



icon Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM: _____
Section Tested: **Level 0 Supply Air**

6 Leakage Class:
6 Specified Test Pressure
6 Duct Construction Pressure Class
19.23 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
136	30	230	530.28	19.23	102.0
		Reducer	102.00	19.23	19.6
		Reducer	102.00	19.23	19.6
84	48	60	110.00	19.23	21.2
84	35	48	79.33	19.23	15.3
84	48	60	110.00	19.23	21.2
84	48	98	179.67	19.23	34.5
		Elbow	267.00	19.23	51.3
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			1480.28		284.6

Actual Pressure	Orifice Pressure		Allowable Leakage	Actual Leakage	Pass / Fail
(in w.g.)	(in w.g.)		(cfm)	(cfm)	
5.983	2.791		284.6	243.0	Pass

Project supervisor's signature: _____

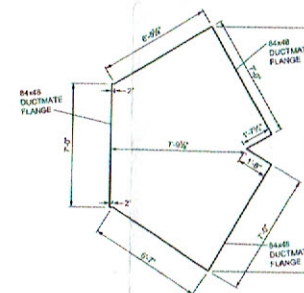
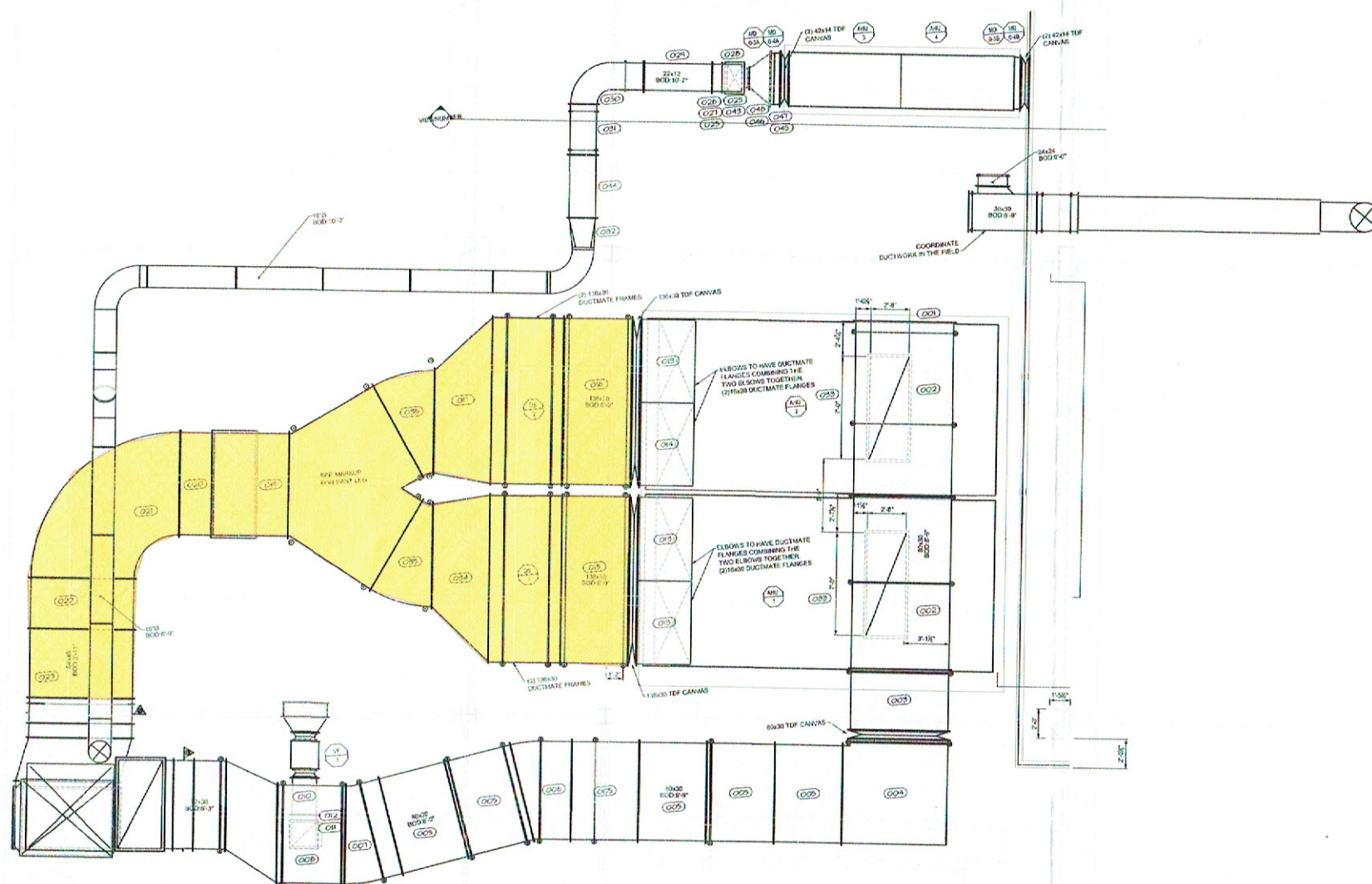
Remarks:

5

6

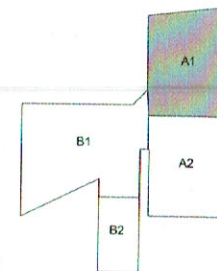
7

8



① LEVEL 0 - DUCTWORK PLAN

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



FOR CONSTRUCTION
DATE: 12/13/2015
ISSUE: CONSTRUCTION DRAWINGS
DRAWN BY: ZPK

Revision	Issue Date	Sheet Title
XX / XX / XX		
SM100A		
Project Number		
5768		
Sheet Number		
1 of 1		

WEBSTER UNIVERSITY - ISB

WEBSTER GROVES, MISSOURI

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Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Return Air**
Fan CFM: _____
Section Tested: **Level 0 Return Air**

6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

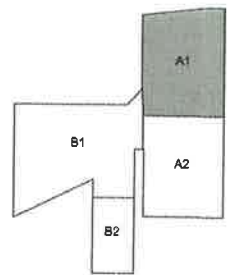
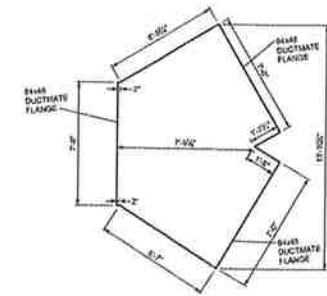
Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
80	30	337	514.86	14.77	76.1
80	30	151.5	231.46	14.77	34.2
80	30	70	106.94	14.77	15.8
80	30	Reducer	60.80	14.77	9.0
		341	520.97	14.77	77.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
				0.00	14.77
			1435.04		212.0

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.251	1.860	212.0	206.2	PASS

Project supervisor's signature: _____

Remarks: _____



FOR CONSTRUCTION
DATE: 12/12/2018 DRAWN BY: JPC
ISSUE: CONSTRUCTION DRAWINGS



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Revision: 
 Issue Date: XX / XX / XX
 Sheet Title:
SM100A
 Project Number:
 5768
 Sheet Number:
 1 of 1

4.043
1.543
188.3

DATE: 03/05/09 FILE PATH: H:\Engineering\ACI\0816 ACI\SUSIM9 - Midrise 150'Overlight Webcor 081622.mxd USER LEVEL: 9 - DUCTWORK PLANTING
PLATTED BY: Zaidong Lee



Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM: _____
Section Tested: **Supply Riser**

6 Leakage Class:
6 Specified Test Pressure
4 Duct Construction Pressure Class
19.23 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
66	66	224.5	411.58	19.23	79.1
		Reducer	29.00	19.23	5.6
54	66	168	280.00	19.23	53.8
		Reducer	25.60	19.23	4.9
42	66	167.5	251.25	19.23	48.3
		Reducer	37.50	19.23	7.2
24	54	56	60.67	19.23	11.7
		Elbow	63.10	19.23	12.1
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			0.00	19.23	0.0
			1158.70		222.8

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)		Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
6.060	2.030		222.8	202.5	PASS

Project supervisor's signature:	
Remarks:	



Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Return Air**
Fan CFM: _____
Section Tested: **Return Riser**

