

DAMPER SCHEDULE					
SYMBOL	DESCRIPTION-POWERED	NOTES	SYMBOL	DESCRIPTION-NON POWERED	NOTES
FSD-1	1 1/2 HOUR FIRE/SMOKE DAMPER: LOW VELOCITY, VERTICAL OR HORIZONTAL, 3" BLADE, LEAKAGE CLASS 2, 120V ACTUATOR, 2 POSITION, FAIL CLOSED, 165" F FUSIBLE LINK, GREENHECK FSD 312 OR EQUAL.	1,2		VOLUME DAMPER: SHOP FABRICATED, WILOCKING QUADRANT, BACKDRAFT DAMPER: GREENHECK WD 330 (VERT) OR VD-100 (HORIZONTAL) OR EQUAL.	
FSD-2	1 1/2 HOUR FIRE/SMOKE DAMPER: MEDIUM VELOCITY, VERTICAL OR HORIZONTAL, AIRFOIL BLADE, LEAKAGE CLASS 2, 120V ACTUATOR, 2 POSITION, FAIL CLOSED, 165" F FUSIBLE LINK, GREENHECK FSD 312 OR EQUAL.	1,2			

NOTES:
1. ACTUATOR BY MECHANICAL CONTRACTOR, WIRING BY ELECTRICAL CONTRACTOR
2. INTERLOCK OF SMOKE DAMPER TO FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR

DIFFUSER/GRILLE SCHEDULE				
SYMBOL	MANUFACTURER & MODEL NUMBER	SIZE	TYPE	NOTES
	SHOEMAKER 701MA	AS NOTED	T-BAR LAY-IN MODULAR CORE DIFFUSER	
	M-M METAL EGGCRATE	12/24	RETURN/EXH	
	M-M METAL EGGCRATE	24/24	RETURN/EXH	

EXHAUST FAN SCHEDULE												
UNIT NO.	AREA SERVED	MFG & MODEL NO.	TYPE	CFM	ESP	RPM	FLA	HP	VOLTI/PH/HZ	BDD	LBS	NOTES
EF-03	IT/STORAGE	GREENHECK SP A-1250-VG	CFLG	1020	0.25	1530	6	1/2	115/150	N	60	new, 1,2,3,4,5

NOTES:
1. POWER WIRING AND DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR.
2. MOTOR STARTER BY ELECTRICAL CONTRACTOR.
3. WALL MOUNTED THERMOSTAT
4. ALUMINUM CEILING GRILLE
5. EC MOTOR

SECOND FLOOR SERIES VAV BOX SCHEDULE														
UNIT NO.	MFG & MODEL NO.	INLET SIZE	FAN CFM	VALVE CFM MAX	MIN	HEATER KW	DT	CFM	VOLTI/PH	STGS	HP	FAN VOLTI/PH	SPD	NOTES
VAV-S-201	NALOR D3SSE-5	12	800	1258	1258	12	41.9	900	460/3	3	3/4	277/1	-	13, existing
VAV-S-202	NALOR D3SSE-5	12	1365	1365	1365	12	27.7	1365	460/3	3	3/4	277/1	-	12, existing
VAV-S-203	NALOR D3SSE-5	14	1640	1640	1640	13	24.9	1640	460/3	3	3/4	277/1	-	12, existing
VAV-S-204	NALOR D3SSE-5	12	1050	1050	1050	9	27.0	1050	460/3	2	3/4	277/1	-	12, existing
VAV-S-205	NALOR D3SSE-5	14	1520	1520	1520	13	25.9	1520	460/3	3	3/4	277/1	-	12, existing
VAV-S-206	NALOR D3SSE-5	14	1700	1700	1700	14	25.9	1700	460/3	3	3/4	277/1	-	13, existing
VAV-S-207	NALOR D3SSE-5	12	1230	1230	1230	12	25.6	1230	460/3	2	3/4	277/1	-	12, existing
VAV-S-208	NALOR D3SSE-3	8	275	275	190	3	34.3	275	460/3	1	1/2	277/1	-	14, existing
VAV-S-209	NALOR D3SSE-3	8	420	420	150	3	22.5	420	460/3	1	1/2	277/1	-	13, existing
VAV-S-210	NALOR D3SSE-3	8	440	440	150	5	35.7	440	460/3	1	1/2	277/1	-	13, existing
VAV-S-211	NALOR D3SSE-5	14	1625	1625	1625	14	27.1	1625	460/3	3	3/4	277/1	-	13, existing
VAV-S-212	NALOR D3SSE-5	14	1700	1700	1700	14	25.9	1700	460/3	3	3/4	277/1	-	12, existing
VAV-S-213	NALOR D3SSE-5	14	1700	1700	1700	14	25.9	1700	460/3	3	3/4	277/1	-	12, existing
VAV-S-214	NALOR D3SSE-5	14	1710	1710	1710	14	25.8	1710	460/3	3	3/4	277/1	-	13, existing
VAV-S-215	NALOR D3SSE-4	12	1100	1100	550	8	22.9	1100	460/3	3	3/4	277/1	-	new, 1,2,4,5,6,8,15
VAV-S-216	NALOR D3SSE-2	8	450	450	320	3	21.0	450	460/3	1	1/2	277/1	-	new, 1,2,4,5,6,8,15

