DATE: February 25, 2025

DEPARTMENT OF GENERAL SERVICES
BUREAU OF CAPITAL PROJECT DESIGN MANAGEMENT
1800 HERR STREET
HARRISBURG, PENNSYLVANIA

ADDENDUM NO. 3

on

PROJECT NO. DGS C-0503-0026 PHASE 001
PROJECT TITLE - North Central STU - HVAC Upgrades
PROFESSIONAL:
Martin Rogers Associates, PC
185 N. Pennsylvania Ave.
Wilkes-Barre, Pennsylvania, 18701

If you submitted a bid prior to this Addendum being issued, your bid has been discarded and you must re-submit your bid(s) prior to the bid opening date and time.

ADMINISTRATIVE CHANGES – ALL CONTRACTS

Item 1 - None.

SPECIFICATION CHANGES – ALL CONTRACTS

Item 1 - None.

DRAWING CHANGES – ALL CONTRACTS

Item 1 - Drawing F-4 Green Building First and Second Floor Plans Fire Protection - Revised note pertaining to sprinkler replacements in rooms with gypsum board ceilings.

Item 2 - Drawing E-5 Green Building Electrical Schedules - Revised panel schedules to accommodate AH and CU changes.

Item 3 - Drawing P-2 Green Building Basement Plan Plumbing - Revised note pertaining to insulation of new and existing piping.

Item 4 - Drawing H-5 Green Building Basement Plan Piping - Revised note pertaining to insulation of new and existing piping and note for exterior pipe covers.

Item 5 - Drawing H-12 Schedules - Revised AH and CU schedules.

DESCRIPTION		VOLTAGE		MAINS	
PANEL	DP3	277/480 VOLTS, 3 PHASE, 4 WIRE		BUS 125 AMPS	RATING 18,000 AIC
LOCATION	FIRST FLOOR MECHANICAL ROOM WEST			☒ LUGS ONLY	☐ MCB - AMPS
FED FROM	MDP2	AVAILABLE FAULT CURRENT - AIC		☐ SUBFEED LUGS	☐ FEEDTHRU LUGS
FEEDER SIZE	#4/1, 1#6G.-1.25"C.	ENCLOSURE			
MISC.	-	☒ SURFACE MOUNT	☐ FLUSH MOUNT	☐ TOP FEED	☐ BOTTOM FEED

1

CKT NO.	EQUIPMENT SERVED	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	BREAKER AMPS	POLES	LOAD KVA GA	GB	GC	PHASE	LOAD KVA AA	AB	AC	BREAKER AMPS	POLES	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	EQUIPMENT SERVED	CKT NO.
1	CU 1-1	8	8	10	.75	35	3	×	×	5.5	A	5.5	×	×	35	3	8	8	10 .75 CU 2-1	2
3								×	5.5	×	B	×	5.5	×						4
5								5.5	×	×	C	×	×	5.5						6
7	CU 1-2	8	8	10	.75	30	3	×	×	5.5	A	5.5	×	×	30	3	8	8	10 .75 CU 2-2	8
9								×	5.5	×	B	×	5.5	×						10
11								5.5	×	×	C	×	×	5.5						12
13	SPARE	-	-	-	-	30	3	×	×	-	A	-	×	×	30	3	-	-	- - SPARE	14
15								×	-	×	B	×	-	×						16
17								-	×	×	C	×	×	-						18
19	PROVISION	-	-	-	-	3	×	×	×	-	A	-	×	×	-	3	-	-	- - PROVISION	20
21								×	-	×	B	×	-	×						22
23								-	×	×	C	×	×	-						24
25	PROVISION	-	-	-	-	3	×	×	×	-	A	-	×	×	-	3	-	-	- - PROVISION	26
27								×	-	×	B	×	-	×						28
29								-	×	×	C	×	×	-						30
		PHASE TOTAL						11	11	11		11	11	11						

PANEL SHALL BE EQUIPPED WITH FULL HEIGHT BUSS FOR CB'S AND PROVISIONS SHOWN

☐ 200% NEUTRAL BUSS ☒ GROUND BUSS
☐ ISOLATED GROUND BUSS
☐ INTEGRAL TVSS - kA

TOTAL CONN. KVA	66
TOTAL CONN. AMPS	80
SPARE CAPACITY 20%	16
TOTAL LOAD AMPS	96
DIVERSIFIED AMPS	67

KEY
☒ DENOTES GFCI TYPE C.B. REQ'D. ☒ DENOTES SHUNT TRIP TYPE C.B. REQ'D.
☒ DENOTES AFCI TYPE C.B. REQ'D. ☒ -

REMARKS
PROVIDE SQUARE D, #FA34125, 125A-3P CIRCUIT BREAKER IN EXISTING SQUARE D PANEL MDP2.

DESCRIPTION		VOLTAGE		MAINS	
PANEL	DP4	277/480 VOLTS, 3 PHASE, 4 WIRE		BUS 125 AMPS	RATING 18,000 AIC
LOCATION	FIRST FLOOR MECHANICAL ROOM EAST			☒ LUGS ONLY	☐ MCB - AMPS
FED FROM	MDP2	AVAILABLE FAULT CURRENT - AIC		☐ SUBFEED LUGS	☐ FEEDTHRU LUGS
FEEDER SIZE	#4/1, 1#6G.-1.25"C.	ENCLOSURE			
MISC.	-	☒ SURFACE MOUNT	☐ FLUSH MOUNT	☐ TOP FEED	☐ BOTTOM FEED

1

CKT NO.	EQUIPMENT SERVED	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	BREAKER AMPS	POLES	LOAD KVA GA	GB	GC	PHASE	LOAD KVA AA	AB	AC	BREAKER AMPS	POLES	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	EQUIPMENT SERVED	CKT NO.
1	CU 1-3	8	8	10	.75	35	3	×	×	5.5	A	5.5	×	×	35	3	8	8	10 .75 CU 2-3	2
3								×	5.5	×	B	×	5.5	×						4
5								5.5	×	×	C	×	×	5.5						6
7	CU 1-4	8	8	10	.75	30	3	×	×	5.5	A	5.5	×	×	30	3	8	8	10 .75 CU 2-4	8
9								×	5.5	×	B	×	5.5	×						10
11								5.5	×	×	C	×	×	5.5						12
13	SPARE	-	-	-	-	30	3	×	×	-	A	-	×	×	30	3	-	-	- - SPARE	14
15								×	-	×	B	×	-	×						16
17								-	×	×	C	×	×	-						18
19	PROVISION	-	-	-	-	3	×	×	×	-	A	-	×	×	-	3	-	-	- - PROVISION	20
21								×	-	×	B	×	-	×						22
23								-	×	×	C	×	×	-						24
25	PROVISION	-	-	-	-	3	×	×	×	-	A	-	×	×	-	3	-	-	- - PROVISION	26
27								×	-	×	B	×	-	×						28
29								-	×	×	C	×	×	-						30
		PHASE TOTAL						11	11	11		11	11	11						

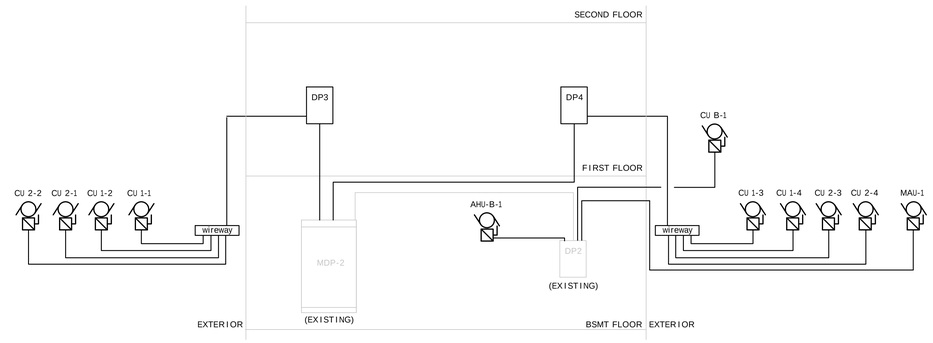
PANEL SHALL BE EQUIPPED WITH FULL HEIGHT BUSS FOR CB'S AND PROVISIONS SHOWN

☐ 200% NEUTRAL BUSS ☒ GROUND BUSS
☐ ISOLATED GROUND BUSS
☐ INTEGRAL TVSS _____ kA

TOTAL CONN. KVA	66
TOTAL CONN. AMPS	80
SPARE CAPACITY 20%	16
TOTAL LOAD AMPS	96
DIVERSIFIED AMPS	67

KEY
☒ DENOTES GFCI TYPE C.B. REQ'D. ☒ DENOTES SHUNT TRIP TYPE C.B. REQ'D.
☒ DENOTES AFCI TYPE C.B. REQ'D. ☒ -

REMARKS
PROVIDE SQUARE D, #FA34125, 125A-3P CIRCUIT BREAKER IN EXISTING SQUARE D PANEL MDP2.



1 E-5 PARTIAL ELECTRICAL RISER DIAGRAM-480V-NEW WORK

SCALE: NONE

NOTES:

1. REFER TO PANEL SCHEDULES FOR FEEDER SIZES.

2. CONTRACTOR IN COORDINATION WITH EQUIPMENT SUPPLIER SHALL PROVIDE A COORDINATION STUDY, FAULT CURRENT STUDY AND ARC FLASH ANALYSIS. ALL NEW AND EXISTING PANELBOARDS AND MAIN SERVICE PANELBOARD SHALL BE PROVIDED WITH APPROPRIATE LABELS IN ACCORDANCE WITH STUDY RESULTS. ASSUME 18 KAIC AVAILABLE FAULT CURRENT AT EXISTING PANEL MDP-2.

