VENTILATION UNIT SCHEDULE

MARK	UNIT DIMENSIONS						PRE-FILTER SECTION			FILTER SECTION			STEAM HEATING COIL						CHILLED WATER COOLING COIL							ENERGY RECOVERY WHEEL					SUPPLY / OUTSIDE AIR FAN								EXHAUST FAN								BASIS OF DESIGN	
	UNIT SIZE	LENGTH	WIDTH	HEIGHT	FACE VEL.	WEIGHT	PD	MERV	TYPE	PD	MERV	TYPE	PD	EAT DB	LAT DB	MBH	PSIG	LB/HR	PD	EAT DB/WB	LAT DB	GPM	WPD	EWT	LWT	MARK	VOLT	PH	MCA	FUSE	QTY	O.A. CFM	E.S.P.(w.g.)	HP	BHP	RPM	VOLT	PH	MCA	FUSE	QTY	MAX. CFM	E.S.P.(w.g.)	HP	BHP	RPM	VOLT	PH	MCA	FUSE	MANUF.	MODEL
9-AHU-S1	08	198	50"	75"	500 FPM	3000 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	0.4"	37 °F	70 °F	110	10	115	0.7"	85 / 71	54 °F	15.9	3'	44 °F	64 °F	9-ERW-S1	115	1	2.4	15	1	3105	4.0	5.0	3.6	1793	208	3	21.9	35	1	1405	1.0	2.0	1.6	1424	208	3	8.6	15	TRANE	CSAA004
9-AHU-N1	10	205"	62"	75"	500 FPM	3500 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	0.4"	33 °F	65 °F	155	10	161	0.8"	86 / 71	54 °F	25.2	7'	44 °F	64 °F	9-ERW-N1	115	1	2.4	15	1	4495	4.0	7.5	5.2	2359	208	3	31.6	50	1	1700	1.0	2.0	1.6	1212	208	3	8.6	15	TRANE	CSAA010

NOTES:
1. VARIABLE FREQUENCY DRIVE UNIT MOUNTED (WIRED BY EC). VFD'S SHALL HAVE HAND ON/OFF SWITCH (MANUAL BYPASS).
2. UNIT MOUNTED COMBINATION STARTER / DISCONNECT (WIRED BY EC).
3. UNIT MODULES SHALL BE INSTALLED HORIZONTALLY, REFER TO DRAWINGS FOR COIL ACCESS SIDE.
4. SPRING ISOLATORS ON FAN, 8" BASE RAILS UNDER ENTIRE UNIT.
5. ENERGY RECOVERY WHEEL TO HAVE SEPARATE ELECTRICAL CONNECTION.
6. PROVIDE MIDSPAN SUPPORT FOR ALL PRE-FILTERS TO PREVENT CAVE-IN.

ENERGY RECOVERY WHEEL SCHEDULE

SERVING UNIT	SUMMER SUPPLY			EFF	SUMMER EXHAUST			EFF	WINTER SUPPLY			EFF	WINTER EXHAUST		
	EAT DB/WB	LAT DB/WB	CFM		EAT DB/WB	LAT DB/WB	CFM		EAT DB/WB	LAT DB/WB	CFM		EAT DB/WB	LAT DB/WB	CFM
9-ERW-S1	92 / 75	85 / 71	3105	94.6	75 / 64	92 / 75	1405	96.0	37 / 32	3105	8.0 / 9.0	96.0	70 / 53	10.5 / 10.3	1405
9-ERW-N1	92 / 75	85 / 71	4495	98.0	75 / 64	92 / 75	1700	98.2	33 / 29	4495	8.0 / 9.0	98.2	70 / 53	9.6 / 8.9	1700
9-ERW-S2	92 / 75	78 / 66	600	82.0	75 / 64	89 / 73	660	83.6	58 / 46	600	8.0 / 9.0	83.6	70 / 53	23 / 21	660
9-ERW-C	92 / 75	89 / 73	800	80.0	75 / 64	89 / 73	940	81.3	58 / 46	800	8.0 / 9.0	81.3	70 / 53	24 / 22	940
9-ERW-N2	92 / 75	78 / 66	750	80.1	75 / 64	89 / 73	750	82.1	58 / 46	750	8.0 / 9.0	82.1	70 / 53	23 / 22	750

