



GREGORY ELEMENTARY SCHOOL - HVAC IMPROVEMENTS

RPS DISTRICT 205 PROJ #: 2400

4820 CAROL CT. ROCKFORD, IL 61108

IFB# 23-15



BIDDING & CONSTRUCTION

Issued For 10-11-2022

GREG RPS 4820

DAT			
OR:			
UED FOR:			

CIVIL

ALL CIVIL DOCUMENTS ARE

UNDER A SEPARATE COVER

PROJECT TEAM

PLUMBING

CS2 DESIGN GROUP 837 OAKTON STREET, **ELK GROVE, ILLINOIS**

847.981.1800

LANDSCAPE

ALL LANDSCAPE DOCUMENTS ARE UNDER A SEPAREATE COVER FIRE PROTECTION

PROTECTION CONTRACTOR AS

ARCHITECTURAL

LARSON & DARBY GROUP 4949 HARRISON AVE, SUITE 100 **ROCKFORD ILLINOIS**

815.484.0739

HEATING, VENTILATING AND AIR CONDITIONING

CS2 DESIGN GROUP 837 OAKTON STREET, **ELK GROVE, ILLINOIS**

847.981.1800

STRUCTURAL

IL. DESIGN FIRM NO.: 184.000280-0007

LARSON & DARBY GROUP 4949 HARRISON AVE, SUITE 100 **ROCKFORD ILLINOIS**

815.484.0739

ELECTRICAL

CS2 DESIGN GROUP 837 OAKTON STREET, **ELK GROVE, ILLINOIS**

847.981.1800

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GENERAL NOTES - DEMOLITION

- 1. BEFORE BEGINNING WORK AT THE SITE AND THROUGHOUT THE COURSE OF WORK, INSPECT AND VERIFY THE LOCATION AND CONDITION OF EVERY ITEM AFFECTED BY THE WORK UNDER THIS CONTRACT AND REPORT DISCREPANCIES TO THE ARCHITECT BEFORE BEGINNING WORK RELATED TO THAT BEING INSPECTED.
- 2. BEFORE BEGINNING WORK AT THE SITE, INSPECT THE EXISTING BUILDING AND DETERMINE THE EXTENT OF EXISTING FINISHES, SPECIALTIES, EQUIPMENT, AND OTHER ITEMS WHICH MUST BE REMOVED AND REINSTALLED IN ORDER TO PERFORM THE WORK UNDER THIS CONTRACT.
- 3. THE ARCHITECTURAL DRAWINGS SHOW PRINCIPLE AREAS WHERE WORK MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INCIDENTAL WORK MAY ALSO BE NECESSARY IN AREAS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS DUE TO CHANGES AFFECTING EXISTING MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREAS AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AT NO ADDITIONAL
- 4. PROTECT EXISTING FINISHES TO REMAIN FROM DAMAGE.
- 5. REPAIR, PATCH, OR REFINISH AS APPLICABLE TO MATCH ADJACENT EXISTING FINISHES, THOSE FINISHES DAMAGED OR NEWLY EXPOSED DURING PERFORMANCE OF THE WORK UNDER THIS CONTRACT.
- 6. WHERE MATCH EXISTING IS INDICATED, NEW CONSTRUCTION OR FINISHES, SHALL MATCH THE EXISTING IN EVERY PARTICULAR.
- 7. WHERE PERMANENT REMOVAL OF EXISTING CASEWORK, DOORS AND FRAMES, EQUIPMENT, OR FURNISHINGS IS REQUIRED AND PREVIOUSLY CONCEALED SURFACES ARE TO REMAIN EXPOSED, PATCH PREVIOUSLY CONCEALED SURFACES TO MATCH ADJACENT EXPOSED SURFACES. WHERE SUCH SURFACES ARE SCHEDULED TO RECEIVE NEW FINISHES, PREPARE THE SURFACES TO RECEIVE THE NEW FINISHES.
- 8. WHERE CUTTING OF EXISTING SURFACES OR REMOVAL OF EXISTING SURFACES IS REQUIRED TO PERFORM THE WORK UNDER THIS CONTRACT, AND NEW FINISH IS NOT INDICATED, FILL RESULTING OPENINGS AND PATCH THE SURFACE AFTER DOING THE WORK AND FINISH TO MATCH ADJACENT EXISTING SURFACES.
- 9. REFER TO NEW WORK PLANS TO COORDINATE EXTENT OF DEMOLITION REQUIRED.
- 10. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL DEMOLITION REQUIRED. CONTRACTOR TO NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF CONFLICT OR DISCREPANCY WITH ITEMS INDICATED TO BE REMOVED.
- 11. WHERE NOT SPECIFICALLY NOTED, CONTRACTOR SHALL MODIFY EXISTING FLOORING AND CEILING CONSTRUCTION TO REMAIN AS REQUIRED TO ABUT NEW CONSTRUCTION AND MATCH ADJACENT EXISTING CONDITIONS.
- 12. COORDINATE SLAB REMOVAL AND REPLACEMENT WITH PLUMBING AND ELECTRICAL UNDERGROUND AND IN-SLAB WORK.
- 13. WHERE AN ITEM IS SHOWN TO BE REMOVED OR DEMO'ED ALL MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS SHALL BE REMOVED WITH IT U.N.O. PIPING SHALL BE REMOVED TO WITHIN NEARES WALL TO REMAIN AND CAPPED. ELECTRICAL WIRING AND CONDUIT SHALL BE REMOVED BACK TO NEAREST JUNCTION BOX TO REMAIN. DUCTS AND TERMINALS SHOULD BE REMOVED AS FAR AS NECESSARY FOR NEW DISTRIBUTION SYSTEM OR COMPONENTS TO TIE INTO, OR CAP WITHIN CONCEALED SPACE.

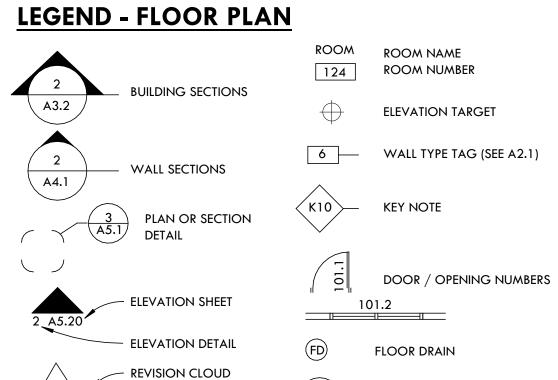
GENERAL NOTES - FLOOR PLAN

- 1. DIMENSIONS ON FLOOR PLAN ARE BASED ON FACE OF FINISHED WALL TO FACE OF FINISHED WALL (NOMINAL).
- EXISTING CONSTRUCTION MAY HAVE BEEN REMOVED BY OWNER. 3. MAINTAIN CONTINUOUS UTILITY SERVICE TO ALL SPACES IN THE
- BUILDING NOT AFFECTED BY THIS WORK, COORDINATE WITH OWNER ANY DISRUPTION IN SERVICES REQUIRED TO PERFORM WORK OR TO MODIFY EXISTING PIPING, DUCTWORK OR ANY ASSOCIATED EQUIPMENT.

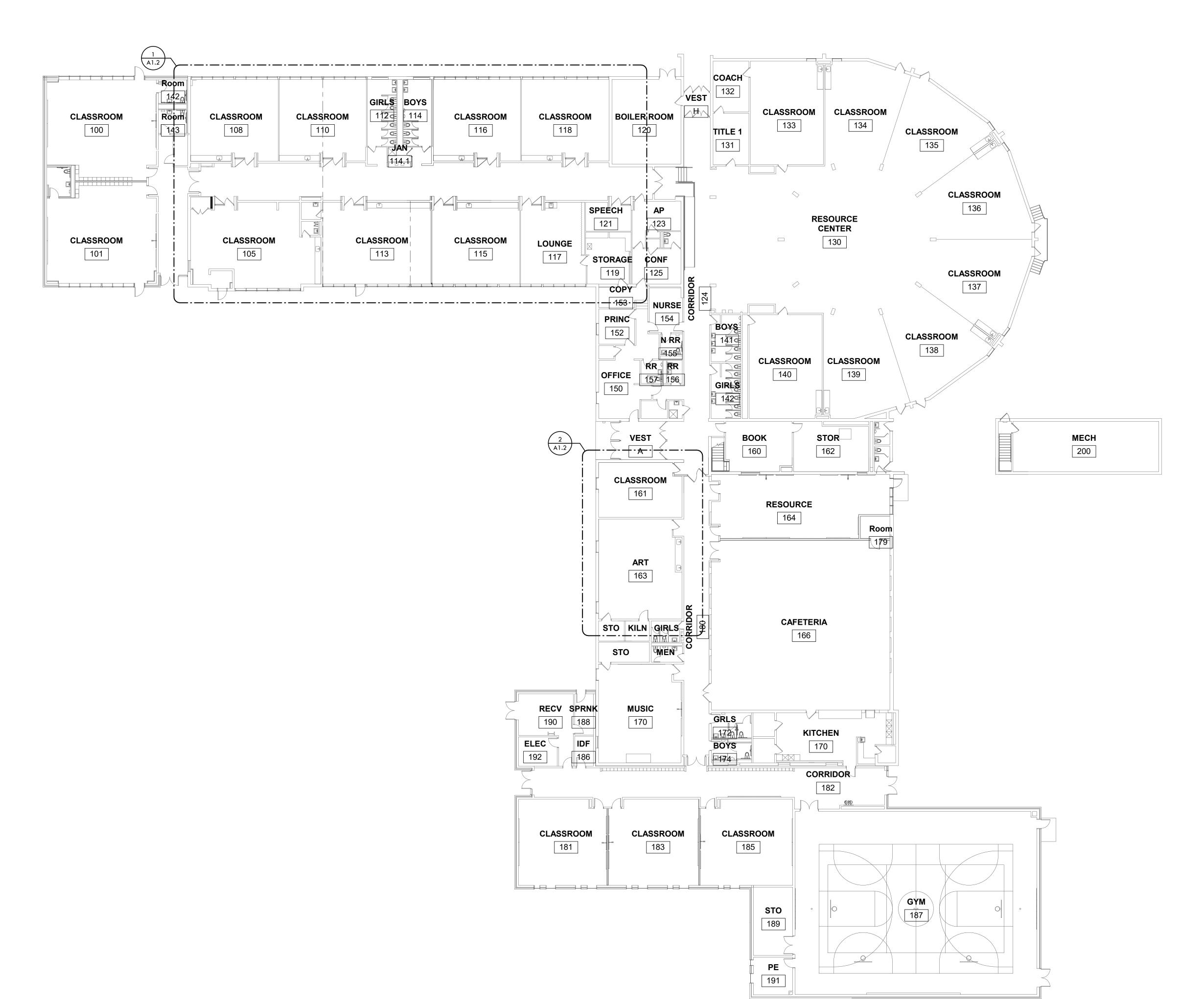
2. VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE. PORTIONS OF

4. ALL EXPOSED PIPING INSULAITON SHALL HAVE PVC SLEEVE. ALL EXPOSED CONDUITS, HANGERS, AND SUPPORTS SHALL BE PRIMED AND PAINTED TO MATCH CEILING

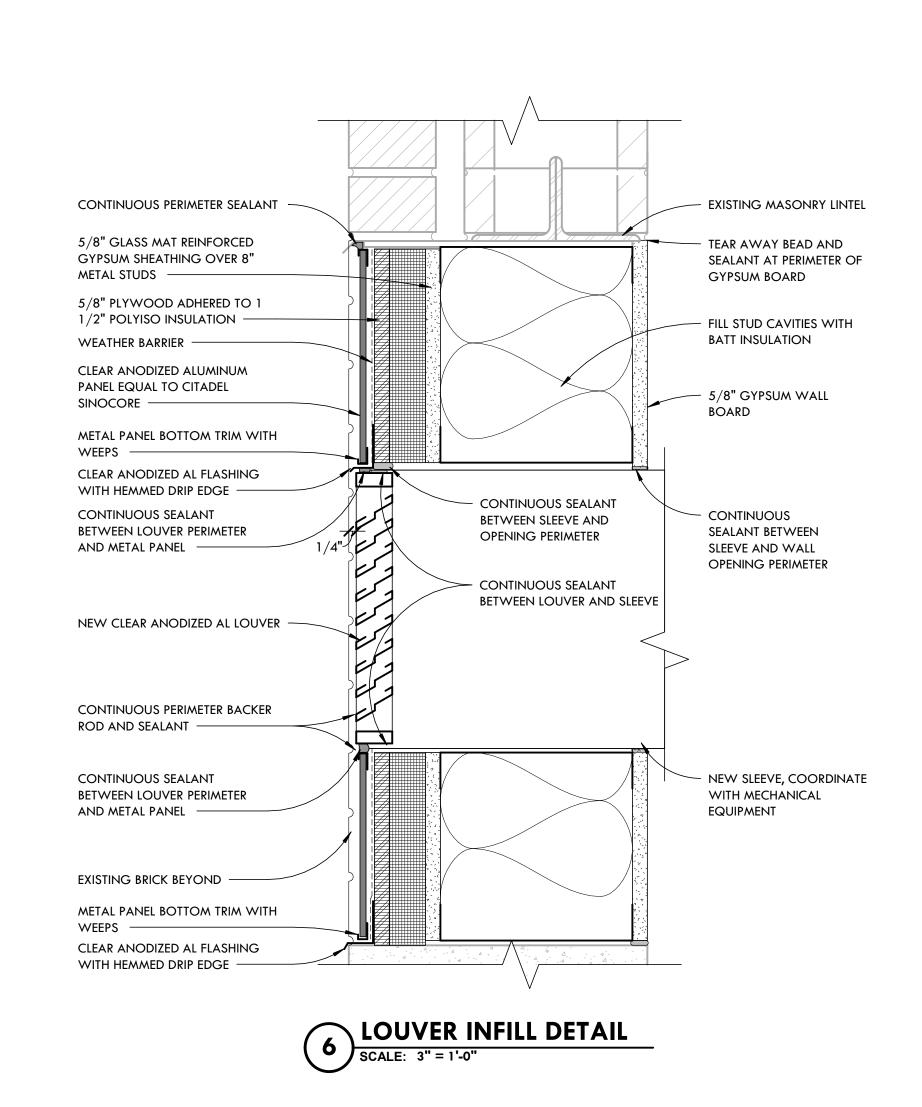


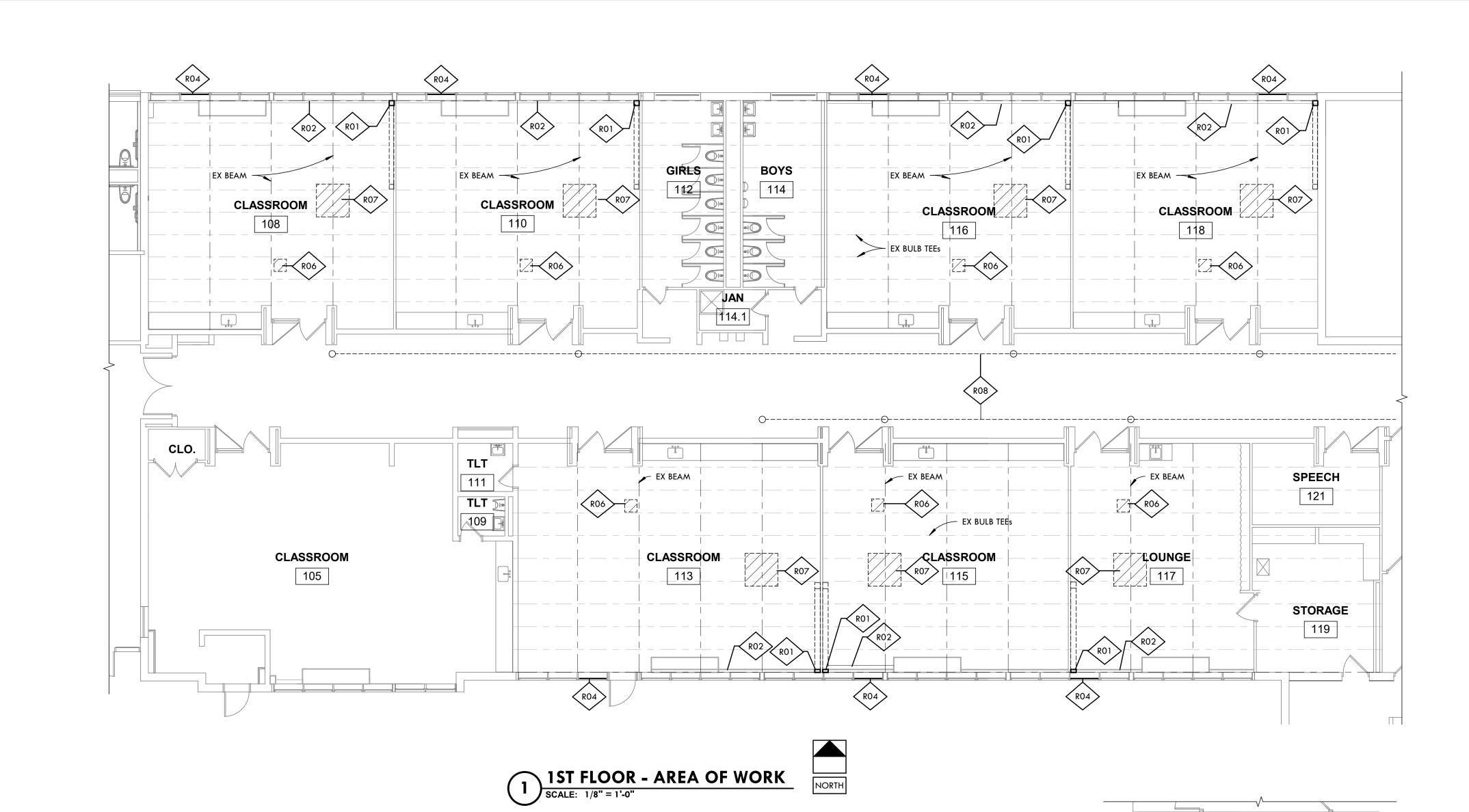


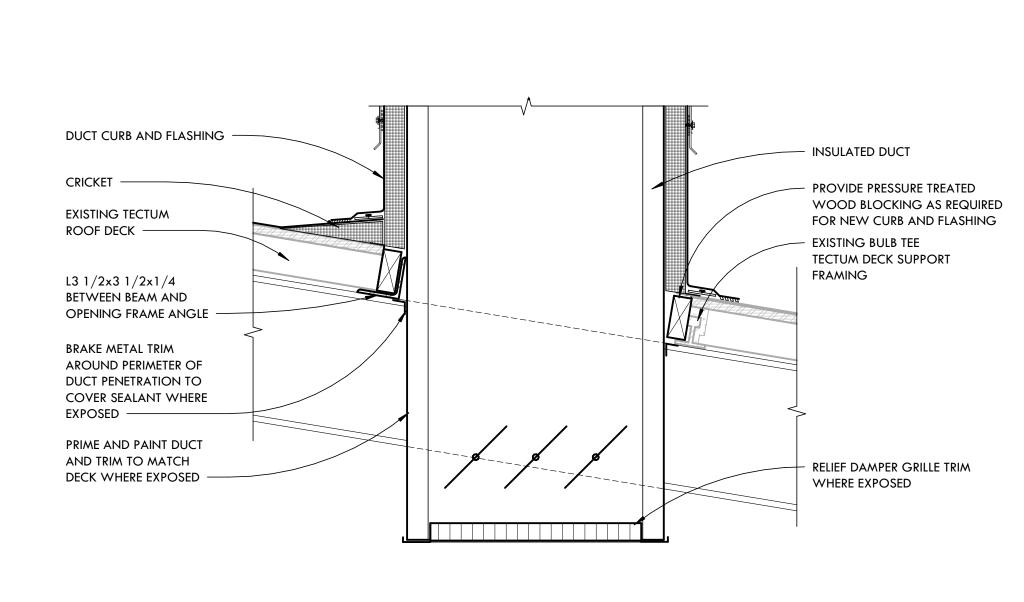
- COLUMN CENTER LINES

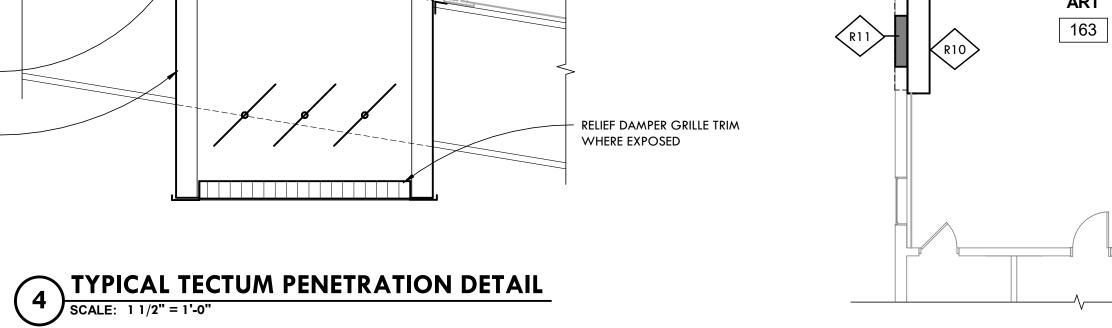












2 ART AND CLASSROOM RENOVATION
SCALE: 1/8" = 1'-0"

- EXISTING RADIATOR

REF PIPE TO UNIT

VERTICAL PIPE COVER OVER

- NEW BRAKE METAL

ALL REFRIGERANT

COVER FOR HORIZONTAL

CLASSROOM

EXISTING BEAM 3' MAX SEE M DRAWINGS - L3 1/2"x3 1/2"x1/4" STEEL ANGLE BETWEEN ANGLE AND BEAM - L3 1/2"x3 1/2"x1/4" STEEL ANGLE BETWEEN BULB TEES FIELD 1/8" FILLET WELD NEW FRAME MEMBERS IN PLACE

8 ROOF OPENING FRAME REFLECTED PLAN DETAIL

SCALE: 1" = 1'-0"

GENERAL NOTES - FLOOR PLAN

1. DIMENSIONS ON FLOOR PLAN ARE BASED ON FACE OF FINISHED WALL TO FACE OF FINISHED WALL (NOMINAL).

2. VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE. PORTIONS OF

- EXISTING CONSTRUCTION MAY HAVE BEEN REMOVED BY OWNER. 3. MAINTAIN CONTINUOUS UTILITY SERVICE TO ALL SPACES IN THE BUILDING NOT AFFECTED BY THIS WORK. COORDINATE WITH OWNER ANY DISRUPTION IN SERVICES REQUIRED TO PERFORM WORK OR TO MODIFY EXISTING PIPING, DUCTWORK OR ANY ASSOCIATED
- 4. ALL EXPOSED PIPING INSULAITON SHALL HAVE PVC SLEEVE. ALL EXPOSED CONDUITS, HANGERS, AND SUPPORTS SHALL BE PRIMED AND PAINTED TO MATCH CEILING

EQUIPMENT.

LEGEND - FLOOR PLAN

- ELEVATION SHEET

- REVISION CLOUD

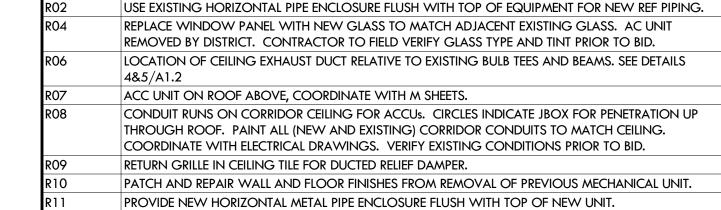
- REVISION TAG

- ROOM NUMBER **BUILDING SECTIONS ELEVATION TARGET** 6 WALL TYPE TAG (SEE A2.1) K10 KEY NOTE 3 PLAN OR SECTION DETAIL
 - DOOR / OPENING NUMBERS 101.2 **ELEVATION DETAIL** FLOOR DRAIN

ROOM ROOM NAME

- COLUMN CENTER LINES
- NEW LOUVER THROUGH EXISTING WALL OPENING. INFILL AROUND NEW LOUVER, SEE DETAIL 6/A2.1.

KEY VALUE



LEGEND - KEYNOTE

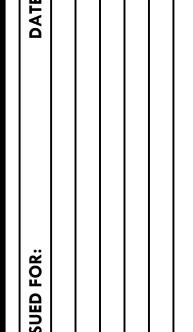
CONSTRUCT NEW VERTICAL METAL PIPE ENCLOSURE FROM HORIZONTAL PIPE COVER TO ROOF

KEYNOTE TEXT

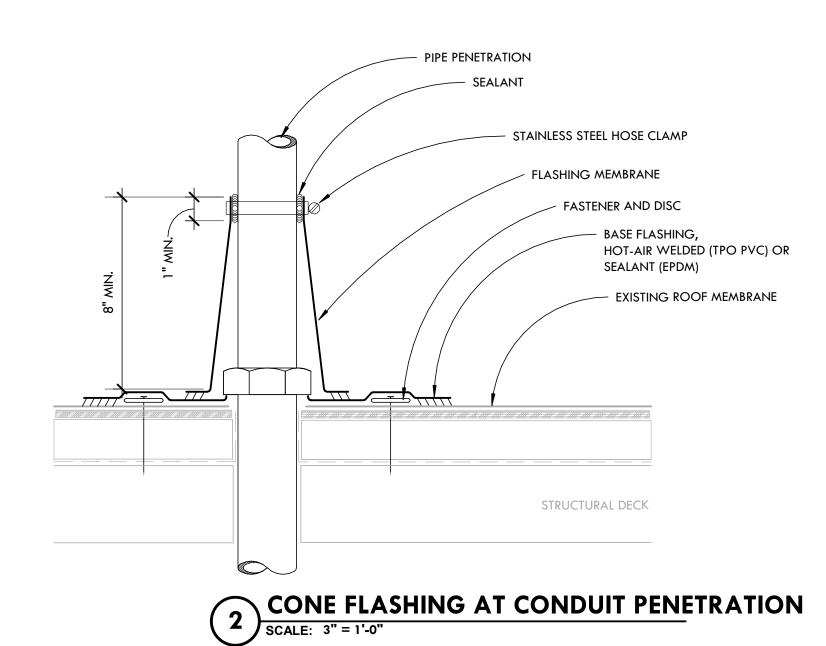


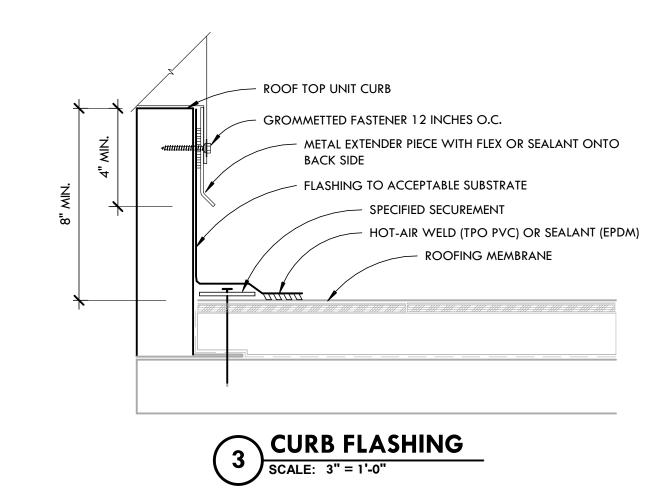
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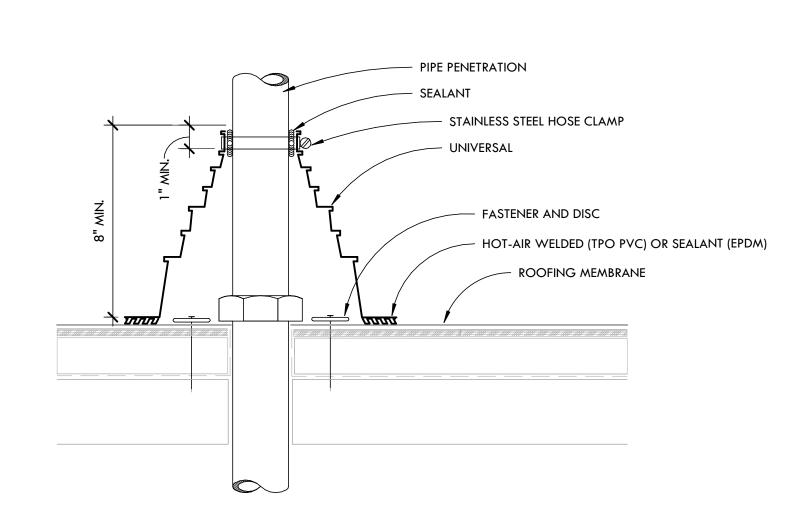
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LEGEND - KEYNOTE KEYNOTE TEXT PROVIDE NON PENETRATING EQUIPMENT PLATFORM FOR CONDENSER UNITS WITH PIPE PORTAL FOR ROOF PIPING PENETRATIONS. COORDINATE WITH MECHANICAL SHEETS. PROVIDE CURB AND FLASHING FOR VENT DUCT THROUGH ROOF. SEE DETAILS 4 & 5/A1.2. CONDUIT FLASHING BOOT.







1) PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER. 2) DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER

3) THE EMPTY SPACE SHALL BE FILLED WITH AN EXPANDING URETHANE FOAM. THIS WILL MINIMIZE CONDENSATION FORMATION AS WELL AS PROVIDING SOME RESILIENCY TO THE FINISHED DETAIL.