DESCRIPTION		VOLTAGE		MAINS	
PANEL	M	120/208 VOLTS, 3 PHASE, 4 WIRE		BUS 200 AMPS	RATING 10,000 AIC
LOCATION	FIRST FLOOR STORAGE ROOM-CENTER			☒ LUGS ONLY	☐ MCB - AMPS
FED FROM	MDP1	AVAILABLE FAULT CURRENT - AIC		☐ SUBFEED LUGS	☐ FEEDTHRU LUGS
FEEDER SIZE	#4/3/0, 1#6G.-2"C.	ENCLOSURE			
MISC.	-	☒ SURFACE MOUNT	☐ FLUSH MOUNT	☐ TOP FEED	☐ BOTTOM FEED

1

CKT NO.	EQUIPMENT SERVED	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	BREAKER AMPS	POLES	LOAD KVA GA	GB	GC	PHASE	LOAD KVA AA	AB	AC	BREAKER AMPS	POLES	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	EQUIPMENT SERVED	CKT NO.
1	AHU 1-1	12	12	12	.75	20	3	×	×	1.6	A	1.6	×	×	20	3	12	12	12 .75 AHU 1-3	2
3								×	1.6	×	B	×	1.6	×						4
5								1.6	×	×	C	×	×	1.6						6
7	AHU 1-2	12	12	12	.75	15	3	×	×	1.4	A	1.4	×	×	15	3	12	12	12 .75 AHU 1-4	8
9								×	1.4	×	B	×	1.4	×						10
11								1.4	×	×	C	×	×	1.4						12
13	SPARE	-	-	-	-	15	3	×	×	-	A	-	×	×	15	3	-	-	- - SPARE	14
15								×	-	×	B	×	-	×						16
17								-	×	×	C	×	×	-						18
19	SPARE	-	-	-	-	20	1	×	×	-	A	.08	×	×	20	1	12	12	12 .75 FREEZE PROTECTION PUMPS	20
21	SPARE	-	-	-	-	20	1	×	-	×	B	×	.08	×	20	1	12	12	12 .75 FREEZE PROTECTION PUMPS	22
23	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	24
25	SPARE	-	-	-	-	20	1	×	×	-	A	-	×	×	20	1	-	-	- - SPARE	26
27	SPARE	-	-	-	-	20	1	×	-	×	B	×	-	×	20	1	-	-	- - SPARE	28
29	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	30
31	SPARE	-	-	-	-	20	1	×	×	-	A	-	×	×	20	1	-	-	- - SPARE	32
33	SPARE	-	-	-	-	20	1	×	-	×	B	×	-	×	20	1	-	-	- - SPARE	34
35	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	36
37	SPARE	-	-	-	-	20	1	×	×	-	A	7.0	×	×	200	3	2	2	6 1.25 PANEL M2	38
39	SPARE	-	-	-	-	20	1	×	-	×	B	×	7.0	×						40
41	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	7.0						42
		PHASE TOTAL						2.8	2.8	2.8		9.8	9.8	9.8						

PANEL SHALL BE EQUIPPED WITH FULL HEIGHT BUSS FOR CB'S AND PROVISIONS SHOWN

☐ 200% NEUTRAL BUSS ☒ GROUND BUSS
☐ ISOLATED GROUND BUSS
☐ INTEGRAL TVSS - kA

TOTAL CONN. KVA	38.4
TOTAL CONN. AMPS	106.6
SPARE CAPACITY 10%	10.6
TOTAL LOAD AMPS	117.2
DIVERSIFIED AMPS	104.8

KEY
☒ DENOTES GFCI TYPE C.B. REQ'D. ☒ DENOTES SHUNT TRIP TYPE C.B. REQ'D.
☒ DENOTES AFCI TYPE C.B. REQ'D. ☒ -

REMARKS
PROVIDE SQUARE D, #Q232200, 200A-3P CIRCUIT BREAKER IN EXISTING PANEL MDP1.

1

DESCRIPTION		VOLTAGE		MAINS	
PANEL	M2	120/208 VOLTS, 3 PHASE, 4 WIRE		BUS 100 AMPS	RATING 10,000 AIC
LOCATION	SECOND FLOOR OFFICE-CENTER			☒ LUGS ONLY	☐ MCB - AMPS
FED FROM	PANEL M	AVAILABLE FAULT CURRENT - AIC		☐ SUBFEED LUGS	☐ FEEDTHRU LUGS
FEEDER SIZE	##2, 1#6G.-1.25"C.	ENCLOSURE			
MISC.	-	☒ SURFACE MOUNT	☐ FLUSH MOUNT	☐ TOP FEED	☐ BOTTOM FEED

1

CKT NO.	EQUIPMENT SERVED	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	BREAKER AMPS	POLES	LOAD KVA GA	GB	GC	PHASE	LOAD KVA AA	AB	AC	BREAKER AMPS	POLES	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	EQUIPMENT SERVED	CKT NO.
1	AHU 2-1	12	12	12	.75	20	3	×	×	1.6	A	1.6	×	×	20	3	12	12	12 .75 AHU 2-3	2
3								×	1.6	×	B	×	1.6	×						4
5								1.6	×	×	C	×	×	1.6						6
7	AHU 2-2	12	12	12	.75	15	3	×	×	1.4	A	1.4	×	×	15	3	12	12	12 .75 AHU 2-4	8
9								×	1.4	×	B	×	1.4	×						10
11								1.4	×	×	C	×	×	1.4						12
13	SPARE	-	-	-	-	15	3	×	×	-	A	-	×	×	15	3	-	-	- - SPARE	14
15								×	-	×	B	×	-	×						16
17								-	×	×	C	×	×	-						18
19	SPARE	-	-	-	-	20	1	×	×	-	A	0.8	×	×	20	1	12	12	12 .75 FREEZE PROTECTION PUMPS	20
21	SPARE	-	-	-	-	20	1	×	-	×	B	×	0.8	×	20	1	12	12	12 .75 FREEZE PROTECTION PUMPS	22
23	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	1.2	20	1	10	10	10 .75 IEF'S	24
25	SPARE	-	-	-	-	20	1	×	×	-	A	-	×	×	20	1	-	-	- - SPARE	26
27	SPARE	-	-	-	-	20	1	×	-	×	B	×	-	×	20	1	-	-	- - SPARE	28
29	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	30
31	SPARE	-	-	-	-	20	1	×	×	-	A	-	×	×	20	1	-	-	- - SPARE	32
33	SPARE	-	-	-	-	20	1	×	-	×	B	×	-	×	20	1	-	-	- - SPARE	34
35	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	36
37	SPARE	-	-	-	-	20	1	×	×	-	A	-	×	×	20	1	-	-	- - SPARE	38
39	SPARE	-	-	-	-	20	1	×	-	×	B	×	-	×	20	1	-	-	- - SPARE	40
41	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	42
		PHASE TOTAL						3.0	3.0	3.0		3.0	3.0	3.0						

PANEL SHALL BE EQUIPPED WITH FULL HEIGHT BUSS FOR CB'S AND PROVISIONS SHOWN

☐ 200% NEUTRAL BUSS ☒ GROUND BUSS
☐ ISOLATED GROUND BUSS
☐ INTEGRAL TVSS - kA

TOTAL CONN. KVA	20.0
TOTAL CONN. AMPS	55.5
SPARE CAPACITY 10%	5.5
TOTAL LOAD AMPS	61.0
DIVERSIFIED AMPS	56.5

KEY
☒ DENOTES GFCI TYPE C.B. REQ'D. ☒ DENOTES SHUNT TRIP TYPE C.B. REQ'D.
☒ DENOTES AFCI TYPE C.B. REQ'D. ☒ -

REMARKS
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DESCRIPTION		VOLTAGE		MAINS	
PANEL	PANEL A	120/208 VOLTS, 3 PHASE, 4 WIRE		BUS 100 AMPS	RATING 10,000 AIC
LOCATION	BASEMENT CORRIDOR			☒ LUGS ONLY	☐ MCB - AMPS
FED FROM	MDP1	AVAILABLE FAULT CURRENT - AIC		☐ SUBFEED LUGS	☒ TOP FEED
FEEDER SIZE	EXISTING	ENCLOSURE			
MISC.	-	☒ SURFACE MOUNT	☐ FLUSH MOUNT		

CKT NO.	EQUIPMENT SERVED	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	BREAKER AMPS	POLES	LOAD KVA GA	GB	GC	PHASE	LOAD KVA AA	AB	AC	BREAKER AMPS	POLES	CONDUCTOR/GND. SIZE PHASE	NEUT.	GRD.	EQUIPMENT SERVED	CKT NO.
1	EXISTING CIRCUIT	12	12	12	.75	20	1	×	×	-	A	-	×	×	20	1	12	12	12 .75 EXISTING CIRCUIT	2
3	EXISTING CIRCUIT	12	12	12	.75	20	1	×	-	×	B	×	-	×	20	1	12	12	12 .75 EXISTING CIRCUIT	4
5	EXISTING CIRCUIT	12	12	12	.75	20	1	-	×	×	C	×	×	-	20	1	12	12	12 .75 EXISTING CIRCUIT	6
7	EXISTING CIRCUIT	12	12	12	.75	20	1	×	×	-	A	-	×	×	20	1	12	12	12 .75 EXISTING CIRCUIT	8
9	EXISTING CIRCUIT	12	12	12	.75	20	1	×	-	×	B	×	-	×	20	1	12	12	12 .75 EXISTING CIRCUIT	10
11	EXISTING CIRCUIT	12	12	12	.75	20	1	-	×	×	C	×	×	-	20	1	12	12	12 .75 EXISTING CIRCUIT	12
13	EXISTING CIRCUIT	12	12	12	.75	20	3	×	×	-	A	-	×	×	20	1	12	12	12 .75 EXISTING CIRCUIT	14
15								×	-	×	B	×	-	×	20	1	12	12	12 .75 EXISTING CIRCUIT	16
17								-	×	×	C	×	×	-	20	1	12	12	12 .75 EXISTING CIRCUIT	18
19	EXISTING CIRCUIT	12	12	12	.75	20	3	×	×	-	A	-	×	×	20	3	12	12	12 .75 EXISTING CIRCUIT	20
21								×	-	×	B	×	-	×						22
23								-	×	×	C	×	×	-						24
25	CONDENSATE PUMP-1/3 HP	12	12	12	.75	15	3	×	×	0.3	A	1.1	×	×	20	1	12	12	12 .75 COMPUTER LAB	26
27								×	0.3	×	B	×	1.1	×	20	1	12	12	12 .75 COMPUTER LAB	28
29								0.3	×	×	C	×	×	0.4	20	1	12	12	12 .75 FREEZE PROTECTION PUMP	30
31	HOT WATER PUMP P-1A/P-1B	12	12	12	.75	15	3	×	×	0.4	A	0.2	×	×	20	1	12	12	12 .75 STEAM WATER HEATER	32
33								×	0.4	×	B	×	-	×	20	1	-	-	- - SPARE	34
35								0.4	×	×	C	×	×	-	20	1	-	-	- - SPARE	36
37	SPARE	-	-	-	-	20	1	×	×	-	A	-	×	×	20	1	-	-	- - SPARE	38
39	SPARE	-	-	-	-	20	1	×	-	×	B	×	-	×	20	1	-	-	- - SPARE	40
41	SPARE	-	-	-	-	20	1	-	×	×	C	×	×	-	20	1	-	-	- - SPARE	42
		PHASE TOTAL						-	-	-		-	-	-						