OUTSIDE AIR ENERGY RECOVERY UNIT SCHEDULE

MARK	UNIT DIMENSIONS						PRE-FILTER SECTION			FILTER SECTION			ENERGY RECOVERY WHEEL					EXHAUST FAN											BASIS OF DESIGN	
	UNIT SIZE	LENGTH	WIDTH	HEIGHT	FACE VEL.	WEIGHT	PD	MERV	TYPE	PD	MERV	TYPE	MARK	VOLT	PH	MCA	FUSE	QTY	MAX. CFM	E.S.P.(w.g.)	HP	BHP	RPM	VOLT	PH	MCA	FUSE	MANUF.	MODEL
9-ERU-S2	04	124"	44"	58"	500 FPM	1600 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	9-ERW-S2	115	1	0.9	15	1	660	1.0	1.5	0.22	1724	208	3	8.6	15	VENMAR	ERV1000
9-ERU-C	04	124"	44"	58"	500 FPM	1600 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	9-ERW-C	115	1	0.9	15	1	940	1.0	1.5	0.37	1876	208	3	8.6	15	VENMAR	ERV1500
9-ERU-N2	04	124"	44"	58"	500 FPM	1600 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	9-ERW-N2	115	1	0.9	15	1	750	1.0	1.5	0.37	1922	208	3	8.6	15	VENMAR	ERV1000

NOTES:
1. UNIT MOUNTED VARIABLE FREQUENCY DRIVE FOR FROST PROTECTION ON WHEEL (WIRED BY EC).
2. UNIT MOUNTED COMBINATION STARTER / DISCONNECT (WIRED BY EC).
3. UNIT MODULES SHALL BE INSTALLED HORIZONTALLY, REFER TO DRAWINGS FOR COIL ACCESS SIDE.
4. SPRING ISOLATORS ON FAN, 8" BASE RAILS UNDER ENTIRE UNIT.
5. SINGLE POINT ELECTRICAL CONNECTION.
6. PROVIDE MIDSPAN SUPPORT FOR ALL PRE-FILTERS TO PREVENT CAVE-IN.

VAV BOX SCHEDULE (WITH HOT WATER REHEAT)

