INDEX OF DRAWINGS

G100 COVER SHEET, GENERAL NOTES, SYMBOLS, &

M230 MECHANICAL DEMOLITION ROOF PLAN

ME330 MECHANICAL & ELECTRICAL ROOF PLAN

DRAWING INDEX

ALL CONTRACTORS ARE REQUIRED TO VISIT THE SITE AND BE KNOWLEDGEABLE REGARDING EXISTING CONDITIONS AND THEIR EFFECT ON THE PROPOSED WORK. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR, ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE PROJECT.

- 2. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO THE INTERRUPTION OF ANY UTILITY. PROTECT AND KEEP IN SERVICE ACTIVE UNDERGROUND UTILITIES, PIPES, OR CONDUITS, WHETHER INDICATED ON THE DRAWINGS OR NOT, UNLESS SPECIFICALLY CALLED FOR TO BE REMOVED, RELOCATED, OR DISCONNECTED AND
- 4. CONTRACTORS AND SUBCONTRACTORS SHALL COORDINATE THEIR WORK WITH THAT OF OTHER TRADES.
- 5. NO WORK WILL BE PERMITTED TO BE INSTALLED WITHOUT RECIPT AND SUBSEQUENT REVIEW OF FULL AND COMPLETE SUBMITTALS BY THE ARCHITECT/ENGINEER.
- DO NOT SCALE DRAWINGS, DIMENSIONS INDICATED TAKE PRECEDENCE OVER SCALE.

ANCHOR BOLT

ACOUSTICAL CEILING PANEL

ADJACENT OR ADJUSTABLE

ACOUSTICAL CEILING TILE

ABOVE FINISH FLOOR

ABOVE FINISH GRADE

ABRASIVE

ACOUSTIC

ADDITION

ADDITIONAL

ALUMINUM

ALTERNATE

ACCESS PANEL

APPROXIMATI

ANCHOR

ASPHALT

AVERAGE

BASEMENT

BOARD

BETWEEN **BITUMINOUS**

BUILDING

BENCH MARK

BEARING

BRACKET

BLOCKING (WOOD)

BENT STEEL PLATE

CAST-IN-PLACE

CLEAR

CLEAN-OUT

COMBINATION

CONCRETE OPENING

CONCRETE

CONDITION

COUNTER

CENTER(S)

DIMENSION

DRAWINGS

ELEVATION

DOOR

DETAIL

DOWELS

EACH

DOOR OPENING

EXPANSION JOINT

ELECTRIC/ELECTRICAL

ELECTRICAL CONTRACTOR

CONTINUOUS

CONTRACT(OR

CARPET (TYPE)

COUNTER SINK

CERAMIC TILE (TYPE)

CABINET UNIT HEATER

CABINET UNIT VENTILATOR

CEMENT PLASTER (TYPE)

CONCRETE MASONRY UNIT

COMPRESSIBLE OR COMPACTED

CERAMIC PAVER TILE (TYPE)

CONSTRUCTION OR CONTRACTION JOINT

BOTTOM OF

AUTOMATIC

ABR

ANCHR

APPROX

BT STL PL

CEM PL-(1)

CT PAV-(1

CAB

COL

COMP

CONC

COND

CONT

CONTR

CPT-(1)

CT-(1)

CTR SK

CTR

DIM

DWGS

DWL'S

ELEC

ELEC CONTR

CONC OPNG

- VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD. WHERE DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS OR ELEVATIONS SHOWN AND ACTUAL FIELD CONDITIONS, NOTIFY ARCHITECT/ENGINEER.
- WHERE CONFLICTS MAY EXIST BETWEEN THE REQUIREMENTS OF PORTIONS OF THE CONTRACT DOCUMENTS. THE GREATER QUANTITY, HIGHER QUALITY OR MORE STRINGENT REQUIREMENT SHALL GOVERN. THEREFORE, BY EXECUTING A CONTRACT FOR CONSTRUCTION. THE CONTRACTOR AGREES THAT, IF IT RAISED NO QUESTIONS REGARDING SUCH CONFLICTS DURING THE BIDDING PROCESS. AND IN THE ABSENCE OF A CLARIFYING ADDENDUM ISSUED DURING THE BIDDING PROCESS, IT HAS VOLUNTEERED TO COMPLY WITH THE MORE EXPENSIVE REQUIREMENT AS PART OF ITS BASE BID AND IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION TO RESOLVE THE CONFLICT.
- 9. THE CONTRACT DOCUMENTS REQUIRE THE CONTRACTOR TO FURNISH AND INSTALL COMPLETE PRODUCTS, SYSTEMS COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE. THE CONTRACTOR FURTHER AGREES THAT, AS PART O ITS BID, IT MUST FURNISH AND INSTALL EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE AND, CONSEQUENTLY, THE CONTRACTOR IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION FOR ANY LENGTH, SEGMENT, PIECE, PART COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE BECAUSE IT IS NOT EXPRESSLY DEPICTED HEREIN.