6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

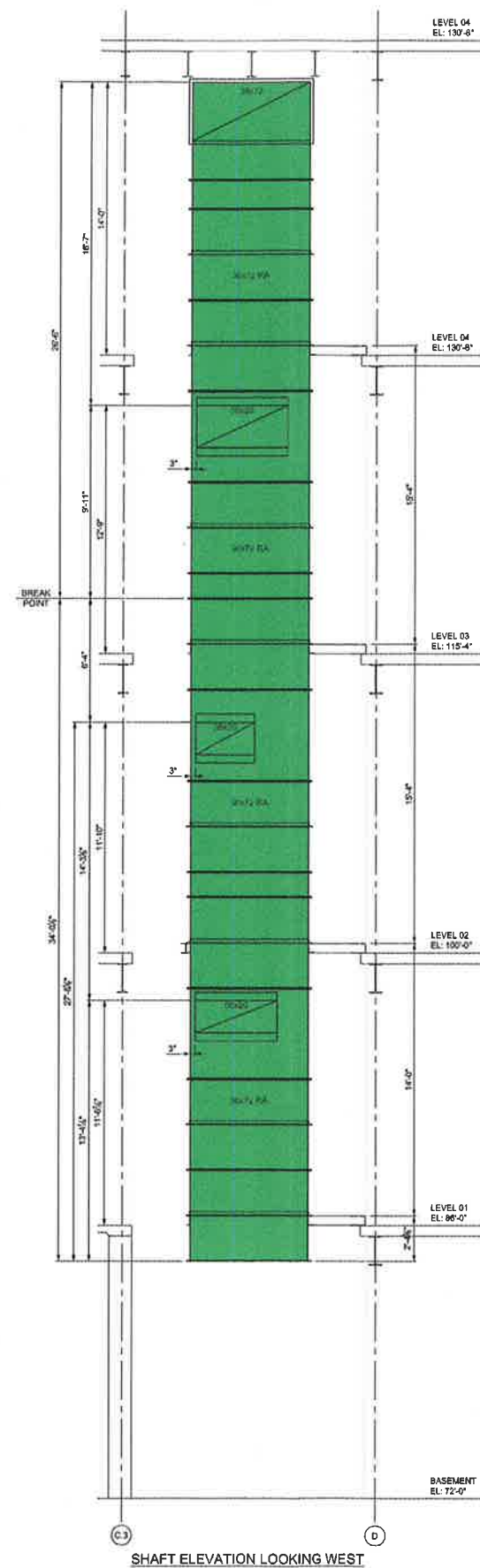
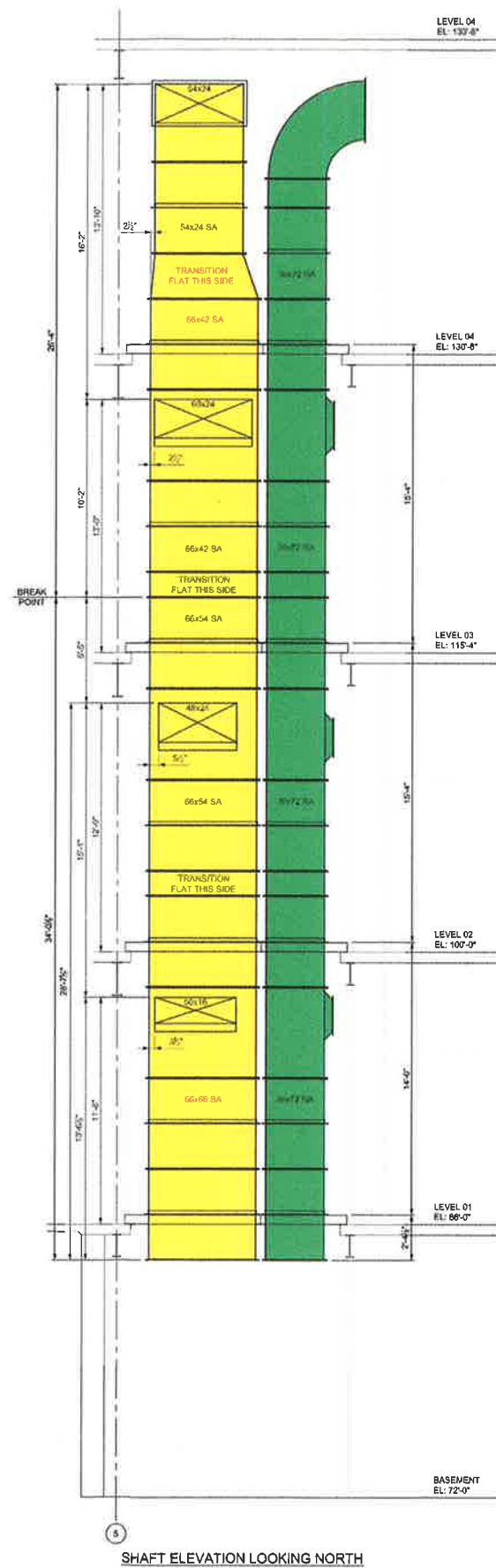
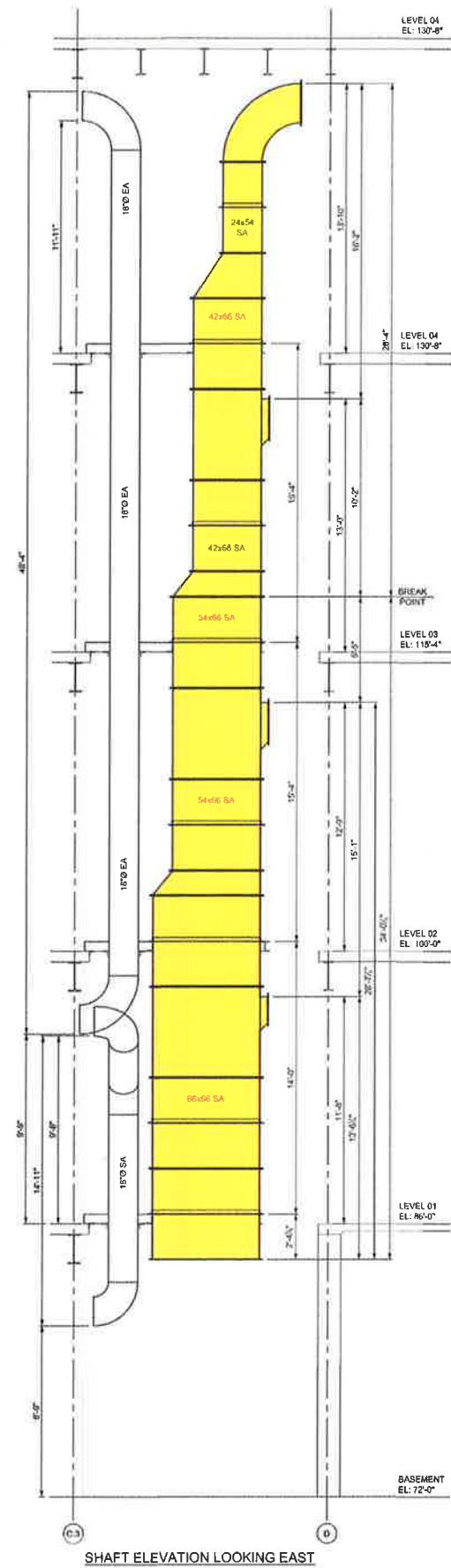
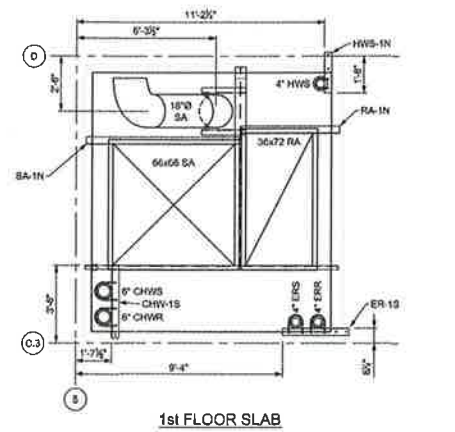
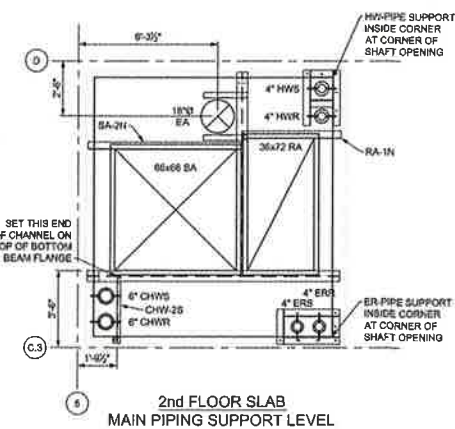
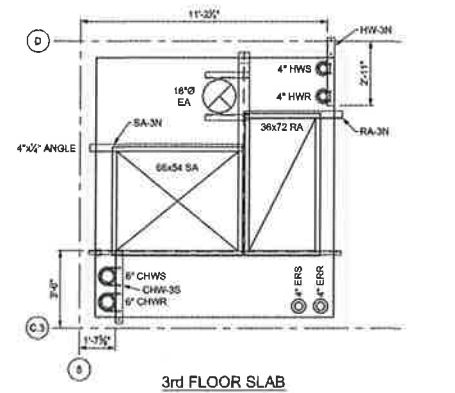
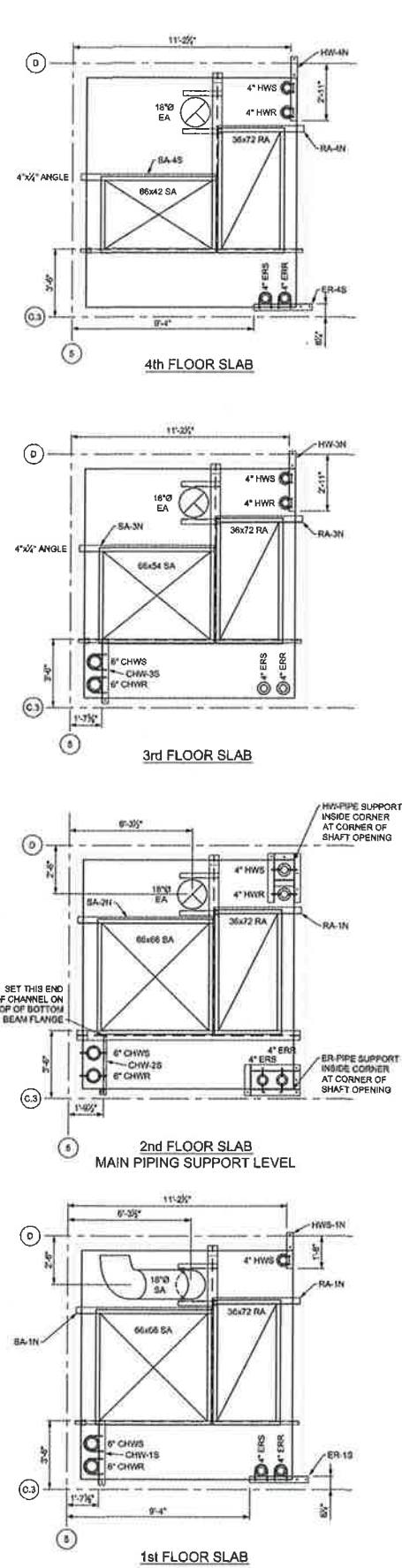
Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft²)	Factor (cfm/100ft²)	Leakage (cfm)
36	72	665.5	998.25	14.77	147.5
		Elbow	106.00	14.77	15.7
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
		1104.25		163.1	

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.079	.333	163.1	78.8	PASS

Project supervisor's signature: _____

Remarks: _____





Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Exhaust Air**
Fan CFM: _____
Section Tested: **1st Floor A Exhaust**

6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
20	14	55	25.97	14.77	3.8
20	14	57	26.92	14.77	4.0
20	14	500	236.11	14.77	34.9
		Elbow	24.70	14.77	3.6
		Elbow	23.00	14.77	3.4
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			336.70		49.7

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.024	0.0129	49.7	5.700	

Project supervisor's signature:	
Remarks:	

