CERTIFIED TEST AND BALANCE REPORT

PSF Mechanical, Inc.
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Project Name: Lakeview Operations Project

PSF Job #: 2412

Project Address: Carillon Point Building 5000
6100 Carillon Point, Kirkland, WA 98003

Customer: GLY Construcion

Engineer Name: PAE

TAB Supervisor: Chris Grantham

Date: 5.17.16

AIR OUTLET TEST REPORT

Project : Lakeview Opertions
System : AHU-1
Service : Tenant Space Outside Air

AREA SERVED	OUTLET			AIRFLOW CFM (l/s)			% OF	RMKS
	NO.	TYPE	SIZE	DESIGN	PRELIM	FINAL	DESIGN	
First Floor								
Mothers Room 104	1	FTR	4"	40	23	25	**63%**	(1)
Reception 100	2	DS	10"	410	265	295	**72%**	(1)
Visitor Lounge 122	3	DS	10"	240	189	234	**98%**	(1)
Multifunction 123	4	v Operation	10"	240	262	247	**103%**	
Small Meeting 110	5	FTR	4"	40	42	40	**100%**	
Project Room 111	6	FTR	6"	80	66	75	**94%**	(1)
Board Room 112	7	FTR	4"	40	40	40	**100%**	(1)
Board Room 112	8	FTR	4"	40	29	33	**83%**	(1)
Board Room 112	9	RO	8"	220	-	220	**100%**	(5)
Project Room 113	10	FTR	4"	40	30	34	**85%**	(1)
Project Room 113	11	FTR	4"	40	32	36	**90%**	(1)
Small Meeting 114	12	FTR	4"	40	36	40	**100%**	(1)
Open Office 120	13	DS	10"	170	264	160	**94%**	
Open Office 120	14	DS	10"	170	273	160	**94%**	
Open Office 120	15	DS	10"	170	322	160	**94%**	
First Floor Total				1980	1873	1799	**91%**	
Second Floor								
Small Meeting 201	1	FTR	4"	40	35	40	**100%**	(1)
Small Meeting 200	2	FTR	6"	40	97	55	**138%**	(2)
Open Office 228	3	DS	10"	240	191	225	**94%**	(1)
Open Office 228	4	DS	10"	240	215	250	**104%**	(1)
Open Office 228	5	DS	10"	240	157	260	**108%**	(1)
Office 207	6	FTR	4"	40	34	40	**100%**	(1)
Office 208	7	FTR	4"	40	28	33	**83%**	(1)
Office 209	8	FTR	4"	40	46	40	**100%**	
Pantry 210	9	FTR	4"	50	34	40	**80%**	(1)
Pantry 210	10	FTR	4"	50	26	30	**60%**	(1)
Office 211, 212	11	FTR	6"	80	51	60	**75%**	(1)
Project Room 213	12	FTR	6"	120	49	58	**48%**	(1)
Open Office 225	13	DS	10"	370	190	220	**59%**	(1)
Open Office 226	14	DS	10"	300	172	195	**65%**	(1)
Exec. Suite 221	15	DS	10"	400	170	400	**100%**	(1)
Second Floor Total				2290	1495	1946	**85%**	
First and Second floor outlet Total				4,270		3,745	**88%**	(3)
First and Second floor Duct Traverse				4,270		4,848	**114%**	(3)

REMARKS

(1): Wide open path.

(2): Damper closed off 100%.

(3): Difference between outlet readings and duct traverse total indicates leakage of roughly 30% through gaps in concrete floor tiles that are used as lid to "air highway" duct that travels the length of the corridor. The floor above the "air highway" will have a membrane and wood, so this will help to reduce the leakage. Access to the ductwork for balancing will be limited once the wood floor goes down.

