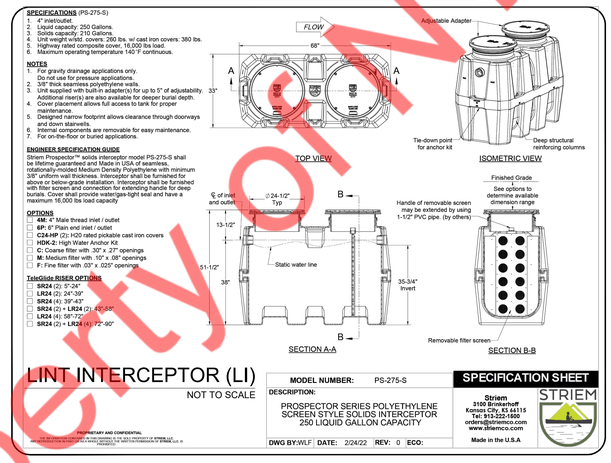
THE CONTRACTOR AND SUB-CONTRACTORS **SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED**. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND 2ND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED, THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTALLY AND VERTICAL, ELECTRICAL SERVICE /PANELS LOCATION AND VOLTS/PHASE, LOCATION/QTY OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HUNG UNITS HAVE PROPER SUPPORT CONNECTIONS FOR EXISTING STRUCTURE, FIRE SPRINKLER MAIN RUNS, TOILET ROOM DIMENSIONS, DOOR SWING FOR DOORS TO REMAIN AND ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REIMBURSE THE ARCHITECT FOR THE REDESIGN FEE. THIS DOES NOT INCLUDE HIDDEN WORK I.E. PITCH OF SANITARY LINES, ACTUAL CONDITIONS OF EXISTING HVAC EQUIPMENT, STRUCTURAL COLUMNS/BEARING WALLS OR CONDITIONS OF GREASE INTERCEPTORS AND ETC.



TANKLESS GAS WATER HEATER DETAIL
NOT TO SCALE

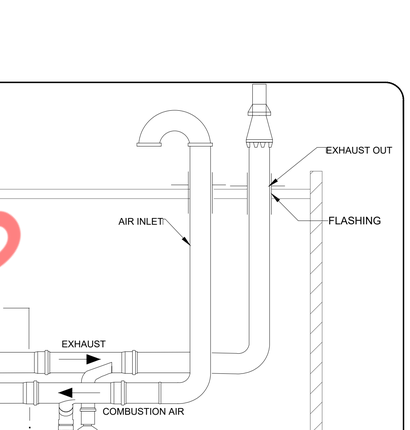
FIXTURE SCHEDULES

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET(T)	¾"	--	4"	2"
LAVATORY	½"	½"	2"	1½"
FLOOR DRAIN	--	--	3"	2"
SERVICE SINK	¾"	¾"	3"	2"



LINT INTERCEPTOR (LI)
NOT TO SCALE

TRAP RESEAL DETAIL
NOT TO SCALE



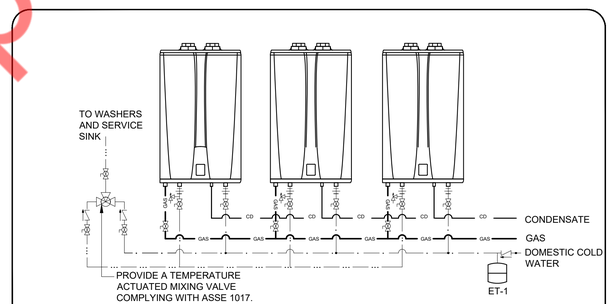
TRAP PRIMER DETAIL
NOT TO SCALE
NOTE: TRAP PRIMER LINE SHALL NOT EXCEED 20 FT.