B: MISCELLANEOUS AND DEMOLITION NOTES

STANDARD ABBREVIATIONS

EXPANSION

FLOOR DRAIN

FOUNDATION

FOUNDATION

FIRE EXTINGUISHER

FIRE HOSE CABINET

FURRING CHANNEL

GENERAL CONTRACTOR

GENERAL CONTRACTOR

GYPSUM WALL BOARD (TYPE)

HEATING/VENTILATING/AIR CONDITIONING

INCLUDE/INCLUDING/INCLUDED

INSULATION/INSULATING/INSULATED

LAMINATE /LAMINATING /LAMINATED

MARKERBOARD (LENGTH IN FEET)

MECHANICAL CONTRACTOR

MOP SERVICE BASIN (SINK)

OVERALL OR OUTSIDE AIR

THESE DOCUMENTS DOES NOT IMPLY THAT ALL THE SYMBOLS OR MATERIALS INCLUDED IN THESE LEGENDS ARE INCORPORATED INTO THIS PROJECT. ABBREVIATIONS MAY APPEAR WITH PERIODS OR OTHER PUNCTUATION SEPARATING CHARACTERS ON THE DRAWINGS; THE MEANING REMAINS THE SAME.

MINIMUM OR MINUTE(S)

GYPSUM PLASTER (TYPE)

HEAVY DUTY OR HARD

HARD WOOD (TYPE)

FOOTING

GALVANIZED

HARDENER

HOLLOW METAL

HIGH POINT

HORIZONTAL

INSIDE DIAMETER

KNOCK DOWN

LEFT HAND

LOW POINT

LIGHTWEIGHT

LONG LEG HORIZONTAL

LONG LEG VERTICAL

MASONRY OPENING

METAL THRESHOLD

LIVE LOAD

MASONRY

MATERIAL

MAXIMUM

MECHANICAL

MOUNT(ED)

NOMINAL

NUMBER

ON CENTER

NOT IN CONTRACT

NOT TO SCALE

GAUGE

EXP

FD

FDN

FNDN

FUR CHN'L

GEN CONTR

GYP PL-(1)

LT WT

MB (16)

MECH

MSB

NTS

OC

MECH CONTR

EXP CONST

ELECTRIC WATER HEATER

EXPOSED CONSTRUCTION

FIRE EXTINGUISHER CABINET

FIRE RETARDANT TREATED

- COORDINATE PENETRATIONS AND/OR SLEEVES REQUIRED IN WALLS, FLOORS, CEILINGS OR ROOFS FOR MECHANICAL AND ELECTRICAL WORK REQUIRED BY ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND
- SEAL WITH UL APPROVED MATERIALS PENETRATIONS OF DUCTWORK, CONDUIT AND PIPES THROUGH FIRE-RATED ASSEMBLIES, TO MAINTAIN THE RATING INTEGRITY OF THOSE ASSEMBLIES. PROVIDE FIRE DAMPERS AS INDICATED ON THE DRAWINGS.
- 3. SEAL WITH ACOUSTICAL SEALANT PENETRATIONS OF DUCTWORK, CONDUIT AND PIPES THROUGH NON-RATED FLOORS, FULL-HEIGHT WALLS/PARTITIONS, ACOUSTICALLY INSULATED WALLS/PARTITIONS. AND SOUND-RATED WALLS/PARTITIONS, TO MAINTAIN THE ACOUSTICAL INTEGRITY OF THOSE
- APPLY APPROPRIATE & COMPATIBLE SEALANT MATERIALS AS REQUIRED TO SEPARATE DISSIMILAR METALS, FILL GAPS IN EXISTING ASSEMBLIES OR WHERE NEW AND EXISTING ASSEMBLIES MEET OR WHERE OTHERWISE REQUIRED BY THE SPECIFICATIONS.
- BRING ANY UNFORESEEN OR CONFLICTING CONDITIONS TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.

PVMT

PLB'G

PLB'G CONTR

R OR RAD

SCHED

SOG

SPEC(S)

SPK'R

STD WT

STRUCT

SYM

T/BEAM

T/FNDN

T/WALI

VEN PL (1)

VERT

STD

SEAL/HDNR

PAVEMENT

PLASTIC LAMINATE(D)

PLUMBING CONTRACTOR

POLYVINYL CHLORIDE

GYPSUM PLASTER (TYPE)

RUBBER FLOORING (TYPE)

PRECAST (CONCRETE) OPENING

PIECE

PLATE

PLASTER

PLUMBING

PLYWOOD

RADIUS

ROOF DRAIN

RIGHT HAND

REFERENCE

SQUARE FOOT

SQUARE INCH

SERVICE SINK

SCHEDULE

SECTION

SIMILAR

SPACING

SPEAKER

STANDARD

SUSPEND(ED)

