MECHANICAL GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE PURCHASED AND INSTALLED IN ACCORDANCE WITH ALL NATIONAL & NEW YORK STATE CODES AND REGULATIONS (AS WELL AS ALL APPLICABLE LOCAL CODES & REGULATIONS), THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL HVAC WORK IS PROVIDED AND INSTALLED IN STRICT ACCORDANCE WITH SEISMIC REQUIREMENTS.
2. DO NOT SCALE FROM THESE DRAWINGS.
3. THE EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, ARCHITECTURAL AND STRUCTURAL SYSTEMS. DURING SHOP DRAWINGS SUBMISSIONS, SHOW ALL MOUNTING HEIGHTS OF DUCTWORK, UNITS, ETC.
4. VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL DESIGN PRIOR TO ORDERING EQUIPMENT.
5. PROVIDE PHASE LOSS PROTECTION FOR ALL POLY-PHASE MOTOR DEVICES.
6. DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE ASHRAE, NFPA, AND SMACNA GUIDE RECOMMENDATIONS. ALL DUCTS TO HAVE PITTSBURGH TYPE LOCK FOR LONGITUDINAL SEAMS AND DRIVE SLIP / "S" SLIP FOR TRANSVERSE JOINTS. "DUCT-MATE" JOINT SYSTEM IS ACCEPTABLE IN LIEU OF PRIOR SEAM SYSTEMS. SIZES AS SHOWN INDICATE INSIDE CLEAR DIMENSIONS OF THE AIR PASSAGE. DUCTWORK SHALL BE FULLY INSULATED AS PER APPLICABLE CODES AND WRITTEN SPECIFICATIONS.
7. DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION AS LONG AS EFFECTIVE CROSS-SECTIONAL AREA IS MAINTAINED. DUCT TRANSITIONS SHALL BE CONSTRUCTED WITH A SLOPE OF 1" TO 4". ALL DEVIATIONS FROM ORIGINAL CONTRACT DRAWINGS SHALL BE REVIEWED BY ENGINEER DURING THE SHOP DRAWING PROCESS.
8. PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO PROPERLY BALANCE EACH INDIVIDUAL AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF THE BALANCING DAMPER IS NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUMS STANDARDS SHALL GOVERN. ALL SUPPLY, RETURN, AND EXHAUST MAIN BRANCHES FROM TRUNKS, EACH SPLIT AND ALL SUB- BRANCHES FROM MAIN SHALL INCORPORATE BALANCING DAMPERS.
9. PROVIDE FLEXIBLE CONNECTORS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTORS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
10. PROVIDE FIRE DAMPERS WITH RATED ACCESS DOORS AT ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS, SMOKE AND FIRE STOPPING, SHAFT, FLOORS, RATED CEILINGS AND PARTITIONS AS REQUIRED TO MAINTAIN ARCHITECTURAL FIRE RATINGS. REFER TO THE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR LOCATIONS AND FIRE RATING REQUIREMENTS. CONTRACTOR MUST FULLY REVIEW ALL ARCHITECTURAL AND ENGINEERING DRAWINGS AND VISIT THE SITE PRIOR TO SUBMITTING THE BID. NO EXTRAS WILL BE ALLOWED.
11. ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED HVAC EQUIPMENT, VALVES AND OTHER RELATED EQUIPMENT. THE CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
12. ALL CEILING MOUNTED EQUIPMENT MUST BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH COMBINATION SPRING AND NEOPRENE-IN-SHEAR HANGERS AND ROD. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT THE LOAD.
13. THE CONTRACTOR MUST CONTRACT AN INDEPENDENT NEBB CERTIFIED AIR BALANCING & TESTING COMPANY TO PERFORM THE AIR BALANCING WORK AND ASSOCIATED SYSTEM AIR BALANCING REPORT. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS, PLANS AND WRITTEN SPECIFICATIONS. SUBMIT THE FINAL AIR BALANCE REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, AS DETERMINED BY THE AND OWNER/CLIENT. THE AIR BALANCE REPORT MUST INCLUDE ALL SUPPLY, RETURN, & EXHAUST AIR TERMINALS, FRESH AIR (OUTSIDE AIR) INTAKE AND VENTILATION EXHAUST CFM RATES FOR ALL UNITS. ALSO INCLUDE ACTUAL SUPPLY & RETURN AIR VELOCITY & STATIC PRESSURE READINGS ALONG WITH ALL MOTOR AMPERAGES FOR ALL UNITS.
14. THE CONTRACTOR IS TO INCLUDE IN THEIR BID ALL LOW VOLTAGE CONTROL WIRING, THERMOSTATS, RELAYS, TRANSFORMERS, STARTERS ETC FOR A COMPLETE OPERATING CONTROL SYSTEM AS DESCRIBED IN THE SEQUENCE OF OPERATIONS, THE CONTRACTOR IS ALSO RESPONSIBLE FOR LINE VOLTAGE CONTROL FOR EXHAUST FANS CONTROLLED FROM LIGHT SWITCH AND THERMOSTATS. ALL CONTROL WIRING IN THE AREAS THAT DO NOT HAVE DROPPED CEILINGS THE CONTRACTOR MUST PROVIDE ALL CONTROL WIRING CONDUIT. IN AREAS OF DROPPED CEILING PLENUM RATED CONTROL WIRING CAN BE RUN EXPOSED ABOVE CEILING.
15. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS/SPECIFICATIONS.