Date: 2/24/2016 Readings By: CG

AIR OUTLET TEST REPORT

Project : Lakeview Opertions
System : AHU-2
Service : Tenant Space Exhaust

AREA SERVED	OUTLET			AIRFLOW CFM (l/s)			% OF DESIGN	RMKS.
	NO.	TYPE	SIZE	DESIGN	PRELIM	FINAL		
2nd Floor								
Electrical Rm. 208	1	SWG	10x10	100	350	110	**110%**	
Copy Rm. 202	2	EG	24x24	1200	650	1075	**90%**	
Janitor 205	3	SWG	6x10	100	200	100	**100%**	
Men's RR 204	4	v Operation	12x12	360	100	330	**92%**	
Women's RR 203	5	5	12x12	490	250	440	**90%**	1
2nd Floor Total				2250	1550	2055	**91%**	2
1st Floor								
Electrical Rm. 108	1	SWG	10x10	100	400	110	**110%**	
Catering 101	2	EG	24x24	200	179	195	**98%**	
Reception 100	3	Slot	60"x 2"	500	650	530	**106%**	
Coat Closet	4	SWG	6x10	100	250	110	**110%**	
Janitor 107	5	SWG	6x10	100	250	105	**105%**	
Men's RR 106	6	EG	12x12	360	123	360	**100%**	
Women's RR 105	7	EG	12x12	490	300	490	**100%**	1
1st Floor Total				1850	2152	1900	**103%**	3
AHU-2 TOTAL				4100		3955	**96%**	

REMARKS

(1): Wide open path.
(2): Duct traverse total is 2,142 CFM.
(3): Duct Traverse total is 2,090 CFM.

Date: 5.17.16 Readings By: CG

AIR OUTLET TEST REPORT

Project : Lakeview Operations
System : Fan Coil Units
Service : Electrical and Server Rm,

AREA SERVED	OUTLET			AIRFLOW CFM (l/s)			% OF DESIGN	RMKS.
	NO.	TYPE	SIZE	DESIGN	PRELIM	FINAL		
FC-1								
Electrial Rm. P104	1	RO	60x6	880	1550	1050	**119%**	1
FC-2								
Server Rm. 115	1	v Operation	20x20	510	750	525	**103%**	1

REMARKS

(1): Speed setting is set to mimum setting (10) through BAS system.

Date: 5.17.16 Readings By: CG

AIR OUTLET TEST REPORT

Project : Lakeview Operations
System : EF-6
Service : Executive Suite & Copy Rm. Exhaust

AREA SERVED	OUTLET			AIRFLOW CFM (l/s)			% OF DESIGN	RMKS.
	NO.	TYPE	SIZE	DESIGN	PRELIM	FINAL		
2nd Floor								
Suite Restroom 220	1	Slot	36x2	160	225	160	**100%**	
Executive Suite 221	2	Slot	36x2	180	160	177	**98%**	
Kitchenette 223	3	Slot	36x2	160	170	172	**108%**	1
Lakeview Operations Project								
1st Floor								
Copy Rm. 116	1	EG	24x24	200	190	196	**98%**	1
EF-6 Total				700	745	705	**101%**	

REMARKS

Fan speed adjusted and setting marked at potentiometer at fan motor.

Date: 5,17,17 Readings By: CG

PUMP TEST REPORT

Project: Lakeview Operations Project
System: Heating Loop Pumps
Service: Primary Heating Loop

PUMP DATA	HWP-1	HWP-2	
Location	Mech. Rm. P10	Mech. Rm. P10	
Service	Primary Heating Loop	Primary Heating Loop	
Manufacturer	B & G	B & G	
Model Number	XL 40 - 200	XL 40 - 200	
Serial Number	20140716-01554	20140918-01845	
GPM/Head (Ft)	70 / 25'	70 / 25'	
Impellar Dia. /RPM	NA / 3300	NA / 3300	
Seal Type	Mechanical	Mechanical	
Motor Make	B & G	B & G	
HP/RPM/Frame	825 W / 3600 / NA	825 W / 3600 / NA	
Volts/Phase/hz	208 / 1 / 60	208 / 1 / 60	
Amps/SF	3.5 / 1.0	3.5 / 1.0	