RESTROOM FIXTURE SCHEDULE

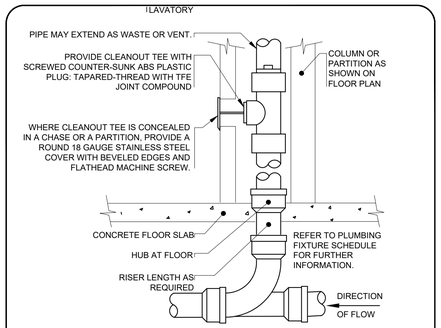
Item No.	Qty.	Description	Manufacturer	Model	WATER Hot	WATER Cold	WASTE Waste	Usage	Spec
A	2	LAVATORY	AMERICAN STANDARD	LUCERNE			2"		
A1	2	FAUCET	AMERICAN STANDARD	SELECTRONIC	1/2"	1/2"		0.5	GPM
	2	THERMAL MIXING VALVE	WATTS	LFMMV	1/2"	1/2"			
	2	INSULATED PLUMBING COVER	PLUMBEREX	HANDY SHIELD					
B	2	WATER CLOSET	AMERICAN STANDARD	CADET 3		3/4"	4"	1.28	GPF
	2	ELONGATED SEAT	AMERICAN STANDARD	EXTRA HD COMMERCIAL TOILET SEAT					

LAUNDRY AREA EQUIPMENT PLUMBING SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER Hot	WATER Cold	WASTE Waste	GAS cfh	Usage	Spec
1	2	80 LB WASHER	HUEBSCH	HCT080	3/4"	3/4"	3"			
2	6	60 LB WASHER	HUEBSCH	HCT060	3/4"	3/4"	3"			
3	10	40 LB WASHER	HUEBSCH	HCT040	3/4"	3/4"	3"			
4	8	30 LB WASHER	HUEBSCH	HCT030	3/4"	3/4"	3"			
5	8	20 LB WASHER	HUEBSCH	HCT020	3/4"	3/4"	3"			
6	2	75 LB STACK TUMBLE DRYER	HUEBSCH	HT075				165		
7	7	45 LB STACK TUMBLE DRYER	HUEBSCH	HTT45				190		
8	8	30 LB STACK TUMBLE DRYER	HUEBSCH	HTT30				146		
20	1	HIGH-LOW DRINKING FOUNTAIN	ELKAY	EZSTL8LC		1/2"	2"			
23	1	MOP SINK	REGENCY	600SM242412			3"			
23A	1	MOP SINK FAUCET	T&S BRASS	B-06655-CR-BSTR	1/2"	1/2"				



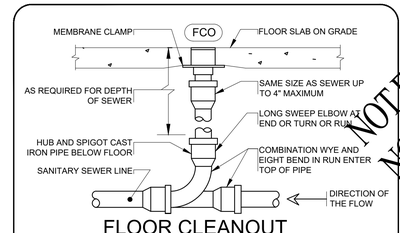
HIGH TEMP DOMESTIC WATER HEATER
NOT TO SCALE



WALL CLEANOUT
NOT TO SCALE

WALL CLEANOUT DETAIL NOTES

1) PROVIDE WCO WHERE SHOWN ON PLANE, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT
2) LOCATE ABOVE FIXTURE FLOOR RIM WITHIN 4" OF FLOOR.
3) CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.
4) LONG SWEEP AT END OF LINE OR COMBINATION WYE AND EIGHT BEND IN RUN OF LINE
5) CLEAN OUT FACE SHALL BE WITHIN 4" OF WALL SURFACE. PROVIDE A PIPE EXTENSION IF REQUIRED
6) REFER TO PLUMBING FIXTURE SCHEDULE FOR FUTHER INFORMATION FOR (WCO)



FLOOR CLEANOUT
NOT TO SCALE

FLOOR CLEANOUT DETAIL NOTES

1) LOCATE CLEANOUT AT THIS LOCATIONS:
   A) BUILDING EXIT
   B) AT TURNS OF PIPES GREATER THAN 45 DEGREES
   C) AT 90' INTERVALS ON STRAIGHT RUNS
   D) WHERE IS SHOWN ON PLANS
   E) WHERE IS 18" CLEAR AROUND

NY ENGINEERS

PROJECT

AAXON LAUNDRY

REVISIONS DATES:

S.NO	DETAIL	DATE

PROFESSIONAL SEAL

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PLUMBING LEGENDS,NOTES & DETAILS

