



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0243

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Johnson Controls, Inc.

Manufacturer's Technical Representative: Jeff Ronald

Mailing Address: 100 JCI Way, York, PA 17406

Telephone: 717.978.3326

Email: Jeffrey.joseph.ronald@jci.com

Product Information

Product Name: York Custom YC Air Conditioning Units

Product Type: Custom Air Conditioning Units

Product Model Number: Varies, see attachment.

(List all unique product identification numbers and/or part numbers)

General Description: Custom sized and configured air conditioning units. Seismic enhancements made to test units to address anomalies observed during testing shall be incorporated into production units.

Mounting Description: See Certified Product Tables

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Contact Person: Andy Coughlin, SE

Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138

Telephone: 510.379.5319

Email: acoughlin@structint.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:

Date: 2/14/2018

Title: Director

Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"



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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Name: Andy Coughlin, SE California License Number: S6082

Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138

Telephone: 510.379.5319 Email: acoughlin@structint.com

Supports and Attachments Preapproval

- ☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): _____

Testing Laboratory

Company Name: Environmental Testing Laboratory (ETL)

Contact Name: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas, TX 75229

Telephone: (972) 247-9657 Email: jeremy@etldallas.com

Company Name: Dynamic Certification Laboratories (DCL)

Contact Name: Austin Brown

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085 Email: www.shaketest.com



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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.45

S_{DS} (Design spectral response acceleration at short period, g) = 1.93

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachment

Overall dimensions and weight (or range thereof) = See Attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☒ Drawings ☐ Calculations ☐ Manufacturer's Catalog

☒ Other(s) (Please Specify): Attachment

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: _____

Date: June 9, 2020

Print Name: Timothy J. Piland

Title: SSE

Special Seismic Certification Valid Up to: S_{DS} (g) = 1.93

z/h = 1

Condition of Approval (if applicable): _____

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1700935-CR-001 R0



Manufacturer: Johnson Controls, Inc.	TABLE 1
Model Line: York Custom YC Air Handling Units	

Certified Product Construction Summary:
Galvanized Carbon Steel, Stainless Steel, or Aluminum. See Table 2 for certified product construction.

Certified Options Summary:
Panel types: 2" - 4" thick, standard or thermal break. Insulation: foam, fiberglass, mineral wool.

Mounting Configuration:
Rigid Base Mounted or Rigid Curb Mounted on up to 36" tall curb
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.93 g$ $z/h=1.0$ $I_p = 1.5$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
YC Custom Air Handling Units	4 Walls (No walls removed)	No limit	30	27	-	Lower Limit	Extrap.
		96	96	96	4988	UUT: 20ga Stainless, 78 psf	1
		96	144	144	9810	UUT: 0.04" Textured Al, 102 psf	2
		...	...	...	...	...	Interp.
		No limit	288	144	-	Upper Limit <102 psf	Interp.
		No limit	30	27	-	Lower Limit	Interp.
	1 Wall Removed (Inlet or Outlet)	...	...	...	...	...	Interp.
		No limit	288	144	-	Upper Limit <74 psf	Interp.
		No limit	30	27	-	Lower Limit	Extrap.
	2 Walls Removed (Inlet, Outlet, or Side wall)	...	...	...	...	...	Extrap.
		96	144	144	7100	UUT: 0.04" Textured Al, Inlet & Side Walls Removed, 74 psf	4
		144	144	144	11100	UUT: 20ga Carbon Steel, Inlet & Outlet Walls Removed, 77 psf	6
		...	...	...	...	...	...
		No limit	288	144	-	Upper Limit <74 psf	Interp.
	3 Walls Removed (Inlet, Outlet, and Side wall)	...	...	...	...	...	Extrap.
		144	144	144	7120	UUT: 20ga Carbon Steel, Inlet, Outlet, & Side Removed, 49 psf	7
		No limit	288	144	-	Upper Limit <49 psf	Interp.

Note: For coil support details see UUT1, 2, and 4 summary sheets.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: Unit Construction			TABLE 2
Model Line: York Custom YC Air Handling Units					
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93\text{ g}$ $z/h = 1.0$			1.5
Component Type	Manufacturer	Model	Description	Notes	UUT
Walls/Roof	Johnson Controls, Inc.	YC	Galvanized Carbon Steel	20ga. Skin, 20ga. Perf Liner, 3" Standard	6
				20ga. Skin, 22ga. Liner, 2" Thermal Break	7
			Stainless Steel	20ga. Skin, 20ga. Liner, 2" Standard	1
				20ga. Liner, 4" Standard	2
			Aluminum	0.04" Text. Skin, 0.05: Perf Liner, 2" Standard	4
				0.04" Text. Skin, 4" Standard	2
Floor	Johnson Controls, Inc.	YC	Galvanized Carbon Steel	18ga.	7
				...	Interp.
			Stainless Steel	10ga.	6
				1/8" Treadplate	4
				12ga.	2
				1/8" Treadplate	1
Base Rail	Johnson Controls, Inc.	YC	Structural Carbon Steel	6"	1,2
				8"	6
				10"	4
				12"	7

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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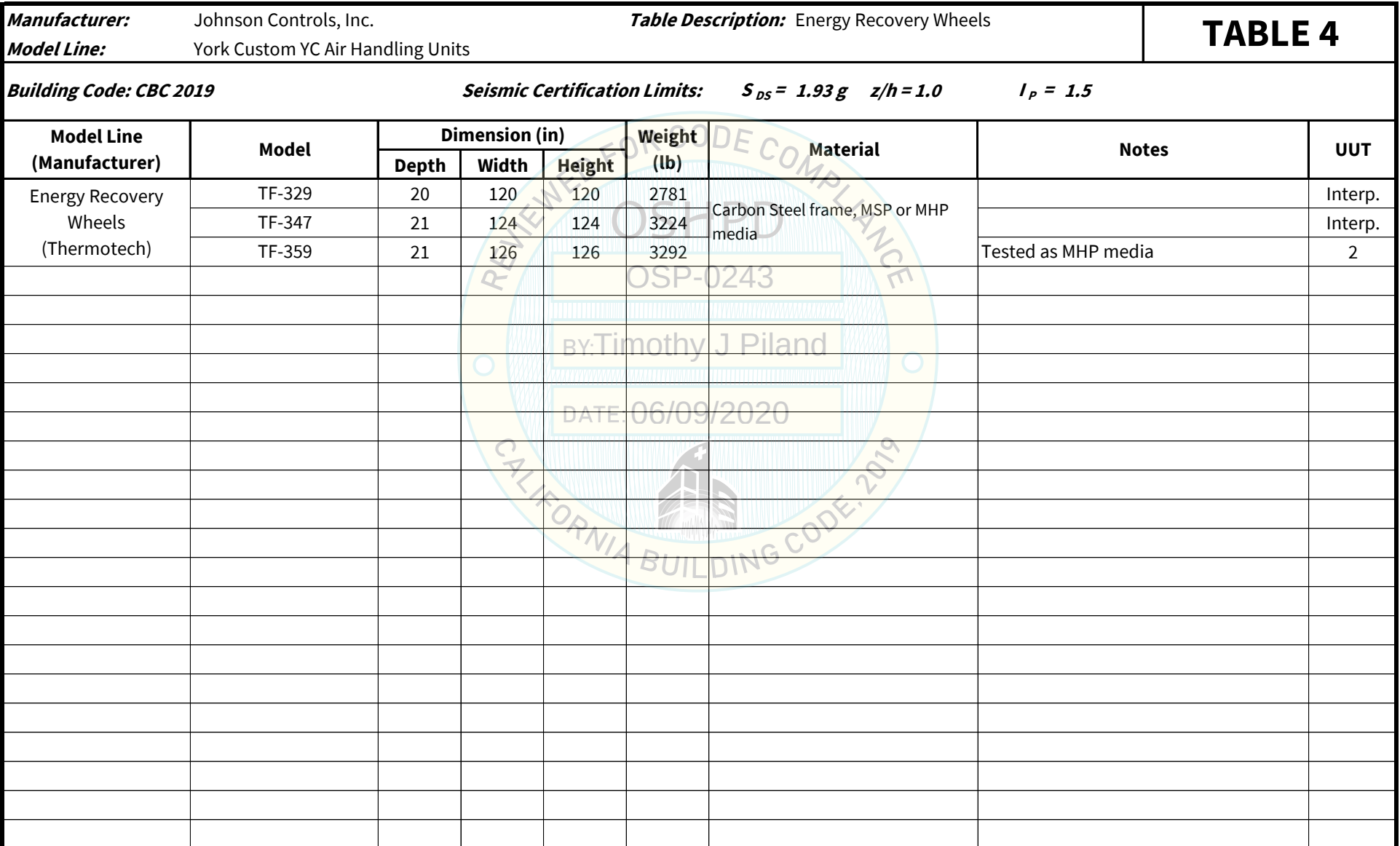


Manufacturer: Johnson Controls, Inc.		Table Description: Energy Recovery Wheels					TABLE 4	
Model Line: York Custom YC Air Handling Units								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93\text{ g}$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Energy Recovery Wheels (Thermotech)	TC-14	18	28	28	163	AL frame, MSP or MHP media	Tested as MSP media	1
	TF-81	19	64.5	64.5	900	Carbon Steel frame, MSP or MHP media		Interp.
	TF-87	19	66.5	66.5	930			Interp.
	TF-96	19	69.5	69.5	970			Interp.
	TF-107	19	72.5	72.5	1020			Interp.
	TF-114	19	74.5	74.5	1050			Interp.
	TF-121	19	46.5	46.5	1080			Interp.
	TF-128	19	78.5	78.5	1110			Interp.
	TF-136	19	80.5	80.5	1140			Interp.
	TF-144	19	82.5	82.5	1180			Interp.
	TF-152	19	84.5	84.5	1210			Interp.
	TF-166	19	87.5	87.5	1260			Interp.
	TF-173	19	89.5	89.5	1310			Interp.
	TF-182	20	92	92	2058			Interp.
	TF-191	20	94	94	2110			Interp.
	TF-200	20	96	96	2160			Interp.
	TF-215	20	99	99	2230			Interp.
	TF-225	20	101	101	2280			Interp.
	TF-245	20	105	105	2381			Interp.
	TF-261	20	108	108	2459			Interp.
	TF-282	20	112	112	2562			Interp.
	TF-294	20	114	114	2615			Interp.
	TF-311	20	117	117	2691		Interp.	

