SCOPE OF WORK

USE EXITING SPLIT SYSTEMS 3-TON, 4 TON & 7.5 TR. PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM.

USE EXITING EXHAUST SYSTEM FOR BATHROOM EXHAUSTS AND UTILITY CLOSET.

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

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.

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. G.C.TO 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 ARCHITECT'S 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 WILL BE WITH INTERNAL INSULATION.

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

K. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS AFTER THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.

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

MECHANICAL PLAN NOTES

A. USE EXITING SPLIT SYSTEMS 3-TON, 4 TON & 7.5 TR. PROVIDE NEW DUCTWORK WITH NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AIR DUCT CONNECTIONS. INSTALL FIRE DAMPERS IN ANY FIRE WALLS AND BETWEEN FLOORS. TRANSITION TO DUCT SIZES SHOWN. 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 THAT MEET THE REQUIREMENTS OF U.L. 268A, INTERLOCKED TO SHUTDOWN ROOF TOP 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 SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA/ANSI-HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, LATEST EDITION, SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL LATEST EDITION, NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARD AND 2021 INTERNATIONAL MECHANICAL CODE, SECTION 603. THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.

D. ALL RECTANGULAR OR ROUND SUPPLY AND RETURN DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181 AND INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING, THE MANUFACTURER'S INSTRUCTION AND CONTRACTOR TO PROVIDE NECESSARY TEST CERTIFICATE TO INSPECTOR CONFORMING THE MATERIAL STANDARDS AS SPECIFIED ON 2021 INTERNATIONAL MECHANICAL CODE 302.2. FACTORY-MADE AIR DUCTS SHALL BE INSTALLED WITH NOT LESS THAN 4 INCHES OF SEPARATION FROM EARTH, EXCEPT WHERE INSTALLED AS A LINER INSIDE OF CONCRETE, TILE OR METAL PIPE AND SHALL BE PROTECTED FROM PHYSICAL DAMAGE.

E. 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.

F. THERMOSTATS AND HUMIDISTAT SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. COORDINATE LOCATION OF THERMOSTAT.

G. ALL INTERIOR AIR DUCTS WITH INSULATION SHALL HAVE A MINIMUM OF THICKNESS OF 1.5", R-6 INSULATION AND EXTERIOR DUCTS SHALL HAVE R-8 INSULATION AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE.

H. 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.

I. ALL NEW ROOF TOP UNIT CONDENSATE DRAIN 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 AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE, 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.

FRISCO BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2021 INTERNATIONAL BUILDING CODE AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. 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.

2. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2021 INTERNATIONAL MECHANICAL CODE:
   A. VENTILATION SYSTEM- 2021 INTERNATIONAL MECHANICAL CODE 403.1.

3. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
   A. DUCT CONSTRUCTION AND INSTALLATION- 2021 INTERNATIONAL MC 603
   B. STANDARDS OF HEATING - 2021 INTERNATIONAL MC 309.1
   C. AIR FILTERS - 2021 INTERNATIONAL MC 605
   D. AIR INTAKES, EXHAUSTS AND RELIEF - 2021 INTERNATIONAL MC 401.5
   E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - 2021 INTERNATIONAL MC - 606

4. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.

5. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY 2021 INTERNATIONAL MC 403.

6. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

7. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.

8. SMOKE DETECTOR SHALL MEET UL268A.

9. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR - BALANCE REPORT TO INSPECTOR OF RESPECTIVE BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.

10. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2021 INTERNATIONAL MC 403.

THERMOSTATIC CONTROLS

C403.4.1 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, NOT FEWER THAN 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 THAT BOTH OF THE FOLLOWING CONDITIONS ARE MET:

1. THE PERIMETER SYSTEM INCLUDES NOT FEWER THAN 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).
2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.4.1.1 HEAT PUMP SUPPLEMENTARY HEAT
HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT LIMIT SUPPLEMENTAL HEAT OPERATION TO ONLY THOSE TIMES WHEN ONE OF THE FOLLOWING APPLIES:

1. THE VAPOR COMPRESSION CYCLE CANNOT PROVIDE THE NECESSARY HEATING ENERGY TO SATISFY THE THERMOSTAT SETTING.
2. THE HEAT PUMP IS OPERATING IN DEFROST MODE.
3. THE VAPOR COMPRESSION CYCLE MALFUNCTIONS.
4. THE THERMOSTAT MALFUNCTIONS.

C403.4.1.2 DEADBAND
WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF NOT LESS THAN 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS 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.

C403.4.1.3 SETPOINT OVERLAP RESTRICTION
WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE CONFIGURED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.4.1.2.

C403.4.2 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 MANUAL SHUTOFF SWITCH LOCATED WITH READY ACCESS.

C403.4.2.1 THERMOSTATIC SETBACK
THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED 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).

C403.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN
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 NOT FEWER THAN 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 CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.4.2.3 AUTOMATIC START AND STOP
AUTOMATIC START AND STOP CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM.
THE AUTOMATIC START 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. AUTOMATIC STOP CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM WITH DIRECT DIGITAL CONTROL OF INDIVIDUAL ZONES. THE AUTOMATIC STOP CONTROLS SHALL BE CONFIGURED TO REDUCE THE HVAC SYSTEM'S HEATING TEMPERATURE SETPOINT AND INCREASE THE COOLING TEMPERATURE SETPOINT BY NOT LESS THAN 2°F (-16.6°C) BEFORE SCHEDULED UNOCCUPIED PERIODS BASED ON THE THERMAL LAG AND ACCEPTABLE DRIFT IN SPACE TEMPERATURE THAT IS WITHIN COMFORT LIMITS

MECHANICAL SYMBOLS

EXHAUST FAN	EXHAUST FAN WITH LIGHT
SUPPLY OR OUTSIDE AIR DUCT	OPPOSED BLADE DAMPER
RETURN OR EXHAUST AIR DUCT	DUCT SMOKE DETECTOR
INSULATED RIGID DUCTWORK	PROGRAMMABLE THERMOSTAT
DUCT TRANSITION	HUMIDISTAT
MANUAL VOLUME DAMPER	REMOTE SENSOR
FLEXIBLE DUCTWORK R-6.0	TEMPERATURE SENSOR
ROOF MOUNTED EXHAUST FAN OUTLET	ROUND DUCT DIAMETER
ROOFTOP UNIT	CFM CUBIC FEET/ MINUTE
MOTORIZED DAMPER	S/A SUPPLY AIR
	R/A RETURN AIR
SUPPLY DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS	SG SUPPLY GRILLE
	BOG BOTTOM OF GRILLE
	A.F.F AFTER FINISH FLOOR
	AHU AIR HANDLING UNIT
	CONDENSATE PIPING
	BACK DRAFT DAMPER
	GC GENERAL CONTRACTOR
	RETURN DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
BAROMETRIC PRESSURE RELIEF DAMPER	SAE SAME AS EXISTING
	VIF VERIFY IN FIELD

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

OCCUPANCY CALCULATION PER 2021 INTERNATIONAL MECHANICAL CODE MECHANICAL CODE, TABLE 403.3.1.1

GYM	1470 SQ. FT. 15 PEOPLE PER 1000 SQ.FT.	28 PEOPLE
ROMPYS HOUSE	210 SQ. FT. 15 PEOPLE PER 1000 SQ.FT.	6 PEOPLE
LOBBY/RECEPTION	665 SQ. FT. 10 PEOPLE PER 1000 SQ.FT.	7 PEOPLE
OFFICE	75 SQ. FT. 5 PEOPLE PER 1000 SQ.FT.	1PEOPLE
CRAFT ROOM 1	405 SQ. FT. 100 PEOPLE PER 1000 SQ.FT.	20 PEOPLE
CRAFT ROOM 2	400 SQ. FT. 100 PEOPLE PER 1000 SQ.FT.	20 PEOPLE
	TOTAL	82 PEOPLE