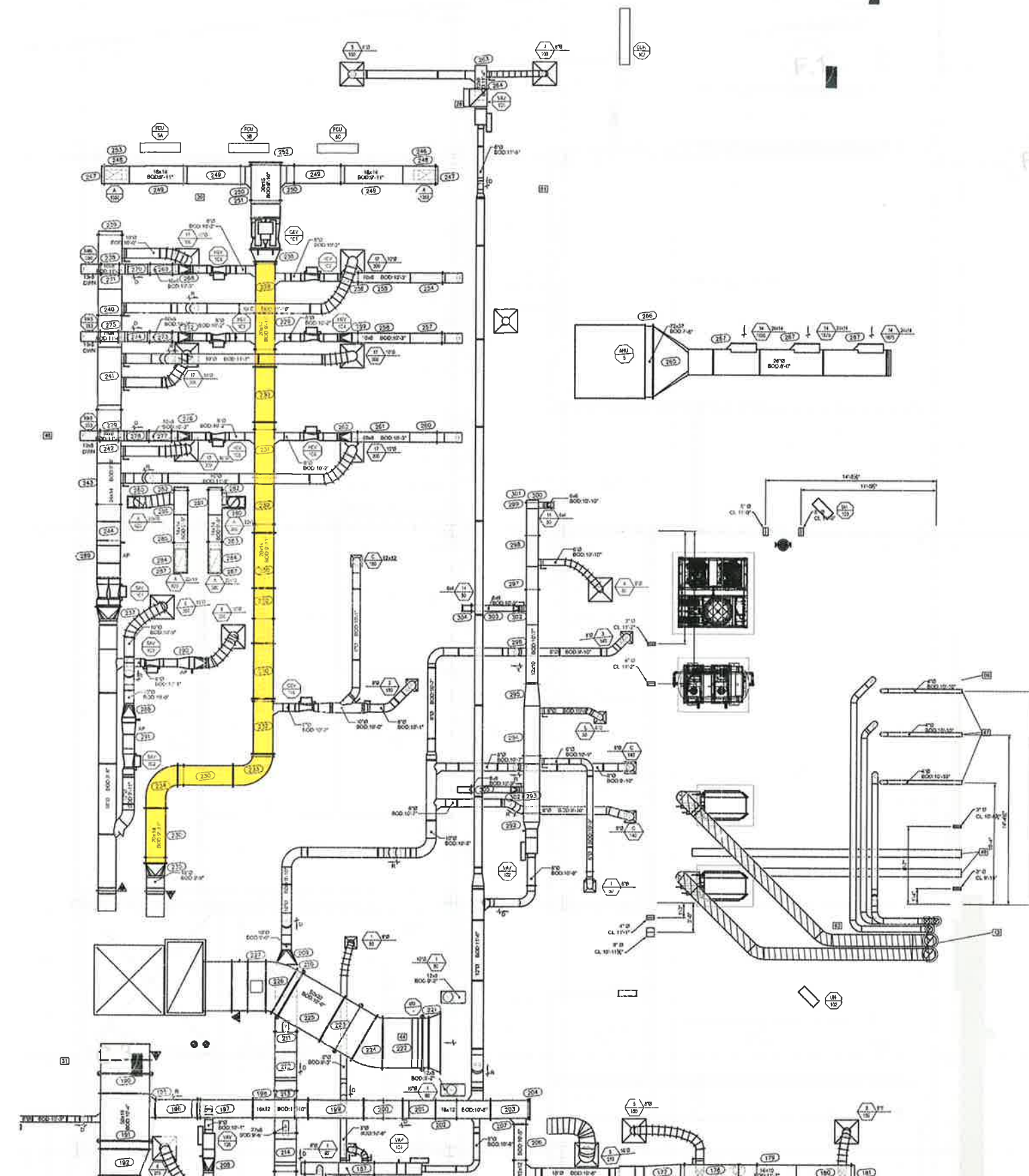
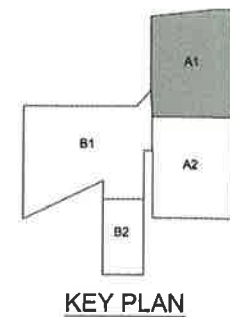
- KEYED NOTES (THIS SHEET ONLY)
- 1. OUTSIDE AIR INTAKE LOUVER. SEE ARCHITECTURAL DRAWINGS.
 - 2. BOILER AND DOMESTIC WATER HEATER FLUES UP THROUGH ROOF.
 - 3. AIRFLOW MEASURING STATION.
 - 4. EXHAUST DUCT DOWN THROUGH CHASE FOR DOWNDRAFT TABLE. VERIFY DUCT CONNECTION SIZE AND LOCATION. PROVIDE MANUAL DAMPER AND CONNECTION ADAPTER TO TABLE.
 - 5. DOMESTIC WATER HEATER COMBUSTION AIR DUCT THROUGH EXTERIOR WALL ABOVE LOUVER. PROVIDE VENTILATION CAP OR SLACK WITH BROOKS/SPRINGER.
 - 6. HEATING HOT WATER BOILER COMBUSTION AIR DUCT. PROVIDE VENTILATION CAP OR ELBOW WITH BROOKS/SPRINGER.
 - 7. MODIFY EXISTING LOW PRESSURE SUPPLY DUCTWORK IN THIS AREA FOR NEW WALLS. REMOVE EXISTING DUCT MOUNTED AIR DEVICES AND PATCH DUCTWORK AIR-TIGHT. INSTALL NEW CEILING DIFFUSERS AND RETURN AIR GRILLE AS SHOWN AND AS REQUIRED FOR NEW CEILING.
 - 8. REMOVE EXISTING DUCT MOUNTED AIR DEVICE AND CAP WITH SHEETMETAL. SEAL AIR-TIGHT.
 - 9. NEW CONNECTION TO EXISTING DUCTWORK.
 - 10. EXISTING AIR DEVICE TO REMAIN. BALANCE TO ROOM.



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Revisions:	XX / XX / XX
Issue Date:	XX / XX / XX
Sheet Title:	SM101A1
Project Number:	5766
Sheet Number:	1 of 1



1 PARTIAL LEVEL 1 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"

DATE: 04/20/17 FILE PATH: N:\Engineering\Projects\050101 Webster ISB\Design\Mechanical\SM101A1 PARTIAL LEVEL 1 - DUCTWORK PLAN.dwg
PLOTTER: R. Robert



Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM: _____
Section Tested: **1st Floor B Mains**

6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
40	16	102	79.33	14.77	11.7
		reducer	23.00	14.77	3.4
26	12	562	296.61	14.77	43.8
		reducer	6.00	14.77	0.9
		elbow	19.40	14.77	2.9
20	10	623	259.58	14.77	38.4
40	14	124	93.00	14.77	13.7
36	14	93	64.58	14.77	9.5
36	14	453	314.58	14.77	46.5
32	8	63	35.00	14.77	5.2
		reducer	11.10	14.77	1.6
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			1202.19		177.6

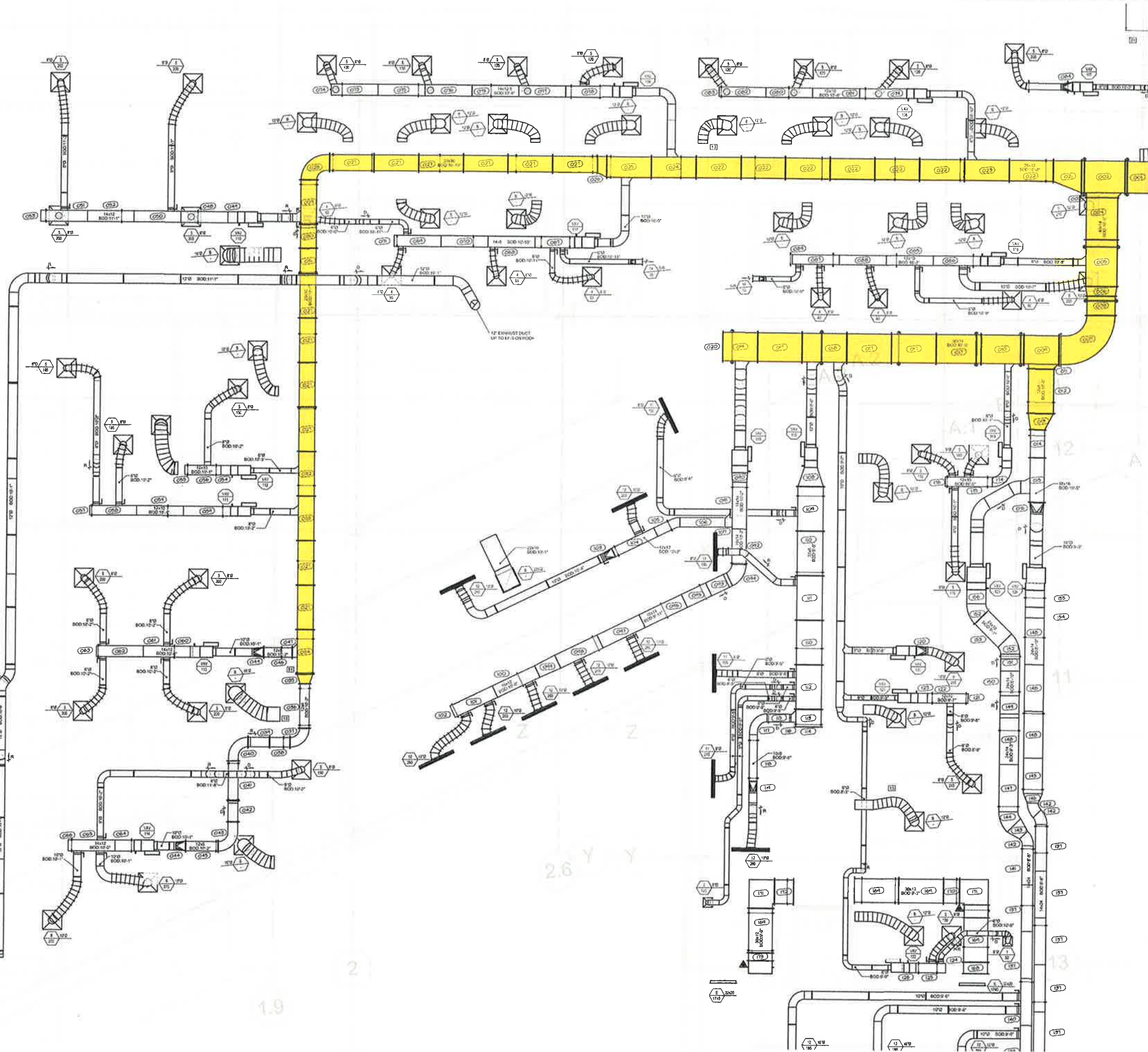
Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.017	0.408	177.6	90.9	PASS

Project supervisor's signature:	
Remarks:	Steel D. Ng 11/16/16 1st LEAKAGE 90.9

DATE: 11/01/2015 FILE PATH: N:\Engineering\2015\SM101B1 - Webster University\SM101B1 - PARTIAL LEVEL 1 - DUCTWORK PLAN.dwg
PLOTTER: HP DesignJet 500 Plotter

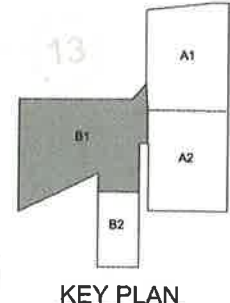
8" DIA. BALANCE FOR
250 CFM DOWN TO GAS
CABINET.
COORDINATE EXACT
LOCATION IN FIELD.

8" DIA. BALANCE FOR
400 CFM DOWN TO
GAS CABINET.
COORDINATE EXACT
LOCATION IN FIELD.