PANEL SHALL BE EQUIPPED WITH FULL HEIGHT BUSS FOR CB'S AND PROVISIONS SHOWN

☐ 200% NEUTRAL BUSS ☒ GROUND BUSS
☐ ISOLATED GROUND BUSS
☐ INTEGRAL TVSS - kA

TOTAL CONN. KVA	-
TOTAL CONN. AMPS	-
SPARE CAPACITY 10%	-
TOTAL LOAD AMPS	-
DIVERSIFIED AMPS	-

KEY
☒ DENOTES GFCI TYPE C.B. REQ'D. ☒ DENOTES SHUNT TRIP TYPE C.B. REQ'D.
☒ DENOTES AFCI TYPE C.B. REQ'D. ☒ -

REMARKS
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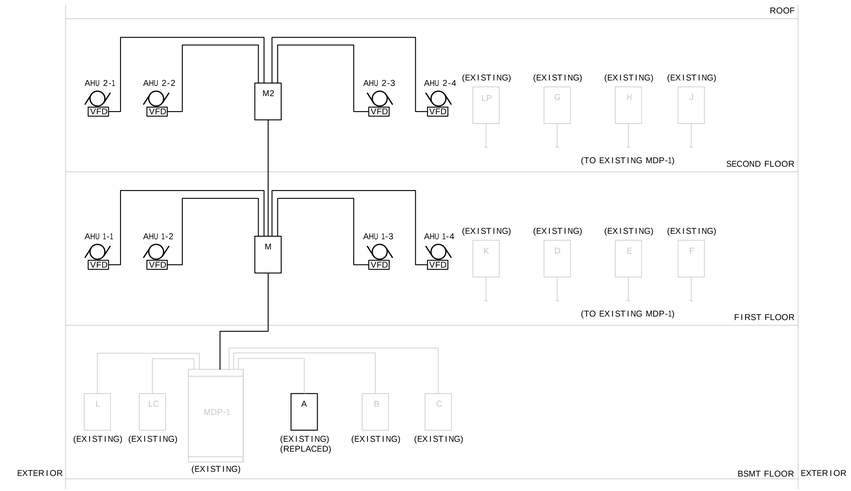
-



2 E-5 PARTIAL ELECTRICAL RISER DIAGRAM-208V-NEW WORK

SCALE: NONE

NOTES:

1. REFER TO PANEL SCHEDULES FOR FEEDER SIZES.

2. CONTRACTOR IN COORDINATION WITH EQUIPMENT SUPPLIER SHALL PROVIDE A COORDINATION STUDY, FAULT CURRENT STUDY AND ARC FLASH ANALYSIS. ALL EXISTING AND NEW PANELBOARDS AND MAIN SERVICE PANELBOARD SHALL BE PROVIDED WITH APPROPRIATE LABELS IN ACCORDANCE WITH STUDY RESULTS. ASSUME 10 KAIC AVAILABLE FAULT CURRENT AT EXISTING PANEL MDP-1.

FOR CONSTRUCTION 11/07/2024

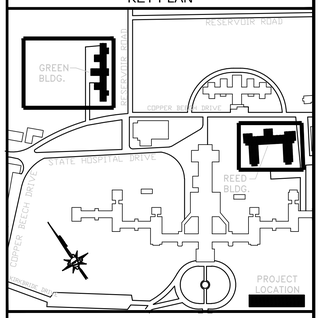
VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:

0 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.

KEY PLAN



ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

NO.	DATE	REVISION	APPR.
1	02.25.2025	BID ADDENDUM #1	

AS BUILT REVISIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL RANDALL GRANT LEVINE ENGINEER No. 045524 PENNSYLVANIA

11/07/2024

Professional's Signature Date Consultant's Signature Date

martinrogers ENGINEERING CONSULTANTS
185 N. Pennsylvania Ave. Wilkes-Barre, PA 18701
t.570.826.1000 | f.570.825.0888 | w. www.mrapc.com

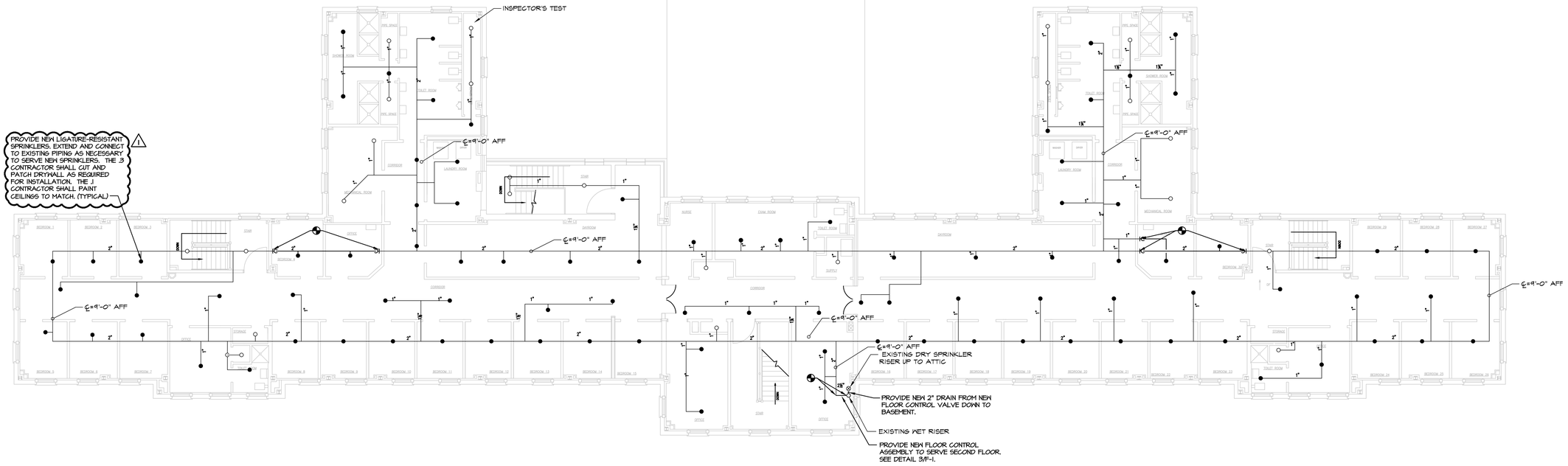
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

PROJECT NO. DGS C-0503-0026 PHASE 1

NORTH CENTRAL STU - HVAC UPGRADES
Danville State Hospital - NCSTU Reed and Green Buildings
Danville, Montour County, Pennsylvania

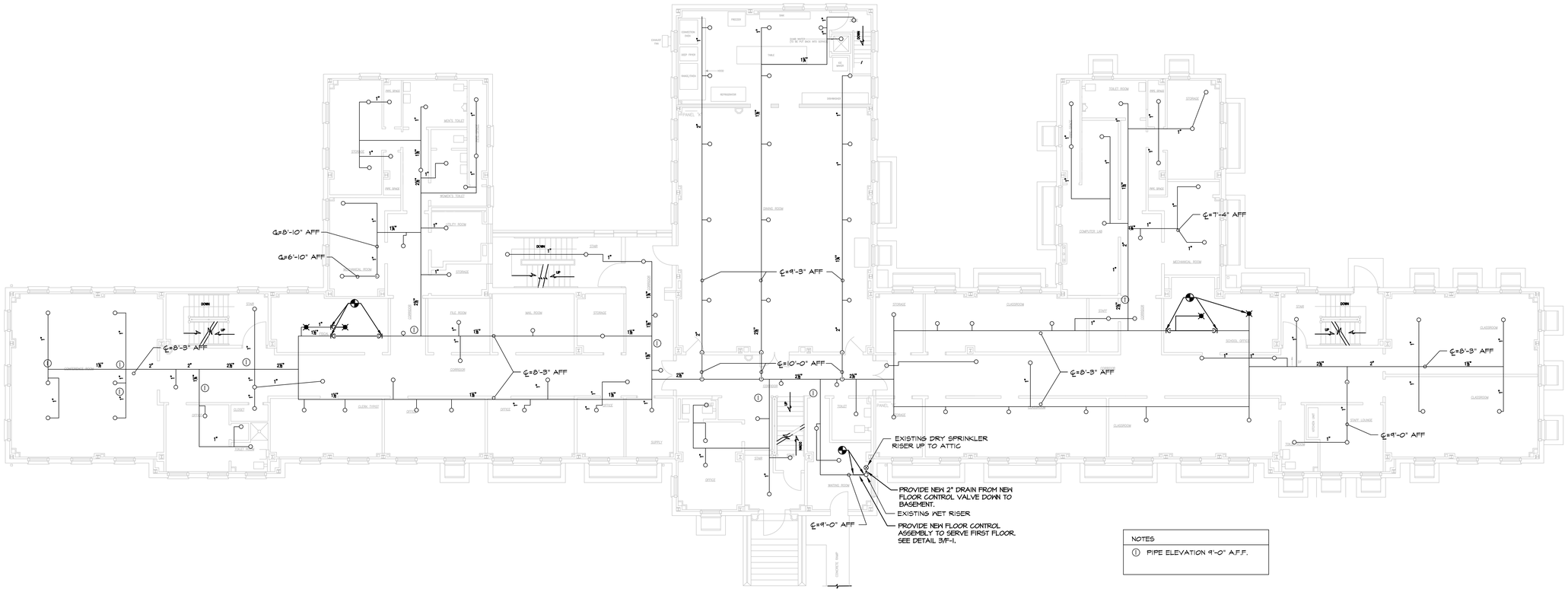
ELECTRICAL SCHEDULES - GREEN BUILDING

DRAWN BY: DG	DATE: 11/07/2024	DRAWING NO. E-5
CHECKED BY: DG	SCALE: AS NOTED	



2 F-4 SECOND FLOOR PLAN - GREEN BUILDING - FIRE PROTECTION

SCALE: 1/8"=1'-0"



NOTES

1. PIPE ELEVATION 9'-0" A.F.F.

1 F-4 FIRST FLOOR PLAN - GREEN BUILDING - FIRE PROTECTION

SCALE: 1/8"=1'-0"

FOR CONSTRUCTION 11/07/2024

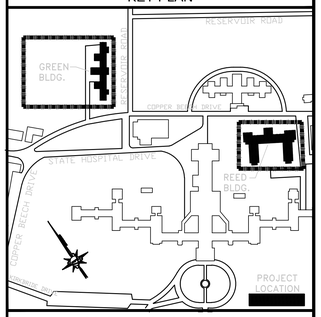
VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:

0 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.