CODE REFERENCE

2020 NEW YORK STATE BUILDING CODE
2020 NEW YORK STATE MECHANICAL CODE
2020 NEW YORK STATE ENERGY CONSERVATION CODE

MECHANICAL DEMOLITION NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION OF MECHANICAL EQUIPMENT AND MATERIAL RELATING TO THEIR RESPECTIVE TRADE.
2. THE CONTRACTOR SHALL REMOVE, RELOCATE, REPLACE, ADJUST, ADAPT AND MODIFY EXISTING EQUIPMENT AND/OR SYSTEMS AS REQUIRED WHEN SUCH WORK IS UNCOVERED AND FOUND TO INTERFERE WITH COMPLETION OF WORK IN THIS CONTRACT OR OTHER CONTRACT WORK.
3. EXECUTE THE DEMOLITION IN CAREFUL AND ORDERLY MANNER WITH THE LEAST POSSIBLE DISTURBANCE TO THE PUBLIC, EGRESS OR THE FUNCTIONING OF THE EXISTING BUILDING.
4. TAKE NECESSARY PRECAUTIONS TO PREVENT DUST AND DIRT FROM RISING BY WETTING DEMOLISHED DEBRIS. EXCESSIVE USE OF WATER WILL NOT BE PERMITTED.
5. PRIOR TO DEMOLITION, CONTRACTOR SHALL REVIEW WITH OWNER ALL MATERIALS TO BE REMOVED, SHOULD THE OWNER WANT TO KEEP ANY MATERIALS THE CONTRACTOR SHALL REMOVE AND DELIVER THE PARTS TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND BE DISPOSED OF IN A LEGAL MANNER.
6. DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE.
7. WHERE CONDITIONS PROHIBIT TOTAL REMOVAL OF THE WORK, THE REMAINING PORTION SHALL BE CUT FLUSH WITH THE SURROUNDING SURFACE AND BE CAPPED, PLUGGED OR SEALED AND THE SURROUNDING SURFACE SHALL BE REFINISHED IN AN APPROVED MANNER.
9. DO NOT REMOVE EXISTING STRUCTURAL WORK. DO NOT REMOVE OPERATIONAL ELEMENTS AND SAFETY-RELATED COMPONENTS IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED OR RESULTING IN DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY.
10. REMOVALS, DISCONNECTIONS, AND RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE INVOLVED AND SHALL BE EMPLOYED BY A CONTRACTOR LICENSED IN THE TRADE INVOLVED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ACCEPTED TRADE PRACTICES.
11. PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK TO REMAIN, TO PREVENT FAILURE. DO NOT ENDANGER OTHER WORK.
12. PROTECTION: PROVIDE ADEQUATE PROTECTION WHERE REQUIRED FOR THE PRESENT BUILDING AND ITS CONTENTS. TEMPORARY DUSTPROOF BARRIERS AND BARRICADES SHALL BE ERECTED WHERE REQUIRED FOR PROTECTION OF PERSONNEL, PROTECTION FROM DUST AND DIRT, FOR SECURITY, FIRE AND WEATHER PROTECTIVE REASONS.
13. CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST FIRE BY EMPLOYING FIRE DEPARTMENT TYPE HOSES AND PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY OSHA AND/OR THE OWNER'S INSURANCE UNDERWRITER.
14. BEFORE STARTING DEMOLITION OPERATIONS, PROVIDE THE NECESSARY PROTECTIVE DEVICES, WHERE REQUIRED, AND IN STRICT ACCORDANCE WITH OSHA RULES AND REGULATIONS.
14. USE TEMPORARY ENCLOSURES, OR OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING TO LOWEST PRACTICAL LEVEL. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
15. FIELD VERIFY DEMOLITION REQUIREMENTS AND EXISTING CONDITIONS. DEMOLITION NOTES ARE INDICATED IN NOTE FORM.
16. CONTRACTOR SHALL ESTABLISH A PATH OF TRAVEL AND TIME SCHEDULE FOR THE REMOVAL OF ALL DEBRIS AND WASTE, AND HAVE THIS APPROVED BY OWNER. CONTRACTOR IS TO ENSURE THAT ALL CORRIDORS AND PUBLIC AREAS BE KEPT FREE OF OBSTRUCTIONS, DEBRIS, AND ARE TO BE BROOM SWEPT CLEAN AT ALL TIMES.
17. CONTRACTOR SHALL VISIT THE SITE AND BECOME INFORMED AS TO THE CONDITION OF THE PREMISES AND THE EXTENT AND CHARACTER OF WORK REQUIRED. NO ADDITIONAL COMPENSATION WILL BE APPROVED DUE TO FIELD CONDITIONS.

NYSECC ENERGY COMPLIANCE STATEMENT:

PER SECTION C101.7 OF THE 2020 NYSECC HISTORIC BUILDINGS ARE EXEMPT FROM THE REQUIREMENTS OF THE ENERGY CODE.

HVAC SYMBOL LIST

IDENTIFIER	DESCRIPTION
	NEW DUCTWORK OR PIPING
	EXISTING DUCTWORK OR PIPING TO BE REMOVED
	EXISTING DUCTWORK OR PIPING TO REMAIN
24X12 / 24X12	DOUBLE-LINE AND SINGLE-LINE RECTANGULAR DUCT, FIRST NUMBER INDICATES SIDE IN VIEW IN INCHES, SECOND NUMBER INDICATES SIDE IN DEPTH IN INCHES
	FLEXIBLE DUCTWORK
	REGULAR SUPPLY AIR DUCT (UP AND DOWN)
	REGULAR RETURN AIR DUCT (UP AND DOWN)
	REGULAR EXHAUST AIR DUCT (UP AND DOWN)
	REGULAR OUTSIDE AIR DUCT (UP AND DOWN)
VD	VOLUME DAMPER
BD	BACKDRAFT DAMPER
FD	FIRE DAMPER
	MOTORIZED DAMPER
XXX / XX	EQUIPMENT TAG EQUIPMENT NUMBER
XXX / X-XXX	DETAIL TAG/CALL OUT TAG MECHANICAL SHEET NUMBER
T	THERMOSTAT
	EXHAUST GRILLE
F#	REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)

HVAC ABBREVIATIONS

IDENTIFIER	DESCRIPTION
AC	DIRECT EXPANSION AIR CONDITION UNIT
CFM	CUBIC FEET PER MINUTE
COND	CONDENSATE
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
DB	DRY BULB
DN	DOWN
EA	EXHAUST AIR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EUH	ELECTRIC UNIT HEATER
EER	ENERGY EFFICIENCY RATIO
EG	EXHAUST GRILLE
FAI	FRESH AIR INTAKE
FD	FIRE DAMPER
GC	GENERAL CONTRACTOR
MBH	THOUSAND BTU PER HOUR
PC	PLUMBING CONTRACTOR
RG	RETURN GRILLE
RGL	REFRIGERANT GAS LINE
RLL	REFRIGERANT LIQUID LINE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
TYP.	TYPICAL
VIF	VERIFY IN FIELD

SCOPE OF WORK

DEMOLITION

1. REMOVE TWO (2) EXISTING WINDOW AC UNITS AS INDICATED.
2. REMOVE ONE (1) ELECTRIC UNIT HEATER AND ASSOCIATED SUPPORTS, WIRING AND ACCESSORIES.