SYMMETRICAL

TOP OF BEAM

TOP OF CURB

TOP OF STEEL

TOP OF WALL

TOP OF

STAINLESS STEEL

SEALER/HARDENER

SLAB ON GRADE

SPECIFICATION(S)

STANDARD WEIGHT

TONGUE AND GROOVE

TOP OF FOUNDATION

TOP OF MASONRY

VINYL BASE COVED

VERTICAL

WITHOUT

WINDOW

WEIGHT

WIDE OR WIDTH

WATER PROOF

VINYL BASE STRAIGHT

VINYL COMPOSITION TILE

VENEER PLASTER (TYPE)

WALL CORNER GUARD

WELDED WIRE FABRIC

WALL SERVICE BASIN

TACKBOARD (LENGTH IN FEET)

(WINDOW) UNIT DIMENSION

UNLESS NOTED OTHERWISE

STRUCTURE OR STRUCTURAL

ROUGH OPENING

REPAIR, PATCH, OR REPLACE FINISH MATERIALS OR VISIBLE ASSEMBLIES THAT ARE SOILED, CUT OR DAMAGED IN ANY FASHION DURING THE COURSE OF THE WORK. PERFORM PATCHING SUCH THAT EDGES BLEND INTO CONTIGUOUS SURFACES SMOOTHLY, MATCHING TEXTURE AND COLOR OF ADJACENT

TING

PROJECT OAK BROOK PARK DISTRICT -FAMILY REC CENTER AHU

> REPLACEMENT 1450 FOREST GATE RD OAK BROOK, IL 60523

OAK BROOK PARK DISTRICT OWNER 1450 FOREST GATE RD OAK BROOK, IL 60523

ARCHITECT/ **ENGINEER**

KLUBER ARCHITECTS + ENGINEERS

10 S. SHUMWAY AVE. **BATAVIA, ILLINOIS 60510** TEL (630) 406-1213 FAX (630) 406-9472 www.kluberinc.com

M400 MECHANICAL SCHEDULES & TEMPERATURE CONTROLS

AMI

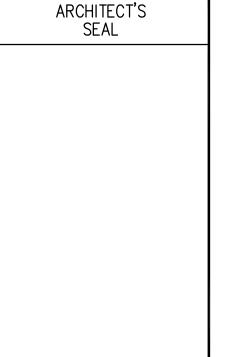
APPLICABLE CODES

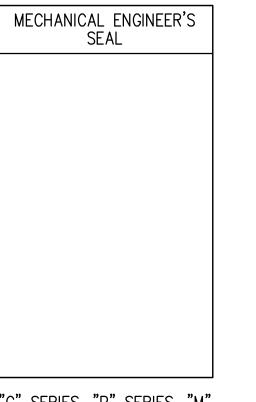
2015 INTERNATIONAL BUILDING CODE 2015 INTERNATIONAL MECHANICAL CODE 2014 ILLINOIS STATE PLUMBING CODE 2014 NATIONAL ELECTRIC CODE 2015 INTERNATIONAL PROPERTY MAINTENANCE CODE 2015 INTERNATIONAL EXISTING BUILDING CODE 2015 INTERNATIONAL FUEL GAS CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE ILLINOIS ACCESSIBILITY CODE - CURRENT EDITION

LOCAL AMENDMENTS TO THE ABOVE CODES

I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION. THEY ARE IN COMPLIANCE WITH IBC 2015 EDITION, THE ENVIRONMENTAL BARRIERS ACT AND THE ILLINOIS ACCESSIBILITY

KLUBER, INC. ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE #184-001284





JOB NO. 19-310-1271

SHEET TITLE

COVER SHEET,

GENERAL NOTES,

SYMBOLS AND

DRAWING INDEX

SHEET NUMBER

CHECKED

APPROVED

ELEV ELEVATOR OR ELEVATION OD OUTSIDE DIAMETER **EMBED** EMBEDMENT OUTSIDE FACE OR OPPOSITE FACE **EMER EMERGENCY** OPNG OPENING **EPOXY** OPPOSITE OR OPPOSITE HAND EQUAL POUNDS PER SQUARE FOOT EACH WAY POUNDS PER SQUARE INCH EWC ELECTRIC WATER COOLER PRESSURE TREATED OR PAINT THE MATERIALS, ABBREVIATIONS, AND DRAFTING SYMBOLS LEGEND ARE EACH AN ALL INCLUSIVE MASTER LIST USED BY THIS FIRM. THE INCLUSION OF THESE LEGENDS INTO