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Manufacturer: Johnson Controls, Inc.		Table Description: Fan Motors			TABLE 5
Model Line: York Custom YC Air Handling Units					
Building Code: CBC 2019					
Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$					
Component Type	Manufacturer	Model	Description	Notes	UUT
Direct Drive Motor	Baldor	56T	14 lb max, 2HP max, 115-460V		Extrap.
		143T	40 lb max, 2HP max, 208-575V		Extrap.
		145T	53 lb max, 3HP max, 115-575V		Extrap.
		182T	85 lb max, 5HP max, 115-575V	Tested as 3 HP, 200/208, 230/460V	8
		184T	98 lb max, 7.5HP max, 208-575V		Interp.
		213T	149 lb max, 10HP max, 208-575V		Interp.
		215T	173 lb max, 15HP max, 208-575V		Interp.
		254T	222 lb max, 20HP max, 200-575V		Interp.
		256T	257 lb max, 25HP max, 208-575V		Interp.
		284T	319 lb max, 25HP max, 200-575V	Tested as 15 HP, 200/208, 230/460V	10
		286T	372 lb max, 30HP max, 208-575V		Interp.
		324T	485 lb max, 40HP max, 200-575V		Interp.
		326T	542 lb max, 50HP max, 200-575V		Interp.
		364T	744 lb max, 60HP max, 200-575V		Interp.
		365T	816 lb max, 75HP max, 200-575V		Interp.
		404T	1,043 lb max, 100HP max, 200-575V		Interp.
		405T	1,126 lb max, 100HP max, 230-575V		Interp.
				444T	1,670 lb max, 100HP max, 200-575V

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: Fan Motors			TABLE 5
Model Line: York Custom YC Air Handling Units					
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$			
Component Type	Manufacturer	Model	Description	Notes	UUT
Belt Drive Motor	Baldor	56T	14 lb max, 2HP max, 115-460V		Extrap.
		143T	40 lb max, 2HP max, 208-575V		Extrap.
		145T	53 lb max, 3HP max, 115-575V	Tested as 1.5 HP, 230/460V	1
		182T	85 lb max, 5HP max, 115-575V		Extrap.
		184T	98 lb max, 7.5HP max, 208-575V		Extrap.
		213T	149 lb max, 10HP max, 208-575V		Extrap.
		215T	173 lb max, 15HP max, 208-575V		Extrap.
		254T	222 lb max, 20HP max, 200-575V		Extrap.
		256T	257 lb max, 25HP max, 208-575V		Extrap.
		284T	319 lb max, 25HP max, 200-575V		Extrap.
		286T	372 lb max, 30HP max, 208-575V	Tested as 30 HP, 200/208, 230/460 V	9
		324T	485 lb max, 40HP max, 200-575V		Interp.
		326T	542 lb max, 50HP max, 200-575V		Interp.
		364T	744 lb max, 60HP max, 200-575V		Interp.
		365T	816 lb max, 75HP max, 200-575V		Interp.
		404T	1,043 lb max, 100HP max, 200-575V		Interp.
		405T	1,126 lb max, 100HP max, 230-575V		Interp.
				444T	1,670 lb max, 150HP max, 200-575V

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Manufacturer: Johnson Controls, Inc.		Table Description: Plenum Airfoil					TABLE 6	
Model Line: York Custom YC Air Handling Units								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
EPFN/EPQN Direct Drive, Arr. 4 (Twin City)	490	77.4	68	68	3481	Aluminum wheel, Carbon Steel housing		7
EPLFN/EPLQN Direct Bolted Design Arr. 4 (Twin City)	122	25.9	20	20	212	Aluminum wheel, Carbon Steel housing		10
	150	27.9	22	22	233			Interp.
	165	29.2	24	24	266			Interp.
	182	34.1	26	26	550			Interp.
	200	36.6	29	29	575			Interp.
	222	43.8	32	32	643			Interp.
	245	45.6	34	34	693			Interp.
	270	49.9	38	38	902			Interp.
	300	52.6	42	42	1180			Interp.
	330	57.8	46	46	1363			Interp.
	365	67.4	51	51	2125			Interp.
	402	70.3	56	56	2350			Interp.
	445	73.9	62	62	2640			Interp.
	490	77.4	68	68	2847			12
EPF/EPQ Belt Drive, Arr. 3 (Twin City)	122	25.9	20	20	412	Aluminum or Carbon Steel wheel, Carbon Steel housing		1
	150	27.9	22	22	639	Carbon Steel wheel, Carbon Steel housing		Interp.
	165	29.2	24	24	774			Interp.
	182	34.1	26	26	995			Interp.
	200	36.6	29	29	1179			Interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: Plenum Airfoil					TABLE 6	
Model Line: York Custom YC Air Handling Units								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
EPF/EPQ Belt Drive, Arr. 3 (Twin City)	222	43.8	32	32	1303	Carbon Steel wheel, Carbon Steel housing		Interp.
	245	45.6	34	34	1351			Interp.
	270	49.9	38	38	2185			Interp.
	300	52.6	42	42	2538			Interp.
	330	57.8	46	46	2632			Interp.
	365	67.4	51	51	3033			Interp.
	402	70.3	56	56	3246			Interp.
	445	73.9	62	62	3807			Interp.
	490	77.4	68	68	3918			Interp.
	542	87.9	76	76	4945			Interp.
	600	93.4	76	76	5256			6
Wheels (Twin City)	AL 12.40" 9 Blade	-	12.4	12.4	9	Aluminum		10
	AL 12.40" 12 Blade	-	12.4	12.4	10			Interp.
	AL 13.98" 9 Blade	-	13.98	13.98	12			Interp.
	AL 13.98" 12 Blade	-	13.98	13.98	13			Interp.
	AL 15.75" 9 Blade	-	15.75	15.75	15			Interp.
	AL 15.75" 12 Blade	-	15.75	15.75	17			Interp.
	AL 18.25" 9 Blade	-	18.25	18.25	21			Interp.
	AL 18.25" 12 Blade	-	18.25	18.25	23			Interp.
	AL 20.00" 9 Blade	-	20	20	24			Interp.
	AL 20.00" 12 Blade	-	20	20	27			Interp.
	AL 22.25" 9 Blade	-	22.25	22.25	34			Interp.
	AL 22.25" 12 Blade	-	22.25	22.25	38			Interp.

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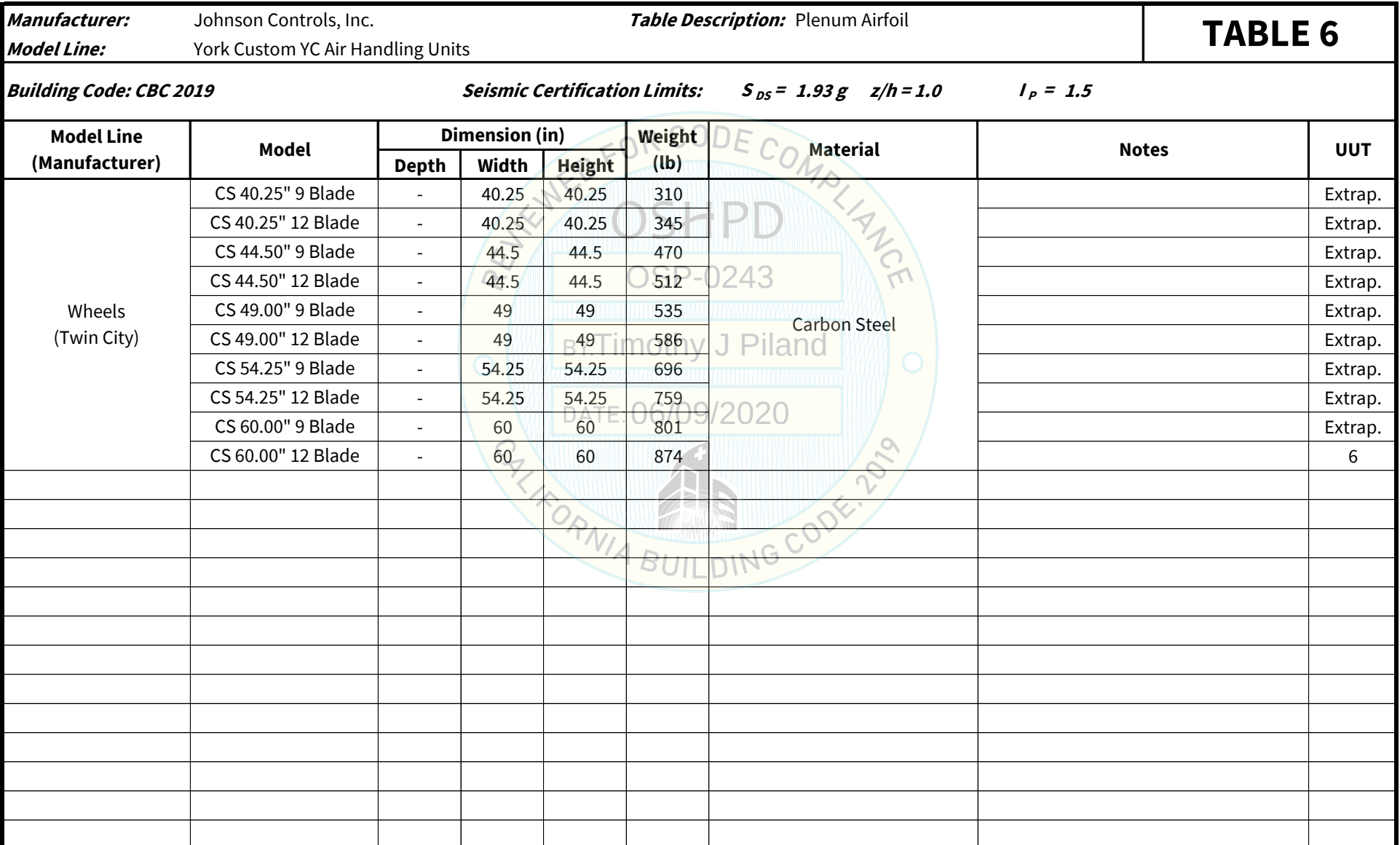


Manufacturer: Johnson Controls, Inc.		Table Description: Plenum Airfoil					TABLE 6	
Model Line: York Custom YC Air Handling Units								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93\text{ g}$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Wheels (Twin City)	AL 24.50" 9 Blade	-	24.5	24.5	38	Aluminum		Interp.
	AL 24.50" 12 Blade	-	24.5	24.5	43			Interp.
	AL 27.00" 9 Blade	-	27	27	47			12
	AL 27.00" 12 Blade	-	27	27	53			Interp.
	AL 30.00" 9 Blade	-	30	30	58			Interp.
	AL 30.00" 12 Blade	-	30	30	65			Interp.
	AL 33.00" 9 Blade	-	33	33	72			Interp.
	AL 33.00" 12 Blade	-	33	33	82			Interp.
	AL 36.50" 9 Blade	-	36.5	36.5	84			Interp.
	AL 36.50" 12 Blade	-	36.5	36.5	96			Interp.
	AL 40.25" 9 Blade	-	40.25	40.25	98			Interp.
	AL 40.25" 12 Blade	-	40.25	40.25	112			Interp.
	AL 44.50" 9 Blade	-	44.5	44.5	142			Interp.
	AL 44.50" 12 Blade	-	44.5	44.5	157			Interp.
	AL 49.00" 9 Blade	-	49	49	174			7
Wheels (Twin City)	CS 27.00" 9 Blade	-	27	27	131	Carbon Steel		Extrap.
	CS 27.00" 12 Blade	-	27	27	142			Extrap.
	CS 30.00" 9 Blade	-	30	30	153			Extrap.
	CS 30.00" 12 Blade	-	30	30	166			Extrap.
	CS 33.00" 9 Blade	-	33	33	206			Extrap.
	CS 33.00" 12 Blade	-	33	33	222			Extrap.
	CS 36.50" 9 Blade	-	36.5	36.5	237			Extrap.
	CS 36.50" 12 Blade	-	36.5	36.5	257			Extrap.