KEY PLAN



ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

NO.	DATE	REVISION	APPR.
1	02.25.2025	BID ADDENDUM #1	

AS BUILT REVISIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL RANDALL GRANT LEVINE ENGINEER No. 045524 PENNSYLVANIA

11.07.2024

Professional's Signature Date Consultant's Signature Date

martinrogers ENGINEERING CONSULTANTS
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

PROJECT NO. DGS C-0503-0026 PHASE 1

NORTH CENTRAL STU - HVAC UPGRADES
Danville State Hospital - NCSTU Reed and Green Buildings
Danville, Montour County, Pennsylvania

FIRST AND SECOND FLOOR PLANS - GREEN BUILDING - FIRE PROTECTION

DRAWN BY:	DATE:	DRAWING NO:
RW	11/07/2024	F-4
CHECKED BY: RL	SCALE: AS NOTED	

DIFFUSER, REGISTER, AND GRILLE SCHEDULE (GREEN)

TAG	SERVICE	TYPE	PATTERN	CFM RANGE	NECK SIZE	MATERIAL	FINISH	MAX NC	REMARKS/ACCESSORIES
A	SUPPLY/ RETURN	14x14 SECURITY	-	125/250	12"x12"	ALUMINUM	STANDARD	<30	PROVIDE TAMPERPROOF SCREWS KEES CCS-SEG-16P OR APPROVED EQUAL
B	SUPPLY	18x18 SURFACE	4-WAY	200/350	12"x12"	ALUMINUM	STANDARD	<30	PROVIDE THROW REDUCING VANES
C	RETURN/ EXHAUST	16x16 SURFACE	-	350/650	14"x14"	ALUMINUM	STANDARD	<30	PROVIDE 1/2"x1/2"x1/2" GRID CORE
D	SUPPLY	15x15 SURFACE	4-WAY	125/150	9"x9"	ALUMINUM	STANDARD	<30	PROVIDE THROW REDUCING VANES
E	SUPPLY	24x24 LAY-IN	4-WAY	330/335	12"ϕ	ALUMINUM	STANDARD	<30	PROVIDE THROW REDUCING VANES PROVIDE SQUARE TO ROUND ADAPTER
F	RETURN/ EXHAUST	24x24 LAY-IN	-	1000/1500	22"x22"	ALUMINUM	STANDARD	<30	PROVIDE 1/2"x1/2"x1/2" GRID CORE
G	RETURN/ EXHAUST	12x12 SURFACE	-	150/400	10"x10"	ALUMINUM	STANDARD	<30	-
H	RETURN/ EXHAUST	18x18 SURFACE	-	750	16"x16"	ALUMINUM	STANDARD	<30	-
I	SUPPLY	24x24 LAY-IN	4-WAY	200/350	12"x12"	ALUMINUM	STANDARD	<30	PROVIDE THROW REDUCING VANES
J	SUPPLY	24x24 LAY-IN	4-WAY	50/120	6"x6"	ALUMINUM	STANDARD	<30	PROVIDE THROW REDUCING VANES
K	SUPPLY	24x24 LAY-IN	4-WAY	300/600	15"x15"	ALUMINUM	STANDARD	<30	PROVIDE THROW REDUCING VANES

NOTES:
1. ALL DIFFUSER AIRFLOW PATTERNS SHALL BE 4-WAY UNLESS NOTED OTHERWISE ON DUCTWORK DRAWINGS.
2. PAINT INSIDE OF GRILLES FLAT BLACK.
3. FIELD VERIFY EXACT SIZE FOR RETROFIT PRIOR TO ORDERING. RETROFIT SHALL BE THE OVERSIZED MODEL WITH RADIUSED CORNER.

AIR HANDLING UNIT (DX & HW) SCHEDULE (GREEN)

TAG NO.	BASIS OF DESIGN		SUPPLY FAN					DX COOLING COIL				PIPE SIZE CONN.		HW HEATING COIL							ELECTRICAL			WEIGHT LBS	NOTES
	MANUFACTURER	MODEL	TOTAL CFM	MIN. OA CFM	HP	ESP IN. WC	RPM	MBH TOTAL/SENS	EAT DB/WB	LAT DB/WB	REFRIGERANT	SUC.	LIQ.	MBH	EAT	LAT	EWT	LWT	GPM	PIPE SIZE CONN.	VOLTS/ PH/Hz	MCA	MOCP		
AHU-1-1	JOHNSON CONTROLS	GL090	3400	340	2.00	1.2	1147	96.8/74.5	77.0/64.0	57.0/54.0	R454B	1 1/8"	5/8"	172	60.0	107	150	120	7.5	1-1/4"	208/3/60	16.5	20.0	549	1, 2, 3, 4, 5, 6, 7
AHU-1-2	JOHNSON CONTROLS	GL090	2400	250	2.00	1.2	1031	84.6/61.2	77.0/64.0	52.0/51.0	R454B	1 1/8"	5/8"	141	60.0	115	150	120	7.5	1-1/4"	208/3/60	11.3	15.0	549	1, 2, 3, 4, 5, 6, 7
AHU-1-3	JOHNSON CONTROLS	GL090	3450	340	2.00	1.2	1147	96.8/74.5	77.0/64.0	57.0/54.0	R454B	1 1/8"	5/8"	172	60.0	107	150	120	7.5	1-1/4"	208/3/60	16.5	20.0	549	1, 2, 3, 4, 5, 6, 7
AHU-1-4	JOHNSON CONTROLS	GL090	2675	270	2.00	1.2	1060	88.2/65.2	77.0/64.0	54.0/53.0	R454B	1 1/8"	5/8"	158	60.0	115	150	120	7.5	1-1/4"	208/3/60	11.3	15.0	549	1, 2, 3, 4, 5, 6, 7
AHU-2-1	JOHNSON CONTROLS	GL090	3650	365	2.00	1.2	1154	97.3/75.0	77.0/64.0	55.0/53.0	R454B	1 1/8"	5/8"	172	60.0	106	150	120	7.5	1-1/4"	208/3/60	16.5	20.0	549	1, 2, 3, 4, 5, 6, 7
AHU-2-2	JOHNSON CONTROLS	GL090	2350	250	2.00	1.2	1031	84.6/61.2	77.0/64.0	52.0/51.0	R454B	1 1/8"	5/8"	141	60.0	115	150	120	7.5	1-1/4"	208/3/60	11.3	15.0	549	1, 2, 3, 4, 5, 6, 7
AHU-2-3	JOHNSON CONTROLS	GL090	3650	365	2.00	1.2	1154	97.3/75.0	77.0/64.0	55.0/53.0	R454B	1 1/8"	5/8"	172	60.0	106	150	120	7.5	1-1/4"	208/3/60	16.5	20.0	549	1, 2, 3, 4, 5, 6, 7
AHU-2-4	JOHNSON CONTROLS	GL090	2350	250	2.00	1.2	1031	84.6/61.2	77.0/64.0	52.0/51.0	R454B	1 1/8"	5/8"	141	60.0	115	150	120	7.5	1-1/4"	208/3/60	11.3	15.0	549	1, 2, 3, 4, 5, 6, 7

NOTES:
1. PROVIDE NEOPRENE VIBRATION ISOLATION PAD UNDER FRAME PERIMETER.
2. PROVIDE MERV 13 FILTER.
3. PROVIDE INTELLISPEED VFD WITHOUT BYPASS.
4. PROVIDE COMPOSITE DRAIN PAN.
5. PROVIDE 2-ROW DEEP HOT WATER COIL.
6. AHU OA DAMPERS SHALL FAIL NORMALLY CLOSED UPON LOSS OF POWER OR DURING EMERGENCY CONDITIONS.
7. PROVIDE NON-FUSED DISCONNECT SWITCH.

CONDENSATE RECEIVER PUMP SCHEDULE (GREEN)

TAG	TYPE UNIT	GPM	DISCH PSIG	MOTOR			CAP TANK (GAL)	NOTES
				HP (EACH)	PHASE VOLTS	QTY		
CRP-1-G	ELECTRIC	12	20	1/3	208V/3PH	1	15	1, 2, 3, 4, 5, 6

NOTES:
1. BASIS OF DESIGN: STERLING SIMPLEX 4128-G.
2. PROVIDE ODP MOTOR.
3. PROVIDE STEEL RECEIVER WITH NEMA-1 FLOAT SWITCH.
4. PROVIDE SIMPLEX NEMA-12 CONTROL PANEL WITH MOTOR CIRCUIT PROTECTOR (CIRCUIT BREAKER, STARTER, OVERLOAD RELAY).
5. PROVIDE HOA SELECTOR SWITCH, GREEN RUN LIGHT.
6. PROVIDE THRU COVER OVERLOAD RESET MOUNTED AND WIRED.

FREEZE PROTECTION PUMP SCHEDULE (GREEN)

TAG	TYPE	GPM	HEAD (FT)	MAX. NPSHR (FT)	BHP	RPM	ELECTRICAL						BASIS OF DESIGN	NOTES
							MIN. PUMP EFF.	VFD (Y/N)	H.P.	VOLTS	PH.	EMERGENCY POWER (Y/N)		
FPP-1-1	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-1-2	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-1-3	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-1-4	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-2-1	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-2-2	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-2-3	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-2-4	INLINE	15	10	2.9	0.08	1800	50.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3
FPP-3	INLINE	25	10	3.8	0.14	1800	51.5%	N	0.25	120	1	Y	BELL AND GOSSETT SERIES E-90-1AAB	1, 2, 3

NOTES:
1. PROVIDE BRONZE FITTED CONSTRUCTION.
2. PROVIDE STANDARD MECHANICAL SEAL ASSEMBLY.
3. ATC CONTRACTOR SHALL PROVIDE SIGNAL FOR SPEED CONTROL.

HEAT EXCHANGER SCHEDULE (GREEN)

TAG	SURFACE AREA	PASSES	P.D.	MBH	STEAM SIDE (SHELL)						WATER SIDE (TUBES)						NOTES
					STEAM PSI	CONDENSATE LBS/HR	INLET TEMP. °F	OUTLET TEMP. °F	STM INLET NOZZLE	CONDENSATE NOZZLE	FLOW GPM	VELOCITY	FOULING FACTOR	INLET TEMP °F	OUTLET TEMP °F	NOZZLE	
HX-1A-G	33.3 SQ. FT	3	3.3'	1,216	15	1,243	212	212	3"	1"	85	3.4 FPS	0.0005	120	150	3"	1, 2, 3, 4, 5
HX-1B-G	33.3 SQ. FT	3	3.3'	1,216	15	1,243	212	212	3"	1"	85	3.4 FPS	0.0005	120	150	3"	1, 2, 3, 4, 5

NOTES:
1. PROPERLY SUPPORT FROM FLOOR OR STRUCTURE ABOVE. FIELD VERIFY THE INSTALLED HEIGHT OF THE UNIT TO ENSURE PROPER CONDENSATE RETURN BY GRAVITY.
2. INLET STEAM PRESSURE REFLECTS MAXIMUM 40 PSIG PRESSURE DROP THROUGH STEAM ATC VALVE.
3. ATC CONTRACTOR SHALL PROVIDE CONTROL VALVE.
4. PROVIDE A TUBE WALL THICKNESS OF 0.035".
5. BASIS OF DESIGN: B&G SU-84-2.