CONSTRUCTION

1. PROVIDE ONE (1) NEW OUTDOOR SPLIT CONDENSER AIR CONDITIONER UNIT ON CONCRETE PAD AS INDICATED.
2. PROVIDE TWO (2) NEW WALL MOUNTED INDOOR UNITS AS INDICATED.
3. PROVIDE TWO (2) NEW EXHAUST FANS AND ASSOCIATED LOUVERS AS INDICATED.
4. PROVIDE ONE (1) NEW WALL MOUNTED ELECTRIC UNIT HEATER AS INDICATED.

MECHANICAL DRAWING LIST

SHEET NO.	SHEET NAME	REVISON NO.	REVISION DATE
CXA-M-01	MECHANICAL NOTES, SYMBOLS & LEGENDS	0	-
CXA-M-11	MECHANICAL 1ST FLOOR DEMOLITION PLAN	0	-
CXA-M-21	MECHANICAL 1ST FLOOR CONSTRUCTION PLAN	0	-
CXA-M-61	MECHANICAL SCHEDULES	0	-
CXA-M-81	MECHANICAL DETAILS	0	-
CXA-M-91	MECHANICAL CONTROLS	0	-

NATURAL VENTILATION SCHEDULE

SPACE DETAILS			DESIGN			
ROOM	AREA (SF)	4% FLOOR AREA (SF)	WINDOW FREE AREA (SF)	DOOR AREA (SF)	TOTAL OPENABLE AREA (SF)	NOTES
105 OFFICE	310	12	25	21	46	1,2
107 MAIN STORAGE	468	19	8	42	50	1,2

NOTES:
1. NEW YORK STATE MECHANICAL CODE.
2. NATURAL VENTILATION OF AN OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, LOUVERS, AND OTHER OPENINGS TO THE OUTDOORS. THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.

TABLE 1: ENERGY CODE ANALYSIS TABLE FOR MECHANICAL SYSTEMS

(PER 2020 NYS ENERGY CODE)

ITEM DESCRIPTION			PROPOSED VALUE	MINIMUM EFFECIENCY	CODE PRECRIBED VALUE AND CITATION	CITATION	SUPPORTING DOCUMENTATION
	UNIT TAG	EQUIPMENT TYPE					
HVAC EQUIPMENT PERFORMANCE	AC-1, AC-2, CU-1	SPLIT SYSTEM HEAT PUMP	HSPF = 12.0 SEER=22.0	HSPF = 8.2 SEER=14.0	MINIMUM EFFICIENCY REQUIREMENTS: ELECTRICALLY OPERATED UNITARY AIR CONDITIONERS AND CONDENSING UNITS < 65,000 Btu/hb	C403.2.3(1)	MECHANICAL SCHEDULES
HVAC SYSTEM CONTROLS	ALL HEATING COOLING EQUIPMENT	THERMOSTATIC CONTROLS	DIGITAL THERMOSTATS	-	THERMOSTATIC CONTROLS FOR HVAC SYSTEM	C403.2.6	MECHANICAL SCHEDULES AND PLANS
SHUTOFF DAMPERS			GRAVITY/BACKDRAFT DAMPERS PROVIDED IN LIEU OF MOTORIZED DAMPER MOTORIZED DAMPERS PER EXCEPTIONS 1 AND 3	-	BACDRAFT DAMPER INSTALLED AT EXHAUST OPENINGS	C403.7.7	MECHANICAL SCHEDULES AND PLANS
DUCT LEAKAGE			SMACNA HVAC DUCT LEAKAGE TEST	-	SMACNA HVAC DUCT LEAKAGE TEST	PER C403	MECHANICAL DWGS. & SPECS

TABLE 2: ENERGY CODE COMPLIANCE INSPECTIONS FOR MECHANICAL SYSTEMS

(IIB - MECHANICAL AND SERVICE WATER HEATING INSPECTIONS)

	INSPECTION TEST	FREQUENCY	REFERENCE STANDARDS	INSPECTION DESCRIPTION	ECC CITATION
IIB2	SHUT-OFF DAMPERS	AS REQUIRED DURING INSTALLATION	APPROVED CONSTRUCTION DOCUMENTS	DAMPERS FOR STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE VISUALLY INSPECTED TO VERIFY THAT SUCH DAMPERS, EXCEPT WHERE PERMITTED TO BE GRAVITY DAMPERS, COMPLY WITH APPROVED CONSTRUCTION DRAWINGS. MANUFACTURER'S LITERATURE SHALL BE REVIEWED TO VERIFY THAT THE PRODUCT HAS BEEN TESTED AND FOUND TO MEET THE STANDARD.	NYSECC C403.2.4.4, OR ASHRAE 90.1-6.4.3.4
IIB3	HVAC AND SERVICE WATER HEATING EQUIPMENT	PRIOR TO FINAL MECHANICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	EQUIPMENT SIZING, EFFICIENCIES AND OTHER PERFORMANCE FACTORS OF ALL MAJOR EQUIPMENT UNITS, AS DETERMINED BY THE APPLICANT OF RECORD, AND NO LESS THAN 15% OF MINOR EQUIPMENT UNITS, SHALL BE VERIFIED BY VISUAL INSPECTION AND, WHERE NECESSARY, REVIEW OF MANUFACTURER'S DATA. POOL HEATERS AND COVERS SHALL BE VERIFIED BY VISUAL INSPECTION	NYSECC C403.2, C404.2, C404.7, C406.2
IIB4	HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION, EXCEPT THAT FOR CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY, SUCH TESTING SHALL BE PERFORMED BEFORE SIGN-OFF FOR ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS INCLUDING CONTROL SYSTEM NARRATIVES	NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS AND ECONOMIZERS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION. SUCH CONTROLS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THERMOSTATIC AND ECONOMIZER CONTROLS	NYSECC C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7
IIB6	HVAC DUCT LEAKAGE TESTING	PRIOR TO CLOSING CEILINGS AND WALLS AND PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS; NYC MECHANICAL CODE	WHERE THE AIR HANDLER AND/OR SOME DUCTWORK IS IN UNCONDITIONED SPACE, DUCT-LEAKAGE TESTING SHALL BE PERFORMED EITHER AFTER ROUGH-IN OR POST-CONSTRUCTION TO ENSURE COMPLIANCE WITH ECC R403.3.3 AND R403.3.4. NOT LESS THAN 20% OF SUCH DUCTWORK SHALL BE TESTED	NYSECC C403