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: MPQN					TABLE 7	
Model Line: York Custom YC Air Handling Units								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
MPQN & MPQS Direct Drive, Arr.4 (Twin City)	122	25.9	20	20	275	Aluminum wheel, Carbon Steel housing		Extrap.
	150	27.9	22	22	351			Extrap.
	165	29.2	24	24	481			Extrap.
	182	34.1	26	26	592			Extrap.
	200	36.6	29	29	678			Extrap.
	222	43.8	32	32	791			Extrap.
	245	45.6	34	34	1160			Extrap.
	270	49.9	38	38	1289			Extrap.
MPQN & MPQS Direct Stack (2) Direct Drive, Arr.4 (Twin City)	122	25.9	20	40	550	Aluminum wheel, Carbon Steel housing	2 Fans High Max	10
	150	27.9	22	44	702		2 Fans High Max	Interp.
	165	29.2	24	48	962		2 Fans High Max	Interp.
	182	34.1	26	52	1184		2 Fans High Max	Interp.
	200	36.6	29	58	1356		2 Fans High Max	Interp.
	222	43.8	32	64	1582		2 Fans High Max	Interp.
	245	45.6	34	68	2320		2 Fans High Max	Interp.
	270	49.9	38	76	2578		2 Fans High Max	12

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: DWDI					TABLE 8	
Model Line: York Custom YC Air Handling Units								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
ATLI Belt Drive Arr. 3 Forward Curve (Comefri)	ATLI 7-7-T1/T2	11.22	17.44	13.27	222	Carbon Steel. wheel/ Carbon Steel housing		8
	ATLI 9-6 - T1/T2	14.17	16.5	16.69	221			Interp.
	ATLI 9-9 - T1/T2	14.17	20.08	16.69	243			Interp.
	ATLI 10-7 - T1/T2	15.83	17.95	18.62	237			Interp.
	ATLI 10-10 - T1/T2	15.83	21.38	18.62	322			Interp.
	ATLI 12-9 - T1/T2	18.62	20.51	21.61	336			Interp.
	ATLI 12-12 - T1/T2	18.62	24.76	21.61	435			Interp.
	ATLI 15-11 - T1/T2	21.93	23.39	25.51	462			Interp.
	ATLI 15-15 - T1/T2	21.93	27.87	25.51	474			Interp.
	ATLI 18-13 - T1/T2	26.26	27.64	30.43	501			Interp.
	ATLI 18-18 - T1/T2	26.26	32.52	30.43	555			Interp.
	ATLI 20-15 - T1/T2	29.29	32.68	36.14	913			Interp.
	ATLI 20-20 - T1/T2	29.29	37.68	36.14	956			Interp.
	ATLI 22-22 - T1/T2	32.99	42.43	40.55	1096			Interp.
	ATLI 25-25 - T1/T2	36.85	46.34	45.59	1207			Interp.
	ATLI 28-28 - T1/T2	41.26	51.46	51.34	1373			Interp.
	ATLI 32-32 - T1/T2	46.22	56.89	57.8	1693			Interp.
	ATLI 36-36 - T1/T2	51.65	61.97	64.88	1912			Interp.
	ATLI 40-40 - T1/T2	56.85	67.4	71.26	2039			9

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: Filter Frames					TABLE 9	
Model Line: Filter Frames								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Filter frames (JCI)	Aluminum Extruded	23	144	144	205	Aluminum	For rigid, bag, carbon, mini-pleat	4
	Carbon Steel Box	18	30	27	28	Carbon steel	For rigid, bag, carbon, mini-pleat	Extrap.
		...	...	...	...			Extrap.
		23	144	144	329			4
	Stainless Steel Box	23	56	56	58	Stainless steel	For rigid, bag, carbon, mini-pleat	Extrap.
		...	...	...	...			Extrap.
		23	288	144	658			4
	Carbon Steel Flat	10	30	27	15	Carbon steel	For pleated, cleanable, throwaway	Extrap.
		...	...	...	...			Extrap.
		23	144	144	524			4
	Stainless Steel Flat	23	56	56	47	Stainless steel	For pleated, cleanable, throwaway	Extrap.
		...	...	...	...			Extrap.
		23	144	144	524			4
Filter frames (American Air Filter)	Carbon Steel Holding Frame	23	56	56	114	Carbon steel	For HEPA filters	Extrap.
		...	...	...	...			Extrap.
		16	144	144	788			4
	Stainless Steel Holding frame	23	56	56	114	Stainless steel	For HEPA filters	Extrap.
		...	...	...	...			Extrap.
		16	144	144	788			4

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: Filters					TABLE 10	
Model Line: Filter Frames								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Pleated (American Air Filter)	179-411-319	4	24	12	1.8			4
	172-112-319	2	24	12	0.9			Interp.
	179-411-500	4	16	20	1.8			Interp.
	172-112-500	2	16	20	0.9			Interp.
	179-411-700	4	20	20	2.1			Interp.
	172-112-700	2	20	20	1.1			Interp.
	179-411-782	4	20	24	2.5			Interp.
	172-112-782	2	20	24	1.25			Interp.
	179-411-863	4	24	24	2.5			Interp.
	172-102-863	2	24	24	1.25			4
HEPA (American Air Filter)	550-205	11.5	24	12	25			4
	550-205	11.5	15	24	30			Interp.
	550-205	11.5	30	12	30			Interp.
	550-205	11.5	30	15	38			1
	550-205	11.5	24	24	40			4
Rigid (American Air Filter)	3011087	12	24	12	11.5			4
	3011087	12	20	20	14			Interp.
	3011087	12	24	20	16.5			Interp.
	3011087	12	24	24	19			4
Bag (American Air Filter)	708-124-210	22	24	12	4.5			4
	708-146-210	22	20	20	4.8			Extrap.

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Johnson Controls, Inc.		Table Description: Variable Frequency Drives						TABLE 12	
Model Line: York Custom YC Air Handling Units									
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93\text{ g}$ $z/h = 1.0$ $I_p = 1.5$							
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	200V, 230V, 460V, or 575V		UUT
		Depth	Width	Height			Min HP	Max HP	
AYK 550 (JCI)	R1-G11	11.7	8.3	20.5	36	VFD without Bypass and with Fused and Non-Fused Disconnects (NEMA1)	1	7.5	Extrap.
	R2-G12	12.2	8.3	24.8	44		7.5	15	Extrap.
	R3-G13	12	9	32.5	56		15	30	Extrap.
	R4-G14	15.2	12	40.5	88		25	75	Extrap.
	R5-G15	16.9	12	43	125		100	100	Extrap.
	R6-G16	20.4	16	48	150		50	150	Extrap.
	R1-G20	16	16	23	70	VFD with Bypass and Fused and Non-Fused Integral Disconnects and Service Switch (NEMA1)	1	7.5	14,15, 16,17
	R2-G21	16	16	26	89		7.5	15	Interp.
	R3-G22	16	19	27.3	111		15	30	Interp.
	R4-G23	18	30	39.5	215		25	75	Interp.
	R5-G24	18	33	44	278		100	100	Interp.
	R6-G25	18	33	44	376		50	150	Interp.
	R1-G11	14.4	15.2	22.4	62	VFD without Bypass and with Fused and Non-Fused Disconnects (NEMA3R Self Ventilated)	1	7.5	Interp.
	R2-G12	14.4	15.2	28.4	76		7.5	15	Interp.
	R3-G13	14.4	18.5	35.1	112		15	30	Interp.
	R4-G14	16.5	18	45.6	170		25	75	Interp.
	R5-G15	18.5	21.8	49.7	216		100	100	Interp.
	R6-G16	21.5	23.3	56.8	335		50	150	Interp.
	R1-G20	17.5	18.2	19.5	78	VFD with and without Bypass Fused and Non-Fused Disconnect (NEMA3R Self Ventilated)	1	7.5	Interp.
	R2-G21	17.5	18.2	22.5	96		7.5	15	Interp.
	R3-G22	17.5	21.5	31.1	164		15	30	Interp.
	R4-G23	18.5	28.5	42.1	238		25	75	Interp.