CONDENSING UNIT SCHEDULE (GREEN)

TAG NO.	BASIS OF DESIGN		CAPACITY		AMBIENT TEMP.	REFRIGERANT	CONNECTIONS		COMPRESSOR		CONDENSER FAN MOTORS		EFFICIENCY		UNIT ELECTRICAL DATA			OPERATING WEIGHT (LBS)	NOTES
	MANUFACTURER	MODEL	MBH	TONS			L	S	NO.	RLA	NO.	FLA	EER	IEER	VOLT/ PH/Hz	MCA	MOCP		
CU-1-1	JOHNSON CONTROLS	KE090	98.0	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	25.5	35.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-1-2	JOHNSON CONTROLS	KE090	87.2	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	21.0	30.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-1-3	JOHNSON CONTROLS	KE090	98.5	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	25.5	35.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-1-4	JOHNSON CONTROLS	KE090	90.2	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	21.0	30.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-2-1	JOHNSON CONTROLS	KE090	100.7	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	25.5	35.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-2-2	JOHNSON CONTROLS	KE090	86.7	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	21.0	30.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-2-3	JOHNSON CONTROLS	KE090	100.7	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	25.5	35.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9
CU-2-4	JOHNSON CONTROLS	KE090	86.7	7.5	95.0	R454B	5/8"	1 1/8"	2	11.0	2	1.1	11.2	16.0	460/3/60	21.0	30.0	386	1, 2, 3, 4, 5, 6, 7, 8, 9

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. COORDINATE WITH ALL TRADES.
2. PROVIDE UNIT STAND-OFF KIT BY MFR, DISCONNECT SWITCH, AND ALL NECESSARY CONTROLS AND STARTER FOR PROPER OPERATIONS
3. PROVIDE POWERED CONVENIENCE OUTLET.
4. PROVIDE HAIL GUARDS.
5. PROVIDE NEOPRENE VIBRATION ISOLATION PAD UNDER FRAME PERIMETER.
6. PROVIDE LOW AMBIENT KIT.
7. PROVIDE FIELD FURNISHED AND INSTALLED RAWAL VALVES FOR CAPACITY CONTROL.
8. PROVIDE SINGLE 2-STAGE SCROLL COMPRESSORS.
9. PROVIDE ALL REFRIGERANT PIPING, COMPONENTS (E.G. ACCUMULATORS), AND ACCESSORIES AS REQUIRED.

MAKE-UP AIR UNIT SCHEDULE (GREEN)

TAG	DESIGN CONDITIONS		AIR PERFORMANCE				ELECTRICAL			HEATING MODE								COOLING MODE										WEIGHT (LBS.)	NOTES
	(SUMMER) E.A.T. DB/WB	(WINTER) E.A.T. DB	CFM	E.S.P.	MOTOR (HP)	RPM	VOLTAGE/ PHASE	MCA	MOCP	TYPE	EWT	LWT	EAT	LAT	TOTAL (MBH)	WPD	GPM	TYPE	COMPRESSOR (QTY.)	COMPRESSOR TYPE	TOTAL (MBH)	SENS. (MBH)	L.A.T. DB	L.A.T. WB	REHEAT MBH	REHEAT LAT	REFRIG.		
MAU-1	92°F/75°F	-5°F	4,000	2.0	3	1165	460/3	64.1	90	WATER	150°F	120°F	0°F	85°F	373	1.3' WG	25.0	PACKAGED DX	2	DIGITAL SCROLL	330.7	176.5	52°F	52°F	182	94°F	R410A	3,270	1, 2, 3, 4, 5, 6, 7, 8, 9 10, 11, 12, 13, 14, 15, 16

NOTES:
1. PROVIDE DOUBLE WALL INSULATED METAL LINER.
2. PROVIDE 2" PLEATED MERV 8 SUPPLY FILTERS AND DIRTY FILTER SENSOR.
3. PROVIDE DOWNTURNED WEATHERHOOD.
4. PROVIDE MOTORIZED, LOW LEAKAGE, MODULATING OUTDOOR AIR AND RECIRC DAMPERS.
5. PROVIDE NEOPRENE BLOWER ISOLATION.
6. PROVIDE SPARE FILTERS.
7. PROVIDE PERMATECTOR CONCRETE GRAY PAINTED EXTERIOR.
8. PROVIDE FACTORY WIRED NON-FUSED DISCONNECT SWITCH.
9. PROVIDE CONSTANT VOLUME SUPPLY FAN CONTROLS.
10. PROVIDE MICROPROCESSOR REMOTE INTERFACE WITH 150' CORD.
11. PROVIDE 120 VOLT NEMA 3R OUTLET (FACTORY MOUNTED AND WIRED).
12. PROVIDE PHASE AND BROWN OUT PROTECTION.
13. PROVIDE 48" HIGH CURB FOR HORIZONTAL DUCTWORK DISTRIBUTION.
14. UNIT SHALL BE BACNET COMPATIBLE.
15. BASIS OF DESIGN: GREENHECK RV-45-251-2-61
16. PROVIDE AND ENABLE REHEAT PLUS FUNCTIONALITY.

INLINE EXHAUST FAN SCHEDULE (GREEN)

TAG	TYPE	DRIVE	CFM	S.P. (" W.G.)	RPM	WATTS	VOLTAGE/ PHASE	SONES	INTERLOCK	NOTES
IEF-1	INLINE	DIRECT	800	0.6	1070	467	120/1	2.0	W/AHU-2-1	1, 2, 3, 4, 5, 6, 7
IEF-2	INLINE	DIRECT	800	0.6	1070	467	120/1	2.0	W/AHU-2-3	1, 2, 3, 4, 5, 6, 7
IEF-3	INLINE	DIRECT	800	0.6	1070	467	120/1	2.0	NONE	1, 2, 3, 4, 5, 6, 7

NOTES:
1. PROVIDE OUTLET DUCT COLLAR WITH INTEGRAL SPRING LOADED BACKDRAFT DAMPER.
2. PROVIDE A SINGLE POINT POWER CONNECTION.
3. PROVIDE 18x8 RECTANGULAR HOODED WALL CAP.
4. PROVIDE POLYPROPYLENE WHEEL MATERIAL.
5. PROVIDE ISOLATION HANGING KIT.
6. PROVIDE FACTORY DISCONNECT SWITCH.
7. BASIS OF DESIGN: GREENHECK CSP-A1050.

CEILING EXHAUST FAN SCHEDULE (GREEN)

TAG	TYPE	DRIVE	CFM	S.P. (" W.G.)	RPM	MOTOR WATTAGE	VOLTAGE/ PHASE	SONES	NOTES
CEF-1	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-2	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-3	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-4	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-5	CEILING	DIRECT	200	0.5	980	172	120/1	6.0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-6	CEILING	DIRECT	200	0.5	980	172	120/1	6.0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-7	CEILING	DIRECT	200	0.5	980	172	120/1	6.0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-8	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-9	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-10	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
CEF-11	CEILING	DIRECT	100	0.5	1050	128	120/1	4.5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

NOTES:
1. PROVIDE ROUND OUTLET DUCT COLLAR WITH INTEGRAL BACKDRAFT DAMPER.
2. PROVIDE A SINGLE POINT POWER CONNECTION.
3. PROVIDE POLYPROPYLENE WHEEL MATERIAL.
4. PROVIDE 10x3 RECTANGULAR WALL CAP WITH BUILT-IN BUG/INSECT SCREEN.
5. PROVIDE FACTORY DISCONNECT SWITCH.
6. PROVIDE LOW PROFILE HOUSING.
7. PROVIDE ISOLATION KIT.
8. SUPPORT FROM BUILDING STRUCTURE.
9. PROVIDE ALUMINUM GRILLE WITH WHITE ENAMEL FINISH.
10. BASIS OF DESIGN: GREENHECK SP-B.

EXPANSION/AIR SEPARATOR TANK SCHEDULE (GREEN)

TAG	SYSTEM	APPROX. SYSTEM VOLUME (GAL.)	SYSTEM TEMPERATURE RANGE (°F)		INITIAL PRESSURE IN TANK (PSIG)	PRV FILL PRESSURE AT TANK (PSIG)	MAX. OPER. PRESS.		TANK SIZE (GAL.)	AIR SEPARATOR			PIPE SIZE TO TANK	DRAIN SIZE	NOTES
			MIN.	MAX.			RELIEF VALVE (PSIG)	AT TANK (PSIG)		PIPE SIZE	GPM	MAX. PD			
ET-1-G/AS-1-G	HOT WATER	400	50	150	35	35	50	50	23	3"	190	0.4'	3/4"	1"	1, 2

NOTES:
1. INITIAL PRESSURE IS PRESSURE REQUIRED TO REACH HIGHEST ELEVATION PLUS 4", FOR VENTING.
2. MAXIMUM OPERATING PRESSURE IS EQUAL TO RELIEF VALVE SETTING.

PUMP BUILDING SCHEDULE (GREEN)

TAG	SERVICE	TYPE	GPM	HEAD (FT)	MAX. NPSH (FT)	RPM	ELECTRICAL						NOTES
							MIN. PUMP EFF.	VFD (Y/N)	H.P.	VOLTS	PH.	EMERGENCY POWER (Y/N)	
P-1A-G	HOT WATER LOOP	END SUCTION	95	40	4.27	1750	62.8%	Y	1.5	208	3	N	1, 2, 3, 4, 5
P-1B-G	HOT WATER LOOP	END SUCTION	95	40	4.27	1750	62.8%	Y	1.5	208	3	N	1, 2, 3, 4, 5

NOTES:
1. PROVIDE VFD WITH 3-CONTACTOR BYPASS AND DISCONNECT.
2. PROVIDE A FOOT-MOUNTED 1510 VOLUTE.
3. PROVIDE PREMIUM EFFICIENCY, INVERTER-DUTY, NON-OVERLOADING MOTOR.
4. PROVIDE STANDARD CARBON STEEL DIFFUSER PLATE SUCTION DIFFUSER.
5. BASIS OF DESIGN: B&G E-1510 1.5AD.