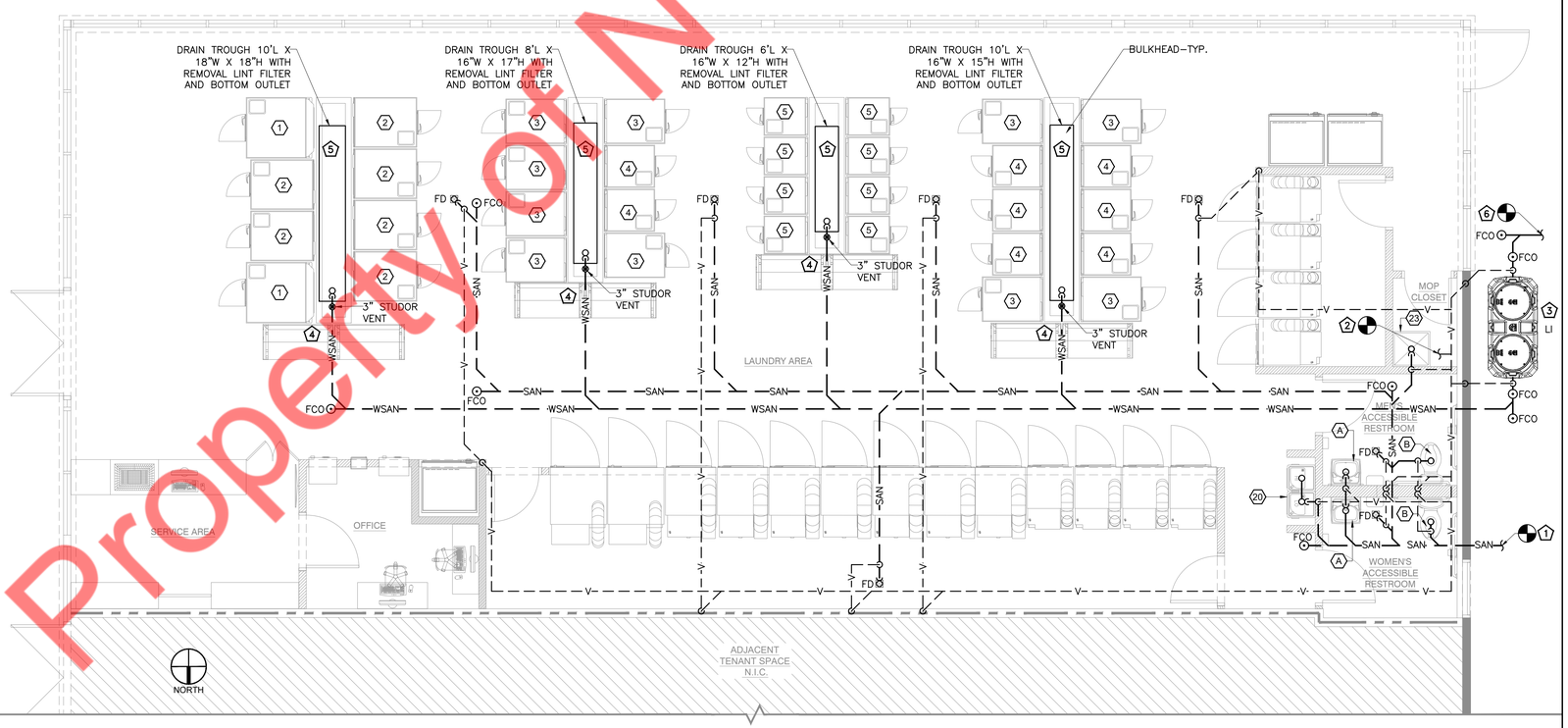
P-1

GENERAL NOTES

1. SLOPE OF DRAINAGE PIPING SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" TO 6" AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" AND SMALLER.
2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
4. PROVIDE ACCESS PANELS FOR CLEANOUTS AS REQUIRED.
5. PROVIDE TRAP SEAL PRIMER AS PER LOCAL CODE REQUIREMENT.

SANITARY PLAN KEY NOTE

1. EXTEND & CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT OF EXISTING SANITARY MAIN LINE AND MAKE NECESSARY CHANGES / UPGRADE IF REQUIRED.
2. EXTEND & CONNECT NEW 3" VENT PIPING AS SHOWN IN RISER TO EXISTING VENT LINE/VENT THROUGH ROOF IN THE SPACE. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING VENT LINE AND UPGRADE IF REQUIRED.
3. PROVIDE 250 GALLON LINT INTERCEPTOR, STRIEM MODEL PS-275-S. CONTRACTOR TO VERIFY THE EXACT LOCATION IN FIELD AND COORDINATE WITH LANDLORD/CIVIL CONTRACTOR FOR EXACT LOCATION.
4. CONTRACTOR TO COORDINATE WITH BULKHEAD MANUFACTURER FOR DRAIN AND VENTING ARRANGEMENTS FOR THE WASHING MACHINES AS PER LOCAL CODE.
5. DRAIN TROUGHS CAN BE INSTALLED IN GROUND OR ON THE FLOOR ACCORDING TO THE MANUFACTURER SPECIFICATION. GC WILL DETERMINE IN FIELD THE BEST INSTALLATION.
6. EXTEND & CONNECT NEW 6" SANITARY WASTE PIPING TO EXISTING SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT OF EXISTING SANITARY MAIN LINE AND MAKE NECESSARY CHANGES / UPGRADE IF REQUIRED.