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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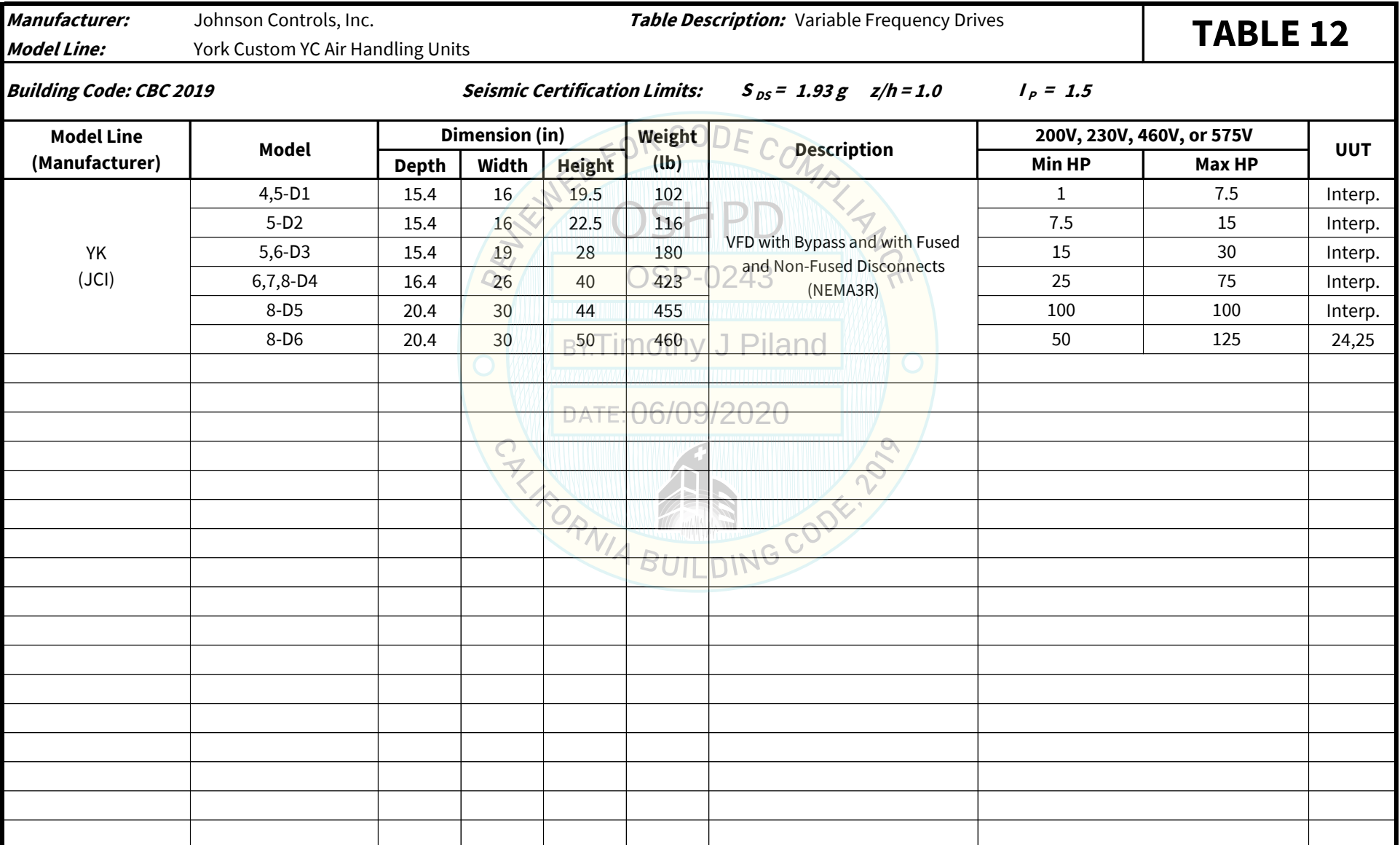


Manufacturer: Johnson Controls, Inc.		Table Description: Variable Frequency Drives							TABLE 12	
Model Line: York Custom YC Air Handling Units										
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.93\text{ g}$ $z/h = 1.0$ $I_p = 1.5$								
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	200V, 230V, 460V, or 575V		UUT	
		Depth	Width	Height			Min HP	Max HP		
AYK 550 (JCI)	R5-G24	22.5	32.5	46.2	300	VFD with and without Bypass Fused and Non-Fused Disconnect (NEMA3R Self Ventilated)	100	100	Interp.	
	R6-G25	22.5	32.5	52.2	440		50	150	18,19, 20,21	
YM (JCI)	FS1-M0	6.9	9	19.8	17		0.5	1	28,29	
	FS2-M1	6.9	9	19.8	18		0.75	2	26,27	
YK (JCI)	4,5-A1	10	8.3	20.5	28	VFD without Bypass and with Fused and Non-Fused Disconnects (NEMA1)	1	7.5	30,31	
	5-A2	10.4	8.3	26.5	63		7.5	15	Interp.	
	5,6-A3	10.2	9	32.5	115		15	30	Interp.	
	6,7,8-A4	13.5	12	40.5	362		25	75	Interp.	
	8-A5	15.1	12	43	366		100	100	Interp.	
	8-A6	18.6	16	48	366		50	125	Interp.	
	4,5-B1	14.2	16	23	61	VFD with Bypass and with Fused and Non-Fused Disconnects (NEMA1)	1	7.5	22,23	
	5-B2	14.3	16	26	95		7.5	15	Interp.	
	5,6-B3	14.2	19	27.5	160		15	30	Interp.	
	6,7,8-B4	16.2	30	39.5	460		25	75	Interp.	
	8-B5	16.3	33	44	461		100	100	Interp.	
	8-B6	16.3	33	44	465		50	125	Interp.	
	4,5-C1	12.4	13	22.4	75	VFD without Bypass and with Fused and Non-Fused Disconnects (NEMA3R)	1	7.5	Interp.	
	5-C2	12.4	13	28.4	87		7.5	15	Interp.	
	5,6-C3	12.4	16	31.9	140		15	30	Interp.	
	6,7,8-C4	14.4	15.5	43.4	388		25	75	Interp.	
	8-C5	16.4	19.3	47.5	405		100	100	Interp.	
	8-C6	19.4	20.8	54.6	405		50	125	Interp.	

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UNIT UNDER TEST (UUT) SUMMARY SHEET

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Manufacturer: Johnson Controls, Inc.						
Model Line: York Custom YC Air Handling Units						
UUT	Unit Description	Report Number	Testing Laboratory	S _{DS}	z/h	I _p
1	YC-96Hx96Wx96L, DP-PFAN-CC-IP	11857 (UUT1)	Environmental Testing Laboratory (ETL)	1.93	1	1.5
2	YC-144Hx144Wx96L, DP-NS-IP (MED1)	11857 (UUT2A)	Environmental Testing Laboratory (ETL)	1.93	1	1.5
4	YC-144Hx144Wx96L, DP-HF-NS-RF (MED3)	11857 (UUT2C-2)	Environmental Testing Laboratory (ETL)	1.93	1	1.5
6	YC-144Hx144Wx144L, PFAN-IP (LRG2)	11857 (UUT3B-2)	Environmental Testing Laboratory (ETL)	1.93	1	1.5
7	YC-144Hx144Wx144L, DP-PFAN-IP (LRG3)	11857 (UUT3C-2)	Environmental Testing Laboratory (ETL)	1.93	1	1.5
8	XTI-27Hx30Wx40L/62L	90300-1008 (UUT 15)	Dynamic Certification Laboratories (DCL)	2.5	1	1.5
9	XTI-90Hx120Wx71L	90300-1008 (UUT 18)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
10	XTI-60Hx60Wx120L	90300-1005 (UUT 22)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
11	XTI-90Hx120Wx87L	90300-1005 (UUT 25)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
12	XTI-120Hx114Wx100L	90300-1005 (UUT 26)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
14	AYK550-CF-03A3-4+F267+K465	50849-1301 (UUT 31 a-r)	Dynamic Certification Laboratories (DCL)	2.5	1	1.5
15	AYK550-CF-03A3-4+F267+K465	50849-1301 (UUT 31 a-f)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
16	AYK550-CD-03A3-4+F267+K465	50849-1301 (UUT 31 b-r)	Dynamic Certification Laboratories (DCL)	2.5	1	1.5
17	AYK550-CD-03A3-4+F267+K465	50849-1301 (UUT31 b-f)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
18	AYK550-CF-221A-2+B058+F267+G300+K465	50849-1301 (UUT 32 a-r)	Dynamic Certification Laboratories (DCL)	2.5	1	1.5
19	AYK550-CF-221A-2+B058+F267+G300+K465	50849-1301 (UUT 32 a-f)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
20	AYK550-CD-221A-2+B058+F267+G300+K465	50849-1301 (UUT 32 b-r)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
21	AYK550-CD-221A-2+B058+F267+G300+K465	50849-1301 (UUT 32 b-f)	Dynamic Certification Laboratories (DCL)	1.93	1	1.5
Notes:						

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UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 1
Model Line:	York Custom YC Air Handling Units	
Model Number:	YC-96Hx96Wx96L, DP-PFAN-CC-IP	
		Serial Number: N/A

Product Construction Summary:
Side & Top Panel: 2" standard construction, fiberglass insulation, 20ga stainless steel exterior skin and 20ga stainless steel liner;
Base Construction: 6" welded structural steel base, 1/8" stainless steel treadplate floor with foam insulation; **Doors:** 2" thick standard with viewports. **Coils:** See next page of UUT summary for coil mounting details.

Options/Subcomponent Summary:
Dampers/Louvers: Ruskin - (1) glv steel blade smoke damper 24Hx24W (actuated), (1) aluminum blade smoke damper 24Hx24W (actuated), (1) backdraft glv. steel blade 20Hx20W (gravity), vertical blade extruded aluminum 27Hx27W | **Coils:** Water coil - 1/2" dia., 1 row, 0.016" TW, 2 stack no rack, stainless casing, Cu fins, 14fpi; Heat pipe - 1" I.D. seamless, integrally finned aluminum tubing, 2 rows | **Evaporative Cooler:** Premier Industries - 12" rigid media, 8" sump, 1/15hp pump | **Energy Wheel:** Thermotech - TC-14-MSP | **Motor:** Baldor - 145T | **Fan:** Twin City - 122 belt drive.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
4,988	96	96	96	8.26	7.78	8.36			
UUT Highest Passed Seismic Run Information									
Building Code		Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.52



UUT was welded on a 14" tall P6000S curb using (3) 4" long by 3/8" fillet welds spaced 44" on center on (2) sides. Curb was mounted to the fixture using (20) 5/8" grade 8 bolts, and the fixture was mounted to the table using (12) 5/8" grade 8 bolts. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