HEAT PUMP SYSTEM SCHEDULE (GREEN)

INDOOR UNIT											OUTDOOR UNIT													NOTES
TAG	MANUF.	MODEL	TYPE	COOLING DB/WB °F	HEATING DB °F	CFM	COOLING TOT BTUH	HEATING BTUH	VOLTAGE/ PHASE	WEIGHT (LBS)	TAG	MODEL	REFRIGERANT	COOLING DB °F	HEATING DB/WB °F	COOLING TOT BTUH	HEATING BTUH	MCA	MOCP	VOLTAGE/ PHASE	EER	SEER	WEIGHT (LBS)	
SC-1A-G	YORK	DHMW24NKB21S	4-WAY CASSETTE	80/67	70	694	22,867	27,304	208/1	62	CU-1-G	DHW42CMB21S	R410-A	95	47/43	42,000	42,000	24	40	208/1	10.4	21.0	198	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
SC-1B-G	YORK	DHMW24NKB21S	4-WAY CASSETTE	80/67	70	694	22,867	27,304	208/1	62														
SC-2A-G	YORK	DHMW24NKB21S	4-WAY CASSETTE	80/67	70	694	22,867	27,304	208/1	62	CU-2-G	DHW42CMB21S	R410-A	95	47/43	42,000	42,000	24	40	208/1	10.4	21.0	198	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
SC-2B-G	YORK	DHMW24NKB21S	4-WAY CASSETTE	80/67	70	694	22,867	27,304	208/1	62														

NOTES:
1. E.C. SHALL PROVIDE DISCONNECT SWITCH.
2. PROVIDE WALL MOUNTED ZONE CONTROLLER (1 PER (2) INDOOR UNITS ON EACH FLOOR).
3. PROVIDE, SIZE, TRAP, AND INSULATE ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE CONDENSING UNIT ON GRADE; INSTALL ON CONCRETE EQUIPMENT PAD.
5. POWER CONTROLLER FROM THE POWER SUPPLIED TO THE INDOOR OR OUTDOOR UNIT.
6. PROVIDE UNIT WITH INTEGRAL LIFT MECHANISM AND CONDENSATE DRAIN PAN.
7. PROVIDE 0° LOW AMBIENT KIT.
8. PROVIDE WIND BAFFLE.
9. PROVIDE WASHABLE FILTERS.
10. PROVIDE CONDENSING UNIT WITH 18" HIGH STAND, SNOW HOODS, AND HAIL GUARDS.
11. PROVIDE OUTDOOR UNIT WITH DAMPER KIT.
12. PROVIDE ALL REQUIRED ACCESSORIES FOR TWINNING THE (2) INDOOR UNITS TO THE (1) OUTDOOR UNIT.
13. PROVIDE BACNET COMPATIBILITY FOR INTERFACING WITH DISTECH CONTROLS SYSTEM.

LOUVER SCHEDULE (GREEN)

TAG	MANUFACTURER	MODEL	NOMINAL SIZE	VOLUME (CFM)	VELOCITY (FPM)	SERVICE	FINISH	NOTES
L-A-G	GREENHECK	ESD-435	24"x18"	800	700	VENTILATION EXHAUST	COLOR BY ARCHITECT	1, 2, 3, 4
L-B-G	GREENHECK	ESD-435	38"x64"	2850	500	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4, 5
L-C-G	GREENHECK	ESD-435	38"x14"	-	500	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4, 6, 7
L-1A-G	GREENHECK	ESD-435	18"x12"	200	500	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4
L-1B-G	GREENHECK	ESD-435	18"x12"	200	700	VENTILATION EXHAUST	COLOR BY ARCHITECT	1, 2, 3, 4
L-2A-G	GREENHECK	ESD-435	18"x12"	200	500	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4
L-2B-G	GREENHECK	ESD-435	18"x12"	200	700	VENTILATION EXHAUST	COLOR BY ARCHITECT	1, 2, 3, 4
L-3A-G	GREENHECK	ESD-435	24"x18"	800	700	VENTILATION EXHAUST	COLOR BY ARCHITECT	1, 2, 3, 4
L-3B-G	GREENHECK	ESD-435	24"x18"	800	700	VENTILATION EXHAUST	COLOR BY ARCHITECT	1, 2, 3, 4
L-4A-G	GREENHECK	ESD-435	38"x64"	2250	700	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4, 5
L-4B-G	GREENHECK	ESD-435	38"x64"	2675	700	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4, 5
L-4C-G	GREENHECK	ESD-435	38"x64"	2350	700	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4, 5
L-4D-G	GREENHECK	ESD-435	38"x64"	2350	700	VENTILATION INTAKE	COLOR BY ARCHITECT	1, 2, 3, 4, 5

NOTES:
1. COORDINATE EXTERIOR WALL LOUVER OPENINGS WITH .I CONTRACTOR.
2. FIELD VERIFY THAT ALL LOUVER DIMENSIONS WILL FIT PRIOR TO ORDERING OR INSTALLING.
3. PROVIDE INSULATED SHEET METAL PLENUM BOX ON BACK OF LOUVER.
4. PROVIDE ALUMINUM INSECT SCREEN.
5. WINDOW SHALL BE REMOVED. LOUVER SHALL BE SIZED FOR WINDOW OPENING. FIELD VERIFY EXACT DIMENSIONS.
6. UPPER WINDOW PANEL SHALL BE REMOVED. LOUVER SHALL BE SIZED FOR PANEL OPENING. FIELD VERIFY EXACT DIMENSIONS.
7. PROVIDE INSULATED MANUAL BACKDRAFT DAMPER.

ENERGY RECOVERY UNIT SCHEDULE (GREEN)

EQUIPMENT TAG	SYSTEM	MODE	MIN SUPPLY AIR EFF %	OUTDOOR SUPPLY AIR				INDOOR EXHAUST AIR				VOLTS/ PHASE	AMPS	WEIGHT (LBS.)	REMARKS
				OA CFM	MAX SP("W.G)	EAT(°F) DB	EAT(°F) WB	EA CFM	MAX SP("W.G)	EAT(°F) DB	RH %				
ERV-1	EA/OA	SUMMER	69	200	1.0	95	76	200	1.0	75	50	120V/1ϕ	1.4	57	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
	EA/OA	WINTER				-5	-6			71	40				
ERV-2	EA/OA	SUMMER	72	200	1.0	95	76	200	1.0	75	50	120V/1ϕ	1.4	57	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
	EA/OA	WINTER				-5	-6			71	40				

NOTES:
1. UNIT SHALL BE UL LISTED.
2. PROVIDE LOW PROFILE UNIT.
3. PROVIDE INTEGRAL DEHUMIDISTAT.
4. PROVIDE UNIT WITH SPRING HANGING VIBRATION ISOLATORS.
5. PROVIDE MERV-6 FILTER.
6. PROVIDE PRECISION AIRFLOW BALANCING.
7. PROVIDE SENSOR CONTROLLED FAN DEFROST.
8. PROVIDE DUAL EC MOTORS.
9. PROVIDE EASILY REMOVABLE DROP PANEL.
10. PROVIDE ALL MANUFACTURER RECOMMENDED CLEARANCES.
11. BASIS OF DESIGN: GREENHECK SYNC270-TCE-S1

SIDEWALL EXHAUST FAN SCHEDULE (GREEN)

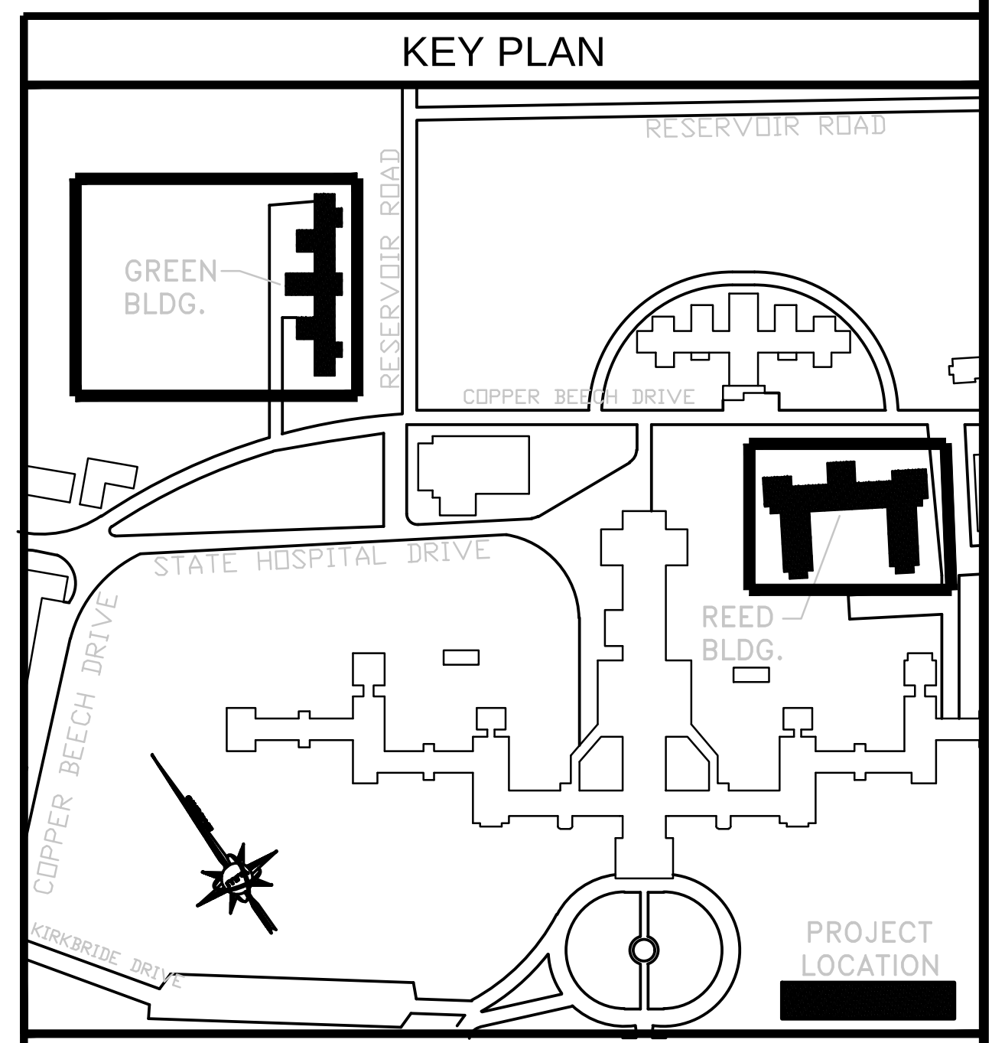
TAG	MAKE	MODEL	TYPE	DRIVE	CFM	S.P. (" W.G.)	FAN RPM	MOTOR HP	VOLTAGE/ PHASE	SONES	NOTES
EF-1-G	GREENHECK	AER-24	SIDEWALL	DIRECT	1500	0.26	1160	1/6	115/1	17	1, 2, 3, 4, 5, 6

NOTES:
1. PROVIDE A SINGLE POINT POWER CONNECTION.
2. PROVIDE GRAVITY BACKDRAFT DAMPER
3. PROVIDE FACTORY DISCONNECT SWITCH.
4. PROVIDE FACTORY INSTALLED ALUMINUM DAMPER GUARD.
5. PROVIDE FLUSH MOUNTING STYLE.
6. PROVIDE JUNCTION BOX MOUNTED AND WIRED.