DRAWING NUMBER — DETAIL NUMBER -DRAWING NUMBER -DETAIL NUMBER -DRAWING NUMBER A6.05 COLUMN NO. REFERENCE LINE NO. ELEVATION S NUMBER 203.2 DOOR NO. NEW DOOR NO. EXISTING 203.1X Ш NOMINAL THICKNESS · CONSTRUCTION TYPE SPECIAL CONDITION 7.531 IDENTIFICATION WINDOW TYPE IDENTIFICATION TOILET ACCESSORY IDENTIFICATION ELEVATION CONCRETE BRICK MASONRY IN MASONRY IN PLAN (RUNNING BOND) MASONRY IN PLAN (STACK BOND) REINFORCE/REINFORCING/REINFORCED STONE MASONRY IN RAKED JOINT IN CTRL./EXP. JOINT BRICK MASONRY IN SECTION DETAIL CONCRETE MASONRY IN SECTION DETAIL STONE MASONRY IN SECTION DETAIL STEEL IN SECTION **DISCONTINUOUS** ROUGH WOOD BLOCKING IN CONTINUOUS ROUGH WOOD FRAMING/BLOCKING FINISHED WOOD IN RIGID BOARD INSULATION RIGID BOARD INSULATION (ROOFING) BATT INSULATION GYPSUM BOARD

DR.

DETAIL NUMBER-DRAWING NUMBER —

DETAIL NUMBER-

SEALS & CERTIFICATIONS

"G" SERIES, "A" SERIES

"G" SERIES, "P" SERIES, "M" SERIES, "F" SERIES

"G" SERIES, "E" SERIES

ELECTRICAL ENGINEER'S

BITUMINOUS CONCRETE (ASPHALT) PAVING AGGREGATE BALLAST, FILL OR

ACOUSTICAL

CEILING PANEL

UNDISTURBED EARTH

EARTH BACKFILL

BACKFILL IN SECTION

KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

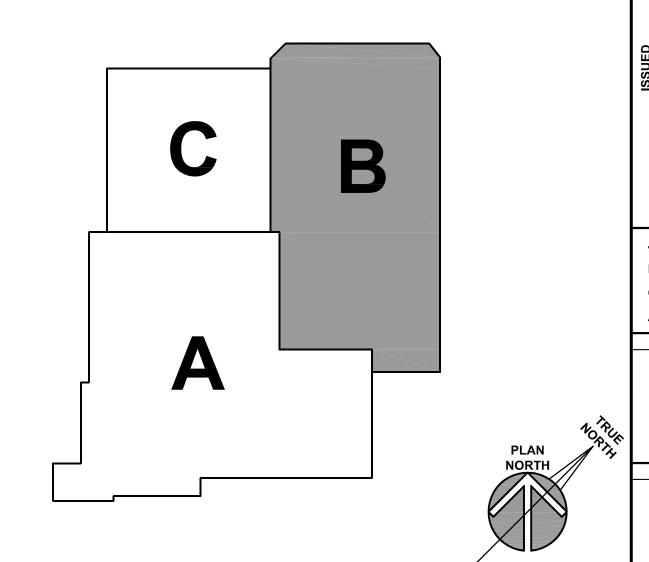
23.100 DISCONNECT GAS PIPING FROM ROOF TOP UNIT. PROVIDE TEMPORARY CAP FOR NEW CONNECTION. 23.101 REMOVE ROOF TOP UNIT. DISCONNECT DUCTWORK TAKE-OFFS AND CONTROL NETWORK WIRING. 23.102 EXISTING ROOF CURB TO REMAIN IN PLACE. PROTECT ROOF OPENING WEATHERTIGHT WHILE ROOF TOP UNIT IS REMOVED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO AREA BELOW CAUSED BY EXPOSURE

TO OUTSIDE CONDITIONS. 23.103 REMOVE EXISTING THERMOSTAT FOR ROOF TOP UNIT. THERMOSTAT LOCATED IN GYMNASIUM ON FLOOR BELOW.

GENERAL NOTES

- 1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
- 2. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
- 3. EXISTING PIPING AND DUCTWORK INDICATED ON THESE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATIONS, QUANTITY AND PIPE SIZES.
- 4. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.
- 5. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5° F DEADBAND.
- 6. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
- SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
- 8. DO NOT CUT THROUGH STRUCTURAL ELEMENTS WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.
- 9. ALL ROOFTOP EQUIPMENT (ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC.) AND THEIR CORRESPONDING CURBS TO BE ATTACHED TO THE STRUCTURAL FRAMING AS REQUIRED TO RESIST WIND AND SEISMIC FORCES. ANCHORAGE TO METAL DECKING IS NOT ACCEPTABLE. CONTRACTOR/MANUFACTURER TO CONSULT AN INDEPENDENT STRUCTURAL ENGINEER TO REVIEW, DESIGN AND DETAIL THE REQUIRED CONNECTIONS.
- 10. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.