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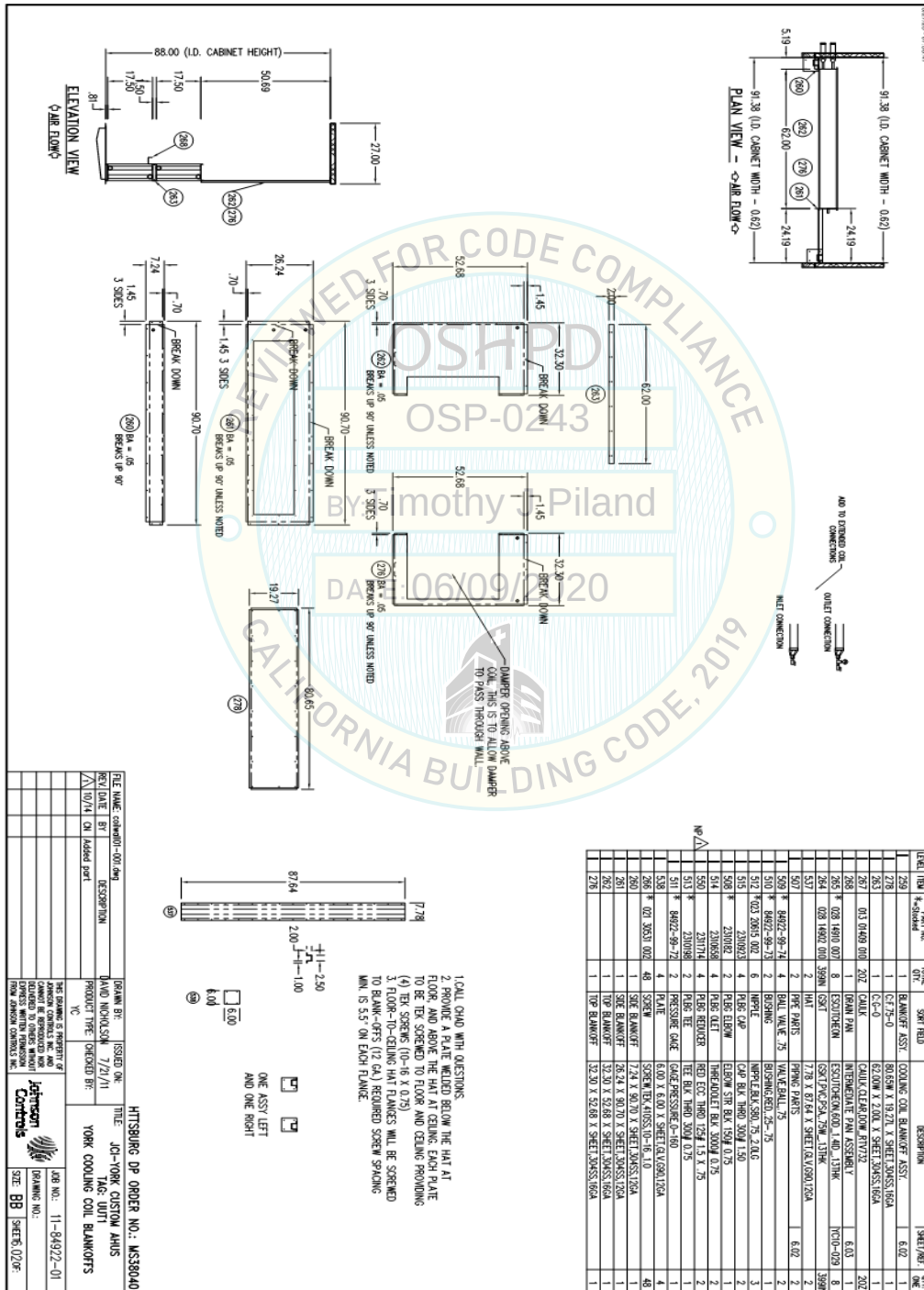


UUT 1

Manufacturer: Johnson Controls, Inc.
Model Line: York Custom YC Air Handling Units
Model Number: YC-96Hx96Wx96L, DP-PFAN-CC-IP

Serial Number: N/A

Coil mounting detail:



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UNIT UNDER TEST (UUT) SUMMARY SHEET

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Manufacturer:	Johnson Controls, Inc.	UUT 2
Model Line:	York Custom YC Air Handling Units	
Model Number:	YC-144Hx144Wx96L, DP-NS-IP (MED1)	
Serial Number:		N/A

Product Construction Summary:
Side & Top Panel: 4" standard construction, mineral wool insulation, 0.04" textured aluminum exterior skin and 20ga stainless steel liner; **Base Construction:** 6" welded structural steel base, 12 ga stainless steel floor with foam insulation underneath; **Doors:** 4" thick standard. **Heat Pipe:** See next 2 pages of UUT summary for heat pipe mounting details.

Options/Subcomponent Summary:
Coils: Heat pipe - 2 high coil 5 rows deep 1" I.D. seamless, integrally finned aluminum tubing | **Energy Wheel:** Thermotech - TF-359-ECA.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back		Side-Side		Vertical	
9,810	96	144	144	4.52		4.40		4.19	
UUT Highest Passed Seismic Run Information									
Building Code		Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.52

Test Mounting Details:



UUT was rigid base mounted to the fixture using (24) 5/8" grade 8 bolts. The fixture was mounted to the table using (12) 5/8" grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

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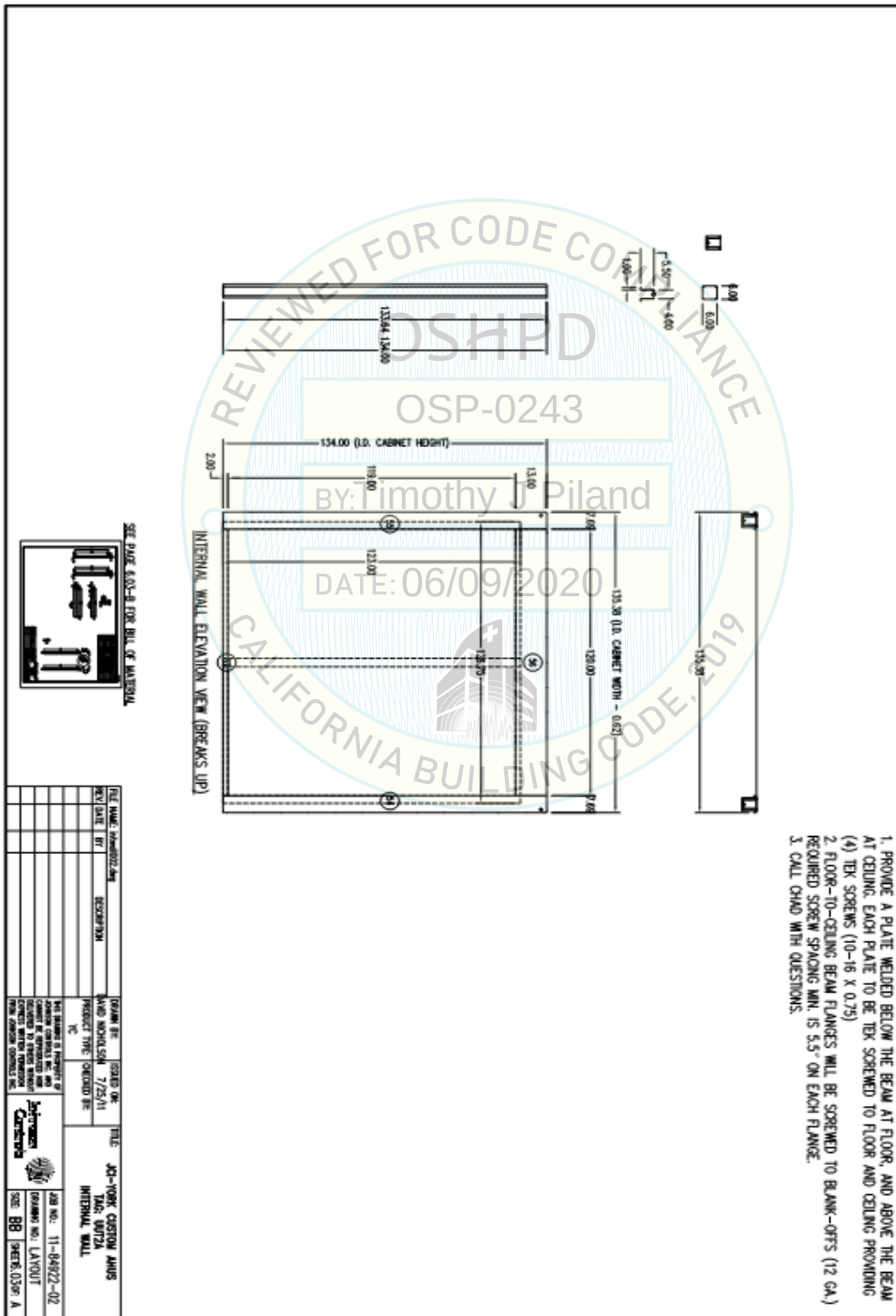


Manufacturer: Johnson Controls, Inc.
Model Line: York Custom YC Air Handling Units
Model Number: YC-144Hx144Wx96L, DP-NS-IP (MED1)

Serial Number: N/A

UUT 2

Heat Pipe Mounting Detail:



UNIT UNDER TEST (UUT) SUMMARY SHEET

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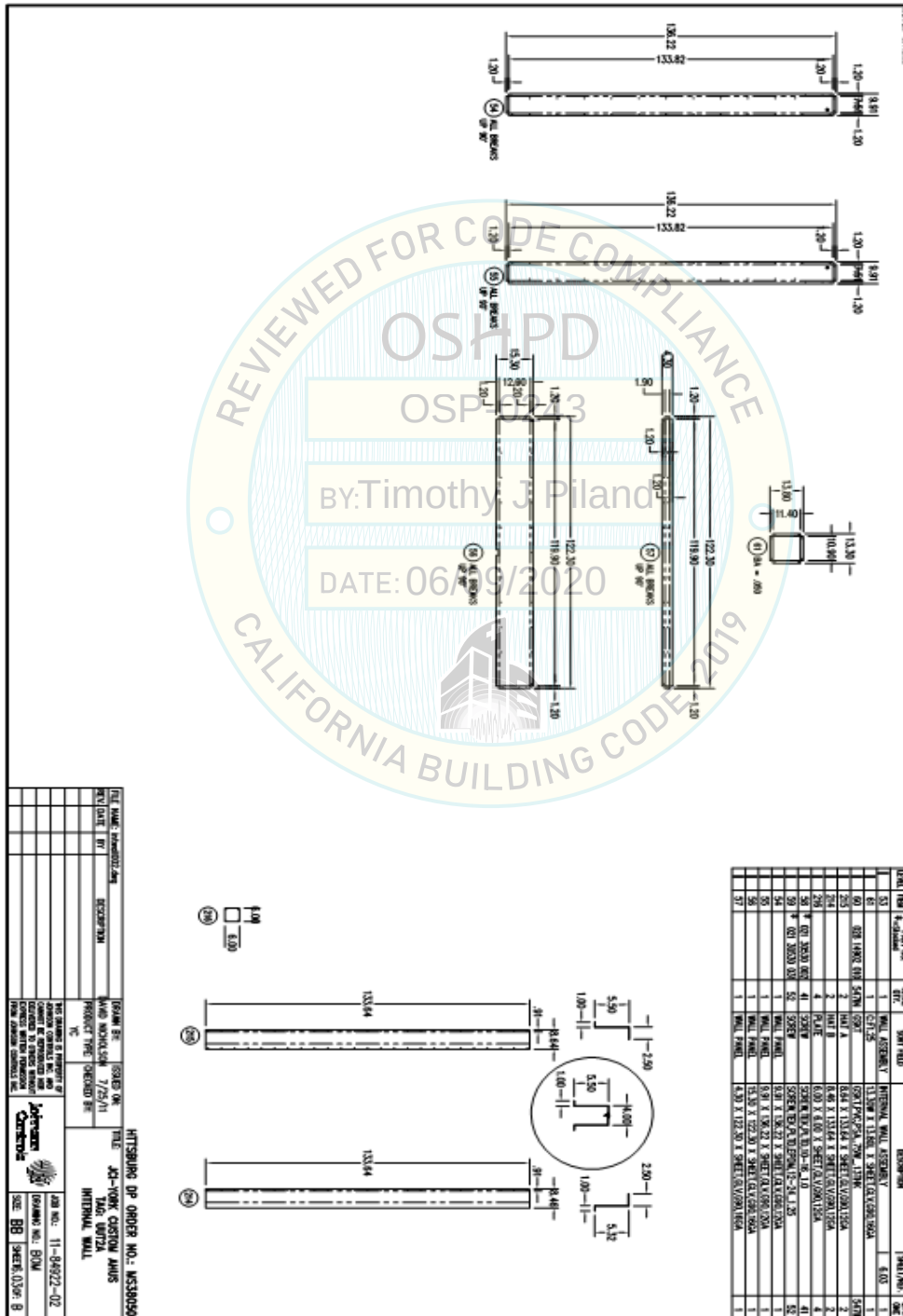
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Manufacturer: Johnson Controls, Inc.
Model Line: York Custom YC Air Handling Units
Model Number: YC-144Hx144Wx96L, DP-NS-IP (MED1)