GENERAL NOTES - ROOF

1. COORDINATE WITH PLUMBING DRAWINGS FOR PLUMBING VENT PENETRATIONS THROUGH ROOF.

2. COORDINATE WITH ALL OTHER DRAWINGS FOR ADDITIONAL PENETRATIONS THROUGH ROOF. (STRUCTURAL, HVAC, ELECTRICAL, TECH)

3. REFER TO SPECIFICATIONS FOR DESCRIPTION OF ROOF MEMBRANE SYSTEM AND REQUIREMENTS. PROVIDE SINGLE SOURCE SYSTEM.

PROVIDE SYSTEM STANDARD DETAILS FOR ALL APPLICABLE FLASHING, OPENING, PENETRATION, TERMINATION, ETC., CONDITIONS. 4. PROVIDE TAPERED INSULATION SADDLES AT ALL MECHANICAL EQUIPMENT CURBS

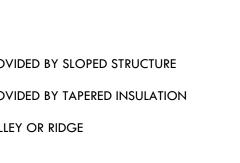
LEGEND - ROOF

VALLEY OR RIDGE

ROOF DRAIN

PROVIDED BY SLOPED STRUCTURE PROVIDED BY TAPERED INSULATION

PAVER WALKWAY



KEY VALUE

EXISTING SKYLIGHTS

LOW SLOPE EPDM ROOF

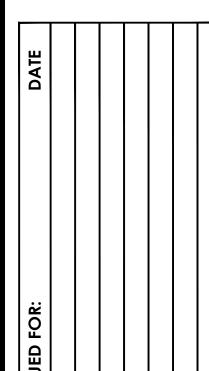
LEGEND - KEYNOTE

PROVIDE CURB AND FLASHING FOR VENT DUCT THROUGH ROOF. SEE DETAILS 4 & 5/A1.2.

ROOF PIPING PENETRATIONS. COORDINATE WITH MECHANICAL SHEETS.

CONDUIT FLASHING BOOT.

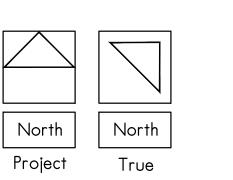
KEYNOTE TEXT PROVIDE NON PENETRATING EQUIPMENT PLATFORM FOR CONDENSER UNITS WITH PIPE PORTAL FOR R30 R31



MD1









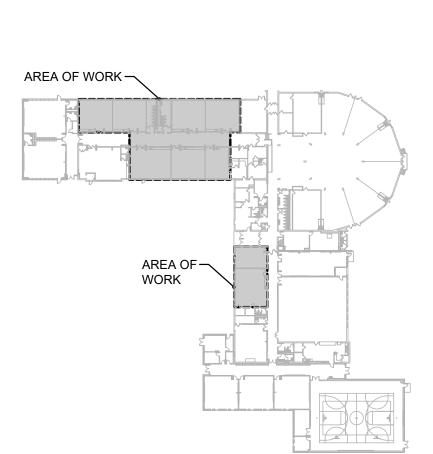
HVAC DEMOLITION DRAWING NOTES:

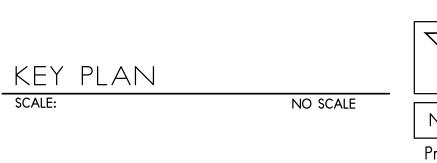
- 1. EXISTING PIPING AND VALVING TO REMAIN.
- 2. EXISTING DUCTWORK, DIFFUSERS, REGISTERS, AND GRILLES TO REMAIN.
- 3. EXISTING HVAC EQUIPMENT TO REMAIN.
- 4. EXISTING THERMOSTAT TO REMAIN.
- 5. REMOVE ALL PIPING, VALVING, HANGERS, INSULATION, ETC. SHOWN DASHED AS REQUIRED TO PROVIDE NEW UNIT VENTILATOR AT SIMILAR LOCATION. REFER TO M1.1G FOR ADDITIONAL INFORMATION.
- 6. DISCONNECT AND REMOVE EXISTING HOT WATER COIL, PROVIDE NEW DX COIL/ REFRIGERANT PIPING/ VALVES/ INSULATION/, CONTROLS, ETC. RE-INSTALL HOT WATER COIL/ PIPING/ VALVING/ INSULATION, CONTROLS, ETC. REFER TO DETAIL AND SPECIFICATIONS.
- 7. REMOVE SELF CONTAINED UNIT VENTILATOR AND ALL ASSOCIATED PIPING, VALVING, CONTROLS, ETC. REMOVE WALL LOUVER UNLESS NOTED OTHERWISE.
- 8. REMOVE EXISTING THERMOSTAT INCLUDING ALL ASSOCIATED CONDUIT, WIRING, PNEUMATIC TUBING, ETC. LOCATED ABOVE ANY ACCESSIBLE CEILING BETWEEN THERMOSTAT AND THE UNIT IT CONTROLS. PROVIDE BLANK COVER PLATE OVER ALL ABANDONED JUNCTION BOXES IN WALLS THAT ARE TO REMAIN.
- 9. EXISTING LOUVER TO REMAIN.
- 10. REMOVE EXISTING FINNED TUBE RADIATION ENCLOSURE CONCEALING HYDRONIC PIPING LOOP. REMOVE/REPLACE PIPING, VALVING, HANGERS, INSULATION, ETC. AS REQUIRED TO PROVIDE A/C.
- 11. CAREFULLY REMOVE WINDOW AIR CONDITIONING UNIT AND TURN OVER TO OWNER.
- 12. REMOVE EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK (AS REQUIRED), CURB, CONTROLS ETC. IN PREPARATION FOR NEW FAN/CURB AT SAME LOCATION.

CONTRACTOR TO REMOVE EXISTING PNEUMATIC / ELECTRIC CONTROL VALVES, ACTUATORS, WIRING, TUBING AND REPLACE WITH DDC CONTROL VALVES, ACTUATORS AND WIRING TO ALL NEW AND EXISTING EQUIPMENT. REMOVE EXISTING PNEUMATIC / ELECTRIC THERMOSTATS AND REPLACE WITH DDC SENSORS.

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REMOVE AND REINSTALL PORTIONS OF THE CEILING TILE AND GRID (WHICH IS NOT INDICATED ON THE ARCHITECTURAL DRAWING) AS REQUIRED TO PERFORM WORK OF THIS TRADE.

ALL EXPOSED PIPING SHALL BE INSULATED PER SPECIFICATION AND COVERED WITH A PVC JACKET. ALL REFRIGERANT PIPING SHALL BE HARD DRAWN. SOFT COPPER LINE SETS ARE NOT ACCEPTABLE.





FIRST FLOOR HVAC PLAN - DEMOLITION SCALE: 1/8" = 1'-0"

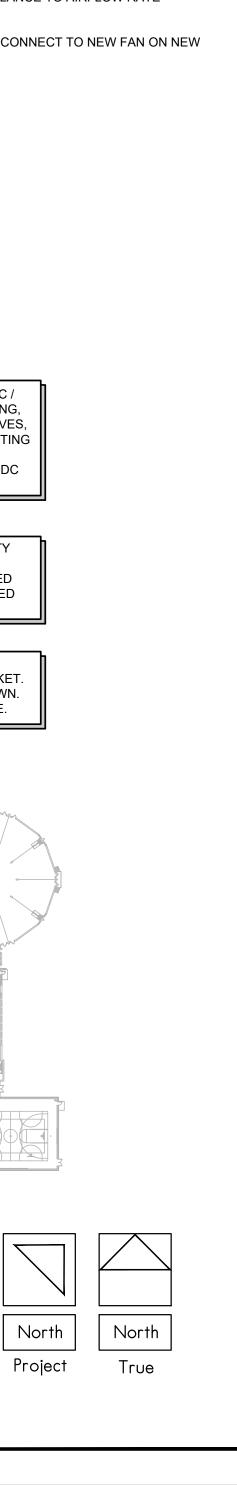
CORRIDOR 180

CLASSROOM

North Project

North

True





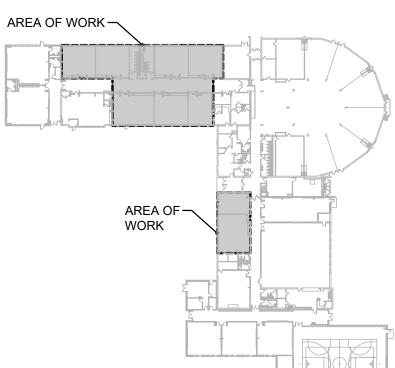
HVAC DRAWING NOTES:

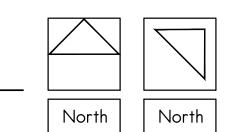
- 1. EXISTING PIPING AND VALVING TO REMAIN.
- 2. EXISTING DUCTWORK, DIFFUSERS, REGISTERS, AND GRILLES TO REMAIN.
- 3. EXISTING HVAC EQUIPMENT TO REMAIN.
- 4. EXISTING THERMOSTAT TO REMAIN.
- 5. DROP NEW REFRIGERANT PIPING DOWN IN METAL PIPE ENCLOSURE. REFER TO ARCHITECTURAL FOR ADDITIONAL ENCLOSURE INFORMATION. NEW PIPE ENCLOSURE PAINTED TO MATCH EXISTING WALLS. PROVIDE WALL/PIPE MOUNTS EVERY 4'-0" O.C. USE CUSH-A-THERM OR KLO-SHURE SERIES 7 STYLE MOUNTS TO ENSURE CONTINUOUS INSULATION VAPOR BARRIER.
- 6. PROVIDE NEW 'DX' COIL IN EXISTING DAIKIN UNIT VENTILATOR. DISCONNECT/ RECONNECT, REMOVE/REPLACE HOT WATER COIL, VALVING, POWER, CONTROLS, ETC. AS REQUIRED. PROVIDE NEW VALVING AND REFRIGERANT PIPING BETWEEN NEW ROOF MOUNTED ACCU AT EXISTING FLOOR MOUNTED UNIT VENTILATOR. INSTALL PER UNIT MANUFACTURES REQUIREMENTS.
- REFRIGERANT PIPING SIZED PER MANUFACTURER. ROUTE REFRIGERANT PIPING CONCEALED ALONG WIDE FLANGE BEAM. REFER TO EXISTING SIMILAR INSTALLATION IN ADJACENT KINDERGARTEN ROOMS.
- 8. REFRIGERANT PIPING UP THROUGH PIPE PORTAL TO NEW ROOF MOUNTED AIR COOLED CONDENSING UNIT. REFER TO SPECIFICATION AND DETAIL. FOR CONTINUATION, REFER TO ROOF PLAN.
- 9. NEW ROOF MOUNTED NEW (ACCU) AIR COOLED CONDENSING UNIT. REFER TO ROOF PLAN. FOR ADDITIONAL INFORMATION, REFER TO SCHEDULES, DETAILS AND SPECIFICATION.
- 10. MODIFY OPERATION OF EXISTING THERMOSTAT TO FUNCTION IN BOTH HEATING AND COOLING MODES OF OPERATION. REFER TO NEW SEQUENCE OF OPERATIONS.
- 11. PROVIDE 3/4" CONNECTION TO EXISTING UNIT VENTILATOR DRAIN PAN, SLOPE TO EXTERIOR, TERMINATE WITH DOWN TURNED SCREENED SCHEDULE 40 ELBOW. SEAL PIPE/WALL PENETRATION WEATHERTIGHT. REFER TO DETAIL ELSEWHERE.
- 12. PROVIDE 18x18 WITH LOW LEAK MOTOR OPERATED DAMPER TO OPEN/CLOSE WITH ON/OFF OPERATION OF UNIT VENTILATOR. 18x18 DUCT UP TO ROOF MOUNTED RELIEF HOOD. COVER OPEN END WITH EXPANDED SHEET METAL SCREEN. REFER TO ROOF PLAN FOR CONTINUATION. FIELD COORDINATE FINAL LOCATION WITH ARCHITECT AND EXISTING CONDITIONS.
- 13. PROVIDE NEW HORIZONTAL PIPE ENCLOSURE. MATCH EXISTING ENCLOSURE. PAINT TO MATCH WALL COLOR AS SELECTED BY ARCHITECT.
- 14. REMOVE/RE-INSTALL/MODIFY EXISTING PIPE ENCLOSURE TO DISCONNECT/ RECONNECT EXISTING HWS/R, CONTROLS, POWER, ETC. TO PROVIDE A/C.
- 15. PROVIDE NEW HOT WATER HEATING, DX COOLING UNIT VENTILATOR. REFER TO SCHEDULES, DETAILS AND SPECIFICATIONS.
- 16. MODIFY/PATCH WALL OPENING TO ACCEPT NEW LOUVER AT SIMILAR LOCATION. BLOCK AND BRICK TO MATCH EXISTING. COORDINATE WITH ARCHITECT.
- 17. REFRIGERANT PIPING SIZED PER MANUFACTURER. ROUTE CONEALED ABOVE EXISTING LAY-IN CEILING.
- 18. PROVIDE NEW DDC THERMOSTAT AT SIMILAR LOCATION. PATCH/PAINT WALL TO MATCH EXISTING.
- 19. PROVIDE 24x24 RELIEF GRILLE. FIELD VERIFY EXACT LOCATION IN SUSPENDED CEILING.
- 20. WALL MOUNTED DUCT FREE SPLIT SYSTEM. FIELD VERIFY EXACT LOCATION. PROVIDE MANUFACTURES REFRIGERANT PIPING SHROUD, MANUFACTURERS CONDENSATE PUMP AND MANUFACTURERS WALL MOUNT BRACKET.
- 21. ROUTE CONDENSATE THROUGH WALL. SEAL WALL/PIPE PENETRATION PER DETAIL. PAINT WALL TO MATCH. ROUTE DOWN TO EXISTING FLOOR DRAIN NEAR MECHANICAL EQUIPMENT. TERMINATE WITH INDIRECT CONNECTION. ROUTE TO AVOID TRIPPING HAZARD.
- 22. EXISTING GRILLES AND DUCTWORK TO REMAIN. BALANCE TO AIRFLOW RATE
- 23. EXISTING EXHAUST RISER TO REMAIN. MODIFY TO CONNECT TO NEW FAN ON NEW TALLER CURB.

CONTRACTOR TO REMOVE EXISTING PNEUMATIC / ELECTRIC CONTROL VALVES, ACTUATORS, WIRING, TUBING AND REPLACE WITH DDC CONTROL VALVES, ACTUATORS AND WIRING TO ALL NEW AND EXISTING EQUIPMENT. REMOVE EXISTING PNEUMATIC / ELECTRIC THERMOSTATS AND REPLACE WITH DDC SENSORS.

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REMOVE AND REINSTALL PORTIONS OF THE CEILING TILE AND GRID (WHICH IS NOT INDICATED ON THE ARCHITECTURAL DRAWING) AS REQUIRED TO PERFORM WORK OF THIS TRADE.

ALL EXPOSED PIPING SHALL BE INSULATED PER SPECIFICATION AND COVERED WITH A PVC JACKET. ALL REFRIGERANT PIPING SHALL BE HARD DRAWN. SOFT COPPER LINE SETS ARE NOT ACCEPTABLE.





FIRST FLOOR HVAC PLAN
scale:

North

Larson & Darby Group
Architecture Engineering Interiors

L

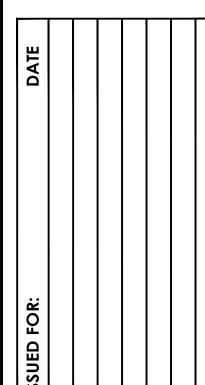
LLC 837 Oakton Street Elk Grove, IL 60007
Tel: 847-981-1885
www.cs2designaroup.com

VEMENTS CS2 DESIGNATION

RPS DISTRICT 205 PROJ #: 24(

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\$2103-03 SHEET NUMBER

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	ELSE	WHERE.					6. ECM CO	ONDENS	ER FAN						AND/OR UNIT	VENTILATOR '	'DX' COIL TO	PRODU	JCE REQUIRED	CAPACITY.														
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TAG	SCHOOL LOCATION	SERVED	MANUFACTURER		SENS.	MODEL	TYPE	Н	W NSION:	D TOTA	L O.A.		EAT. W.B.		FAN MOTOR S PHASE VOLTS	TYPE	AREA (SQ. FT.)	MCA	MOCP PH		MODEL	SIZE (TONS)	SST (°F)	REF. TYPE	EAT (°F) DIA.	WATT	S RPM	MCA M		CAL DATA PHASE	`	PUMP	NOTES
(G.DFSS-1)	GREGORY SPEACH 121	SPEACH 121	MITSUBISHI	11,502	9,516	PKA-A12HA7	WALL MOUNTED	12	35	10 425	0	80.0° F	67.0° F	30	1 208	CLEANABLE		N/A	N/A	1 208	PUY-A12NKA7	1	45.0	R410A	95.0	20"	46		11	28	208	1	YES	1,2,3,4,5,6,7
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AIR COOLED CONDENSING UNIT SCHEDULE

REJECTION WEIGHT

(MBH)

34.0

34.0

34.0

34.0

34.0

34.0

34.0

23.0

34.0

34.0

34.0

34.0

34.0

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3. PROVIDE ANTI-SHORT CYCLE TIMER.

HEAD PRESSURE CONTROL.

4. PROVIDE STEAL LOUVER COIL GUARDS.

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CFA-013-B-A-8

CFA-013-B-A-8

CFA-013-B-A-8

DA00L

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MANUFACTURER

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<u>G.UV-2</u> ART ROOM 163

H.UV-10 CLSRM 113

H.UV-11 CLSRM 114

H.UV-12 CLSRM 115

<u>H.UV-16</u> RESOURCE 121

H.UV-17 RESOURCE 121

H.UV-18 RESOURCE 121

<u>H.UV-1</u> CLSRM. 101

H.UV-3 CLSRM. 100

<u>H.UV-7</u> CLSRM. 106

H.UV-29 CLSRM. 214

CLASSROOM

CLSRM. POD

EX.M.RTU-2

CLSRM. POD

EX.M.RTU-3

CLSRM. POD

AU/STAR

AU/STAR

<u>N.UV-1</u> MOTOR ROOM

<u>N.UV-2</u> SPEECH OFFICE

N.UV-3 RESOURCE

<u>N.UV-4</u> MULTIPURPOSE

NOTES: 1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECIFICATIONS.

3. PRIOR TO ORDERING, FIELD VERIFY VOLTAGE AND PHASE.

2. PROVIDE MINIMUM 18" HIGH MIRO STRUCTURAL ROOF SUPPORT

PLATFORMS WITH VIBRATION ISOLATION PADS. REFER TO DETAIL

N.ACCU-5 | NASHOLD | N.UV-5 | ROOF | MULTIPURPOSE

SCHOOL LOCATION

G.ACCU-1

G.ACCU-2)

G.ACCU-3

G.ACCU-4)

G.ACCU-5

G.ACCU-6)

G.ACCU-7

G.ACCU-8

G.ACCU-9

H.ACCU-1

H.ACCU-2

(H.ACCU-3

(H.ACCU-4)

H.ACCU-5

H.ACCU-6

(H.ACCU-7)

(H.ACCU-8)

H.ACCU-9

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(H.ACCU-22)

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(H.ACCU-28)

(H.ACCU-29)

(M.ACCU-1)

M.ACCU-2

M.ACCU-3

M.ACCU-4

(M.ACCU-5)

M.ACCU-6

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M.ACCU-8

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M.ACCU-14)

(M.ACCU-15)

(M.ACCU-16)

(M.ACCU-17)

N.ACCU-1

N.ACCU-2

(N.ACCU-3)

N.ACCU-4

HILLMAN ROOF

HILLMAN ROOF

HILLMAN ROOF

COMPRESSORS

SCROLL 2-STAGE

SCROLL 2-STAGE

SCROLL 2-STAGE

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SCROLL

13 TOTAL

13 TOTAL

13 TOTAL

QUANTITY SIZE EACH CAPACITY SST REF. (°F) TYPE EAT (°F) QUANTITY DIAMETER TYPE HP (ea.) RPM SP (IN)

15.0 R410A 95.0

45.0 R410A 95.0

45.0 R410A 95.0

45.0 R410A 95.0

15.0 R410A 95.0

45.0 R410A 95.0

15.0 R410A 95.0

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ELECTRICAL DATA

MCA MOCP PHASE VOLT

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CONTROL AND CONDENSATE PIPING.

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22 PROP 1/6

22 | PROP | 1/6

22 PROP 1/6

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PROP

22 PROP 1/6

PROP

7. THE UNIT VENTILATOR MANUFACTURER SHALL MATCH THE DX COIL TO

THE CONDENSING UNIT TO PRODUCE THE REQUIRED CAPACITY.

8. AIR COOLED CONDENSER MANUFACTURER TO MATCH EXISTING RTU

22 PROP

22 PROP

PROP 1/6

PROP 1/6

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22 PROP

PROP 1/6

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PROP 1/6

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22 PROP

22 PROP

	EQUIPMENT TAG	SCHOOL LOCATION	SERVICE	MANUFACTURER	MODEL/ SERIES NUMBER	TYPE	CFM	NUMBER OF TIERS	THROAT SIZE (IN. x IN.)	HOOD FREE AREA (SQ. FT.)	MAX. THROAT VELOCITY (FPM)	STATIC PRESSURE (IN. W.G.)	NOTES
7	G.RH-1	GREGORY ROOF	EX.UV CLRM. 110	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	G.RH-2	GREGORY ROOF	EX.UV CLRM. 116	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	G.RH-3	GREGORY ROOF	EX.UV CLRM. 118	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	G.RH-4	GREGORY ROOF	EX.UV CLRM. 113	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
_	G.RH-5	GREGORY ROOF	EX.UV CLRM. 115	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
_ [G.RH-6	GREGORY ROOF	<u>EX.UV</u> CLRM. 117	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
- [G.RH-7	GREGORY ROOF	EX.UV ART RM. 163	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
$+$ \dagger	G.RH-8	GREGORY ROOF	EX.UV CLRM. 161	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
\dashv \dagger													
\dashv \dagger	(H.RH-1)	HILLMAN ROOF	<u>H.UV-26</u> CLSRM. 212	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
\dashv \dagger	(H.RH-2)	HILLMAN ROOF	<u>H.UV-27</u> CLSRM. 213	GREENHECK	FABRA HOOD FHR	RELIEF	750		18x18	4.5	667	0.12	1-6
7	H.RH-3	HILLMAN ROOF	<u>H.UV-28</u> CLSRM. 214	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	(H.RH-1)	HILLMAN ROOF	<u>H.UV-28</u> CLSRM. 214	GREENHECK	FABRA HOOD FHI	INTAKE	1000		18x18	4.5	445	0.12	1-6
_ [(M.RH-1)	MCINTOSH ROOF	<u>M.UV-1</u> CLSRM. 12	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
4 [(M.RH-2)	MCINTOSH ROOF	<u>M.UV-2</u> CLSRM. 11	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
- [(M.RH-3)	MCINTOSH ROOF	<u>M.UV-3</u> CLSRM. 10	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	(M.RH-4)	MCINTOSH ROOF	<u>M.UV-4</u> CLSRM. 9	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	(M.RH-5)	MCINTOSH ROOF	M.UV-5 CLSRM. 8	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
\dashv [(M.RH-6)	MCINTOSH ROOF	M.UV-6 CLSRM. 7	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
\dashv \restriction	(M.RH-7)	MCINTOSH ROOF	M.UV-7 CLSRM. 6	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
7 [(M.RH-8)	MCINTOSH ROOF	M.UV-8 CLSRM. 5	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	(M.RH-9)	MCINTOSH ROOF	M.UV-9 CLSRM. 4	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	(M.RH-10)	MCINTOSH ROOF	M.UV-10 CLSRM. 3	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
_	(M.RH-11)	MCINTOSH ROOF	M.UV-11 CLSRM. 2	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
_	(M.RH-12)	MCINTOSH ROOF	M.UV-12 CLSRM. 1	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
	(M.RH-13)	MCINTOSH ROOF	M.UV-13 CLSRM. 22	GREENHECK	FABRA HOOD FHR	RELIEF	1400		18x18	4.5	622	0.093	1-6
- [
-	N.RH-1	NASHOLD ROOF	N.UV-X MOTOR ROOM	GREENHECK	FABRA HOOD FHR	RELIEF	1500		18x18	4.5	667	0.12	1-6
\dashv \dagger	N.RH-1	NASHOLD ROOF	N.UV-X SPEECH	GREENHECK	FABRA HOOD FHR	RELIEF	750		18x18	4.5	667	0.12	1-6
\dashv \dagger													
\dashv \dagger	M.IH-1	MCINTOSH ROOF	<u>M.UV-13</u> CLSRM. 22	GREENHECK	FABRA HOOD FHI	INTAKE	1400		30x12	5.0	560	0.074	1-6
- 													
		2. PROVIDE P 3. PROVIDE G				" HIGH.	AND (OPER	CONTROLLER ATION THRO	R. BAS TO DAMP		LOW LEAKAGE DAM UPIED/UN-OCCUPIE		

INTAKE/RELIEF HOOD SCHEDULE

	DI	FFUSER, GF	RILLE	AND REGIS	TER SCH	EDULE		
EQUIPMENT TAG	MANUFACTURER	MODEL		TYPE	NOMINAL FACE SIZE	MATERIAL	MAX. N.C.	NOTES
Α	TITUS	OMNI	SQUAI	RE PANEL FACE	24"x24"	STEEL	30	1,2,3
В	TITUS	45F		GGCRATE GHTPROOF	24"x24"	ALUMINUM	30	1,2,3,4
С	TITUS	300F		LE DEFLECTION REGISTER	VARIES	ALUMINUM	30	1,2,3
D	TITUS	350F		DEFLECTION REGISTER	VARIES	ALUMINUM	30	1,2,3
·		•						

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECIFICATIONS. OFF-WHITE BAKED ENAMEL FINISH. MATCH FRAME TYPE TO WALL/CEILING TYPE. 4. 1/2"x1/2"x1" GRID.