SANITARY PLAN | SCALE 1/4" = 1'-0" | 1

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REVISIONS DATES:

S.NO	DETAIL	DATE

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SANITARY PLAN

P-2

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXACT DEVELOPED DISTANCE FROM EXISTING GAS METER TO FARTHEST GAS LINE POINT. ADJUST GAS SIZES ACCORDINGLY.
2. CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR DRYER AND WATER HEATER.
3. PROVIDE SHUT-OFF VALVE ON ACCESSIBLE LOCATION.
4. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.

GAS PLAN KEY NOTE

1. CONNECT NEW 3" GAS PIPING TO NEW GAS METER. CONTRACTOR TO COORDINATE FOR THE LOCATION THE NEW GAS METER TO LL/OWNER.
2. CONTRACTOR TO FIELD VERIFY CLEARANCES OF GAS WATER HEATER PRIOR TO INSTALLATION. INSTALL PER MANUFACTURERS RECOMMENDATIONS. ROUTE DRAIN TO NEAREST DRAIN. CONTRACTOR SHALL PROVIDE AND INSTALL PRESSURE REGULATOR VALVE AT INCOMING SERVICE AND/OR BEFORE TIE-IN TO EQUIPMENT IF REQUIRED.
3. CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR GAS FIRED WATER HEATER AND DRYERS.
4. CONTRACTOR SHALL PROVIDE AND INSTALL GAS VALVE, DIRT LEG & UNION AS REQUIRED.

GAS PLAN | SCALE 1/4" = 1'-0" | 1

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REVISIONS DATES:

S.NO	DETAIL	DATE

PROFESSIONAL SEAL

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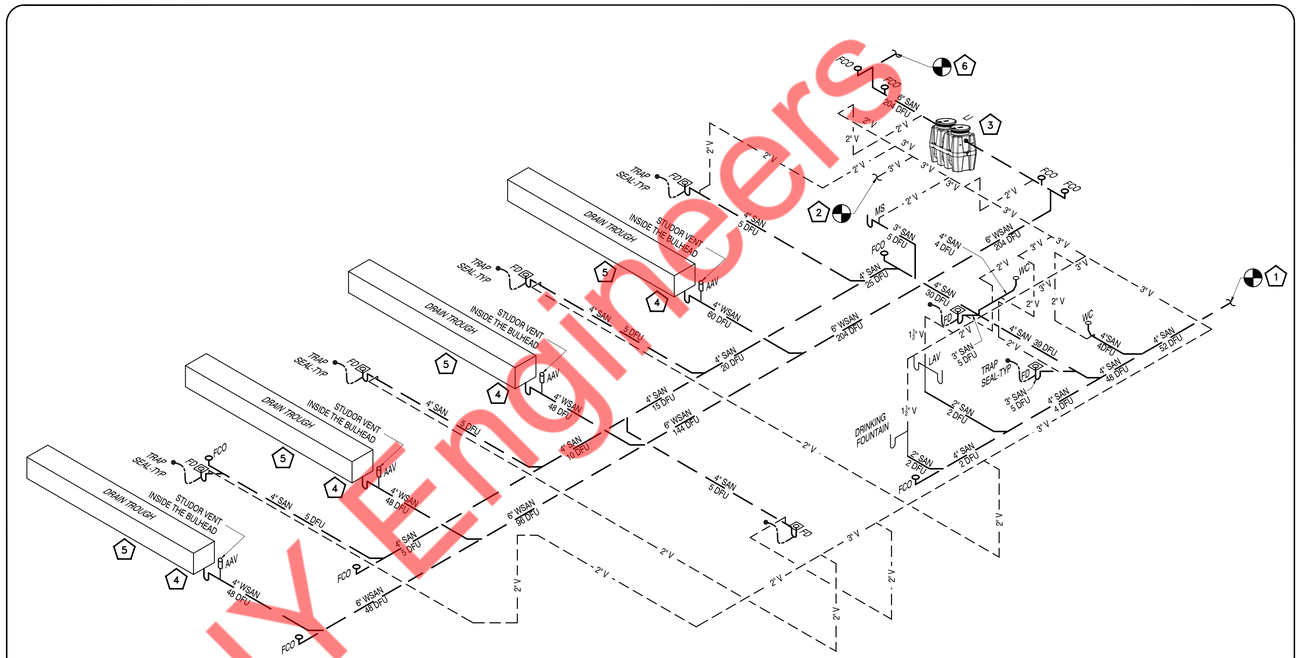
GAS PLAN

