

NOTES:

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- 2 4" DRYER EXHAUST TO WALL CAP. DUCTS CAN NOT BE IN A PARTY WALL OR CORRIDOR WALL. DUCTS TO COMPLY WITH 2015 IBC, SECTIONS 706.8 & 706.11. GENERAL CONTRACTOR TO PROVIDE 2x6 WALL WHERE NEEDED. VERIFY WITH OWNER/GENERAL CONTRACTOR.
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- 11 B14x10 TA GRILLES TO BE MOUNTED ABOVE THE DOOR.

H.V.A.C. SPECIFICATIONS

1. ALL DUCTWORK TO BE SEALED IN ACCORDANCE WITH STATE OF MN CHAPTER 1346.0603.8
2. DUCT INSULATION (CONDITIONED SPACE): SUPPLY AIR DUCTS: R4 WRAP 15' DOWNSTREAM OF FURNACE.
RETURN AIR DUCTS: INTERIOR LINING AS REQUIRED FOR ACOUSTICS.
OA DUCTS: R4
TOILET DRYER EXHAUST: R4 WITHIN 5' OF EXTERIOR OPENINGS.
3. DUCT INSULATION (UNCONDITIONED SPACE): ALL DUCTWORK IN THE ATTIC AND UNCONDITIONED SPACE TO BE R8.
4. PIPE INSULATION IN ACCORDANCE WITH 1346.1204.
INSULATION THICKNESS ASSUMES A K-VALUE OF 0.27 AND A TEMP RANGE OF 141°-200°. IF THE K-VALUE OF A PRODUCT IS LESS THAN 0.22, THEN THE THICKNESS MUST BE ADJUSTED TO HAVE AN EQUIVALENT R-VALUE.
BRANCH RUN-OUTS - 0.5"
1" - 3" = 1.5"
5. GAS PIPING SHALL BE PER MN RULES, CHAPTER 1346. MN FUEL GAS CODE CHAPTER 4 (IFGC 2012)
6. SHEET METAL WORK SHALL BE PER MN RULES, CHAPTER 1346. MN STATE MECHANICAL CODE CHAPTER 6 (IMC 2015)
7. FIRE AND SMOKE DAMPERS SHALL BE PER MN RULES 1346, MN STATE MECHANICAL CODE CHAPTER 6 (IMC 2015) AND MFG RECOMMENDATIONS.
8. HYDRONIC PIPING SHALL BE PER MN RULES, CHAPTER 1346, MN STATE MECHANICAL CODE CHAPTER 12 (MC 2015)
9. BATH FAN AND DRYER TERMINATION SHALL BE A MINIMUM OF 3 FEET AS REQUIRED IN ACCORDANCE WITH 1346.401.5.2
10. SYSTEM BALANCING AND COMMISSIONING SHALL COMPLY WITH SECTION 6.7.2.4 OF ASHRAE STANDARD 90.1-2010.

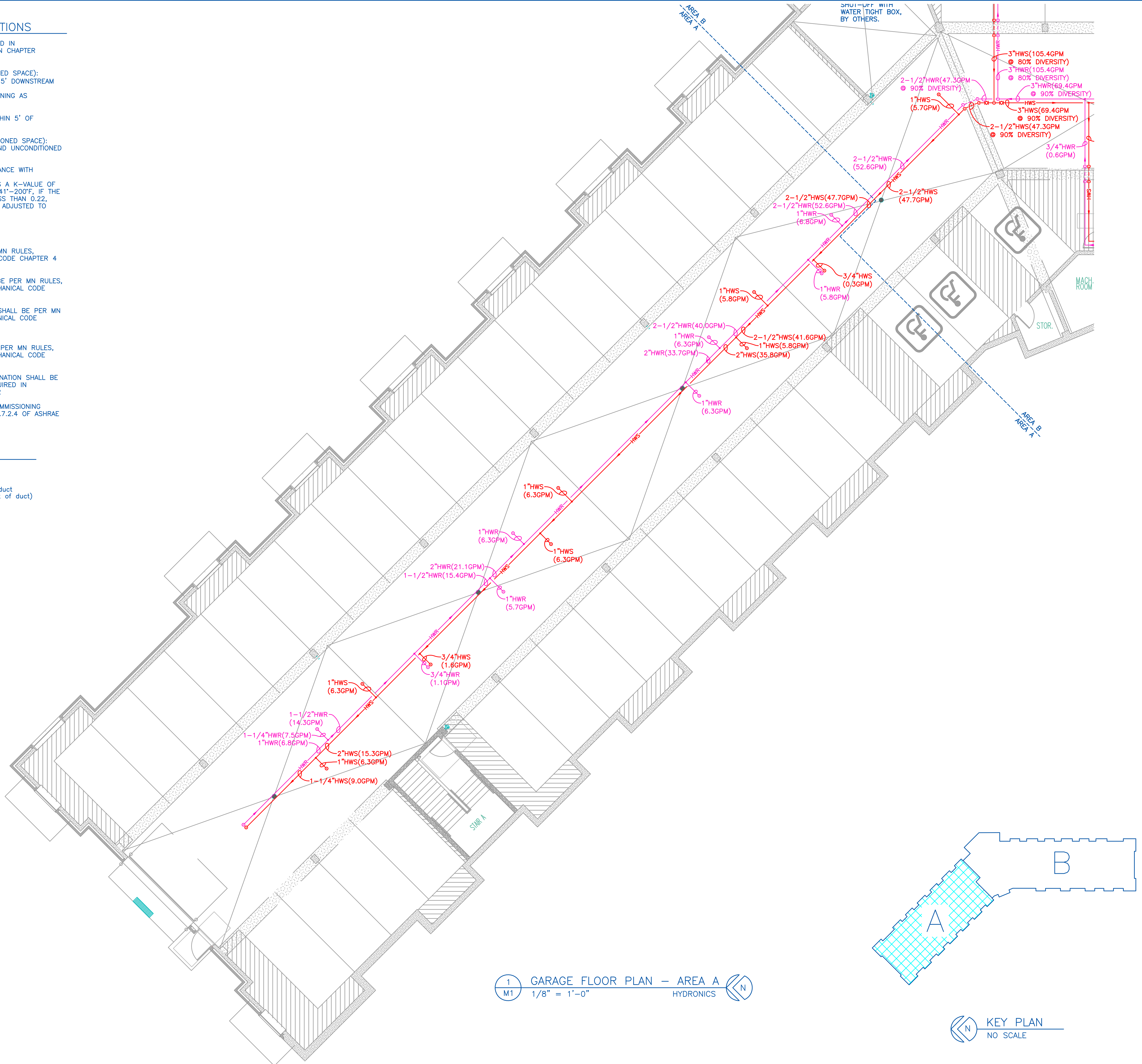
H.V.A.C. GENERAL NOTES

1. ALL MECHANICAL ROOMS TO HAVE 212° FAHRENHEIT SPRINKLER HEADS BY OTHERS.
2. COORDINATE LOCATION OF T'STATS WITH OWNER/GENERAL CONTRACTOR.
3. COORDINATE LOCATION OF FURNACES WITH OWNER/GENERAL CONTRACTOR.
4. COORDINATE EXACT LOCATION OF ALL OUTDOOR EQUIPMENT WITH THE OWNER/GENERAL CONTRACTOR; PADS BY OTHERS.
5. VERIFY WITH OWNER/GENERAL CONTRACTOR THAT THE DRYER VENT LENGTHS ARE CAPABLE OF VENTING SHOWN. 2x6 FURRED WALL MAY BE REQUIRED.
6. CONDENSATE DRAINS TO BE RUN TO NEAREST GRADE, FD, LAV, SINK OR INDIRECT WASTE. VERIFY WITH OWNER/GENERAL CONTRACTOR.
7. OA INTAKES MUST BE 10" FROM ALL EXHAUST/VENTS.
8. EACH RESIDENT UNIT TO HAVE 1/2" G TO MP..
9. SA RUN-OUTS TO BE 8" UNLESS NOTED OTHERWISE.
10. GAS FIRED EQUIPMENT IN THE GARAGE IS TO BE 18" A.F.F.
11. ELEVATOR RELIEF - GRAVITY RELIEF HOOD STYLE = A SHAFT(BY OTHERS) THAT IS NOT LESS THAN 3 SQFT OF FREE AREA IS TO EXTEND FROM THE TOP OF THE ELEVATOR SHAFT TO THE GRAVITY RELIEF HOOD CURB. A MOTORIZED DAMPER IS TO BE INSTALLED AT THE TOP OF THE ELEVATOR SHAFT WITH BURGLAR BARS INSTALLED BETWEEN THE MOTORIZED DAMPER AND THE CURB. SEE DETAIL.

MECHANICAL LEGEND

12x8SA

	RECTANGULAR DUCT (First number width of duct & 2nd number is height of duct)
	RETURN/EA DUCT UP
	RETURN/EA DUCT DOWN
	SUPPLY/OA DUCT UP
	SUPPLY/OA DUCT DOWN
	SUPPLY AIR FLOW
	EXHAUST AIR FLOW
	THERMOSTAT
	WALL SPEED SWITCH
	GAS PIPING
	MOTORIZED DAMPER
	FIRE DAMPER
	SMOKE/FIRE DAMPER
	SMOKE DAMPER
	RADIATION DAMPER
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
XA	COMBUSTION AIR
TA	TRANSFER AIR
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
FTR	FIN TUBE RADIATION
MUA	MAKE-UP AIR SUPPLY
MUA	MAKE-UP AIR EXHAUST



1 GARAGE FLOOR PLAN - AREA A
M1 1/8" = 1'-0" HYDRONICS



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energy CONCEPTS

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CRAIG A. TARR
DATE: 04/16/19 REG. NO. 22072

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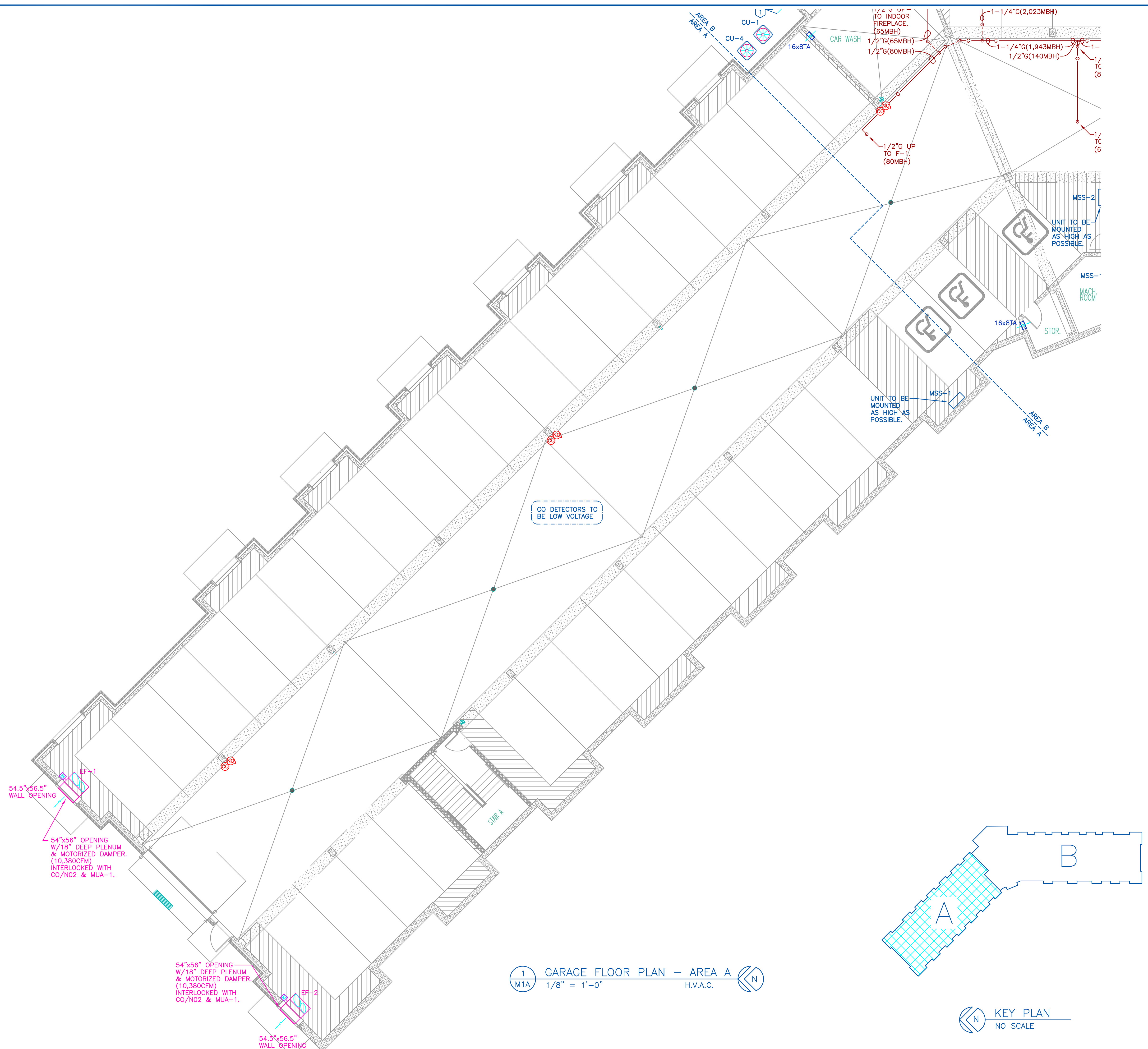
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	B	REVISED PER COMMENTS	
	C	REVISED PER COMMENTS	
	D	REVISED PER COMMENTS	

DATE: 04/16/19
SCALE: AS SHOWN
DRAWN BY: MAT
CHECKED BY: CAT
JOB NO. 19-1929

PARK PLACE APARTMENT
RED WING, MN
GARAGE FLOOR PLAN - AREA A

NOTES:

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1 GARAGE FLOOR PLAN - AREA A
 M1A 1/8" = 1'-0" H.V.A.C.