TAG	COOLING CFM		HEATING	INLET	INLET	MAX NC	EAT	LAT	HOT WATER REHEAT COIL					BASIS OF DESIGN
	MAX	MIN	CFM	DIA (IN.)	SP (IN)	LEVEL	(F)	(F)	MBH	GPM	EWT (F)	LWT (F)	PD	
9-VAV-S-1	580	180	260	8	0.5	25	55	85	9.9	1.0	190	170	0.5	TITUS DESV
9-VAV-S-2	540	185	260	8	0.5	25	55	85	9.9	1.0	190	170	0.5	TITUS DESV
9-VAV-S-3	570	175	220	8	0.5	25	55	85	8.5	0.9	190	170	0.5	TITUS DESV
9-VAV-S-4	520	160	210	8	0.5	25	55	85	7.9	0.8	190	170	0.5	TITUS DESV
9-VAV-S-5	525	160	200	8	0.5	25	55	85	7.7	0.8	190	170	0.5	TITUS DESV
9-VAV-S-6	235	80	90	5	0.5	25	55	85	3.6	0.4	190	170	0.5	TITUS DESV
9-VAV-S-7	450	135	140	8	0.5	25	55	85	5.7	0.6	190	170	0.5	TITUS DESV
9-VAV-S-8	360	100	90	6	0.5	25	55	85	3.7	0.4	190	170	0.5	TITUS DESV
9-VAV-S-9	460	140	150	8	0.5	25	55	85	5.9	0.6	190	170	0.5	TITUS DESV
9-VAV-S-10	230	110	150	5	0.5	25	55	85	5.8	0.6	190	170	0.5	TITUS DESV
9-VAV-S-11	530	250	270	8	0.5	25	55	85	10.5	1.1	190	170	0.5	TITUS DESV
9-VAV-S-12	630	190	250	8	0.5	25	55	85	9.6	1.0	190	170	0.5	TITUS DESV
9-VAV-S-13	210	120	140	5	0.5	25	55	85	5.7	0.6	190	170	0.5	TITUS DESV
9-VAV-S-14	210	120	140	5	0.5	25	55	85	5.7	0.6	190	170	0.5	TITUS DESV
9-VAV-C-1	460	140	170	8	0.5	25	55	85	6.8	0.7	190	170	0.5	TITUS DESV
9-VAV-C-2	330	100	100	6	0.5	25	55	85	4.1	0.5	190	170	0.5	TITUS DESV
9-VAV-C-3	300	80	60	6	0.5	25	55	80	2.2	0.3	190	170	0.5	TITUS DESV
9-VAV-C-4	165	80	100	5	0.5	25	55	85	3.9	0.4	190	170	0.5	TITUS DESV
9-VAV-C-5	480	150	190	8	0.5	25	55	85	7.3	0.8	190	170	0.5	TITUS DESV
9-VAV-C-6	150	150	130	5	0.5	25	55	85	4.9	0.5	190	170	0.5	TITUS DESV
9-VAV-C-7	330	120	140	6	0.5	25	55	85	5.7	0.6	190	170	0.5	TITUS DESV
9-VAV-C-8	420	135	170	6	0.5	25	55	85	6.8	0.7	190	170	0.5	TITUS DESV
9-VAV-C-9	300	90	80	6	0.5	25	55	85	3.3	0.4	190	170	0.5	TITUS DESV
9-VAV-C-10	150	80	60	5	0.5	25	55	80	2.2	0.3	190	170	0.5	TITUS DESV
9-VAV-C-11	150	80	60	5	0.5	25	55	80	2.2	0.3	190	170	0.5	TITUS DESV
9-VAV-C-12	430	135	170	8	0.5	25	55	85	6.7	0.7	190	170	0.5	TITUS DESV
9-VAV-C-13	550	165	200	8	0.5	25	55	85	7.8	0.8	190	170	0.5	TITUS DESV
9-VAV-C-14	250	100	120	5	0.5	25	55	85	4.9	0.5	190	170	0.5	TITUS DESV
9-VAV-C-15	700	210	240	8	0.5	25	55	85	9.3	1.0	190	170	0.5	TITUS DESV
9-VAV-C-16	325	120	140	6	0.5	25	55	85	5.6	0.6	190	170	0.5	TITUS DESV
9-VAV-C-17	240	80	80	5	0.5	25	55	85	3.3	0.4	190	170	0.5	TITUS DESV
9-VAV-C-18	330	100	120	5	0.5	25	55	85	4.6	0.5	190	170	0.5	TITUS DESV
9-VAV-N-1	630	200	270	8	0.5	25	55	85	10.3	1.1	190	170	0.5	TITUS DESV
9-VAV-N-2	590	180	250	8	0.5	25	55	85	9.7	1.0	190	170	0.5	TITUS DESV
9-VAV-N-3	420	130	160	6	0.5	25	55	85	6.3	0.7	190	170	0.5	TITUS DESV
9-VAV-N-4	80	80	60	5	0.5	25	55	85	2.6	0.3	190	170	0.5	TITUS DESV
9-VAV-N-5	320	100	120	6	0.5	25	55	85	4.8	0.5	190	170	0.5	TITUS DESV
9-VAV-N-6	400	400	330	8	0.5	25	55	85	12.7	1.3	190	170	0.5	TITUS DESV
9-VAV-N-7	470	145	190	8	0.5	25	55	85	7.3	0.8	190	170	0.5	TITUS DESV
9-VAV-N-8	480	145	150	8	0.5	25	55	85	6.0	0.7	190	170	0.5	TITUS DESV
9-VAV-N-9	150	120	100	5	0.5	25	55	80	3.3	0.4	190	170	0.5	TITUS DESV
9-VAV-N-10	290	90	120	6	0.5	25	55	85	4.5	0.5	190	170	0.5	TITUS DESV
9-VAV-N-11	370	125	170	6	0.5	25	55	85	6.5	0.7	190	170	0.5	TITUS DESV
9-VAV-N-12	225	120	120	6	0.5	25	55	85	4.7	0.5	190	170	0.5	TITUS DESV
9-VAV-N-13	120	120	100	5	0.5	25	55	80	3.3	0.4	190	170	0.5	TITUS DESV
9-VAV-N-14	510	155	190	8	0.5	25	55	85	7.5	0.8	190	170	0.5	TITUS DESV
9-VAV-N-15	470	140	180	8	0.5	25	55	85	7.0	0.7	190	170	0.5	TITUS DESV
9-VAV-N-16	510	155	190	8	0.5	25	55	85	7.5	0.8	190	170	0.5	TITUS DESV
9-VAV-N-17	470	160	220	8	0.5	25	55	85	8.6	0.9	190	170	0.5	TITUS DESV