KEY PLAN



SHEET TITLE

MECHANICAL DEMOLITION ROOF PLAN

SHEET NUMBER

MODEL

YZD180F

YZD180F 1, 2, 3, 4

YZD180F 1, 2, 3, 4

MAX

OPERATING

2,600

2,600

2,600

40.0

40.0

40.0

460/3/60

SHEET TITLE

MECHANICAL SCHEDULES & TEMPERATURE CONTROLS

SHEET NUMBER

EXTERNAL EXHAUST EXTERNAL FAN GAS INPUT GAS OUTPUT STATIC PRESS STATIC PRESS V/PH/HZ FAN (MBH) (MBH) (IN WG) (IN WG) 350 5.0 280 MODULATING 1.4 3/4 0.5 MODULATING 3/4 0.5 350 280 5.0 1.4

1.4

3/4

0.5

5.0

ROOF TOP UNIT SCHEDULE

350

280

MODULATING

12.5

12.5

12.5

177.7

177.7

177.7

MINIMUM OA (CFM) ENT AIR TEMP LVG AIR TEMP REFRIGERANT OA TEMP SENS CAP (db / wb °F) (db / wb °F) TYPE (°F) (MBH) (MBH) MARK AIR FLOW MINIMUM OA 1,375 80 / 67 56.7 / 56.5 R-410A 138.4 95 5,500 1,375 | 80 / 67 | 56.7 / 56.5 | R-410A 138.4 1,375 80 / 67 56.7 / 56.5 R-410A 5,500 138.4

PROVIDE WITH LOW LEAK ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL AND 30% FILTERS.

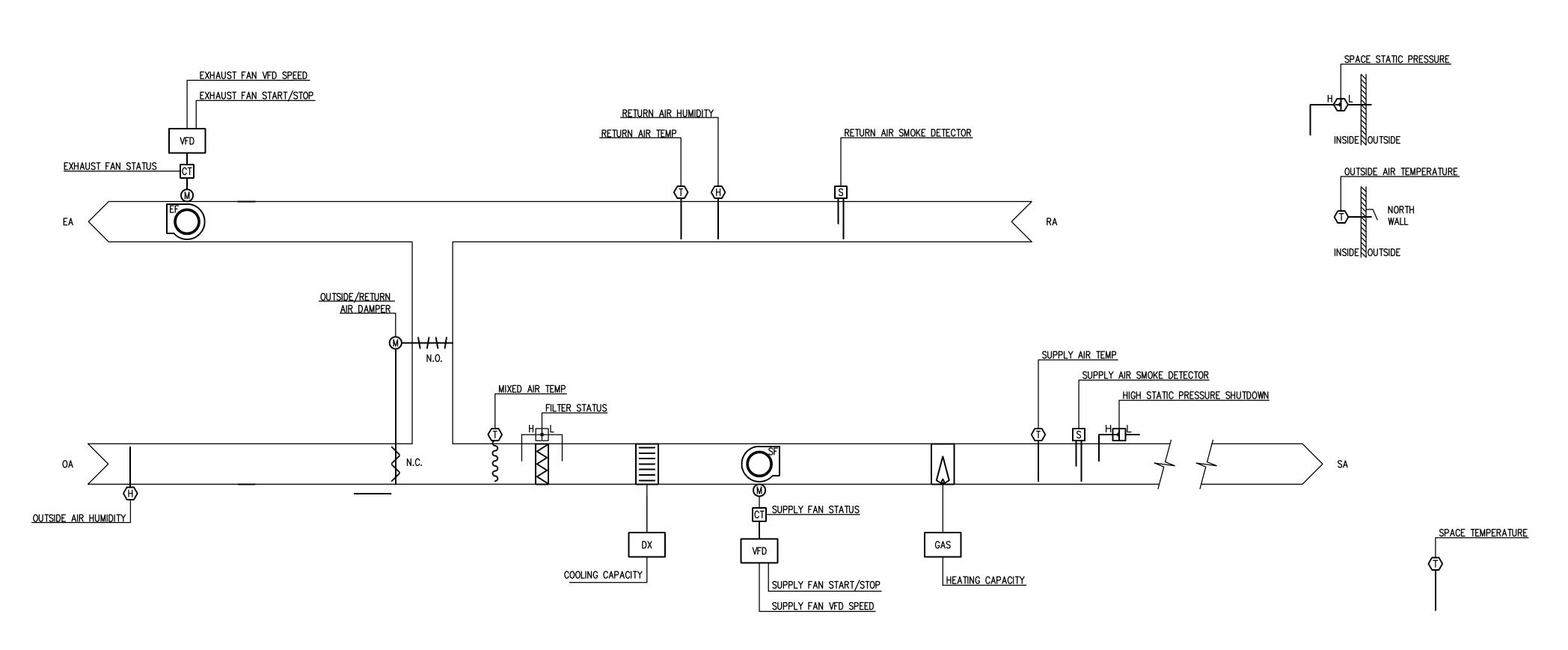
RTU-1C

MODEL BASED ON TRANE.