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PARK PLACE APARTMENT
 RED WING, MN
 GARAGE FLOOR PLAN - AREA A

DRAWING NO.
 M1A

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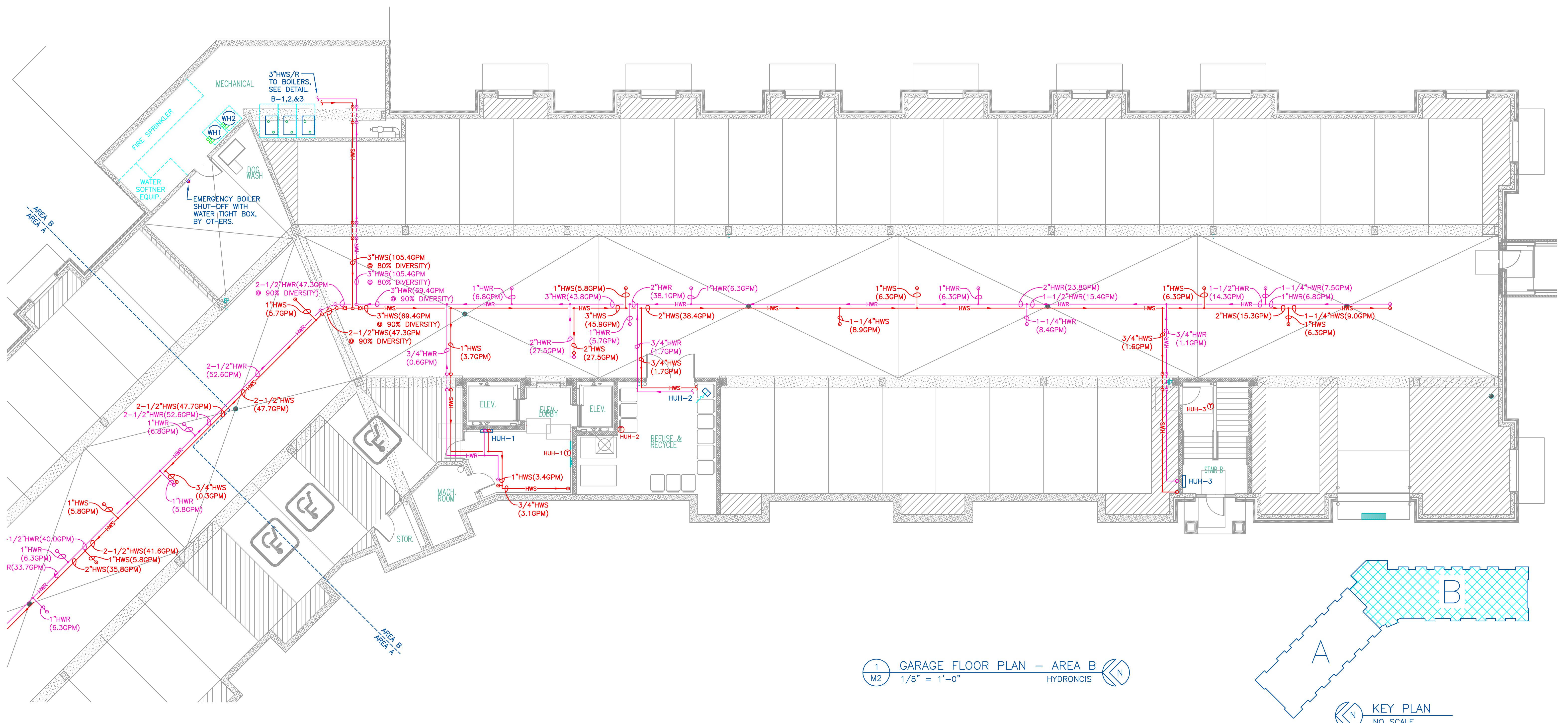
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PARK PLACE APARTMENT
 RED WING, MN
 GARAGE FLOOR PLAN - AREA B

DRAWING NO.
 M2



1 GARAGE FLOOR PLAN - AREA B
 M2 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

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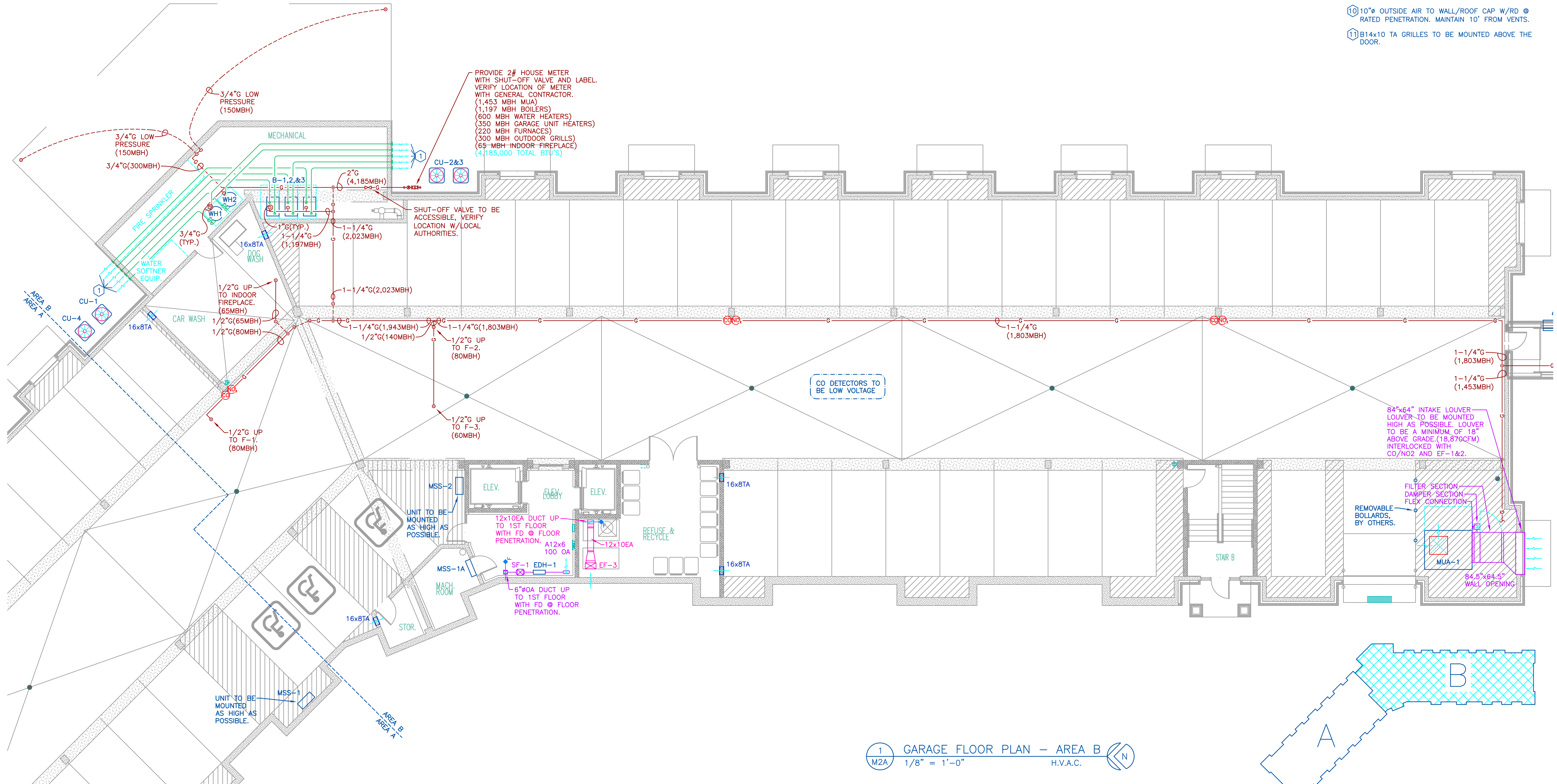
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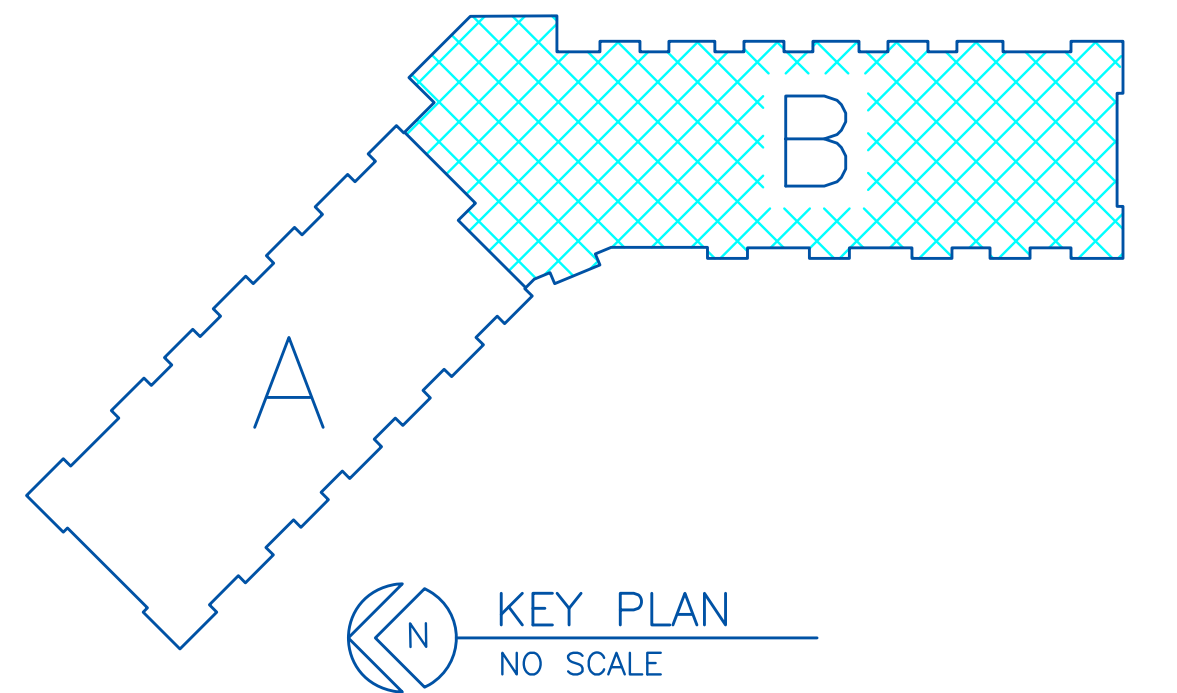
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PARK PLACE APARTMENT
 RED WING, MN
 GARAGE FLOOR PLAN - AREA B

DRAWING NO.
 M2A



1 GARAGE FLOOR PLAN - AREA B
 M2A 1/8" = 1'-0" H.V.A.C.



KEY PLAN
 NO SCALE



1 FIRST FLOOR PLAN - AREA A
 M3 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

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 DATE: 04/16/19 REG. NO. 22072

BIRD
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PARK PLACE APARTMENT
 RED WING, MN
 FIRST FLOOR PLAN - AREA A

DRAWING NO.
 M3

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NOTE: ALL RESIDENT A/C UNITS PROVIDED BY & INSTALLED BY OTHERS.

NOTE: DASHED AREA TO HAVE PLENUM RATED DROPPED CEILING, BY OTHERS.