FLOOR PLAN TAG LEGEND: 'S'=SUPPLY 'R'=RETURN/RELIEF —— 'E'=EXHAUST

— AIR FLOW (CFM)

EQUIPMENT TAG———— - NECK SIZE (IN.)

	used	withou	t the v	vritten	conse	ent of
DATE						

	DA:		
	UED FOR:		

PROJECT NUMBER	00 60106	52105-00	SHEET NUMBER	(\ \ \	

1					1.	GENERAL	-		LINITA	ENTU ATO	CADINET	I AID ADD		НС	T WATER/	STEAM HEATIN	G COIL		· ·	'DX' CC	OOLING COIL		WA	ALL LOUVER	R	CONTROLS	FILT	ERS	\Box		ECTRICAL	DATA	
IPMENT TAG	SCHOOL LOCATION	AREA SERVED	MANUFACTURER	MODEL NO.	NOMINAL CFM	OPERATING CFM	O.A. CFM		OTH DEP	ENTILATOR TH HEIGHT	CABINET ACCESSORIES		ANGEMENT DISCHARGE	COIL	/S PD. FL	DW EWT EAT(°F) LAT(°F	CAP.	COIL N	NOMINAL	CAP EAT(°F)	LAT(°F)	SIZE (IN.)	BLADES	DEC.	DAMPER	TYPE	SIZE	EXIRA FA	SUPPLY AN QTY, MCA	МОСРРН	ASE VOLTS	NOTES
111/4	GREGORY CLSRM 161	CLASSROOM	DAIKIN	UAVS9S13	1250	MEDIUM 4400				.) (IN.)	(2) 1" END PANELS	воттом	TOP	NOTE 2		0 180 50.) (MBH) (NOTE		(MBH) (DB/WB) 24.0 80/67	(DD/VVD)	` ,	HORIZ.	GRILLE NO	VALVE &	1" T.A., MERV 8	1 @	YES 1	@ HP 1@ 1/4 3.9	15	1 120	1-14
.UV-1)	CLSRM 161 GREGORY	161 ART ROOM				1100	310	FLOOR 1	12 22	2 30	(2) 12" UTILITY COMP. (2) 1" END PANELS	FRONT		6 ²				+ +	6 NOTE	-						F&B VALVE &	,	10x60.5					+
.UV-2)	ART RM. 163	163	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 12" UTILITY COMP.	BOTTOM FRONT	TOP	6 2	2.6 4	0 180 50.	0 123.7	7 97.0	6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	F&B	1" T.A., MERV 8	10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-14
.UV-1	<u>HILLMAN</u> CLSRM 101	CLASSROOM 101	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS (-) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-14
.UV-2	HILLMAN CLSRM 102	CLASSROOM 102	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS (-) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-14
.UV-3	HILLMAN CLSRM 100	CLASSROOM 100	DAIKIN	UAHF9V10	1000	890	250	CLG. 7	6 36	3 16	DISCHARGE AIR DOUBLE DEF. GRILLE - FRONT	REAR	FRONT	NOTE 2	1.9 3	0 180 50.	0 109.0	0 64.0	NOTE 6	2.0	24.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
.UV-4)	HILLMAN CLSRM 103	CLASSROOM 103	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	2 30	(2) 1" END PANELS (-) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-14
.UV-5	HILLMAN	CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS	воттом	TOP	NOTE 2	26 4	0 180 50.	0 123.7	7 97 0	NOTE	3.0	34.0 80/67	55 2/55 3	72x10 375	HORIZ.	NO	F&B VALVE &	1" T.A., MERV 8	2 @	YES 1	1@ 1/4 3.9	15 1	1 120	1-14
	CLSRM 104 HILLMAN	104 CLASSROOM									(-) 12" UTILITY COMP. (2) 1" END PANELS	FRONT BOTTOM		6 2 NOTE 2	+		_	+ +	6 NOTE							F&B VALVE &	1" T.A., MERV 8	10x36.5 2 @					1
.UV-6)	CLSRM 105 HILLMAN	105 CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375		00 22	2 30	(-) 12" UTILITY COMP. (2) 1" END PANELS	FRONT BOTTOM	ТОР	6 ²		0 180 50.		7 97.0	6 NOTE		34.0 80/67			HORIZ.	NO	F&B VALVE &	,	10x36.5	YES 1		15 1	1 120	1-14
.UV-7)	CLSRM 106	106	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	2 30	(-) 12" UTILITY COMP.	FRONT	TOP	6 2	2.6 4	0 180 50.	0 123.7	7 97.0	6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	F&B VALVE &	1" T.A., MERV 8	10x36.5	YES 1		15 1	1 120	1-14
.UV-8	HILLMAN CLSRM 111	CLASSROOM 111	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40	16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	REAR BOTTOM	воттом	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				F&B	1" T.A., MERV 8	10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
.UV-9	HILLMAN CLSRM 112	CLASSROOM 112	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40	16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	REAR BOTTOM	воттом	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-10	HILLMAN CLSRM 113	CLASSROOM 113	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40	16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	REAR BOTTOM	воттом	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-11)	HILLMAN CLSRM 114	CLASSROOM 114	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40) 16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	REAR BOTTOM	воттом	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES '	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-12)	HILLMAN CLSRM 115	CLASSROOM 115	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40) 16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	REAR BOTTOM	воттом	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15	1 120	1-13,15
UV-13)	HILLMAN CLSRM 116	CLASSROOM 116	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40) 16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	REAR BOTTOM	ВОТТОМ	NOTE 2	2.6 4	0 180 50.		+ +	NOTE		34.0 80/67	55.2/55.3				VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-14)	HILLMAN	CLASSROOM	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40) 16	DISCHARGE AIR DOUBLE	REAR	ВОТТОМ	NOTE 2	26 4	0 180 50.	123.7	7 97 0	NOTE	3.0	34.0 80/67	55 2/55 3				F&B VALVE &	1" T.A., MERV 8	2 @	YES	1@ 1/4 3.9	15 1	1 120	1-13,15
	CLSRM 117 HILLMAN	117 CLASSROOM								10	DEF. GRILLE - BOTOM DISCHARGE AIR DOUBLE	BOTTOM REAR		NOTE			_	+ +	6 NOTE							F&B VALVE &	1" T.A., MERV 8	10x36.5 2 @		1@ 1/4 3.9		-	1-13,15
UV-15)	CLSRM 118 HILLMAN	118 RESOURCE	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	36	7 16	DEF. GRILLE - BOTOM DISCHARGE AIR DOUBLE	BOTTOM REAR	BOTTOM	6 2	+	0 180 50.	_	+ +	6 NOTF		34.0 80/67					F&B		10x36.5				1 120	
UV-16)	RES. 121	121	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 36	5 16	DEF. GRILLE - FRONT	воттом	FRONT	6 2		0 180 50.	_	7 97.0	6		34.0 80/67					F&B	1" T.A., MERV 8	10x36.5	YES 1			1 120	1-13,15
UV-17	HILLMAN RES. 121	RESOURCE 121	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 36	16	DISCHARGE AIR DOUBLE DEF. GRILLE - FRONT	REAR BOTTOM	воттом	6 2	2.6 4	0 180 50.	0 123.7	7 97.0	6	3.0	34.0 80/67	55.2/55.3				F&B	1" T.A., MERV 8	10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-18	HILLMAN RES. 121	RESOURCE 121	DAIKIN	UAHF9V15	1500	1113	375	CLG. 9	8 40	16	DISCHARGE AIR DOUBLE DEF. GRILLE - FRONT	REAR BOTTOM	BOTTOM	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-19	<u>HILLMAN</u> CLSRM 201	CLASSROOM 201	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS (-) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15	1 120	1-13
UV-20	HILLMAN CLSRM 202	CLASSROOM 202	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	2 30	(2) 1" END PANELS (-) 12" UTILITY COMP.	BOTTOM FRONT	ТОР	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15	1 120	1-13
UV-21)	HILLMAN CLSRM 200	CLASSROOM 200	DAIKIN	UAHF9S10	1000	920	250	CLG. 7	6 40) 16	DISCHARGE AIR DOUBLE DEF. GRILLE - BOTOM	BOTTOM FRONT	TOP	NOTE 2	1.9 3	0 180 50.	0 109.0	0 64.0	NOTE 6	3.0	34.0 80/67	55.2/55.3				VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES .	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-22)	HILLMAN CLSRM 203	CLASSROOM 203	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	2 30	(2) 1" END PANELS (-) 12" UTILITY COMP.	REAR BOTTOM	ВОТТОМ	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES	1@ 1/4 3.9	15 1	1 120	1-13
UV-23)	HILLMAN	CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 23	30	(2) 1" END PANELS	воттом	TOP	NOTE 2	26 4	0 180 50.	123.7	7 97 0	NOTE	-	34.0 80/67	+		HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @	YES	1@ 1/4 3.9	15	1 120	1-13
UV-24)	CLSRM 204 HILLMAN	204 CLASSROOM	DAIKIN	UAVS9S15	1500					30	(-) 12" UTILITY COMP. (2) 1" END PANELS	FRONT BOTTOM	TOP	6 - NOTE 2	+	0 180 50.		+	6 NOTE		34.0 80/67			HORIZ.	NO	F&B VALVE &	1" T.A., MERV 8	10x36.5 2 @		1@ 1/4 3.9		1 120	1 12
	CLSRM 205 HILLMAN	205 CLASSROOM				1113					(-) 12" UTILITY COMP. (2) 1" END PANELS	FRONT BOTTOM		6 ²			-	+	6 NOTE					+		F&B VALVE &	,	10x36.5					1-13
UV-25)	CLSRM 206	206 CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	2 30	(-) 12" UTILITY COMP. DISCHARGE AIR DOUBLE	FRONT REAR	ТОР	6 2		0 180 50.		+	6 NOTE		34.0 80/67		72x10.375	HORIZ.	NO ———	F&B VALVE &	1" T.A., MERV 8	10x36.5		1@ 1/4 3.9		1 120	1-13
UV-26)	CLSRM 206	208	DAIKIN	UAHF9V10	1000	920	250	CLG. 7	6 40	16	DEF. GRILLE - BOTOM	воттом	воттом	6 2	1.9 3	0 180 50.	0 109.0	0 64.0	6	3.0	34.0 80/67	55.2/55.3				F&B	1" T.A., MERV 8	0.0	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,15
UV-27	HILLMAN CLSRM 212	CLASSROOM 212	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS (1) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	6 6	3.0	34.0 80/67	55.2/55.3	2@30x12	HORIZ.	NO	F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,16
UV-28	HILLMAN CLSRM 213	CLASSROOM 213	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS (1) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	2@30x12	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13,16
UV-29	<u>HILLMAN</u> CLSRM 214	CLASSROOM 214	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	00 22	30	(2) 1" END PANELS (1) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	2@30x12	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES '	1@ 1/4 3.9	15 1	1 120	1-13,16
.UV-1	MCINTOSH CLSRM 12	CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	ТОР	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES '	1@ 1/4 3.9	15 1	1 120	1-13
.UV-2)	MCINTOSH CLSRM 11	CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 1" END PANELS (2) 12" UTILITY COMP.	воттом	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @	YES	1@ 1/4 3.9	15 1	1 120	1-13
.UV-3	MCINTOSH	CLASSROOM	DAIKIN	UAVS9S15	1500	1113		FLOOR 1		30	(2) 1" END PANELS	FRONT BOTTOM	TOP	NOTE 2		0 180 50.		+	NOTE		34.0 80/67	+		HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @	YES	1@ 1/4 3.9	15 1	1 120	1-13
	CLSRM 10 MCINTOSH	10 CLASSROOM									(2) 12" UTILITY COMP. (2) 1" END PANELS	FRONT BOTTOM		6 ² NOTE 0	+			+	6 NOTE						-	F&B VALVE &	,	10x36.5 2 @				-	1
.UV-4)	MCINTOSH CLSRM 9 MCINTOSH	9 CLASSROOM	DAIKIN	UAVS9S15	1500	1113			24 22		(2) 12" UTILITY COMP. (2) 1" END PANELS	FRONT BOTTOM	TOP	6 2		0 180 50.	_	97.0	6 NOTE		34.0 80/67			HORIZ.	NO	F&B	1" T.A., MERV 8	10x36.5		1@ 1/4 3.9		1 120	1-13
.UV-5	MCINTOSH CLSRM 8	8	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 12" UTILITY COMP.	FRONT	TOP	6 2		0 180 50.	_	+ +	6		34.0 80/67			HORIZ.	NO	F&B	1" T.A., MERV 8	10x36.5		1@ 1/4 3.9		1 120	1-13
.UV-6	MCINTOSH CLSRM 7	CLASSROOM 7	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13
.UV-7	MCINTOSH CLSRM 6	CLASSROOM 6	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13
.UV-8	MCINTOSH CLSRM 5	CLASSROOM 5	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES '	1@ 1/4 3.9	15 1	1 120	1-13
.UV-9	MCINTOSH CLSRM 4	CLASSROOM 4	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	ТОР	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE & F&B	1" T.A., MERV 8	2 @ 10x36.5	YES '	1@ 1/4 3.9	15 1	1 120	1-13
UV-10	MCINTOSH CLSRM 3	CLASSROOM 3	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	ТОР	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE 6	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES	1@ 1/4 3.9	15 1	1 120	1-13
UV-11)	MCINTOSH CLSRM 2	CLASSROOM	DAIKIN	UAVS9S15	1500	1113	375	FLOOR 1	24 22	2 30	(2) 1" END PANELS (2) 12" UTILITY COMP.	BOTTOM FRONT	TOP	NOTE 2	2.6 4	0 180 50.	0 123.7	7 97.0	NOTE	3.0	34.0 80/67	55.2/55.3	72x10.375	HORIZ.	NO	VALVE &	1" T.A., MERV 8	2 @ 10x36.5	YES	1@ 1/4 3.9	15 1	1 120	1-13
UV-12)	MCINTOSH	CLASSROOM	DAIKIN	UAVS9S15	1500	1113		FLOOR 1	24 22	2 30	(2) 1" END PANELS	воттом	TOP	NOTE 2		0 180 50.	_	+ +	NOTE	-	34.0 80/67	+		HORIZ.	NO	F&B VALVE &	1" T.A., MERV 8	2 @	YES 1	1@ 1/4 3.9	15 1	1 120	1-13
	CLSRM 1	1				0	J. V	11		+ -	(2) 12" UTILITY COMP.	FRONT		6 2		1.55	1.20.7		б		33/37	33.0				F&B	,	10x36.5					
10//	NASHOI D	MOTOR SKILLS	B.117711		4500	2445		FI 005	10		(2) 1" END PANELS	воттом	TO-	NOTE 4		001	1	4 7	NOTE		24.0	FF 0/5= -	70.40.5=	1105:-	No	VALVE &	411 T. A. BAEDY ()	2 @		1@ 4/4		.=.	
.UV-1	NASHOLD MOTOR ROOM NASHOLD	ROOM	DAIKIN	UAVS9S15	1500	1113		FLOOR 1	12 22	2 30	(1) 12" UTILITY COMP.	FRONT BOTTOM	TOP	6 1	2 F		0 103.4	+ +	6 NOTE		34.0 80/67		72x10.375	HORIZ.	NO	F&B	1" T.A., MERV 8	10x36.5		1@ 1/4 3.9		1 120	1-13
.UV-2	SPEECH OFFICE	OFFICE	DAIKIN	UAHF9V07	750	592	185	FLOOR 6	4 22	30	(-) 12" UTILITY COMP.	FRONT	TOP	6 1	2 F	PSI 50.	95.9	37.2	6	2.0	24.0 80/67	55.2/55.3				F&B		10x36.5		1@ 1/4 3.9		1 120	1-13.15
.UV-3	NASHOLD RESOURCE	RESOURCE	DAIKIN	UAHF9V13	1250	1083	375	CLG. 8	8 36	16	DISCHARGE AIR DOUBLE DEF. GRILLE - FRONT	REAR BOTTOM	FRONT	NOTE 2	2.3 4	0 180 50.	0 112.5	5 84.7	NOTE 6	2.0	24.0 80/67	55.2/55.3				F&B	1" T.A., MERV 8	1 @ 10x60.5	YES 1	1@ 1/4 3.9	15 1	1 120	1-13
.UV-4	NASHOLD MULTIPURPOSE	MULTIPURPOSE	DAIKIN	UAHF9V13	1250	1083	375	CLG. 8	8 36	16	DISCHARGE AIR DOUBLE DEF. GRILLE - FRONT	REAR BOTTOM	FRONT	NOTE 2	2.3 4	0 180 50.	0 112.5	5 84.7	NOTE 6	2.0	24.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x60.5	YES	1@ 1/4 3.9	15 1	1 120	1-13
.UV-5	NASHOLD MULTIPURPOSE	MULTIPURPOSE	DAIKIN	UAHF9V13	1250	1083	375	CLG. 8	8 36	16	DISCHARGE AIR DOUBLE DEF. GRILLE - FRONT	REAR BOTTOM	FRONT	NOTE 2	2.3 4	0 180 50.	0 112.5	5 84.7	NOTE 6	2.0	24.0 80/67	55.2/55.3				VALVE & F&B	1" T.A., MERV 8	2 @ 10x60.5	YES	1@ 1/4 3.9	15 1	1 120	1-13
TES:			RERS: SEE SPECIFIC	ATIONS.	5.						D VENTILATOR SIDE			BY ARCHITE			•				2" UTILITY CON			/ERIFY R/L H	HAND.		ROVIDE LITTLE G						
	 PROVIDE DISC UNIT TO BE FA 		WIRED FOR SINGLE	POINT							G, CONDUITS, AND ISULATION.			SET OF FILTE IED TO OPER		EDIUM SPEED.					R COIL SELECT WATER CONT			OTED OTHE	RWISE ON	16. L	OUVER TO FIT IN	∟XISTING	WINDOW	PANEL.			

UNIT VENTILATOR SCHEDULE (UNDER WINDOW/SUSPENDED)

- 3. UNIT TO BE FACTORY INTERNALLY WIRED FOR SINGLE POINT
- ELECTRICAL CONNECTION. 4. VERIFY ALL DIMENSIONS PRIOR TO ORDERING EQUIPMENT.
- CONTROL WIRING SHALL BE FILLED WITH BATT INSULATION. 6. FIELD VERIFY COIL PIPING CONNECTIONS SIDE PRIOR TO ORDERING
- 9. SYSTEM IS DESIGNED TO OPERATE ON MEDIUM SPEED. 10. TEMPERATURE CONTROL CONTRACTOR TO FURNISH THE CONTROLLER AND SHIP TO THE MANUFACTURER FOR FACTORY MOUNTING.
- FLOOR PLANS. REFER TO DETAILS.
 - 13. 2-WAY HOT WATER CONTROL VALVE UNLESS NOTED OTHERWISE ON 14. LOUVER: DARK BRONZE OR ANODIZED FINISH AS SELECTED BY ARCH.

											Į	TINU	VENTI	LATC	OR SCH	HEDULE	E (VE	RTICA	_ STANI	OUP)														<u>'</u>			
			GI	ENERAL										НОТ	WATER C	COIL				DX C	OOLING	COIL			ACCES	SORIES	FACTORY	CONTROLS		FILTERS		SUPF	LY FAN	-POWEI	R EXHAUS	iΤ	
CHOOL CATION	AREA SERVED	MANUF.	MODEL	STANDARD AIR DELIVERY	EXT. S.P. IN.	MIN. UN O.A. (CFM) TYP	E WIDTH			INILET	ANGEMENT DISCHARGE	ROWS	COIL CONN.	EAT (°F)	LAT EWT (°F) (°F)	MAX. PD. GF (FT.)	PM CA	P. BH) ROWS	COIL CONN.	EAT EAT DB WE (°F) (°F	LAT L DB V (°F) (°	AT VB SST °F)		TOTAL CAP. (MBH)		OUVER DEPTH	DAMPERS	HOT WATER COIL CONTROLS	TYPE	SIZE	EXTRA SET	HP- SUPPLY HP- EXHAUST	MCA N	ЛОСР	PHASE	VOLTS	NOTES
NTOSH SRM. 24	CLASSROOM 24	AIREDALE	CMS36DABA CBNNC92N	1100	0.5	275 VER	T. 42	90	30	SIDE GRILLE	DUCTED TOP	1	NOTE 4	50	113 180	2.2 5.	5 78	.3 4	NOTE 4	75 63	55 5	54 45	35.8	45.5	44"	31"	DDC. FIELD INSTALLED	2-WAY DDC. MOD. VALVE	2" T.A. MERV 13	2 @ 12"x24"x1"	YES	3/4 HP	4.8	15	3	208	1 THRU 7,10
NTOSH SRM. 23	CLASSROOM 23	AIREDALE	CMS36DABA CBNNN92N	1100	0.5	275 VER	T. 42	90	30	SIDE GRILLE	DUCTED TOP	1	NOTE 4	50	113 180	2.2 5.	5 78	.3 4	NOTE 4	75 63	55 5	54 45	35.8	45.5	44"	31"	DDC. FIELD INSTALLED	2-WAY DDC. MOD. VALVE	2" T.A. MERV 13	2 @ 12"x24"x1"	YES	1 HP/ 1/2 HP	5.9	15	3	208	1 THRU 9

NOTES: 1. OTHER ACCEPTABLE MANUFACTURERS: SEE

(M.UV-13)

(M.UV-14)

SPECIFICATION 2. PROVIDE WITH CIRCUIT BREAKER AND

BASED ON CURRENT ROOM OCCUPANCY.

- DISCONNECT SWITCH. 3. UNIT VENTILATOR INITIAL MINIMUM O.A. SETPOINT DETAIL FOR TRIM.
- 4. PROVIDE A HOT WATER PIPING PACKAGE WITH A TWO WAY, BELIMO (OR APPROVED EQUAL), MODULATING CONTROL VALVE (SIZED FOR MAXIMUM 3.0# PRESSURE DROP), SEE PIPING

- 5. COLOR AS SELECTED BY ARCHITECT. 6. PROVIDE WITH TOP DUCT SHROUD, FRONT AND
- SIDE EXTENSION PANELS FROM TOP OF UNIT TO CEILING. 7. PROVIDE WITH MATCHED 3-TON AIR COOLED CONDENSING UNIT. REFER TO ACCU SCHEDULE.
 - 1.5A. 93W CONDENSATE PUMP WITH CHECK VALVE.
- 9. PROVIDE MANUFACTURERS ADJUSTABLE INSULATED WALL SLEEVE WITH SPLITTER AND 39"Wx31"Hx4" DEEP MANUF. WALL LOUVER. 10. PROVIDE LITTLE GIANT M# VCMX-20, 120V/1 PH,

8. PROVIDE WITH 1/2 HP POWER EXHAUST FAN.

VARIABLE REFRIGERANT FLOW BRANCH CONTROLLER SCHEDULE

GENERAL

MANUFACTURER MODEL

AAON

AAON

AAON

TYPE OF

SYSTEM EFFICIENCY

RN-016-8-0 100% O.A. HIGH EFF. DEDICATED

-EA09-34B W/WHEEL 10.1 EER O.A. SYSTEM

RN-016-8-0 100% O.A. HIGH EFF. | DEDICATED

-EA09-34B W/WHEEL 10.1 EER O.A. SYSTEM

RN-020-8-0 100% O.A. HIGH EFF. DEDICATED

-EA09-34B W/WHEEL 10.1 EER O.A. SYSTEM

UNIT

5. PROVIDE DOUBLE WALL CONSTRUCTION

EQUIPMENT	SCHOOL	UNIT			Pl	HYSIC	AL DIMEN	ISIONS	MAX	ELI	_ DATA		
TAG	LOCATION	SERVED	MANUF.	MODEL	Η	W	D	WEIGHT	CAPACITY PER PORT (BTU/H)	MCA	МОСР	V/PH/HZ	NOTES
(N.VRFBS-1)	<u>NASHOLD</u> CORRIDOR	N.VRFC-1	TRANE	TCMBM0108JA11N4 (8-PORT)	9.9	35.9	21.5	106	54,000	0.83	15	230/1/60	1 - 5
(N.VRFBS-2)	<u>NASHOLD</u> CORRIDOR	N.VRFC-2	TRANE	TCMBM1012JA11N4 (12-PORT)	9.9	44.7	21.5	133	54,000	1.57	15	230/1/60	1 - 5
(N.VRFBS-3)	<u>NASHOLD</u> CORRIDOR	N.VRFC-3	TRANE	TCMBM1012JA11N4 (12-PORT)	9.9	44.7	21.5	133	54,000	1.57	15	230/1/60	1 - 5

EQUIPMENT

N. DOAS-1

N. DOAS-2

(N. DOAS-3

ROOF NASHHOLD

ROOF NASHHOLI

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECAIFICATIONS. 2. PROVIDE FACTORY INSTALLED REFRIGERATION ISOLATION VALVES.

AREA SERVED

CLASSROOM

CLASSROOM

NOTES: 1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECIFICATIONS.

PROVIDE MOTOR OPERATED LOW LEAKAGE O.A. DAMPER

PROVIDE ENTHALPY ECONOMIZER WITH FDD

VENTILATION

ROOF CLASSROOM NASHOLD VENTILATION

4. PROVIDE SUPPLY FAN VFD

VENTILATION

FOR ADDITIONAL INFORMATION, REFER TO SYSTEM SCHEMATIC DIAGRAM.

4. CAP EACH UNUSED PORT. SERVICE UNIT FROM BOTTOM AND SIDES ONLY. TOP ACCESS NOT REQUIRED / ALLOWED. 6. PROVIDE BLUE DIAMOND, MAXI BLUE CONDENSATE PUMP MODEL# X87-712, WITH RESERVOIR &

SENSOR, DUAL VOLTAGE OPTIONS, COORDINATE WITH ELECTRICAL CONTRACTOR.

PROVIDE STAINLESS STEEL DRAIN PAN 7. PROVIDE FULL MODULATING BURNER AND STAINLESS STEEL HEAT 10. PROVIDE HINGED ACCESS DOORS **EXCHANGER** 11. PROVIDE ANTI-RECYCLE TIMER

(CFM)

3600 3600

PHYSICAL CHARACTERISTICS

DIMENSIONS WEIGHT
L W H (LBS.)

157" | 59" | 60" | 2580 | 3600 | 3600

157" | 59" | 60" | 3575 | 5000 | 5000

8. PROVIDE VARIABLE CAPACITY COMPRESSORS 9. PROVIDE EXTENDED GREASE LINES

PLUG DIRECT 1760 5.0 5000 5000

SUPPLY FAN DATA

2.9

12. PROVIDE DISCONNECT SWITCH 13. PROVIDE NON-POWERED 120 VOLT GFI SERVICE RECEPTACLE 14. PROVIDE CONDENSER COIL GUARDS 15. PROVIDE OUTDOOR AIR RESET FOR TEMPERATURE AND HUMIDITY. 19. PROVIEDE 65 KAIC SCCR.

GAS HEATING SECTION

FULL MOD. 51.4 107.6 3 14

CAPACITY CAPACITY STAGES

218.7

218.7

DEDICATED OUTDOOR AIR SYSTEM

TYPE DRIVE MOTOR INPUT CAPACITY CAPACITY (MBH)

PLUG | DIRECT | 1760 | 5.0 | 270.0 | 218.7

270.0

270.0

RETURN FAN DATA

SUPPLY ESP

(IN.)

1.9

16. PROVIDE AN EXTRA SET OF FILTERS. 17. PROVIDE MODULATING HOT GAS REHEAT FOR DEHUMIDIFICATION. 18. PROVIDE UNIT VERTICAL SUPPLY/RETURN CONNECTION.

DIRECT EXPANSION COIL

FULL MOD. 45.5 85.9 4 14 255.0 81.3 67.1 53.6 52.1 0.2 45.0 225.2 WHEEL 95/75 81.3/67.1

MAXIMUM EAT EAT LAT LAT MAX. SST TOTAL (PPM) F) F) F) F) F) (IN.)

20. PROVIDE AEGIS SHAFT GROUNDING RINGS ON ALL VARIABLE SPEED MOTORS. 21. PROVIDE VIBRATION ISOLATION CURB.

ENERGY RECOVERY

143.1

SUMMERSUMMERSUMMER WINTER WINTER WINTER

OA LAT CAP. OA LAT CAP. (DB/WB) (DB/WB) (MBH)

-10/-10 51.4/46.9

-10/-10 45.4/42.7

VARIAI	BLE REFRIGEF	RANT FLOW	CONDENSER SCHEDULE	
AL DIMENIOLONIO			OONDENOOD FANO	Γ

											v / \l \li/\	DLL INLI INIOLI	VAINT I LOVV	OCIVIDE	NOLIN OC	JILDULL											
EQUIPME	NT SCHOOL	UNITS			EER / IEER /	PRELIM.	PRELIM.	PH	HYSICAL	DIMENS	SIONS	APPROX. ROOF			CONDENSOR		COMPRESSOR		COOLING	;		HEATING			ELECTR!	ICAL DATA	i Total
TAG	LOCATION	SERVED	MANUFACTURER	MODEL	COP @ 47°F.	BASE REF. CHARGE	ADD. REF. CHARGE	· W	D	Н	WEIGHT	SUPPORT WEIGHT (LBS.)	REFRIGERANT	QUANTITY TYPE	AIRFLOW (CFM)	ESP (INCHES, W.G.)	TYPE	CAP. (MBH (RATED)) CAP. (MBH) (ACTUAL)	DESIGN O.A. TEMP (DB °F)	CAP. (MBH) (RATED)	CAP. (MBH) (ACTUAL)	DESIGN O.A. TEMP (DB °F)	MCA	МОСР	VOLT/PHASE/HZ	NOTE
N.VRFC	1) NASHOLD ROOF	N.VRFU-1-14	TRANE	TURYE1683AN40AN HEAT RECOVERY SERIES	11.2/23.4/3.3	24.0 #	40.0 #	69.0	29.1	71.6	777	250	R410A	(2)-PROP.	(2)@7425	0.0	INVERTER SCROLL HERMETIC	168.0	154.6	95	188.0	86.1	-13.0	57.0	90.0	208 / 3 / 60	1 - 13
N.VRFC	NASHOLD ROOF	N.VRFU-15-30	TRANE	TURYE1923AN40AN HEAT RECOVERY SERIES	11.3/20.0/3.3	26.0 #	57.0#	69.0	29.1	71.6	887	250	R410A	(2)-PROP.	(2)@7425	0.0	INVERTER SCROLL HERMETIC	192.0	174.8	95	215.0	82.9	-13.0	66.0	110.0	208 / 3 / 60	1 - 13
N.VRFC	NASHOLD ROOF	N.VRFC-31-39	TRANE	TURYE1923AN40AN HEAT RECOVERY SERIES	11.3/20.0/3.3	26.0 #	57.0 #	69.0	29.1	71.6	887	250	R410A	(2)-PROP.	(2)@6525	0.0	INVERTER SCROLL HERMETIC	192.0	179.7	95	215.0	83.8	-13.0	66.0	110.0	208 / 3 / 60	1 - 13

NOTES: 1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECIFICATIONS. PROVIDE MINIMUM 18" HIGH, MIRO NON-PENETRATING EQUIPMENT SUPPORT WITH

VIBRATION ISOLATION. 3. PROVIDE PANEL HEATER KIT.

> 4. PROVIDE SNOW & HAIL GUARDS. 5. UNITS SHALL PROVIDE CONTINUOUS HEATING DURING DEFROST AND OIL RETURN CYCLES.

THE VRF CENTRAL CONTROLLER. FIELD VERIFY AND COORDINATE WITH OWNER EXACT LOCATION.

7. PROVIDE BACNET GATEWAY FOR INTEGRATION INTO EXISTING BUILDING AUTOMATION SYSTEM (SCHEDULING, MONITORING & ALARMS ONLY THROUGH BAS). BAS SHALL MONITOR STATUS, ENABLE/DISABLE SYSTEM, SET SCHEDULE AND RECEIVE AN ALARM. REFER TO SPECIFICATIONS. FIELD VERIFY AND COORDINATE EXACT REQUIREMENTS.

6. PROVIDE VRF CENTRAL CONTROLLER UNIT. SYSTEM SHALL BE CONTROLLED THROUGH 8. RATED DESIGN CONDITIONS: SUMMER DESIGN CONDITIONS: INDOOR 75°F DB, 62.5°F 9. PROVIDE MANUFACTURER'S STARTUP & COMMISSIONING FOR ENTIRE VRF SYSTEM(S) WB. OUTDOOR 95°F DB. WINTER DESIGN CONDITIONS: INDOOR 70°F DB, OUTDOOR -13. 10. PROVIDE 10-YEAR PARTS & COMPRESSOR WARRANTY. SYSTEM SHALL PROVIDE MINIMALLY DE-RATED HEATING PERFORMANCE DURING 11. FOR ACTUAL ADDITIONAL REFRIGERANT CHARGE, COORDINATE WITH MANUFACTUREF WINTER DESIGN CONDITIONS. SUBMITTED PERFORMANCE DATA MUST BE FULLY

AND FIELD VERIFY ACTUAL PIPING LENGTHS AND ELBOW COUNT. DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, 12. PROVIDE MANUFACTURER'S REFRIGERANT PIPING TWINNING KIT. LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, 13. PROVIDE A SEPARATE ELECTRICAL CONNECTION TO EACH MODULE. CONDENSER COIL COATING.