* SEE DWG. H-13 FOR REED BUILDING SCHEDULES

FOR CONSTRUCTION 11/07/2024

KEY PLAN



ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

NO.	DATE	REVISION	APPR.
1	02.25.2025	BID ADDENDUM #1	

AS BUILT REVISIONS

RANDALL GRANT LEVINE
No. 043622-R

11.07.2024

Professional's Signature Date Consultant's Signature Date

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

PROJECT NO. DGS C-0503-0026 PHASE 1

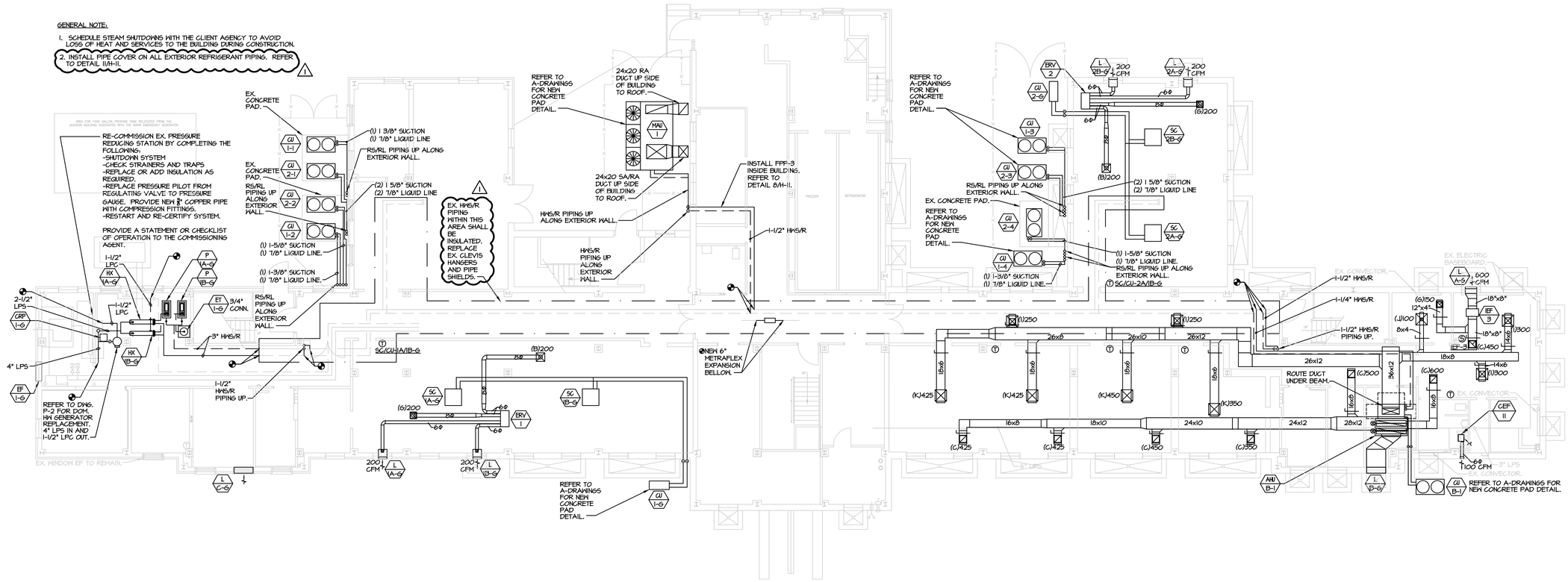
NORTH CENTRAL STU - HVAC
UPGRADES
Danville State Hospital - NCSTU Reed and Green Buildings
Danville, Montour County, Pennsylvania

SCHEDULES

DRAWN BY:	DATE:	DRAWING NO.:
TJ	11/07/2024	H-12
CHECKED BY:	SCALE:	
RL	AS NOTED	

GENERAL NOTE:

1. SCHEDULE STEAM SHUTDOWNS WITH THE CLIENT AGENCY TO AVOID LOSS OF HEAT AND SERVICES TO THE BUILDING DURING CONSTRUCTION.
2. INSTALL PIPE COVER ON ALL EXTERIOR REFRIGERANT PIPING. REFER TO DETAIL 11/H-11.



1 H-5 PARTIAL BASEMENT PLAN - GREEN BUILDING - PIPING

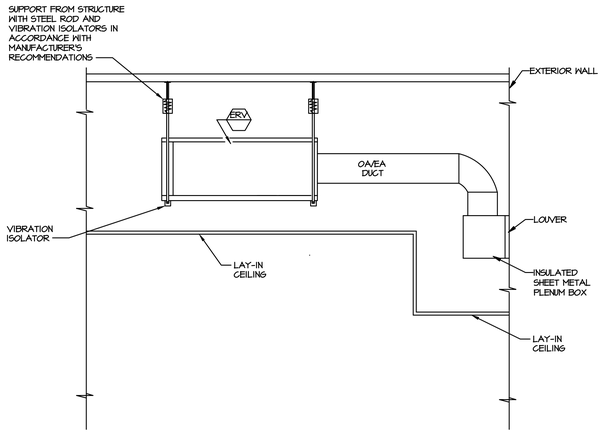
SCALE: 1/8"=1'-0"

VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:

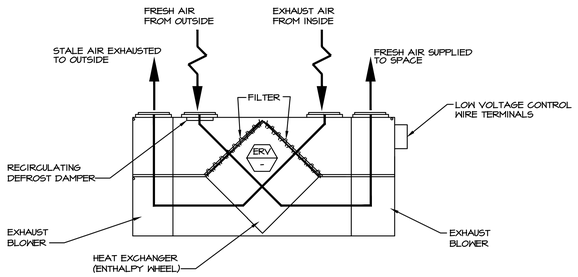
0 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.



3 H-5 ENERGY RECOVERY LOUVER DETAIL

SCALE: NO SCALE



4 H-5 ENERGY RECOVERY VENTILATOR DETAIL

SCALE: NO SCALE

AIR HANDLING UNIT (DX & HW) SCHEDULE (GREEN)

TAG NO.	BASIS OF DESIGN		SUPPLY FAN					DX COOLING COIL						HW HEATING COIL						ELECTRICAL			WEIGHT LBS	NOTES
	MANUFACTURER	MODEL	TOTAL CFM	MIN. OA CFM	HP	ESP IN. WC	RPM	MBH TOTAL/SENS	EAT DB/WB	LAT DB/WB	REFRIGERANT	PIPE SIZE CONN. SUC.	PIPE SIZE CONN. LIQ.	MBH	EAT	LAT	EWT	LWT	GPM	PIPE SIZE CONN.	VOLTS/ PH/Hz	MCA	MOCP		
AHU-B-1	JOHNSON CONTROLS	NL090	2850	285	2.00	1.2	1060	88.2/65.2	77.0/64.0	54.0/53.0	R410A	1 1/8"	5/8"	158	60.0	115	150	120	7.5	1-1/4"	460/3/60	7.3	15.0	526	1, 2, 3, 4, 5, 6, 7, 8

NOTES:
1. PROVIDE NEOPRENE VIBRATION ISOLATION PAD UNDER FRAME PERIMETER.
2. PROVIDE MERV 13 FILTER.
3. PROVIDE INTELLISPEED VFD WITHOUT BYPASS.
4. PROVIDE COMPOSITE DRAIN PAN.
5. PROVIDE 2-ROW DEEP HOT WATER COIL.
6. AHU OA DAMPERS SHALL FAIL NORMALLY CLOSED UPON LOSS OF POWER OR DURING EMERGENCY CONDITIONS.
7. PROVIDE HAYS HOSE KIT WITH CONSIGNMENT MOUNTED ATC VALVE.
8. PROVIDE NON-FUSED DISCONNECT SWITCH.

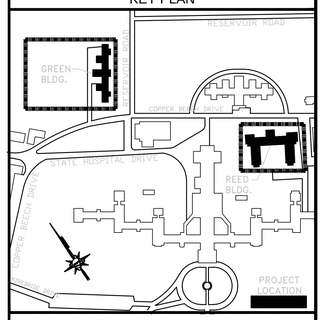
CONDENSING UNIT SCHEDULE (GREEN)

TAG NO.	BASIS OF DESIGN		CAPACITY		AMBIENT TEMP.	REFRIGERANT	CONNECTIONS		COMPRESSOR		CONDENSER FAN MOTORS		EFFICIENCY		UNIT ELECTRICAL DATA			OPERATING WEIGHT (LBS)	NOTES
	MANUFACTURER	MODEL	MBH	TONS			L	S	NO.	RLA	NO.	FLA	EER	IEER	VOLT/ PH/Hz	MCA	MOCP		
CU-B-1	JOHNSON CONTROLS	YE040	83.4	7.5	95.0	R410A	5/8"	1 1/8"	2	13.4	2	1.1	11.2	16.0	460/3/60	19	25	386	1, 2, 3, 4, 5, 6, 7, 8

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. COORDINATE WITH ALL TRADES.
2. PROVIDE UNIT STAND-OFF KIT BY MFR, DISCONNECT SWITCH, AND ALL NECESSARY CONTROLS AND STARTER FOR PROPER OPERATIONS
3. PROVIDE POWERED CONVENIENCE OUTLET.
4. PROVIDE HAIL GUARDS.
5. PROVIDE NEOPRENE VIBRATION ISOLATION PAD UNDER FRAME PERIMETER.
6. PROVIDE LOW AMBIENT KIT.
7. PROVIDE HOT GAS BY-PASS KIT.
8. PROVIDE SINGLE 2-STAGE SCROLL COMPRESSORS.