PARTIAL LEVEL 1 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"

FOR CONSTRUCTION
DATE: 11/01/2015 DRAWING: 201
ISSUE: CONSTRUCTION DRAWING



Press
4.017
Leakage
0.408

Revision:
Issue Date
XX / XX / XX
Sheet Title
SM101B1
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Sheet Number
1 of 1

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Duct Leakage Test Data Sheet

Project Name: Webster ISB 6 Leakage Class:
Air System: Supply Air 4 Specified Test Pressure
Fan CFM: 4 Duct Construction Pressure Class
Section Tested: 2nd Floor A Mains 14.77 Leakage Factor (cfm/100 ft²)

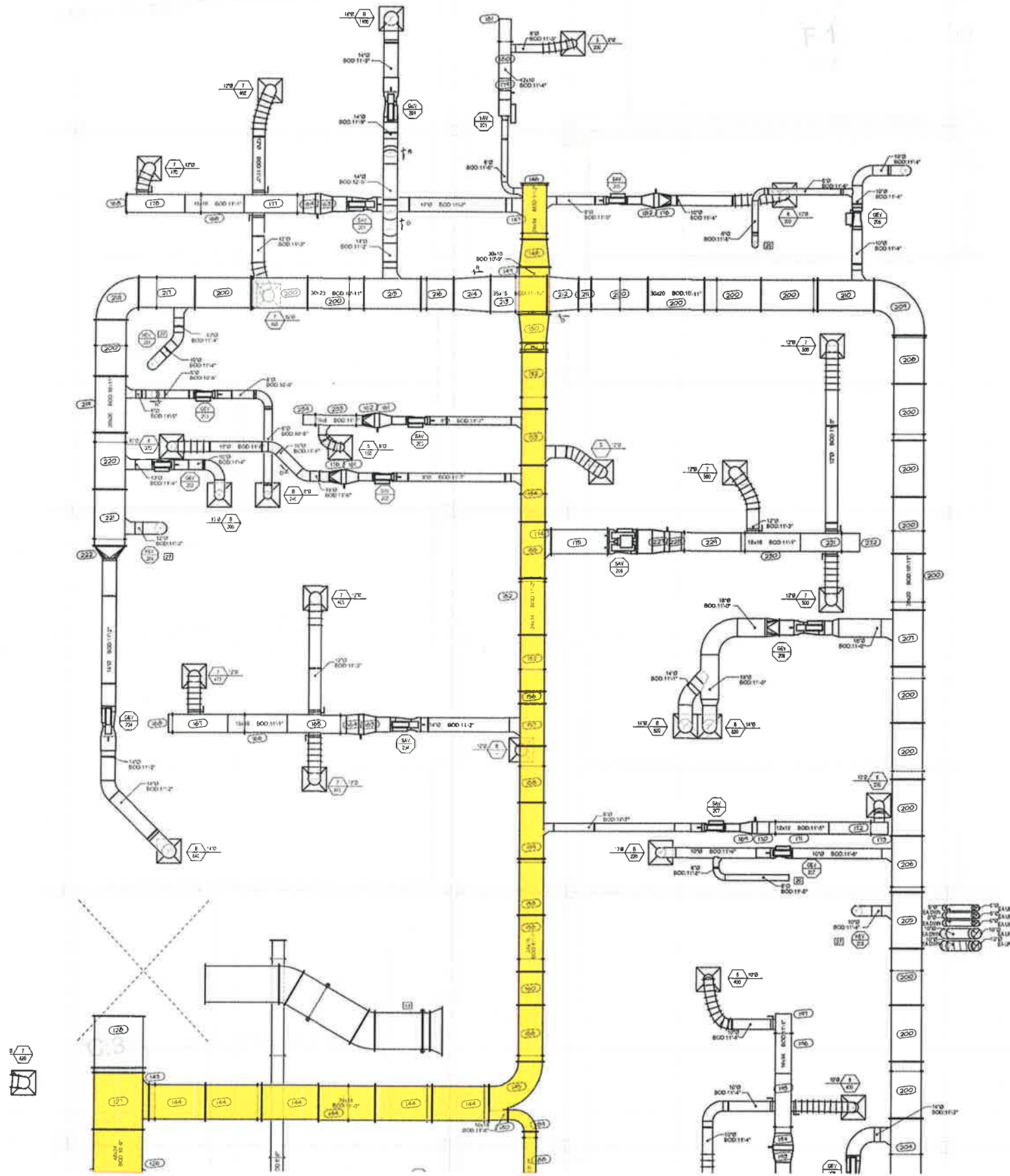
Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
48	24	56	56.00	14.77	8.3
48	24	43.5	43.50	14.77	6.4
34	18	343	247.72	14.77	36.6
12	14	148	53.44	14.77	7.9
24	14	713	376.31	14.77	55.6
30	10	48	26.67	14.77	3.9
24	14	56	29.56	14.77	4.4
		Reducer	14.70	14.77	2.2
		Reducer	15.20	14.77	2.2
		Elbow	12.60	14.77	1.9
		Elbow	39.80	14.77	5.9
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			915.49		135.3

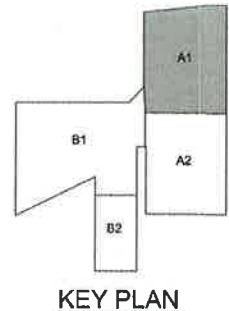
Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)		Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.001	0.361		135.3	83.0	PASS

Project supervisor's signature:	<i>[Signature]</i>	12/29/14
Remarks:		

DATE: 1/20/2014 FILE: SM102A1.dwg USER: JMS/STB W:\\Projects\\SM102A1\\Partial Level 2 - Ductwork Plan.dwg
PLOTTER: HP DesignJet 5000PSN



1 PARTIAL LEVEL 2 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"



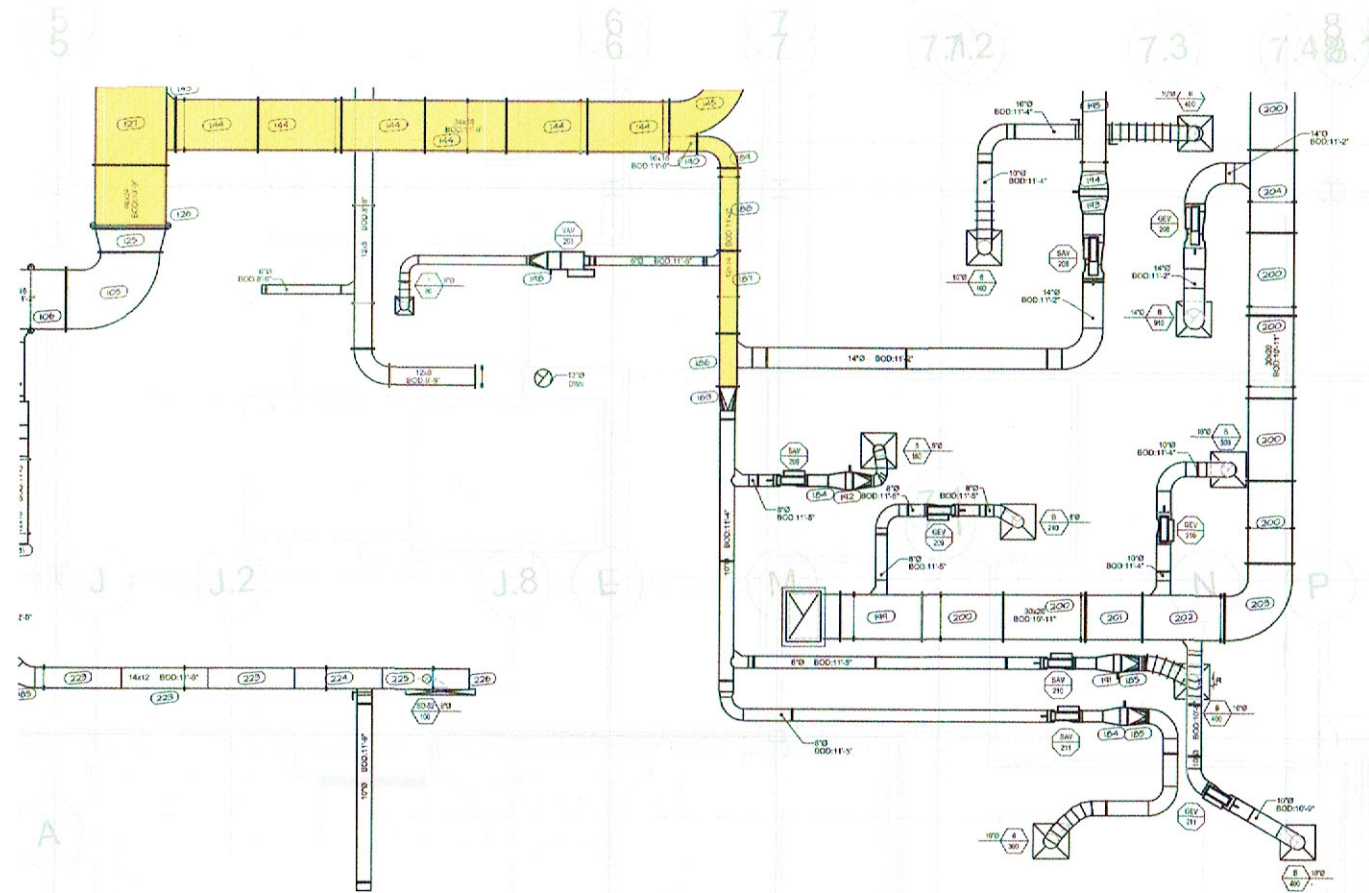
- KEYED NOTES (THIS SHEET ONLY)
- 1. BOILER AND DOMESTIC WATER HEATER FLUES UP THROUGH ROOF
 - 2. 6" HIGH ROUND EXHAUST DUCT FOR SINKS, E.G. MUST COORDINATE FINAL CONNECTION TO SINKS
 - 3. INSTALL HOOD EXHAUST VALVE IN VERTICAL POSITION NEAR HOOD. ELBOWS SHALL HAVE 1.5 DIAMETER RADIUS. USE 1.5 DIAMETER RADIUS ELBOWS ONLY WHERE NECESSARY
 - 4. AIRFLOW MEASURING STATION

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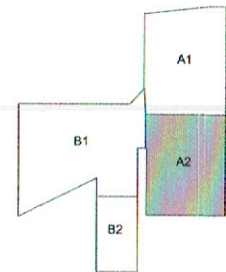
Revision:	
Issue Date:	XX / XX / XX
Sheet Title:	
Project Number:	SM102A1
Sheet Number:	5768
1 of 1	

DATE: 11/20/10 FILE PATH: P:\Engineering\02114\2114\0104\104102\Partial Level 2 - Ductwork Plan.dwg
PLOTTER: HP DesignJet 500 Plotter



- KEYED NOTES (THIS SHEET ONLY)
- [12] BODILY AND DOMESTIC WATER HEATER FLUES UP THROUGH ROOF.
 - [26] 8" RHO ROUND EXHAUST DUCT FOR SMOKE EXHAUST COORDINATE FINAL CONNECTION TO SMOKE.
 - [27] INSTALL HOOD EXHAUST VALVE IN VERTICAL POSITION NEAR HOOD. ELBOWS SHALL HAVE 1.5 DIAMETER RADIUS. USE 1.0 DIAMETER RADIUS ELBOWS ONLY WHERE NECESSARY.
 - [44] AIRFLOW MEASURING STATION.