FILTERS

MERV 14

2" THICK

MERV 14

MERV 14

VELOCITY (FPM)

175.0

175.0

175.0

417.0

ELECTRICAL DATA

MOCP

110

110

CIRCUIT

95.0

95.0

95.0

AMPS

NOTES

1-21

1-21

1-21

208

VARIABLE REFRIGERANT FLOW UNIT SCHEDULE

Professor Prof						GEN	NERAL									HEA	TING		CO	OLING			ELECT	FRICAL		FILTER	RS	INTEGRAL	
March Marc	EQUIPMENT TAG	SCHOOL LOCATION			MANUFACTURER	MODEL	MAX. CFM	DUCTED O.A. CFM		TYPE	REFRIGERANT		WIDTH	DEPTH			L (ACTÍTAL)	CAP. (MBH)		CAP. (MBH)	CAP. (MBH)	MCA	MOCP	VOLTS	PHASE	TYPE		CONDENSATE	NOTES
Part	N.VRFU-1	NASHOLD CLASSROOM 2	CLASSROOM 2	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	 	, ,	, ,	, ,	112.5			49.5	<u> </u>		0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
	N.VRFU-2	NASHOLD	CLASSROOM 2	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Second	N.VRFU-3	NASHOLD CLASSROOM 4	CLASSROOM 4	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Second	N.VRFU-4	NASHOLD CLASSROOM 4	CLASSROOM 4	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Control Cont	N.VRFU-5	NASHOLD CLASSROOM 6	CLASSROOM 6	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
Part	N.VRFU-6	NASHOLD CLASSROOM 6	CLASSROOM 6	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
March Marc	N.VRFU-7		CLASSROOM 1	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
	N.VRFU-8	NASHOLD	CLASSROOM 1	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
Part	N.VRFU-9	NASHOLD CLASSROOM 3	CLASSROOM 3	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
State Stat	N.VRFU-10	NASHOLD	CLASSROOM 3	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
Part	N.VRFU-11		CLASSROOM 5	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
Part	N.VRFU-12	NASHOLD	CLASSROOM 5	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
Process Proc	N.VRFU-13	NASHOLD	CLASSROOM 7	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
March Marc	N.VRFU-14	NASHOLD	CLASSROOM 7	N.VRFC-1	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1 - 8
Column C										1.5.,,,,,,																			
Cultive Cult	N.VRFU-15	NASHOLD CLASSROOM 12		N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A		R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Marche M	N.VRFU-16		CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Marche M	N.VRFU-17	NASHOLD		N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
March Marc	N.VRFU-18	NASHOLD	TEAM ROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Column C	N.VRFU-19	NASHOLD	CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Section Column	N.VRFU-20		CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Columbia	N.VRFU-21			N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Marcia M	N.VRFU-22		CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Market	N.VRFU-23	NASHOLD	LIBRARY	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
NAMESHOOF CASSISSION CASS	N.VRFU-24		LIBRARY	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
New Note	N.VRFU-25	NASHOLD	CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
Mariella	N.VRFU-26		CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
NASSIGNA NASIGNA NASSIGNA NASIGNA NASSIGNA NASSIGNA NASSIGNA NASSIGNA NASIGNA NASIGNA NASSIGNA NASSIGNA NASIGNA NASI	N.VRFU-27	NASHOLD	CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
NASHOLD CLASSROOM CLASSR	N.VRFU-28		CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
NASHOLD CLASSROOM NATEC TRANE	N.VRFU-29	NASHOLD	CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
NASHOLD CLASSROOM 2 CLASSROOM NATC-3 TRANE TPLFYPOZ4EM140B 812 NA NA CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES(33.0"LIFT) 1.24-9 NASHOLD CLASSROOM 2 CLASSROOM	(N.VRFU-30)		CLASSROOM	N.VRFC-2	TRANE	TPKFYP012LM140A	257	N/A	N/A	WALL	R410A	12.0	31.0	10.0	30	112.5	13.5	12	49.5	11.2	8.4	0.2	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1 - 8
VRFU32 CLASSROOM 25 CLASSROOM		52.33.130W10			1															<u> </u>							†		
VRFU32 CLASSROOM 25 CLASSROOM	(N.VRFU-31)	NASHOLD CLASSROOM 24		N.VRFC-3	TRANE	TPLFYP024EM140B	812	N/A	N/A		R410A	11.75	33.1	33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1,2,4-9
NASHOLD CLASSROOM 2 CLAS	N.VRFU-32	NASHOLD	CLASSROOM	N.VRFC-3	TRANE	TPLFYP024EM140B	812	N/A	N/A	3'x3'	R410A	11.75	33.1	33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.0" LIFT)	1,2,4-9
NASHOLD CLASSROOM 23 CLASSROOM 23 CLASSROOM 23 RANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2.4-9 (ASSETTE R4	N.VRFU-33	NASHOLD	CLASSROOM	N.VRFC-3	TRANE	TPLFYP024EM140B	812	N/A	N/A	3'x3'	R410A	11.75	33.1	33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1,2,4-9
NASHOLD CLASSROOM 20 N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3B) N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1.2,4-9 (AVRFU-3	N.VRFU-34	NASHOLD	CLASSROOM	N.VRFC-3	TRANE	TPLFYP024EM140B	812	N/A	N/A	3'x3'	R410A	11.75	33.1	33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1,2,4-9
NASHOLD CLASSROOM 21 CLASSROOM 21 CLASSROOM 21 CLASSROOM 21 RANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1,2,4-9 (ASSROOM 19 CLASSROOM 19 CLASSROOM 19 CLASSROOM 19 CLASSROOM 19 N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1,2,4-9 (ASSROOM 19 CLASSROOM 19 CLASSROOM 19 CLASSROOM 19 N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1,2,4-9 (ASSROOM 19 CLASSROOM 17 CLASSROOM 18 CLAS	N.VRFU-35		CLASSROOM	N.VRFC-3	TRANE	TPLFYP024EM140B	812	N/A	N/A	3'x3'	R410A	11.75	33.1	33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1,2,4-9
VARIOUS CLASSROOM 19 CLASSROOM N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1,2,4-9	N.VRFU-36	NASHOLD	CLASSROOM	N.VRFC-3	TRANE	TPLFYP024EM140B	812	N/A	N/A	3'x3'	R410A	11.75	33.1	33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1,2,4-9
N.VRFU-38) LASSROOM 17 CLASSROOM 17 CLASSROOM 17 CLASSROOM 17 N.VRFC-3 TRANE TPLFYP024EM140B 812 N/A N/A CASSETTE R410A 11.75 33.1 33.1 67 100.8 27.0 24 55.6 24.0 18.0 0.54 15 230 1 STANDARD YES YES (33.4" LIFT) 1,2,4-9		NASHOLD	CLASSROOM	N.VRFC-3	TRANE	TPLFYP024EM140B	+	N/A	N/A	3'x3'	R410A	11.75		33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1,2,4-9
	(N.VRFU-38)	NASHOLD	CLASSROOM	N.VRFC-3		TPLFYP024EM140B		N/A	N/A	3'x3'	R410A	11.75		33.1	67	100.8	27.0	24	55.6	24.0	18.0	0.54	15	230	1	STANDARD	YES	YES (33.4" LIFT)	1,2,4-9
TAGELLIO 10 DAGGELLE	(N.VRFU-39)		FACULTY				+		+	3'x3'		+						24					15		1			<u> </u>	1,2,4-9
		FACULIT 10	10		1					UASSETTE		1																<u> </u>	

NOTES: 1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECIFICATIONS. 2. PROVIDE WITH REMOTE MOUNTED THERMOSTAT.

4. RATED DESIGN CONDITIONS: SUMMER DESIGN CONDITIONS: INDOOR 75°F DB, 62.5°F WB. OUTDOOR 95°F DB. WINTER DESIGN CONDITIONS: INDOOR 70°F DB, OUTDOOR -13.

5. PROVIDE NEOPRENE VIBRATION ISOLATORS. 6. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT.

8. PROVIDE WITH MANUFACTURER'S INTEGRAL UNIT MOUNTED CONDENSATE PUMP & DRAIN PAN LEVEL SENSOR. 9. RECESSED CEILING MOUNT. MODIFY SUSPENDED CEILING AS REQUIRED.

3. PROVIDE WITH MANUFACTURER'S WALL MOUNT BRACKET.

7. FOR ADDITIONAL INFORMATION, REFER TO SYSTEM SCHEMATIC DIAGRAM.

NOTES

1,2,3

1,2,4

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EXHAUST FAN SCHEDULE EQUIPMENT TAG AREA SERVED MIN. WHEEL DRIVE MANUFACTURER MODEL SONES CONTROLS NOTES RPM DIA. (IN.) (IN.) PHASE | VOLT SPEECH/STORAGE CENTRIFUGAL G.EF-1 1600 0.375 1483 1,2,3,4,5,6 GREENHECK G-120-VG DIRECT 0.29 CLASSROOM ROOF **CENTRIFUGAL** CONFERENCE/ G.EF-2 GREENHECK 875 0.375 1297 1,2,3,4,5,6 G-100-VG 0.12 ROOF BOYS/GIRLS **CENTRIFUGAL** H.EF-1 800 0.375 1230 0.10 1,2,3,4,5,6 DIRECT 120 GREENHECK G-100-VG 1/4 RESTROOMS ROOF STORAGE JANITOR HILLMAN ROOF **CENTRIFUGAL** H.EF-2 DIRECT 0.375 | 1317 | 0.07 1,2,3,4,5,6 GREENHECK G-095-VG ROOF STORAGE ROOF ACCESS HILLMAN ROOF CENTRIFUGAL H.EF-3 DIRECT 800 0.375 1230 0.10 120 6.3 1,2,3,4,5,6 GREENHECK G-100-VG ROOF SMALL RESTRM. **CENTRIFUGAL** H.EF-4 800 0.375 1230 0.10 1,2,3,4,5,6 GREENHECK G-100-VG DIRECT **JANITORS** ROOF HILLMAN ROOF STACKED BOYS **CENTRIFUGAL** H.EF-5 GREENHECK G-160-VG DIRECT 2600 0.500 1230 0.52 1.0 13.5 1,2,3,4,5,6 120 GIRLS RESTRMS. ROOF **CENTRIFUGAL** N.EF-1 800 0.375 1230 0.10 G-100-VG DIRECT 120 6.3 1,2,3,4,5,6 GREENHECK 1/4 SHOWER ROOF NASHOLD ROOF BOYS/GIRLS CENTRIFUGAL N.EF-2 1400 0.375 1179 0.18 1,2,3,4,5,6 GREENHECK G-130-VG DIRECT 13.0 1/2 RESTROOMS ROOF NASHOLD ROOF CENTRIFUGAL N.EF-3 DIRECT 1,2,3,4,5,6 GREENHECK G-090-VG 0.375 1280 0.04 1/10 OFFICE ROOF NASHOLD ROOF BOYS/GIRLS **CENTRIFUGAL** N.EF-4 GREENHECK G-130-VG DIRECT 13.0 1400 0.375 1179 0.18 1,2,3,4,5,6 ROOF RESTROOMS DISCONNECT SWITCH. NOTES: 1. OTHER ACCEPTABLE EC MOTOR WITH MOTOR MOUNTED CONTROLS: LS - LOCAL SWITCH BY E.C. SC - WALL SPEED CONTROLLER PROVIDED BY M.C. INSTALLED INSULATED PREFABRICATED ROOF POTENTIOMETER DIAL MANUFACTURERS: SEE CURB, MINIMUM 18" ABOVE SPECIFICATIONS. GALVANIZED BIRDSCREEN. AND WIRED BY E.C. 2. GRAVITY BACKDRAFT DAMPER. EXISTING ROOF MEMBRANE. TC - TEMPERATURE CONTROLS CONTRACTOR TO PROVIDE BAS CONTROLS AND INTERFACE. (T)- THERMOSTAT BY TEMPERATURE CONTROL CONTRACTOR.

MODEL

NOTES: 1. OTHER ACCEPTABLE MANUFACTURERS: SEE SPECIFICATIONS. 3. EXISTING SYSTEM PUMP.

MOUNTING

MOUNTED

WALL

MOUNTED

EQUIPMENT

EQUIPMENT

SERVED

HOT WATER

(H.VFD-1) HILLMAN HOT WATER BOILER RM. SYS. PUMP

HILLMAN HOT WATER BOILER RM. SYS. PUMP

MANUF.

DANFOSS

PROVIDE NEMA 1 ENCLOSURE RFI FILTER, DC LINK REACTOR,

MANUAL 3-CONTACTOR CONSTANT SPEED BYPASS, INPUT

DISCONNECT SWITCH & OUTPUT LINE REACTOR.

VARIABLE FREQUENCY DRIVE SCHEDULE

10.6

4. EXISTING STAND-BY SYSTEM PUMP.

OUTPUT CURRENT HP(MAX.) RPM FREQ.(Hz) PHASE VOLTS RANGE

1800

1800

N.VRFC-3

TURYE1923AN40ANN.VRFC-3]

SW4 Function 935 OFF

N.VRFC-34, N.VRFC-35, N.VRFC-36, N.VRFC-37, N.VRFC-38, N.VRFC-39, N.VRFC-40, N.VRFC-41, N.VRFC-42,

60

208

SIZE (H"xW"xD")

30.8x7.8x8.3

30.8x7.8x8.3

 $1.25 \text{mm}^2 (16 \text{ AWG}) : 1.25 \text{mm}^2 (16 \text{ AWG}) \text{ or more.} \quad 0.75 \text{mm}^2 (20 \text{ AWG}) : \text{between } 0.5 \text{mm}^2 (24 \text{ AWG}) \text{ and } 0.75 \text{mm}^2 (20 \text{ AWG}).$ 4:49 PM 800 009 TPKFYP012LM140A TPKFYP012LM140A PKFYP612LM140A TPKFYP612LM140A

Diamond System Builder

sw: 4.4.2.24

db: 4.4.2.15

9/2/2022

TPKFYP#12LM140A 16-2 AWG(S) N.VRFC-1 N.VRFC-2 N.VRFC-3 N.VRFC-4 N.VRFC-5 N.VRFC-6 N.VRFC-7 N.VRFC-8 N.VRFC-9 N.VRFC-10 N.VRFC-11 N.VRFC-12 N.VRFC-13 N.VRFC-13 N.VRFC-14

This drawing is schematic in nature. Final routing of piping & wiring

shall be determined by the installing contractor and/or designer of record

Additional refrigerant charge is needed depending on the size and length of extended piping.

Please refer the amount of pre-charge and the formula of calculation which is mentioned on

CITY MULTI

DN.VRFBS-1 TCMBM0108JA11N4

URYE1683AN40ANN.VRFC-1]

SW4 Function 935 OFF

TURYE1923AN40ANN.VRFC-2]

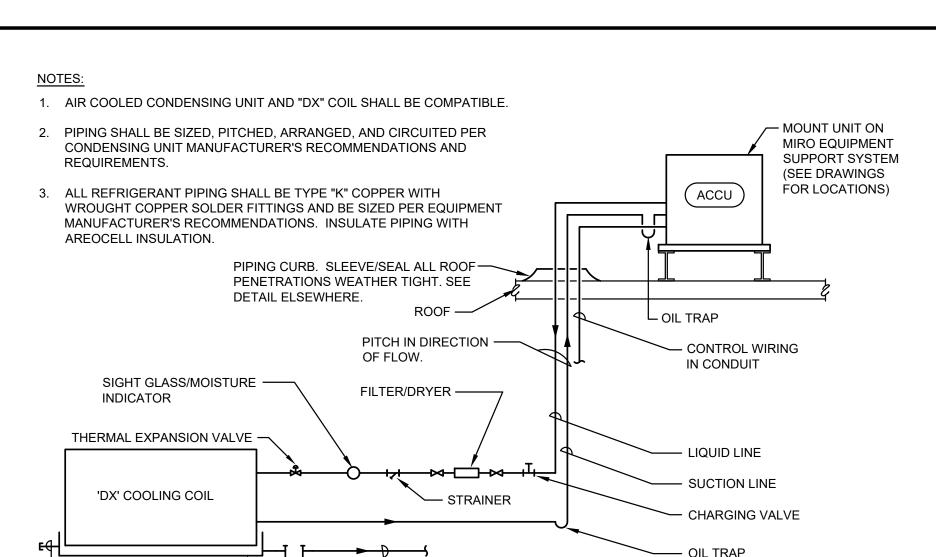
SW4 Function 935 OFF

— POWER WIRE
— CONTROL WIRE
— REF. PIPE

16-2 AWG(S)

VARIABLE REFRIGERANT FLOW SYSTEM(S) SCHEMATIC DIAGRAMS

N.VRFC-15, N.VRFC-16, N.VRFC-17, N.VRFC-18, N.VRFC-19, N.VRFC-20, N.VRFC-22, N.VRFC-23, N.VRFC-24, N.VRFC-25, N.VRFC-26, N.VRFC-27, N.VRFC-28, N.VRFC-29, N.VRFC-30, N.VRFC-31, N.VRFC-32, N.VRFC-32, N.VRFC-33, N.VRFC-33, N.VRFC-34, N.VRFC-26, N.VRFC-26, N.VRFC-27, N.VRFC-28, N.VRFC-29, N.VRFC-30, N.VRFC-31, N.VRFC-32, N.VRFC-32, N.VRFC-33, N.VRFC-33, N.VRFC-34, N.VRFC-34, N.VRFC-26, N.VRFC-27, N.VRFC-28, N.VRFC-29, N.VRFC-30, N.VRFC-31, N.VRFC-32, N.VRFC-32, N.VRFC-33, N.VRFC-34, N.VRFC-34, N.VRFC-36, N.VRFC-37, N.VRFC-38, N.VRFC-39, N.VRFC-30, N.VRFC-30, N.VRFC-31, N.VRFC-31,



REFRIGERANT PIPING DETAIL

RUNNING TRAP W/CLEANOUTS

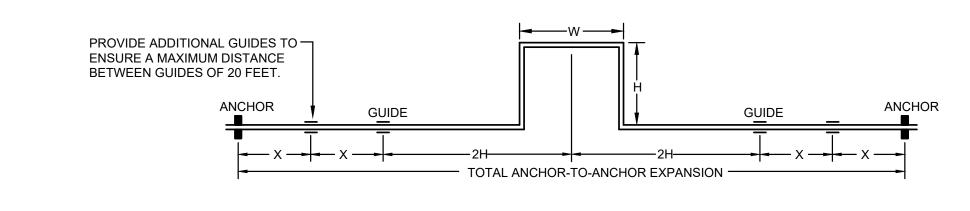
- PIPE TO OUTDOOR

THRU A GAS VENT PECK

PIPE EXPANSION LOOP DIMENSION (WxH) SCHEDULE

TAL ANCHOR TO ANCHOR EXPANSION

NO SCALE



	TOTAL ANGLE	IOD TO ANGLIOD F	VDANICIONI TADI E	
	TOTAL ANCH	OR TO ANCHOR E	XPANSION TABLE	
PIPE TYPE	FLUID	INSTALLED TEMPERATURE	OPERATING TEMPERATURE	EXPANSION
BLACK STEEL COPPER	HOT WATER HOT WATER	50° F. 50° F.	200° F. 200° F.	1.3" PER 100' LENGTH 1.8" PER 100' LENGTH

CAP ALL UNUSED DRAIN

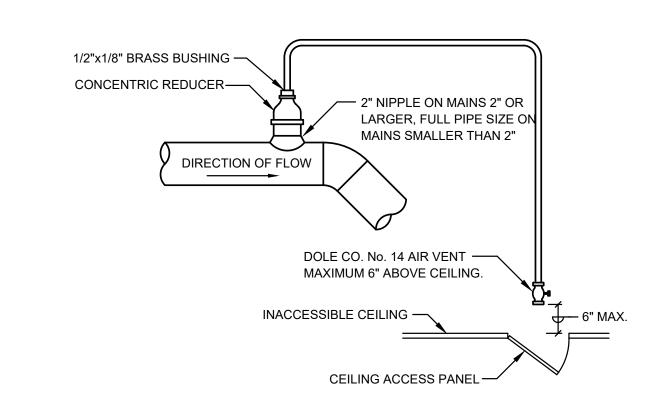
INSULATED DRIP PAN ----

OPENINGS.

NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING EXPANSION IN SYSTEM AND PROVIDING LOOPS WHERE REQUIRED.

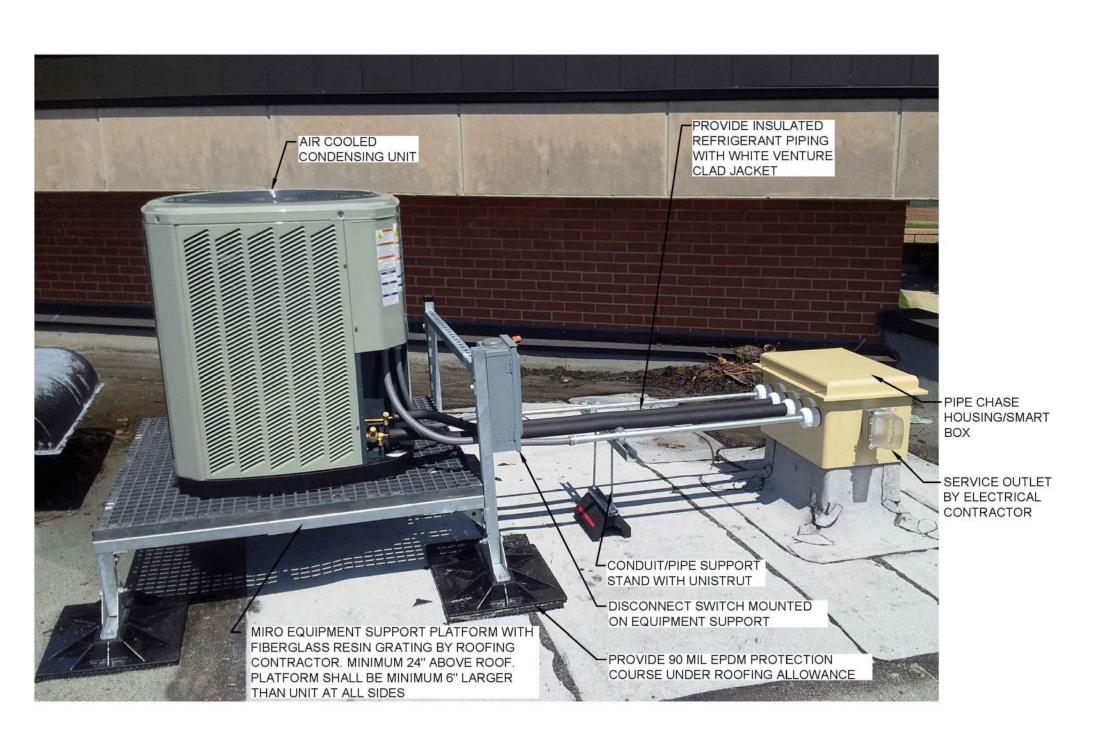
PIPE EXPANSION LOOP DETAIL/SCHEDULE

NO SCALE



AIR VENT AT HIGH POINTS OF MAINS DETAIL

NO SCALE



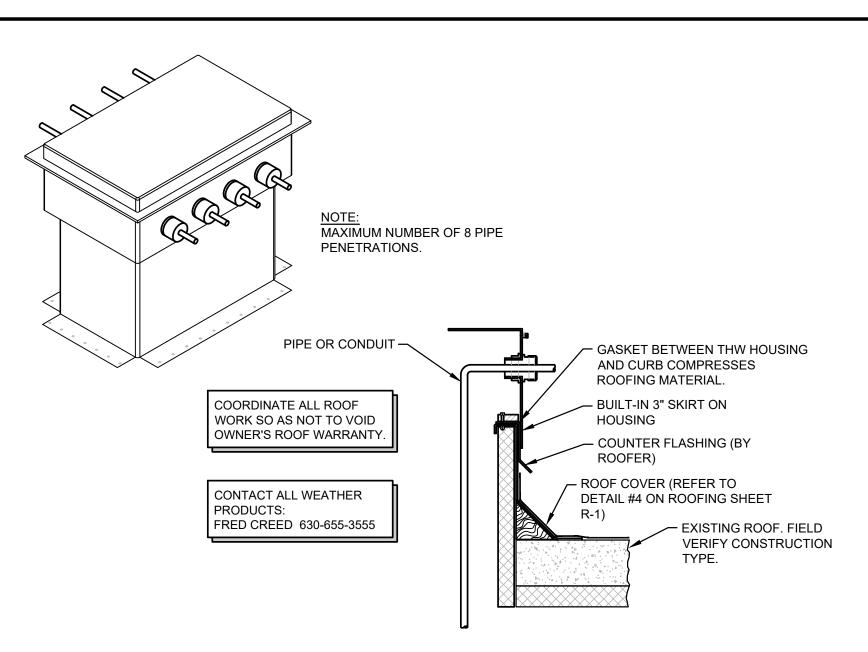
NOTE:

1. DETAIL IS SIMILAR FOR BUILT-UP ROOFS EXCEPT A PLATFORM CURB IS REQUIRED TO SUPPORT THE CONDENSING UNIT. SEE DETAIL ELSEWHERE. THE INSTALLATION SHALL BE DONE UNDER THE ROOFING ALLOWANCE.

2. ALL ROOF PENETRATIONS SHALL BE CORED AND NOT CUT.

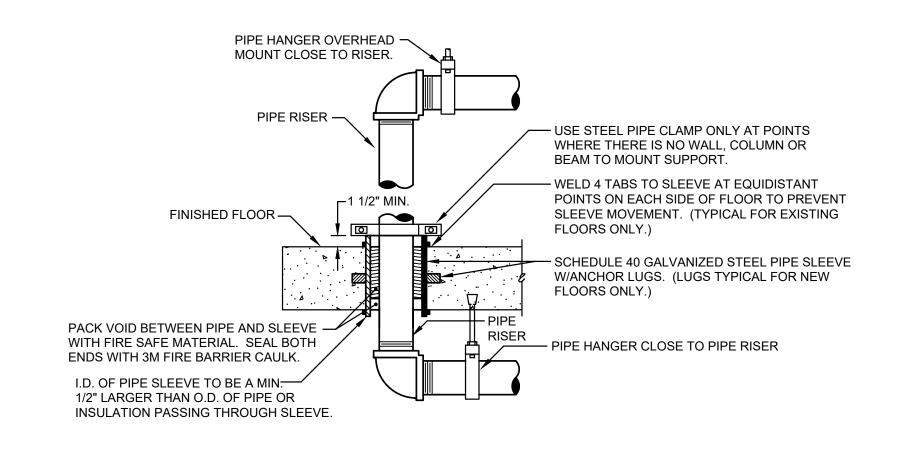
TYPICAL CONDENSING UNIT INSTALLATION DETAIL

NO SCALE



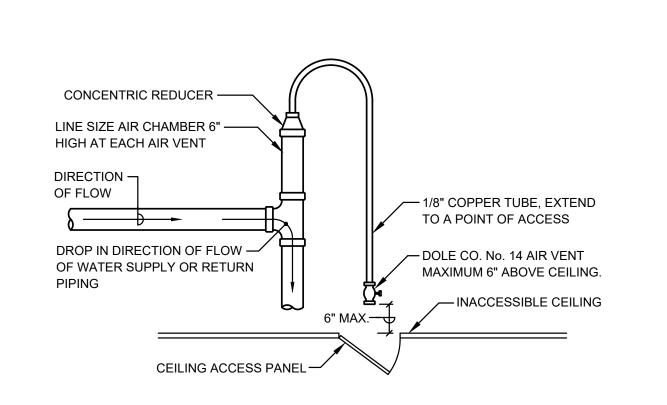
SMART BOX PIPING/CONDUIT ROOF CURB DETAIL

NO SCALE



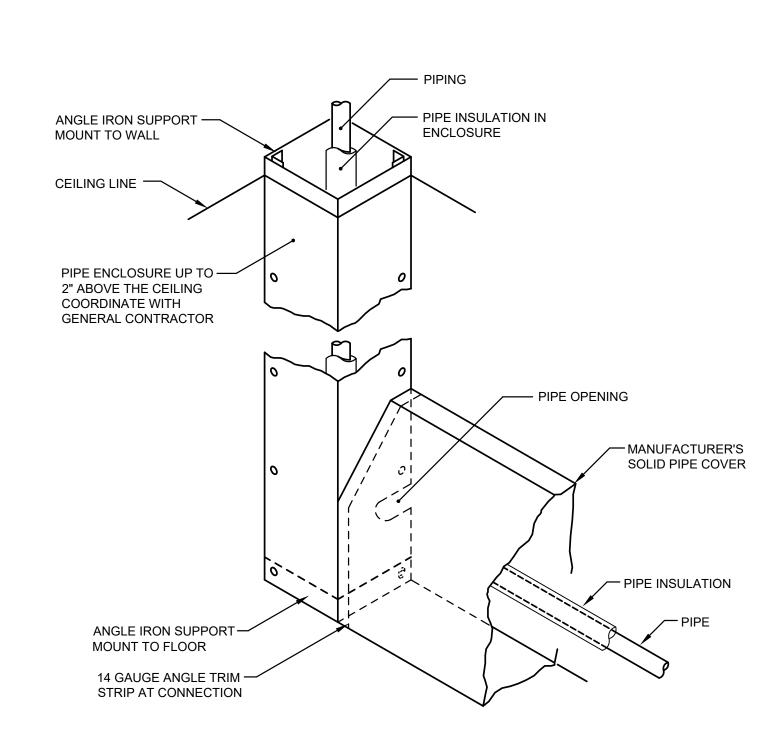
PIPE SLEEVE THRU` FLOOR DETAIL

NO SCALE



MANUAL AIR VENT DETAIL

NO SCALE



1. FOR ADDITIONAL INFORMATION OF PIPE ENCLOSURE SEE DETAIL ELSEWHERE. 2. ALL SCREWS/FASTENERS SHALL BE PAINTED TO MATCH COLOR OF ENCLOSURE.