TEST DATA	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
Pump off Pressure	15	15	15	15		
Block Tight Head (FT)	NA	NA	NA	NA		
Valve Open Head (FT)	25'	12' (1)	25'	12' (1)		
Final suction pressure (#)	-	37 (2)	-	37 (2)		
Final discharge pressure (#)	-	40 (2)	-	40 (2)		
Total dynamic head (Ft)	25'	12' (1)	25'	12' (1)		
GPM	50	50 (1)	50	50 (1)		
Impellar Diameter	-	NA	-	NA		
Impellar RPM	3300	2000 (1)	3300	2000 (1)		
Voltage T1-T2	208	207	208	207		
Voltage T2-T3	-	-	-	-		
Voltage T1-T3	-	-	-	-		
Amperage T1	825 W	240 W (1)	825 W	240 W (1)		
Amperage T2	-	-	-	-		
Amperage T3	-	-	-	-		

REMARKS

Pumps are setup for master/ slave operation. HWP-1 is Master and is controlling both HWP-1 and HWP-2 in parallel to maintain 12' ft of head (calcuated by master pump). Pumps tested with valves at chiller open and 2 PSI across HX's

(1): Value reported at pump controller. (2): Value reported at local gauges across pump.

Date: 5.17.16 Readings By: CG

PUMP TEST REPORT

Project: Lakeview Operations Project
System: Heating Loop Pumps
Service: Secondary Heating Loop

PUMP DATA	HWP-3	HWP-4	HWP-5
Location	Mechanial Rm. P10	Mechanial Rm. P10	Mechanical Shaft
Service	Heating Water Secondary Loop	Heating Water Secondary Loop	AHU-1 Coil
Manufacturer	B & G	B & G	B & G
Model Number	XL 790 -145	XL 790 -145	90 1.5AA
Serial Number	20150710-01788	20150710-01788	PV6475 - 1K51
GPM/Head (Ft)	60 / 50'	60 / 50'	25 / 20'
Impellar Dia. /RPM	NA / 3300	NA / 3300	4.75 / 1800
Seal Type	Mechanical	Mechanical	Mechanical
Motor Make	B & G	B & G	B & G
HP/RPM/Frame	1400 W / NA	1400 W / NA	.5 / 1725 / 56CVZ
Volts/Phase/hz	208 / 1 / 60	208 / 1 / 60	115 / 1 / 60
Amps/SF	6.0 / 1.0	6.0 / 1.0	8.8 / 1.25

TEST DATA	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
Pump off Pressure	15	15	15	15	5	24
Block Tight Head (FT)	-	-	-	-	-	-
Valve Open Head (FT)	-	-	-	-	-	-
Final suction pressure (#)	-	-	-	-	-	24
Final discharge pressure (#)	-	-	-	-	-	34
Total dynamic head (Ft)	50'	50' (1)	50'	50' (1)	20'	23'
GPM	40	40 (2)	40	40 (2)	25	23
Impellar Diameter	-	-	-	-	4.75	4.75
Impellar RPM	3300	NA	3300	NA	1800	1725
Voltage T1-T2	208	207	208	207	115	117
Voltage T2-T3	-	-	-	-	-	-
Voltage T1-T3	-	-	-	-	-	-
Amperage T1	1400 W	1200 W (1)	1400 W	1200 W	8.8	8.8
Amperage T2	-	-	-	-	-	-
Amperage T3	-	-	-	-	-	-

REMARKS

HWP-3 & 4: Pumps operate in parllel as needed to maintain loop DP setpoint of 16 PSI. System tested with both pumps on and maintaining 50' of head with all terminal in heating (see outlet test report).