P-4



SANITARY RISER DIAGRAM | SCALE N.T.S. | 1

TAG NO	QTY	DESCRIPTION	MANUFAC.	MODEL	SIZE	BTU/HR.	TOTAL
6	2	75 LB STACK TUMBLE DRYER	HUEBSCH	HT075	1"	165	330
7	7	45 LB STACK TUMBLE DRYER	HUEBSCH	HTT45	1"	190	1330
8	8	30 LB STACK TUMBLE DRYER	HUEBSCH	HTT30	1"	146	1168
WH-1	3	TANKLESS WATER HEATER	RINNAI	CU199i	1-1/4"	199	597
							3425

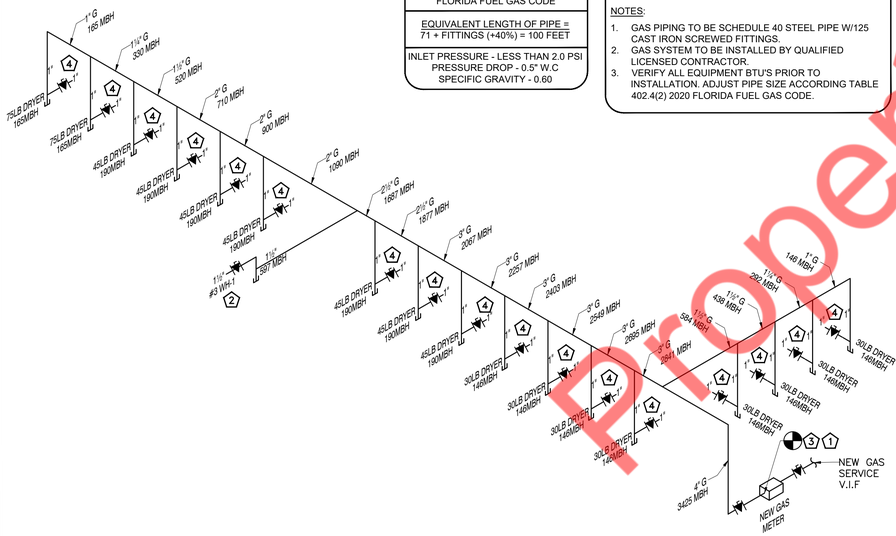
NATURAL GAS PIPING SYSTEM
PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND 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.

NOTES:
1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWED FITTINGS.
2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
3. VERIFY ALL EQUIPMENT BTU'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING TABLE 402.4(2) 2020 FLORIDA FUEL GAS CODE.