FOR CONSTRUCTION 11/07/2024

KEY PLAN



ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

NO.	DATE	REVISION	APPR.
1	02.25.2025	BID ADDENDUM #1	

AS BUILT REVISIONS

COMMONWEALTH OF PENNSYLVANIA PROFESSIONAL ENGINEER RANDALL GRANT LEVINE No. 045524 PENNSYLVANIA

Professional's Signature 11.07.2024 Date Consultant's Signature Date

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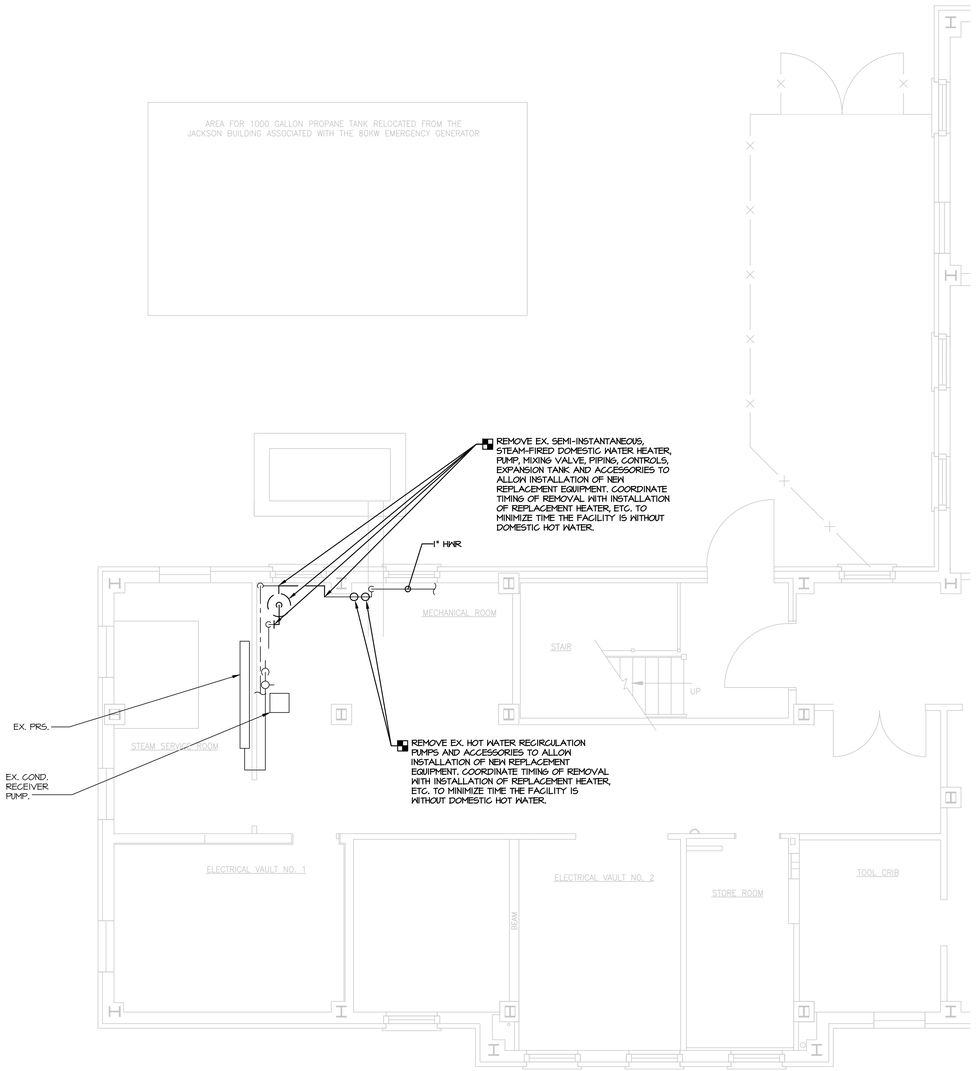
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

PROJECT NO. DGS C-0503-0026 PHASE 1

NORTH CENTRAL STU - HVAC UPGRADES
Danville State Hospital - NCSTU Reed and Green Buildings
Danville, Montour County, Pennsylvania

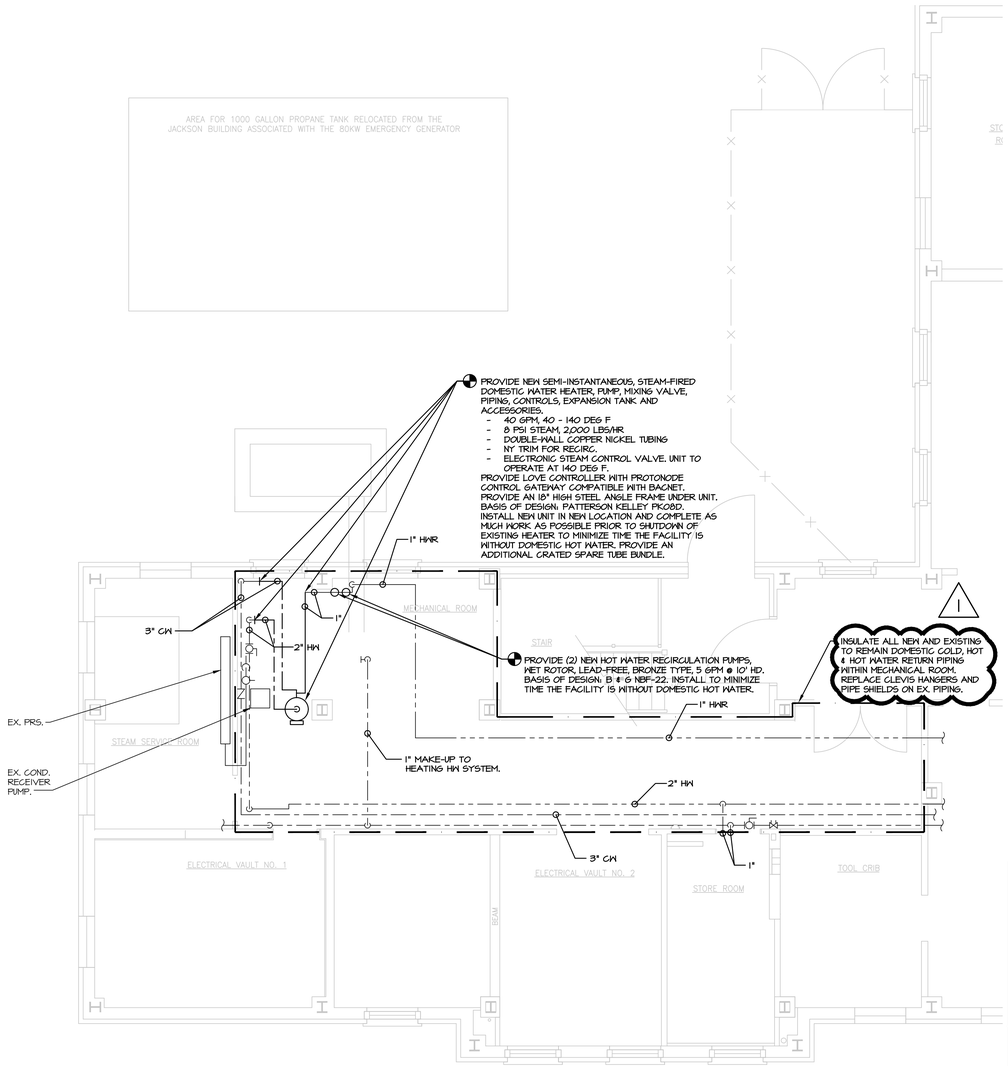
BASEMENT PLANS - GREEN BUILDING
PIPING

DRAWN BY:	DATE:	DRAWING NO.:
TJ	11/07/2024	H-5
CHECKED BY: RL	SCALE: AS NOTED	



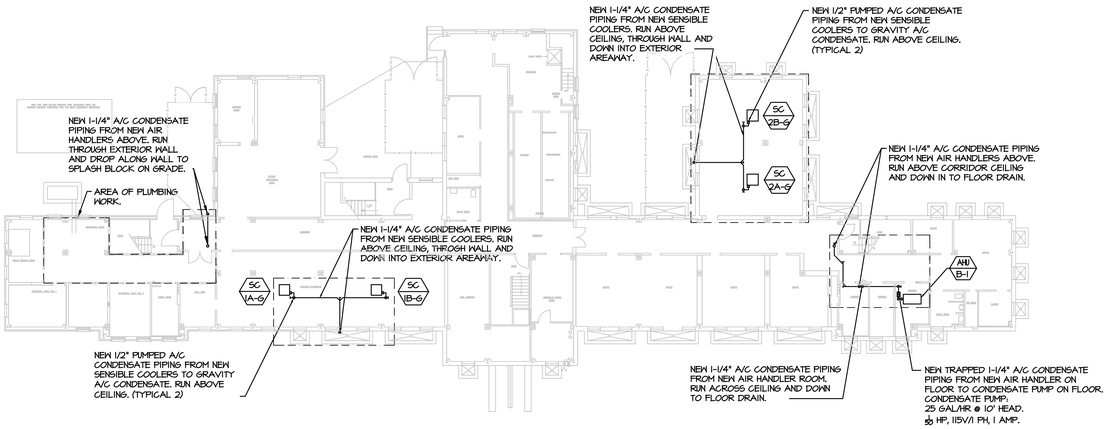
1 P-2 BASEMENT PLAN - GREEN BUILDING - PLUMBING DEMOLITION

SCALE: 1/4"=1'-0"



2 P-2 BASEMENT PLAN - GREEN BUILDING - PLUMBING NEW WORK

SCALE: 1/4"=1'-0"



3 P-2 BASEMENT PLAN - GREEN BUILDING - AREA OF PLUMBING WORK

SCALE: 1/16"=1'-0"

FOR CONSTRUCTION 11/07/2024

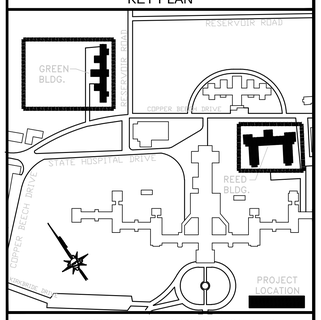
VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:

0 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.

KEY PLAN



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NO.	DATE	REVISION	APPR.
1	02.25.2025	BID ADDENDUM #1	

AS BUILT REVISIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER RANDALL GRANT LEVINE No. 048324 PENNSYLVANIA

Professional's Signature 11.07.2024 Date Consultant's Signature Date

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COMMONWEALTH OF PENNSYLVANIA
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PROJECT NO. DGS C-0503-0026 PHASE 1

NORTH CENTRAL STU - HVAC UPGRADES
Danville State Hospital - NCSTU Reed and Green Buildings
Danville, Montour County, Pennsylvania

BASEMENT PLAN - GREEN BUILDING PLUMBING

DRAWN BY:	DATE:	DRAWING NO.:
RW	11/07/2024	P-2
CHECKED BY: RL	SCALE: AS NOTED	