PROVIDE UNIT MOUNTED EXHAUST FAN.

4. PROVIDE WITH INVERTER SCROLL ON LEAD COMPRESSOR.

SZVAV RTU TEMPERATURE CONTROL SCHEMATIC



NOTES:

- 1. COMPONENTS AND INTERCONNECTIONS SHOWN ARE SCHEMATIC ONLY.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPONENTS, SENSORS, RELAYS, ETC, TO ENSURE A COMPLETE OPERATING SYSTEM.

SEQUENCE OF OPERATIONS

ROOF TOP UNIT (RTU-1A, -1B,-1C):

THE ROOF TOP UNIT OCCUPIED/UNOCCUPIED MODE SCHEDULING SHALL BE MADE AT THE BUILDING AUTOMATION SYSTEM. PROVISIONS SHALL BE MADE FOR MANUAL SHUTDOWN OF EQUIPMENT. THE ROOF TOP UNIT SHALL OPERATE AS A SINGLE ZONE VAV SYSTEM. ALL SETPOINTS SHALL BE ADJUSTABLE. UNOCCUPIED SPACE TEMPERATURE SETPOINTS SHALL BE 80 DEGREES F COOLING AND 65 DEGREES F

SUPPLY FAN - THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE AND INTERMITTENTLY DURING UNOCCUPIED MODE. THE FAN SHALL HAVE A MINIMUM FAN SPEED OUTPUT OF 37%. IF AIRFLOW IS NOT DETECTED AT ANY TIME, THE FAN MOTOR SHALL BE DE-ENERGIZED AND AN AUDIBLE ALARM SHALL BE ACTIVATED. IN COOLING THE SUPPLY FAN SHALL MODULATE BETWEEN MINIMUM SPEED AND 100% SPEED AS NEEDED TO MAINTAIN THE SPACE TEMPERATURE WITHIN THE SPACE COOLING RESET SCHEDULE. IN HEATING THE SUPPLY FAN SHALL MODULATE BETWEEN 50% AND 100% AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AS NEEDED TO MAINTAIN THE SPACE TEMPERATURE WITHIN THE SPACE HEATING RESET SCHEDULE.

EXHAUST FAN - WHEN THE BUILDING IS IN OCCUPIED MODE AND THE SUPPLY FAN IS ENERGIZED, THE EXHAUST FAN SHALL BE ENERGIZES AS REQUIRED TO MAINTAIN A POSITIVE PRESSURE OF 0.05 IN WG IN THE SPACE.

SMOKE DETECTORS - UPON DETECTION OF SMOKE THE FANS SHALL BE DE-ENERGIZED, CLOSE OUTSIDE AIR DAMPER, AND SIGNAL ALARM LOCALLY AND AT FIRE ALARM PANEL.

OA/RA DAMPERS - THE OA DAMPERS SHALL MODULATE WITH THE SUPPLY FAN SPEED TO MAINTAIN OUTSIDE AIR CFM. AN ECONOMIZER SHALL MODULATE THE DAMPERS BASED ON DIFFERENTIAL ENTHALPY OF THE RETURN AIR AND THE OUTSIDE AIR TO MAINTAIN A SUPPLY AIR TEMPERATURE OF 55 DEGREES F. IN UNOCCUPIED MODE THE OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED.

ECONOMIZER - AN ECONOMIZER SHALL MODULATE THE DAMPERS BASED ON DIFFERENTIAL ENTHALPY OF THE RETURN AIR AND THE OUTSIDE AIR TO MAINTAIN A SUPPLY AIR TEMPERATURE 55 DEGREES F. THE ECONOMIZER SHALL HAVE FAULT AND DETECTION DIAGNOSTICS (FDD). THE FDD SHALL ALARM IF IS AIR TEMPERATURE SENSOR FAILURE, NO ECONOMIZER WHEN ENABLED, ECONOMIZING WHEN DISABLED, DAMPERS NOT MODULATING AND EXCESS OUTDOOR AIR. THE FDD SHALL ALARM WITH ANY OF THE FOLLOWING FAULTS:

- 1. AIR TEMPERATURE SENSOR FAILURE/FAULT NOT ECONOMIZING WHEN THE UNIT SHOULD BE ECONOMIZING
- ECONOMIZING WHEN THE UNIT SHOULD NOT BE ECONOMIZING
- DAMPER NOT MODULATING EXCESS OUTDOOR AIR

COOLING MODE - THE COOLING MODE SHALL BE DETERMINED BY THE SPACE TEMPERATURE. THE COOLING DISCHARGE AIR TEMPERATURE SHALL MODULATE IN CONJUNCTION WITH THE SUPPLY FAN TO MAINTAIN SPACE TEMPERATURE.

HEATING MODE - THE HEATING MODE SHALL BE DETERMINED BY THE SPACE TEMPERATURE. THE GAS HEAT SHALL MODULATE IN CONJUNCTION WITH THE SUPPLY FAN TO MAINTAIN SPACE TEMPERATURE.