VENTILATION REQUIREMENTS PER 2021 INTERNATIONAL MECHANICAL CODE, TABLE 403.3.1.1

GYM	1470 SQ. FT. X 0.3 CFM/SQ. FT. =	550 CFM
	28 PEOPLE. X 0 CFM/PEOPLE. =	0 CFM
ROMPYS HOUSE	210 SQ. FT. X 0.12 CFM/SQ. FT. =	30 CFM
	6 PEOPLE. X 10 CFM/PEOPLE. =	74 CFM
LOBBY/RECEPTION	665 SQ. FT. X 0.06 CFM/SQ. FT. =	50 CFM
	7 PEOPLE. X 5 CFM/PEOPLE. =	44 CFM
OFFICE	75 SQ. FT. X 0.06 CFM/SQ. FT. =	6 CFM
	1 PEOPLE. X 5 CFM/PEOPLE. =	6 CFM
CRAFT ROOM 1 & 2	805 SQ. FT. X 0.12 CFM/SQ. FT. =	120 CFM
	40 PEOPLE. X 10 CFM/PEOPLE. =	500 CFM
ART CLOSET 1 & 2	110 SQ. FT. X 0.12 CFM/SQ. FT. =	16 CFM
STORAGE	156 SQ. FT. X 0.12 CFM/SQ. FT. =	24 CFM
HALLWAY(GYM+ RESTROOM)	395 SQ. FT. X 0.06 CFM/SQ. FT. =	30 CFM
UTILITY CLOSET	65 SQ. FT. X 0.12 CFM/SQ. FT. =	10 CFM
OUTSIDE AIR REQUIRED		1460 CFM
MEN RESTROOM	70 CFM PER FIXTURE	70 CFM
WOMEN RESTROOM	70 CFM PER FIXTURE+50 CFM PER SHOWER	120 CFM
STAFF RESTROOM	70 CFM PER FIXTURE+50 CFM PER SHOWER	120 CFM
UTILITY CLOSET	70 CFM	70 CFM
EXHAUST AIR REQUIRED		380 CFM
OUTSIDE AIR THROUGH AHU-1(E)		+300 CFM
OUTSIDE AIR THROUGH AHU-2(E)		+400 CFM
OUTSIDE AIR THROUGH AHU-3(E)		+770 CFM
TOTAL EXHAUST(RESTROOM+UTILITY)		-380 CFM
BUILDING PRESSURE (BAROMETRIC RELIEF DAMPER=-700 CFM)		+390 CFM

FAN SCHEDULE

DESIGNATION	OAF-1(N)
STATUS	NEW
QUANTITY	1
MANUFACTURER	GREENHECK
MODEL	SQ-140-VG
CFM	1470 CFM AT 1" W.G. ESP
OPERATING HP	0.53
ACCESSORIES	UNIVERSAL MOUNTING
WEIGHT (LBS)	167
V/PH/Hz	115/1/60

NOTES :
1. FAN SHALL BE FURNISHED WITH VARI-GREEN MOTOR CONTROL.
2. FAN SPEED SHALL BE EASILY FIELD ADJUSTABLE.
3. PROVIDE MOTOR STARTERS, DISCONNECTS WITH NEMA-1 (IF NOT FACTORY PROVIDED). ALL EQUIPMENT NORMAL POWER WIRING BY ELECTRICAL CONTRACTOR. COORDINATE POWER REQUIREMENTS.
4. REFER TO DETAILS, FAN SHALL BE MOUNTED W/SUPPORT FRAMING BY OTHERS.INTERLOCK OAF-1(N) WITH AHU-1(E),AHU-2(E) & AHU-3(E).
5. PROVIDE OAF-1(N) WITH MERV-8 FILTER.

SPLIT SYSTEM SCHEDULE

AIR HANDLER DATA	UNIT TAG	AHU-1(E)	AHU-2(E)	AHU-3(E)
	UNIT TYPE	MULTIPOSITION	MULTIPOSITION	MULTIPOSITION
	AREA SERVED	SEE PLAN	SEE PLAN	SEE PLAN
	SUPPLY AIR (CFM)	1200	1600	3000
	OUTSIDE AIR (CFM)	300	400	770
	STATIC PRESS. (E.S.P.)	S.A.E.	S.A.E.	S.A.E.
	VOLTS/PH/HZ	S.A.E.	S.A.E.	S.A.E.
	TOT. COOLING CAP. (MBH)	S.A.E.	S.A.E.	S.A.E.
	MANUFACTURER	S.A.E.	S.A.E.	S.A.E.
	MODEL NO.	S.A.E.	S.A.E.	S.A.E.
	ELECTRIC HEAT CAPACITY(KW)	S.A.E.	S.A.E.	S.A.E.
	WEIGHT, LBS	S.A.E.	S.A.E.	S.A.E.
	MIN. CKT. AMPACITY	S.A.E.	S.A.E.	S.A.E.
	MOCP (STAGE1/2)	S.A.E.	S.A.E.	S.A.E.
CONDENSING UNIT DATA	UNIT TAG	ACCU-1 (E)	ACCU-2 (E)	ACCU-3 (E)
	AIR HANDLER SERVED	AHU-1 (E)	AHU-2 (E)	AHU-3 (E)
	NOMINAL CAPACITY	S.A.E.	S.A.E.	S.A.E.
	REFRIGERANT	S.A.E.	S.A.E.	S.A.E.
	COMPRESSOR RLA/LRA	S.A.E.	S.A.E.	S.A.E.
	OUTDOOR FAN FLA	S.A.E.	S.A.E.	S.A.E.
	V/Ph/Hz	S.A.E.	S.A.E.	S.A.E.
	M.C.A. / M.C.B. AMPS	S.A.E.	S.A.E.	S.A.E.
	MANUFACTURER	S.A.E.	S.A.E.	S.A.E.
	MODEL# (CONDENSER)	S.A.E.	S.A.E.	S.A.E.
	TOT. COOLING CAP. (MBH)	S.A.E.	S.A.E.	S.A.E.
	EER/SEER	S.A.E.	S.A.E.	S.A.E.
	WEIGHT, LBS	S.A.E.	S.A.E.	S.A.E.

DIFFUSER SCHEDULE

MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
DESIGNATION	A	B	C	R	R1
USE	SUPPLY	SUPPLY	SUPPLY	RETURN	RETURN
MODEL	TDC-AA	TDC-AA	R-OMNI	TDC-AA	350FL
MOUNTING	SAT / HARD CEILING	SAT / HARD CEILING	SAT / HARD CEILING	SAT / HARD CEILING	DUCT/WALL
LOCATION	ANY	ANY	ANY	ANY	ANY
FACE SIZE	24" X 24"	12" X 12"	13.5"	SEE PLAN	SEE PLAN
NECK SIZE	REFER TABLE A	REFER TABLE A	REFER TABLE A	-	-
FRAME TYPE	LAY IN/FLANGED	LAY IN/FLANGED	LAY IN/FLANGED	LAY IN/FLANGED	FLANGED
NOISE CRITERIA	<30	<30	<30	<30	<30
ACCESSORIES	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER

NOTES :
1. MAX. NC LEVEL 30 OR LESS.
2. PROVIDE SQUARE TO ROUND NECK ADAPTOR.
3. CO-ORDINATE WITH ARCHITECT FOR FINAL MOUNTING, FRAME TYPE,PAINT AND FINISH.
4. PROVIDE 4-WAY AIR THROW PATTERN UNLESS NOTED OR INDICATED.
5. PROVIDE INSULATED BACKS ON ALL DIFFUSERS.

ELECTRIC DUCT HEATER SCHEDULE

SYMBOL	QTY	MANUFACTURER	USE	HEATER TYPE	DIMENSIONS (WXH)	HEATING CAPACITY	ELECTRICAL DATA	
							AMPS	VOLTAGE
EDH-1(N)	1	GREENHECK	SUPPLY	SLIP-IN	20"X10"	20 kW	55.5	208/3/60

NOTES:
1. INSTALL ELECTRIC DUCT HEATER AS PER MANUFACTURER'S RECOMMENDATION.
2. DIMENSIONS SAME AS SUPPLY DUCT SIZE.
3. SCR CONTROL WITH DUCT STAT.
4. INTERLOCK WITH OAF-1(N)