NOTES:
1. DISCONNECT BY ELECTRICAL.
2. SERIES FAN POWERED TERMINAL UNIT WITH HEAT AND ECM MOTOR - SIZE AS LISTED, PRESSURE INDEPENDENT, FACTORY OPTIONS INCLUDE:
- EXTENDED DAMPER 1/2" DIAM. SHAFT
- DDC CONTROLS PROVIDED BY C.C. MOUNTED & WIRED IN THE FIELD PER C.C. PREFERENCE
- 1" MAT-FACED UNIT INSULATION
- VARIABLE SPEED ECM MOTOR
- 24V TRANSFORMER, 50 VA MIN RATING
- HEAT STAGING & FAN CONTROL THROUGH FACTORY WIRED RELAYS
- AUTO RESET 120°F HIGH LIMIT T/STAT
- NON MAGNETIC QUIET ACTING HEATER CONTACTOR
3. SERIES FAN POWERED TERMINAL UNIT WITH HEAT AND WITH ECM MOTOR - SIZE AS LISTED, PRESSURE INDEPENDENT, FACTORY OPTIONS INCLUDE:
LISTED, PRESSURE INDEPENDENT, CONTROLS BY OTHERS, FACTORY OPTIONS INCLUDE:
- EXTENDED DAMPER 1/2" DIAM. SHAFT
- FACTORY INSTALLED 1" THROUGH-AWAY FILTERS
- CONTROLS BY OTHERS - FACTORY PROVIDE WIRING HARNESS WITH LOW VOLTAGE INTERLOCK CONDUCTORS EXTENDED FROM HIGH VOLTAGE CABINET TO LOW VOLTAGE CONTROLS CABINET.
- 1" MAT-FACED UNIT INSULATION
- VARIABLE SPEED FAN CONTROL
- 24V TRANSFORMER, 50 VA MIN RATING
4. FACTORY MOUNTED 2" RACK FOR MERV 8 FILTERS AT THE RETURN.
5. INTERFACE WITH BLDG EMS BY C.C.
6. FACTORY PROVIDE FNG OPTION (42" NEC REQUIRED JUMP-BACK PARALLEL TO LENGTH OF VAV UNIT).
7. SMOKE DETECTOR REQUIRED. SMOKE DETECTOR PROVIDED BY AND INSTALLED BY FIRE LIFE SAFETY CONTRACTOR.
8. TERMINAL UNIT MIN CFM SHALL BE OPTIMIZED THROUGH DEMAND CONTROL VENTILATION PROTOCOL. CO2 DETECTOR PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
9. EXISTING BOX WITH 12KW HEATER, DISABLE ONE STAGE OF ELECTRIC HEATER.
10. COOLING ONLY TERMINAL UNIT W/ HEAT - SIZE AS LISTED, PRESSURE INDEPENDENT, FACTORY OPTIONS INCLUDE:
- EXTENDED DAMPER 1/2" DIAM. SHAFT
- 1" MAT-FACED UNIT INSULATION
- MULTI-POINT AVERAGING FLOW SENSOR
- 24V TRANSFORMER, 50 VA MIN RATING
- RIGHT HAND CONTROLS LOCATIONS
- HEAT STAGING THROUGH FACTORY WIRED RELAYS
- NON MAGNETIC QUIET ACTING HEATER CONTACTOR
11. TERMINAL UNIT TO HAVE A HEATING CFM SETPOINT TO OPTIMIZE DISCHARGE AIR TEMPERATURE OF 85 DEGREES AND A SECOND CFM SETPOINT FOR COOLING MINIMUM.
12. EXISTING TERMINAL UNIT TO REMAIN. DATA SOURCE: DRAWING SET DATED 7-18-2011
13. EXISTING TERMINAL UNIT, DUCTWORK MODIFIED. DATA SOURCE: DRAWING SET DATED 7-18-2011
14. RELOCATE EXISTING TERMINAL UNIT. DATA SOURCE: DRAWING SET DATED 7-18-2011
15. NEW TERMINAL UNIT.
NOTE TO ELECTRICAL:
- 460V/3PH TERMINAL UNITS REQUIRE A FOUR WIRE POWER FEED IN ORDER TO SUPPLY 277V/1PH POWER TO THE FAN MOTOR.