CONSULTANT INFORMATION
LiRo Engineers, Inc.
A LiRo Group Company
Syosset, N.Y. 516-214-8157[T]

CONSULTANT SEAL
STATE OF NEW YORK — FRANK E. LICCIONE — No. 090111-1 — LICENSED PROFESSIONAL ENGINEER

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
☐ AS BUILT – CHANGES AS NOTED ☐ AS BUILT – NO CHANGES

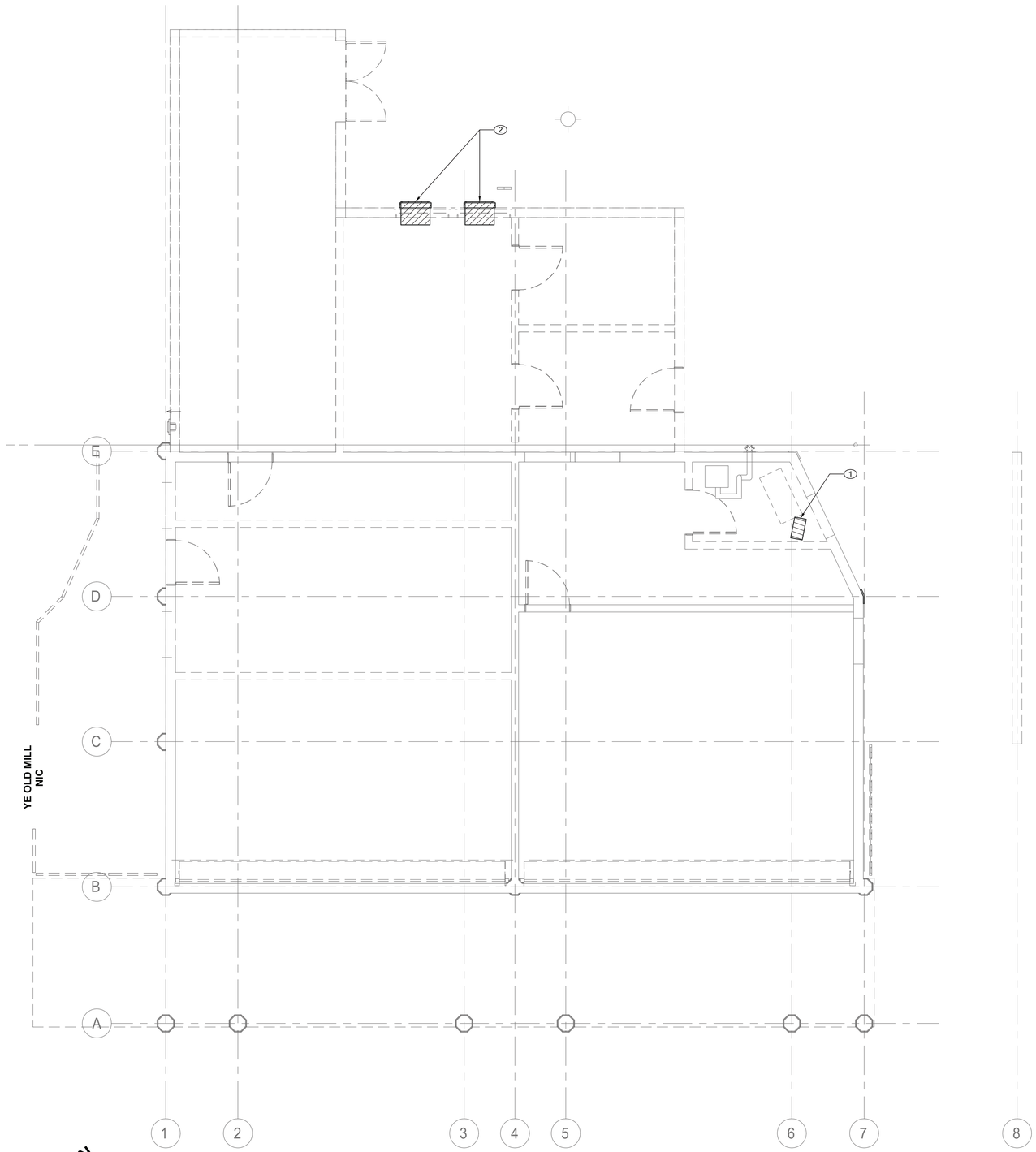
CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

INFRASTRUCTURE REHABILITATION - PHASE 3
PLAYLAND PARK, RYE, NEW YORK
CROSS AXIS BUILDING A
MECHANICAL NOTES, SYMBOLS AND LEGENDS

CONTRACT NUMBER: 22-523
SHEET NUMBER: CXA-M-01
DWG. NO.: 158 of 664
SCALE: AS INDICATED
DATE: 08/23/2022
DPW FILE NUMBER: 1-118-M-907-0
REV. NO.: 0



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MECHANICAL FIRST FLOOR DEMOLITION PLAN

SCALE: 1/4" = 1'-0

GENERAL NOTES:

1. RETURN REMOVED EXISTING EQUIPMENT TO OWNER IF IT IS IN WORKING CONDITION.
2. CONTRACTOR TO COORDINATE WITH FACILITY WHEN WORKING AROUND OR ABOVE THE RIDE COMPONENTS, AND PROVIDE ALL NECESSARY MEASURES TO PROTECT THESE COMPONENTS PER THE REQUIREMENTS OF THE FACILITY.