1 FIRST FLOOR PLAN - AREA A
M3A 1/8" = 1'-0" H.V.A.C.



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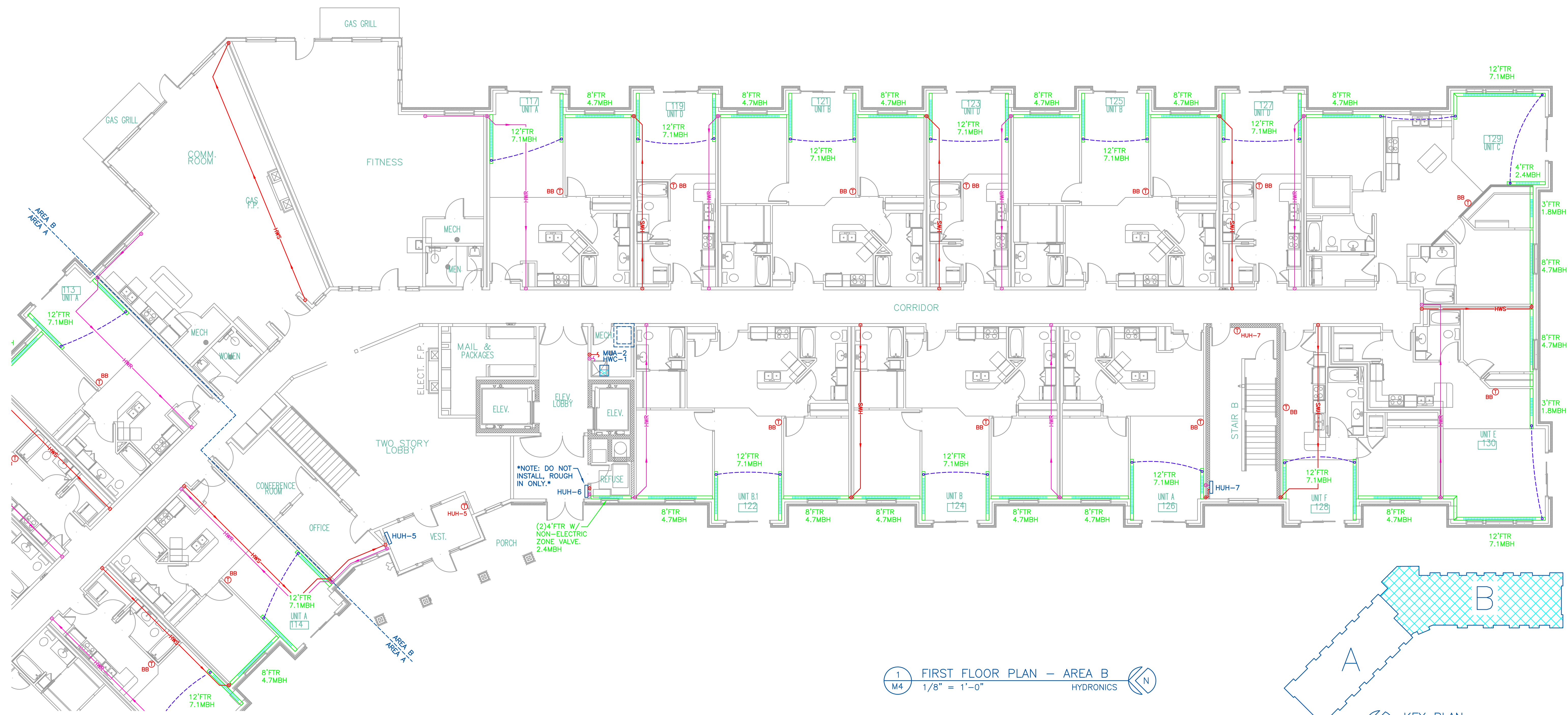
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PARK PLACE APARTMENT
RED WING, MN
FIRST FLOOR PLAN - AREA A

DRAWING NO.
M3A



1 FIRST FLOOR PLAN - AREA B
 M4 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

NOTE: DO NOT INSTALL, ROUGH IN ONLY.

(2) 4" FTR W/ NON-ELECTRIC ZONE VALVE. 2.4MBH

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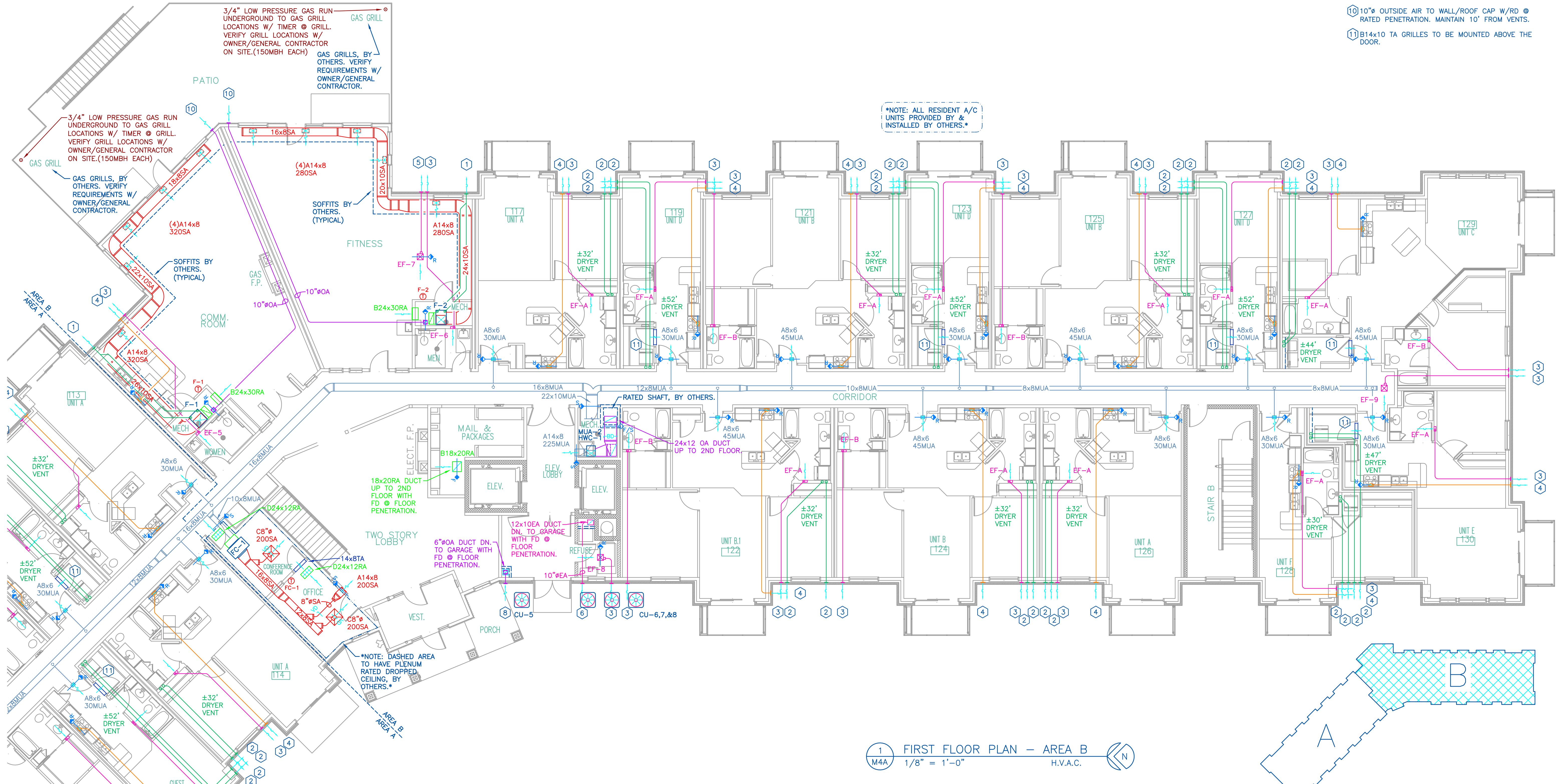
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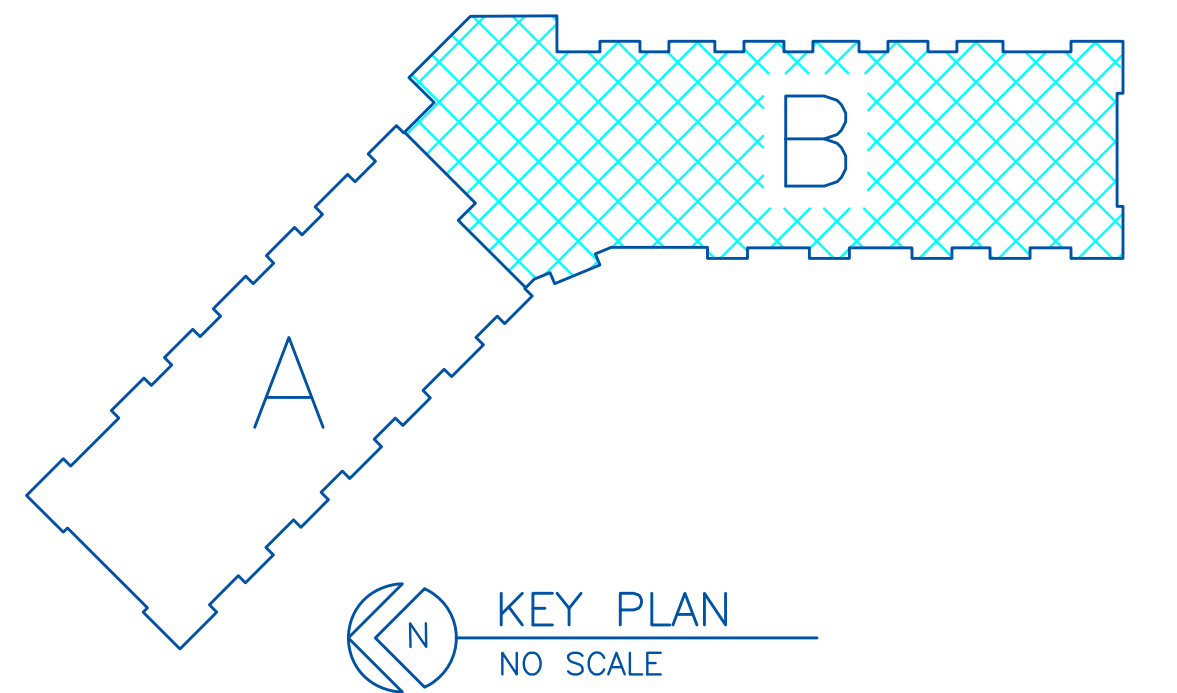
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PARK PLACE APARTMENT
 RED WING, MN
 FIRST FLOOR PLAN - AREA B

DRAWING NO.
 M4A



1 FIRST FLOOR PLAN - AREA B
 1/8" = 1'-0" H.V.A.C.



KEY PLAN
 NO SCALE



1 SECOND FLOOR PLAN – AREA A
 M5 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

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PARK PLACE APARTMENT
 RED WING, MN
 SECOND FLOOR PLAN – AREA A

DRAWING NO.
 M5

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1 SECOND FLOOR PLAN - AREA A
 M5A 1/8" = 1'-0" H.V.A.C.



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energy CONCEPTS
 CONSULTING ENGINEERS

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 CRAIG A. TARR
 REG. NO. 22072
 DATE: 04/16/19

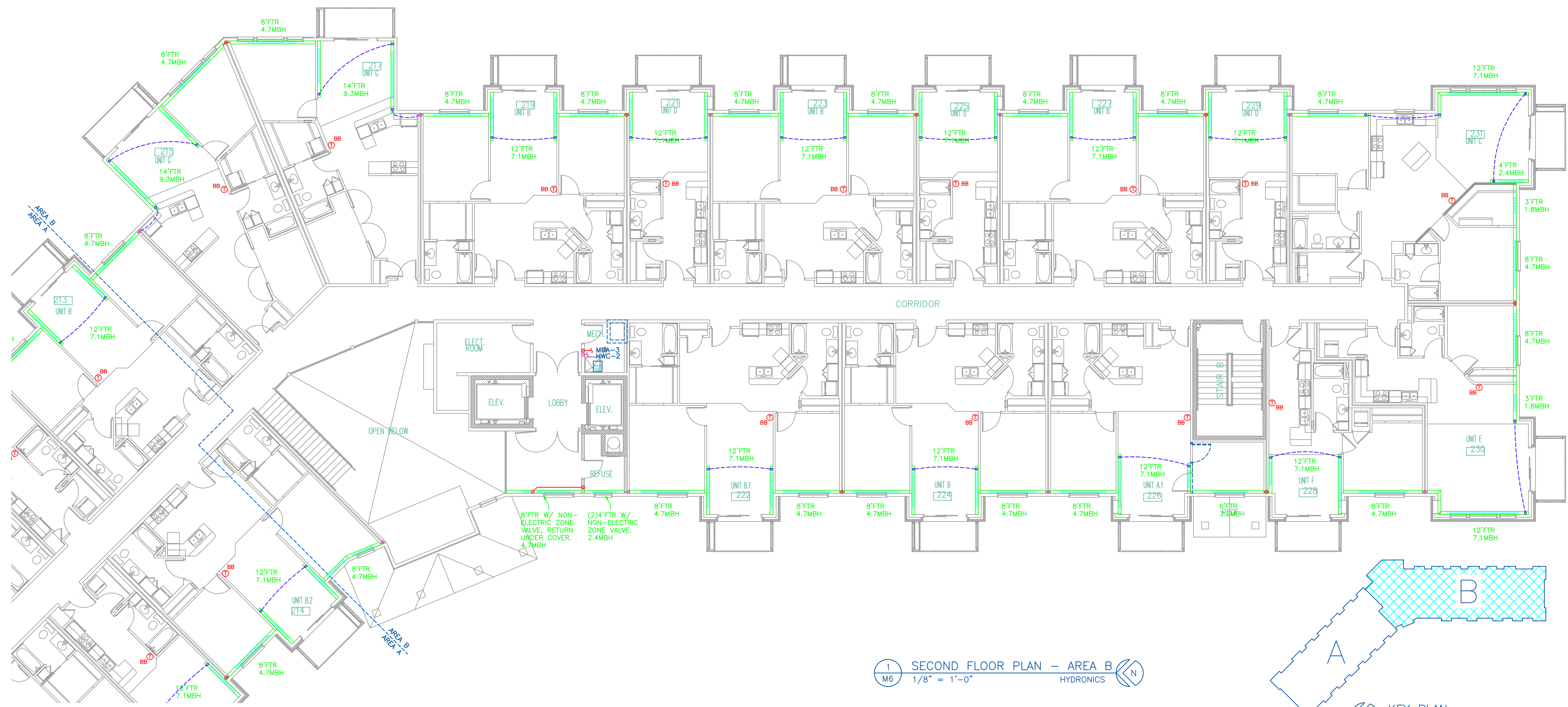
BERD
 Mechanical Contractors, Inc.
 3308 Southway Drive - St. Cloud, MN 56301
 Tel: 320-658-0312
 Fax: 320-658-0312

DATE	REVISION	DESCRIPTION	BY
04/16/19	A	AS SHOWN	
	B	MAT	
	C	CAT	

DATE: 04/16/19
 SCALE: AS SHOWN
 DRAWN BY: MAT
 CHECKED BY: CAT
 JOB NO. 19-1929

PARK PLACE APARTMENT
 RED WING, MN
 SECOND FLOOR PLAN - AREA A

DRAWING NO.
 M5A



1 SECOND FLOOR PLAN - AREA B
 M6 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

DATE	REVISION	DESCRIPTION	BY
04/16/19	A	AS SHOWN	
	B	MAT	
	C	CAT	

DATE:	04/16/19
SCALE:	AS SHOWN
DRAWN BY:	MAT
CHECKED BY:	CAT
JOB NO.:	19-1929



1 THIRD FLOOR PLAN - AREA A
 M7 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

ENERGY CONCEPTS, Inc.
 CRAIG A. TARR, P.E.
 2349 Miller Drive
 Hillside, MN 56346
 Tel: 715-381-1977
 Fax: 715-808-0502
 cta@energyconcepts.com



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 CRAIG A. TARR
 REG. NO. 22072
 DATE: 04/16/19

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 Tel: 320-658-0312
 Fax: 320-658-0312

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--/--/--	A		
--/--/--	A		
--/--/--	A		

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 JOB NO. 19-1929

PARK PLACE APARTMENT
 RED WING, MN
 THIRD FLOOR PLAN - AREA A

DRAWING NO.
 M7

NOTES:

- 1 SEALED COMBUSTION PIPING TO WALL/ROOF CAP.
- 2 4" DRYER EXHAUST TO WALL CAP. DUCTS CAN NOT BE IN A PARTY WALL OR CORRIDOR WALL. DUCTS TO COMPLY WITH 2015 IBC, SECTIONS 706.8 & 706.11. GENERAL CONTRACTOR TO PROVIDE 2x6 WALL WHERE NEEDED. VERIFY WITH OWNER/GENERAL CONTRACTOR.
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- 10 10" OUTSIDE AIR TO WALL/ROOF CAP W/RD RATED PENETRATION. MAINTAIN 10" FROM VENTS.
- 11 B14x10 TA GRILLES TO BE MOUNTED ABOVE THE DOOR.