GAS PIPE SIZING PER TABLE 402.4(2) 2020 FLORIDA FUEL GAS CODE

EQUIVALENT LENGTH OF PIPE = 71 + FITTINGS (+40%) = 100 FEET

INLET PRESSURE - LESS THAN 2.0 PSI
PRESSURE DROP - 0.5" W.C
SPECIFIC GRAVITY - 0.60



GAS RISER DIAGRAM | SCALE N.T.S. | 3

SANITARY RISER KEY NOTE

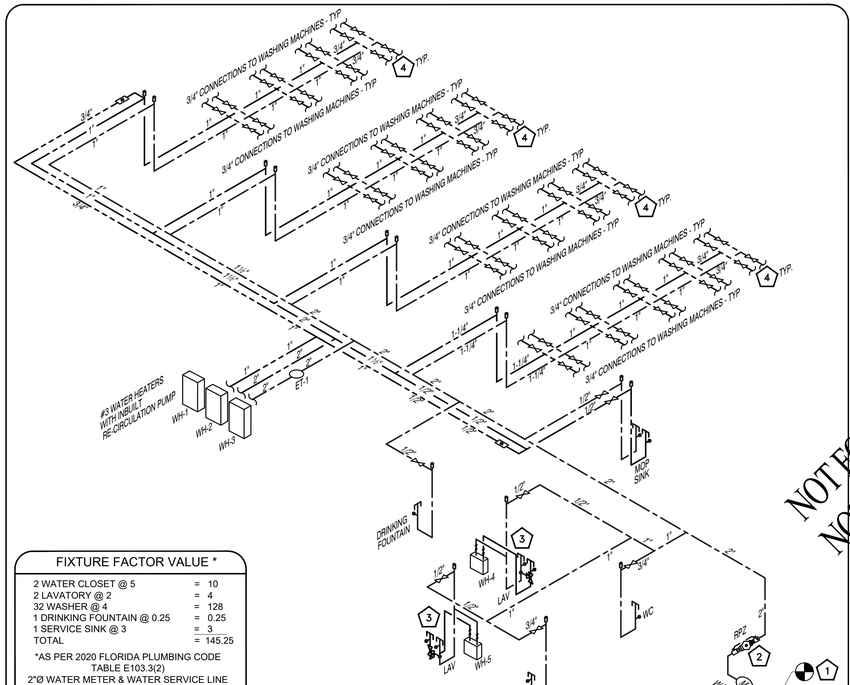
1. EXTEND & CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT OF EXISTING SANITARY MAIN LINE AND MAKE NECESSARY CHANGES / UPGRADE IF REQUIRED.
2. EXTEND & CONNECT NEW 3" VENT PIPING AS SHOWN IN RISER TO EXISTING VENT LINE/VENT THROUGH ROOF IN THE SPACE. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING VENT LINE AND UPGRADE IF REQUIRED.
3. PROVIDE 250 GALLON LINT INTERCEPTOR, STRIEM MODEL PS-275-S. CONTRACTOR TO VERIFY THE EXACT LOCATION IN FIELD AND COORDINATE WITH LANDLORD/CIVIL CONTRACTOR FOR EXACT LOCATION.
4. CONTRACTOR TO COORDINATE WITH BULKHEAD MANUFACTURER FOR DRAIN AND VENTING ARRANGEMENTS FOR THE WASHING MACHINES AS PER LOCAL CODE.
5. DRAIN TROUGHS CAN BE INSTALLED IN GROUND OR ON THE FLOOR ACCORDING TO THE MANUFACTURER SPECIFICATION. GC WILL DETERMINE IN FIELD THE BEST INSTALLATION.
6. EXTEND & CONNECT NEW 6" SANITARY WASTE PIPING TO EXISTING SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT OF EXISTING SANITARY MAIN LINE AND MAKE NECESSARY CHANGES / UPGRADE IF REQUIRED.

WATER RISER KEY NOTE

1. CONNECT NEW 2" CW LINE TO EXISTING WATER MAIN LINE. CONTRACTOR TO UPGRADE THE EXISTING WATER SERVICE LINE. PROVIDE NEW SHUT OFF VALVE IN NEW CW LINE AT THE POINT OF CONNECTION. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING CW PIPING.
2. PROVIDE NEW 2" BFP AND WATER METER IN THE LOCATION OF EXISTING BFP AND WATER METER. CONTRACTOR TO VERIFY THE LOCATION OF BFP AND WATER METER ON SITE. WATER METER SHOULD BE PLACED INSIDE THE PIT.
3. CONTRACTOR SHALL PROVIDE ASSE 1070 APPROVED MIXING VALVE TO THE LAVATORY.
4. PROVIDE A TEMPERATURE ACTUATED MIXING VALVE COMPLYING WITH ASSE 1017.

GAS RISER KEY NOTE

1. CONNECT NEW 3" GAS PIPING TO NEW GAS METER. CONTRACTOR TO COORDINATE FOR THE LOCATION THE NEW GAS METER TO LL/OWNER.
2. CONTRACTOR TO FIELD VERIFY CLEARANCES OF GAS WATER HEATER PRIOR TO INSTALLATION. INSTALL PER MANUFACTURERS RECOMMENDATIONS. ROUTE DRAIN TO NEAREST DRAIN.CONTRACTOR SHALL PROVIDE AND INSTALL PRESSURE REGULATOR VALVE AT INCOMING SERVICE AND/OR BEFORE TIE-IN TO EQUIPMENT IF REQUIRED.
3. CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR GAS FIRED WATER HEATER AND DRYERS.
4. CONTRACTOR SHALL PROVIDE AND INSTALL GAS VALVE, DIRT LEG & UNION AS REQUIRED.