PIPE ENCLOSURE DETAIL

NO SCALE

PIPE ENCLOSURE NO SCALE

1. I.D. OF OF PIPE SLEEVE TO BE A MIN. OF 1/2" LARGER THAN O.D. OF PIPE OR INSULATION PASSING THROUGH WALL. 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR

SCHEDULE 40 GALVANIZED STEEL ----PIPE SLEEVE WITH 2"x1/2"x3" STEEL

LUGS WELDED TO SLEEVE AT 4 EQUIDISTANT POINTS. (LUGS

TYPICAL FOR NEW WALLS ONLY.)

PACK REMAINING VOID BETWEEN PIPE —

AND SLEEVE WITH FIBERGLASS BATT,

COMPOUND OR OTHER APPROVED

SEALANTS. IF WALL IS FIRE RATED,

INSULATION AND SLEEVE WITH FIRE

STAINLESS STEEL ESCUTCHEON —

PLATES BOTH SIDES OF WALL IN

EXPOSED AREAS. PLATE SHALL

BE SECURED WITH WALL CLIPS

OR MOUNTING SPRINGS.

THEN SEAL WITH A SILICONE

FILL VOID BETWEEN PIPE OR

BARRIER CAULK.

SLEEVES WITH OTHER TRADES AND/OR CONTRACTORS. 3. PIPE SLEEVES THRU SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH

----H---

_SET PIPE SLEEVE

SHEET METAL

FACE OF WALL

FLUSH ON EACH SIDE

OF WALL. USE 24 GA.

- PIPE INSULATION.

SLEEVE AT DRY WALL INSTRUCTOR MINIMUM OF 1/2" CLEARANCE

BETWEEN PIPE SLEEVE AND PIPE OR INSULATIO

SEE DRAWINGS FOR PIPE

SIZE AND MATERIAL.

- WELD 4 TABS TO SLEEVE AT EQUIDISTANT

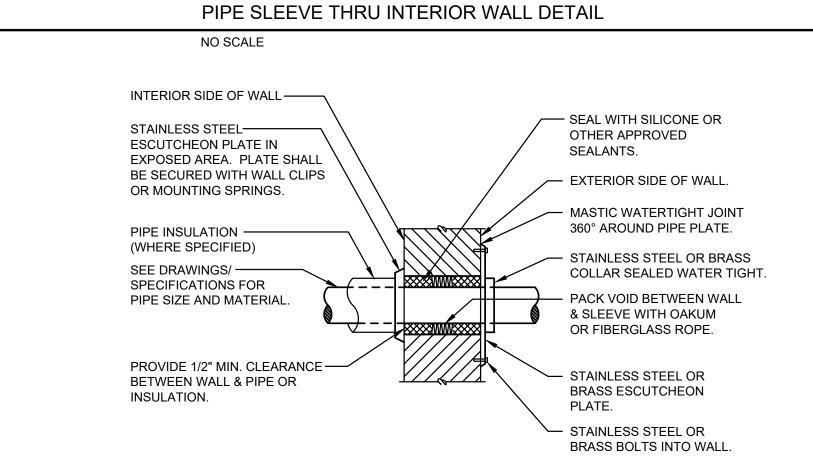
POINTS ON EACH SIDE OF WALL TO PREVENT

SLEEVE MOVEMENT. ESCUTCHEON PLATE

SHALL COVER TABS IN EXPOSED AREAS.

(TYPICAL FOR EXISTING WALLS ONLY.)

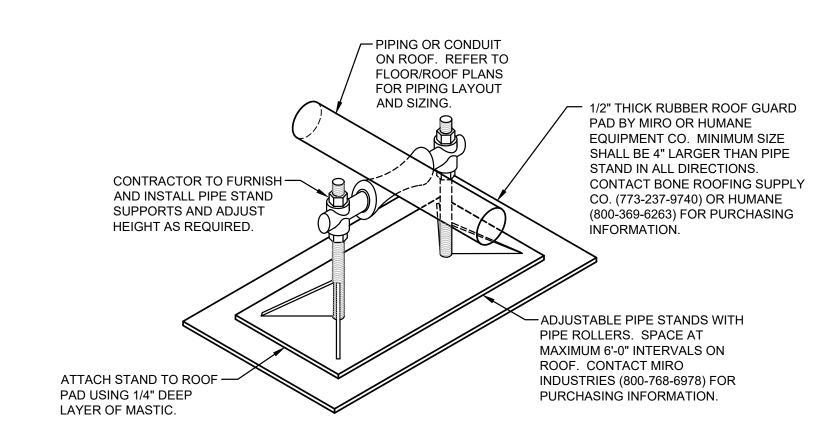
NFPA-90A.



1. CONTRACTOR SHALL ISOLATE ALL PIPES WHICH VIBRATE FROM CONSTRUCTION IN ORDER TO AVOID TRANSMISSION TO STRUCTURE. 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR WALL OPENINGS WITH OTHER TRADES AND/OR CONTRACTORS.

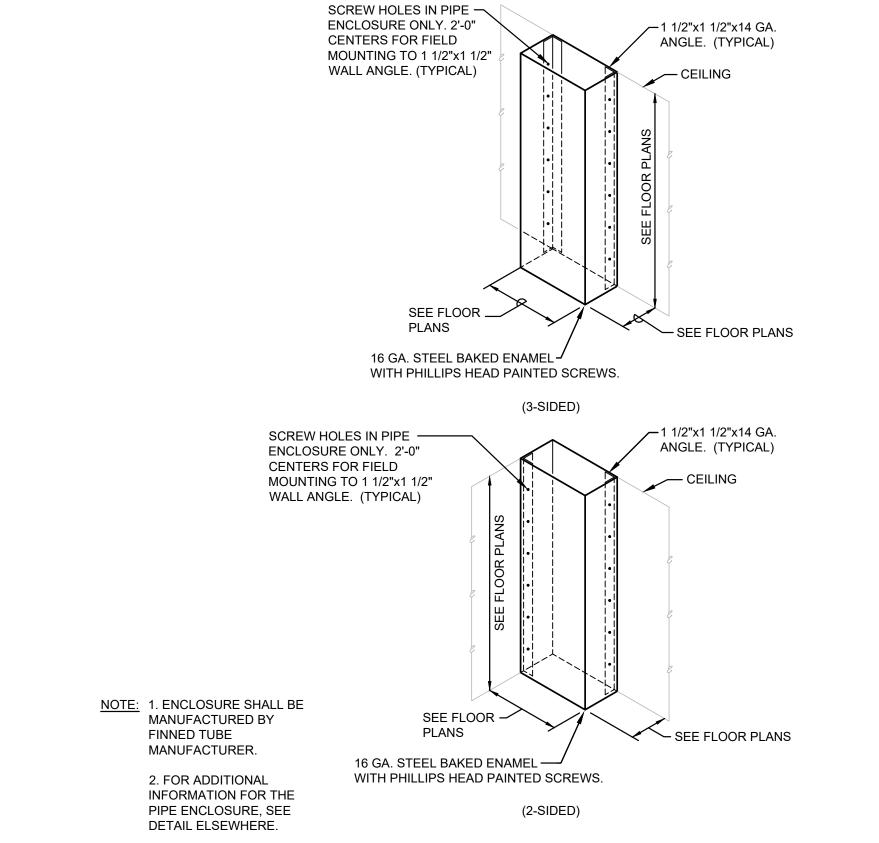
PIPE PENETRATION OF EXTERIOR WALL ABOVE GRADE DETAIL

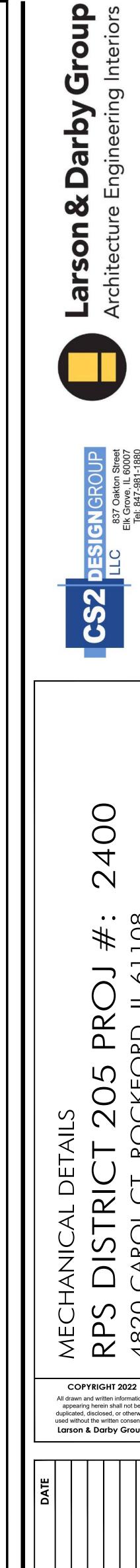
NO SCALE

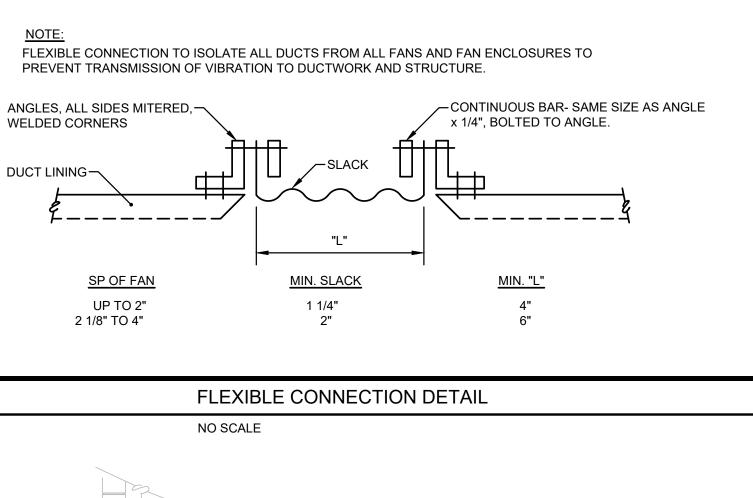


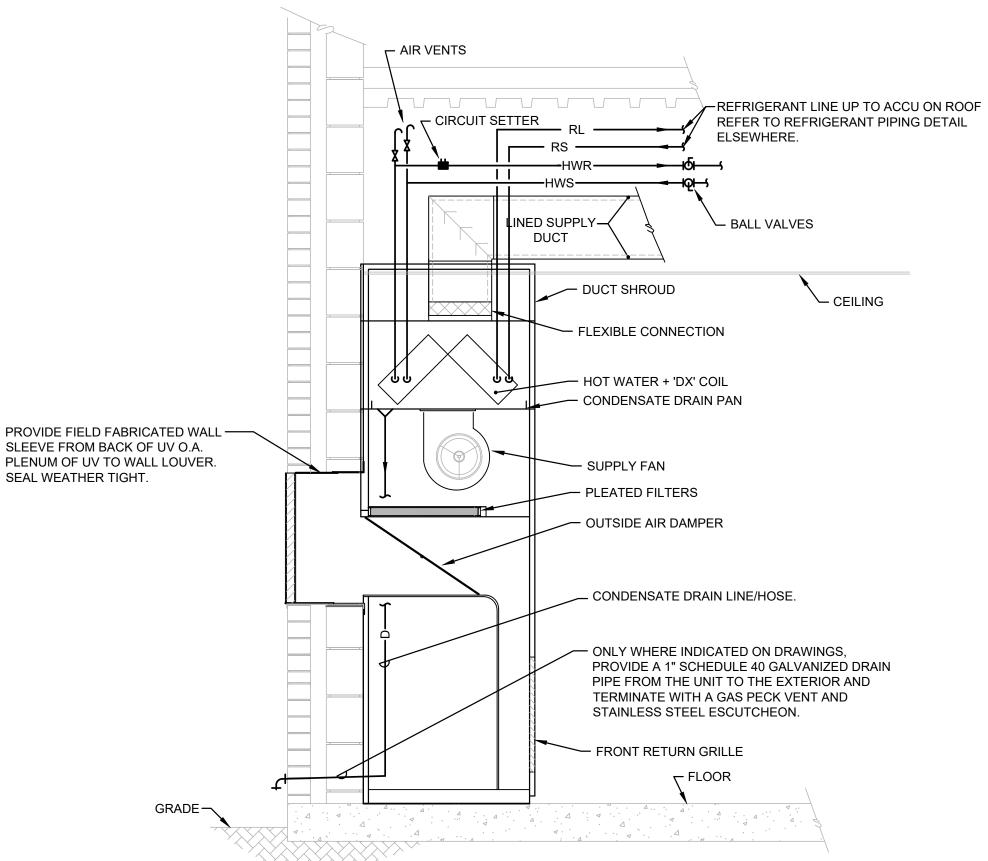
ADJUST. PIPING OR CONDUIT ROOF SUPPORT DETAIL

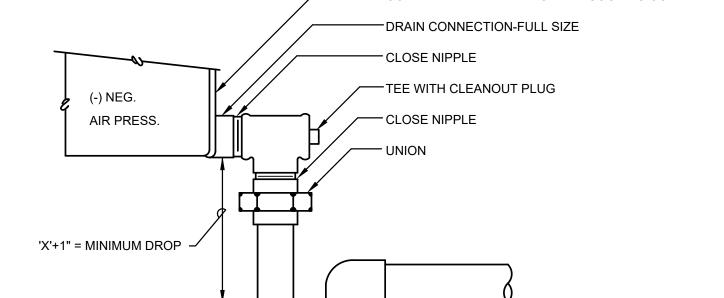
NO SCALE











FLOOR DRAIN

NOTES: 1. 'X' = SUCTION PRESSURE AT FAN INLET (NEGATIVE INTERNAL S.P.) 2. FOR ROOFTOP UNITS, SPILL DRAIN TO OVER 12"x12"x3/4" THICK RUBBER ROOF GUARD PAD.

DRAW-THRU COOLING COIL DRIP PAN DRAIN DETAIL

CONDENSATE DRIP PAN UNDER COOLING COIL — DRAIN CONNECTION FULL SIZE CLOSE NIPPLE (TYPICAL). TEE WITH CLEAN-OUT PLUG (+) POS. AIR PRESS. MINIMUM -1/2" DROP — 1/2" PER FOOT TO FLOOR DRAIN 'X'+1/2" = LEG 1. 'X' = DISCHARGE PRESSURE OF FAN (POSITIVE

INTERNAL S.P.)

BLOW-THRU COOLING COIL DRIP PAN DRAIN DETAIL

NO SCALE

'X'/2 = LEG

NO SCALE

UNIT VENTILATOR WITH HOT WATER COIL AND DX OR COILS NO SCALE

- OUTLINE OF

CHAMBER

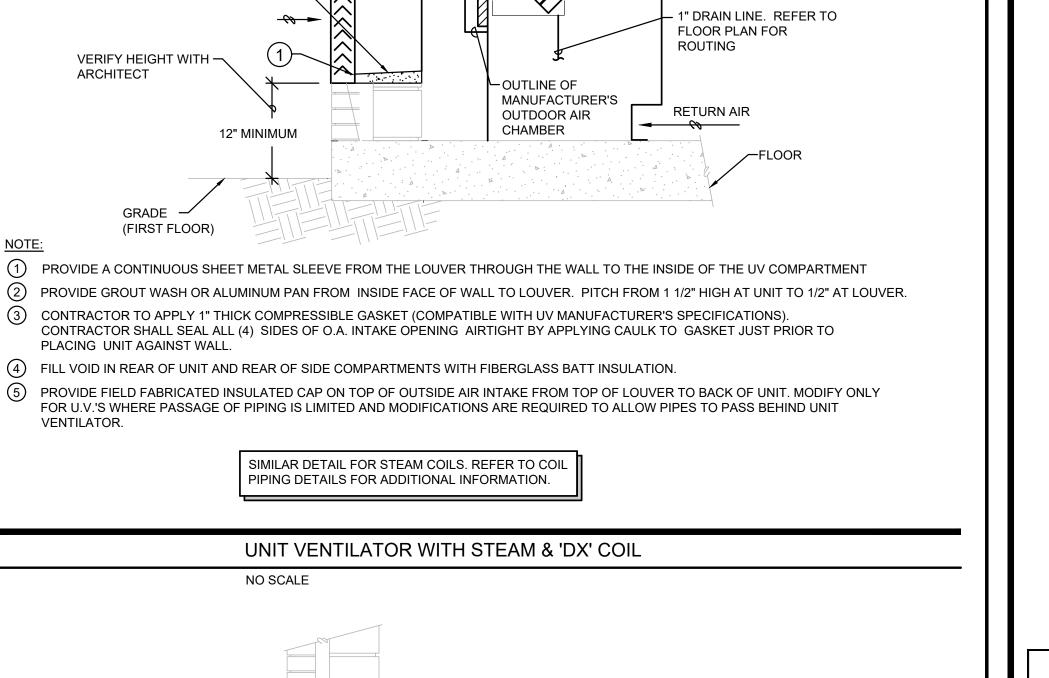
MANUFACTURER'S

OUTDOOR AIR

HOT WATER HEATING

RETURN AIR

AND DX COILS



SUPPLY FAN

HOT WATER HEATING

SECOND FLOOR

AND DX COILS

FACTORY

DRAIN PAN

21 7/8"

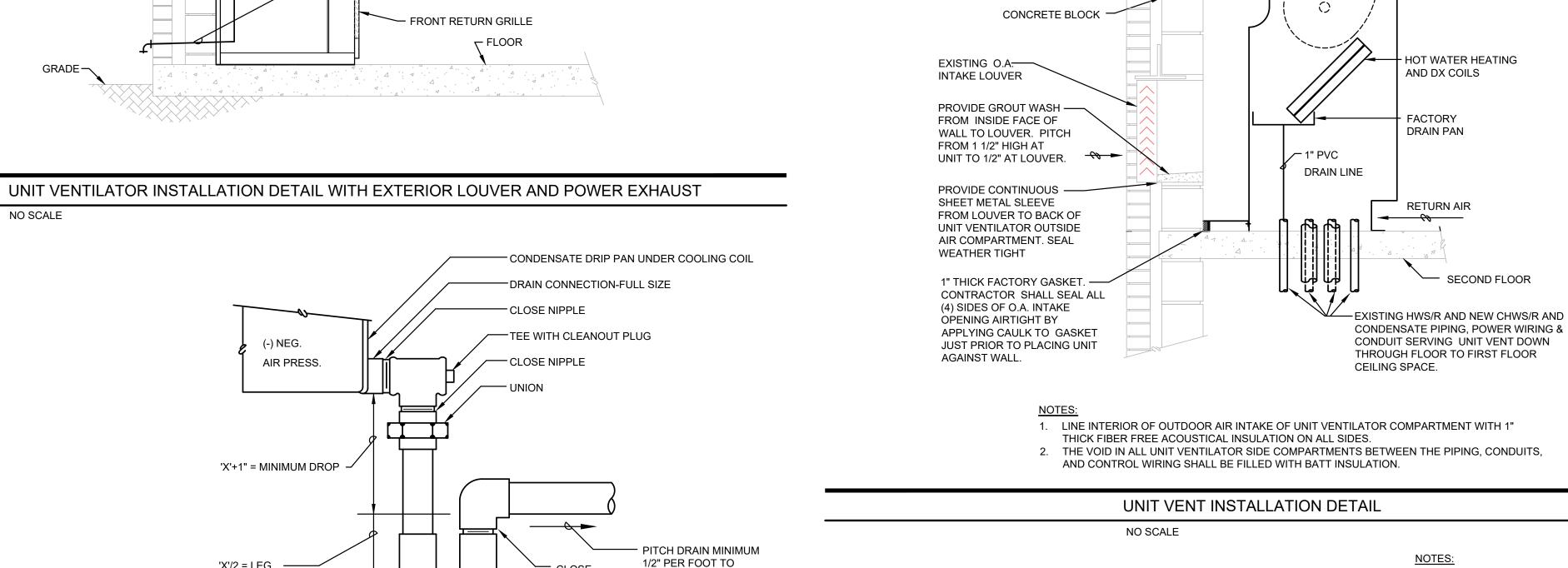
SUPPLY AIR

SUPPLY FAN

HEATING AND 'DX' COILS

- 5" FULL ADAPTER BACK

21 7/8"



PROVIDE NEW LINTEL -

NEW OR EXISTING

VERIFY HEIGHT -

WITH ARCHITECT

GRADE

(FIRST FLOOR)

OUTDOOR AIR LOUVER.

12" MINIMUM

SEE SCHEDULE AND

SIMILAR DETAIL FOR HOT WATER, CHILLED WATER AND DIRECT EXPANSION COILS. REFER TO COIL (2) PROVIDE GROUT WASH FROM INSIDE FACE OF PIPING DETAILS FOR ADDITIONAL INFORMATION. CONCRETE BLOCK-FACE BRICK -21 7/8" -5" FULL ADAPTER CLOSED PIPE TUNNEL-

CONCRETE BLOCK—

CLOSED PIPE TUNNEL-

PROVIDE NEW LINTEL—

NEW O.A. LOUVER OR -

EXISTING LOUVER

VERIFY HEIGHT WITH -

(FIRST FLOOR)

PLACING UNIT AGAINST WALL.

VENTILATOR.

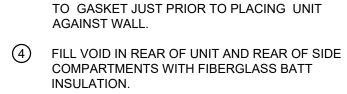
ARCHITECT

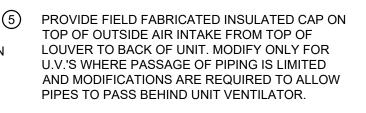
1) PROVIDE A CONTINUOUS SHEET METAL SLEEVE FROM THE LOUVER THROUGH THE WALL TO THE INSIDE OF THE UV COMPARTMENT

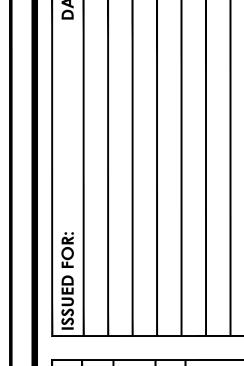
UNIT TO 1/2" AT LOUVER.

CONTRACTOR TO APPLY 1" THICK COMPRESSIBLE GASKET (COMPATIBLE WITH UV MANUFACTURER'S SPECIFICATIONS). CONTRACTOR SHALL SEAL ALL (4) SIDES OF O.A. INTAKE OPENING AIRTIGHT BY APPLYING CAULK

WALL TO LOUVER. PITCH FROM 1 1/2" HIGH AT







NO SCALE

(TYP.)

MODULATING 2-WAY HOT

WATER VALVE BY BAS

CONTRACTOR INSTALLED

BY PIPING CONTRACTOR

- INTAKE HOOD

AIR VENTS

TYPICAL VERTICAL UNIT VENTILATOR INSTALLATION DETAIL

— PIPE INCREASER

UNIT VENTILATOR WITH STEAM HEAT AND 'DX' COIL DETAIL

- 3/4" CONDENSATE DRAIN. EXIT WALL AND TERMINATE WITH

- 3/4" CONDENSATE FROM EXISTING DRAIN

PIPING OUT THROUGH WALL. TERMINATE

WITH SCHEDULE 40 SCREEN ELBOW.

EXISTING UNIT VENTILATOR WITH EXIST. HOT WATER COIL AND NEW 'DX' COIL

CIRCUIT SETTER -

 \odot

SCHEDULE 40 SCREEN ELBOW. SEAL WEATHER TIGHT. PROVIDE

STAINLESS STEEL ESCUTCHEON PLATE ON EXTERNAL PIPING.

2 POSITION ULTRA LOW —

LEAK DAMPER

EXTEND INSULATED

DUCTWORK TO UNIT

HOT WATER & 'DX' —

CONNECTION PROVIDED BY HVAC CONTRACTOR REFER TO NEW WORK

OUTSIDE AIR

VENTILATOR'S

OUTDOOR AIR

PROVIDE ---

PANEL(S).

MODULATING-

CONTROL VALVE

BALL VALVE -

MODULATING 2-WAY HOT -

CONTRACTOR INSTALLED

NO SCALE

BY PIPING CONTRACTOR

WATER VALVE BY BAS

(TYP.)

. REFER TO DETAIL ELSEWHERE FOR REFRIGERANT PIPING TO NEW

NASHOLD - MODULATING 3-WAY

CIRCUIT SETTER

MODULATING 3-WAY HOT -

CONTRACTOR INSTALLED

BY PIPING CONTRACTOR

WATER VALVE BY BAS

MANUFACTURER'S DX COOLING COIL.

ASSEMBLY

MANUFACTURER'S

REAR EXTENSION

WITH ENCLOSURE

NO SCALE

VACUUM BREAKER GATE VALVE

NO SCALE

CIRCUIT SETTER

PLANS.

- ROOF CURB AND FLASHING TO

- CIRCUIT SETTER

LINED SUPPLY ·

- DUCT SHROUD

─ FLEXIBLE CONNECTION

-CONDENSATE DRAIN PAN

WITH CONDENSATE PUMP

PLEATED FILTERS

- OUTSIDE AIR DAMPER

FRONT RETURN GRILLE

SUPPLY FAN

-REFRIGERANT LINE UP TO ACCU ON ROOF.

REFER TO REFRIGERANT PIPING DETAIL

ELSEWHERE.

1. INSTALL VALVES WITHIN THE UNIT VENTILATOR

2. REFER TO DRAWINGS FOR LOCATIONS WHERE

PIPING IS BEING FED FROM BELOW.

CABINET. (AS SHOWN FOR CLARITY ONLY).

FACTORY MOUNTED

GREGORY - MODULATING 2-WAY

1. REFER TO DETAIL ELSEWHERE FOR

MANUFACTURER'S DX COOLING COIL.

- 3/4" CONDENSATE FROM DRAIN PIPING OUT

SCREEN ELBOW.

THROUGH WALL. TERMINATE WITH SCHEDULE 40

REFRIGERANT PIPING TO NEW

NO SCALE

FACTORY MOUNTED

DRAIN PAN.

MODULATING 2-WAY

MODULATING 2-WAY

MCINTOSH - MODULATING 2-WAY

HILLMAN -

REFER TO DETAIL ELSEWHERE FOR

MANUFACTURER'S DX COOLING COIL.

COMPARTMENT SHALL BE INSULATED

2. ALL LPS/LPC PIPING INSIDE THE UTILITY

REFRIGERANT PIPING TO NEW

PER SPECIFICATIONS.

EXISTING FACTORY

MOUNTED DRAIN

MATCH SLOPE OF ROOF

NEW UNIT VENTILATOR WITH HOT WATER COIL AND 'DX' COIL

FACTORY MOUNTED

DRAIN PAN.

- 3/4" CONDENSATE FROM DRAIN PIPING

SCHEDULE 40 SCREEN ELBOW.

OUT THROUGH WALL. TERMINATE WITH

-ROUND HARD

DUCT ELBOW

DUCT COVERING PER SPECIFICATION

►PITCH BOTTOM OF DUCT TO LOUVER TO

DRAIN. DUCT TO HAVE WATERTIGHT

SEE ARCHITECTURAL AND BUILDING ENVELOPE

DRAWINGS FOR ADDITIONAL CONNECTION

INFORMATION AND DETAILS.

FLEXIBLE DUCTWORK —

ABOVE CEILINGS)

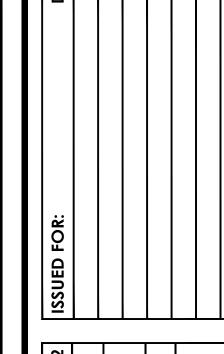
(SEE SCHEDULE FOR TYPE)

DIFFUSER/REGISTER INSTALLATION DETAIL

(ONLY WHERE CONCEALED

SUPPLY DIFFUSER OR RETURN REGISTER

BIRD SCREEN



FACTORY INSIDE COATING TO PREVENT FORMATION OF CONDENSATE BUILT-IN BIRD /-INTAKE HOOD SCREEN 1/2" MESH --<u>=----</u> PRE-FAB ROOF CURB WITH SLOPE -ROOFING AND TO SUIT ROOF PITCH. FURNISHED FLASHING OF CURB AND INSTALLED BY VENTILATION CONTRACTOR. NORMALLY CLOSED MOTOR OPERATOR —
BY T.C. TO OPEN CLOSE WITH ON/OFF OF EQUIPMENT LOW LEAK DAMPER --DUCT UP THROUGH ROOF. SEE DRAWINGS FOR SIZE.