DUCTWORK SCHEDULE											
SERVICE / USAGE	LOCATION	MATERIAL	WORKING PRESSURE (IN. WC)	SMACNA PRESSURE CLASS (IN. WC)	SMACNA SEAL CLASS	NOTES					
MEDIUM PRESSURE SUPPLY AIR	BETWEEN AHU AND TERMINAL UNITS	GALV. STEEL	2.5	-4	A	1					
LOW PRESSURE SUPPLY AIR	FROM TERMINAL UNITS TO GRDS	GALV. STEEL	1	-1	A	1					
FLEXIBLE DUCT	CON TO GRDS	FRENCH FLEX	0.8	RATED "F", "I"	B	2,3					
TRANSFER AIR	FROM GRD TO GRD	GALV. STEEL	0.85	-1	A	1					
GENERAL EXHAUST	FROM GRD TO FAN AND AMBIENT	GALV. STEEL	1	-1	B	1					

NOTES:
1. SHEET METAL GAUGES AND FITTINGS PER SMACNA AND MACDONALD-MILLER DUCT CONSTRUCTION STANDARDS.
2. THERMAFLEX "GKM" OR EQUAL WITH 12 FOOT MAXIMUM LENGTH.
3. INSTALL PER MFG. GUIDELINES AND INSTRUCTIONS.

AIR HANDLING UNIT SCHEDULE															
UNIT NO.	MFG & MODEL NO.	CFM	ESP	TSP	MIN	OSA	HP	EA	TOTAL SENS. EAT	LAT	NOTES				
AHU-01	YORK SOLUTIONS 80X102	24,800	3.5	NA	3,400	28.20	748	731	NA	53.1	51.4	NA	460	6,620	EXISTING AHU

NOTES:
1. DATA FROM 7/18/2011 DRAWING SET, FOR REFERENCE ONLY.