FIXTURE FACTOR VALUE *	
2 WATER CLOSET @ 5	= 10
2 LAVATORY @ 2	= 4
32 WASHER @ 4	= 128
1 DRINKING FOUNTAIN @ 0.25	= 0.25
1 SERVICE SINK @ 3	= 3
TOTAL	= 145.25

*AS PER 2020 FLORIDA PLUMBING CODE TABLE E103.3(2)
2"Ø WATER METER & WATER SERVICE LINE SIZE REQUIRED.

WATER SUPPLY RISER DIAGRAM | SCALE N.T.S. | 2

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PROJECT

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REVISIONS DATES:		
S.NO	DETAIL	DATE

PROFESSIONAL SEAL

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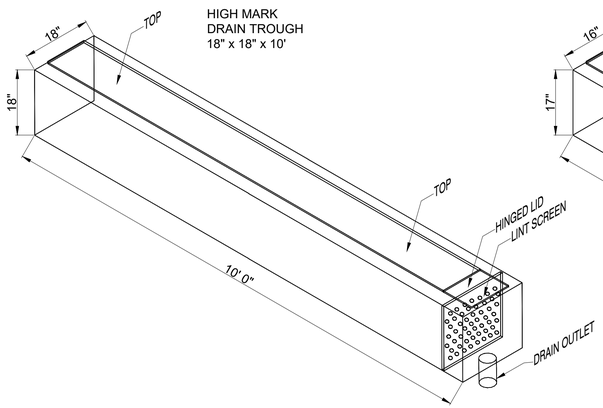
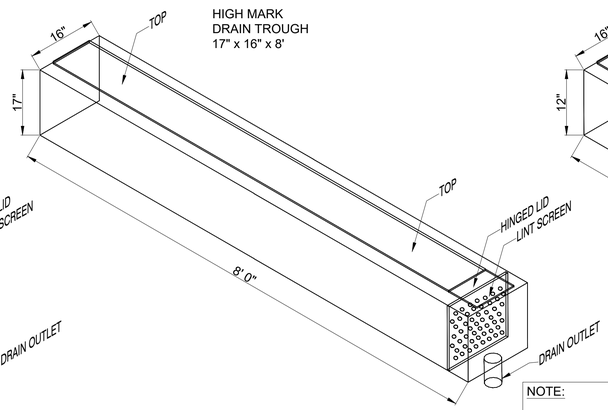
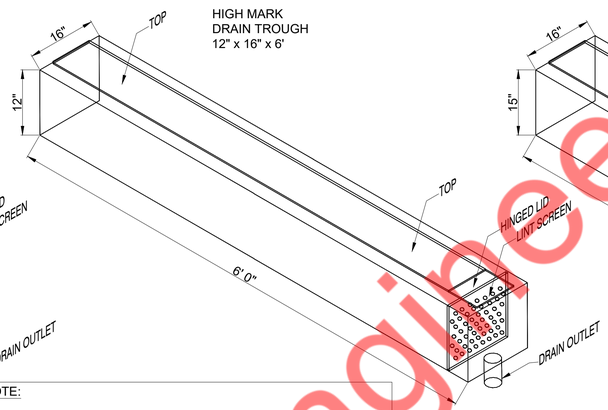
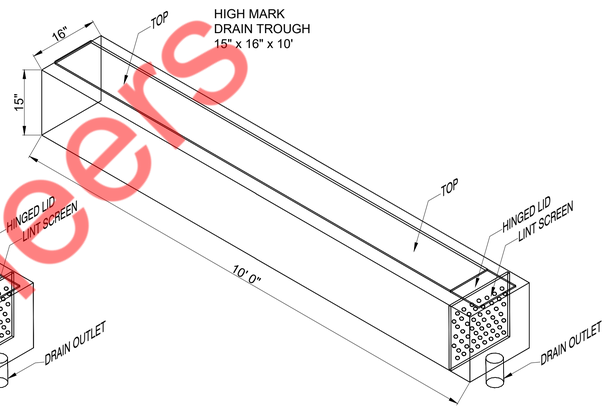
PLUMBING RISER DIAGRAMS

P-5









NOTE:

CONTRACTOR TO CO-ORDINATE WITH MANUFACTURER FOR PRODUCT SIZE AND AVAILABILITY OF TROUGH SIZE PRIOR TO BID.