Serial Number: N/A

UUT 2

Heat Pipe Mounting BOM:



UNIT UNDER TEST (UUT) SUMMARY SHEET

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Manufacturer: Johnson Controls, Inc.
Model Line: York Custom YC Air Handling Units
Model Number: YC-144Hx144Wx96L, DP-HF-NS-RF (MED3) **Serial Number:** N/A

UUT 4

Product Construction Summary:

Side & Top Panel: 2" standard construction, fiberglass/foam combination insulation, 0.04" textured aluminum exterior skin and 0.05" perforated aluminum liner; **Base Construction:** 10" welded structural steel base, 1/8" steel treadplate floor with foam insulation underneath; **Doors:** none. (INLET & SIDE WALL REMOVED, NO X-BRACING ON INLET) **Evapcooler:** See next 2 pages of UUT summary for evapcooler mounting details.

Options/Subcomponent Summary:

Evaporative Cooler: Premier Industries - 12" rigid media, 10" sump, 1/3hp pump; (*Various air filters*)

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
7,100	96	144	144	4.96	5.19	5.29

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.52

Test Mounting Details:



UUT was rigid base mounted to the fixture using (24) 5/8" grade 8 bolts. The fixture was mounted to the table using (12) 5/8" grade 8 bolts.

Unit maintained structural integrity and remained functional per manufacturer requirement.

Contents were included in testing per operating conditions.

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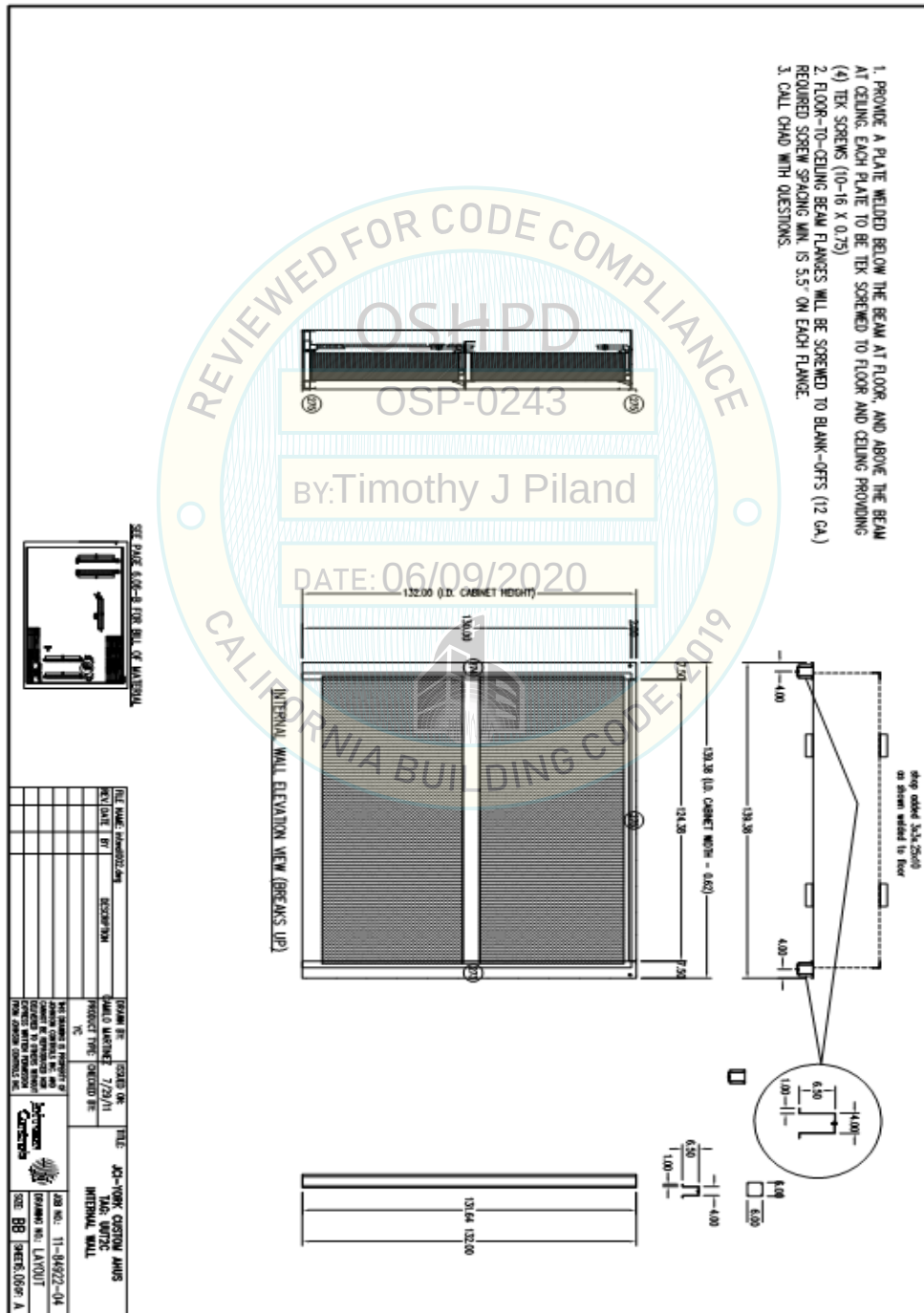
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Serial Number: N/A

Evapcooler Mounting Details:



UNIT UNDER TEST (UUT) SUMMARY SHEET

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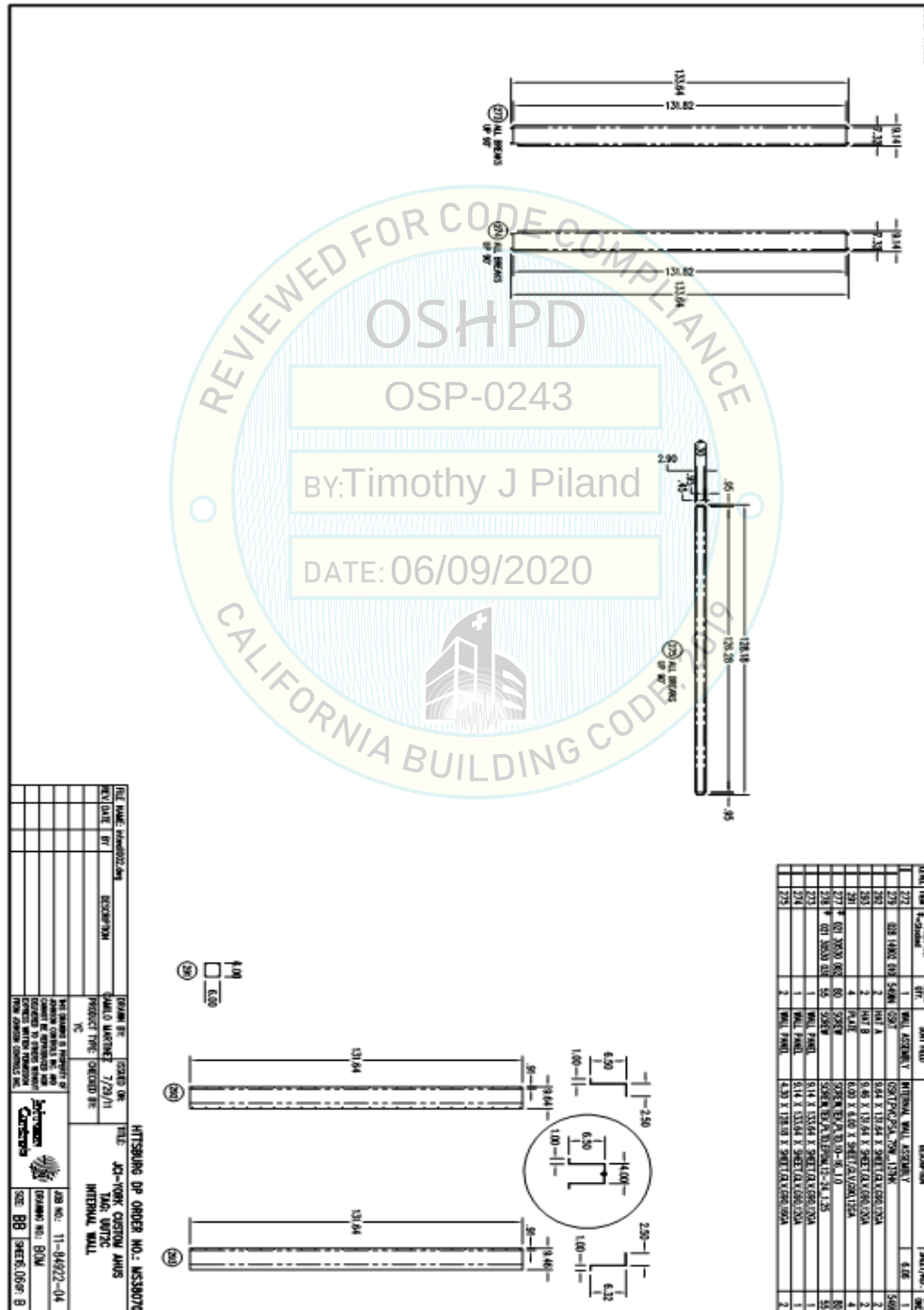