MECHANICAL GENERAL ABBREVIATIONS											
ABBV	FULL NAME	ABBV	FULL NAME	ABBV	FULL NAME						
AC	AIR CONDITIONING UNIT	FCU	FAN COIL UNIT	NBM	NOMINAL						
AHJ	ABOVE FINISHED FLOOR	FD	FIRE DAMPER	NTS	NOT TO SCALE						
AHU	AIR HANDLING UNIT	FLU	FULL LOAD AMPS	OB	OPPOSED BLADE DAMPER						
AL	ALUMINUM	FOB	FLAT ON BOTTOM	OD	OUTSIDE DIMENSION						
AS	BUILDING AUTOMATION SYSTEM	FOT	FLAT ON TOP	POC	POINT OF CONNECTION						
BDD	BACK DRAFT DAMPER	FSD	FIRE SMOKE DAMPER	PRV	PRESSURE REDUCING VALVE						
BI	BLACK IRON	GV	GALVANIZED	PVC	POLYVINYL CHLORIDE						
BOD	BOTTOM OF DUCT	GC	GENERAL CONTRACTOR	REQD	REQUIRED						
BOTT	BOTTOM	GENX	GENERATOR EXHAUST	RPA	REDUCED PRESSURE BACKFLOW ASSY						
BTU	BRITISH THERMAL UNITS	GVNA	GALVANNEAL	RTU	ROOFTOP UNIT						
BTUH	BRITISH THERMAL UNITS PER HOUR	GVNA	GALVANNEAL	SA	SUPPLY AIR						
CAT1	CATEGORY ONE VENT	GREASE	GREASE DUCT	SD	SMOKE DAMPER						
CAT4	CATEGORY FOUR VENT	GWB	GYPSPUM WALL BOARD	SL	SOUND LINER						
CFM	CUBIC FEET PER MINUTE	HP	HORSE POWER, HEAT PUMP	SM	SHEET METAL						
CPVC	CPVC MATERIAL	HVAC	HEATING VENTILATION AND AIR COND.	SP	STATIC PRESSURE						
DB	DUCTBOARD	HX	HEAT EXCHANGER	SP	STAINLESS STEEL						
DDO	DIRECT DIGITAL CONTROLS	I	INSIDE DIMENSION	SUSP	SUSPENDED						
DELTA	DIFFERENCE	LAT	LEAVING AIR TEMPERATURE	T	THERMOSTAT						
DFP	DIFFUSER	LBS	POUNDS	TOP	TOP OF DUCT						
DWR	DAMPEN	LWT	LEAVING WATER TEMPERATURE	TV	TURNING VANES						
DN	DOWN	MAT	MIXED AIR TEMPERATURE	TV	TYPICAL						
E	EXISTING	MBH	ONE THOUSAND BTUH	UNO	UNLESS NOTED OTHERWISE						
EAT	ENTERING AIR TEMPERATURE	MIN	MINIMUM CIRCUIT AMPACITY	VAV	VARIABLE AIR VOLUME						
ECR	EGGCRATE	MD	MOTORIZED DAMPER	VD	VOLUME DAMPER						
EEER	ENERGY EFFICIENCY RATIO	MIN	MINIMUM	VFD	VARIABLE FREQUENCY DRIVE						
EF	EXHAUST FAN	M-M	MACDONALD-MILLER	W	DUCT INSULATION WRAP						
ELEV	ELEVATION	NC	NORMALLY CLOSED	W	WITH						
ESP	EXTERNAL STATIC PRESSURE	NO	NOT IN CONTACT	WELD	WELDED						
EWT	ENTERING WATER TEMPERATURE	NO	NORMALLY OPEN	Ø	VOLTAGE PHASE & DUCT DIAMETER						