NECK SIZE TABLE - A

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

NY ENGINEERS

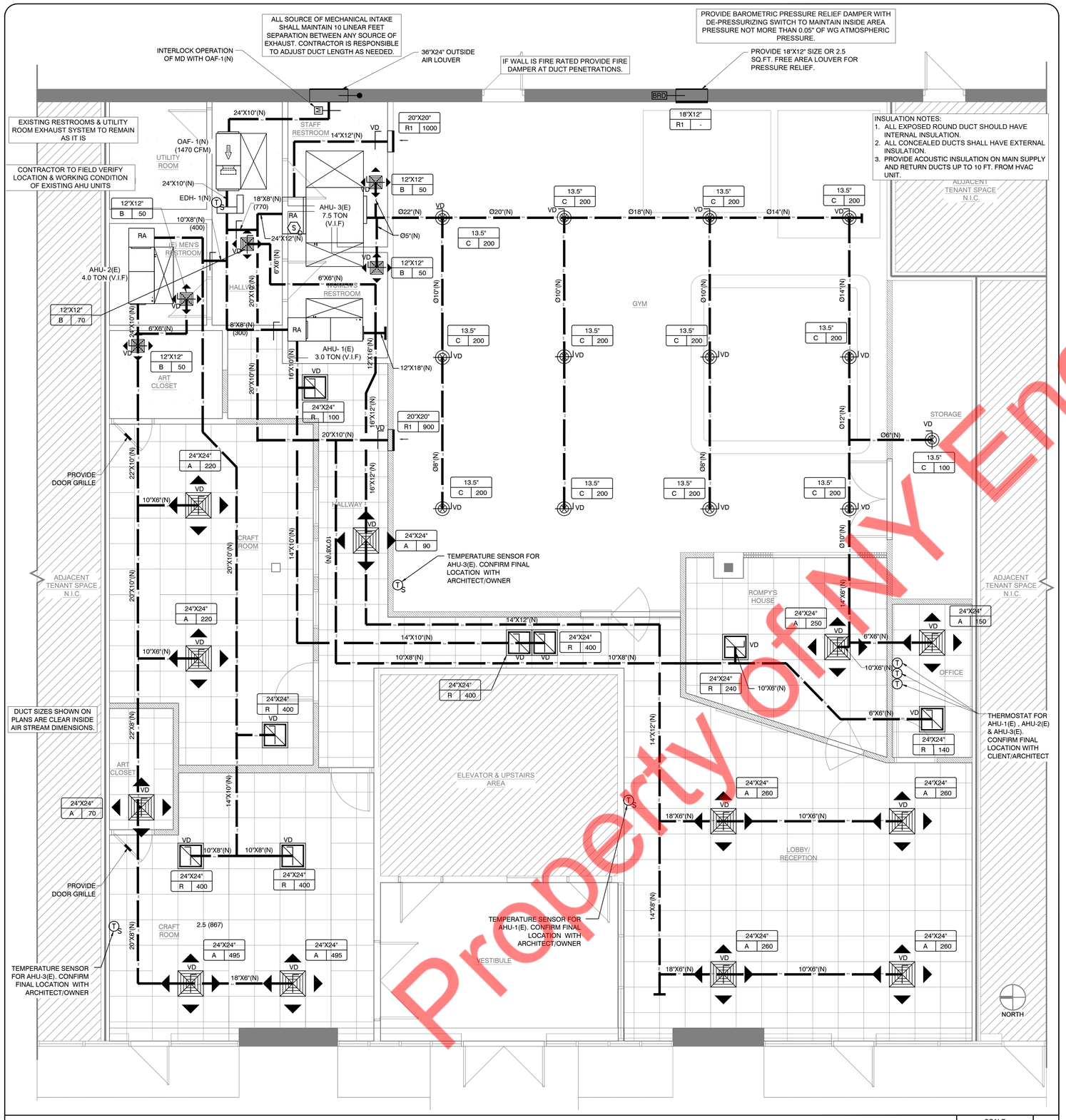
PROJECT

ROMP N' ROLL

REVISIONS DATES:

HVAC NOTES AND SCHEDULES

M-1



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

NY ENGINEERS

PROJECT

ROMP N' ROLL

REVISIONS DATES:

HVAC FLOOR PLAN

M-2

CONTRACTROR TO FIELD VERIFY LOCATION & WORKING CONDITION OF EXISITNG CONDENSER UNITS

ACCU-3 (E)
7.5 TONS (V.I.F)
WEIGHT-S.A.E.

ACCU-2 (E)
4.0 TONS (V.I.F)
WEIGHT-S.A.E.

ACCU-1 (E)
3.0 TONS (V.I.F)
WEIGHT-S.A.E.

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

NY ENGINEERS

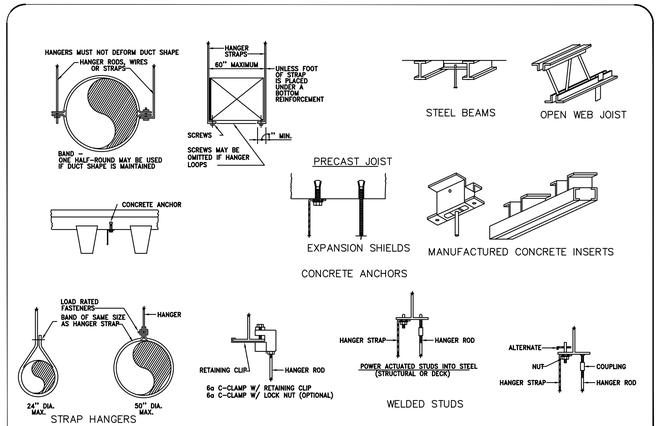
PROJECT

ROMP N' ROLL

REVISIONS DATES:

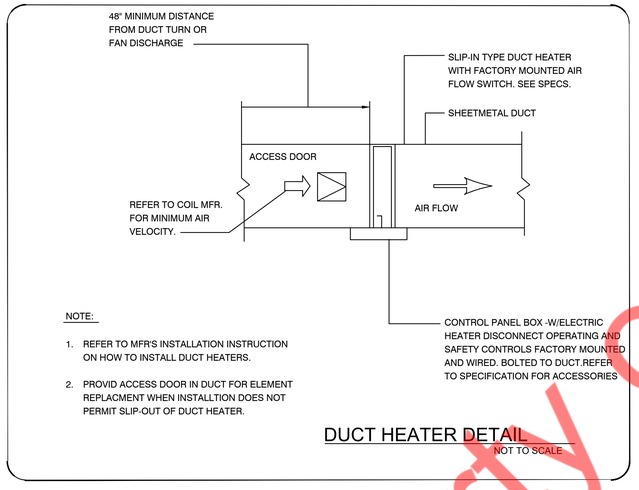
HVAC ROOF PLAN

M-3



UPPER & LOWER ATTACHMENTS & DEVICES

NOT TO SCALE

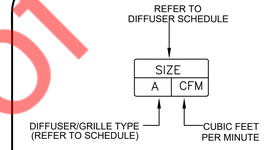


NOTE:

1. REFER TO MFR'S INSTALLATION INSTRUCTION ON HOW TO INSTALL DUCT HEATERS.
2. PROVID ACCESS DOOR IN DUCT FOR ELEMENT REPLACMENT WHEN INSTALLTION DOES NOT PERMIT SLIP-OUT OF DUCT HEATER.

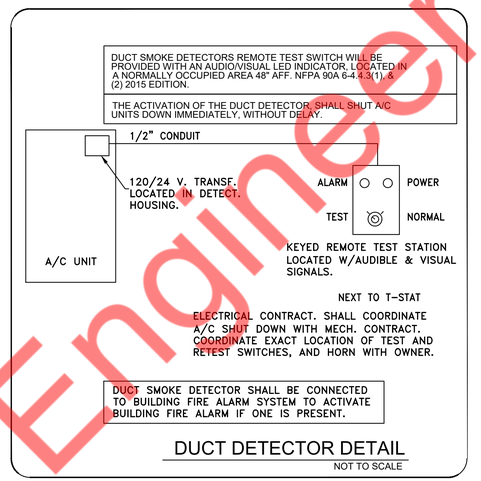
DUCT HEATER DETAIL

NOT TO SCALE



DIFFUSER/GRILLE TAG

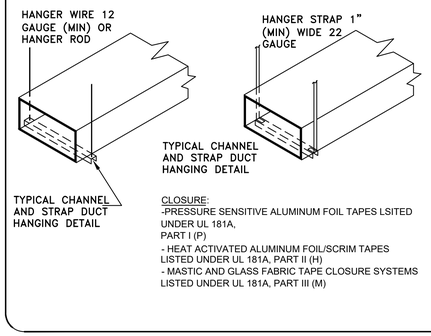
NOT TO SCALE



DUCT DETECTOR DETAIL

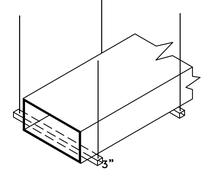
NOT TO SCALE

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



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)

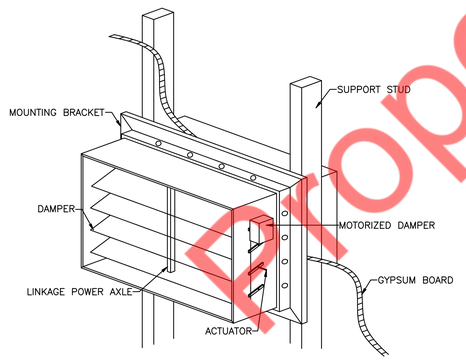
DUCT SIZE,IN.	MAXIMUM HANGER SPACING
① WIDTH 48" OR GREATER	4'-0"
② LESS THEN 48"W X 12"H	6'-0"
③ WIDTH BETWEEN 24" & 48" & HEIGHT OVER 24"	6'-0"
④ WIDTH BETWEEN 24" & 48" & HEIGHT BETWEEN 12" & 24"	8'-0"
⑤ WIDTH LESS THAN 24" & HEIGHT GREATER THAN 12"	8'-0"
DUCT REINFORCING PER SMACNA REQUIRED	