MECHANICAL DEMOLITION NOTES:

(1) DEMOLISH EXISTING ELECTRIC UNIT HEATERS AND ASSOCIATED SUPPORTS, WIRING AND ACCESSORIES. COORDINATE REMOVAL OF ELECTRICAL POWER AND WIRING WITH ELECTRICAL CONTRACTOR.

(2) REMOVE EXISTING WINDOW AC UNIT. IF NO LONGER IN WORKING CONDITION, DISPOSAL SHALL BE IN ACCORDANCE WITH EPA REQUIREMENTS.

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A LiRo Group Company
Syosset, N.Y. 516-214-8157[T]

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SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

INFRASTRUCTURE REHABILITATION - PHASE 3
PLAYLAND PARK, RYE, NEW YORK
CROSS AXIS BUILDING A
MECHANICAL FIRST FLOOR DEMOLITION PLAN

CONTRACT NUMBER	22-523
SHEET NUMBER	CXA-M-11
DWG NO.:	159 of 664
SCALE:	AS INDICATED
DATE:	08/23/2022
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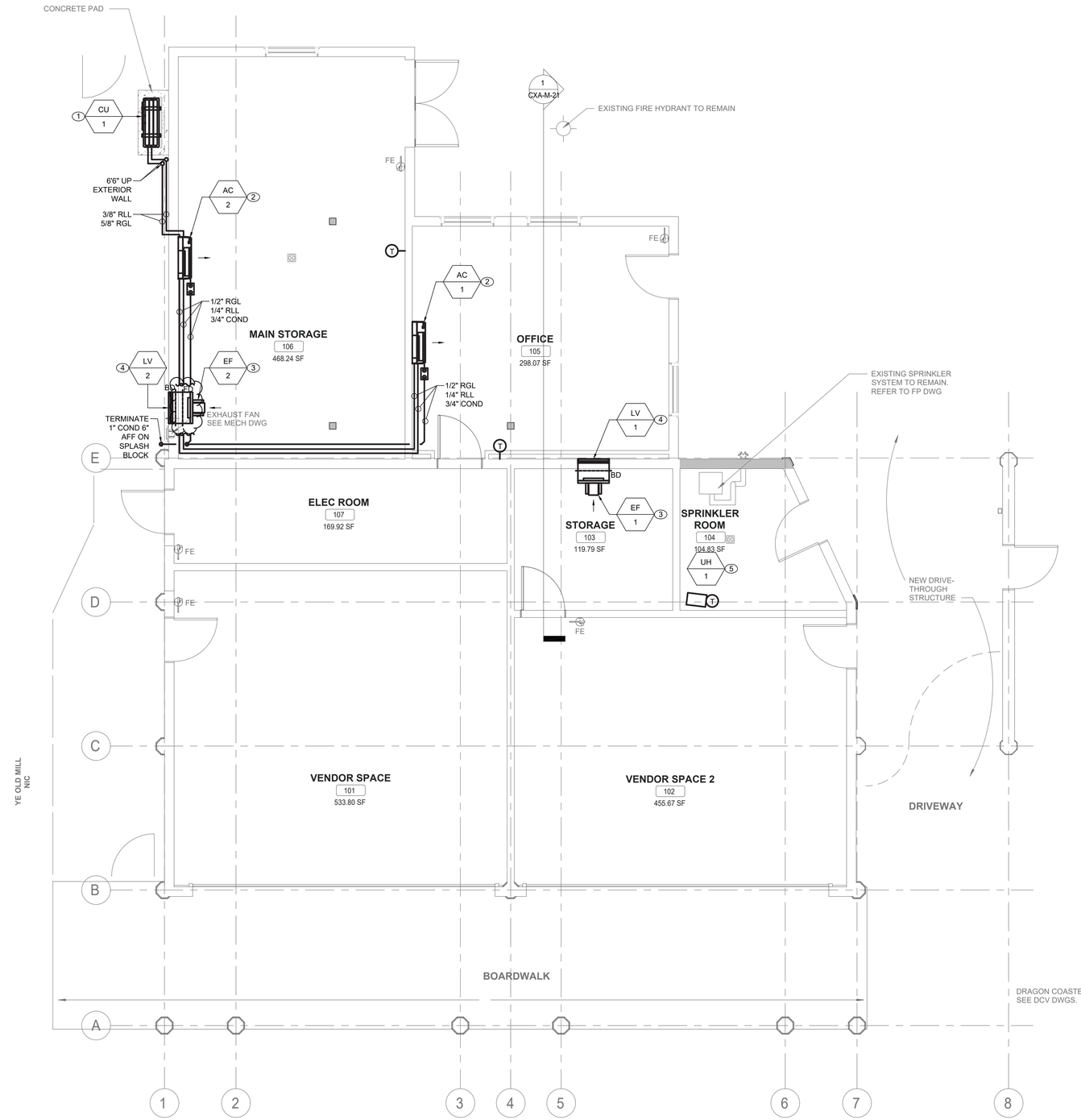
REV. NO.	0



MECHANICAL FIRST FLOOR CONSTRUCTION PLAN

SCALE: 1/4" = 1'-0

GENERAL NOTES:

1. CONTRACTOR TO COORDINATE WITH FACILITY WHEN WORKING AROUND OR ABOVE THE RIDE COMPONENTS, AND PROVIDE ALL NECESSARY MEASURES TO PROTECT THESE COMPONENTS PER THE REQUIREMENTS OF THE FACILITY.
2. UPON COMPLETION, SYSTEM SHALL BE TESTED FOR PROPER OPERATION.