NOTE: ALL RESIDENT A/C UNITS PROVIDED BY & INSTALLED BY OTHERS.



1 THIRD FLOOR PLAN - AREA A
M7A 1/8" = 1'-0" H.V.A.C.

KEY PLAN
NO SCALE

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energy CONCEPTS

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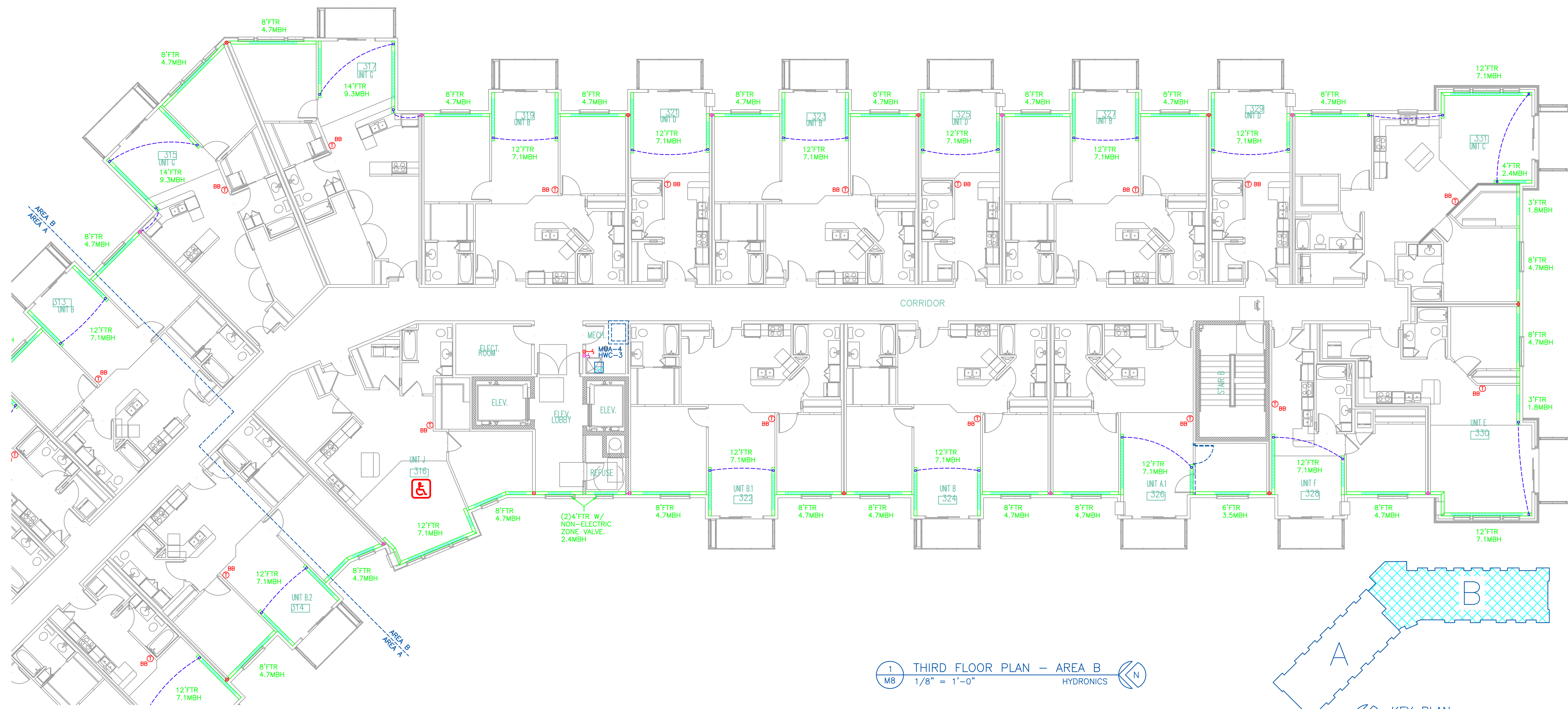
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3308 Southway Drive - St. Cloud, MN 56301
FAX: 320-658-0312

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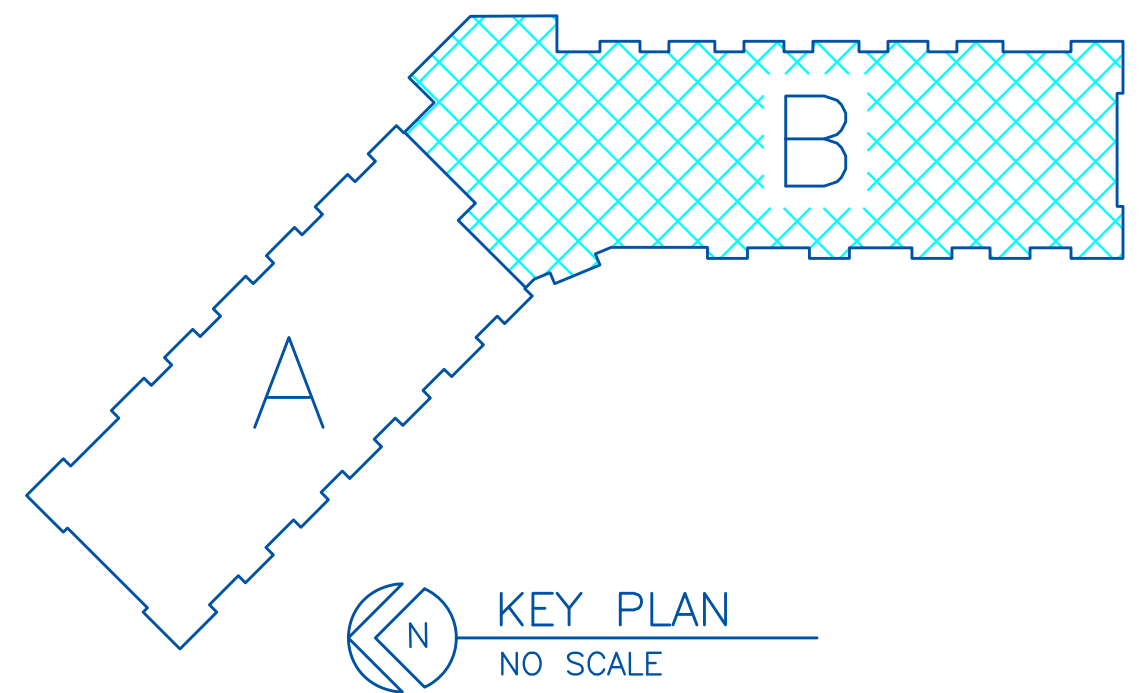
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JOB NO. 19-1929

PARK PLACE APARTMENT
RED WING, MN
THIRD FLOOR PLAN - AREA A

DRAWING NO.
M7A



1 THIRD FLOOR PLAN - AREA B
 M8 1/8" = 1'-0" HYDRONICS



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DATE	REVISION	DESCRIPTION	BY
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	B	REVISED	
	C	REVISED	
	D	REVISED	

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PARK PLACE APARTMENT
 RED WING, MN
 THIRD FLOOR PLAN - AREA B

NOTES:

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- 11 B14x10 TA GRILLES TO BE MOUNTED ABOVE THE DOOR.

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 cta@energyconcepts.com



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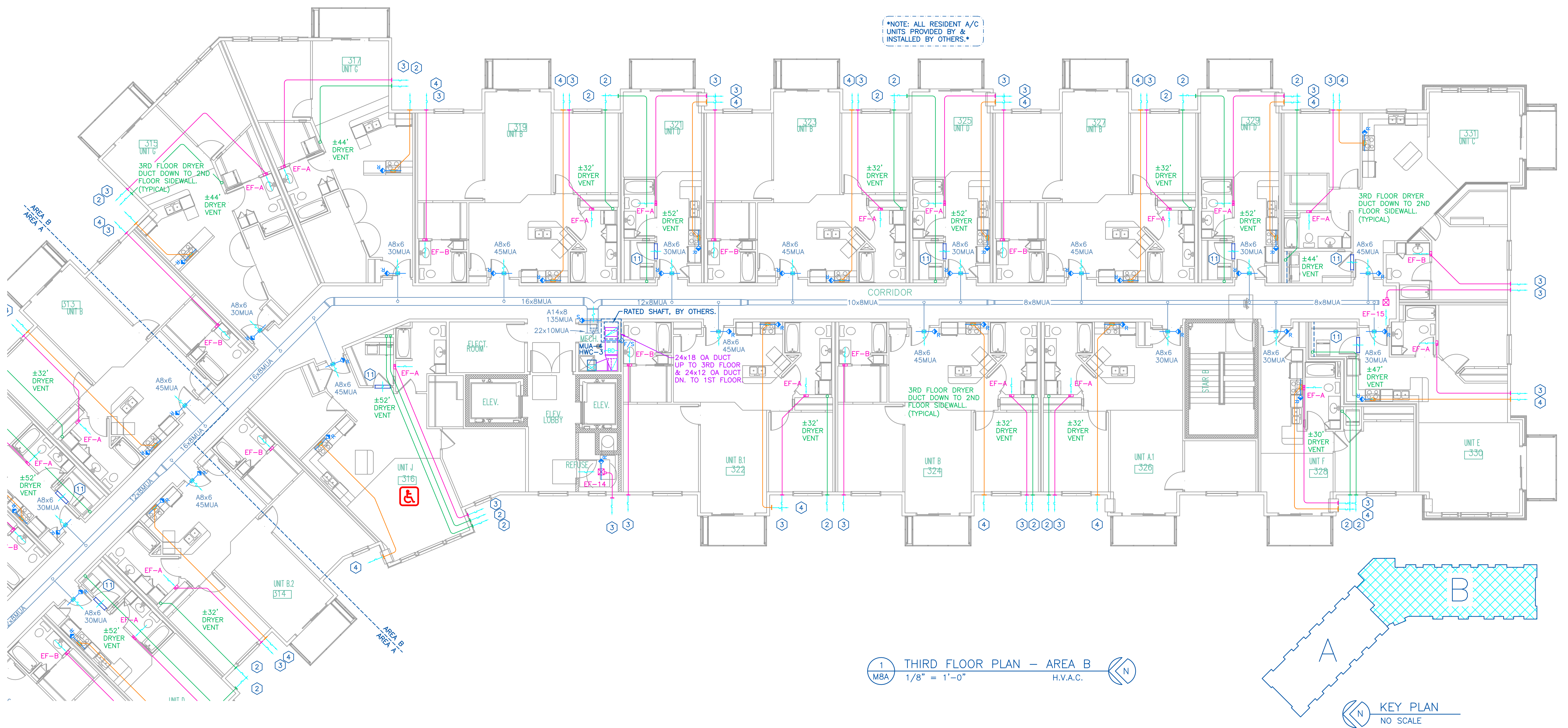
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	3	CHECKED BY: CAT	