(1): Value reported at pump controller. (2): Flow measured at terminals and devided across both pumps (parallel

Date: 5.17.16 Readings By: CG

Hydronic Outlet Test Report (Pressure Independent)

Project: Lakeview Opertions
System: HWP-3 and HWP-4
Service: Heating Water Loop

AREA SERVED	OUTLET		DESIGN	DESIGN	ACTUAL	ACTUAL	PERCENT OF DESIGN
	TYPE	SIZE	GPM	Differential Pressure	Differential Pressure	GPM	
FTR-121/122	Autoflow	0.75	5.67	2 - 32 PSI	10.7	5.67	100%
FTR-LTBX-1	Autoflow	0.75	0.3	2 - 32 PSI	15.7	0.3	100%
FTR-113	Autoflow	/ Operation	0.94	2 - 32 PSI	9.6	0.94	100%
FTR-114	Autoflow	0.75	0.47	2 - 32 PSI	9	0.47	100%
FTR-100	Autoflow	0.75	2.2	2 - 32 PSI	10.8	2.2	100%
FTR-104	Autoflow	0.75	0.15	2 - 32 PSI	15.5	0.15	100%
FTR-123	Autoflow	0.75	5.35	2 - 32 PSI	8.7	5.35	100%
FTR-110	Autoflow	0.75	0.47	2 - 32 PSI	10.3	0.47	100%
FTR-LTBX-2	Autoflow	0.75	0.3	2 - 32 PSI	15	0.3	100%
FTR-112	Autoflow	0.75	1.3	2 - 32 PSI	5.7	1.3	100%
FTR-211	Autoflow	0.75	0.47	2 - 32 PSI	11.6	0.47	100%
FTR-212	Autoflow	0.75	0.47	2 - 32 PSI	11	0.47	100%
FTR-213	Autoflow	0.75	0.94	2 - 32 PSI	6	0.94	100%
FTR-221	Autoflow	0.75	2.92	2 - 32 PSI	9.3	2.92	100%
FTR-226	Autoflow	0.75	3.25	2 - 32 PSI	9	3.25	100%
FTR-225	Autoflow	0.75	2.6	2 - 32 PSI	9.5	2.6	100%
FTR-228	Autoflow	0.75	2.6	2 - 32 PSI	3.8	2.6	100%
FTR-200	Autoflow	0.75	1.41	2 - 32 PSI	9.1	1.41	100%
FTR-201	Autoflow	0.75	0.47	2 - 32 PSI	11	0.47	100%
FTR-207	Autoflow	0.75	0.47	2 - 32 PSI	10	0.47	100%
FTR-208	Autoflow	0.75	0.47	2 - 32 PSI	11	0.47	100%
FTR-209	Autoflow	0.75	0.47	2 - 32 PSI	11.5	0.47	100%
FTR-210	Autoflow	0.75	1.3	2 - 32 PSI	5.8	1.3	100%
HC-1	Autoflow	0.75	4.2	2 - 32 PSI	6.4	4.2	100%
HC-2	Autoflow	0.75	4.2	2 - 32 PSI	7.2	4.2	100%
AHU-1 HW	Autoflow	0.75	21.5	2 - 32 PSI	2.2	21.5	100%
FTR-111	Autoflow	0.75	0.94	2 - 32 PSI	11	0.94	100%
FTR-120 HW	Autoflow	0.75	6.46	2 - 32 PSI	6.8	6.46	100%
FTR-227 HW	Autoflow	0.75	8.09	2 - 32 PSI	6	8.09	100%
TOTAL			80.38			80.38	100%

REMARKS

System tested with HWP-3 and HWP-4 on and operating to maintain 50' at pump, 16 PSI at Alerton Differential tranducer.