1 PARTIAL LEVEL 2 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"



Revision:	XX / XX / XX
Issue Date:	
Sheet Title:	
Project Number:	SM102A2
Sheet Number:	5768
1 of 1	

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Duct Leakage Test Data Sheet

Project Name: Webster ISB Air System: Exhaust Air Fan CFM: _____ Section Tested: 2nd Floor A Mains	<table style="margin: auto;"> <tr><td style="border-top: 1px solid black; border-bottom: 1px solid black;">6</td><td style="border-top: 1px solid black; border-bottom: 1px solid black;">Leakage Class:</td></tr> <tr><td style="border-top: 1px solid black; border-bottom: 1px solid black;">4</td><td style="border-top: 1px solid black; border-bottom: 1px solid black;">Specified Test Pressure</td></tr> <tr><td style="border-top: 1px solid black; border-bottom: 1px solid black;">4</td><td style="border-top: 1px solid black; border-bottom: 1px solid black;">Duct Construction Pressure Class</td></tr> <tr><td style="border-top: 1px solid black; border-bottom: 1px solid black;">14.77</td><td style="border-top: 1px solid black; border-bottom: 1px solid black;">Leakage Factor (cfm/100 ft²)</td></tr> </table>	6	Leakage Class:	4	Specified Test Pressure	4	Duct Construction Pressure Class	14.77	Leakage Factor (cfm/100 ft ²)
6	Leakage Class:								
4	Specified Test Pressure								
4	Duct Construction Pressure Class								
14.77	Leakage Factor (cfm/100 ft ²)								

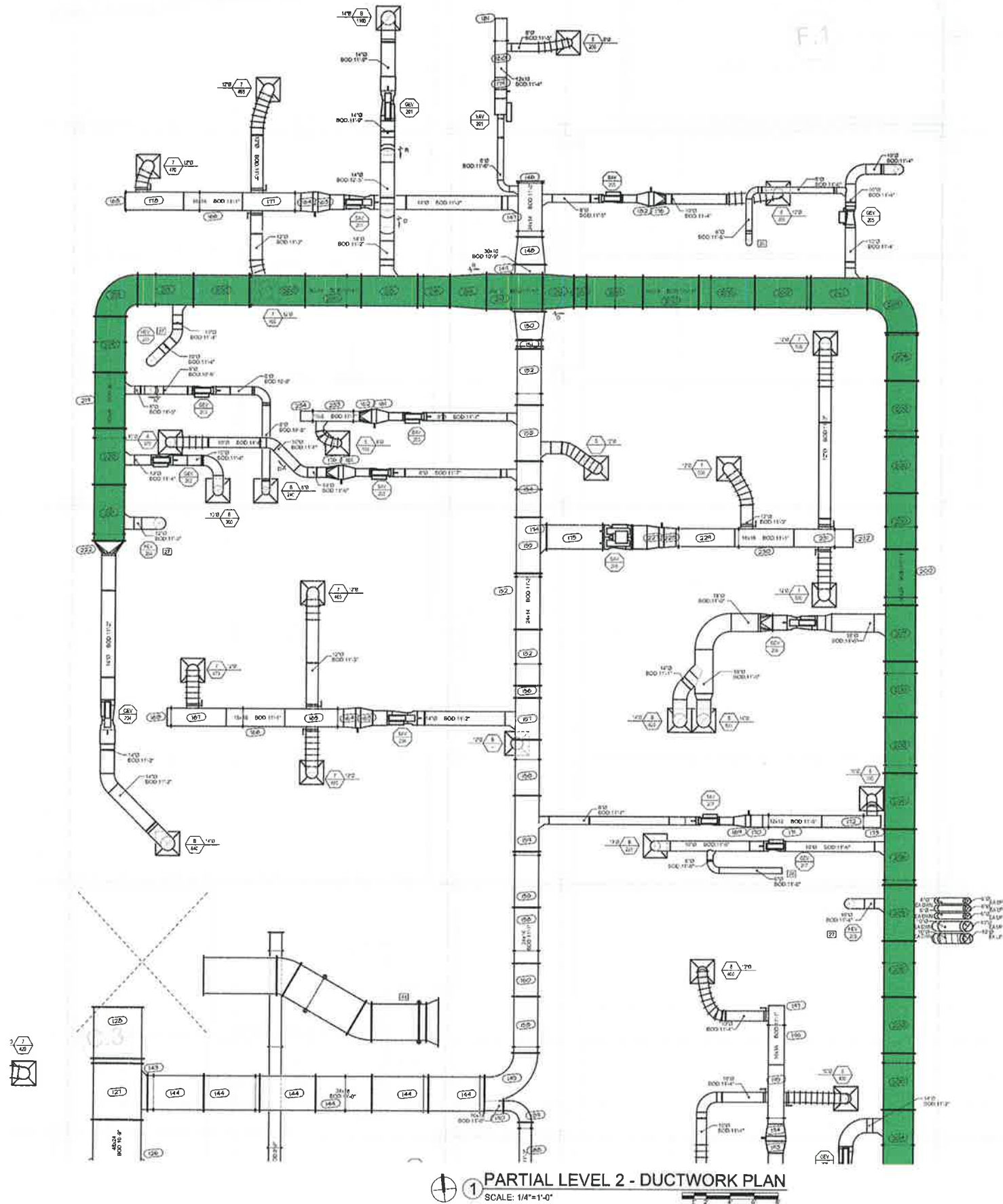
Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
30	20	264	183.33	14.77	27.1
30	20	280	194.44	14.77	28.7
		Elbow	43.70	14.77	6.5
30	20	779	540.97	14.77	79.9
		Elbow	47.90	14.77	7.1
30	20	293	203.47	14.77	30.1
		Reducer	21.60	14.77	3.2
35	15	56	38.89	14.77	5.7
		Reducer	25.80	14.77	3.8
30	20	313	217.36	14.77	32.1
		Elbow	35.20	14.77	5.2
30	20	224	155.56	14.77	23.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			1708.23		252.4

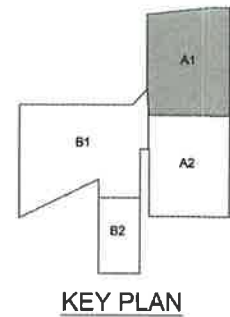
Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.014	.359	252.4	78.8	PASS

Project supervisor's signature:	 12/27/16
Remarks:	

DATE: 11/20/2014 FILE PATH: \\H:\Engineering\CAUTION\JOS\5768 - Webster University\3D\Mechanical\SM102A1 PARTIAL LEVEL 2 - DUCTWORK PLAN.dwg
PLOTTER: HP DesignJet 5000 Plotter



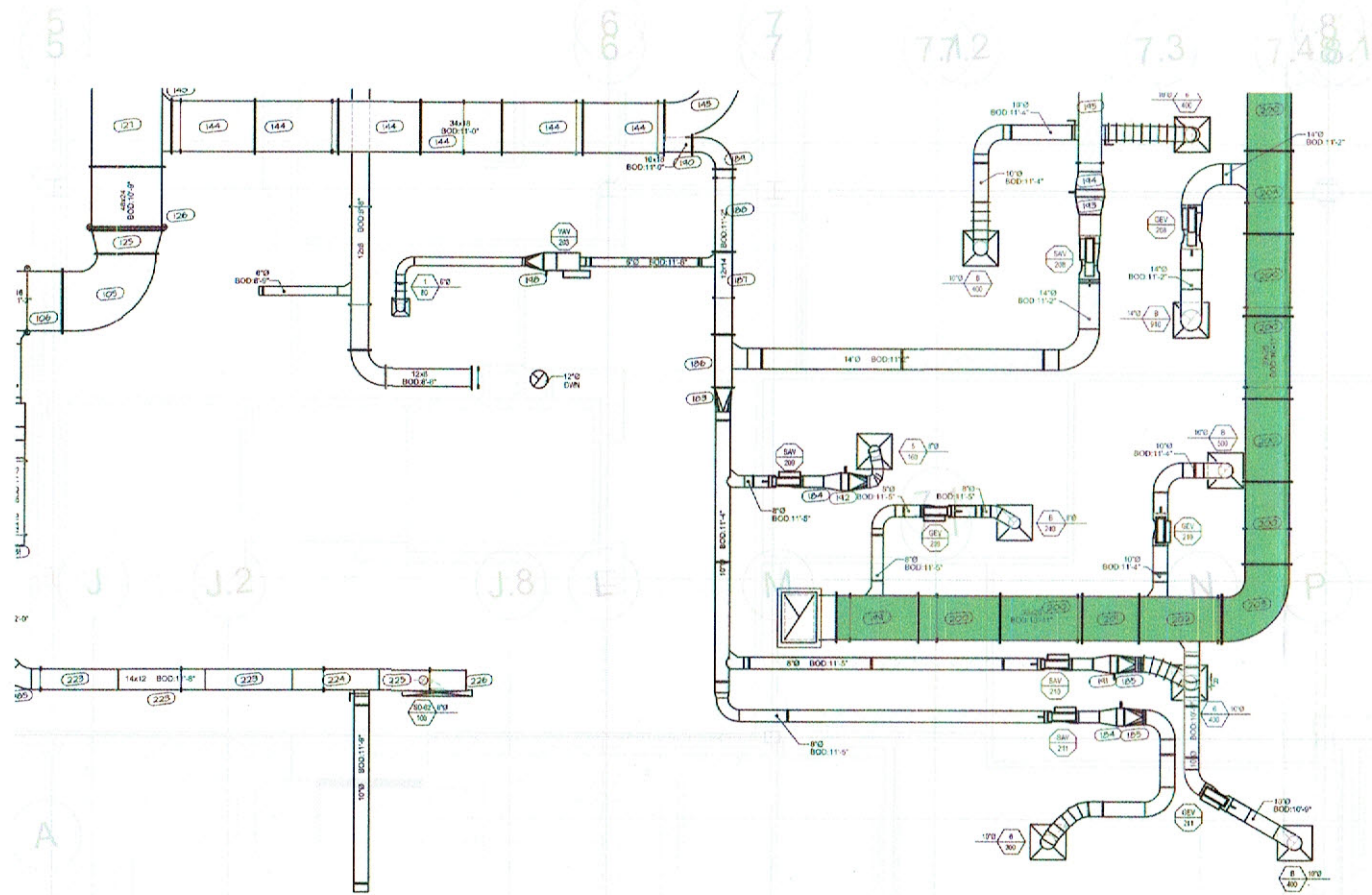
- KEYED NOTES (THIS SHEET ONLY)
- 1. BOILER AND DOMESTIC WATER HEATER FLUES UP THROUGH ROOF
 - 2. 8\"/>
 - 3. INSTALL HOOD EXHAUST VALVE IN VERTICAL PORTION NEAR HOOD. ELBOWS SHALL HAVE 1\"/>
 - 4. APPROX MEASURING STATION



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ICON MECHANICAL CONTRACTORS AND ENGINEERS

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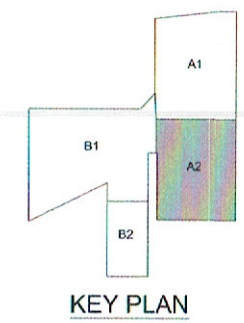
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Issue Date:	XX / XX / XX
Sheet Title:	SM102A1
Project Number:	5768
Sheet Number:	1 of 1



- KEYED NOTES (THIS SHEET ONLY)
- [1] BOILER AND DOMESTIC WATER HEATER FLUES UP THROUGH ROOF.
 - [2] 4\"/>

NOT VALID FOR PERMITS
UNLESS SEALED BY
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PARTIAL LEVEL 2 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"