HANGER SPACING AND EXTENSION 3" WIDE CHANNELS

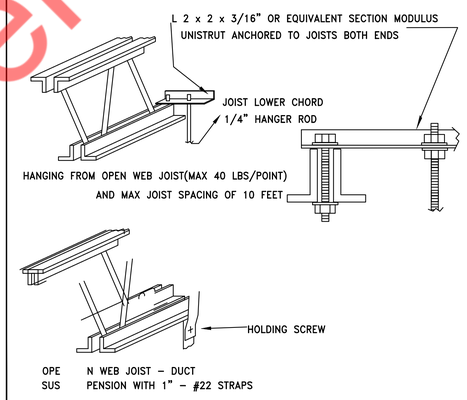
DUCT SUPPORTS

NOT TO SCALE



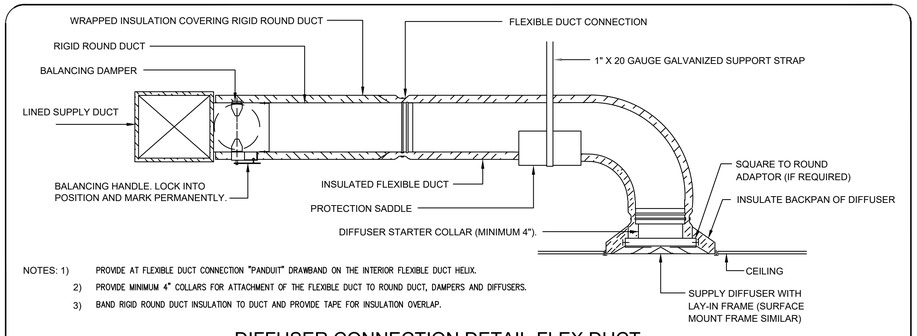
MOTORIZED DAMPER DETAILS

NOT TO SCALE



DUCT MOUNTING DETAIL

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

ROMP N' ROLL

REVISIONS DATES:

MECHANICAL DETAILS

M-4

SCOPE OF WORK

1. RE-USE EXISTING 200A, 208/120V, 3PH, 4W ELECTRICAL SERVICE AND ELECTRICAL PANEL "A" FOR THE PROJECT SPACE.
2. PROVIDE ALL NECESSARY EQUIPMENT, WIRING AND LIGHTING FOR THE PROJECT SPACE INCLUDING WIRING FOR VENTILATION EQUIPMENT. COORDINATE WITH G.C FOR LOW VOLTAGE WIRING.

ELECTRICAL PLAN NOTES

1. ELECTRICAL CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET.
2. 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.
3. 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.
4. 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.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRIC CODE AND ALL CODES AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION.
6. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION FOR ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.
7. ALL ELECTRICAL NOT BEING REUSED MUST BE REMOVED IN ITS ENTIRETY.
8. ALL CONDUIT IN OR UNDERGROUND OR IN CONCRETE MUST BE RIGID GALVANIZED STEEL.
9. CIRCUIT BREAKERS AND PANELS TO BE BOLT ON TYPE.
10. ALL EQUIPMENT SHALL BE APPROVED BY UL OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY.
11. ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250.146
12. SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL.
13. ALL LOW VOLTAGE MUST BE IN CONDUIT TO ABOVE THE DROP CEILING. BRIDAL RINGS OR "J" HOOKS REQUIRED.
14. SEPARATE PERMITS ARE REQUIRED FOR ALL LOW VOLTAGE SUCH AS TELEPHONE, DATA, THERMOSTAT, MUSIC, ALARMS ETC.
15. SEPARATE PERMIT REQUIRED FOR SIGNAGE.
16. PRIOR TO ANY CONSTRUCTION WORK BEGINNING AN ON-SITE MEETING WITH GENERAL CONTRACTORS IS REQUIRED.
17. ELECTRICIAN MUST BE ON SITE FOR ALL INSPECTIONS.
18. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER AND UNLESS OTHERWISE NOTED THHN INSULATION.
19. 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.
20. 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.
21. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE N.E.C. OR LOCAL CODES.
22. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
23. 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.
24. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
25. 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.
26. 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.
27. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
28. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT.
29. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER AND TELEPHONE COMPANIES.
30. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND PROVIDE ALL NECESSARY CONTROL WIRING.
31. ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE CIRCUIT BREAKERS.
32. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, DEVICES, ETC. FOR ALL OUTLETS AS INDICATED.
33. 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.
34. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR CUT SHEETS OF LIGHTING FIXTURES, SWITCHES, AND OTHER ELECTRICAL ITEMS FOR APPROVAL BY ENGINEER/ARCHITECT.
35. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND FIRED CAULKING REQUIRED OF HIS WORK.
36. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/TYPE WRITTEN DIRECTORIES.
37. ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F. UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.
38. ALL LIGHT SWITCHES TO BE AT 42" A.F.F.
39. 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.
40. 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.
41. DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.
42. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, WITH OVERLOAD RELAYS IN EACH HOT LEG.
43. THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACT SHALL FURNISH AND INSTALL.
44. 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.
45. VOLTAGE DROP FOR ALL BRANCH CONDUCTORS SHALL NOT EXCEED 3%, WHERE VOLTAGE DROP EXCEEDS 3%, CONTRACTOR SHALL INCREASE SIZE OF CONDUCTORS.
46. CONTRACTOR SHALL PROVIDE GFI TYPE BREAKER FOR ALL EXTERIOR 120V CIRCUITS OR GFI PROTECTION – FOR THE WHOLE CIRCUIT.
47. GAS PIPING SHALL BE BONDED.
48. 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.
49. ALL OUTDOOR EQUIPMENT SHALL BE WEATHERPROOF.
50. 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.
51. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.
52. ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6'-0" OR LESS).
53. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL OR IN RIGHT ANGLES TO THE BUIDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY. NO CONDUIT TO BE SUPPORTED FROM THE ROOF DECK.
54. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED.
55. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
56. ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS.
57. 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.
58. TENANT IS REQUIRED TO MAKE A FIELD SURVEY OF THE EXISTING ELECTRICAL SERVICE TO ENSURE THAT THE TOTAL CONNECTED LOAD DOES NOT EXCEED THE ELECTRIC 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.
59. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
60. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.

EXISTING CONTIDITONS 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.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXHAUST FAN
J	JUNCTION BOX
	BATTERY BACK UP EXIT LIGHT
	BATTERY BACK UP EMERGENCY LIGHT
$	WALL SWITCH (SINGLE)
$T	WALL SWITCH (TIMER)
$OS	OCCUPANCY SENSOR WALL
USB	DUPLEX RECEPTACLE WITH USB PROVISION.
	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
	QUADRUPLEX RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
CL	230V RECEPTACLE
	ELECTRICAL PANEL
	DISCONNECT SWITCH
TV	TELEVISION OUTLET
T	TELEPHONE/DATA OUTLET
T	TELEPHONE OUTLET
D	DATA OUTLET
CL	CEILING MOUNTED DATA OUTLET
A	30A/240V NON FUSED DISCONNECT SWITCH
B	60A/240V NON FUSED DISCONNECT SWITCH

ABBREVIATIONS:

ABOVE FINISH FLOOR= A.F.F.
COUNTER TOP LEVEL= C
GROUND FAULT INTERRUPTER= GFCI
VERIFY PRIOR TO INSTALL= VH
WEATHER PROOF= WP
EXHAUST FAN = EF
WATER HEATER= WH
AUTHORITY HAVING JURISDICTION= A.H.J.
BATHROOM EXHAUST FAN= BEF
BELOW COUNTER= BC
PUSH BUTTON= PB
UNDER CABINET= UC
DRYER= DR
ELECTRICAL CONTRACTOR=E.C.
ROOF TOP UNIT= RTU
RECIRCULATION PUMP= RCP
WASHER=WA

GENERAL LIGHTING NOTES

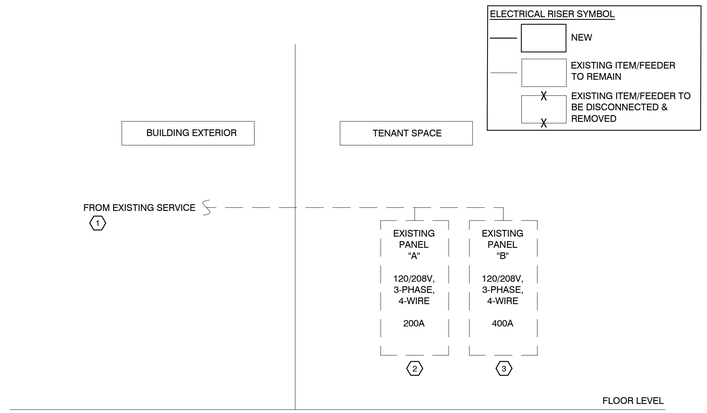
A. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE .

B. LOWER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES SWITCH NUMBER.

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

LIGHTING SCHEDULE

SYMBOL	TYPE	CATALOG NUMBER	VOLT	DESCRIPTION	REMARKS	WATTS
	A	LAY-IN LED BY CREE MODEL: ZR24-40L-40K-10V	120	2x4 RECESSED LAY-IN LED	CRAFT ROOM, OFFICE AND ART CLOSET	44
	A1	TBD	120	2x2 RECESSED LAY-IN FLUORESCENT	CRAFT ROOM	27
	B	CREE LIGHTING MODEL: CR-LE-40L-40K-S	120	STRIP LIGHT	GYM	40
	C	RECESSED TRIM JUNO MODEL: 27C-WH	120	RECESSED TRIM LED	LOBBY, ROMPY'S HOUSE AND HALLWAY	50
	F	PENDANT TITAN LIGHTING TN-75292	120	PENDANT LIGHT - UNDERSIDE OF FIXTURE @ 8'-0" A.F.F.	LOBBY/RECEPTION DESK	10
	G	JUNO LIGHTING MODEL TRAC-MASTER T257LED-4K-WH/T4WH & ACCESSORIES	120	WALL WASH FLOODS	GYM	70
	H	PROGRESS LIGHTING MODEL P4403-29	120	PENDANT LIGHT	CRAFT ROOM	150 MAX
	Y1	TBD	120	WALL-MOUNTED EMERGENCY LIGHTS		
	X1	TBD	120	EXIT SIGN		
	X2	TBD	120	CEILING MOUNTED MOUNTED DIRECTIONAL EXIT SIGN		
	X3	TBD	120	EXIT SIGN/EMERGENCY LIGHT COMBO		
	(E)					



#	POWER RISER DIAGRAM KEYED NOTES
1	EXISTING ELECTRICAL SERVICE. E.C. SHALL VERIFY THE OPERABLE CONDITION IN FIELD. REPLACE IF FOUND IN-OPERABLE. INFORM ENGINEER OF ANY DISCREPANCY FOUND.
2	EXISTING 200A, 208Y/120V, 3PH, 4W, ELECTRICAL PANEL "A" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/ARCHITECT FOR THE EXACT LOCATION OF ELECTRICAL PANEL "A" IN FIELD.
3	EXISTING 400A, 208Y/120V, 3PH, 4W, ELECTRICAL PANEL "B" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/ARCHITECT FOR THE EXACT LOCATION OF ELECTRICAL PANEL "B" IN FIELD.

RISER DIAGRAM GENERAL NOTES

1. RISER DIAGRAM IS FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN THE FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
2. E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION IN THE FIELD IN COORDINATION WITH OWNER/ARCHITECT.
3. E.C. TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK

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

NY ENGINEERS

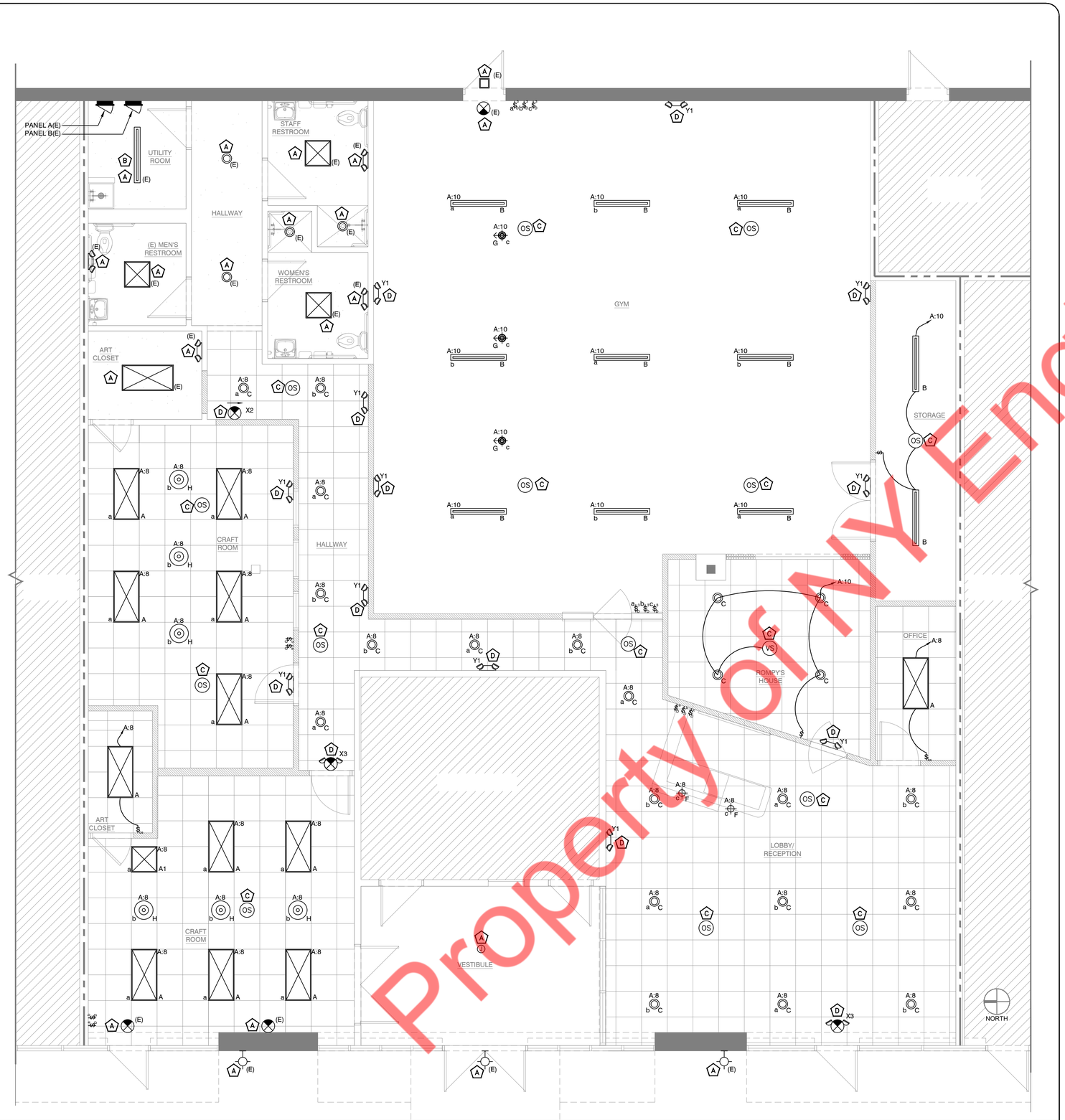
PROJECT

ROMP N' ROLL

REVISIONS DATES:

ELECTRICAL PLAN NOTES & RISER DIAGRAM

E-1



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

LIGHTING PLAN GENERAL NOTES:

1. STEP-DOWN TRANSFORMERS/POWER SUPPLIES AS NEEDED FOR ALL LOW VOLTAGE FIXTURES.
2. MINIMUM FLUORESCENT LAMP COLOR TEMPERATURE SHALL BE 3000K (VERIFY WITH TENANT).
3. SEE LIGHTING PLAN FOR EXIT SIGN CHEVRON REQUIREMENTS.

LIGHTING PLAN KEYED NOTES:

(A) EXISTING LIGHTING FIXTURES AND ASSOCIATED CONTROL AT THIS AREA SHALL REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION OF EXISTING LIGHTING FIXTURE AND CONTROL FOR THIS AREA IN FIELD, REPLACE WITH NEW ONE IF FOUND INOPERABLE.

(B) E.C. TO ENSURE LIGHTING FIXTURE NEAR ELECTRICAL PANEL SHALL NOT BE CONTROLLED VIA ANY AUTOMATIC MEANS AS PER NEC 110.26 (D).

(C) CEILING MOUNTED LOW VOLTAGE OCCUPANCY SENSOR. PROVIDE POWER PACK(S) AS REQUIRED. INTERCONNECT OCCUPANCY SENSORS SO THAT ANY SENSOR WILL TRIGGER ALL LIGHTS. SET OFF TIME FOR 20 MINUTES.

(D) WIRE ALL EMERGENCY/EXIT LIGHTS AHEAD OF OCCUPANCY SENSORS/LOCAL SWITCH

LIGHTING SYMBOL LEGEND

$	SWITCH
$D	DIMMING SWITCH
$OS	WALL MOUNTED OCCUPANCY SENSOR
OS	CEILING MOUNTED OCCUPANCY SENSOR
VS	CEILING MOUNTED VACANCY SENSOR