Date: 3.29.16 Readings By: CG

PUMP TEST REPORT

Project: Lakeview Operations
System: Chilled Water
Service: Primary Chilled Water Loop

PUMP DATA	CHP-1	CHP-2	
Location	Mechanical P10	Mechanical P10	
Service	Primary Chilled Water Loop	Primary Chilled Water Loop	
Manufacturer	B & G	B & G	
Model Number	XL70 -145	XL70 -145	
Serial Number	20150708-0142	20150710-01790	
GPM/Head (Ft)	100 / 30'	100 / 30'	
Impellar Dia. /RPM	NA / 3300	NA / 3300	
Seal Type	Mechanical	Mechanical	
Motor Make	B & G	B & G	
HP/RPM/Frame	1400 W / NA	1400 W / NA	
Volts/Phase/hz	208 / 1 / 60	208 / 1 / 60	
Amps/SF	6.0 / 1.0	6.0 / 1.0	

TEST DATA	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
Pump off Pressure	15	15	15	15		
Block Tight Head (FT)	-	NA	-	NA		
Valve Open Head (FT)	30'	27' (1)	30'	27' (1)		
Final suction pressure (#)	-	15 (2)	-	15 (2)		
Final discharge pressure (#)	-	23 (2)	-	23 (2)		
Total dynamic head (Ft)	30'	27'	30'	27'		
GPM	-	60 (1)	-	60 (1)		
Impellar Diameter	-	NA	-	NA		
Impellar RPM	3300	2450	3300	2450		
Voltage T1-T2	208	207	208	207		
Voltage T2-T3	-	-	-	-		
Voltage T1-T3	-	-	-	-		
Amperage T1	1400 W	575 W (1)	1400 W	575 W (1)		
Amperage T2	-	-	-	-		
Amperage T3	-	-	-	-		

REMARKS

Pumps are setup for master/ slave operation. CHP-1 is Master and is controlling both CHP-1 and CHP-2 in parallel to 27' ft of head (calcuated by master pump). Pumps tested with valves at chiller open and 5 PSI across HX's (design).
(1): Value reported at pump controller. (2): Value reported at local gauges across pump.

Date: 5.17.16 Readings By: CG

PUMP TEST REPORT

Project: Lakeview Operations
System: Chilled Water
Service: Secondary Chilled Water Loop

PUMP DATA	CHP-3	CHP-4	
Location	Mechanical P10	Mechanical P10	
Service	Secondary Chilled Water Loop	Secondary Chilled Water Loop	
Manufacturer	B & G	B & G	
Model Number	XL 70 - 145	XL 70 - 145	
Serial Number	20150710 - 01787	20150708-01415	
GPM/Head (Ft)	60 / 50'	60 / 50'	
Impellar Dia. /RPM	NA / 3300	NA / 3300	
Seal Type	Mechanical	Mechanical	
Motor Make	B & G	B & G	
HP/RPM/Frame	1400 W / NA	1400 W / NA	
Volts/Phase/hz	208 / 1 / 60	208 / 1 / 60	
Amps/SF	6.0 / 1.0	6.0 / 1.0	

TEST DATA	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
Pump off Pressure	15	15	15	15		
Block Tight Head (FT)	-	-	-	-		
Valve Open Head (FT)	-	-	-	-		
Final suction pressure (#)	-	-	-	-		
Final discharge pressure (#)	-	-	-	-		
Total dynamic head (Ft)	50'	50' (1)	50'	50' (1)		
GPM	47.5	47.5 (2)	47.5	47.5 (2)		
Impellar Diameter	NA	-	NA	-		
Impellar RPM	3300	-	3300	-		
Voltage T1-T2	208	207	208	207		
Voltage T2-T3	-	-	-	-		
Voltage T1-T3	-	-	-	-		
Amperage T1	1400 W	1200 W (1)	1400 W	1200 W (1)		
Amperage T2	-	-	-	-		
Amperage T3	-	-	-	-		

REMARKS

CHP-3 & 4: Pumps operate in parllel as needed to maintain loop DP setpoint of 17 PSI. System tested with both pumps on and maintaining 50' of head with all terminal in heating (see outlet test report).