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PARK PLACE APARTMENT
 RED WING, MN
 THIRD FLOOR PLAN - AREA B

DRAWING NO.
 M8A





1 M9 FOURTH FLOOR PLAN – AREA A
 1/8" = 1'-0" HYDRONICS

KEY PLAN
 NO SCALE

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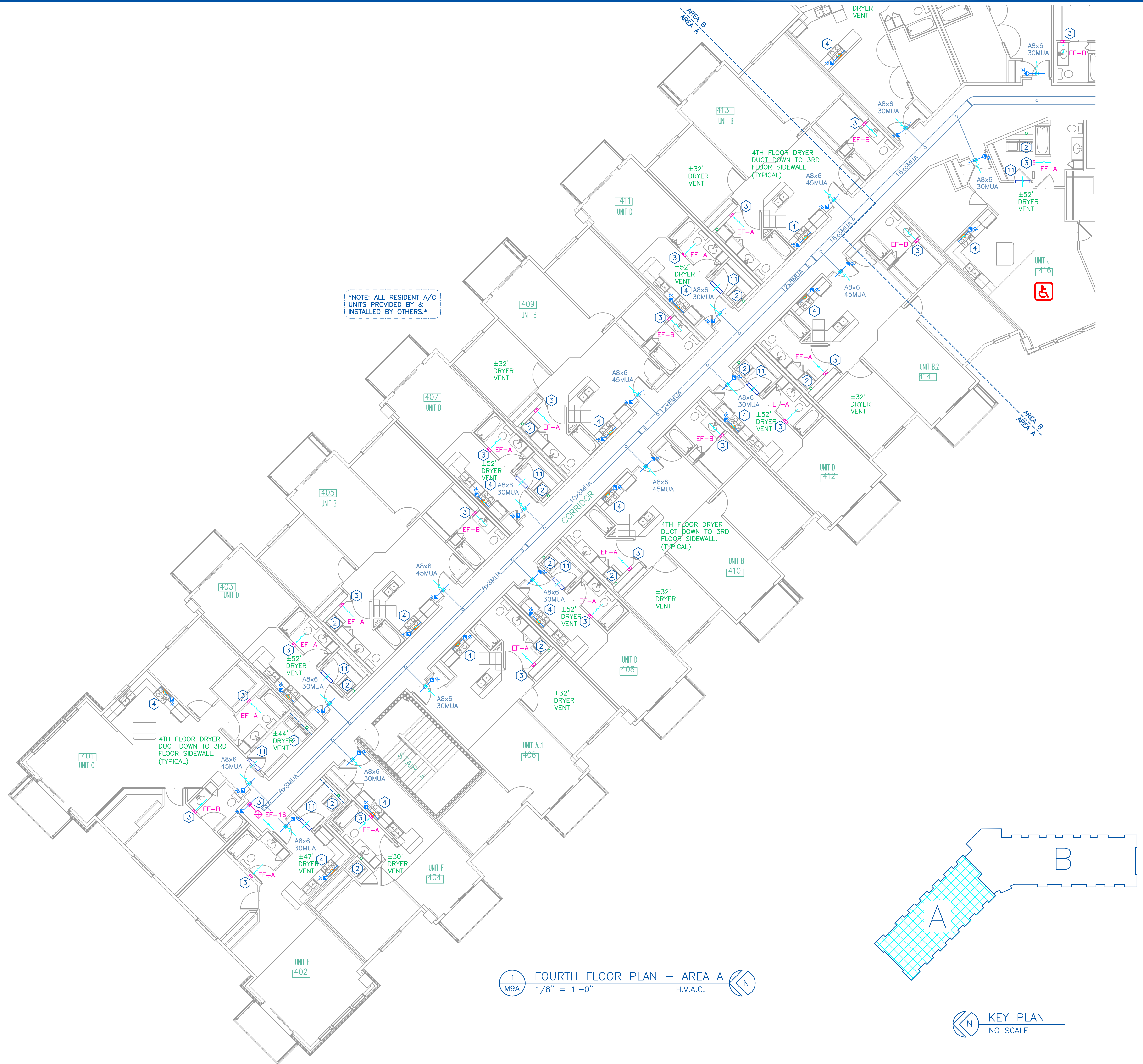
PARK PLACE APARTMENT
 RED WING, MN
 FOURTH FLOOR PLAN – AREA A

DRAWING NO.
 M9

NOTES:

- 1 SEALED COMBUSTION PIPING TO WALL/ROOF CAP.
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1 FOURTH FLOOR PLAN - AREA A
M9A 1/8" = 1'-0" H.V.A.C.



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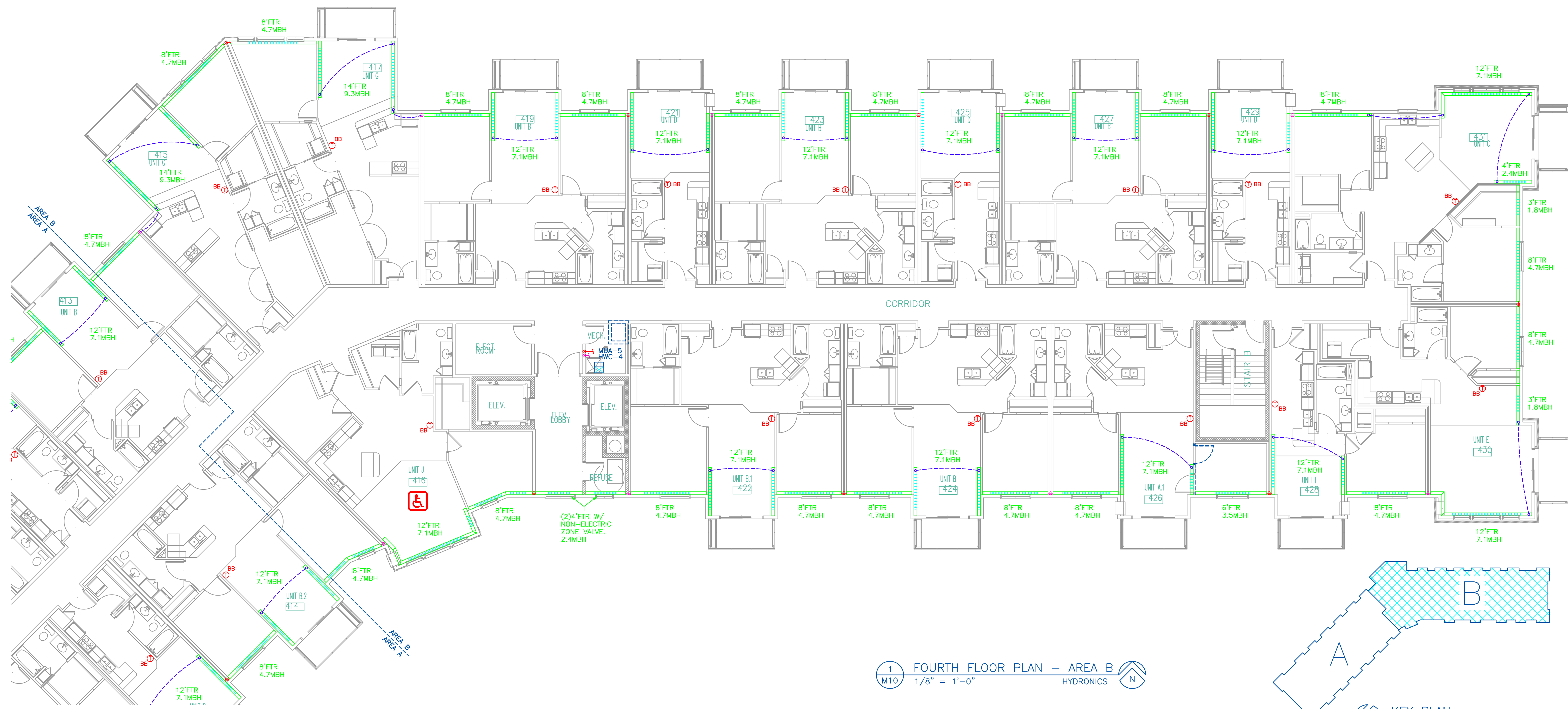
BIRD Mechanical Contractors, Inc.
3308 Southway Drive - St. Cloud, MN 56301
FAX: 320-658-0312

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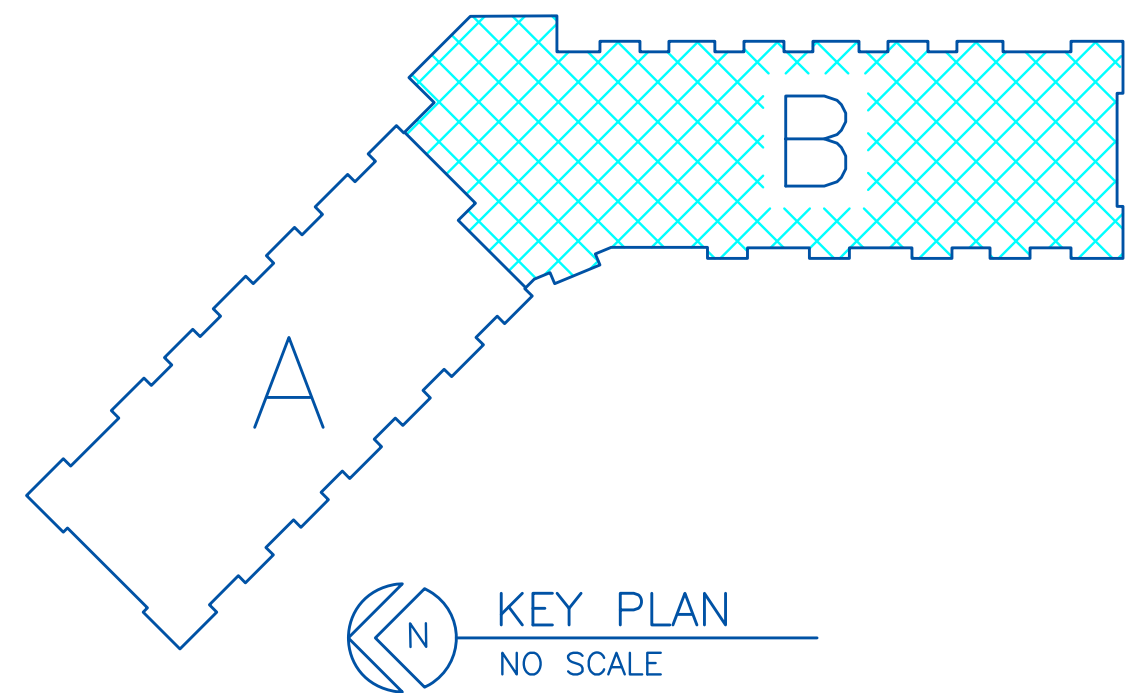
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PARK PLACE APARTMENT
RED WING, MN
FOURTH FLOOR PLAN - AREA A

DRAWING NO.
M9A



1 FOURTH FLOOR PLAN - AREA B
 M10 1/8" = 1'-0" HYDRONICS



KEY PLAN
 NO SCALE

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PARK PLACE APARTMENT
 RED WING, MN
 FOURTH FLOOR PLAN - AREA B

NOTES:

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ENERGY CONCEPTS, Inc.
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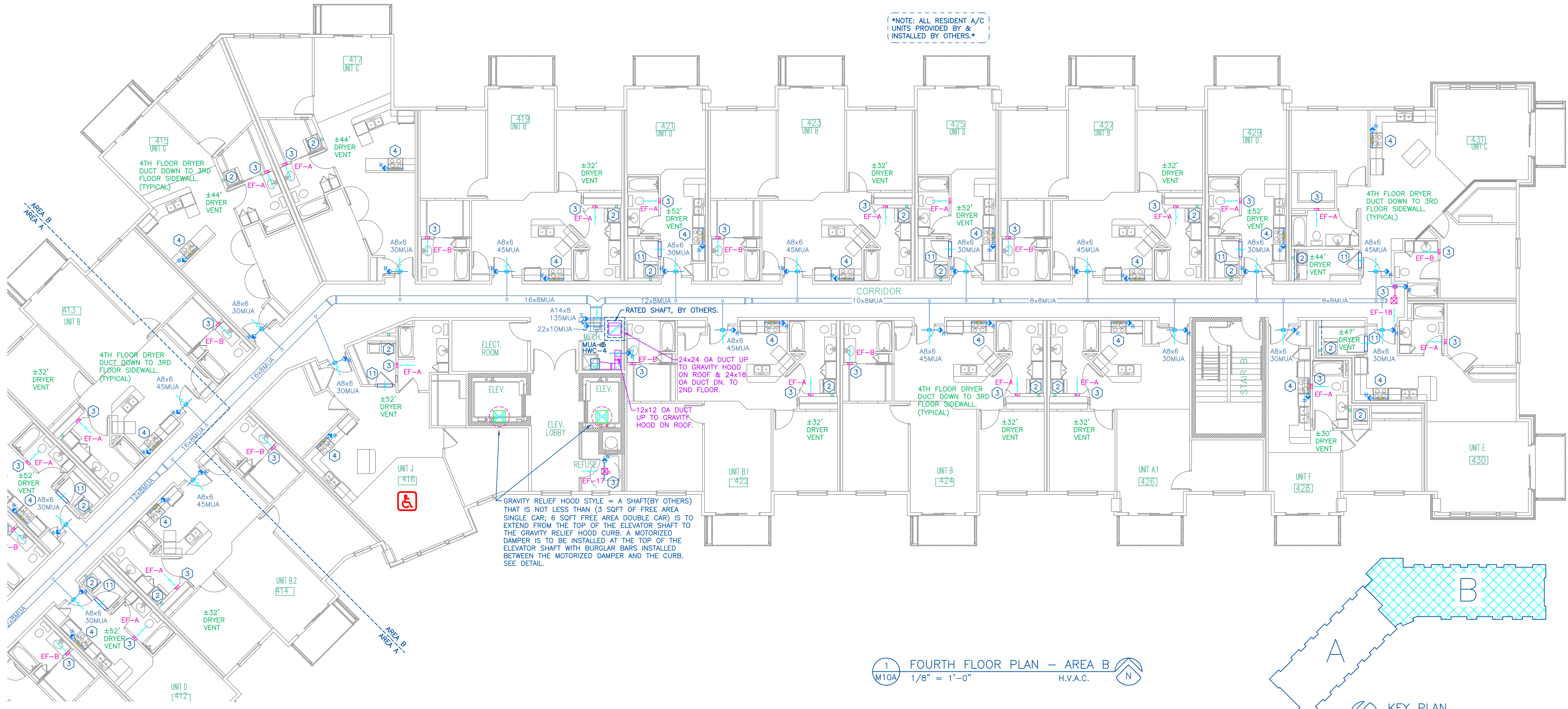
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PARK PLACE APARTMENT
 RED WING, MN
 FOURTH FLOOR PLAN - AREA B