COORDINATE ALL SWITCHING /DIMMING REQUIREMENTS WITH TENANTS

NY ENGINEERS

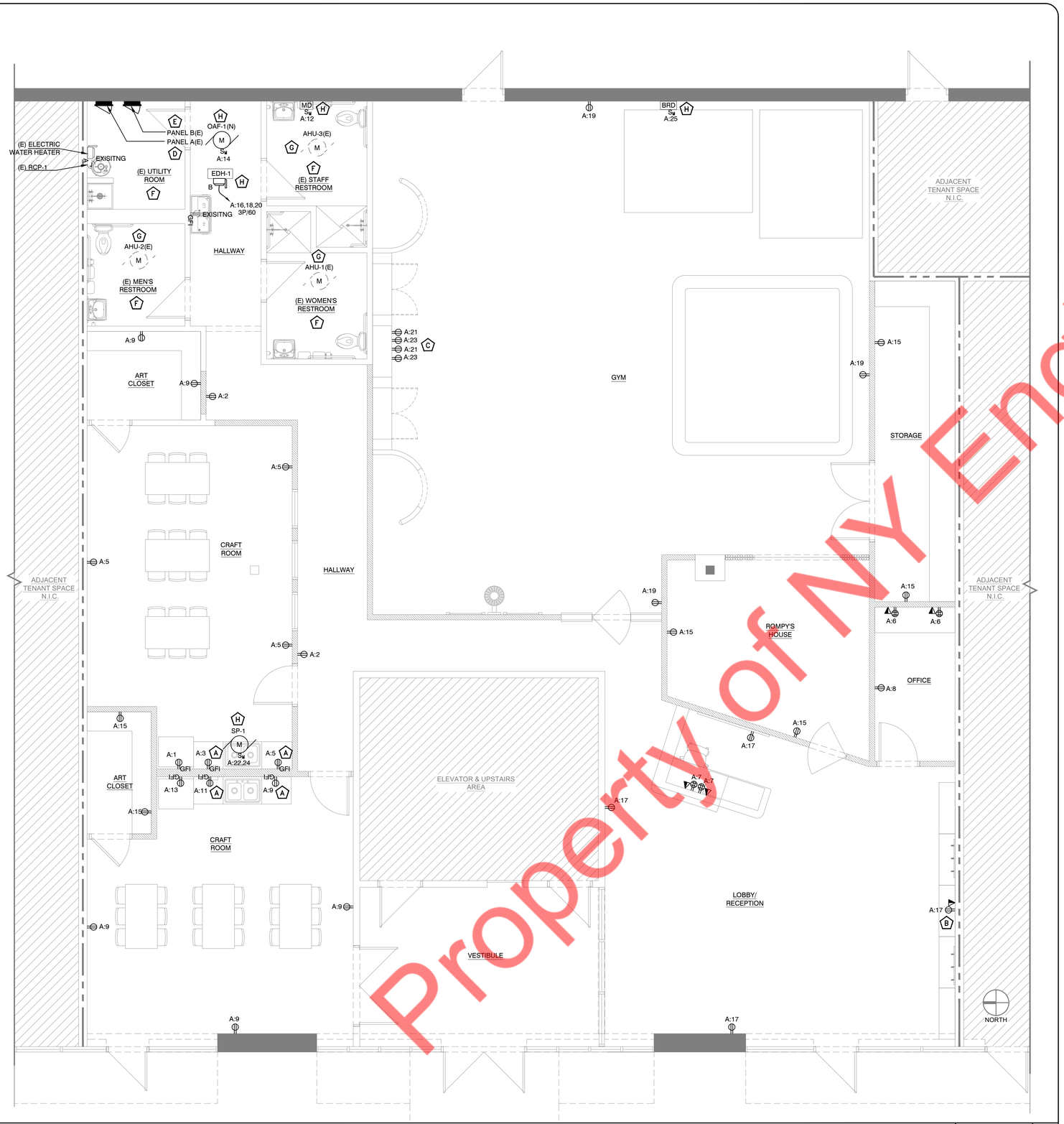
PROJECT

ROMP N' ROLL

REVISIONS DATES:

LIGHTING PLAN

E-2



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

POWER SYMBOL LEGEND

	DUPLEX GFI RECEPTACLE
	DUPLEX RECEPTACLE
	CEILING/FLOOR MOUNTED DUPLEX RECEPTACLE
	208V RECEPTACLE
	NON FUSED DISCONNECT SWITCH
	TEL/DATA COMBINATION
TV	TV OUTLET-WALL MOUNTED
M	AC INDOOR UNIT
	MOTOR SWITCH
	JUNCTION BOX
	ELECTRICAL PANEL

POWER PLAN GENERAL NOTES:

1. COORDINATE WITH ARCHITECT/OWNER FOR FINAL LOCATION OF OUTLET MOUNTING HEIGHTS.
2. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER/EQUIPMENT MANUFACTURER FOR FINAL ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG, CORD, DIRECT CONNECTION, CABLE BREAKER ETC. OF EQUIPMENTS IN FIELD AND PROVIDE THE ELECTRICAL CONNECTION PER MANUFACTURER RECOMMENDATIONS IN FIELD.
3. E.C. SHALL CO-ORDINATE WITH MECHANICAL /PLUMBING CONTRACTOR/EQUIPMENT MANUFACTURER FOR FINAL LOCATION & ELECTRICAL REQUIREMENT IN FIELD & ACCORDINGLY PROVIDE CONNECTION.

POWER PLAN KEYED NOTES:

A. COUNTERTOP RECEPTACLES. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECT/OWNER.

B. OUTLET HEIGHT TO BE COORDINATED WITH TV MOUNTING HEIGHT.

C. ALL POWER IN CASTLE MILLWORK TO BE COORDINATED IN FIELD WITH FCD REP. RECEPTACLES SHALL BE FLUSH WITH INSIDE FINISH OF MILLWORK

D. EXISTING 200A, 208/120V, 3 PH, 4W ELECTRICAL PANELS "A" FOR THE PROJECT SPACE. E.C. TO VERIFY OPERABLE CONDITION OF EXISTING PANEL "A" ON THE FIELD. REPLACE IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.

E. EXISTING 400A, 208/120V, 3 PH, 4W ELECTRICAL PANELS "B" FOR THE PROJECT SPACE. E.C. TO VERIFY OPERABLE CONDITION OF EXISTING PANEL "B" ON THE FIELD. REPLACE IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.

F. EXISTING ELECTRICAL OUTLETS/EQUIPMENTS AND IT'S ASSOCIATED CIRCUIT AT THIS AREA SHALL REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION OF OPERABLE CONDITION OF EXISTING ELECTRICAL OUTLETS/ EQUIPMENTS INCLUDING DISCONNECTS/CIRCUIT BREAKERS/WIRING/CONDUIT. REPLACE WITH NEW ONE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

G. EXISTING MECHANICAL UNITS AND ASSOCIATED CIRCUIT SHALL REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION OF EXISTING CIRCUIT OF MECHANICAL UNITS INCLUDING CIRCUIT BREAKER/DISCONNECT/WIRING/CONDUIT ON FIELD. REPLACE WITH NEW ONE IF FOUND INOPERABLE.

H. E.C. SHALL COORDINATE THE EXACT LOCATION AND EXACT ELECTRICAL REQUIREMENT OF MECHANICAL/PLUMBING EQUIPMENTS WITH MECHANICAL/PLUMBING CONTRACTOR/EQUIPMENT SUPPLIER. PROVIDE THE ELECTRICAL CONNECTION AS PER THE FINAL SELECTION OF MECHANICAL/PLUMBING EQUIPMENTS IN FIELD. BASE BID ACCORDINGLY.

EQUIPMENT DISCONNECTS :

CONTRACTOR TO MAINTAIN A 30" WIDE AND 3'-0" DEEP CLEARANCE AROUND ALL ELECTRICAL DISCONNECTING MEANS FOR ALL EQUIPMENT. CONTRACTOR SHALL ENSURE THERE IS ADEQUATE MAINTENANCE LIGHTING AND A MAINTENANCE RECEPTACLE WITHIN 25' OF THE EQUIPMENT.

NY ENGINEERS

PROJECT

ROMP N' ROLL

REVISIONS DATES:

ELECTRICAL FLOOR PLAN

E-3

ROOF POWER PLAN KEYED NOTES:

(A) EXISTING MECHANICAL EQUIPMENTS AND ASSOCIATED EXISTING BREAKER/BRANCH CIRCUIT/CONDUIT/ WIRING/DISCONNECT TO REMAIN. E.C. TO VERIFY OPERABLE CONDITION OF SAME ON THE FIELD. REPLACE WITH NEW ONE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

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

NY ENGINEERS

PROJECT

ROMP N' ROLL

REVISIONS DATES:

ROOF ELECTRICAL PLAN

E-4

ELECTRICAL PANEL SCHEDULE:-

PANEL:	A (EXISTING)										MOUNTING:	SURFACE
208Y/120	VOLTS,	3	PHASE,		4	WIRE					PANEL LOCATION:	(E) UTILITY ROOM
MAIN CB:	NA	MLO:	200A	BUS:	225A	MIN,					FED FROM:	EXISTING ELECTRICAL SERVICE

NOTE: L : LIGHTING, R : RECEPTACLES, H : HVAC LOAD, M : MOTOR LOAD, E:KITCHEN/EQUIPMENTS, C: REFRIGERATION, O : OTHER/MISC. (TYPICAL)