HVAC SYSTEM ABBREVIATIONS					
ABBV	FULL NAME	ABBV	FULL NAME	ABBV	FULL NAME
COMB-GALV	COMBUSTION AIR	EA AL	EXHAUST ALUMINUM	OA	OUTSIDE AIR
SA	SUPPLY AIR LP	EA SS	EXHAUST SS 304	OA-KOOL	OUTSIDE AIR KOOLDUCT
SA-KOOL	SUPPLY AIR LP KOOLDUCT	EA AL WELD	EXHAUST ALUMINUM WELDED	RL	RELIEF AIR
SA AL	SUPPLY AIR LP ALUMINUM	EA GALV WELD	EXHAUST GALV WELDED	RLA	RETURN AIR
SA SS	SUPPLY AIR LP SS 304 2B	EA GALV WELD	EXHAUST GALVANNEAL WELDED	DB	DUCTBOARD
SA AL WELD	SUPPLY AIR LP ALUMINUM WELDED	EA SS WELD	EXHAUST SS 304 WELDED	FLU-CAT1	FLUE VENT - CATEGORY 1
SA GALV WELD	SUPPLY AIR LP GALV WELDED	EA BI GREASE	EXHAUST GREASE BLACK IRON WELD	FLU-VENT	FLUE VENT - CATEGORY 1
SA GALV WELD	SUPPLY AIR LP GALVANNEAL WELD	EA GALV GREASE	EXHAUST GREASE GALV WELDED	FLU-SPC	FLUE VENT - CPVC MATERIAL
SA SS WELD	WELDED SUPPLY AIR LP SS 304 2B	EA GALV GREASE	EXHAUST GREASE SS 304 WELDED	FLU-SS	FLUE VENT - SHOP BUILT SS 304
EA	EXHAUST AIR	MUA	MAKE-UP AIR	FLU-GALV	FLUE VENT - SHOP BUILT GALV

HVAC SYMBOL LEGEND					
DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL		
BARE RECTANGULAR SHEETMETAL		FLEX DUCT			
SOUNDLINE SHEETMETAL (GENERAL NOTES)		EQUIPMENT FLEX ROUND CONNECTOR			
SHEETMETAL W/ INSULATION (GENERAL NOTES)		EQUIPMENT FLEX RECTANGULAR CONNECTOR			
BARE ROUND SHEETMETAL		SUPPLY DUCT UP/DOWN			
ROUND SHEETMETAL W/ INSULATION (GENERAL NOTES)		EXHAUST DUCT UP/DOWN			
BARE OVAL SHEETMETAL		RETURN DUCT UP/DOWN			
OVAL SHEETMETAL W/ INSULATION (GENERAL NOTES)		SUPPLY AIR TERMINAL RECTANGULAR AND SQUARE			
EXAMPLE OF EXISTING		RETURN AIR TERMINAL RECTANGULAR AND SQUARE			
EXAMPLE OF DEMO		EXHAUST AIR TERMINAL RECTANGULAR AND SQUARE			
EXAMPLE OF NEW		RADIAL AIR TERMINAL			
EXAMPLE OF FUTURE (N.I.C.)		SUPPLY AIR SLOT DIFFUSER			
EXPOSED QUALITY SHEETMETAL		RETURN AIR SLOT DIFFUSER			
CLEANROOM QUALITY DUCTWORK		EXHAUST AIR SLOT DIFFUSER			
DUCTBOARD (1" FIBERGLASS)		POINT OF CONNECTION			
CONTINUATION OF ROUND DUCT		CENTER LINE			
CONTINUATION OF RECTANGULAR DUCT		THERMOSTAT			
AIR FLOW IN SYMBOL		CARBON MONOXIDE SENSOR			
AIR FLOW OUT SYMBOL		NITROGEN DIOXIDE SENSOR			
MECHANICAL EQUIPMENT TAG		OTHER SENSOR			
KEYED NOTE		ELECTRICAL SWITCH			
ACCESS DOORS		MITERED ELBOW WITH TURNING VANES			
RATED ENCLOSURE					