ENHANCED DEHUMIDIFICATION - WHEN THE RETURN AIR HUMIDITY EXCEEDS THE DEHUMIDIFICATION SETPOINT THE UNIT SHALL TRANSITION TO THE ENHANCED DEHUMIDIFICATION MODE.

ROOF TOP UNIT (RTU-1A, -1B, -1C)	HARDWARE			SOFTWARE			
	Al	AO	ВІ	ВО	SCHED	TREND	ALAF
OCCUPIED/UNOCCUPIED MODE			Х		Х		
SUPPLY FAN START/STOP				Х			
SUPPLY FAN STATUS			Х				Х
SUPPLY FAN VFD SPEED		Х					
HIGH STATIC PRESSURE SHUTDOWN			Х				Х
EXHAUST FAN START/STOP				Х			
EXHAUST FAN STATUS			Х				Х
SPACE STATIC PRESSURE	Х						Х
SUPPLY AIR TEMPERATURE	Х					Χ	
RETURN AIR TEMPERATURE	Х					Χ	
OUTSIDE AIR TEMPERATURE	Χ					Χ	
OUTSIDE AIR HUMIDITY	Χ					Χ	
MIXED AIR TEMPERATURE	Χ					Χ	
RETURN AIR HUMIDITY	Χ					Χ	
DEHUMIDIFICATION SETPOINT	Χ						
COOLING CAPACITY	Χ					Χ	
HEATING CAPACITY	Χ					Χ	
FILTER STATUS			Χ				Х
SMOKE DETECTOR STATUS (SA, RA)			Х				Χ
OUTSIDE/RETURN AIR DAMPER		Χ					
MORNING WARM-UP STATUS			Χ		Χ		
MORNING COOL-DOWN STATUS			Х		Χ		
ECONOMIZER STATUS			Χ				
SPACE TEMPERATURE	Х					Χ	
SPACE TEMPERATURE SETPOINT	Χ						Х
FAULT DETECTION & DIAGNOSTICS (FDD)			Χ				Х

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL.

AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED

KEYNOTES

ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

23.200 PROVIDE NEW ROOF TOP UNIT. NEW ROOF TOP UNIT TO BE MOUNTED ON EXISTING CURB. PROVIDE CURB ADAPTER AS REQUIRED. PROVIDE ALL MATERIALS AND LABOR TO CONNECT TO EXISTING DUCTWORK.

23.201 PROVIDE FINAL GAS CONNECTION TO ROOF TOP UNIT.

23.202 PROVIDE NEW THERMOSTAT FOR ROOF TOP UNIT.

23.203 REMOVE EXISTING TRANE COM4 CABLING. PROVIDE NEW BACNET TRUNK FROM EXISTING FX-80 JACE TO ROOF TOP UNIT CONTROLLERS. PROVIDE RS-485 CARDS AS REQUIRED TO INTERFACE TO ROOF TOP UNIT CONTROLLERS. DELETE POINTS AND GRAPHICS OF REMOVED ROOF TOP UNITS FROM BUILDING AUTOMATION SYSTEM. PROVIDE NEW POINTS AND GRAPHICS FOR NEW ROOF TOP UNITS AS DETAILED. PARK DISTRICT CONTROLS CONTRACTOR IS APPLIED CONTROLS, INC., WARRENVILLE, 630-836-9440.

23.300 ALTERNATE NO. 1: REMOVE GAS PIPING BACK AS REQUIRED FOR INSTALLATION OF NEW ROOF PORTAL AND PROVIDE TEMPORARY CAP ON PIPE. PROVIDE NEW GAS PRESSURE REGULATOR AND SHUT-OFF VALVE FOR ROOF

26.001 REMOVE DISCONNECT AND PROTECT BRANCH CIRCUITRY (3#8,1" LIQUID-TIGHT FLEX CONDUIT). PROVIDE

NEW FLEXIBLE CONNECTION (3#8,#10G, 1" LIQUID-TIGHT FLEX CONDUIT). SEE KEY NOTE 26.005 26.002 REMOVE GFI RECEPTACLE AND PROTECT BRANCH CIRCUITRY (2#12,3/4" LIQUID-TIGHT FLEX CONDUIT. PROVIDE NEW FLEXIBLE CONNECTION (2#12,#12G,3/4" LIQUID-TIGHT FLEXIBLE CONDUIT). SEE KEY NOTE