MECHANICAL CONSTRUCTION NOTES:

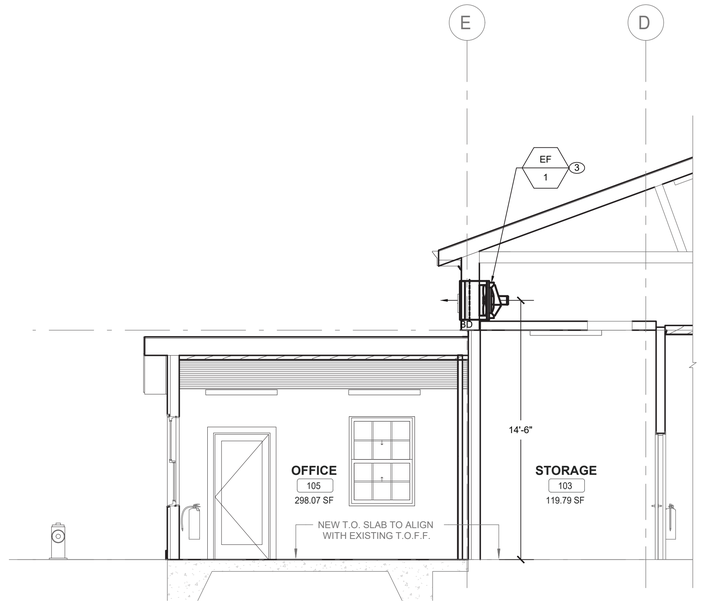
(1) PROVIDE NEW OUTDOOR SPLIT CONDENSER AIR CONDITIONER UNIT AS SHOWN WITH A MINIMUM CLEARANCE OF 8" FROM EXTERIOR WALL ON CONCRETE PAD TO BE COORDINATED WITH AND INSTALLED BY GC. COORDINATE ELECTRICAL POWER AND WIRING WITH ELECTRICAL CONTRACTOR. COORDINATE LOCATION OF WALL MOUNTED DISCONNECT SWITCH WITH ELECTRICAL CONTRACTOR.

(2) PROVIDE NEW WALL MOUNTED INDOOR UNITS AS INDICATED WITH CONDENSATE LIFT PUMPS. INSTALL AC-1 AND AC-2 AT 6'10" AFF TO CENTER. COORDINATE ELECTRICAL POWER AND WIRING WITH ELECTRICAL CONTRACTOR.

(3) PROVIDE NEW EXHAUST FAN AS SCHEDULED. COORDINATE ELECTRICAL POWER AND WIRING WITH ELECTRICAL CONTRACTOR. INSTALL EF-1 AT 14'6" AFF TO CENTER AND EF-2 6'2" AFF TO CENTER .

(4) PROVIDE NEW RAIN RESISTANT LOUVER AS SCHEDULED. ALIGN CENTER OF LOUVER WITH CENTER OF EXHAUST FAN. REFER TO INSTALLATION DETAIL ON CXA-M-81.

(5) PROVIDE NEW ELECTRIC WALL MOUNTED UNIT HEATER. COORDINATE INSTALL HEIGHT IN FIELD.



1 INTERIOR SECTION - SOUTHEAST

SCALE: 1/4" = 1'-0

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WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

INFRASTRUCTURE REHABILITATION - PHASE 3
PLAYLAND PARK, RYE, NEW YORK
CROSS AXIS BUILDING A
MECHANICAL FIRST FLOOR CONSTRUCTION PLAN

CONTRACT NUMBER	22-523
SHEET NUMBER	CXA-M-21
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DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT TAG (INDOOR)	ASSOCIATED OUTDOOR UNIT	MANUFACTURER	MODEL	LOCATION/SERVICE	REFRIGERANT	SUPPLY FAN	COOLING		HEATING		ELECTRICAL			WEIGHT	NOTES
						CFM	TOTAL/SENS. (MBH)	EAT DB/WB	MBH	EAT/LAT DB	V.-PH.-CY.	MCA	MOCP		
AC-1	CU-1	MITSUBISHI	PKFY-P18NLMU-E	105 OFFICE	R410A	438	18.0/20.0	80/67	20.0	70/90	208-1-60	0.24	15	28.4	1,2,3,4
AC-2	CU-1	MITSUBISHI	PKFY-P18NLMU-E	107 MAIN STORAGE	R410A	438	18.0/20.0	80/67	20.0	70/90	208-1-60	0.24	15	28.4	1,2,3,4

NOTES:
1. UNIT CAPACITY INDICATED AS SIZING CRITERIA.
2. PROVIDE UNIT WITH WIRED WALL MOUNTED THERMOSTAT.
3. PROVIDE ALL INDOOR UNIT WITH CONDENSATE PUMP.
4. INSTALL AND SIZE REFRIGERANT PIPING PER MANUFACTURER'S SPECIFICATIONS

DUCTLESS SPLIT SYSTEM HEAT PUMP CONDENSING UNIT SCHEDULE

UNIT TAG (OUTDOOR)	MANUFACTURER	MODEL	NOMINAL COOLING (BTU/HR)	NOMINAL HEATING (BTU/HR)	SERVICE	SEER	COP	V.-PH.-CY.	MCA	MOCP	WEIGHT	NOTES
CU-1	MITSUBISHI	PUMY-P36NKMU3-BS	36000	42000	OFFICE & MAIN STORAGE	22.3	4	208-1-60	29.0	44.0	271.0	1,2,3

NOTES:
1. UNIT CAPACITY INDICATED AS SIZING CRITERIA.
2. INSTALL UNIT ON CONCRETE PAD.
3. PROVIDE MINIMUM CLEARANCE OF 8" FROM EXTERIOR WALL, AND 40" FROM CONDENSER FAN DISCHARGE.