DRAWING NO.
 M10A

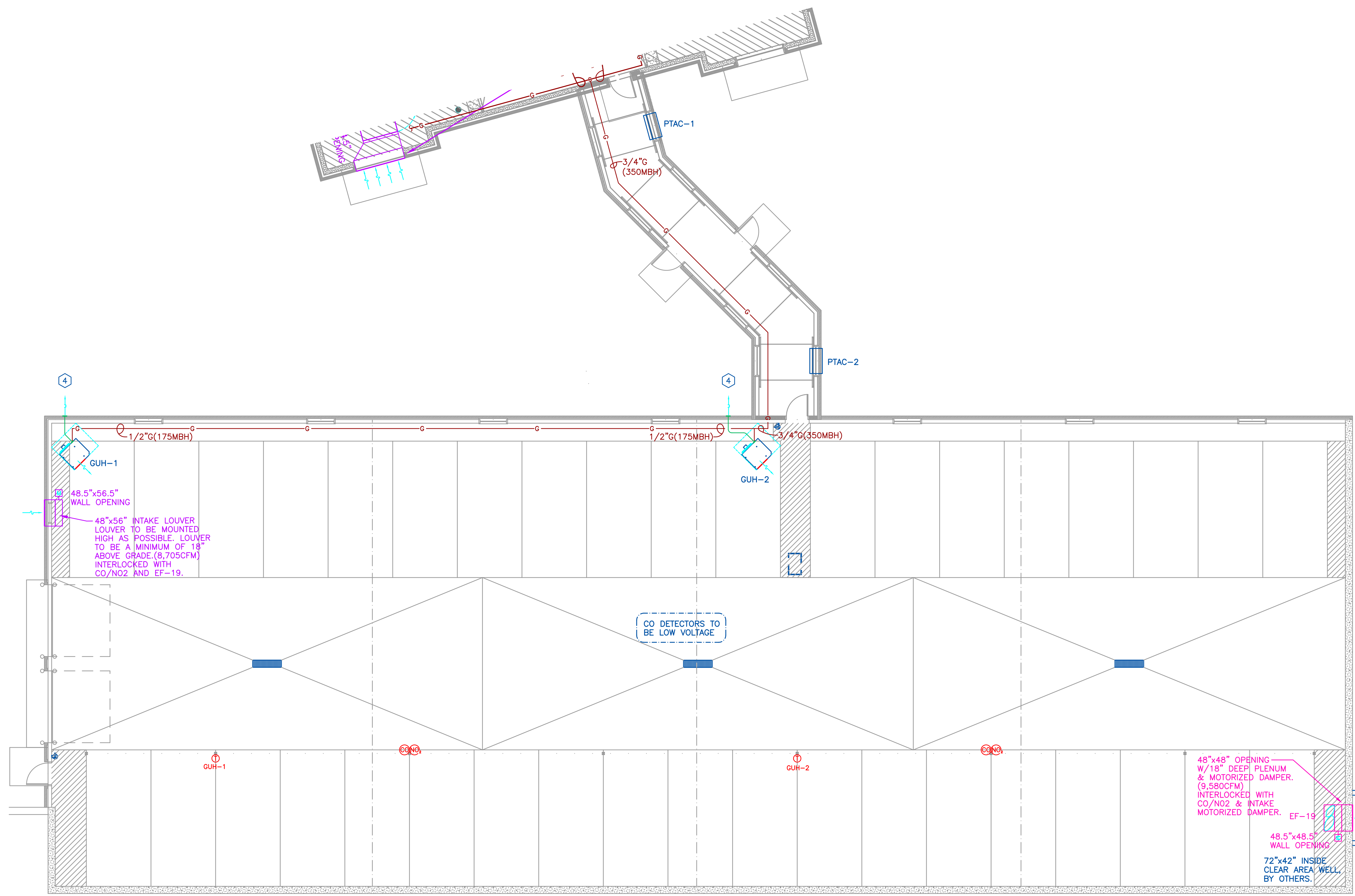


NOTE: ALL RESIDENT A/C UNITS PROVIDED BY & INSTALLED BY OTHERS.*

GRAVITY RELIEF HOOD STYLE - A SHAFT (BY OTHERS) THAT IS NOT LESS THAN (3) SQFT OF FREE AREA. SINGLE CAR, 6 SQFT FREE AREA DOUBLE CAR) IS TO EXTEND FROM THE TOP OF THE ELEVATOR SHAFT TO THE GRAVITY RELIEF HOOD CURB. A MOTORIZED DAMPER IS TO BE INSTALLED AT THE TOP OF THE ELEVATOR SHAFT WITH BURGLAR BARS INSTALLED BETWEEN THE MOTORIZED DAMPER AND THE CURB. SEE DETAIL.

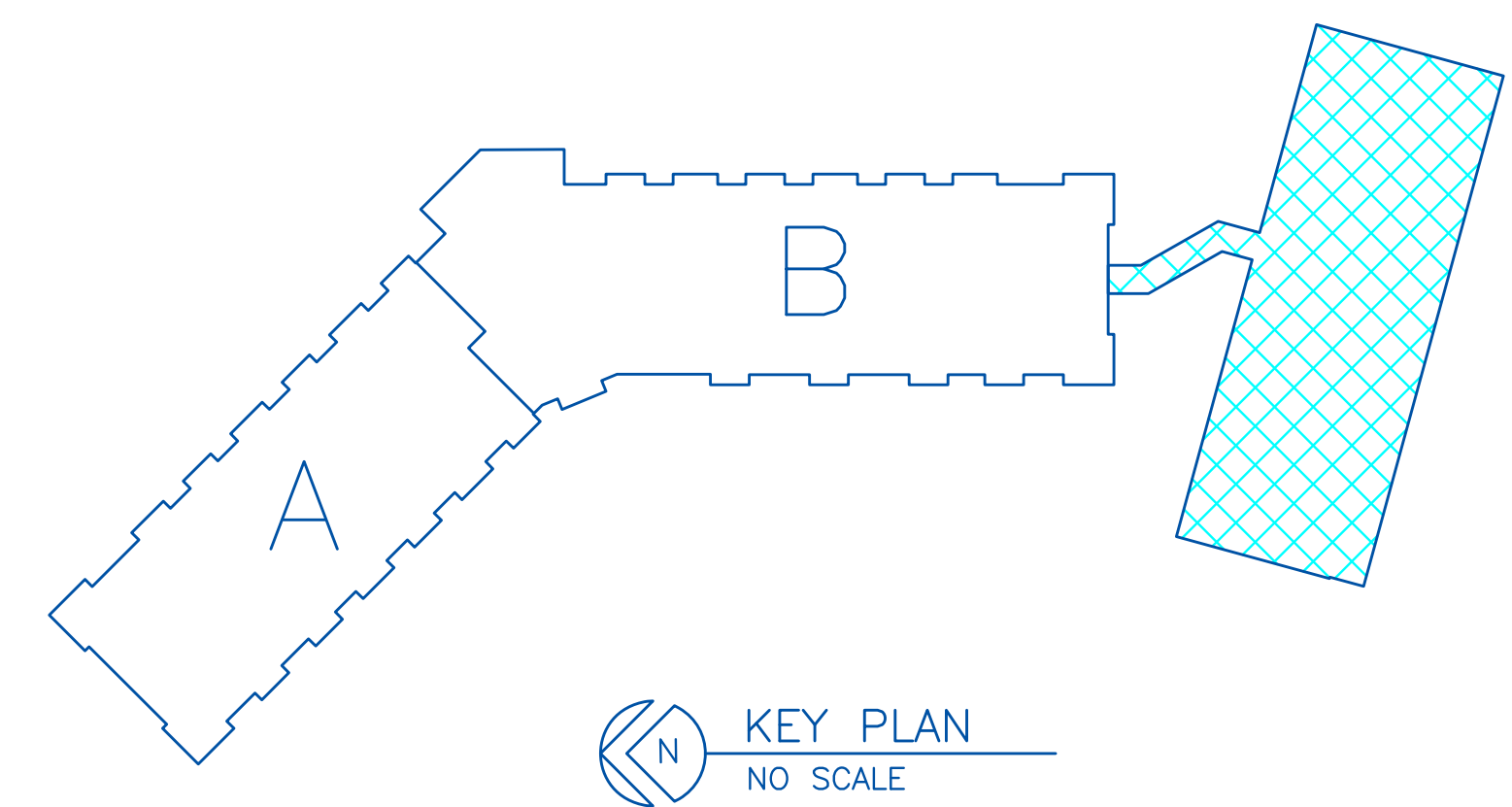
1 FOURTH FLOOR PLAN - AREA B
 M10A 1/8" = 1'-0" H.V.A.C.

KEY PLAN
 NO SCALE



- NOTES:
- 1 SEALED COMBUSTION PIPING TO WALL/ROOF CAP.
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1 DETACHED GARAGE & LINK
 M11 1/8" = 1'-0" H.V.A.C. N



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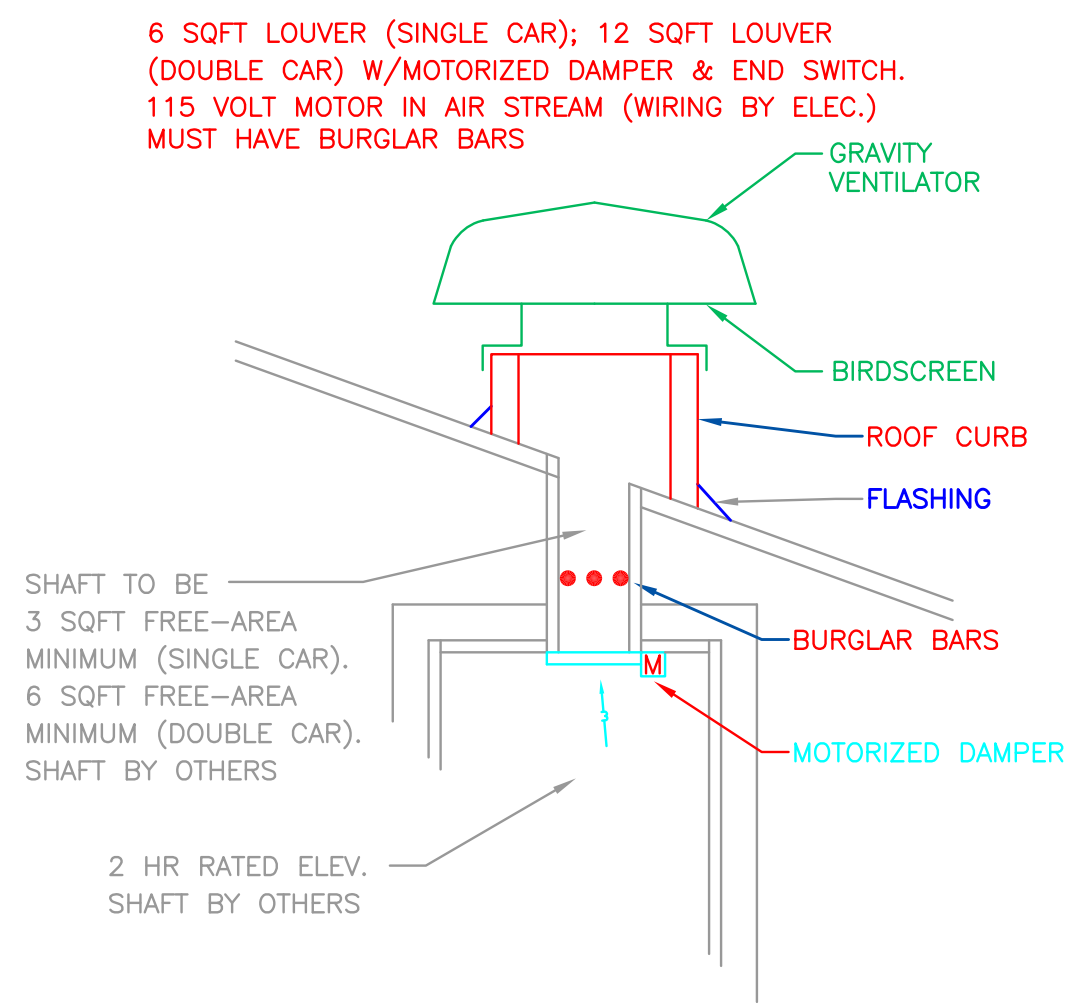
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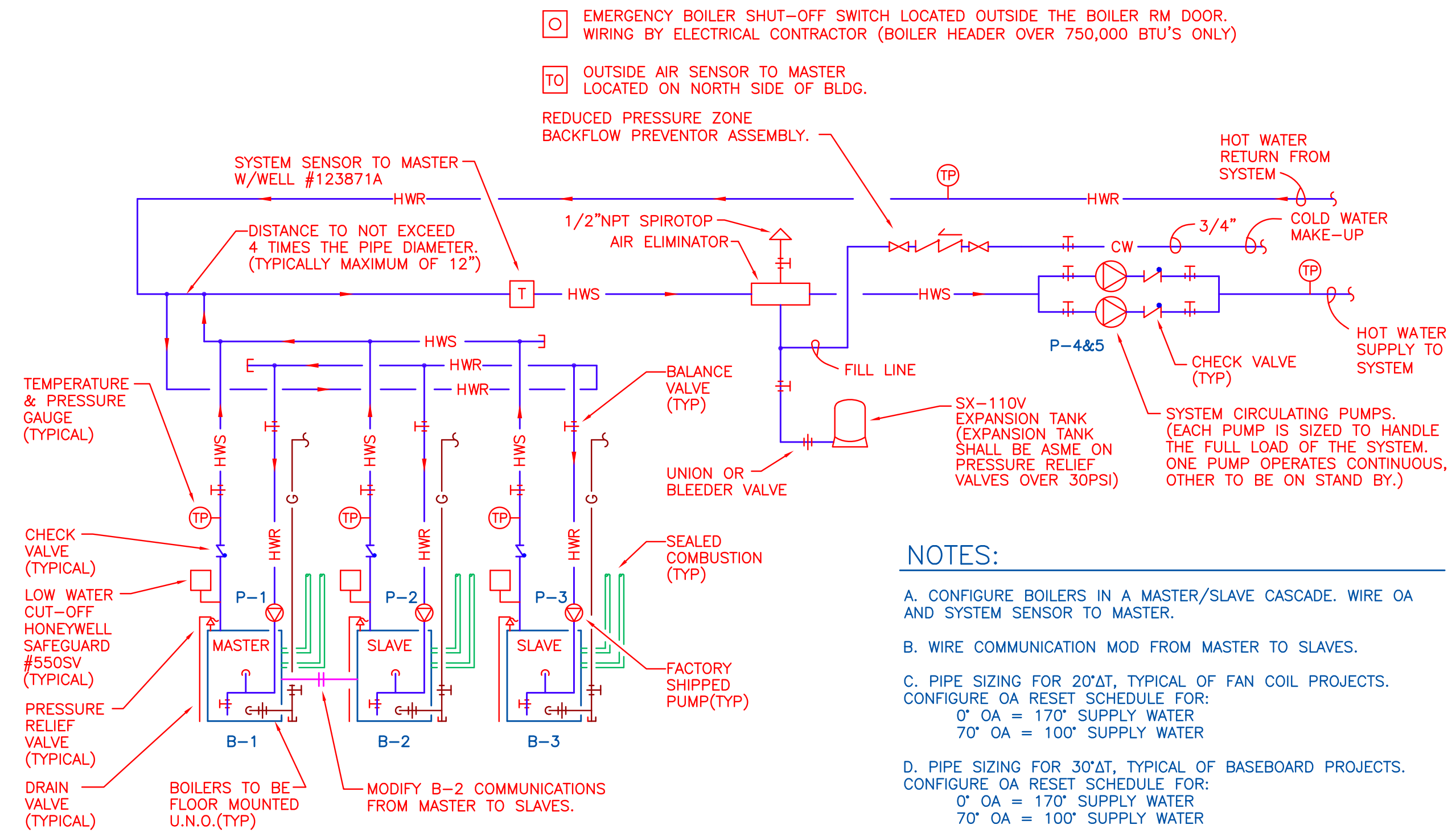
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PARK PLACE APARTMENT
 RED WING, MN
 DETACHED GARAGE & LINK