INTAKE/RELIEF HOOD INSTALLATION DETAIL

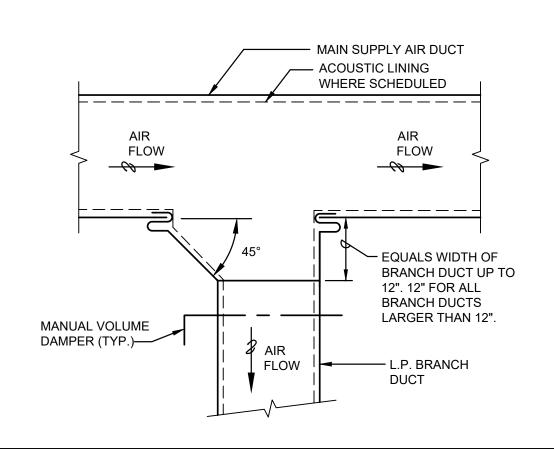
NO SCALE - MAIN RETURN AIR DUCT · ACOUSTIC LINING WHERE SCHEDULED ------FLOW FLOW **→ →** ─ EQUALS WIDTH OF BRANCH DUCT UP TO 12". 12" FOR ALL **BRANCH DUCTS** MANUAL VOLUME LARGER THAN 12". DAMPER (TYP.) — — RETURN AIR

TYP. RETURN BRANCH DUCT TAKE-0FF

FLOW

BRANCH DUCT

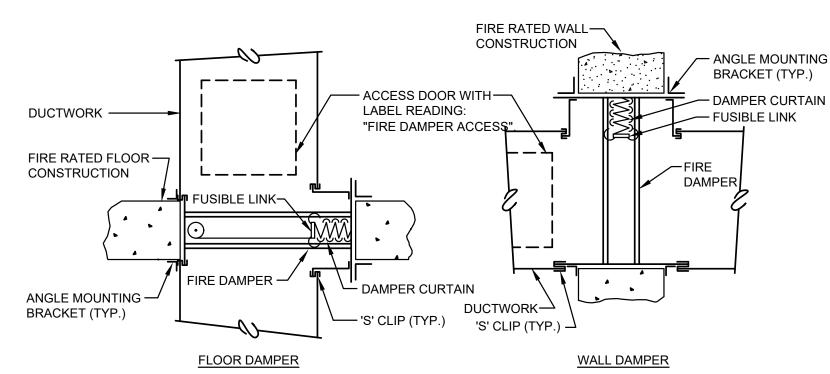
NO SCALE



TYP. SUPPLY BRANCH DUCT TAKE-0FF

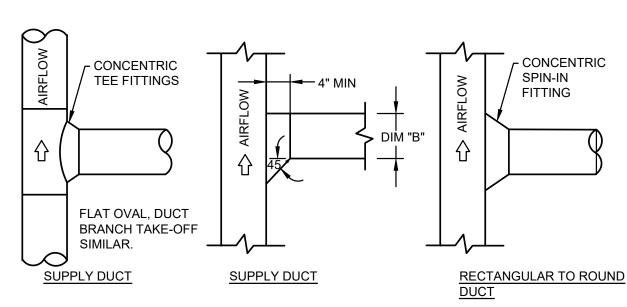
NO SCALE

NOTES: 1. ACCESS DOORS TO BE SIZED/LOCATED SUCH THAT RESETTING FIRE DAMPER LINK CAN BE ACCOMPLISHED VIA ACCESS DOOR. MINIMUM SIZE IS 12"x12". PROVIDE MULTIPLE ACCESS DOORS AT MULTIPLE SECTION FIRE DAMPERS. 3. COORDINATE GENERAL CONTRACTOR FURNISHED/INSTALLED WALL OR CEILING ACCESS PANELS REQUIRED AT OTHERWISE INACCESSIBLE LOCATIONS.



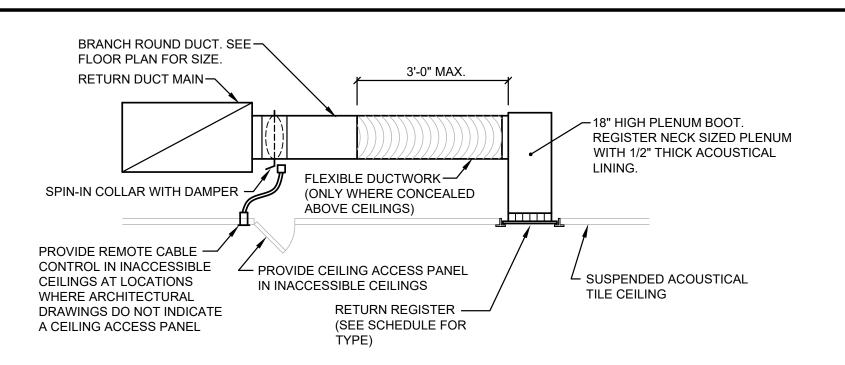
FIRE DAMPER DETAIL (FID)

NO SCALE



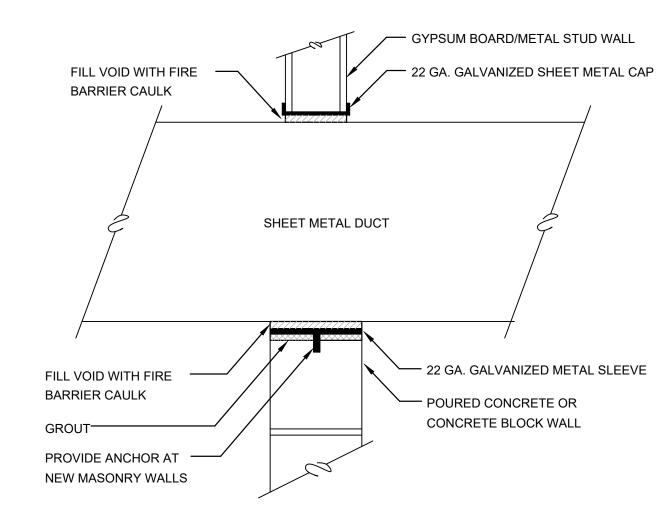
DUCT BRAANCH TAKE-OFF DETAIL

NO SCALE



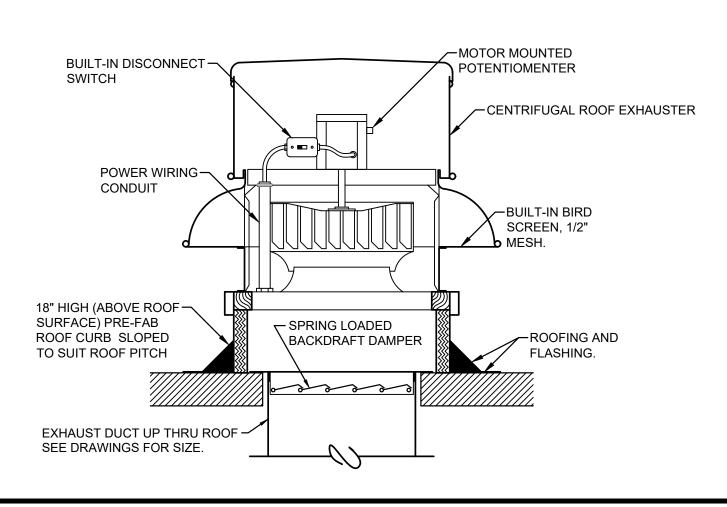
RETURN/EXHAUST REGISTER INSTALLATION DETAIL

NO SCALE



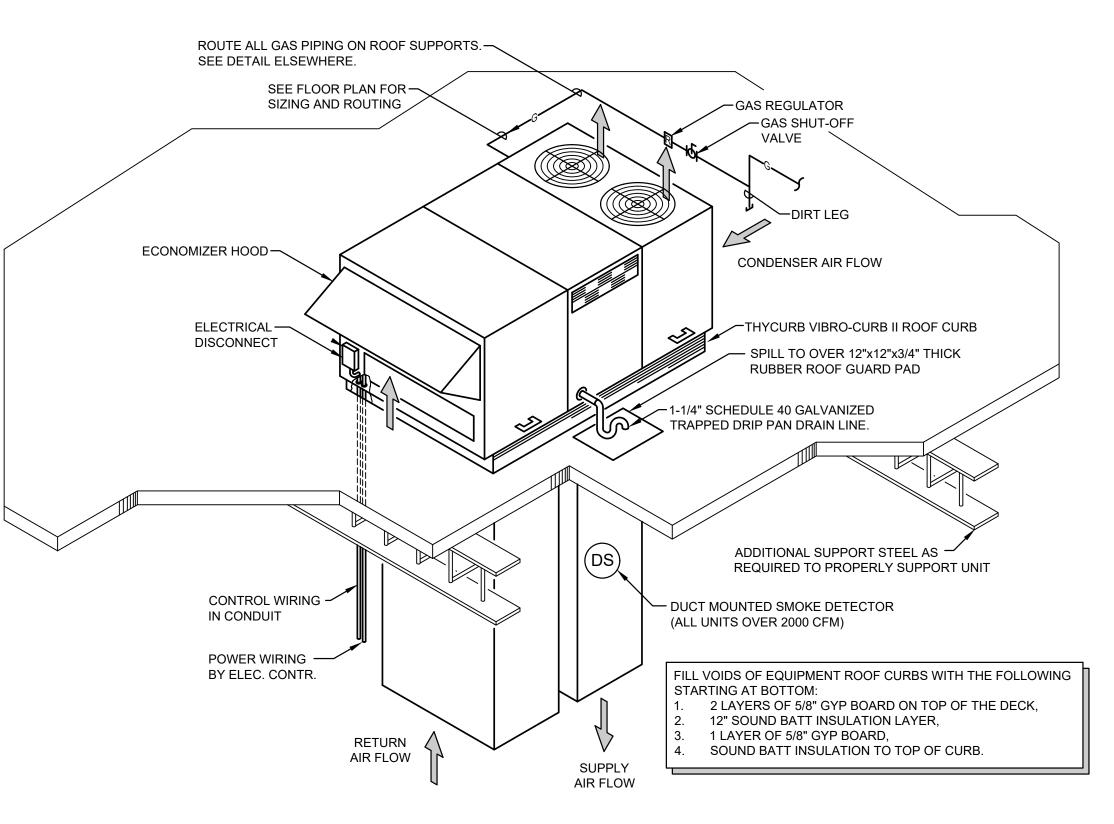
DUCT SLEEVE THROUGH INTERIOR WALL DETAIL

NO SCALE



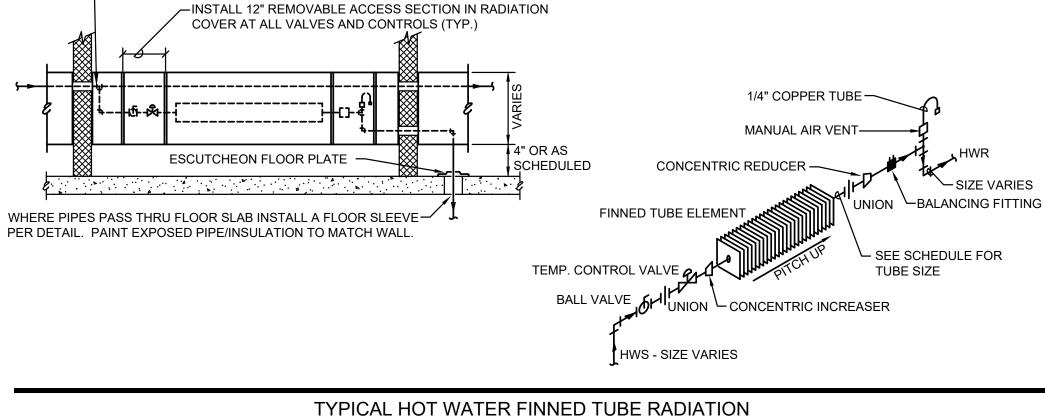
DOWNBLAST CENTRIFUGAL ROOF EXHAUSTER DETAIL

NO SCALE



ROOFTOP UNIT INSTALLATION DETAIL

NO SCALE



DUCT CONNECTION TO WALL LOUVER DETAIL

NOTE:

1. SEE WALL LOUVER SCHEDULE FOR CONNECTION SIZES.

NO SCALE

NO SCALE

BRANCH ROUND DUCT. SEE FLOOR —

SPIN-IN COLLAR-

CONTROL IN INACCESSIBLE SPACER (NOTE: SPACER SHALL ALSO BE -

WHERE ARCHITECTURAL NECK AND BRANCH DUCT SIZE DIFFER.)

CEILINGS AT LOCATIONS UTILIZED FOR TRANSITION WHERE DIFFUSER

WITH DAMPER

NO SCALE

1" MIN. — -

WALL LOUVERS -

CONTINUOUS WATERTIGHT CAULK — SEAL ON PERIMETER OF LOUVER

WHERE PIPES PASS THRU WALLS, INSTALL A WALL SLEEVE PER DETAIL ELSEWHERE.

FRAME.

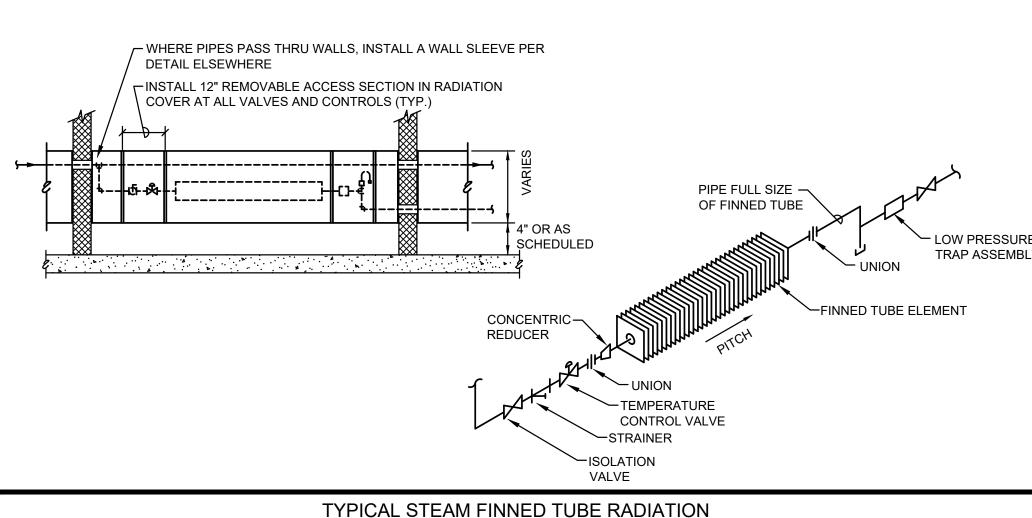
PROVIDE REMOTE CABLE -

DRAWINGS DO NOT INDICATE

A CEILING ACCESS PANEL

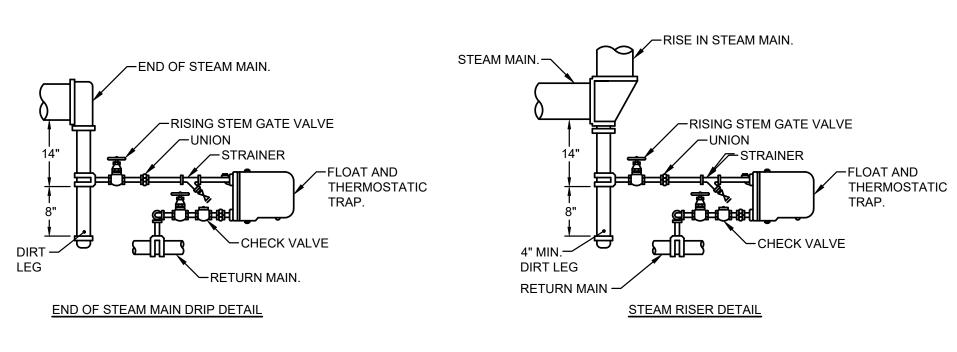
PLAN FOR SIZE. SUPPLY OR RETURN-

DUCT MAIN



TYPICAL STEAM FINNED TUBE RADIATION

NO SCALE



TYPICAL STEAM FINNED TUBE RADIATION

NO SCALE

PROVIDE AREOFLEX MODEL AREOFIX-U RIDGID CLOSED-CELL POLYMERIC FOAM PIPE SUPPORT (OR EQUIVALENT) TO ALLOW FOR PIPE EXPANSION IN REFRIGERANT SYSTEMS.

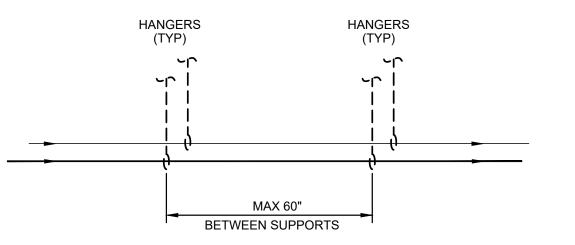
VRF - TYPICAL PIPE EXPANSION AND SUPPORT DETAIL

NO SCALE

PROVIDE AREOFLEX MODEL AREOFIX-U RIDGID — CLOSED CELL POLYMERIC FOAM PIPE SUPPORT (OR EQUIVALENT) TO ALLOW FOR PIPE EXPANSION IN REFRIGERANT SYSTEMS. **INSULATION TAPE** APPLY ADHESIVE TO INSULATION JOINTS AND WRAP WITH INSULATION TAPE TO PROVIDE COMPLETED SEAL CAPABLE OF WITHSTANDING PIPE EXPANSION.

VRF - TYPICAL REFRIGERANT PIPING INSULATION DETAIL

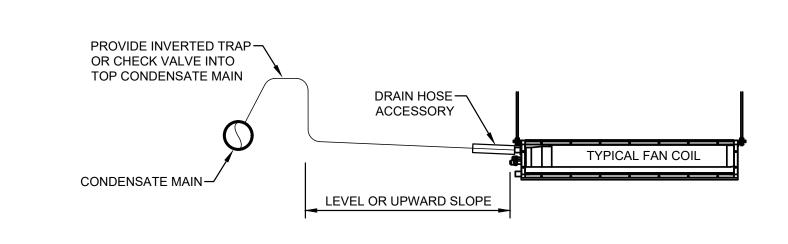
NO SCALE



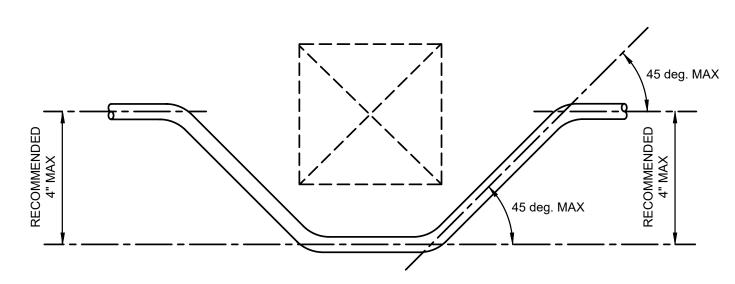
1. HANGAR TYPES TO INCLUDE CLEVIS HANGARS OR TRAPEZE HANGARS.

VRF - TYPICAL HANGAR SPACING DETAIL

NO SCALE



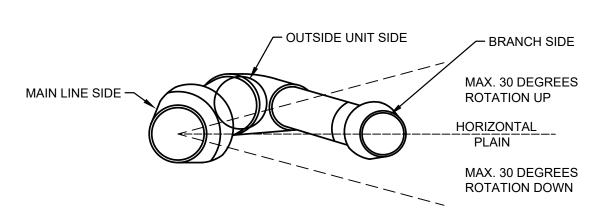
VRF - CONDENSATE DRAIN PIPING FOR INDOOR UNITS (REFER TO MANUFACTURERS INSTRUCTIONS) NO SCALE



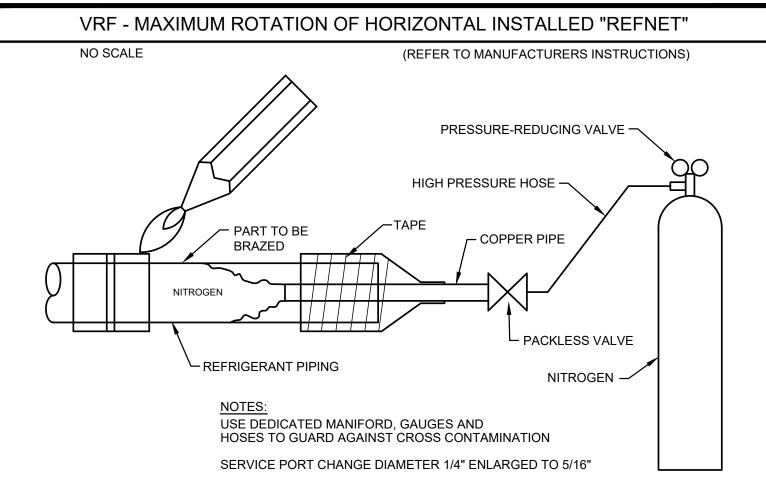
NOTE: IN CASES WHERE PIPING/TUBING NEEDS TO DROP BELOW OBJECTS, (BEAMS, DUCTS, CONDUITS, PIPES ETC.) PIPING SHALL HAVE LARGE RADIUS TURNS AS INDICATED ABOVE (NO MORE THAN 45 DEGREES PER FITTING) TO PREVENT TRAPPING OF REFRIGERANT.

VRF - ELEVATION - PIPING OFFSET BELOW OBJECT

NO SCALE

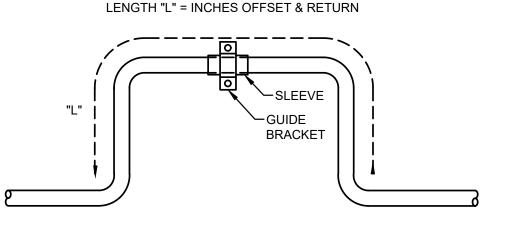


NOTE:
THIS SAME HORIZONTAL APPLICATION APPLIES TO HEADERS.



VRF - TYPICAL NITROGEN PURGING SET-UP

NO SCALE

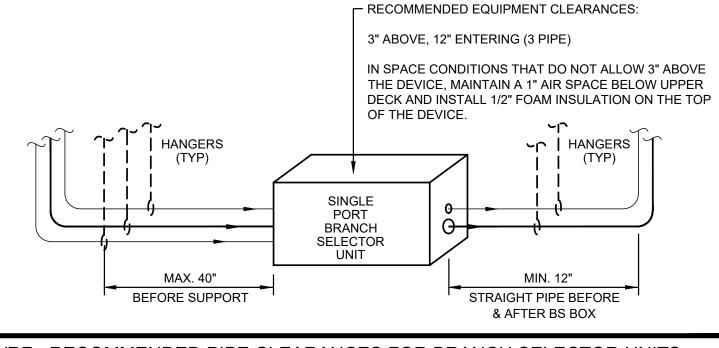


NOTE: CALCULATION FOR EXPANSION AND CONTRACTION SHOULD BE BASED ON THE AVERAGE COEFFICIENT OF EXPANSION OF COPPER WHICH IS 0.0000094 INCH PER INCH PER DEGREE F, BETWEEN 70 degrees F AND 212 degrees F.

(EXAMPLE: EXPANSION OF A 100 DEGREE F RISE FOR EACH 100 FT. OF ANY SIZE IS 1.128 INCHES) EXPANSION DIMENSION "L" FOR OFFSET & RETURN TO BE BASED ON THE EXPECTED EXPANSION INCHES PER DIMENSION OF PIPE

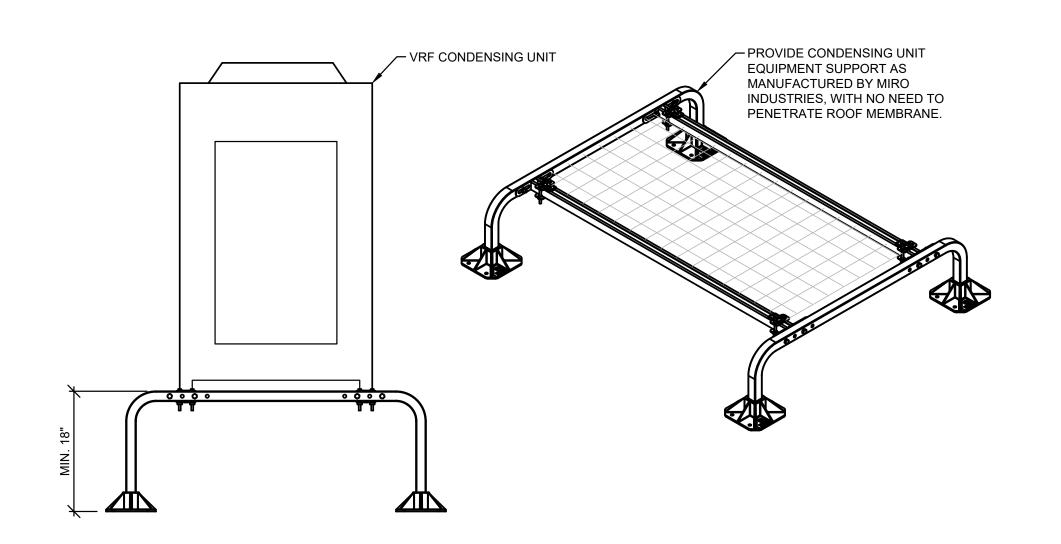
VRF - PLAN - EXPANSION LOOPS

NO SCALE



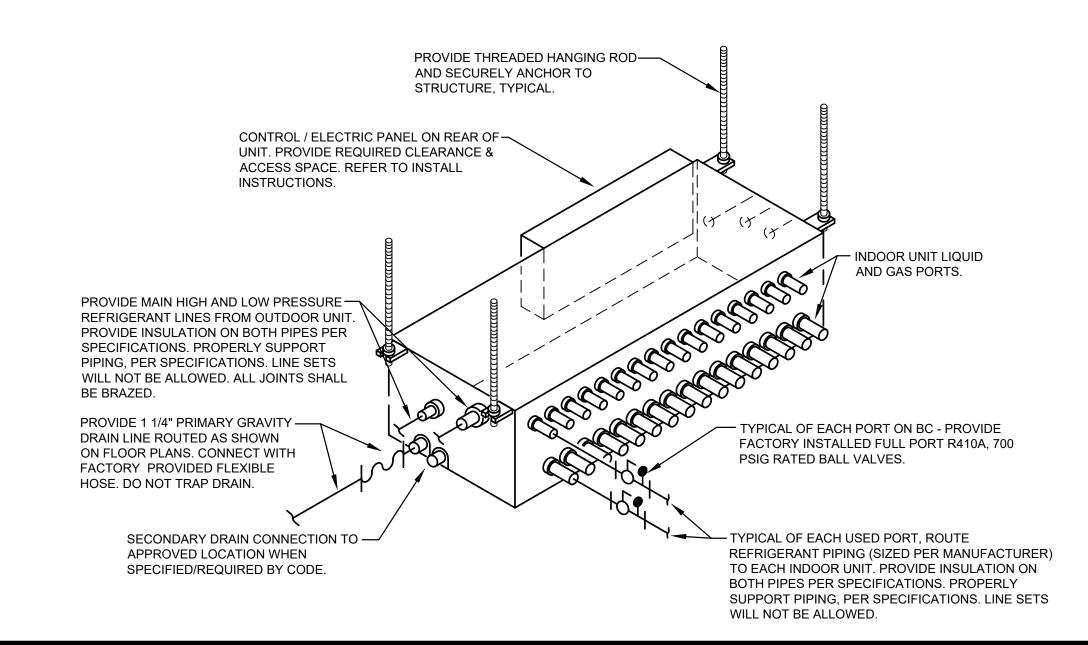
VRF - RECOMMENDED PIPE CLEARANCES FOR BRANCH SELECTOR UNITS

NO SCALE (REFER TO MANUFACTURERS INSTRUCTIONS)



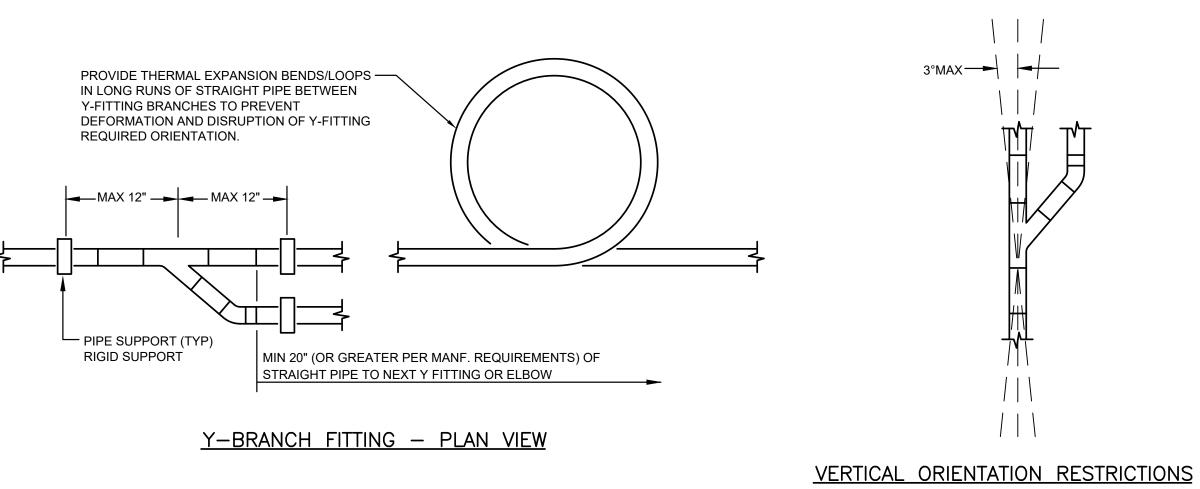
VRF - CONDENSING UNIT ROOF SUPPORT (SIDE VIEW / ISOMETRIC VIEW)

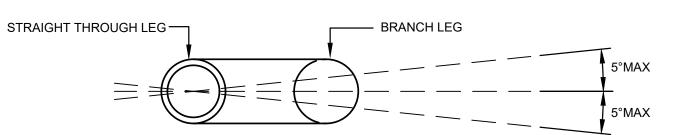
(SINGLE MODULE SYSTEM SHOWN) NO SCALE



VRF - BRACH CIRCUIT (BC) CONTROLLER DETAIL

NO SCALE





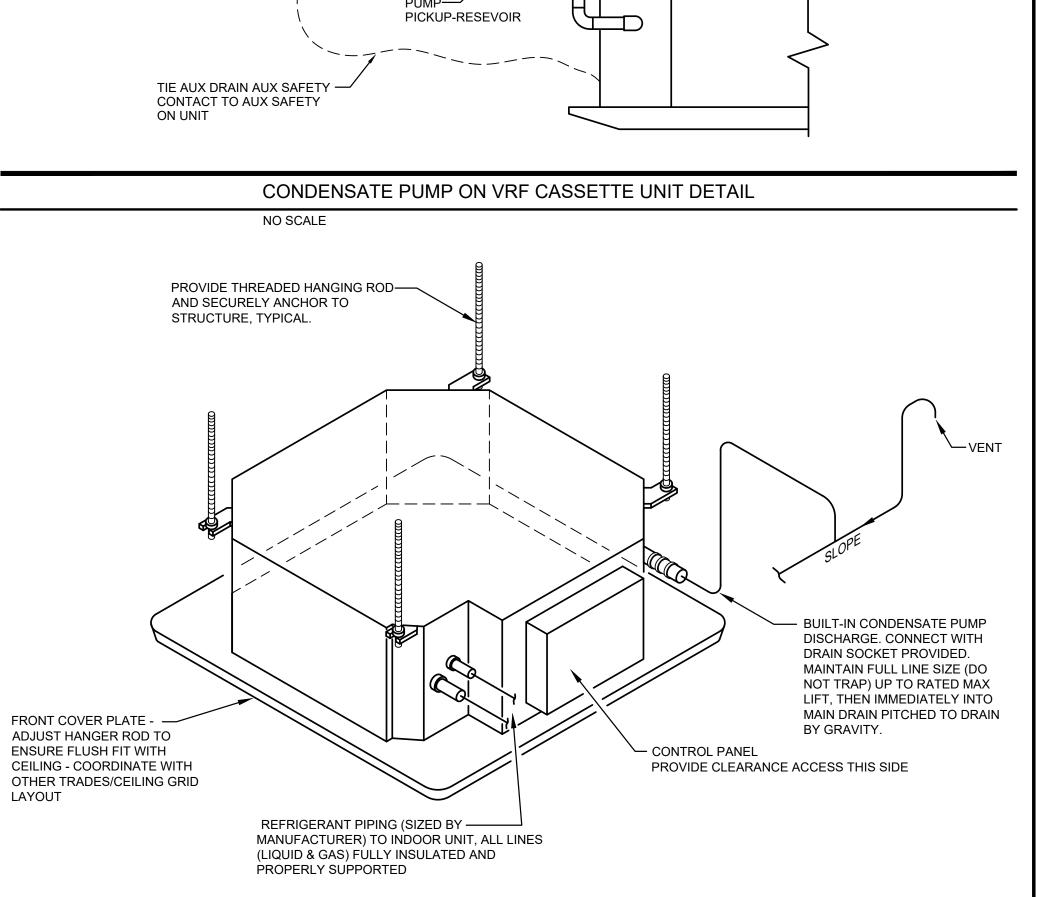
Y-BRANCH HORIZONTAL ORIENTATION RESTRICTIONS

ADDITIONAL PIPING DISTRIBUTION NOTES 90 DEG ELBOWS TO BE KEPT 20" FROM FAN COILS AND BS BOXES (OR GREATER PER MANF REQUIREMENTS)

90 DEG ELBOWS SHOULD BE KEPT 20" FROM Y-FITTINGS AND HEADERS (OR GREATER PER MANF REQUIREMENTS). ALL PIPING TO BE SUPPORTED WITHIN 12" OF FAN COILS, BS BOXES, AND CONDENSERS.