NOTES:
1. PROVIDE ALL NECESSARY DUCTWORK TRANSITIONS FROM VAV BOXES.
2. MAXIMUM NOISE CRITERIA (NC) LEVELS FOR DISCHARGE AND RADIATED SOUND SHALL NOT BE EXCEEDED AT AN INLET PRESSURE OF 1.5" SP.
3. PROVIDE A MINIMUM OF 3 DUCT DIAMETERS OR 2 FEET (WHICHEVER IS GREATER) OF STRAIGHT DUCT AT VAV BOX INLET.
4. AIRFLOW MINIMUMS ARE HEATING AIRFLOWS

MODULAR INDOOR AIR HANDLING UNIT SCHEDULE

MARK	UNIT DIMENSIONS						PRE-FILTER SECTION			PRE-FILTER SECTION			STEAM HEATING COIL						CHILLED WATER COOLING COIL							SUPPLY FAN									UNIT ELECTRICAL DATA					BASIS OF DESIGN	
	UNIT SIZE	LENGTH	WIDTH	HEIGHT	FACE VEL.	WEIGHT	PD	MERV	TYPE	PD	MERV	TYPE	PD	EAT DB	LAT DB	MBH	PSIG	LB/HR	PD	EAT DB/WB	LAT DB	GPM	WPD	EWT	LWT	QTY	MAX. CFM	MIN OA CFM	E.S.P.(w.g.)	HP	BHP	RPM	VOLT	PH	MCA	FUSE	VOLT	PH	FLA	MOCP	MANUF.	MODEL
9-AHU-S2	12	202"	66"	41"	500 FPM	2800 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	0.1"	70 °F	95 °F	172	10	179	1.0"	78 / 66	54 °F	24.6	6'	44 °F	64 °F	1	6100	660	4.0	15	11.0	2582	208	3	60.4	100	TRANE	CSAA012				
9-AHU-C	12	207"	66"	41"	500 FPM	2800 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	0.1"	68 °F	95 °F	172	10	179	1.1"	89 / 73	54 °F	24.2	6'	44 °F	64 °F	1	6000	800	4.0	15	10.9	2573	208	3	60.4	100	TRANE	CSAA012				
9-AHU-N2	14	206"	72"	41"	500 FPM	3000 LB	0.1"	8	1" PANEL	0.8"	13	4" CART.	0.1"	69 °F	95 °F	192	10	200	1.1"	78 / 67	54 °F	27.2	5'	44 °F	64 °F	1	6500	750	4.0	15	14.6	2666	208	3	60.4	100	TRANE	CSAA014				

NOTES:
1. VARIABLE FREQUENCY DRIVE UNIT MOUNTED (WIRED BY EC). VFD'S SHALL HAVE HAND ON/OFF SWITCH (MANUAL BYPASS).
2. UNIT MOUNTED COMBINATION STARTER / DISCONNECT (WIRED BY EC).
3. UNIT MODULES SHALL BE INSTALLED HORIZONTALLY, REFER TO DRAWINGS FOR COIL ACCESS SIDE.
4. SPRING ISOLATORS ON FAN, 8" BASE RAILS UNDER ENTIRE UNIT.
5. PROVIDE MIDSPAN SUPPORT FOR ALL PRE-FILTERS TO PREVENT CAVE-IN.