(1): Value reported at pump controller. (2): Flow measured at terminals and devided across both pumps (parallel

Date: 5.17.16 Readings By: CG

Hydronic Outlet Test Report (Pressure Independent)

Project: Lakeview Operations
System: CHP-3 and CHP-4
Service: Cooling Water Loop

AREA SERVED	OUTLET		DESIGN	DESIGN	ACTUAL	ACTUAL	PERCENT OF DESIGN
	TYPE	SIZE	GPM	Differential Pressure	Differential Pressure	GPM	
FTR-121/122	Autoflow	0.75	6.82	2 - 32 PSI	7	6.82	100%
FTR-LTBX-1	Autoflow	0.75	0.38	2 - 32 PSI	10	0.38	100%
FTR-113	Autoflow	/ Operation	1.16	2 - 32 PSI	7	1.16	100%
FTR-114	Autoflow	0.75	0.58	2 - 32 PSI	7	0.58	100%
FTR-100	Autoflow	0.75	2.71	2 - 32 PSI	3	2.71	100%
FTR-104	Autoflow	0.75	0.19	2 - 32 PSI	12.6	0.19	100%
FTR-123	Autoflow	0.75	6.43	2 - 32 PSI	3.6	6.43	100%
FTR-110	Autoflow	0.75	0.58	2 - 32 PSI	9.8	0.58	100%
FTR-LTBX-2	Autoflow	0.75	0.38	2 - 32 PSI	12.4	0.38	100%
FTR-112	Autoflow	0.75	1.56	2 - 32 PSI	2.3	1.56	100%
FTR-211	Autoflow	0.75	0.58	2 - 32 PSI	2.2	0.58	100%
FTR-212	Autoflow	0.75	0.58	2 - 32 PSI	7.1	0.58	100%
FTR-213	Autoflow	0.75	1.16	2 - 32 PSI	7.9	1.16	100%
FTR-221	Autoflow	0.75	3.51	2 - 32 PSI	2.9	3.51	100%
FTR-226	Autoflow	0.75	3.91	2 - 32 PSI	9.2	3.91	100%
FTR-225	Autoflow	0.75	3.12	2 - 32 PSI	2.8	3.12	100%
FTR-228	Autoflow	0.75	3.12	2 - 32 PSI	3.2	3.12	100%
FTR-200	Autoflow	0.75	1.74	2 - 32 PSI	2.2	1.74	100%
FTR-201	Autoflow	0.75	0.58	2 - 32 PSI	2.6	0.58	100%
FTR-207	Autoflow	0.75	0.58	2 - 32 PSI	4.8	0.58	100%
FTR-208	Autoflow	0.75	0.58	2 - 32 PSI	2.5	0.58	100%
FTR-209	Autoflow	0.75	0.58	2 - 32 PSI	4.8	0.58	100%
FTR-210	Autoflow	0.75	1.56	2 - 32 PSI	2.1	1.56	100%
FC-1	Autoflow	0.75	5	2 - 32 PSI	4.9	5	100%
FC-2	Autoflow	0.75	2.4	2 - 32 PSI	10.2	2.4	100%
AHU-1 CHW	Autoflow	0.75	26.1	2 - 32 PSI	2.2	26.1	100%
AHU-2	Autoflow	0.75	23.9 (*)	2 - 32 PSI	4.7	23.9 (*)	100%
FTR-111	Autoflow	0.75	1.16	2 - 32 PSI	6	1.16	100%
FTR-120 CHW	Autoflow	0.75	7.79	2 - 32 PSI	2.2	7.79	100%
FTR-227 CHW	Autoflow	0.75	9.74	2 - 32 PSI	2.2	9.74	100%
TOTAL			94.58			94.58	100%

REMARKS

System tested with CHP-3 and CHP-4 both on and operating to maintain 50' at pump, 17 PSI at Alerton Differential Pressure transducer.

(*)AHU-2 Heat Recovery coil was closed when testing system in cooling, then opened to test flow with loop in

Date: 3.29.16 Readings By: CG

DUCT TRAVERSE REPORT

PROJECT: Lakeview Operations

SYSTEM: AHU-1; HC-1, 1st Floor Supply

Traverse No.	1	Location: Mechanical Rm. 109			Altitude: SL
Design CFM:	1,980	Actual CFM: 2,218	Static Pressure:	0.45	Temp.: Std.