DATE: 11/20/2013 FILE PATH: H:\Engineering\2013\11\20131120\1120131120.dwg User: d88\Design\Mechanical\SEB\sebastian.schmitt PARTIAL LEVEL 2 - OUTDOOR PLUMBING PLOTTED BY: jay.canty



Duct Leakage Test Data Sheet

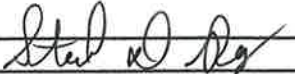
Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM:
Section Tested: **2nd Floor B Mains**

6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

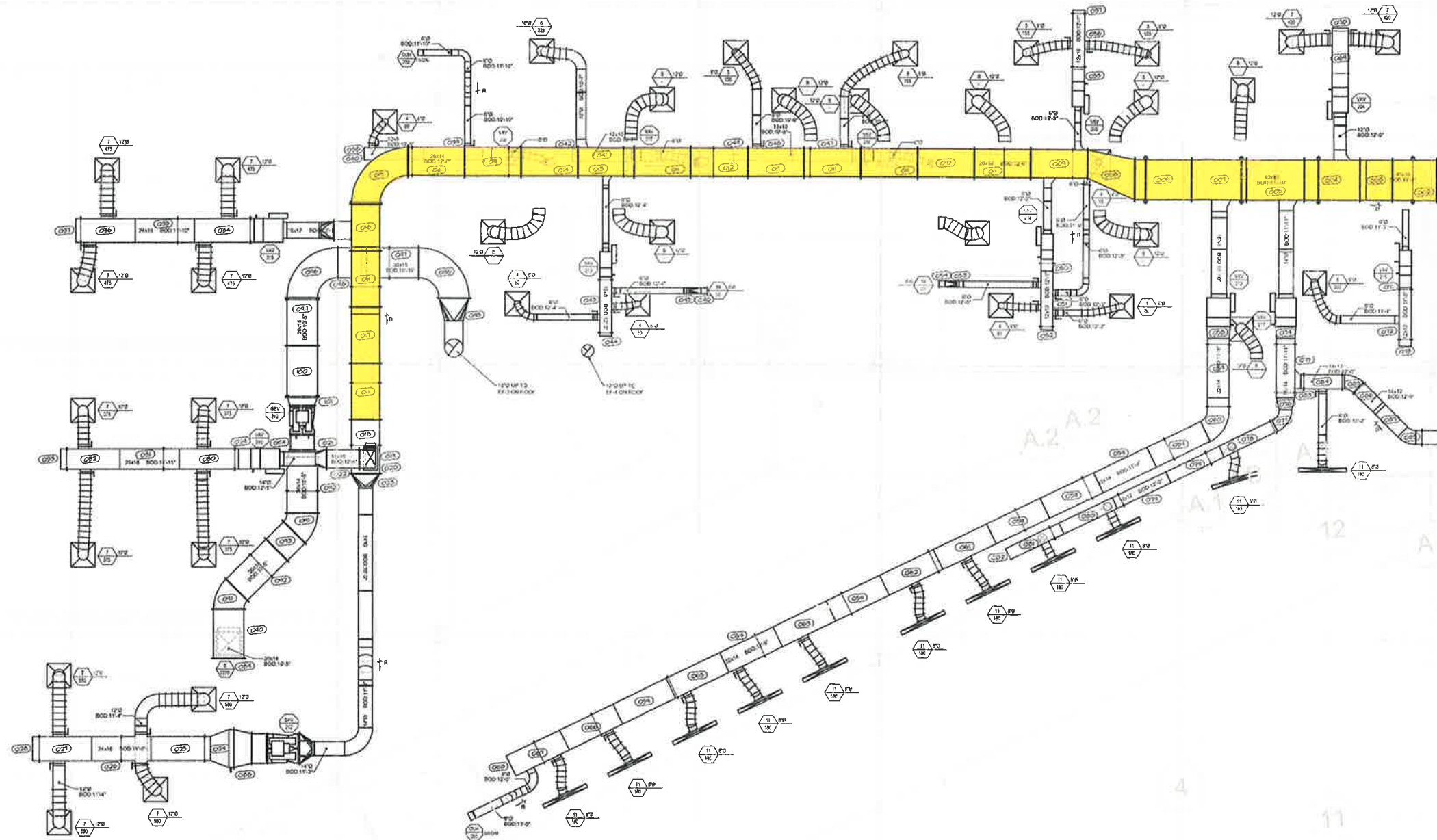
Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
40	16	302	234.89	14.77	34.7
		reduce	32.70	14.77	4.8
28	14	676	394.33	14.77	58.3
		elbow	47.60	14.77	7.0
28	14	215	125.42	14.77	18.5
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			834.94		123.4

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.16	0.048	123.4	45.6	PASS

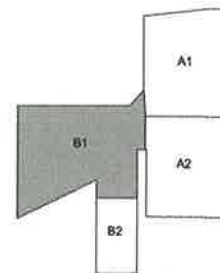
Project supervisor's signature:	
Remarks:	

DATE: 11/01/2016 PLOT PATH: \\C:\Engineering\CA0011\J005768 - Webster University\11 Webster University\SM102B1 PARTIAL LEVEL 2 - DUCTWORK PLAN.dwg
PLOTTER: BY: J005768



① PARTIAL LEVEL 2 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"

FOR CONSTRUCTION
DATE: 11/01/2016 DRAWN BY: J005768
ISSUE: CONSTRUCTION DRAWING



Revision:	
Issue Date:	XX / XX / XX
Sheet Title:	SM102B1
Project Number:	5768
Sheet Number:	1 of 1

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ENGINEER



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www.iconmech.com



Mechanical

Duct Leakage Test Data Sheet

Project Name: Webster ISB Air System: Supply Air Fan CFM: _____ Section Tested: 3rd Floor A Mains	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; width: 50px; text-align: center;">6</td> <td style="width: 50px;">Leakage Class:</td> </tr> <tr> <td style="border-bottom: 1px solid black; text-align: center;">4</td> <td style="width: 50px;">Specified Test Pressure</td> </tr> <tr> <td style="border-bottom: 1px solid black; text-align: center;">4</td> <td style="width: 50px;">Duct Construction Pressure Class</td> </tr> <tr> <td style="border-bottom: 1px solid black; text-align: center;">14.77</td> <td style="width: 50px;">Leakage Factor (cfm/100 ft²)</td> </tr> </table>	6	Leakage Class:	4	Specified Test Pressure	4	Duct Construction Pressure Class	14.77	Leakage Factor (cfm/100 ft ²)
6	Leakage Class:								
4	Specified Test Pressure								
4	Duct Construction Pressure Class								
14.77	Leakage Factor (cfm/100 ft ²)								

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (In)	Length (in)	Area (ft²)	Factor (cfm/100ft²)	Leakage (cfm)
46	14	325	270.83	14.77	40.0
		Reducer	17.10	14.77	2.5
		Reducer	2.60	14.77	0.4
		Reducer	6.10	14.77	0.9
26	20	359.7	229.81	14.77	34.0
16	10	56.5	20.40	14.77	3.0
16	10	222	80.17	14.77	11.8
		Reducer	20.60	14.77	3.0
18	16	448	211.56	14.77	31.3
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			859.17		126.9

Actual Pressure	Orifice Pressure		Allowable Leakage	Actual Leakage	Pass / Fail
(in w.g.)	(in w.g.)		(cfm)	(cfm)	
4.036	4.533		126.9	107.2	PASS

Project supervisor's signature:	<i>Mike Reinhold</i>
Remarks:	



Revision:

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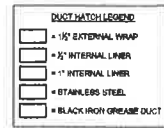
Issue Date: XX / XX / XX

Sheet Title:

SM103A1

Project Number: 5768

Sheet Number: 1 of 1



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Revision:      

Issue Date
XX / XX / XX

Sheet Title

SM103A2

Project Number
5768

Sheet Number
1 of 1



DATE: 01/09/2017 FILE PATH: K:\Programme\2017\BIBLIOGRAPHIE - Webcom (2017-01-09)\BIBLIOGRAPHIE PARTIAL LEVEL 2 - DUCHOISE MONIQUE
PRINTED BY: Robert Lamer



Duct Leakage Test Data Sheet

Project Name: Webster ISB
Air System: Exhaust Air
Fan CFM:
Section Tested: 3rd Floor Mains

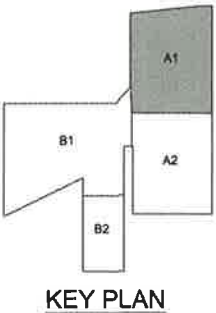
6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

Leakage Test Data					
Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
30	20	Elbow	60.40	14.77	8.9
		168.5	117.01	14.77	17.3
30	20	Elbow	64.30	14.77	9.5
		789	547.92	14.77	80.9
30	16	Elbow	57.30	14.77	8.5
		703.7	449.59	14.77	66.4
30	16	Elbow	55.80	14.77	8.2
		336.5	214.99	14.77	31.8
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			1567.30		231.5

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)	Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.058	.620	231.5	116.3	PASS

Project supervisor's signature: [Signature] 1/18/17

Remarks:





icon Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM: _____
Section Tested: **3rd Floor B Mains**