FAN SCHEDULE

TAG	MANUFACTURER	MODEL	LOCATION	SERVICE	TYPE	DRIVE	AIR FLOW (CFM)	TSP (IN. WG)	ELECTRICAL				OPERATING WEIGHT (±LBS)	DIMENSIONS DxH (IN)	NOTES
									HP	BHP	RPM	V-PH-HZ			
EF-1	GREENHECK	AER-20-03-0600-VG	103 STORAGE	STORAGE & ATTIC	AXIAL	DIRECT	50	0.09	0.25	0.01	512	115-1-60	60	26X26	1,3,4,5
EF-2	GREENHECK	AER-20-03-0600-VG	107 MAIN STORAGE	MAIN STORAGE	AXIAL	DIRECT	50	0.09	0.25	0.01	512	115-1-60	60	26X26	1-5

NOTES:
1. PROVIDE ALL CONTACTS, RELAYS, AND DEVICES NECESSARY FOR BMS CONTROL OF FANS PER SEQUENCE OF OPERATIONS.
2. PROVIDE EF-2 WITH MANUAL WALL MOUNT SWITCH. REFER TO CONTROLS
3. PROVIDE THERMAL OVERLOAD FOR ALL SINGLE PHASE MOTORS.
4. PROVIDE SALT WATER RESISTANT HI-PRO POLYESTER COATING FOR ALL FANS.
5. FAN SHALL BE FURNISHED WITH NON FUSED DISCONNECT.

ELECTRIC UNIT HEATER SCHEDULE

TAG	MANUFACTURER	MODEL	SERVICE	TYPE	KW	AMPS	V-PH-HZ	NOTES
UH-1	TRANE	UHEC-031A0C0	105 SPRINKLER ROOM	WALL HUNG	3.3	15.9	208-1-60	1

NOTES:
1. PROVIDE UNIT MOUNTED 2 STAGE THERMOSTAT.

LOUVER SCHEDULE

TAG	MANUFACTURER	MODEL	SERVICE	LOCATION	MATERIAL	FINISH TYPE	WIDTH (INCH)	HEIGHT (INCH)	PRESSURE DROP (IN. WG)	MINIMUM FREE AREA (SQUARE FEET)	NOTES
LV-1	GREENHECK	ESD-635	EXHAUST	103 STORAGE	ALUMINUM	BAKED ENAMEL	26	26	0.01	1.96	1
LV-2	GREENHECK	ESD-635	EXHAUST	107 MAIN STORAGE	ALUMINUM	BAKED ENAMEL	26	26	0.01	1.96	1

NOTES:
1. PROVIDE WITH ALUMINUM BIRD SCREEN AND BACKDRAFT DAMPERS.

CONSULTANT INFORMATION
LiRo Engineers, Inc.
A LiRo Group Company
Syosset, N.Y. 516-214-8157[T]

CONSULTANT SEAL
STATE OF NEW YORK FRANK D. LOSE No. 090111-1 LICENSED PROFESSIONAL ENGINEER

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

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WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

INFRASTRUCTURE REHABILITATION - PHASE 3
PLAYLAND PARK, RYE, NEW YORK
CROSS AXIS BUILDING A
MECHANICAL SCHEDULES

CONTRACT NUMBER	22-523
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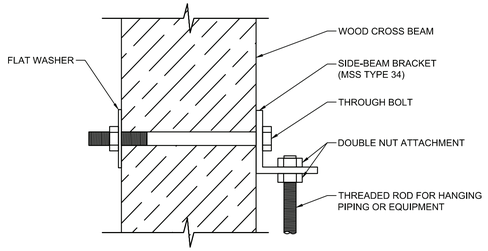
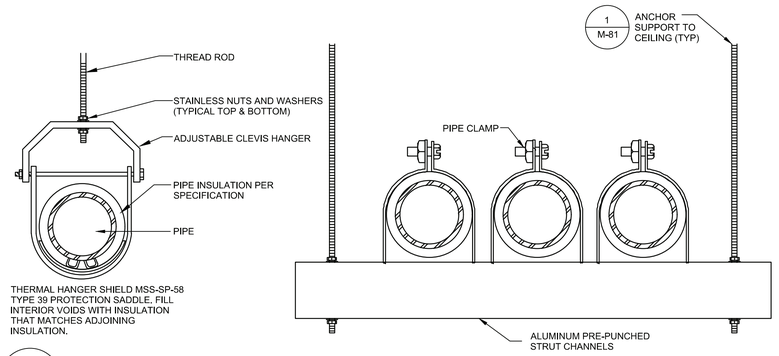