RECTANGLE

Width In.	20
Height In.	19
Area (Sq.Ft.)	2.638

ROUND

Diameter In.	-
Area (Sq.Ft.)	-

Lakeview Operations Project

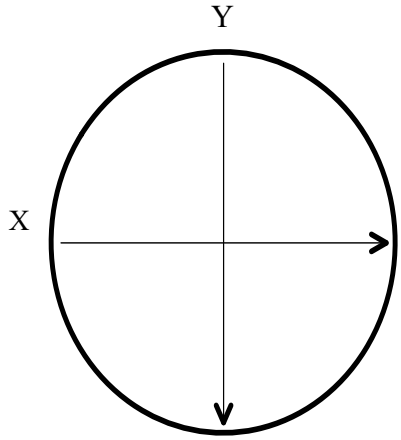
Minimum total number of readings required:

Round: <10" = 12, 10" - 12" = 16, >12" = 20

Maximum number required for any duct = 64.

If less than 64 readings are taken on any duct, the distance between readings shall not be over 6".

SEE DUCT TRAVERSE INSTRUCTIONS



ROUND DUCT

	X	Y											
Position	1	2	3	4	5	6	7	8	9	10	11	12	13
1	965	546	954	1149									
2	708	586	793	1196									
3	686	554	789	712									
4	1007	869	946	993									
5													
6													
7													
8													
9													
10													
Subtotals:	3366	2555	3482	4050	0	0	0	0	0	0	0	0	0

Total	/ No.Readings	= Avg. Velocity	x Area (Sq. Ft.)	x Corr. Factor	= CFM
13453	16	841	2.638	1.00	2,218

REMARKS

System operating w/ AHU-1 Supply fan at 75 HZ.

Date: 2/24/2016 Readings By: CG

DUCT TRAVERSE REPORT

PROJECT: Lakeview Operations

SYSTEM: AHU-1; HC-2, 2nd Floor Supply

Traverse No.	1	Location: Mechanical Rm. 109			Altitude: SL
Design CFM:	2,290	Actual CFM: 2,632	Static Pressure:	0.46	Temp.: Std.

RECTANGLE

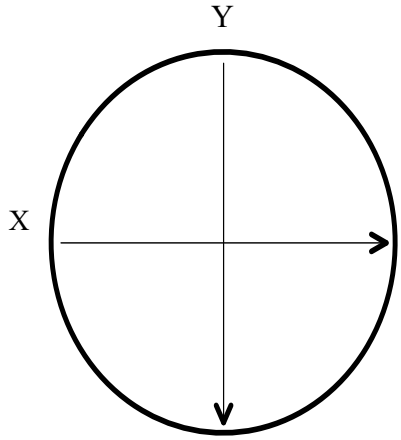
Width In.	20
Height In.	19
Area (Sq.Ft.)	2.638

ROUND

Diameter In.	-
Area (Sq.Ft.)	-

Minimum total number of readings required:

Round: <10" = 12, 10" - 12" = 16, >12" = 20
Maximum number required for any duct = 64.
If less than 64 readings are taken on any duct, the distance between readings shall not be over 6".
SEE DUCT TRAVERSE INSTRUCTIONS



ROUND DUCT

	X	Y											
Position	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1150	1529	1675	1868									
2	901	1546	1318	1347									
3	717	1013	917	309									
4	734	329	454	156									
5													
6													
7													
8													
9													
10													
Subtotals:	3502	4417	4364	3680	0	0	0	0	0	0	0	0	0

Total	/ No.Readings	= Avg. Velocity	x Area (Sq. Ft.)	x Corr. Factor	= CFM
15963	16	998	2.638	1.00	2,632

REMARKS

System operating w/ AHU-1 Supply fan at 75 HZ.