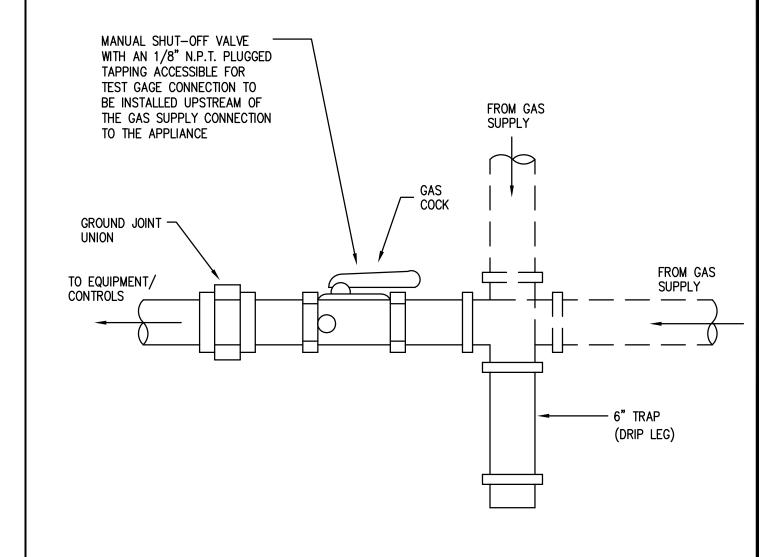
26.003 ROUTE ELECTRICAL CONNECTIONS THROUGH EXISTING ROOF PORTAL.

26.004 REMOVE DISCONNECT AND PROTECT BRANCH CIRCUITY (3#6, 1" LIQUID-TIGHT FLEX CONDUIT). PROVIDE NEW FLEXIBLE CONNECTION (3#8,#10G,1" LIQUID-TIGHT FLEXIBLE CONDUIT). SEE KEY NOTE 26.005 26.005 LOCATE RTU BRANCH CIRCUIT JUNCTION/PULL BOX BELOW ROOF. REPLACE FLEXIBLE CONNECTION FROM

JUNCTION/PULL BOX TO NEW RTU UNIT EQUIPMENT. 26.006 LOCATE RECEPTACLE BRANCH CIRCUIT JUNCTION BOX BELOW ROOF. REPLACE FLEXIBLE CONNECTION FROM

JUNCTION BOX TO NEW GFI RECEPTACLE MOUNTED ON RTU EQUIPMENT ADJACENT TO UNIT DISCONNECT.

26.007 DISCONNECT, PROTECT AND RE-INSTALL DUCT DETECTORS AND FAN SHUT DOWN FIRE SAFETY CONTROL WIRING AT RTU EQUIPMENT.



GAS CONNECTION TO EQUIPMENT DETAIL



GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.

ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.

3. EXISTING PIPING AND DUCTWORK INDICATED ON THESE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATIONS, QUANTITY AND PIPE SIZES.

4. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.

5. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5° F DEADBAND.

6. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.

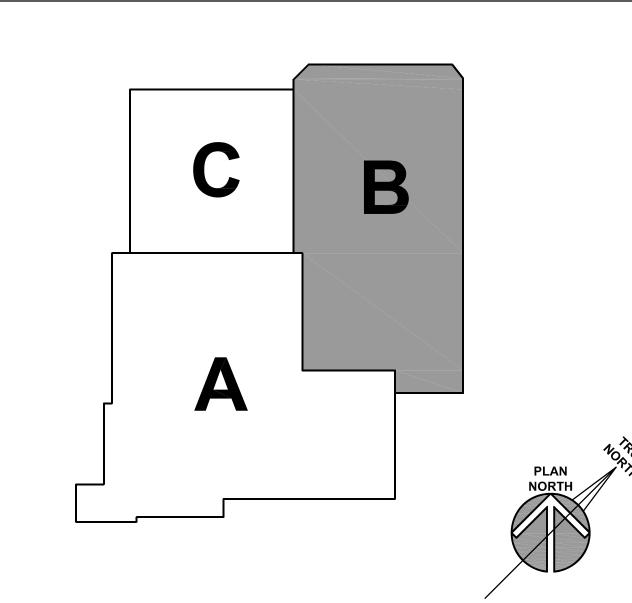
SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.

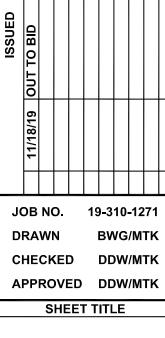
8. DO NOT CUT THROUGH STRUCTURAL ELEMENTS WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.

9. ALL ROOFTOP EQUIPMENT (ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC.) AND THEIR CORRESPONDING CURBS TO BE ATTACHED TO THE STRUCTURAL FRAMING AS REQUIRED TO RESIST WIND AND SEISMIC FORCES. ANCHORAGE TO METAL DECKING IS NOT ACCEPTABLE. CONTRACTOR/MANUFACTURER TO CONSULT AN INDEPENDENT STRUCTURAL ENGINEER TO REVIEW, DESIGN AND DETAIL THE REQUIRED CONNECTIONS.

10. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.

KEY PLAN





MECHANICAL & ELECTRICAL ROOF PLAN

SHEET NUMBER