RELIEF HOOD SCHEDULE

TAG	SERVICE	TYPE	AIRFLOW (CFM)	THROAT SIZE (IN)	HOOD SIZE (IN)	MATERIAL	BASIS OF DESIGN	
							MANUF.	MODEL
RH-1	RELIEF	HOODED GRAVITY	24100	68 x 68	96 x 96	ALUMINUM	GREENHECK	FGI

NOTES:
1. ROOF CURB.
2. ALUMINUM BIRDSCREEN.

CABINET UNIT HEATER SCHEDULE

MARK	TYPE	SERVICE	FAN DATA			FILTER SECTION		HOT WATER HEATING COIL						UNIT ELECTRICAL DATA					BASIS OF DESIGN	
			CFM	ESP	WATTS	EFF	TYPE	EAT DB	LAT DB	MBH	GPM	EWT	LWT	VOLT	PH	FLA	MOCP	MANUF.	MODEL
CUH-1	HORIZONTAL CONCEALED	WEST VESTIBULE	350	0.40	162	30	2" THROWAWAY	55 °F	85 °F	10.0	1.3	190	170	120	1	1.3	15	TRANE	FCCB030
CUH-2	HORIZONTAL CONCEALED	EAST VESTIBULE	220	0.40	91	30	2" THROWAWAY	55 °F	85 °F	9.5	1.3	190	170	120	1	1.3	15	TRANE	FCCB020

NOTES:
1. PROVIDE UNIT MOUNTED DISCONNECT BY UNIT MANUFACTURER.
2. FACTORY INSTALLED PIPING PACKAGE.
3. COORDINATE WITH STRUCTURAL AND GENERAL CONSTRUCTION.
4. REMOTE MOUNTED THERMOSTAT.

HOT WATER UNIT HEATER SCHEDULE

MARK	TYPE	SERVICE	FAN DATA			HOT WATER HEATING COIL						UNIT ELECTRICAL DATA				BASIS OF DESIGN	
			CFM	RPM	WATTS	EAT DB	LAT DB	MBH	GPM	EWT	LWT	VOLT	PH	FLA	MOCP	MANUF.	MODEL
UH-1	SUSPENDED	HOLDING AREA	245	1550	16	60 °F	90 °F	8.0	0.8	190	170	120	1	0.8	15	STERLING	HS-108A

NOTES:
1. PROVIDE UNIT MOUNTED DISCONNECT BY UNIT MANUFACTURER.
2. FACTORY INSTALLED PIPING PACKAGE.
3. COORDINATE WITH STRUCTURAL AND GENERAL CONSTRUCTION.
4. REMOTE MOUNTED THERMOSTAT.

FAN SCHEDULE

MARK	TYPE/SERVICE	CFM	ESP	HP	BHP	ELECTRICAL		RPM	OUTLET VELOCITY	dBA	DRIVE	BASIS OF DESIGN	
						VOLTAGE	PHASE					MANUF.	MODEL
9-RF-S2	AHU-S2 RETURN / RELIEF AIR	6100	2.0	5	3.4	208	3	1490	1191	75	BELT	GREEHHECK	22-TCF
9-RF-C	AHU-C RETURN / RELIEF AIR	6000	2.0	5	3.3	208	3	1477	1172	75	BELT	GREEHHECK	22-TCF
9-RF-N2	AHU-N2 RETURN / RELIEF AIR	6750	2.0	5	4.0	208	3	1578	1318	75	BELT	GREEHHECK	22-TCF

NOTES:
1. VARIABLE FREQUENCY DRIVE REMOTE MOUNTED (WIRED BY EC). VFD'S SHALL HAVE HAND ON/OFF SWITCH (MANUAL BYPASS).
2. ALL WIRING REQUIRED FOR EXHAUST FANS INCLUDING MANUAL MOTOR STARTERS SHALL BE BY DIVISION 26.
3. UNIT MOUNTED DISCONNECT BY UNIT MANUFACTURER
4. PROVIDE FLOOR SUPPORTS.