NO SCALE

VRF PIPING DISTRIBUTION REQUIREMENTS



-GRAVITY DRAIN

PVC TO TUBING

BARP FITTING

- FULL SIZE PVC PIPE FROM BUILT IN

LIFT MECHANISM DISCHARGE

WITH CLAMP

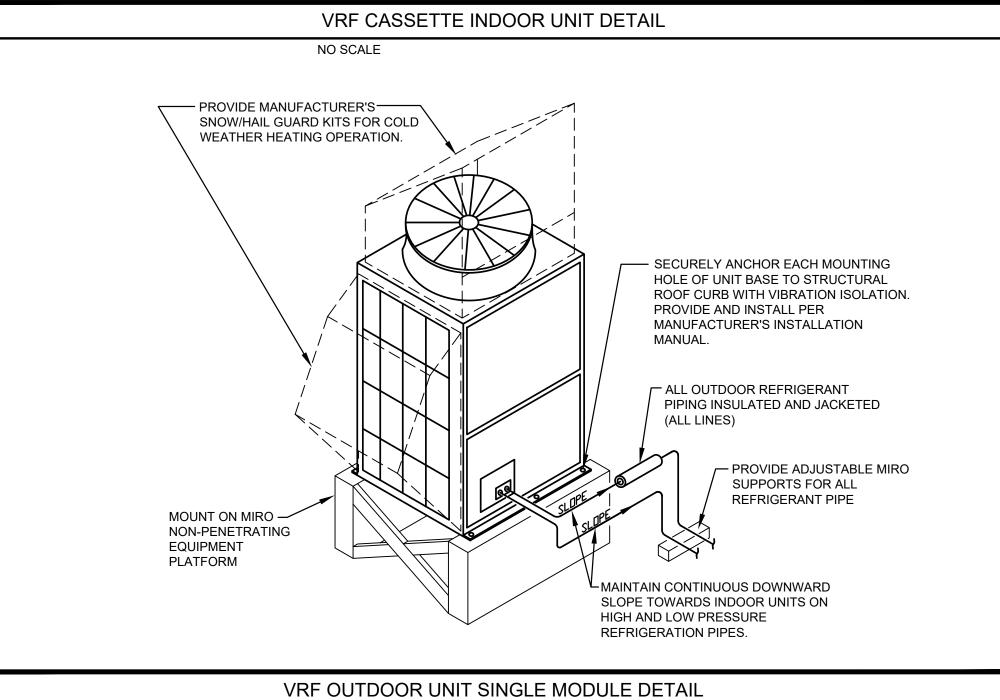
USE DRAIN CLAMP & —

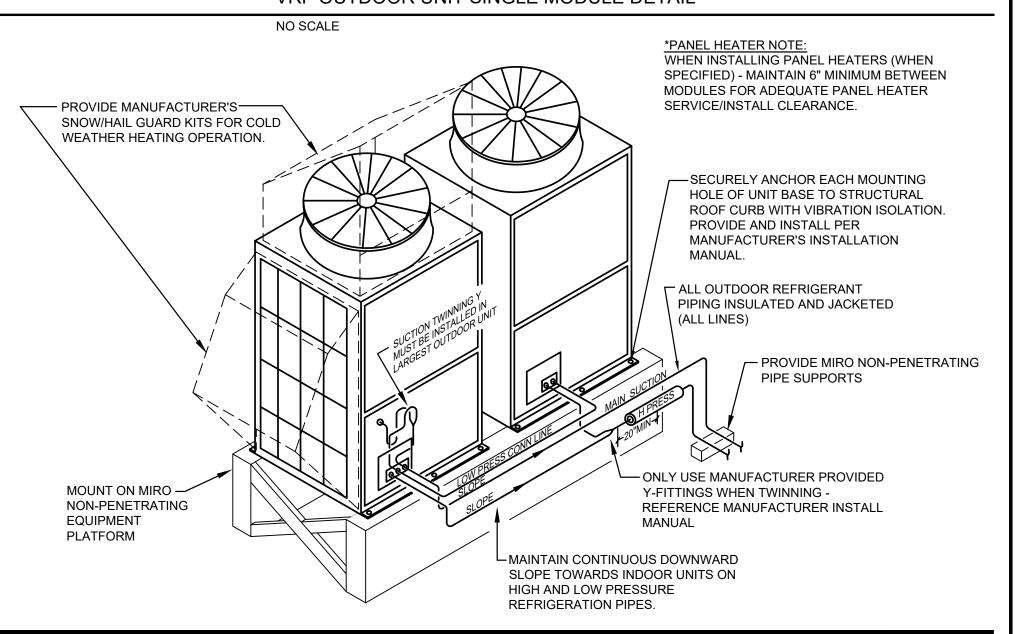
TRANSITION FITTING

PROVIDED WITH PUMP TO CONNECT TUBING

NEARBY GRAVITY

DRAIN MAIN LINE





VRF - HEAT RECOVERY-R2 (TWINNED) DETAIL

NO SCALE

MECHAN	NICAL SYMB	OLS AND ABBREVIATIONS			
	— HWS ———	LOW TEMPERATURE (HEATING) HOT WATER SUPPLY	\ \ \ \ \	FLEXIBLE DUCT CONNECTION	
. —	— HWR ——————————————————————————————————	LOW PRESSURE CONDENSATE	\[\bar{\}\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	MANUAL SINGLE BLADE OR OPPOSED BLADE DAMPER	
	— LPS ——————————————————————————————————	LOW PRESSURE STEAM PUMPED CONDENSATE		VERTICAL FIRE DAMPER WITH ACCESS DOOR	
	— RS ——— — RL ———	REFRIGERANT SUCTION REFRIGERANT LIQUID	- (v) -	AIR FLOW	
-	— D ——	DRAIN LINE / PUMPED CONDENSATE PIPING TO BE REMOVED	12x24	DUCT SIZE FREE AREA (1ST FIGURE, SIDE OF DUCT SHOWN)	
		(DEMOLITION DRAWING ONLY) DIRECTION OF FLOW		CROSS-SECTION OF SUPPLY OR OUTSIDE AIR INTAKE DUCT	
<u> </u>	PITCH	PITCH OF PIPE (DOWN) PIPE ELBOW (TURNED UP)		CROSS-SECTION OF RETURN OR EXHAUST DUCT	
_		PIPE ELBOW (TURNED DOWN)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	90° ELBOW WITH TURNING VANES	
	— ≎—— —	PIPE TEE DOWN (DROP) PIPE TEE UP PIPE TEE UP OR ANGLE		90° BRANCH TAKE-OFF W/45 DEGREE ENTRY	_
_	NC I	PIPE TEE DOWN OR ANGLE NEW CONNECTION	8)))))))))	ROUND FLEXIBLE DUCT	
				SQUARE OR RECTANGLE DUCT TRANSITION	
			\	SQUARE OR RECTANGLE TO ROUND DUCT TRANSITION	
			(\square)	DUCT UP TO ROOF MOUNTED EXHAUST FAN OR VENTILATOR	
			XXX-1	EQUIPMENT TAG	

GENERAL NOTES - ALL CONTRACTORS

1. DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING, DUCTWORK, CONDUITS, RACEWAYS, ETC., AS SHOWN ON DRAWINGS, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.

2. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.

AFF. ABOVE FINISHED FLOOR

ACCESS PANEL

BTU

CFM

CUH

CV

DB

EAT

ESP

BTUH

AIR COOLED CONDENSING UNIT

ABOVE FINISHED FLOOR

BRAKE HORSE POWER

BRITISH THERMAL UNIT

CUBIC FEET PER MINUTE

CABINET UNIT HEATER

DOAS DEDICATED OUTDOOR AIR SYSTEM

ENTERING AIR TEMPERATURE

EXTERNAL STATIC PRESSURE

DRY BULB

EXHAUST FAN

FAHRENHEIT

FIRE DAMPER

FPM FEET PER MINUTE

BRITISH THERMAL UNIT PER HOUR

HORSEPOWER

PH

RPM

TSP

TYP

WB

LEAVING AIR TEMPERATURE

POUNDS PER SQUARE INCH

REVOLUTIONS PER MINUTE

TOTAL STATIC PRESSURE

VARIABLE REFRIGERANT FLOW

VARIABLE REFRIGERANT FLOW

VARIABLE REFRIGERANT FLOW

VARIABLE REFRIGERANT FLOW UNIT

CONDENSER

WET BULB

WALL LOUVER

MAXIMUM OVERCURRENT PROTECTION

MINIMUM CIRCUIT AMPS

- CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY OWNER/ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- 4. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, CONDUIT, RACEWAYS, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- . WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, AND WORK OF OTHER TRADES PRIOR TO ROUGH-IN. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- 6. CONTRACTOR SHALL PROVIDE SLEEVES IN BEAMS, FLOORS, COLUMNS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR WORK. ALL BEAMS AND COLUMNS WHICH ARE REQUIRED TO BE SLEEVED SHALL BE CUT AND REINFORCED AS REQUIRED BY FIELD CONDITIONS AND LOCATIONS AND SIZES SHALL BE CHECKED AND APPROVED BY ARCHITECT BEFORE CONTRACTOR CUTS ANY STRUCTURAL BUILDING MEMBER.
- 7. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS DIRECTED.
- 8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS AND VISIT THE JOB SITE (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE GENERAL CONTRACTOR'S WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- 9. CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING, REFINISHING AND REMOVAL/REPLACEMENT OF NEW BUILDING CONSTRUCTION ALREADY IN PLACE AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY PREVIOUSLY INSTALLED NEW BUILDING CONSTRUCTION. ANY PREVIOUSLY INSTALLED FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR WHO DAMAGED THEM TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.

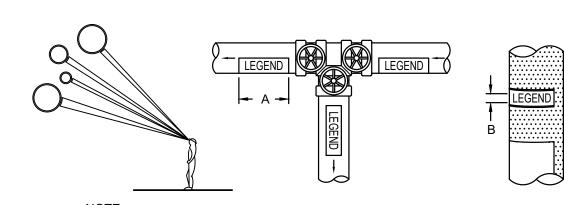
WALL THERMOSTAT OR TEMPERATURE SENSOR

- 11. CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY
- 12. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED OUTSIDE THE BUILDING ON THE SITE UNLESS IT IS SUPPORTED OFF THE GROUND AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- 13. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT FROM A SPECIFIED ACCEPTABLE MANUFACTURER, BUT NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED. PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE OF THE EQUIPMENT. WHEN EQUIPMENT SUBMITTED FOR REVIEW DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.
- 14. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEET THE CAPACITY AND DUTY SPECIFIED. WHEN EQUIPMENT SUBMITTED FOR REVIEW REQUIRES MODIFICATIONS TO THE WORK OF OTHER CONTRACTORS, SUBMITTING CONTRACTOR SHALL PAY FOR ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT FUNCTION SAFELY AND PROPERLY.
- 15. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HIS WORK WITH CONSTRUCTION OF THE BUILDING, INCLUDING VERIFYING THE SIZE OF EXISTING OPENINGS, WINDOWS, DOORS, CORRIDORS, ROOMS, ETC. FOR ACCESS OF HIS NEW EQUIPMENT INTO THE BUILDING AREAS WHICH WILL ALREADY BE CONSTRUCTED WHEN HIS EQUIPMENT IS READY TO BE INSTALLED. IF OPENINGS ARE TOO SMALL FOR ACCESS THEN CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE NEW OR ENLARGED OPENINGS AND RESTORE SAME TO PREVIOUS SIZE AND CONDITION. CONTRACTOR MAY ELECT TO ORDER THE EQUIPMENT DISASSEMBLED AND/OR WITH SPLIT HOUSING FOR ENTRANCE INTO THE SPACE OR BUILDING. CONTRACTOR SHALL REASSEMBLE EQUIPMENT AFTER IT IS IN THE SPACE AT HIS OWN EXPENSE.
- 16. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND THEIR
- 17. SEAL ALL FLOOR PENETRATIONS BETWEEN THE PIPE AND THE FLOOR SLAB WITH A HIGH ADHESIVE POLYURETHANE SEALANT AS PER THE LATEST EDITION OF THE EPA "RADON PREVENTION IN THE DESIGN AND CONSTRUCTION OF SCHOOLS AND OTHER LARGE BUILDINGS"

			HVAC/PL	.UMBING/EL	ECTRICAL (COORDIN	NATION SC	HEDULE	
EQUIPMENT	EQUIPMENT		UNIT MOL	JNTED DEVICES		REM	OTE OR LOOSE	DEVICES	
TAG	DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
ACCU	AIR COOLED CONDENSING UNIT	MANUF			MANUF		E	E	
DFSS	DUCT FREE SPLIT SYSTEM	MANUF			MANUF		E	E	
DOAS	DEDICATED OUTDOOR AIR SYSTEM	MANUF			MANUF		E	E	
EF	EXHAUST FAN		MANUF		MANUF	SEE REMARKS		E	1,2,3,4,5
UV	UNIT VENTILATOR	MANUF	MANUF		MANUF			E	
(VRFBC)	VRF BRANCH CONTROLLER BOX	MANUF				Е	E	E	1,2,3,4,5
VRFC	VRF CONDENSING UNIT	MANUF				Е	E	E	1,2,3,4,5
VRFU	VRF UNIT	MANUF				E	E	E	1,2,3,4,5
_									

- DEVICES TO BE FURNISHED BY THE ELECTRICAL CONTRACTOR (MARKED "E"), MECHANICAL CONTRACTOR (MARKED "M"), HVAC CONTRACTOR (MARKED "HV"), BAS CONTRACTOR (MARKED "B"), PLUMBING CONTRACTOR (MARKED "P"), FIRE PROTECTION CONTRACTOR (MARKED "FP"), OR MANUFACTURER (MARKED "MANUF"). ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUIT/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.
- . IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE AND REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY AND OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE ELECTRICAL CONTRACTOR OF ANY MOTOR/DEVICE CHANGES. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS. ALL SINGLE PHASE EXHAUST FAN CONTROL SWITCHES
- 5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.

SHALL HAVE IDENTIFICATION NAMEPLATE AND PILOT LIGHT.



IDENTIFICATION MARKERS OR STRIPS TO BE PLACED ON ALL EXPOSED COVERED AND UNCOVERED PIPES AT 20'-0" INTERVALS, ADJACENT TO ALL VALVES OR BRANCHES, AND AT BOTH SIDES OF WALL/FLOOR PENETRATIONS. ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW.

TYPICAL PIPE IDENTIFICATION MARKERS

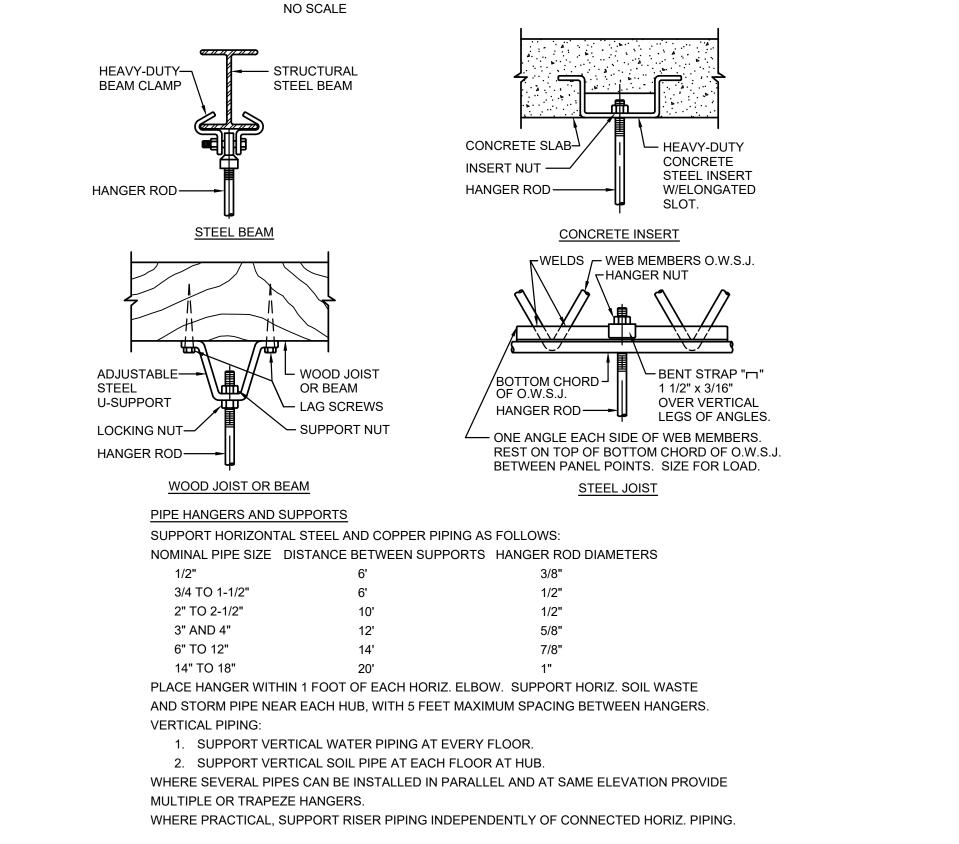
LETTERS

1 1/4"

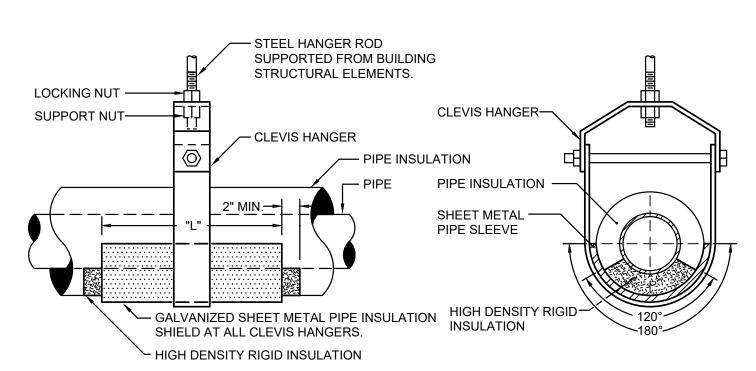
2 1/2"

3 1/2"

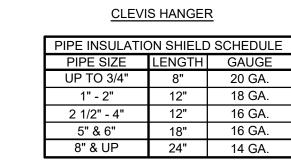
SERVICE	BACKGROUND OR COLOR BAND	IDENTIFICATION MARKER	SIZE OF	LEGEND LETTERS
NATURAL GAS NATURAL GAS VENT HOT WATER HEATING SUPPLY	YELLOW YELLOW YELLOW YELLOW	BLACK ON YELLOW BLACK ON YELLOW	OUTSIDE DIAMETER OF PIPE OR COVERING	LENGTH OF COLOR FIELD A
HOT WATER HEATING SUPPLY HOT WATER HEATING RETURN LOW PRESSURE CONDENSATE LOW PRESSURE STEAM PUMPED CONDENSATE REFRIGERANT LIQUID REFRIGERANT SUCTION	YELLOW YELLOW YELLOW YELLOW GREEN GREEN	BLACK ON YELLOW WHITE ON GREEN WHITE ON GREEN	3/4" TO 1 1/4" 1 1/2" TO 2" 2" 1/2" TO 6" 8" TO 10" OVER 10"	8" 8" 12" 24" 32"







NO SCALE



PIPE ROLLER —

360° GALVANIZED -

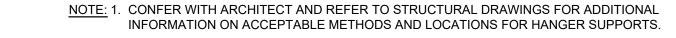
INSULATION SHIELD

SHEET METAL

LOCKING NUT -

EACH SIDE OF

AT U-BOLT. U-BOLT ----



- PIPE INSULATION (TYP.)

- STEEL PIPE

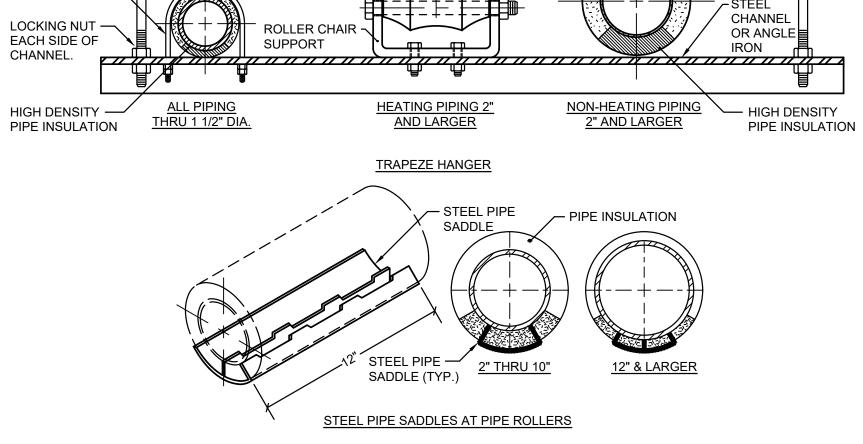
SADDLE FOR

HEATING PIPING

STEEL HANGER ROD SUPPORTED -

FROM BUILDING STRUCTURAL ELEMENTS.

PIPE INSULATION



TYPICAL PIPE HANGER DETAILS

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DATE: 10-11-2022
PROJECT NUMBER
32103-03
SHEET NUMBER
E1.0G

PARTIAL FIRST FLOOR POWER PLAN scale: North North
Project True

EX. FIRE ALARM PANEL SIMPLEX 4010

EX. KOHLER 6.6 KVA

120

EX. ATS UNDER -

EXISTING DISTRIBUTION —
PANEL "MDP-1"

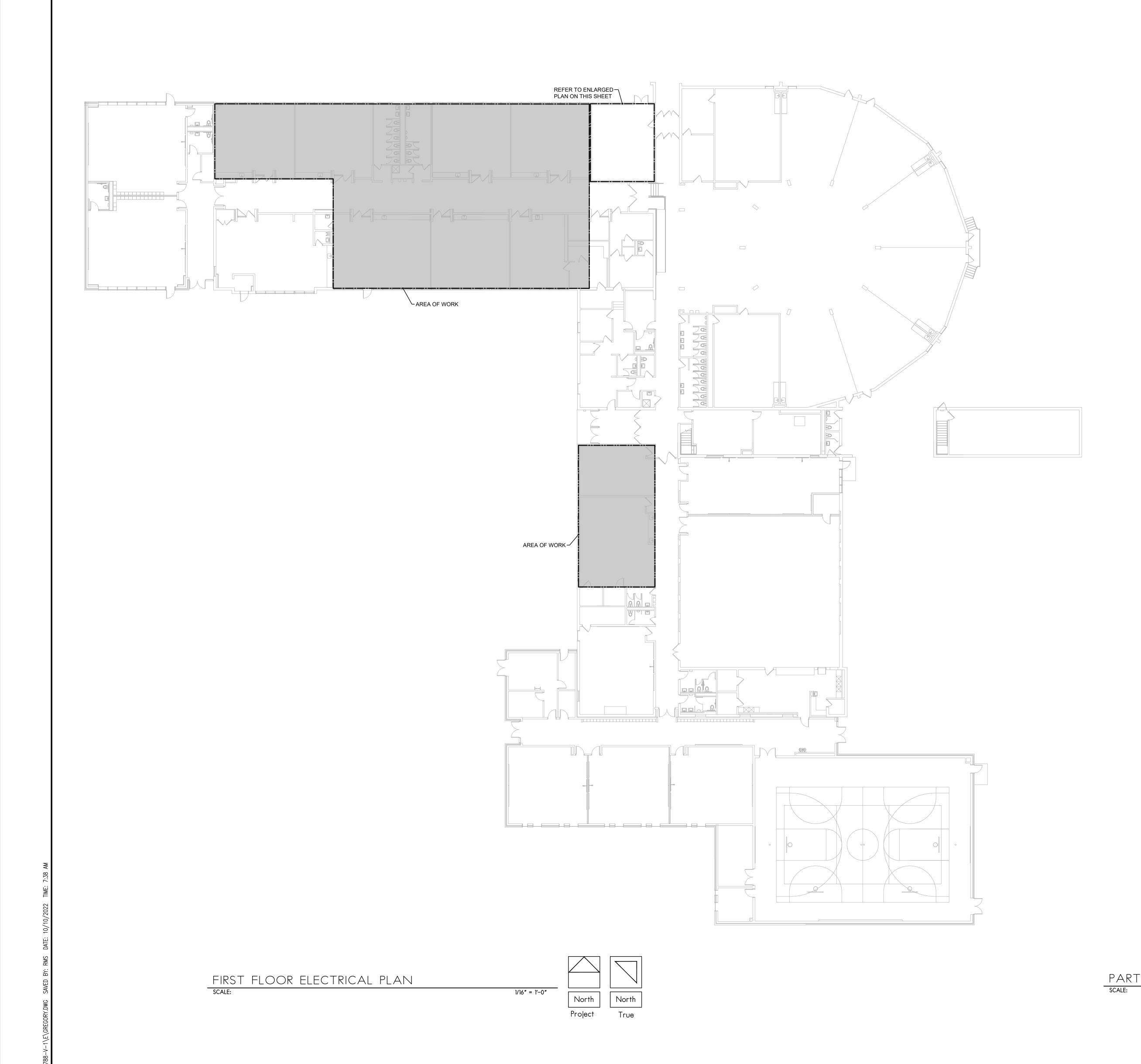
EX. PANEL "A"

EX. PANEL "B"

STAIRS

EX. PANEL "G-EM" \

COMED METER # 230 276 537



Irson & Darby Group hitecture Engineering Interiors





CS2

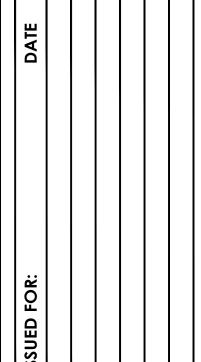
2400

T 205 PROJ #:
ROCKFORD, IL 61108

PS DISTRICT 205 820 CAROL CT. ROCKFC

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32103-03 SHEET NUMBER **E1.1G**

DATE: 10-11-2022
PROJECT NUMBER
32103-03

PANELBOARD SCHEDULE: "AC-1" GREGORY

 REMARKS: TYPE: BOLT-ON

 CKT
 USE AND/OR AREA SERVED
 C/B
 TYPE
 VA
 PH
 VA
 TYPE
 C/B
 USE AND/OR AREA SERVED
 CKT

 1
 G.ACCU - 1
 30/2
 M
 2049
 A
 2049
 M
 30/2
 G.ACCU - 5
 2

 3
 M
 2049
 B
 2049
 M
 30/2
 G.ACCU - 5
 2

 4
 S
 G.ACCU - 2
 30/2
 M
 2049
 C
 2049
 M
 30/2
 G.ACCU - 6
 6

 7
 M
 2049
 A
 2049
 M
 30/2
 G.ACCU - 6
 8

 9
 G.ACCU - 3
 30/2
 M
 2049
 B
 2049
 M
 30/2
 G.ACCU - 7
 10

 11
 M
 2049
 C
 2049
 M
 30/2
 G.ACCU - 7
 10

 12
 M
 2049
 A
 720
 R
 20/1
 ROOF TOP RECEPTACLE
 14

12119

VOLTAGE: 208 Y/120V, 3PH, 4W C/B RATING: - 10 k.A.I.C. NEUTRAL: 100% GROUND: EQUIPMENT MOUNTING: - SURFACE

C BUSSED SPACE

15926 CONNECTED LOAD

17255 HIGH PHASE AMPS

___ 4 #4/0, 1 #4GRD. 2 1/2"C.

NEW EQUIPMENT PANEL "AC-1" 225A. 208Y/120V. 3Ø 4W.