Manufacturer: Johnson Controls, Inc.
Model Line: York Custom YC Air Handling Units
Model Number: YC-144Hx144Wx96L, DP-HF-NS-RF (MED3)

Serial Number: N/A

UUT 4

Evapcooler Mounting BOM:



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UNIT UNDER TEST (UUT) SUMMARY SHEET

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Manufacturer:	Johnson Controls, Inc.	UUT 6
Model Line:	York Custom YC Air Handling Units	
Model Number:	YC-144Hx144Wx144L, PFAN-IP (LRG2)	
Serial Number:		N/A

Product Construction Summary:
Side & Top Panel: 3" standard construction, fiberglass/foam combination insulation, 20ga galvanized steel exterior skin and 20ga galvanized perforated liner; **Base:** 8" welded structural steel base, 10ga galvanized steel floor with foam insulation underneath; **Doors:** 3" standard doors. (INLET & OUTLET WALLS REMOVED, NO X-BRACING)

Options/Subcomponent Summary:
Fan: Twin City - plenum airfoil, belt drive, 60" wheel | **Motor:** Baldor - 444T, 150HP.
VFD: Tested model not certified

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back		Side-Side		Vertical		
11,100	144	144	144	6.73		3.16		21.51		
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156		1.93 g	1.0	1.5	3.09	2.32	1.29	0.52

Test Mounting Details:




UUT was rigid base mounted to the fixture using (32) 5/8" grade 8 bolts. The fixture was mounted to the table using (12) 5/8" grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

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Manufacturer:	Johnson Controls, Inc.	UUT 7
Model Line:	York Custom YC Air Handling Units	
Model Number:	YC-144Hx144Wx144L, DP-PFAN-IP (LRG3)	
Serial Number:		N/A

Product Construction Summary:
Side & Top Panel: 2" thermal break construction, foam insulation, 20ga galvanized steel exterior skin and 18ga galvanized steel liner; **Base:** 12" welded structural steel base, 18ga galvanized steel floor with foam insulation underneath; **Doors:** 2" thermal break doors with viewport. (INLET, OUTLET, & SIDE WALLS REMOVED, NO X-BRACE ON INLET & OUTLET, X-BRACE REQUIRED ON SIDE WALL)

Options/Subcomponent Summary:
Dampers/Louvers: Ruskin - (1) backdraft galvanized steel blade 68Hx68W (gravity closure) | **Fan:** Twin City - plenum airfoil, direct drive, 49" wheel | **Motor:** Baldor - 444T, 100hp.

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back		Side-Side		Vertical		
7,120	144	144	144	4.04		5.11		3.79		
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156		1.93 g	1.0	1.5	3.09	2.32	1.29	0.52



UUT was rigid base mounted to the fixture using (32) 5/8" grade 8 bolts. The fixture was mounted to the table using (12) 5/8" grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 8
Model Line:	York Custom YC Air Handling Units	
Model Number:	XTI-27Hx30Wx40L/62L	
		Serial Number: N/A

Product Construction Summary:
Side and Top Panel Construction: 2" galvanized steel foam filled panels with 20ga outer and 20 gauge liner;
Bottom Panel Construction: 2" galvanized steel foam filled panels with 24 gauge outer and 20 gauge liner;

Options/Subcomponent Summary:
Electrical Enclosures: Motor Starter (NEMA 3R); Frame R1, Base G20, 460v, 3hp; Factory Terminated Wiring Enclosure, 2 Circuit, Nema 3R, 80A; Unit Disconnect Enclosure, Non-Fused, Nema 1, 30A **Electric Heater:** Electric heat open element, 15 kW 460/3/60, w/ Protective Screen; Electric Heat Control Enclosure, 2 stage, Magnetic Disconnecting Contactors, Airflow Switch and Fan Interlock, 24 Volts Control Voltage **Coils:** Water Coil, 1/2" dia, 2 rows, 0.016 TW, 1 stack **Fan:** DWDI FC, Belt Drive, 7-7 Wheel, 182T Frame

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
830	62	30	54	22.3	11	>33

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



Mounting: A structural steel tube interface frame was affixed to the shake table using M12 threaded rod. UUT8 was attached directly to the structural steel tube interface frame using No. 14, 1-1/2-inch sheet metal screws, spaced approximately 7.5-inches on center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 9
Model Line:	York Custom YC Air Handling Units	
Model Number:	XTI-90Hx120Wx71L	
		Serial Number: N/A

Product Construction Summary:
Side and Top Panel Construction: 2" Galvanized Steel Foam filled Panels with 20 ga Outer and 20 ga Liner;
Bottom Panel Construction: 2" Galvanized Steel Foam filled Panels with 24 ga Outer and 20 ga Liner
 (INTLET WALL REMOVED)

Options/Subcomponent Summary:
Electrical Enclosures: Motor Starter (NEMA 3R); Frame R2, Base G21, 460v, 30hp; Factory Terminated Wiring Enclosure, 2 Circuit, Nema 3R, 200A **Fan:** DWDI FC, Belt Drive, 40-40 Wheel, 286T Frame

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back		Side-Side		Vertical		
3000	71	120	90	4.3		6.5		17.5		
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156		1.93 g	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



Mounting: A structural steel tube interface frame was affixed to the shake table using M12 threaded rod. UUT9 was attached directly to the structural steel tube interface frame at four locations with the manufacturer-provided brackets, using two (2) 3/8-inch diameter Grade 5 bolts per bracket (total of eight (8) bolts). Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 10
Model Line:	York Custom YC Air Handling Units	
Model Number:	XTI-60Hx60Wx120L	
		Serial Number: N/A

Product Construction Summary:
Side and Top Panel Construction: 2" Galvanized Steel Foam filled Panels with 20 ga Outer and 20 ga Liner;
Bottom Panel Construction: 2" Galvanized Steel Foam filled Panels with 24 ga Outer and 20 ga Liner;
Base Rails: 6" Gavanized 10 ga Steel

Options/Subcomponent Summary:
Electrical Enclosures: VFD without Bypass and with Fused and Non-Fused Disconnects (NEMA 1); Frame R2, Base G12, 460V, 15h; Enclosure, MMP, 6 circuit, 16x28, 150 amp, with (9) Manual Motor Protector, Range 4.00 - 6.30 amps **Fan:** (4) Plenum Airfoil, Direct Drive, 122 Wheel, 284T Frame; (4) Backdraft Dampers With Counterbalance, 17.00hx17.00w, Airfoil extruded aluminum blades

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back		Side-Side		Vertical		
2320	120	60	60	11.5		8.8		19.8		
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156		1.93 g	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



A structural steel tube interface frame was affixed to the shake table using M12 threaded rod. UUT10 was attached directly to the structural steel tube interface frame with sixteen 1/2-inch diameter Grade 5 bolts. Additional "Seismic Kit" Utilized for Pre-Approval: Four (4) 1/2-inch by 1-inch long Grade 2 bolts were installed at the base rail to the raceway through the corner connectors. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 11
Model Line:	York Custom YC Air Handling Units	
Model Number:	XTI-90Hx120Wx87L	
		Serial Number: N/A

Product Construction Summary:
Side and Top Panel Construction: 2" Galvanized Steel Foam filled Panels with 20 ga Outer and 20 ga Liner;
Bottom Panel Construction: 2" Galvanized Steel Foam filled Panels with 24 ga Outer and 20 ga Liner;
Base Rails: None

Options/Subcomponent Summary:
Electrical Enclosures: Unit Disconnect Enclosure, Non-Fused, Nema 1, 100A **Electric Heater:** Electric heat open element, 75 kW 460/3/60, w/Protective Screen; Electric Heat Control Enclosure, 2 stage, Magnetic Disconnecting Contactors, Airflow Switch and Fan Interlock, 24 Volts Control Voltage **Coils:** Water Coil, 1/2" dia, 6 rows, 0.016 TW, 2 stack

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back		Side-Side		Vertical		
2970	87	120	90	5		3.5		11		
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156		1.93 g	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



A structural steel tube interface frame was affixed to the shake table using M12 threaded rod. UUT11 was attached directly to the structural steel tube interface frame with eight 3/8-inch diameter Grade 5 bolts. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 12
Model Line:	York Custom YC Air Handling Units	
Model Number:	XTI-120Hx114Wx100L	
		Serial Number: N/A

Product Construction Summary:
Side and Top Panel Construction: 2" Galvanized Steel Foam filled Panels with 20 ga Outer and 20 ga Liner;
Bottom Panel Construction: 2" Galvanized Steel Foam filled Panels with 24 ga Outer and 20 ga Liner;
Base Rails: 6" Gavanized 10 ga Steel

Options/Subcomponent Summary:
Electrical Enclosures: VFD without Bypass and with Fused and Non-Fused Disconnects (NEMA 1); Frame R6, Base G25, 460V, 100hp; Enclosure, MMP, 3 circuit, 16x20, 40 - 50 amp range, with (3) Manual Motor Protector, Range 40.0 - 50.0 amps; Enclosure, MMP, 6 circuit, 16x20, 150 amp, with (6) Manual Motor Protector, Range 25.0 - 32.0 amps **Fan:** (4) Plenum Airfoil, Direct Drive, 270 Wheel, 284T Frame; (4) Backdraft Damper With Counterbalance, 40.00hx40.00w, Airfoil extruded aluminum blades

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
7030	100	114	120	3.5	3.5	11.3

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.51	

Test Mounting Details:



A structural steel tube interface frame was affixed to the shake table using M12 threaded rod. UUT12 was attached directly to the structural steel tube interface frame with twentyeight 1/2-inch diameter Grade 5 bolts. Additional "Seismic Kit" Utilized for Pre-Approval: Four (4) 1/2-inch by 1-inch long Grade 2 bolts were installed at the base rail to the raceway through the corner connectors. At each of the four corners, a 1/4"x6" fillet weld was added connecting the base rail to the raceway. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 14
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CF-03A3-4+F267+K465	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
460V, 3 Amp VFD with bypass, ABB OT25F3 Non-Fusible 25A disconnect, ABB OS30FAJ12 Fusible 30A disconnect, ABB OT25F3 25A service switch, ABB A9-30-10-84 9A contactor, ABB A12-30-10-84 12A contactor, ABB VM5-1 mechanical interlock and Micron B150MBT13RKF 150VA transformer, Bussman LPJ-5SP 5A Fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
70	16	16	23	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT14 was wall mounted to the DCL steel shake table interface frame stud wall with (4) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes at the back of the panel. The unit was tested with the stud wall rigidly mounted to the shake table using M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 15
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CF-03A3-4+F267+K465	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
460V, 3 Amp VFD with bypass, ABB OT25F3 Non-Fusible 25A disconnect, ABB OS30FAJ12 Fusible 30A disconnect, ABB OT25F3 25A service switch, ABB A9-30-10-84 9A contactor, ABB A12-30-10-84 12A contactor, ABB VM5-1 mechanical interlock and Micron B150MBT13RKF 150VA transformer, Bussman LPJ-5SP 5A Fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
70	16	16	23	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.51	

Test Mounting Details:



UUT15 was wall mounted to the DCL steel shake table interface frame stud wall with (4) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes at the back of the panel. The unit was tested with the stud wall mounted to the shake table using Mason SLR-4A-2500 spring isolators. The shake table interface frame setup was attached to the shake table with M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer: Johnson Controls, Inc.
Model Line: Variable Frequency Drives
Model Number: AYK550-CD-03A3-4+F267+K465

Serial Number: N/A

UUT 16

Product Construction Summary:

Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:

460V, 3 Amp VFD with bypass, ABB OT25F3 Non-Fusible 25A disconnect, ABB OT25F3 25A service switch, ABB A9-30-10-84 9A contactor, ABB A12-30-10-84 12A contactor, ABB VM5-1 mechanical interlock and Micron B15OMBT13RKF 150VA transformer

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
70	16	16	23	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT16 was wall mounted to the DCL steel shake table interface frame stud wall with (4) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes at the back of the panel. The unit was tested with the stud wall rigidly mounted to the shake table using M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

TRU Compliance, by Structural Integrity Associates, Inc.