CONTRACTOR TO CO-ORDINATE WITH MANUFACTURER FOR INSTALLATION REQUIREMENTS.

Bulkheads

BUILDING BETTER BOXES

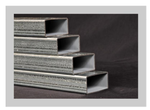
If you thought bulkheads were simple boxes made to hide the utilities serving your washers and that their design did little more than hinder your access to the back of those machines, think again.

High Mark has brought the bulkhead to new levels. They are designed with function in mind, giving easier access for servicing your equipment and they are delivered ready to install, helping save time and expense.

Standard widths are 16.5", 22.5" and 30", but we also offer a 36" option for those larger projects, or we can work with you on custom widths. Each bulkhead is built to your specifications based on the need of your equipment mix and the desires of the laundry owner. We offer everything from standard quarter-turn valves and galvanized tube steel frames for longevity, to optional access doors and drain troughs, setting our bulkheads apart. And we pride ourselves on finding solutions to your unique installation problems.

We assist you with pricing, design, and laminate selection, but we're also here to help problem-solve those awkward features in your space that have to be worked around. We can include an offset end allowing you to have access to both the electrical panel and the inside of your bulkhead for maintenance on the same end. We can also give your bulkhead a custom profile with height changes to follow the heights of your machines.

Because our bulkheads carry a UL listing, they can be financed and depreciated with the rest of their equipment.



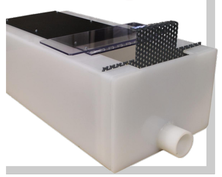
Our standard bulkhead features include:

- Quarter-turn stainless steel ball valves for durability and ease of use
- Galvanized tube steel frame which inhibits rust while requiring fewer supports allowing us to provide you better access to the backs of the machines for service
- PEX water lines and copper manifolds
- White melamine top and end panels, double laminated against moisture

Options include:

- Hinged and locking doors integrated into the end panels
- All copper water lines
- Return lines for hot water recirculation
- High-pressure laminate covers in a multitude of colors and patterns, or optional melamine colors and patterns
- Switched LED lighting
- Offset ends to solve the issue of access and electrical together
- GFCI outlets inside for service or electronic components, or mounted through the end panel for customer use
- Curved "radius" end panels for a distinctive look
- Custom widths
- Creative solutions to obstacles on your jobsites

Drain Troughs



A SOLUTION FOR EVERY SPACE

Our troughs do more than just drain waste water. Like all our products, High Mark drain troughs are built from durable materials and designed with a focus on function.

No need for a tangle of pipes filling your bulkhead. High Mark drain troughs offer superior containment while freeing up valuable space. They also support light foot traffic meaning you can utilize the open space in the bulkhead for doing maintenance and repairs.

With integrated lint screens, our troughs also meet the requirement for lint filtration in most jurisdictions throughout the country, eliminating the need for installing an expensive lint interceptor.

Whether draining into the top of our troughs, through a water-tight connection into the side, or with a stand pipe for pump-drain machines, we can size a trough for any space. Install in ground or above, and if they are ordered with High Mark bulkheads they come pre-sloped.

Our troughs carry an ICC-ES listing insuring they are compliant to Section 1703 of the International Building Code, ASME Code 112.6.3 and International Plumbing Codes 406.1 and 1003.6.

- Made of rigid, sturdy, anti-corrosive 3/8" ABS plastic
- Strong enough to support light foot traffic
- Sized to contain a full dump of all equipment draining into them
- Single lint screen comes standard, additional screens can be installed
- Hinged lid over lint screen provides easy access for cleaning
- Lint screens made from 1/4" PVC with 3/8" holes on 3/4" spacing, include overflow cutouts
- Washers can drain into the top or the sides
- Drain outlet can be on the end or the bottom
- Quicker and easier to install and maintain than PVC direct-drain systems and they preserve the space behind the washers
- Accepted for lint filtration in most municipalities
- Excellent choice for coin laundries as well as OPL
- Available with sump pump where direct drain is not available
- Optional legs can be installed
- Polypropylene OPL troughs are also available

NY ENGINEERS

PROJECT

AAXON LAUNDRY

REVISIONS DATES:

S.NO	DETAIL	DATE

PROFESSIONAL SEAL

NOT FOR PERMIT OR BID
NOT FOR CONSTRUCTION

TROUGH AND BULKHEAD DETAILS

P-6