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	REFRIGERATOR	E	0.50	2#12, #12G, 3/4"C	0.86			2#12, #12G, 3/4"C	0.36	R	HALLWAY RECEPTACLE	20	2
3	20	MICROWAVE	E	1.20	2#12, #12G, 3/4"C		1.92		2#12, #12G, 3/4"C	0.72	R	OFFICE RECEPTACLES	20	4
5	20	CRAFT ROOM RECEPTACLES	R	0.72	2#12, #12G, 3/4"C			0.90	2#12, #12G, 3/4"C	0.18	R	OFFICE RECEPTACLES	20	6
7	20	RECEPTION RECEPTACLES	R	0.72	2#12, #12G, 3/4"C	1.42			2#12, #12G, 3/4"C	0.70	L	LIGHTS	20	8
9	20	CRAFT ROOM RECEPTACLES	R	0.72	2#12, #12G, 3/4"C		1.42		2#12, #12G, 3/4"C	0.70	L	LIGHTS	20	10
11	20	MICROWAVE	E	1.20	2#12, #12G, 3/4"C			1.30	2#12, #12G, 3/4"C	0.10	M	MOTORIZED DAMPER	20	12
13	20	REFRIGERATOR	E	0.50	2#12, #12G, 3/4"C	1.50			2#12, #12G, 3/4"C	1.00	M	OAF-1	20	14
15	20	ROMPY'S HOUSE & STORAGE RECEPTACLES	R	0.72	2#12, #12G, 3/4"C		7.39		3#6, #10G, 3/4"C	6.67	H	EDH-1	3P-60	16
17	20	LOBBY/RECEPTION RECEPTACLES	R	0.72	2#12, #12G, 3/4"C			7.39		6.67	H			18
19	20	GYM RECEPTACLES	R	1.80	2#12, #12G, 3/4"C	8.47				6.67	H			20
21	20	CASTLE RECEPTACLES	R	0.36	2#12, #12G, 3/4"C		1.06		2#12, #12G, 3/4"C	0.70	M	SP-1	2P-20	22
23	20	CASTLE RECEPTACLES	R	0.36	2#12, #12G, 3/4"C			1.06		0.70	M			24
25	20	BAROMETRIC PRESSURE RELIEF (BRD)	M	0.10	2#12, #12G, 3/4"C	0.10						SPARE	20	26
27	20	SPARE					0.00					SPARE	20	28
29	20	SPARE						0.00				SPARE	20	30
31	20	SPARE				0.00						SPARE	20	32
33	20	SPARE					0.00					SPARE	20	34
35	20	SPARE						0.00				SPARE	20	36
37	20	SPARE				0.00						SPARE	20	38
39	20	SPARE					0.00					SPARE	20	40
41	20	SPARE						0.00				SPARE	20	42
					TOTAL CONNECTED LOAD (KVA)	12.35	11.79	10.65						

PANEL SCHEDULE GENERAL NOTES:

A. ALL THE CIRCUITING SHOWN FOR THE EXISTING PANEL "A", IS FOR REFERENCE PURPOSE ONLY.

B. ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.

NY ENGINEERS

PROJECT

ROMP N' ROLL

REVISIONS DATES:

ELECTRICAL PANEL SCHEDULE

E-5

EXISTING CONTIDITONS 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 ETC.

SCOPE OF WORK

PROVIDE ALL PLUMBING FOR SKILL DEVELOPMENT FACILITY INCLUDING ALL WATER, VENT & SANITARY LINES AND CONNECT TO EXISTING UTILITIES. PROVIDE HOT WATER RETURN LINES TO NEW FIXTURE.

COORDINATE WITH GC AND MECH CONTRACTOR FOR ANY REQUIRED CONDENSING WATER LINES.

FIXTURE BRANCH SCHEDULES

FIXTURE	COLD WATER	HOT WATER	HOT WATER RETURN	WASTE	VENT
CRAFT ROOM SINK	1/2"	1/2"	1/2"	2"	1½"

PLUMBING FIXTURE SCHEDULE

Item No.	Qty.	Description	MANUFACTURER	MODEL	WATER Hot	WATER Cold	WASTE Direct
A	2	CRAFT ROOM SINK	TO BE SELECTED BY ARCHITECT		1/2"	1/2"	2"
B	3	LAVATORY	EXISTING TO REMAIN	EXISTING TO REMAIN			E
	3	LAVATORY FAUCET	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	
C	3	WATER CLOSET	EXISTING TO REMAIN	EXISTING TO REMAIN		E	E
D	1	MOP SINK	EXISTING TO REMAIN	EXISTING TO REMAIN			E
	1	MOP SINK FAUCET	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	
E	1	DRINKING FOUNTAIN	EXISTING TO REMAIN	EXISTING TO REMAIN		E	E
WH-E	1	WATER HEATER	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	
RCP	1	RECIRCULATION PUMP	EXISTING TO REMAIN	EXISTING TO REMAIN			
F	2	SHOWER	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E	E
SP-1	1	SUMP PUMP	REFER SP-1 SCHEDULE	REFER SP-1 SCHEDULE			2"

+ HOT WATER 140 DEG

PLUMBING 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 APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE GROUP AS PER CODE AND 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.
20. STUDOR MINI/MAXI AIR ADMITTANCE VALVES MAY NOT BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF.
21. PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
22. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
23. NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
24. 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.
25. 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.
26. PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
27. NO JOINTS UNDERGROUND FOR COPPER.
28. PLUMBING FIXTURES SHALL COMPLY WITH 2021 INTERNATIONAL PLUMBING CODE.
29. WATER HAMMER ARRESTORS AS PER 2021 INTERNATIONAL PLUMBING CODE.
30. 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.
33. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.

PLUMBING LEGEND

—SAN—	SANITARY SEWER PIPING
—V—	VENT PIPING
	DOMESTIC COLD WATER PIPING
	HOT WATER PIPING
EX.CW	EX. DOMESTIC COLD WATER PIPING
EX.HW	EX. HOT WATER PIPING
	HOT WATER RETURN PIPING
	PIPE UP
	PIPE DOWN
	BALANCING VALVE
	P-TRAP
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
EX. (E)	EXISTING
PD	PUMP DISCHARGE
	ISOLATION VALVE
	CHECK VALVE
	POINT OF CONNECTION
	THERMOSTATIC MIXING VALVE