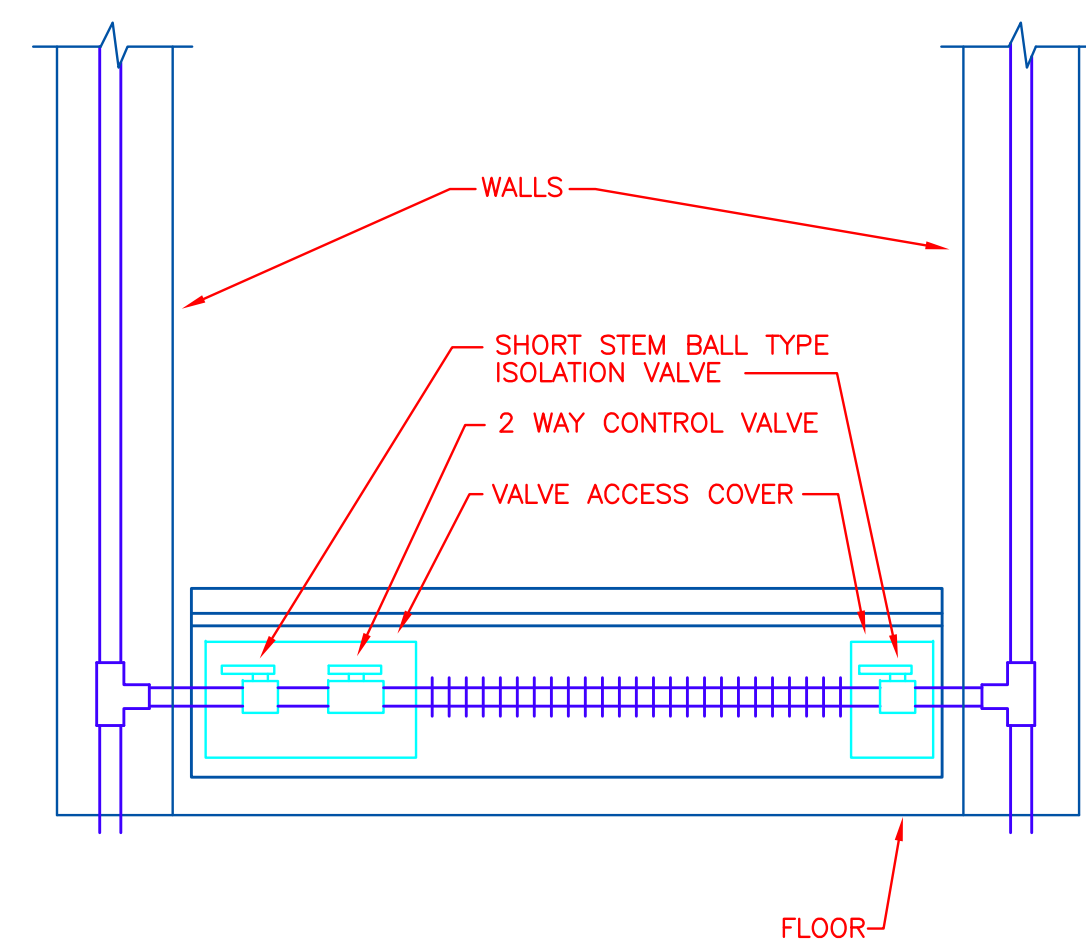
DRAWING NO.
 M11



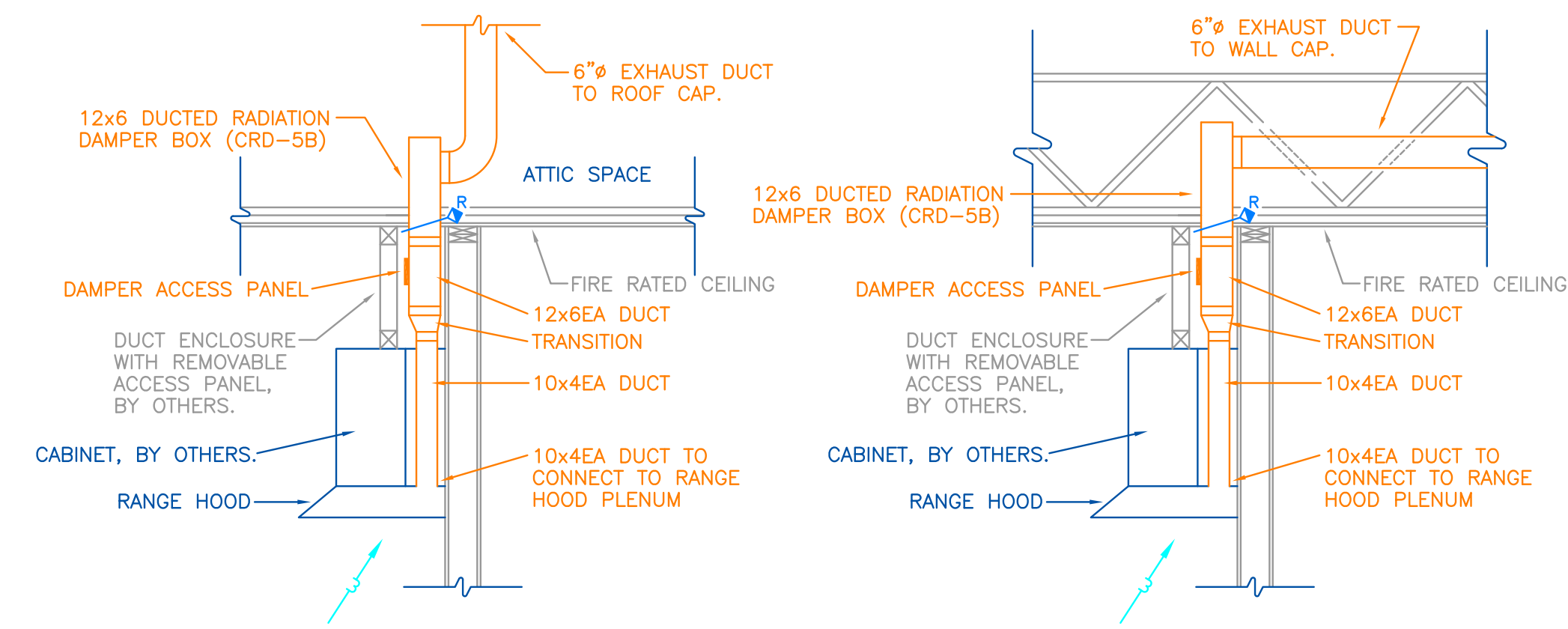
1 ELEVATOR RELIEF DETAIL
M12 NO SCALE GRAVITY RELIEF HOOD



2 MN BOILER PIPING SCHEMATIC
M12 NO SCALE CSD-1



3 FINRTUBE RADIATION DETAIL
M12 NO SCALE



THIRD FLOOR DETAIL

FIRST AND SECOND FLOOR DETAIL

4 RANGE HOOD EXHAUST DETAILS
M12 NO SCALE

DATE	REVISION	DESCRIPTION	BY
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	3	CHECKED BY: CAT	
	4		

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BUILDING BOILER SCHEDULE									
MARK	MANUFACTURE	MODEL	HEATING MBH EA INPUT/OUTPUT	NET IBR(MBH)	FLUE DIA.	VOLT/PHASE	CONTROL		
B-1	LAARS	NEOTHERM 399	399 / 383	-	4"	120-1	DEDICATED OA SENSOR 20% PROPYLENE GLYCOL		
B-2	LAARS	NEOTHERM 399	399 / 383	-	4"	120-1	DEDICATED OA SENSOR 20% PROPYLENE GLYCOL		
B-3	LAARS	NEOTHERM 399	399 / 383	-	4"	120-1	DEDICATED OA SENSOR 20% PROPYLENE GLYCOL		

PUMP SCHEDULE										
MARK	MANUFACTURE	MODEL	SERVES	TYPE	GPM	HEAD (FT H2O)	RPM	HP	VOLT/PHASE	CONTROL
P-1	GRUNDFOS	UPS43-100	(399)	IN-LINE	31	20'	-	1/6	115-1	INTERLOCKED W/B-1
P-2	GRUNDFOS	UPS43-100	(399)	IN-LINE	31	20'	-	1/6	115-1	INTERLOCKED W/B-2
P-3	GRUNDFOS	UPS43-100	(399)	IN-LINE	31	20'	-	1/6	115-1	INTERLOCKED W/B-3
P-4	WILO	STRATOS 2x3-35	BUILDING SYSTEM	IN-LINE	55	30'	-	3/4	208-1	PARALLEL VFD
P-5	WILO	STRATOS 2x3-35	BUILDING SYSTEM	IN-LINE	55	30'	-	3/4	208-1	PARALLEL VFD

FINTUBE RADIATION SCHEDULE									
MARK	MANUFACTURE	MODEL	SERVES	BTU/HR/LIN. FT. @ 180°	GPM	TUBE SIZE	CONTROL		
FTR-1	HEATRIM	R-750	AS SHOWN	590	1	3/4"	ZONE VALVE / T'STAT		

HYDRONIC UNIT HEATER SCHEDULE									
MARK	MANUFACTURE	MODEL	SERVES	CFM	HTG. MBH	GPM	VOLT/PHASE	CONTROL	
HUH-1	BEACON MORRIS	W-42	ELEVATOR LOBBY	200	15.1	1	115/1	LINE VOLTAGE T'STAT WALL MOUNT	
HUH-2	BEACON MORRIS	HB-36	TRASH ROOM	-	-	-	-	LINE VOLTAGE T'STAT/MOTORIZED VALVE INTERLOCKED W/T'STAT	
HUH-3	BEACON MORRIS	RW-42	STAIRWELL	200	15.1	1	115/1	LINE VOLTAGE T'STAT RECESSED WALL MOUNT	
HUH-4	BEACON MORRIS	RW-120	STAIRWELL	400	21.8	1	115/1	LINE VOLTAGE T'STAT RECESSED WALL MOUNT	
HUH-5	BEACON MORRIS	RW-42	VESTIBULE	200	15.1	1	115/1	LINE VOLTAGE T'STAT RECESSED WALL MOUNT	
HUH-6	BEACON MORRIS	RW-42	VESTIBULE	200	15.1	1	115/1	LINE VOLTAGE T'STAT RECESSED WALL MOUNT	
HUH-7	BEACON MORRIS	RW-120	STAIRWELL	400	21.8	1	115/1	LINE VOLTAGE T'STAT RECESSED WALL MOUNT	