SPLIT SYSTEM - CONDENSER UNIT SCHEDULE

TAG NUMBER	SERVICE	NOMINAL CAPACITY (TONS)	DESIGN AMBIENT (DEG F)	FAN QTY.	WEIGHT (LBS)	REFRIGERANT	ELECTRICAL				BASIS OF DESIGN	
						TYPE	COMP. TYPE	VOLTS/ PHASE	MCA	MAX FUSE	MANUF.	MODEL
CU-1	AC-1	2.5	95	1	180	R-410a	INVERTER	208/1	19.5	20	DAIKIN	RXS30LVJU

NOTES:
1. FACTORY INSTALLED/WIRED LOCKING DISCONNECT SWITCH, FAN SPEED CONTROL.
2. FACTORY STANDARD WARRANTY
3. LOW AMBIENT CONTROL

SPLIT SYSTEM - INDOOR UNIT SCHEDULE

TAG	SERVICE	COOLING CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	HEATING CAPACITY (MBH)	FILTER TYPE	AIRFLOW HIGH / LOW (CFM)	SOUND RATING (dB-A)	ELECTRICAL				BASIS OF DESIGN		UNIT WEIGHT (LBS)
								VOLT	PH	MCA	MAX. FUSE	MANUF.	MODEL	
AC-1	ELEV EQ RM 100A	30	19.9	---	REUSABLE	706 / 473	47	208	1	1	15	DAIKIN	FTXS30LVJU	40

NOTES:
1. PROVIDE CONDENSATE PUMP.
2. INDOOR UNIT POWER TO BE FED FROM OUTDOOR UNIT.

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

TAG	SERVICE	TYPE	AIRFLOW RANGE	NECK SIZE (IN)	INTERNAL DAMPER	MATERIAL	BASIS OF DESIGN
SD-1	SUPPLY	4' LINEAR SLOT	100-300	SEE PLANS	YES	ALUMINUM	TITUS FL-10
SD-2	SUPPLY	24x24 LAY-IN	0-120	6"Ø	YES	STEEL	TITUS OMNI
			120-210	8"Ø	YES	STEEL	TITUS OMNI
			210-350	10"Ø	YES	STEEL	TITUS OMNI
			350-600	12"Ø	YES	STEEL	TITUS OMNI
SD-3	SUPPLY	SIDEWALL	0-500	SEE PLANS	YES	STEEL	TITUS 301FL
SD-4	SUPPLY	DUCT MTD.	0-500	SEE PLANS	YES	STEEL	TITUS 301FL
RG-1	RETURN	24x24 LAY-IN	0-1400	12x12	NO	ALUMINUM	TITUS 50F
RG-2	RETURN	SIDEWALL	0-300	SEE PLANS	NO	ALUMINUM	TITUS 350 FL
RG-3	RETURN	4' LINEAR SLOT	100-300	SEE PLANS	YES	ALUMINUM	TITUS FL-10-JT
EG-1	EXHAUST	24x24 LAY-IN	0-300	12x12	YES	ALUMINUM	TITUS 50F
EG-2	EXHAUST	SIDEWALL	0-300	12x8	YES	ALUMINUM	TITUS 350 FL

NOTES:
1. VERIFY LOCATION WITH LIGHTS, SPRINKLER HEADS, CURTAIN TRACKS, ETC. ON REFLECTED CEILING PLAN BY MC.
2. SLOT DIFFUSERS TO BE PROVIDED WITH INSULATED PLENUM.

FULLY SPRINKLERED
BID DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL SCOTT P. LIZOTTE ENGINEER PE061440

ARCHITECTS/ENGINEERS:

A|E works
6587 HAMILTON AVENUE
PITTSBURGH, PENNSYLVANIA 15206
PH: 412.287.7333 FAX: 412.287.7334
www.ae-works.com

Drawing Title: HVAC EQUIPMENT SCHEDULES

Approved: Project Director

Project Title: BUILDING 9 - SECOND FLOOR RENOVATION

Location: 1400 Blackhorse Hill Road, Coatesville, PA 19320

Date: 05 / 12 / 14 | **Checked:** SPL | **Drawn:** SPL

Project Number: 542-13-105

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Drawing Number: H701

Dwg. 95 **of** 125

Office of Construction and Facilities Management

Department of Veterans Affairs

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