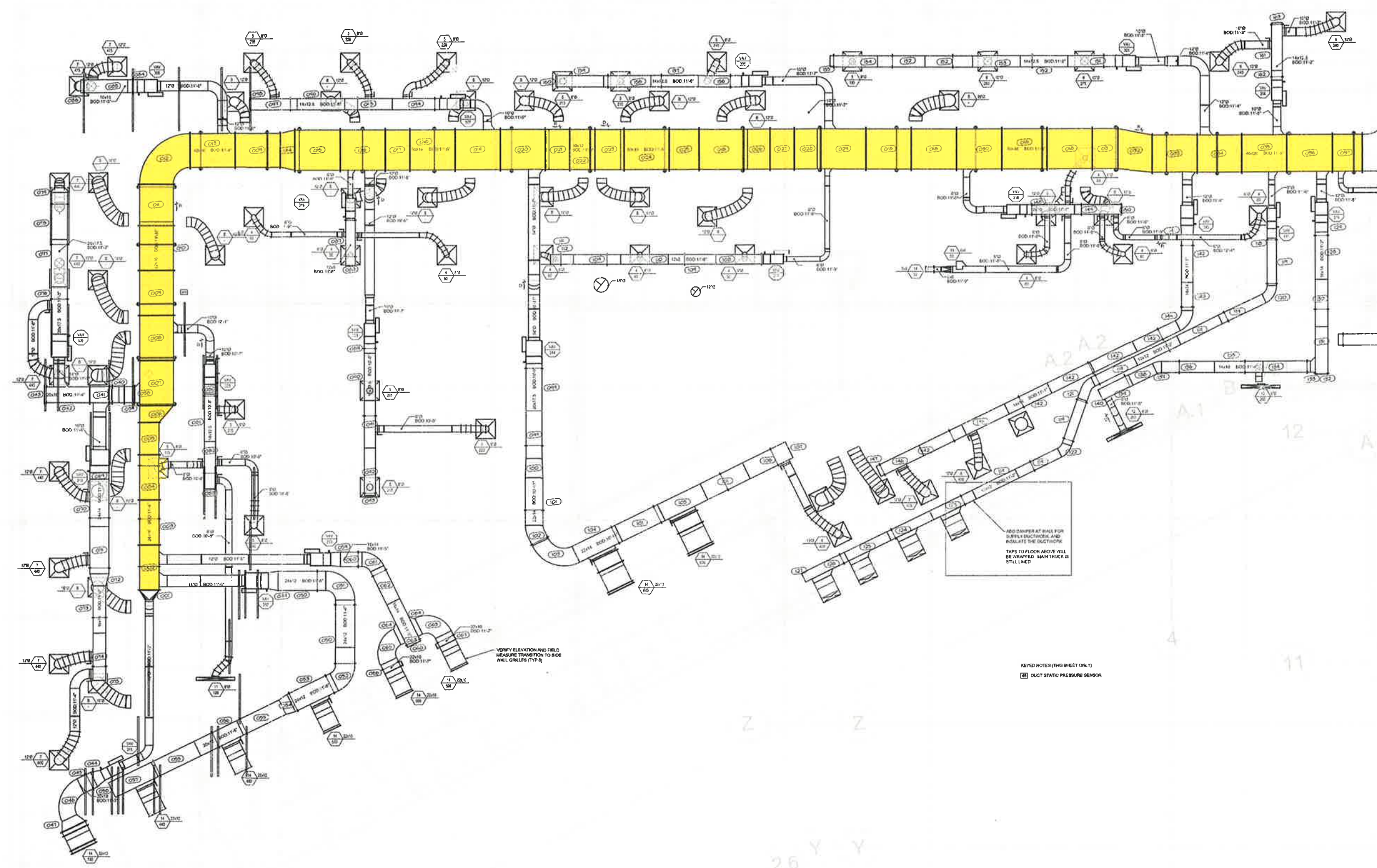
6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
46	20	263	241.08	14.77	35.6
		Reducer	38.50	14.77	5.7
50	16	614	562.83	14.77	83.2
50	12	97	83.53	14.77	12.3
50	16	313	286.92	14.77	42.4
		Reducer	15.60	14.77	2.3
42	16	114	91.83	14.77	13.6
		Elbow	64.40	14.77	9.5
42	16	276	222.33	14.77	32.8
		Reducer	14.70	14.77	2.2
24	16	210	116.67	14.77	17.2
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			1738.39		256.8

Actual Pressure	Orifice Pressure		Allowable Leakage	Actual Leakage	Pass / Fail
(in w.g.)	(in w.g.)		(cfm)	(cfm)	
4.01	0.691		256.8	120.1	PASS

Project supervisor's signature:	
Remarks:	



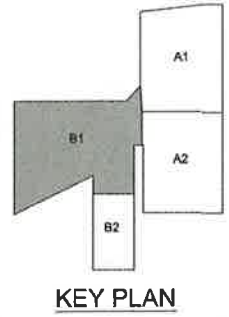
ADD DAMPER AT WALL FOR
SUPPLY EXTRACTOR AND
ISOLATE THE DUCTWORK.
TAPS TO FLOOR ABOVE WILL
BE WRAPPED. MAIN TRUCK IS
STILL LINED.

KEYED NOTES (THIS SHEET ONLY)
[S] DUCT STATIC PRESSURE SENSOR

VERIFY ELEVATION AND FIELD
MEASURE TRANSITION TO SOE
WALL ORIFICES (TYP.)

1 PARTIAL LEVEL 3 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"

FOR CONSTRUCTION
DATE: 11/14/2018 DRAWN BY: ZPC
ISSUE: CONSTRUCTION DRAWING



DATE: 11/14/2018 PROJECT: WEBSTER UNIVERSITY - ISB PROJECT: MECHANICAL SYSTEMS PARTIAL LEVEL 3 - DUCTWORK PLAN
DRAWN BY: ZPC CHECKED BY: JLM



Mechanical

Duct Leakage Test Data Sheet

Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM: _____
Section Tested: **4th Floor A Mains**

6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
42	14	313	243.44	14.77	36.0
42	14	400	311.11	14.77	46.0
34	14	394	262.67	14.77	38.8
24	12	Elbow	50.00	14.77	7.4
		Reducer	10.10	14.77	1.5
		Elbow	35.80	14.77	5.3
		Reducer	8.80	14.77	1.3
		51	25.50	14.77	3.8
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			947.42		140.0

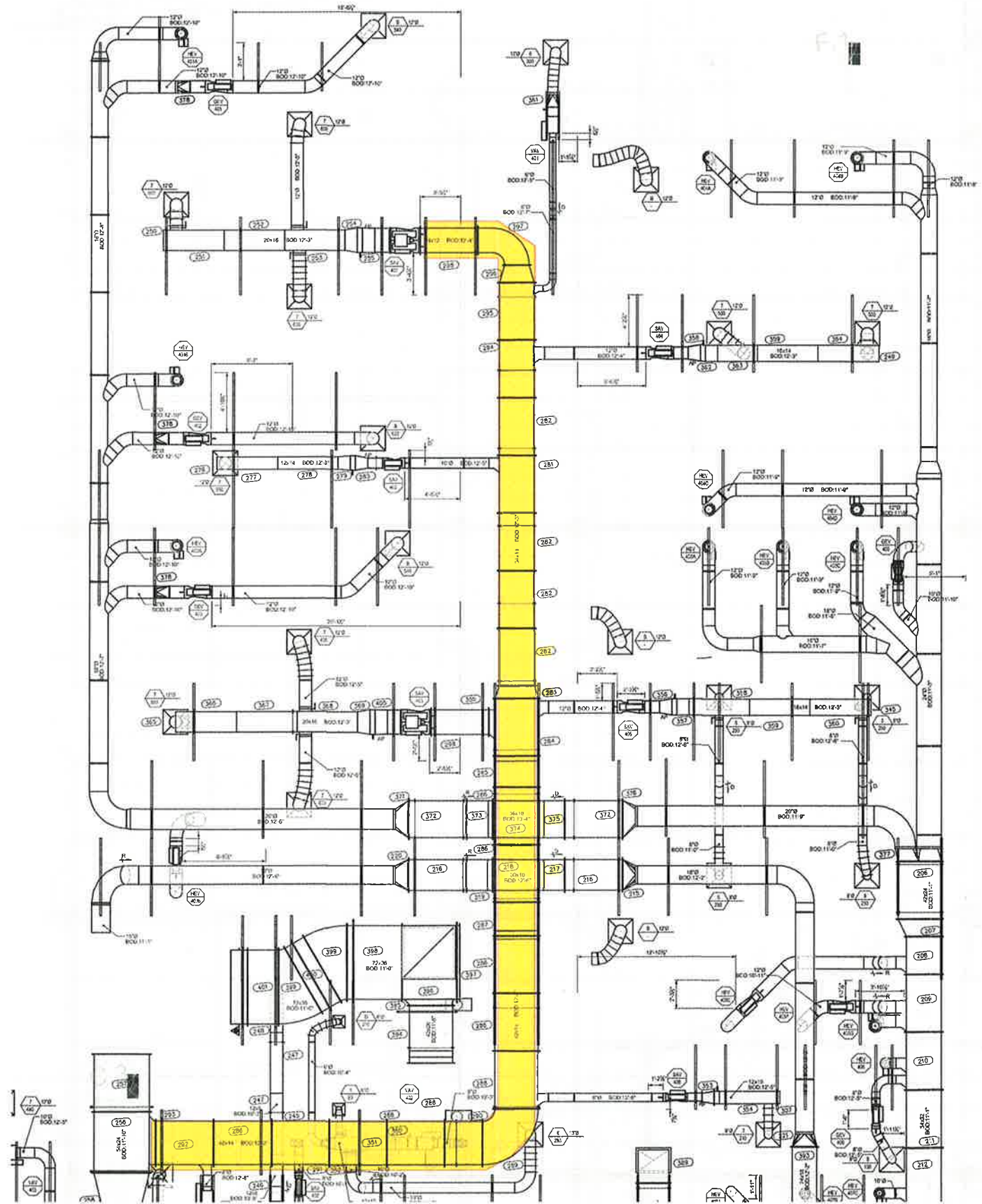
Actual Pressure	Orifice Pressure		Allowable Leakage	Actual Leakage	Pass / Fail
(in w.g.)	(in w.g.)		(cfm)	(cfm)	
4.068	21.71		140.0	80.1	PASS

Project supervisor's signature: _____

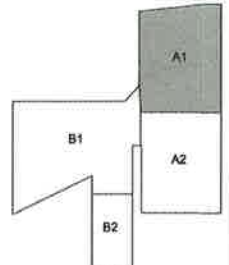
Remarks:

Mike Reinhold

DATE: 01/03/17 FILE PATH: H:\Engineering\CA000104A.DWG User: US000001 Webster SM104A1 PARTIAL LEVEL 4 - DUCTWORK PLAN.dwg
PLOTTER: HP DesignJet 500



1 PARTIAL LEVEL 4 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"



KEY PLAN

WEBSTER UNIVERSITY - ISB

WEBSTER GROVES, MISSOURI

ICON MECHANICAL CONTRACTORS AND ENGINEERS

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Revision:	
Issue Date	01/03/17
Sheet Title	SM104A1
Project Number	5768
Sheet Number	1 of 1



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Duct Leakage Test Data Sheet

Project Name: Webster ISB Air System: Exhaust Fan CFM: _____ Section Tested: 4th Floor A Mains	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; width: 50px; text-align: center;">6</td> <td style="border-bottom: 1px solid black;">Leakage Class:</td> </tr> <tr> <td style="border-bottom: 1px solid black; text-align: center;">4</td> <td style="border-bottom: 1px solid black;">Specified Test Pressure</td> </tr> <tr> <td style="border-bottom: 1px solid black; text-align: center;">4</td> <td style="border-bottom: 1px solid black;">Duct Construction Pressure Class</td> </tr> <tr> <td style="border-bottom: 1px solid black; text-align: center;">14.77</td> <td style="border-bottom: 1px solid black;">Leakage Factor (cfm/100 ft²)</td> </tr> </table>	6	Leakage Class:	4	Specified Test Pressure	4	Duct Construction Pressure Class	14.77	Leakage Factor (cfm/100 ft ²)
6	Leakage Class:								
4	Specified Test Pressure								
4	Duct Construction Pressure Class								
14.77	Leakage Factor (cfm/100 ft ²)								