Date: 2.24.16 Readings By: CG

DUCT TRAVERSE REPORT

PROJECT: Lakeview Operations

SYSTEM: AHU-2; 1st floor Duct Total Traverse

Traverse No. 1	Location: Mechanical Rm.		Altitude: SL
Design CFM:	Actual CFM: 2,090	Static Pressure: -0.58	Temp.: Std.

RECTANGLE

Width In.	20
Height In.	12
Area (Sq.Ft.)	1.66

ROUND

Diameter In.	-
Area (Sq.Ft.)	-

Lakeview Operations Project

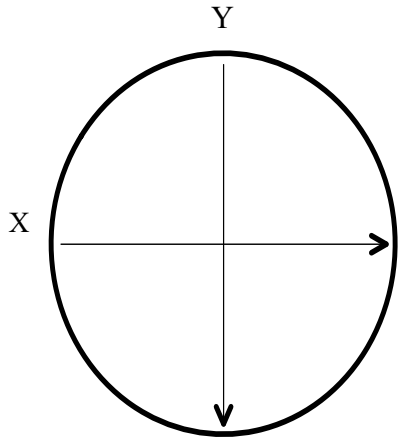
Minimum total number of readings required:

Round: <10" = 12, 10" - 12" = 16, >12" = 20

Maximum number required for any duct = 64.

If less than 64 readings are taken on any duct, the distance between readings shall not be over 6".

SEE DUCT TRAVERSE INSTRUCTIONS



ROUND DUCT

	X	Y											
Position	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1135	1161	1056	1137									
2	1334	1274	1275	1108									
3	1413	1369	1381	1328									
4	1395	1409	1232	1137									
5													
6													
7													
8													
9													
10													
Subtotals:	5277	5213	4944	4710	0	0	0	0	0	0	0	0	0

Total	/ No.Readings	= Avg. Velocity	x Area (Sq. Ft.)	x Corr. Factor	= CFM
20144	16	1259	1.660	1.00	2,090

REMARKS

System operating with AHU-2 Exhaust Fan operating at 70 HZ.

Date: 5.17.16 Readings By: CG

DUCT TRAVERSE REPORT

PROJECT: Lakeview Operations

SYSTEM: AHU-2; 1st Floor Total Duct Traverse

Traverse No. 1	Location: Mechanical Rm.		Altitude: SL
Design CFM: 2,200	Actual CFM: 2,142	Static Pressure: -0.22	Temp.: Std.

RECTANGLE

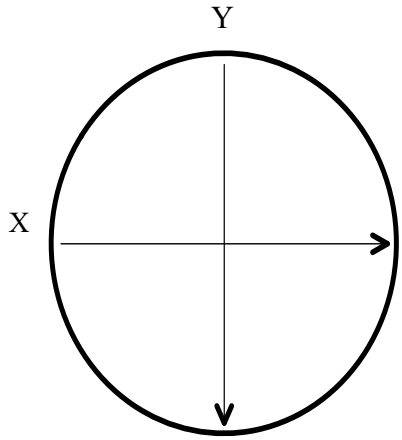
Width In.	30
Height In.	12
Area (Sq.Ft.)	2.5

ROUND

Diameter In.	-
Area (Sq.Ft.)	-

Minimum total number of readings required:

Round: <10" = 12, 10" - 12" = 16, >12" = 20
Maximum number required for any duct = 64.
If less than 64 readings are taken on any duct, the distance between readings shall not be over 6".
SEE DUCT TRAVERSE INSTRUCTIONS



ROUND DUCT

Position	X 1	Y 2	3	4	5	6	7	8	9	10	11	12	13
1	933	1000	929	646	574								
2	930	1055	490	1177	647								
3	976	1148	486	1079	657								
4	938	1111	682	1118	556								
5													
6													
7													
8													
9													
10													
Subtotals:	3777	4314	2587	4020	2434	0	0	0	0	0	0	0	0

Total	/ No.Readings	= Avg. Velocity	x Area (Sq. Ft.)	x Corr. Factor	= CFM
17132	20	857	2.500	1.00	2,142

REMARKS

Date: 5.17.16 Readings By: CG