TYPE: BOLT-ON

BUSSED SPACE BUSSED SPACE

BUSSED SPACE

45300 VA

143.7 A

MAIN: 225A MLO LOCATION: - BOILER ROOM

23 G-UV-1/G-UV-2 25 BUSSED SPACE

27 BUSSED SPACE

29 BUSSED SPACE

TOTAL LOAD PER PHASE A

TOTAL LOAD PER PHASE B

TOTAL LOAD PER PHASE C

REMARKS: -

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GREGORY SCHOOL

PARTIAL ELECTRICAL RISER DIAGRAM

C/B TURNED OFF, RPS TO VERIFY STATUS (ASSUMED TO BE AVAILABLE "SPARE")

200/3 200/3 200/3 225/3 400/3 300/3

UTILIZE EXISTING — 225A. SPARE C/B

C/B TURNED OFF, RPS — TO VERIFY STATUS

1200A. 120/208V. 3Ø 4P MAIN

COMED METER #230 276 537

NO SCALE

EXISTING MAIN DISTRIBUTION PANEL "MDP" 800A. 208Y/120V. 3Ø 4W.

NOTE

J-BOX, JB JUNCTION BOX

ALL SYMBOLS, ABBREVIATIONS, ETC... ARE GENERAL OFFICE STANDARD AND ARE NOT ALL NECESSARILY USED IN THIS PROJECT.

MOUNTING HEIGHT NOTE

REFER TO ARCHITECTURAL FLOOR PLANS FOR ADDITIONAL INFORMATION REGARDING MOUNTING HEIGHTS AND LOCATIONS OF ELECTRICAL DEVICES BEFORE ROUGH-IN.

IGHTING NOTE

REFER TO ARCHITECTURAL FLOOR PLANS FOR ADDITIONAL INFORMATION REGARDING MOUNTING HEIGHTS AND LOCATIONS OF ELECTRICAL DEVICES

ELECTRICAL	SYMBOL LIST
LIGHTING	RACEWAY AND BOXES
2' X 4' LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED PER	CEILING JUNCTION BOX.

CONDUIT ROUTED CONCEALED IN WALLS AND CEILING. HASH MARKS

CEILINGS. HASH MARKS DENOTE QUANTITY OF #12 CONDUCTORS OR

DENOTE QUANTITY OF #12 CONDUCTORS OR AS NOTED.

DENOTES CONDUIT CONTAINING A #12 EQUIPMENT GROUND

SURFACE CONDUIT. WIREMOLD V700 SERIES RACEWAYS OR EQUAL.

UNLESS NOTED OTHERWISE. WIREMOLD V4000 SERIES OF EQUAL.

DENOTES RECESSED LARGE CAPACITY FLOOR BOX FLUSH

SERVICE AND DISTRIBUTION

NON-FUSED SAFETY DISCONNECT SWITCH, AMPERE RATING AND

FUSED DISCONNECT SWITCH, AMPERE RATING AND NUMBER OF

MOTOR CONNECTION, HORSEPOWER, VOLTAGE AND PHASE AS

FIRE ALARM

FIRE ALARM SYSTEM PULL STATION INSTALLED +48" A.F.F. WITH

FIRE ALARM SYSTEM SPEAKER/VISUAL STROBE INSTALLED +80" A.F.F.

FIRE ALARM SYSTEM CEILING MOUNTED SPEAKER/VISUAL STROBE.

FIRE ALARM SYSTEM VISUAL SIGNAL INSTALLED +80" A.F.F.

FA SYSTEM WALL MOUNTED AUDIO/VISUAL SIGNALING DEVICE

FA SYSTEM CEILING MOUNTED AUDIO/VISUAL SIGNALING DEVICE

FIRE ALARM SYSTEM CEILING HEAT DETECTOR "FT" DENOTES FIXED

FIRE ALARM SYSTEM CEILING MOUNTED VISUAL SIGNAL.

FIRE ALARM SYSTEM CARBON MONOXIDE DETECTOR.

FIRE ALARM SYSTEM CEILING SMOKE DETECTOR.

FIRE ALARM MAGNETIC DOOR HOLD OPEN DEVICE.

SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH.

FIRE ALARM INDIVIDUAL ADDRESSABLE MODULE.

FIRE ALARM RELAY INDIVIDUAL ADDRESSABLE MODULE

SPECIAL SYSTEMS

DOOR WITH SECURITY SYSTEM CONTACT AND/OR DOOR POSITION

CARD READER LOCATION. PROVIDE SINGLE GANG BACKBOX AT

+42"A.F.F. WITH 3/4" CONDUIT STUBBED INTO "SAFE-SIDE" CEILING

FIRE ALARM SYSTEM DUCT MOUNTED SMOKE DETECTOR.

DUCT SMOKE DETECTOR REMOTE INDICATING LIGHT WITH KEY

TRANSIENT VOLTAGE SURGE PROTECTOR MOUNTED ADJACENT TO

COMBINATION MOTOR STARTER WITH FUSED DISCONNECT SWITCH

CONDUIT ROUTED EXPOSED. INSTALL PARALLEL TO WALLS AND

AS NOTED.

CONDUCTOR OR AS NOTED.

NUMBER OF POLES AS NOTED.

CIRCUIT BREAKER PANELBOARD

SWITCHBOARD ON PANELBOARD.

WALL MOUNTED FIRE ALARM SPEAKER.

S CEILING MOUNTED FIRE ALARM SPEAKER.

POLES AS NOTED.

DISTRIBUTION PANEL.

STOPPER II COVER.

(HORN/STROBE).

(HORN/STROBE).

TEMPERATURE.

OPERATED TEST SWITCH.

FIRE ALARM CONTROL PANEL.

FIRE ALARM DOOR CLOSER.

SPRINKLER SYSTEM FLOW SWITCH.

FIRE ALARM ZONE ADAPTER MODULE.

DOOR WITH SECURITY ELECTRIC STRIKE.

CEILING MOUNTED SECURITY MOTION DETECTOR.

REQUEST TO EXIT, SECURITY MOTION BY PASS DETECTOR.

CAMERA SINGLE DOME 360 DEGREE MULTI-SENSOR

CAMERA SINGLE DOME 360 DEGREE MULTI-SENSOR

CAMERA SINGLE DOME WALLMOUNTED, OUTDOOR

CAMERA SINGLE DOME DUAL, CEILING MOUNTED

CAMERA SINGLE DOME WALLMOUNTED, PANORAMIC, OUTDOOR

CAMERA SINGLE DOME 360 DEGREE FISHEYE, CEILING MOUNTED

WALL MOUNTED SECURITY MOTION DETECTOR

SPACE FOR SECURITY CABLING.

WALL MOUNTED SECURITY SIREN

SECURITY SYSTEM CONTROL PANEL

ENTRANCE INTERCOM WITH CAMERA

SECURITY KEYPAD (BOSCH).

INTERCOM MASTER STATION.

CEILING MOUNTED

CORNER MOUNTED

FAA FIRE ALARM ANNUNCIATOR PANEL

2' X 4' LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED PER LIGHTING FIXTURE SCHEDULE.	
---	--

WALL MOUNTED JUNCTION BOX. 1' X 4' LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED PER LIGHTING FIXTURE SCHEDULE. JUNCTION BOX WITH FLEXIBLE CONDUIT AND FINAL CONNECTION TO 2' X 2' LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED PER

LIGHTING FIXTURE SCHEDULE. 4 FT LED LIGHT FIXTURE; WALL, CEILING OR PENDANT MOUNTED PER LIGHTING FIXTURE SCHEDULE.

4' LED STRIP LIGHT FIXTURE, PER LIGHTING FIXTURE SCHEDULE.

2' X 4' LIGHT FIXTURE ON EMERGENCY CIRCUIT (EM) OR NIGHT

WALL MOUNTED FIXTURE PER LIGHTING FIXTURE SCHEDULE.

WALL MOUNTED FIXTURE, PER LIGHTING FIXTURE SCHEDULE.

LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED PER LIGHTING FIXTURE SCHEDULE.

EMERGENCY EXIT FIXTURE, SURFACE CEILING MOUNTED, SINGLE OR DOUBLE FACE, WITH OR WITHOUT DIRECTIONAL ARROWS PER EXIT SIGN SCHEDULE.

EMERGENCY EXIT FIXTURE, SURFACE WALL MOUNTED, SINGLE OR DOUBLE FACE, WITH OR WITHOUT DIRECTIONAL ARROWS PER EXIT SIGN SCHEDULE.

EMERGENCY, DUAL HEAD, BATTERY PACK LIGHTING FIXTURE. SURFACE WALL MOUNTED.

DAYLIGHTING SENSOR

COVERAGE.

RECESSED CEILING MOUNTED.

OCCUPANCY SENSOR AND COMPONENTS

EMERGENCY, DUAL HEAD, BATTERY PACK LIGHTING FIXTURE,

SELF ADAPTIVE WALL MOUNTED ULTRASONIC AND PASSIVE INFRARED OCCUPANCY SENSOR SWITCH.

SELF ADAPTIVE CEILING MOUNTED ULTRASONIC AND PASSIVE INFRARED OCCUPANCY SENSOR WITH POWER PACK. 2000 SQFT.

SELF ADAPTIVE CEILING MOUNTED ULTRASONIC AND PASSIVE INFRARED OCCUPANCY SENSOR WITH POWER PACK. 1000 SQFT. COVERAGE.

SELF ADAPTIVE CEILING MOUNTED ULTRASONIC AND PASSIVE INFRARED OCCUPANCY SENSOR WITH POWER PACK. 500 SQFT.

WIRING DEVICES

SINGLE POLE 20 AMP 120-277 VOLT TOGGLE SWITCH INSTALLED 48" AFF.

THREE WAY 20 AMP 120-277 VOLT TOGGLE SWITCH INSTALLED 48" AFF. MOMENTARY CONTACT SWITCH.

DIMMING SWITCH

SINGLE POLE 20 AMP 120-277 VOLT KEY OPERATED TOGGLE SWITCH INSTALLED 48" A.F.F. SWITCH SHALL UTILIZE FLAT HEAD KEY ONLY, FORK TYPE SHALL NOT BE ACCEPTABLE, BRYANT TECH-SPEC CATALOG NO. 4901L OR EQUAL.

MANUAL MOTOR STARTER, THERMAL OVERLOAD TOGGLE SWITCH.

MANUAL SINGLE PHASE FUSIBLE DISCONNECT SWITCH W/ PLUG FUSE SIZED PER EQUIPMENT MANUFACTURER'S RECOMMENDATION.

TOGGLE SWITCH WITH PILOT LIGHT "ON" WITH LOAD.

OCCUPANCY SENSOR SWITCH

OCCUPANCY SENSOR SWITCH WITH DIMMING

20 AMP 2P; 3 WIRE, GROUNDING TYPE, 120 VOLT SPECIFICATION GRADE

DUPLEX RECEPTACLE NEMA 5-20R INSTALLED 16" A.F.F. UNLESS NOTED OTHERWISE, WHITE IN COLOR. "GFI" DENOTES RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER.

20 AMP 2P, 3 WIRE, GROUNDING TYPE, 120 VOLT SPECIFICATION GRADE DUPLEX RECEPTACLE NEMA 5-20R INSTALLED ABOVE COUNTER TOP OR COUNTER TOP BACK SPLASH. "GFI" DENOTES RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER, WHITE IN

TWO 20 AMP 2P; 3 WIRE, GROUNDING TYPE, 120 VOLT SPECIFICATION GRADE DUPLEX RECEPTACLES NEMA 5-20R INSTALLED 16" A.F.F. UNLESS NOTED OTHERWISE, WHITE IN COLOR. "GFI" DENOTES RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER.

RECEPTACLE MOUNTED IN CEILING.

HAND DRYER 120V. 20A. DEDICATED CIRCUIT - VERIFY PRIOR TO ROUGH-IN.

DATA, VOICE AND VIDEO

DATA JACKS, +16" A.F.F UNLESS OTHERWISE NOTED. ("A" DENOTES ABOVE COUNTER HEIGHT.)

VOICE JACK, +16" A.F.F UNLESS OTHERWISE NOTED. "W" DENOTES WALL MOUNTED AT +48" A.F.F.

COMBINATION VOICE AND DATA JACK, +16" A.F.F UNLESS OTHERWISE NOTED.

PROJECTOR CONTROL OUTLET. PROVIDE 3-GANG EXTRA DEEP FLUSH MOUNTED JUNCTION BOX MOUNTED AT +16" A.F.F.

CEILING MOUNTED PROJECTOR MOUNTING PLATE WITH DUPLEX RECEPTACLE AND PROJECTOR CONTROL CABLES.

APPROXIMATE LOCATION OF DATA JACK FOR WIRELESS NETWORK, WITH 25'-0" SERVICE LOOP OF CATEGORY 6E CABLE WITH CLEAR MALE JACK. VERIFY EXACT LOCATION WITH OWNER'S REPRESENTATIVE.

WALL MOUNTED LCD MONITOR

CEILING MOUNTED LCD MONITOR

CLOCK / PAGING / SOUND

FLUSH CEILING MOUNTED SPEAKER.

SCHOOL INTERCOM SYSTEM CALL SWITCH, CONTRACTOR TO PROVIDE A FLUSH BACKBOX AT +48"A.F.F. WITH 3/4"C. TO SPEAKER ENCLOSURE.

MICROPHONE OUTLET, PROVIDE SINGLE GANG BOX AT +16" A.F.F. WITH 3/4"C. STUBBED INTO ACCESSIBLE CEILING SPACE.

WALL MOUNTED CLOCK.

COMBINATION SPEAKER/CALL-IN SWITCH. PROVIDE THREE GANG BOX AT +48" A.F.F. WITH 3/4"C. STUBBED INTO ACCESSIBLE CEILING SPACE. "WP" DENOTES WEATHERPROOF ENCLOSURE.

CLOCK/SPEAKER ENCLOSING

MANUFACTURER & TYPE DESCRIPTION MOUNTING VOLTAGE **REMARKS** LAMPS CATALOG NUMBER RECESSED LITHONIA MVOLT 2'X4' LED LIGHTING FIXTURE. LOW PROFILE. 4000K 2BLT4 RB 48L ADP EZ1 LP840 GRID RECESSED LITHONIA 2'X2' LED LIGHTING FIXTURE. LOW PROFILE. MVOLT 2BLT2 RB 40L ADP EZ1 LP840 4000K VERIFY EXACT MOUNTING WITH ARCHITECT; LITHONIA AS REQUIRED LED 120/277 FACES (SINGLE OR DOUBLE) AND ARROWS LED EXIT SIGN LMQ S W 3 R 120/277 AS REQUIRED

LIGHTING FIXTURE SCHEDULE

NOTES:

1. ALL LIGHTING FIXTURES ARE NEW, UNLESS OTHERWISE NOTED.

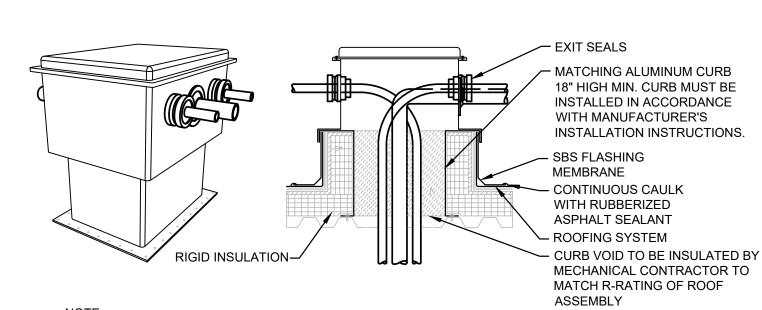
2. LIGHTING FIXTURES FINISHES, SWITCHES/ DIMMERS SHALL BE AS DIRECTED BY THE ARCHITECT/OWNER.

3. LIGHTING FIXTURES SHALL BE COMPLETE, INCLUDING ALL THE NECESSARY CONDUIT, WIRING, INCLUDING CHAIN, CABLE OR STEM AND HANGING BRACKETS AND ANY OTHER PARTS REQUIRED FOR INSTALLATION.

4. PROVIDE MANUFACTURER'S BRACKET ACCESSORIES FOR NEW LED HEADS INSTALLATION ON ALL EXISTING POLES AS REQUIRED. CONTRACTOR SHALL VERIFY IN FIELD PRIOR TO ORDERING AND INSTALLATION. 5. PROVIDE COLOR TEMPERATURE TO MATCH SCHOOL PREFERENCE AND DISTRICT STANDARD. VERIFY PRIOR TO PURCHASE.

6. ALL LIGHTING FIXTURES ARE DISTRICT STANDARD - NO SUBSTITUTIONS.





 SMALL SIZE HOUSING SHOWN. COORDINATE FINAL HOUSING SIZE WITH FIELD REQUIREMENTS 2. COORDINATE NUMBER AND EXACT SIZE OF PIPE PENETRATION BUSHING IN FIELD. 3. THIS DETAIL SHALL APPLY TO ROOF TOP UNITS AND DUCT FREE SPLIT SYSTEMS. EXHAUST FANS SHALL BE SERVED VIA THE EQUIPMENT RACEWAY COMPARTMENT.

MECHANICAL AND ELECTRICAL PIPE CHASE PORTAL DETAIL

ELECTRICAL GENERAL NOTES

ALL WORK SHALL COMPLY WITH ALL THE APPLICABLE LOCAL, MUNICIPAL AND FIRE CODES. THE WORK SHALL BE IN TOTAL COMPLIANCE WITH THE

RULES AND REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION.

- 2. REVIEW ADOPTED CODES AND CODE AMENDMENTS WITH THE LOCAL GOVERNING AUTHORITIES AND BECOME FAMILIAR WITH THE LOCAL REGULATIONS RELATING TO THE WORK.
- 3. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES AS REQUIRED FOR HIS PORTION OF THE WORK.
- 4. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE RESPECTIVE TRADES AND VERIFY LOCATIONS FROM THE ARCHITECTURAL DRAWINGS, FIELD MEASUREMENTS AND SUPPLIER SHOP DRAWINGS.
- 5. COORDINATE EQUIPMENT VOLTAGE, PHASE, BREAKER SIZE, AND DISCONNECTING MEANS WITH SUBCONTRACTORS PROVIDING EQUIPMENT PRIOR TO ORDERING AND INSTALLATION OF ANY EQUIPMENT. PANELS, BREAKERS, CONDUIT AND WIRE, ETC.
- 6. WORK REQUIRED OF ANY TRADE MAY BE SHOWN ANYWHERE ON ANY DRAWING OR IN ANY PART OF THE SPECIFICATIONS.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES AND SHALL INCLUDE ANY ELECTRICAL WORK INDICATED OR REQUIRED BY ANY TRADE. THE CONTRACTOR ACKNOWLEDGES BY SUBMITTING A BID THAT HE HAS REVIEWED THE DOCUMENTS AND HAS VISITED THE SITE AND THAT THE INFORMATION SHOWN AND DESCRIBED IS SUFFICIENT TO ENABLE HIM TO PREPARE A COMPLETE AND ACCURATE BID FOR A COMPLETE, FINISHED PROJECT. ANY CLARIFICATIONS, DISCREPANCIES, OMISSIONS, REQUEST FOR ADDITIONAL INFORMATION, OR UNUSUAL CONDITIONS ARE TO BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR RESOLUTION IN WRITING PRIOR TO SUBMITTING BIDS.
- 8. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD.
- 9. CONTRACTOR SHALL COMPLY WITH ALL IDENTIFICATION REQUIREMENTS OF THE NEC.
- 10. LAYOUT OF EQUIPMENT, ACCESSORIES AND WIRING ARE DIAGRAMMATIC AND DO NOT INDICATE EVERY BOX, CONDUIT, WIRING OR SIMILAR ITEMS FOR A COMPLETE INSTALLATION.
- 11. CUTTING OF ANY STRUCTURAL MEMBER SHALL BE APPROVED BY THE ARCHITECT IN WRITING PRIOR TO WORK BEING DONE.
- 12. REMOVE PORTIONS OF EXISTING CEILINGS IN AREAS WHERE ELECTRICAL WORK IS INDICATED AND EXISTING CEILINGS ARE TO REMAIN. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS. REPLACE EXISTING CEILING TILES DAMAGED DURING WORK. PATCH AND PAINT EXISTING DRYWALL CEILINGS.
- 13. THE CONTRACTOR SHALL VERIFY THE NUMBER OF EXISTING SPARES AND SPACES. CONTRACTOR SHALL PROVIDE AND INSTALL OVER CURRENT DEVICES AS REQUIRED FOR NEW CIRCUITRY.
- 14. THE CONTRACTOR SHALL MAINTAIN THE ELECTRICAL CONTINUITY OF ELECTRICAL CIRCUITS, EQUIPMENT, AND DEVICES TO REMAIN. REWORK AND RE-CIRCUIT AS NECESSARY TO INSURE THE PROPER FUNCTIONING OF REMAINING CIRCUITS, EQUIPMENT, AND DEVICES.

- 15. CONTRACTOR SHALL FIELD VERIFY AND CONFIRM THE EXISTING SPARE PANEL CAPACITY TO ACCOMMODATE THE EXISTING AND NEW LOADS. MEASURE AVERAGE POWER DEMAND ON PANEL OVER A 15-MINUTE PERIOD CONTINUOUSLY RECORDED OVER 30 DAY MINIMUM AND ADD NEW ADDITIONAL LOAD TO MAXIMUM RECORDED LOAD PER NEC. NOTIFY ENGINEER IF 125% X EXISTING MAXIMUM DEMAND + NEW LOAD EXCEEDS PANEL OR WIRE/CABLE RATING.
- 16. ALL ELECTRICAL OUTLETS, DEVICES, FIXTURES, ETC. NOT BEING RE-USED SHALL BE REMOVED. OUTLETS SHALL RECEIVE BLANK COVER PLATES. ALL WIRING SHALL BE REMOVED COMPLETELY. ALL ABANDONED CONDUIT, OUTLET BOXES, AND DEBRIS SHALL BE COMPLETELY REMOVED. EXISTING FIXTURES AND EQUIPMENT NOT BEING RE-USED SHALL BE REMOVED FROM SITE OR SHALL BE RETURNED TO OWNER AT OWNER'S DISCRETION.
- 17. EXISTING ELECTRICAL CIRCUITS WHICH ARE TO REMAIN AND HAVE BEEN DISCONNECTED DURING DEMOLITION SHALL BE RECONNECTED TO NEW OR EXISTING SOURCE.
- 18. ALL ABANDONED AND/OR UNUSED COMPONENTS CREATED OR EXPOSED DURING CONSTRUCTION, INCLUDING- BUT NOT LIMITED TO CABLES. PIPING, WIRING, AND ASSOCIATED SUPPORTS AND/OR ATTACHMENTS SHALL BE REMOVED.
- 19. CIRCUIT NUMBERS GIVEN ON DRAWINGS ARE FOR CIRCUIT IDENTIFICATION ONLY. THE CONTRACTOR SHALL INSTALL CIRCUITRY AS GOVERNED BY FIELD CONDITIONS. HE SHALL KEEP A TYPED RECORD CORRELATING TO THE GIVEN AND ACTUAL CIRCUIT NUMBERS AND PROVIDE THIS INFORMATION ALONG WITH THE TYPED WRITTEN PANEL DIRECTORIES.
- OTHER CONTRACTORS AND WITH THE EXISTING JOB SITE CONDITIONS. HE SHALL RELOCATE EQUIPMENT AS REQUIRED TO AVOID CONFLICT WITH OTHER TRADES. ALL DEVIATIONS SHALL BE APPROVED IN WRITING BY THE ARCHITECT / OWNER PRIOR TO THE EXECUTION OF THE WORK.

20. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF THE

- 21. RACEWAYS SHALL BE A MINIMUM 3/4" EMT FOR LIGHTING AND APPLIANCE BRANCH CIRCUITRY AND MINIMUM 1" EMT FOR TELEPHONE AND DATA.
- 22. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.
- 23. ALL BRANCH CIRCUITS SHALL BE GROUPED INTO PHASE BALANCED MULTIPLE CIRCUIT HOME RUNS. A MAXIMUM OF 4 CIRCUITS PER SINGLE HOME RUN.
- 24. THE CONTRACTOR SHALL PROVIDE A COMPLETE CONDUCTOR AND RACEWAY SYSTEM FOR ALL CIRCUIT DEVICES INDICATED ON THE PLANS EVEN THOUGH NOT DELINEATED.
- 25. WIRES FOR 120 VOLT BRANCH CIRCUITS THAT EXCEED 75 FEET IN LENGTH FROM PANEL TO CENTER OF LOAD SHALL NOT BE SMALLER THAN #10
- 26. INSTALLATION OF ALL LIGHTING FIXTURES SHALL INCLUDE ALL NECESSARY CONDUIT (SOLID OR FLEXIBLE), WIRING, JUNCTION BOXES, ETC., FOR CIRCUIT DEVICES.

27. VERIFY ALL CEILING SYSTEM TYPES PRIOR TO ORDERING LIGHTING FIXTURES AND PROVIDE REQUIRED HARDWARE AND FRAMES REQUIRED FOR CEILING TYPE.

28. PENDENT-HUNG LIGHTING FIXTURES SHALL BE SUPPORTED DIRECTLY

- FROM THE STRUCTURE ABOVE USING NO LESS THAN NO. 9-GAUGE WIRE OR AN APPROVED ALTERNATIVE SUPPORT. THE CEILING SUSPENSION SYSTEM SHALL NOT PROVIDE ANY DIRECT SUPPORT. RIGID CONDUIT SHALL NOT BE USED FOR ATTACHMENT OF THE FIXTURES. 29. ALL CEILING MOUNTED DAYLIGHT SENSORS, CEILING MOUNTED OCCUPANCY/VACANCY SENSORS, AND/OR WALL MOUNTED DIMMER
- RECOMMENDATIONS. 30. ALL NEW MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L OR ANOTHER RECOGNIZED TESTING LAB.

31. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INSTALLED IN

ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND

TIGHT" FLEXIBLE STEEL CONDUIT, 3/4" MINIMUM.

RECOMMENDATIONS.

SWITCHES AND OCCUPANCY/VACANCY SENSORS TO BE COMPATIBLE

WITH THE FIXTURES INDICATED TO BE CONTROLLED AND SHALL BE

INSTALLED AND WIRED IN ACCORDANCE WITH MANUFACTURER'S

- 32. COORDINATE WITH OTHER TRADES FOR EXACT LOCATIONS OF MOTORS AND OTHER EQUIPMENT REQUIRING POWER. a. FINAL CONNECTIONS TO EQUIPMENT SHALL BE MADE WITH "LIQUID
- b. PROVIDE LOCAL DISCONNECT FOR ALL MOTORS. VERIFY MANUFACTURE'S RECOMMENDED DISCONNECT SIZE PRIOR TO ORDERING AND INSTALLATION.
- c. PROVIDE STARTERS FOR ALL MECHANICAL EQUIPMENT WHICH REQUIRES INTERLOCKING. COORDINATE SIZE AND LOCATION OF STARTERS WITH MECHANICAL CONTRACTOR. d FOR ALL AC MOTORS NOT PROVIDED WITH BUILT-IN THERMA
- OVERLOAD PROTECTION. PROVIDE MANUAL MOTOR STARTERS WITH OVERLOAD HEATER ELEMENTS SIZED TO THE NAMEPLATE CURRENT RATING OF THE MOTOR. SMALL AC MOTORS WITH BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE HORSE POWER RATED TOGGLE TYPE DISCONNECT SWITCH.
- 32. NEW BREAKERS IN EXISTING SERIES RATED ELECTRICAL PANELS AND DISTRIBUTION BOARDS SHALL BE SAME MANUFACTURE AS PANEL AND LISTED BY MANUFACTURE AS MAINTAINING SERIES RATED COMBINATION WITH PANEL. FIELD VERIFY EXISTING PANEL LABEL OR MANUFACTURE'S REFERENCE BULLETIN. BREAKER AIC RATING SHALL MATCH PANEL OR DISTRIBUTION BOARD AIC RATINGS FOR FULLY RATED EQUIPMENT.
- 33. ALL 120 VOLT CIRCUITS SHALL HAVE A DEDICATED NEUTRAL
- 34. THE CONTRACTOR SHALL PROTECT THE EXISTING FACILITY AND SHALL EXERCISE CARE NOT TO DAMAGE ANY EXISTING CONSTRUCTION TO REMAIN. ALL WORK DAMAGED BY THE CONTRACTOR MUST BE RESTORED SO AS TO MATCH EXISTING AND AS APPROVED BY THE ARCHITECT. ANY SUCH CORRECTIVE WORK MUST BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.





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