NY ENGINEERS

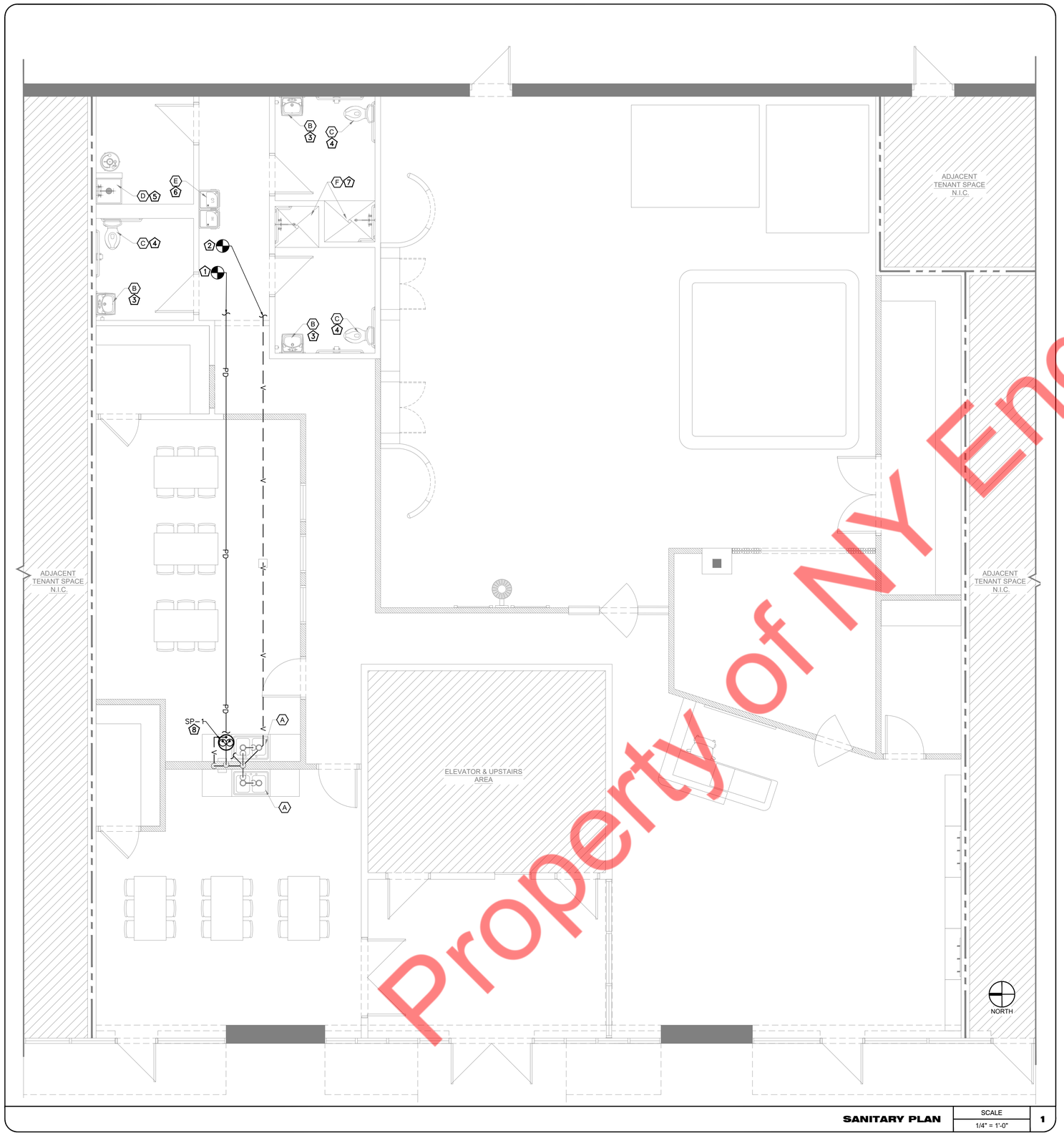
PROJECT

ROMP N' ROLL

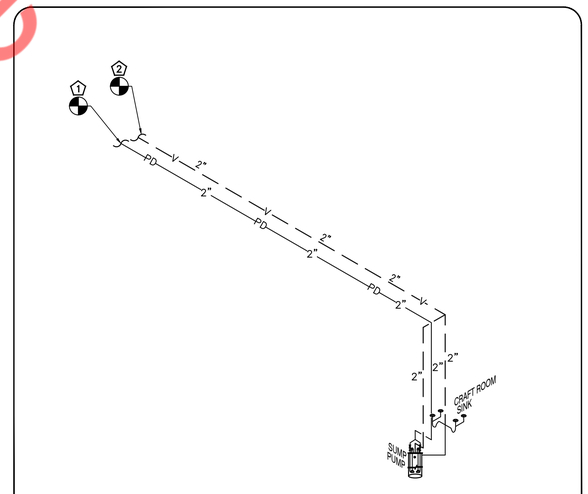
REVISIONS DATES:

PLUMBING NOTES & DETAILS

P-1



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



SANITARY RISER — SCALE N.T.S. — 2

SANITARY KEY NOTE

1. CONNECT NEW 2" SUMP PUMP DISCHARGE TO EXISTING 4" SANITARY LINE AT SPACE AS PER 2021 IPC, SEC 712.3.5. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION, SIZE, INVERT AND FLOW DIRECTION OF EXISTING SANITARY LINE.
2. CONNECT NEW 2" VENT PIPE TO EXISTING VENT PIPING OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY FOR EXACT LOCATION AND SIZE OF EXISTING VENT PIPE.
3. EXISTING LAVATORY TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
4. EXISTING WATER CLOSET TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
5. EXISTING MOP SINK TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
6. EXISTING DRINKING FOUNTAIN TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
7. EXISTING SHOWER TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
8. SUMP PUMP(SP-1) PLACED UNDER THE CRAFT ROOM SINK. ROUTE SANITARY DRAIN FROM THE CRAFT ROOM SINK TO THE SUMP PUMP (SP-1).

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, SLOPE OF DRAINAGE SYSTEM TO BE 1/8" PER FOOT OF RUN FOR PIPE 4" OR LARGER AND 1/4" PER FOOT FOR PIPE SMALLER THAN 4".
2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
2. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
4. ALL CLEANOUTS TO BE ACCESSIBLE.
5. CONTRACTOR TO VERIFY THE EXISTING SANITARY AND VENT LOCATION AND ROUTING. MAKE NECESSARY CHANGES TO NEW PIPING AS PER THE EXISTING SITE CONDITION.
7. EXISTING SANITARY/VENT PIPES FROM EXISTING DEMOLISHED FIXTURE/ EQUIPMENT TO BE CAPPED NEAR THE FIXTURE/ EQUIPMENT.

SUMP PUMP SCHEDULE

TAG	QUANTITY	DISCHARGE	GPM	TDH (FT)	HP	VOLTAGE	PHASE	MANUFACTURE & MODEL
SP-1	1	2"	20	25	1/2	208/230	1	LIBERTY 405-HV

NY ENGINEERS

PROJECT

ROMP N' ROLL

REVISIONS DATES:

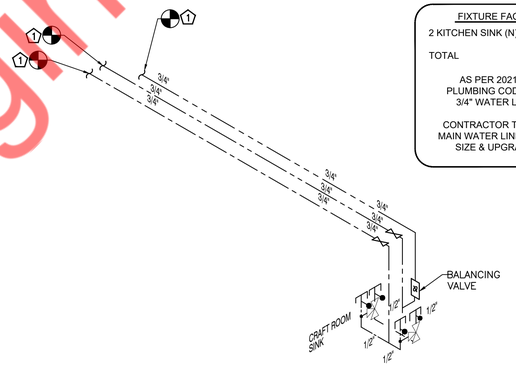
SANITARY PLAN & RISER

P-2

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

GENERAL NOTES

1. CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE C404.4.
2. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
3. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
4. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
5. EXISTING WATER HEATER DRAIN SHOULD BE REMAIN AS IT IS.
6. REUSE EXISTING WATER PIPING FOR EXISTING FIXTURES. IF THE EXISTING PIPING IS NOT IN GOOD CONDITION THEN CONTRACTOR TO REPLACE THE EXISTING PIPING AT SAME LOCATION WITH SAME DIAMETER OF PIPE.
7. EXISTING WATER PIPE FROM DEMOLISHED FIXTURES TO BE CAPPED AT CEILING NEAR THE FIXTURE.



FIXTURE FACTOR VALUE *	
2 KITCHEN SINK (N)@3	= 6
TOTAL	= 6

AS PER 2021 INTERNATIONAL PLUMBING CODE, *TABLE E103.3(2) 3/4" WATER LINE IS REQUIRED.

CONTRACTOR TO FIELD VERIFY THE MAIN WATER LINE AND WATER METER SIZE & UPGRADE IF REQUIRED.

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

EXISTING WATER HEATER SCHEDULE

MANUFACTURER	RHEEM
MODEL	ELDS30-C
EQUIPMENT TAG	WH
STATUS	EXISTING
CAPACITY	30 GALLONS
QUANTITY	1
KW	4.5
VOLTAGE	240
PHASE	3

NOTES :

1. CONTRACTOR TO FIELD IN VERIFY THE OPERATING CONDITION OF THE EXISTING WATER HEATER AND NOTIFY THE ENGINEER IF NOT IN OPERATING CONDITION ALSO FIELD VERIFY ELECTRICAL POWER REQUIREMENTS AND COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE COMMENCING THE BID.
2. EXISTING RECIRCULATION PUMP REMAIN AS IT IS. PROVIDE NEW IF NOT EXISTING.
3. INSTALL NEW EXPANSION TANK AMTROL MODEL THERM-X-TROL ST-5, 2.0 GAL PER LOCAL CODE REQUIREMENTS IF NOT EXISTING.
4. CONTRACTOR TO VERIFY THE EXACT SPECIFICATION OF THE EXISTING WATER HEATER IN THE FIELD.

WATER KEY NOTES

1. CONNECT NEW 3/4" CW/HW/HWR LINE TO EXISTING CW/HW/HWR LINE IN SPACE. CONTRACTOR T FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING CW/HW/HWR LINE IN FILED AND UPGRADE IF REQUIRED.
2. EXISTING LAVATORY TO BE REMAIN WITH EXISTING CW,HW & HWR CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
3. EXISTING WATER CLOSET TO BE REMAIN WITH EXISTING CW CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
4. EXISTING MOP SINK TO BE REMAIN WITH EXISTING CW & HW CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
5. EXISTING WATER HEATER TO BE REMAIN WITH EXISTING RECIRCULATION PUMP AND EXPANSION TANK, WATER PIPING AND ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING WATER HEATER AND PROVIDE NECESSARY ACCESSORIES IF REQUIRED. PROVIDE RECIRCULATION PUMP AND EXPANSION TANK IF NOT EXISTING.
6. EXISTING DRINKING FOUNTAIN TO BE REMAIN WITH EXISTING CW CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
7. EXISTING SHOWER TO BE REMAIN WITH EXISTING CW,HW & HWR CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.

RECIRCULATION PUMP SCHEDULE

MANUFACTURER & MODEL	GRUNDFOS UP-15-18 B5
EQUIPMENT TAG	RCP
STATUS	NEW
GPM	2
WATER TEMP.(°F)	140
PUMP TYPE	INLINE
MHP	86 WATTS
V/PH/HZ	115/1/60
RPM	2280
SERVICE FACTOR	1.0

EXPANSION TANK SCHEDULE

MANUFACTURER & MODEL	THERM-X-TROL ST-5
EQUIPMENT TAG	ET
STATUS	NEW
TANK VOLUME	2 GALLONS
DIMENSIONS	8" DIA X 13" H
SHIPPING WEIGHT	5 LBS

NY ENGINEERS

PROJECT

ROMP N' ROLL

REVISIONS DATES:

WATER PLAN & WATER RISER

P-3