Leakage Test Data

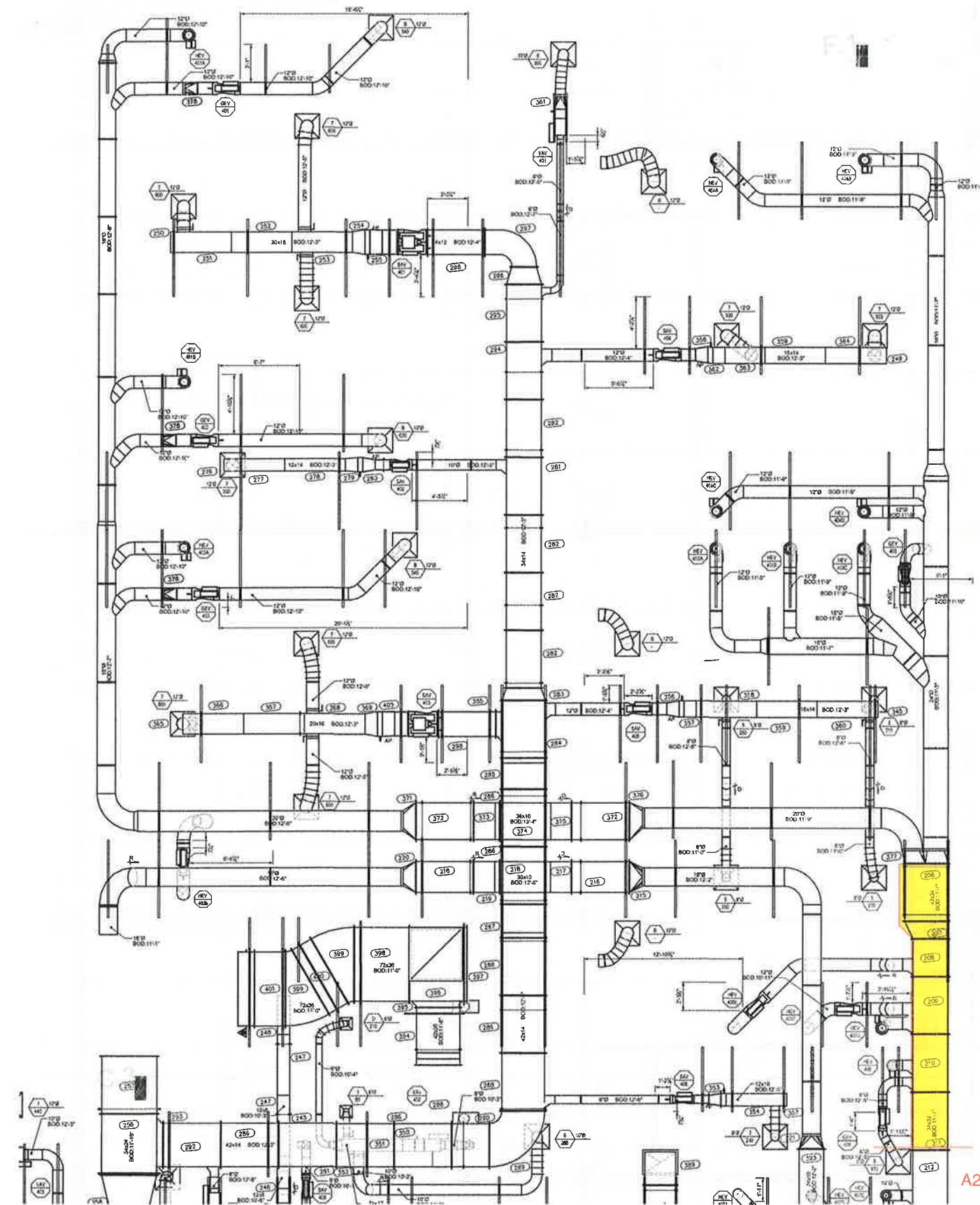
Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
24	24	112	8.80	14.77	1.3
24	24	135	90.00	14.77	13.3
34	32	202	185.17	14.77	27.4
		Reducer	43.80	14.77	6.5
		Elbow	91.00	14.77	13.4
		Elbow	42.00	14.77	6.2
		Elbow	71.70	14.77	10.6
34	32	116	106.33	14.77	15.7
60	20	44	48.89	14.77	7.2
42	24	56	51.33	14.77	7.6
		Reducer	16.00	14.77	2.4
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			755.02		111.5

Actual Pressure	Orifice Pressure		Allowable Leakage	Actual Leakage	Pass / Fail
(in w.g.)	(in w.g.)		(cfm)	(cfm)	
4.003	0.225		111.5	83.02	PASS

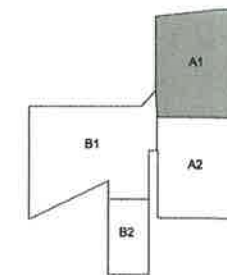
Project supervisor's signature: _____

Remarks:

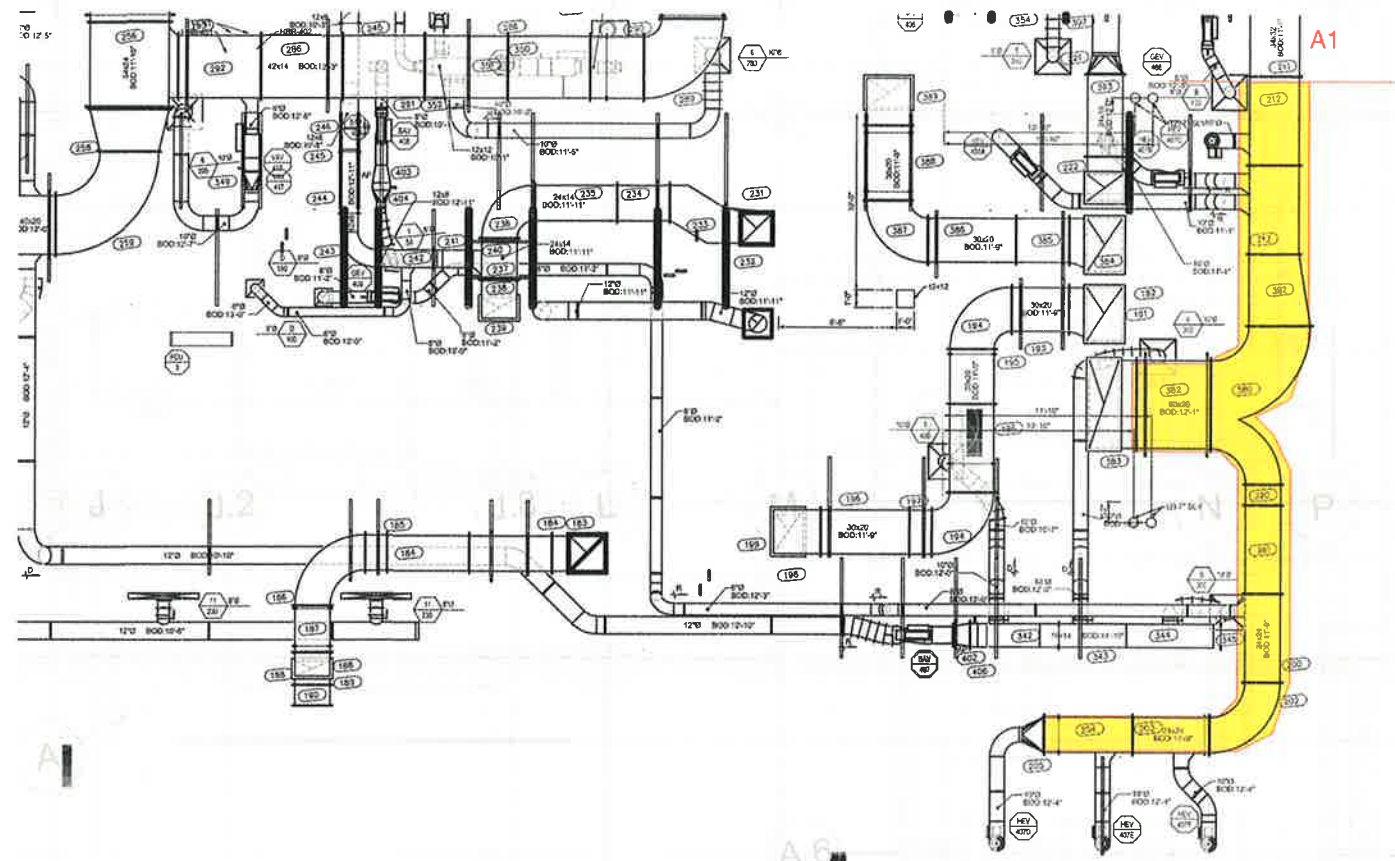
Mike Reinhold



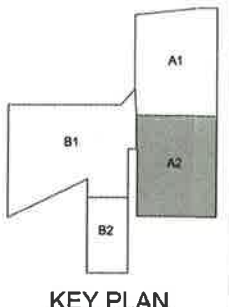
 **1** PARTIAL LEVEL 4 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"



Revision:



1 PARTIAL LEVEL 4 - DUCTWORK PLAN
SCALE: 1/4"=1'-0"



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Revised:	
Issue Date	01/03/17
Sheet Title	SM104A2
Project Number	5708
Sheet Number	1 of 1



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Duct Leakage Test Data Sheet

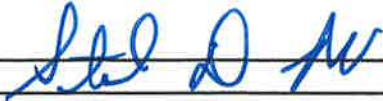
Project Name: **Webster ISB**
Air System: **Supply Air**
Fan CFM: _____
Section Tested: **4th Floor B Mains**

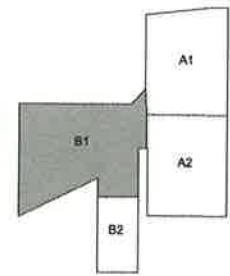
6 Leakage Class:
4 Specified Test Pressure
4 Duct Construction Pressure Class
14.77 Leakage Factor (cfm/100 ft²)

Leakage Test Data

Duct Test Section				Allowable Leakage	
Width (in)	Height (in)	Length (in)	Area (ft ²)	Factor (cfm/100ft ²)	Leakage (cfm)
40	20	38	31.67	14.77	4.7
		Reducer	21.80	14.77	3.2
34	18	393	283.83	14.77	41.9
		Reducer	8.60	14.77	1.3
28	18	679	433.81	14.77	64.1
		Elbow	40.80	14.77	6.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			0.00	14.77	0.0
			820.51		121.2

Actual Pressure (in w.g.)	Orifice Pressure (in w.g.)		Allowable Leakage (cfm)	Actual Leakage (cfm)	Pass / Fail
4.071	2.713		121.2	70.2	PASS

Project supervisor's signature:	
Remarks:	



FOR CONSTRUCTION
DATE: 07/03/2015 DRAWING: ZPL
ISSUE: CONSTRUCTION DRAWING

Revision:

Issue Date: XX / XX / XX

Shoot Time:

SM104B1

Project Number: 5768

Sheet Number: 1 of 1

ICON MECHANICAL CONTRACTORS AND ENGINEERS

Sheet Number
1 of 1



DATE: 12/21/2018 FILE PATH: N:\Engineering\CAQD\2018 JOB#56789 - Webstar ISSUES\SM10481 PARTIAL LEVEL 4 - DUCTWORK PLUMBING
PLOTTED BY: Zentao