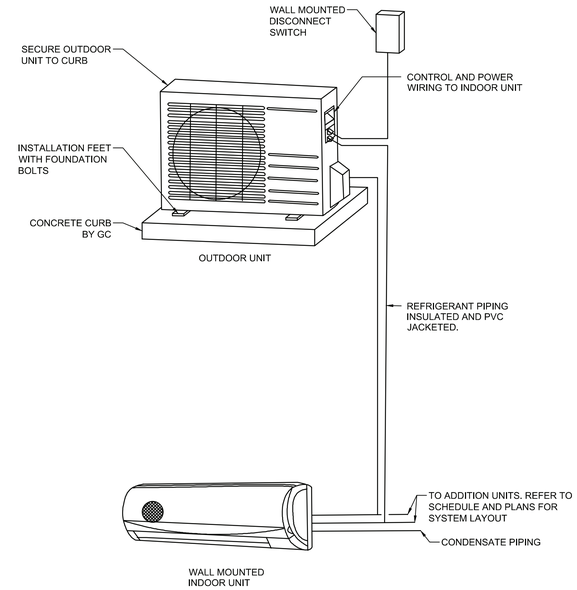
1 M-81 MECHANICAL ANCHORING DETAIL

SCALE: NOT TO SCALE



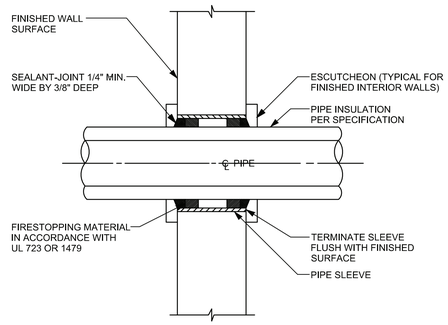
2 M-81 MECHANICAL PIPE HANGER DETAIL

SCALE: NOT TO SCALE



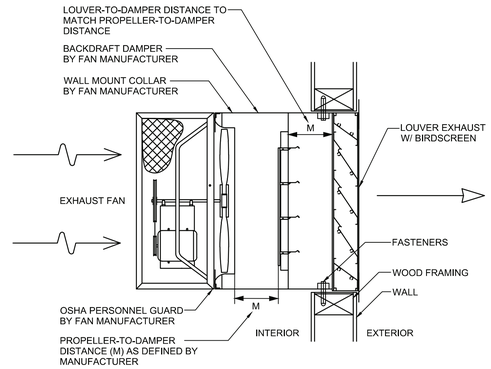
6 M-81 MECHANICAL SPLIT PIPING DETAIL

SCALE: NOT TO SCALE



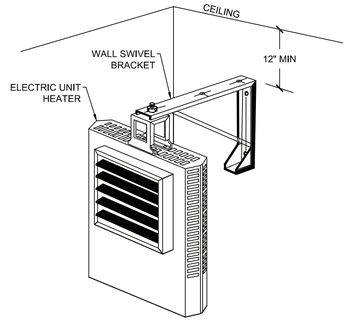
3 M-81 WALL SLEEVED PENETRATION DETAIL

SCALE: NOT TO SCALE



4 M-81 PROPELLER FAN DETAIL

SCALE: NOT TO SCALE



5 M-81 MECHANICAL WALL MOUNTED ELECTRIC UNIT HEATER DETAIL

SCALE: NOT TO SCALE

NOTE:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2", 14 GAGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA.
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
6. PROVIDE 1/4" TO 1/2" CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.
7. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" HIGH CONCRETE CURB AROUND OPENING FOR DUCT.
8. INSTALL FIRE DAMPERS I ACCORDANCE WITH UL 555.

7 M-81 FIRE DAMPER INSTALLATION

SCALE: NOT TO SCALE

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INFRASTRUCTURE REHABILITATION - PHASE 3
PLAYLAND PARK, RYE, NEW YORK
CROSS AXIS BUILDING
MECHANICAL DETAILS

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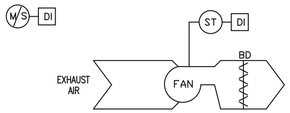


EXHAUST FAN - CONSTANT SPEED - SEQUENCE OF OPERATIONS:

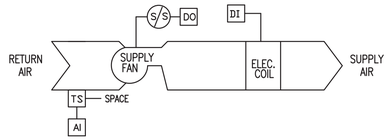
GENERAL: EACH EXHAUST FAN CONSISTS OF FAN, BACKDRAFT DAMPER, AND EC MOTOR CONTROLLER

EXHAUST FAN TO BE LOCALLY CONTROLLED FROM SWITCH MOUNTED ADJACENT TO FAN.

1. OCCUPIED MODE:
   a. THE EXHAUST FAN SHALL RUN AT A CONSTANT VOLUME WHEN SWITCHED ON.
3. UNOCCUPIED MODE:
   a. THE EXHAUST FAN SHALL BE OFF WHEN SWITCHED OFF.

1 M-91 EXHAUST FAN - CONSTANT SPEED

SCALE: NOT TO SCALE

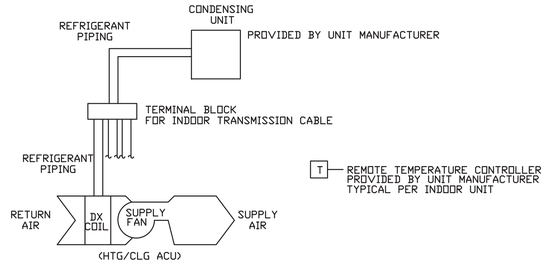


UNIT HEATER - ELECTRIC - SEQUENCE OF OPERATIONS:

1. ON DROP IN SPACE TEMPERATURE BELOW OCCUPIED HEATING SETPOINT, CYCLE THE FAN ON AND MODULATE (2 STAGE) ELECTRIC COIL TO MAINTAIN SPACE OCCUPIED SETPOINT, FAN SHALL HAVE DELAYED SHUT OFF AFTER VALVE CLOSES. USE 5 DEG. F (ADJUSTABLE) DEADBAND TO MINIMIZE SHORT CYCLING.

2 M-91 UNIT HEATER ELECTRIC

SCALE: NOT TO SCALE



MULTIPLE DUCTLESS SPLIT SYSTEMS - HEATING AND COOLING - SEQUENCE OF OPERATIONS:

1. UNITS SHALL BE CONTROLLED WITH UNIT PROVIDED THERMOSTATS AND CONNECTED TO CONTROLLER.
2. GENERATE AN ALARM AT CONTROLLER WHEN THE TEMPERATURE GOES ABOVE OR BELOW ROOM TEMPERATURE RANGE (ADJUSTABLE).

3 M-91 MULTIPLE DUCTLESS SPLIT SYSTEM

SCALE: NOT TO SCALE

EXHAUST FAN - CONSTANT SPEED - SEQUENCE OF OPERATIONS:

GENERAL: EACH EXHAUST FAN CONSISTS OF FAN, BACKDRAFT DAMPER, AND EC MOTOR CONTROLLER

1. OCCUPIED MODE:
   a. THE EXHAUST FAN SHALL RUN WHEN THE RELATIVE HUMIDITY IN THE SPACE SERVED EXCEEDS 60 PERCENT.
3. UNOCCUPIED MODE:
   a. THE EXHAUST FAN SHALL RUN WHEN THE RELATIVE HUMIDITY IN THE SPACE SERVED EXCEEDS 60 PERCENT.
4. WARM-UP MODE:
   a. THE EXHAUST FAN SHALL RUN WHEN THE RELATIVE HUMIDITY IN THE SPACE SERVED EXCEEDS 60 PERCENT.

4 M-91 ATTIC EXHAUST FAN - CONSTANT SPEED

SCALE: NOT TO SCALE

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