NOTE: SIZE REFLECTS ACTUAL SHEET METAL DIMENSION AND DOES NOT ACCOUNT FOR INSULATION OR LINING

VENTILATION SCHEDULE			
ROOM	2018 WSMC REQUIREMENTS	SYSTEM	NOTES
NO. NAME	AREA OCC/1000SF	OCC	CFM/OCC
200 RECEPTION	250 30	8	5 0.06 60
201 OFFICE	125 5	1	5 0.06 20
202 OFFICE	125 5	1	5 0.06 20
203 OFFICE	125 5	1	5 0.06 20
204 CONFERENCE ROOM	125 50	6	5 0.06 40
205 CONFERENCE ROOM	125 50	6	5 0.06 40
206 CONFERENCE ROOM	125 50	6	5 0.06 40
207 PHONE ROOM	190 50	10	5 0.06 70
208 OPEN MEETING AREA	190 50	10	5 0.06 70
209 PHONE ROOM	125 5	1	5 0.06 20
210 OFFICE	125 5	1	5 0.06 20
211 OFFICE	125 5	1	5 0.06 20
212 OFFICE	125 5	1	5 0.06 20
213 OFFICE	125 5	1	5 0.06 20
214 OFFICE	250 5	1	5 0.06 20
215 OFFICE	125 5	1	5 0.06 20
216 OFFICE	125 5	1	5 0.06 20
217 OFFICE	125 5	1	5 0.06 20
218 OFFICE	125 5	1	5 0.06 20
219 PHONE ROOM	125 5	1	5 0.06 20
220 OPEN MEETING AREA	440 50	22	5 0.06 140
221 PHONE ROOM	125 5	1	5 0.06 20
222 OFFICE	125 5	1	5 0.06 20
223 OFFICE	125 5	1	5 0.06 20
224 OFFICE	125 5	1	5 0.06 20
225 BREAK ROOM	650 25	16	5 0.06 120
226 TRAINING ROOM	880 50	44	5 0.06 280
227 OFFICE	150 5	1	5 0.06 20
228 OFFICE	150 5	1	5 0.06 20
229 OFFICE	150 5	1	5 0.06 20
230 STORAGE/IT	125 5	1	5 0.06 20
231 OFFICE	125 5	1	5 0.06 20
232 OFFICE	125 5	1	5 0.06 20
233 OFFICE	125 5	1	5 0.06 20
234 OFFICE	125 5	1	5 0.06 20
235 OFFICE	125 5	1	5 0.06 20
236 CONFERENCE ROOM	150 50	8	5 0.06 50
237 CONFERENCE ROOM	225 50	11	5 0.06 70
238 CONFERENCE ROOM	350 50	18	5 0.06 120
239 OPEN OFFICE	6600 5	33	5 0.06 570

NOTES:
1. UNOCCUPIED STORAGE/IT ROOM
2. OCCUPANT DENSITY AND SPECIFIC OSA BASED ON ACTUAL OCCUPANCY IN SPACE
3. REQUIRED OSA BASED ON 2018 WSMC TABLE 403.3.1.1
4. SUPPLY AIR MINIMUM BASED ON AHU MINIMUM OSA FRACTION = 0.14
5. EXISTING ROOM OUTSIDE OF PROJECT HVAC SCOPE
6. NEW OR RECONFIG

4/13/2022 09:47:48 AM - 8.000 Capital T100 - Engineering\DWG\2022\212920\01.dwg

Monday, March 3, 2022 11:00 AM



BRADLEY LAKE

RS-10

PF

RS-10

WILDWOOD PARK DR

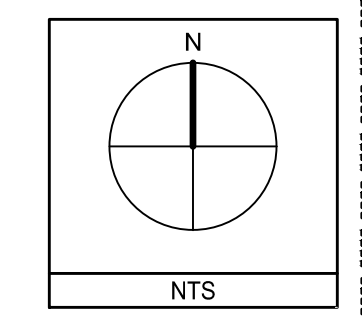
29TH PL SE

SITE

MP

0419034034

B-21-082



SHBTC BLDG A
BUILDERS CAPITAL T1
 1018 39TH AVE SE SUITE 250
 PUYALLUP, WA 98374

ENGINEER: J WELTER
 CHECKED BY: S HARGROVE
 CAD: M HAGBERG
 DRAWING NUMBER: D-4059-73212920-00
 SHEET NUMBER:

TM0.01S



MacDonald-Miller
 FACILITY SOLUTIONS
 7717 Federal Avenue SW Seattle, WA 98108
 Phone: 206-763-3400 Fax: 206-767-6773
 www.mmmiller.com
 WA Lic No: MAC0075960RU



01/03/2022

REVISIONS	DATE	DATE	REVISIONS
△ PERMIT SET	01-03-22		

ISSUED FOR PERMIT