MINI SPLIT SYSTEM SCHEDULE - INDOOR UNIT									
MARK	MANUFACTURE	MODEL	SERVES	CFM	SEER/EER	COOLING BTU'S	VOLTS INDOOR UNIT	MCA/MAX FUSE	COMMENTS
MSS-1A	DAIKIN	FTKN12NMVJU	ELEVATOR EQUIPMENT	1000	15/9.2	22,000	208/230-1	POWERED FROM CONDENSING UNIT	-
MSS-2A	DAIKIN	FTKN12NMVJU	DATA ROOM	1000	15/9.2	22,000	208/230-1	POWERED FROM CONDENSING UNIT	-

MINI SPLIT SYSTEM SCHEDULE - OUTDOOR CONDENSING UNIT									
MARK	MANUFACTURE	MODEL	SERVES	SEER/EER	COOLING BTU'S	VOLTS	MCA/MOCP	COMMENTS	
MSS-1	DAIKIN	RKN12NMVJU	MSS-1A INDOOR UNITS	15/9.2	22,000	208/230-1	10.7/20	-	
MSS-2	DAIKIN	RKN12NMVJU	MSS-2A INDOOR UNITS	15/9.2	22,000	208/230-1	10.7/20	-	

EXHAUST FAN SCHEDULE											
MARK	MANUFACTURE	MODEL	LOCATION	CFM VARIABLE (MATCH UNIT MUA)	SONES	AMPS	VOLTS	ESP	HP	RPM	ACCESSORIES/COMMENTS
EF-A	PANASONIC	FV-0810VSS	RESIDENT BATHS	50	0.6	0.39	120-1	.25"	-	-	1. WALL SWITCH WALL/ROOF CAP
EF-B	PANASONIC	FV-0510VS1	RESIDENT BATHS	50	0.5	0.39	120-1	.25"	-	-	1. WALL SWITCH WALL/ROOF CAP
EF-1	AMERICAN COOL-AIRE	CBL-36.L	PARKING GARAGE	10,380	13.5	-	208-3	.25"	1.0	1,750	MOTORIZED DAMPER INTERLOCKED W/ CO/NO ₂
EF-2	AMERICAN COOL-AIRE	CBL-36.L	PARKING GARAGE	10,380	13.5	-	208-3	.25"	1.0	1,750	MOTORIZED DAMPER INTERLOCKED W/ CO/NO ₂
EF-3	BROAN	L-400	TRASH ROOM	390	2.6	1.4	120-1	.125"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-4	BROAN	L-150	CORRIDOR	125	.5	1.1	120-1	.125"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-5	PANASONIC	FV-0510VS1	WOMEN	50	0.5	0.39	120-1	.25"	-	-	INTERLOCKED W/ LIGHTS WALL SWITCH
EF-6	PANASONIC	FV-0510VS1	MEN	50	0.5	0.39	120-1	.25"	-	-	INTERLOCKED W/ LIGHTS WALL SWITCH
EF-7	BROAN	L-300	FITNESS ROOM	290	3.0	2.6	120-1	.125"	-	-	INTERLOCKED W/ LIGHTS WALL CAP
EF-8	PANASONIC	FV-0510VS1	TRASH ROOM	50	0.5	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-9	BROAN	L-150	CORRIDOR	125	.5	1.1	120-1	.125"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-10	PANASONIC	FV-0510VS1	CORRIDOR	80	0.8	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-11	PANASONIC	FV-0510VS1	TRASH ROOM	50	0.5	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-12	PANASONIC	FV-0510VS1	CORRIDOR	80	0.8	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-13	PANASONIC	FV-0510VS1	CORRIDOR	80	0.8	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-14	PANASONIC	FV-0510VS1	TRASH ROOM	50	0.5	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-15	PANASONIC	FV-0510VS1	CORRIDOR	80	0.8	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-16	PANASONIC	FV-0510VS1	CORRIDOR	80	0.8	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-17	PANASONIC	FV-0510VS1	TRASH ROOM	50	0.5	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-18	PANASONIC	FV-0510VS1	CORRIDOR	80	0.8	0.39	120-1	.25"	-	-	RUNS CONTINUOUSLY WALL CAP
EF-19	AMERICAN COOL-AIRE	CBL-30.L	PARKING GARAGE	9,580	23.5	-	208-3	.25"	1.0	1,750	BACKDRAFT DAMPER INTERLOCKED W/ CO/NO ₂

1. - BATH FAN CFM TO BE SET TO MATCH UNIT MUA CONSTANT, WALL SWITCH TO RAMP UP TO 80 CFM.

GAS UNIT HEATER SCHEDULE												
MARK	MANUFACTURE	MODEL	SERVES	CFM	BTU INPUT	BTU OUTPUT	GPM	HP	AMPS/FUSE	VENT	VOLT/PHASE	CONTROL
GUH-1	REZTOR	UDAP-175	DETACHED GARAGE	2,242	175,000	145,250	-	.166	3.8/15	6"	115/1	LOW VOLTAGE T'STAT
GUH-2	REZTOR	UDAP-175	DETACHED GARAGE	2,242	175,000	145,250	-	.166	3.8/15	6"	115/1	LOW VOLTAGE T'STAT

MAKE-UP AIR UNIT SCHEDULE														
MARK	MANUFACTURE	MODEL	SERVES	OA CFM	INPUT MBH	COOLING MBH	VOLTAGE	FLA	HP	ESP	CONTROL/COMMENTS	AREA (SQFT)	AREA/1000 x DENSITY-ASHREA ADD.N x CFM/PP x DIVERSITY(.75) = RORD OA	
MUA-1	TITAN	TA.125.NG.HRV	ATTACHED GARAGE	18,870	1,453	-	208-3	49.2	15	.375"	INTERLOCK WITH CO/NO ₂ SYSTEM, T'STAT	25,160	25,160 x .75 = 18,870 OA CFM REQUIRED	
MUA-2	DAIKIN	ASPT31B14	SEE PLANS	1,195	103.3	40	208-1	4.5	.75	.7"	100% OA SYSTEM OA & DUCT SENSOR 20% GLYCOL			
MUA-3	DAIKIN	ASPT31B14	SEE PLANS	1,195	100.0	40	208-1	4.5	.75	.7"	100% OA SYSTEM OA & DUCT SENSOR 20% GLYCOL			
MUA-4	DAIKIN	ASPT31B14	SEE PLANS	1,245	107.7	40	208-1	4.5	.75	.7"	100% OA SYSTEM OA & DUCT SENSOR 20% GLYCOL			
MUA-5	DAIKIN	ASPT31B14	SEE PLANS	1,245	107.7	40	208-1	4.5	.75	.7"	100% OA SYSTEM OA & DUCT SENSOR 20% GLYCOL			

HOT WATER COIL SCHEDULE														
MARK	MANUFACTURE	MODEL	LOCATION	SERVES	HTG CFM	MBH	EAT	LAT	EWT	LWT	APD	WPD	GPM	COMMENTS
HWC-1	WILLOW SPRINGS	16x14	SEE PLANS	MUA-2	1,195	103.3	-16°F	75.0°F	160'	166.9'	.294	.65	16.5	VERIFY CONTROLS 20% GLYCOL
HWC-2	WILLOW SPRINGS	16x14	SEE PLANS	MUA-3	1,155	100.0	-16°F	75.1°F	160'	165.6'	.279	.52	14.5	VERIFY CONTROLS 20% GLYCOL
HWC-3	WILLOW SPRINGS	16x14	SEE PLANS	MUA-4	1,245	107.7	-16°F	75.0°F	160'	168.6'	.314	.90	19.8	VERIFY CONTROLS 20% GLYCOL
HWC-4	WILLOW SPRINGS	16x14	SEE PLANS	MUA-5	1,245	107.7	-16°F	75.0°F	160'	168.6'	.314	.90	19.8	VERIFY CONTROLS 20% GLYCOL

HOT WATER COILS TO BE INSTALLED BETWEEN UNIT AND BACKDRAFT DAMPER

THROUGH THE WALL UNITS											
MARK	MANUFACTURE	MODEL	SERVES	MAX. CFM	MAX. OA	KW	CAPACITY COOL	HEAT	AMPS / FUSE (MCA)	VOLTS	
PTAC-1	AMANA	PTC153G	LINK	332	65	5.0	14.7	14.0	27.6 / 30	208-1	
PTAC-2	AMANA	PTC153G	LINK	332	65	5.0	14.7	14.0	27.6 / 30	208-1	

2-PIPE FAN COIL SCHEDULE												
MARK	MANUFACTURE	MODEL	SERVES	CFM	OA	HEATING MBH OUTPUT	HEATING GPM	COOLING OUTPUT	ESP	COOLING GPM	HP/VOLTAGE	COMMENTS
FC-1	FIRST CO.	19CDXX-HW	CONF/OFF/ LOBBY	600	65	28.8 @ 180°F	3	1.5T	0.15"	-	1/8 120-1	RUNS CONT. FREEZE T'STAT

NATURAL GAS FURNACE SCHEDULE - ECM MOTOR(HIGH STATIC)											
MARK	MANUFACTURE	MODEL	SERVES	CFM	OA	HEATING MBH INPUT/OUTPUT	ESP	MCA / FUSE	COMMENTS		
F-1	DAIKIN	DM96VE1004CN	COMMUNITY RM.	1600	295	100 / 96.0	.5	13.3 / 15	-		
F-2	DAIKIN	DM96VE0804CN	FITNESS ROOM	1400	275	80 / 76.8	.5	11.6 / 15	-		
F-3	DAIKIN	DM96VE0603BN	ENTRY LOBBY	800	135	60 / 57.6	.5	8 / 15	-		

COOLING COIL SCHEDULE									
MARK	MANUFACTURE	MODEL	SERVES	STYLE	NOMINAL TONS	NOMINAL CFM	SP (IN W.C.)	CABINET WIDTH	
CC-1	DAIKIN	CAPF4860C6	F-1	CASED UP-FLOW	4	1600	0.3	21"	
CC-2	DAIKIN	CAPF3642C6	F-2	CASED UP-FLOW	3.5	1400	0.3	21"	
CC-3	DAIKIN	CAPF1824B6	F-3	CASED UP-FLOW	2	800	0.3	17.5"	

CONDENSING UNIT SCHEDULE									
MARK	MANUFACTURE	MODEL	SERVES	TOTAL MBH	SEER/ REFRIGERANT	MCA/FUSE	NOMINAL TONS	VOLTAGE	
CU-1	DAIKIN	DX13SN0181	F-1	46	13/R-410A	26.4 / 45	4	208-1	
CU-2	DAIKIN	DX13SN0241	F-2	40	13/R-410A	23.9 / 40	3.5	208-1	
CU-3	DAIKIN	DX13SN0301	F-3	24	13/R-410A	17.8 / 30	2	208-1	
CU-4	DAIKIN	DX13SN0361	FC-1	18	13/R-410A	12.0 / 20	1.5	208-1	
CU-5	DAIKIN	DX13SA0363	MUA-2	40	13/R-410A	23.9 / 40	3.5	208-1	
CU-6	DAIKIN	DX13SN0421	MUA-3	40	13/R-410A	23.9 / 40	3.5	208-1	
CU-7	DAIKIN	DX13SN0481	MUA-4	40	13/R-410A	23.9 / 40	3.5	208-1	
CU-8	DAIKIN	DX13SA0483	MUA-5	40	13/R-410A	23.9 / 40	3.5	208-1	

ELECTRIC DUCT HEATER									
MARK	MANUFACTURE	MODEL	SERVES	AMPS	KW	VOLT/PHASE	DIMENSIONS	CONTROL	
EDH-1	ELECTRO INDUSTRIES	EM-WX0111R	SF-1	8.34	1.0	120-1	24"L x 6"Ø	DUCT AIR STAT INTERLOCKED W/ SF-1	

SUPPLY FAN SCHEDULE											
MARK	MANUFACTURE	MODEL	LOCATION	CFM	SONES	AMPS	VOLTS	ESP	HP	RPM	ACCESSORIES/COMMENTS
SF-1	BROAN	L-150	CORRIDOR	100	.5	1.1	120-1	.125"	-	-	INTERLOCKED W/ EDH-1 CEILING REGISTER

THERMOSTAT SCHEDULE						
TYPE	SERVES	CONSTRUCTION TYPE	MANUFACTURER	MODEL #	SOURCE OF HEAT/COOL	ACCESSORIES/COMMENTS
ⓅBB	RESIDENT AND/OR COMMON AREA FINTUBE	RECTANGLE	HONEYWELL	T822K1018	FINTUBE	HEAT ONLY LOW VOLTAGE NON-PROGRAMMABLE
ⓅHUH	HYDRONIC UNIT HEATERS HUH-	RECTANGLE	HONEYWELL	T410B1004	FINTUBE/COIL/FAN	HEAT ONLY LOW VOLTAGE NON-PROGRAMMABLE
ⓅEF-	EXHAUST FAN EF-	RECTANGLE	BROAN	57W	FAN	WALL SPEED SWITCH LINE VOLTAGE
ⓅPTAC-	HORIZONTAL PACKAGED TERMINAL AC	RECTANGLE	PRO1	T631-2	SELF-CONTAINED	2-HEAT/1-COOL LOW VOLTAGE NON-PROGRAMMABLE
ⓅFC-	FAN COIL FC-	RECTANGLE	PRO1	T705	FAN COIL/ AC	1-HEAT/1-COOL LOW VOLTAGE PROGRAMMABLE
ⓅF-	FURNACE F-	RECTANGLE	PRO1	T705	FURNACE/ AC	1-HEAT/1-COOL LOW VOLTAGE PROGRAMMABLE
ⓅGUH-	GAS UNIT HEATER GUH--	RECTANGLE	PRO1	T771	FAN	1-HEAT/1-COOL