844.TRU.0200 | info@trucompliance.com

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 17
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CD-03A3-4+F267+K465	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
460V, 3 Amp VFD with bypass, ABB OT25F3 Non-Fusible 25A disconnect, ABB OT25F3 25A service switch, ABB A9-30-10-84 9A contactor, ABB A12-30-10-84 12A contactor, ABB VM5-1 mechanical interlock and Micron B15OMBT13RKF 150VA transformer

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
70	16	16	23	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.51	

Test Mounting Details:



UUT17 was wall mounted to the DCL steel shake table interface frame stud wall with (4) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes at the back of the panel. The unit was tested with the stud wall mounted to the shake table using Mason SLR-4A-2500 spring isolators. The shake table interface frame setup was attached to the shake table with M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 18
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CF-221A-2+B058+F267+G300+K465	
Serial Number:	N/A	

Product Construction Summary:
Painted carbon steel enclosure, NEMA 3R self-ventilated

Options/Subcomponent Summary:
208/230V, 221 Amp VFD, ABB OT400UO3 Non-fusible 400A disconnect, ABB OS400JO3 Fusible 400A disconnect, ABB OT400UO3 400A service switch, ABB A145-30-11-84 145A contactor, ABB A260-30-11-84 260A contactor, ABB VM300H mechanical interlock, Micron B300MBT13RKF 300VA transformer, Watlow 020100C1-F001F Silicone rubber heater, Pfannenberg FLZ520 Thermostat, Bussman LPJ-350SP 350A Fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
440	22.5	32.5	52.2	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT18 was wall mounted to the stud wall with (10) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes on each side at the back of the panel. The unit was tested with the stud wall rigidly mounted to the shake table using M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 19
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CF-221A-2+B058+F267+G300+K465	
Serial Number:	N/A	

Product Construction Summary:
Painted carbon steel enclosure, NEMA 3R self-ventilated

Options/Subcomponent Summary:
208/230V, 221 Amp VFD, ABB OT400UO3 Non-fusible 400A disconnect, ABB OS400JO3 Fusible 400A disconnect, ABB OT400UO3 400A service switch, ABB A145-30-11-84 145A contactor, ABB A260-30-11-84 260A contactor, ABB VM300H mechanical interlock, Micron B300MBT13RKF 300VA transformer, Watlow 020100C1-F001F Silicone rubber heater, Pfannenberger FLZ520 Thermostat, Bussman LPJ-350SP 350A Fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
440	22.5	32.5	52.2	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.51	

Test Mounting Details:



UUT19 was wall mounted to the DCL steel shake table interface frame stud wall with (10) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes at the back of the panel. The unit was tested with the stud wall mounted to the shake table using Mason SLR-4A-2500 spring isolators. The shake table interface frame setup was attached to the shake table with M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 20
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CD-221A-2+B058+F267+G300+K465	
Serial Number:	N/A	

Product Construction Summary:
Painted carbon steel enclosure, NEMA 3R self-ventilated

Options/Subcomponent Summary:
208/230V, 221 Amp VFD, ABB OT400UO3 Non-fusible 400A disconnect, service switch, ABB A145-30-11-84 145A contactor, ABB A260-30-11-84 260A contactor, ABB VM300H mechanical interlock, B300MBT13RKF 300VA transformer, Watlow 020100C1-F001F Silicone rubber heater, Pfannenbergl FLZ520 Thermostat

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
440	22.5	32.5	52.2	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.51	

Test Mounting Details:



UUT20 was wall mounted to the stud wall with (10) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes on each side at the back of the panel. The unit was tested with the stud wall rigidly mounted to the shake table using M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 21
Model Line:	Variable Frequency Drives	
Model Number:	AYK550-CD-221A-2+B058+F267+G300+K465	
Serial Number:	N/A	

Product Construction Summary:
Painted carbon steel enclosure, NEMA 3R self-ventilated

Options/Subcomponent Summary:
208/230V, 221 Amp VFD, ABB OT400UO3 Non-fusible 400A disconnect, service switch, ABB A145-30-11-84 145A contactor, ABB A260-30-11-84 260A contactor, ABB VM300H mechanical interlock, B300MBT13RKF 300VA transformer, Watlow 020100C1-F001F Silicone rubber heater, Pfannenberg FLZ520 Thermostat

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
440	22.5	32.5	52.2	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.93 g	1.0	1.5	3.09	2.32	1.29	0.51	

Test Mounting Details:



UUT17 was wall mounted to the DCL steel shake table interface frame stud wall with (10) 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes at the back of the panel. The unit was tested with the stud wall mounted to the shake table using Mason SLR-4A-2500 spring isolators. The shake table interface frame setup was attached to the shake table with M12 threaded rod. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 22
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS012410B-00000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
480V, 12 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Eaton XTCE007B01A 7A contactor, Eaton XTOB012BC1 overload, MTE C0075E5EFB 75W transformer, Eaton D2PR4A Run Relay, Eaton D2PAP Relay socket, Stego 01142.9-00 thermostat (+10F to +122F), Bussman TCF6 6A Cube Fuse, Bussmann ENQ-R-1 1A Time delay CPT fuse, Bussmann FNM-1 1A Time delay CPT fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
61	14.2	16	23	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT22 was mounted to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts. The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 23
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS012410B-00000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
480V, 12 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Eaton XTCE007B01A 7A contactor, Eaton XTOB012BC1 overload, MTE C0075E5EFB 75W transformer, Eaton D2PR4A Run Relay, Eaton D2PAP Relay socket, Stego 01142.9-00 thermostat (+10F to +122F), Bussman TCF6 6A Cube Fuse, Bussmann ENQ-R-1 1A Time delay CPT fuse, Bussmann FNM-1 1A Time delay CPT fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
61	14.2	16	23	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:

UUT23

UUT23 was mounted to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts. The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M 12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 24
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS170210B-00000	
Serial Number:		N/A

Product Construction Summary:
Painted carbon steel enclosure, NEMA 3R

Options/Subcomponent Summary:
208/230V, 170 Amp VFD, Eaton R9D3200U Non-Fusible 200A disconnect, Eaton R9J3030FJ Fusible 30A disconnect, Eaton R9L3200FJ Fusible 200A disconnect, Eaton XTCE170GS1A 170A contactor, Eaton XT0B175GC1 overload, MTE C0500E5EFB 500W transformer, Eaton D2PR4A Run Relay, Eaton D2PAP Relay socket, Stego 02800.9-00 150W, 120V heater, Stego 02810.9-00 400W, 120V heater, Stego 01142.9-00 thermostat (+10F to +122F), Bussmann DFJ-6 6A J-type fuse, Bussman DFJ-200 200A J-type fuse, Bussmann LPJ-6SP 6A J-type fuse, Bussmann LPJ-200SP 200A J-type fuse, Bussmann FNQ-R-5 5A Time Delay CPT fuse, Bussmann FNM-6 6A Time delay CPT fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
460	20.4	30	50	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT24 was mounted to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts. The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 25
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS170210B-00000	
Serial Number:		N/A

Product Construction Summary:
Painted carbon steel enclosure, NEMA 3R

Options/Subcomponent Summary:
208/230V, 170 Amp VFD, Eaton R9D3200U Non-Fusible 200A disconnect, Eaton R9J3030FJ Fusible 30A disconnect, Eaton R9L3200FJ Fusible 200A disconnect, Eaton XTCE170GS1A 170A contactor, Eaton XT0B175GC1 overload, MTE C0500E5EFB 500W transformer, Eaton D2PR4A Run Relay, Eaton D2PAP Relay socket, Stego 02800.9-00 150W, 120V heater, Stego 02810.9-00 400W, 120V heater, Stego 01142.9-00 thermostat (+10F to +122F), Bussmann DFJ-6 6A J-type fuse, Bussman DFJ-200 200A J-type fuse, Bussmann LPJ-6SP 6A J-type fuse, Bussmann LPJ-200SP 200A J-type fuse, Bussmann FNQ-R-5 5A Time Delay CPT fuse, Bussmann FNM-6 6A Time delay CPT fuse

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
460	20.4	30	50	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156		2.50	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT25 was mounted to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts. The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M 12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 26
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS1D3403B-M0000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
480V, 1.3 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Bussmann TCF10 10A Cube fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
18	6.9	9	19.8	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT26 was mounted to the DCL shake table interface frame with four 1/4-inch diameter Grade 5 bolts. The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 27
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS1D3403B-M0000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
480V, 1.3 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Bussmann TCF10 10A Cube fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
18	6.9	9	19.8	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT27 was mounted to the DCL shake table interface frame with four 1/4-inch diameter Grade 5 bolts. The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M 12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 28
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS4D3403B-M0000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
480V, 4.3 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Bussmann TCF10 10A Cube fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
17	6.9	9	19.8	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT28 was mounted to the DCL shake table interface frame with four 1/4-inch diameter Grade 5 bolts. The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 29
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS4D3403B-M0000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
480V, 4.3 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Bussmann TCF10 10A Cube fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
17	6.9	9	19.8	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT29 was mounted to the DCL shake table interface frame with four 1/4-inch diameter Grade 5 bolts. The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M 12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 30
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS4D8210B-00000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
208/230V, 4.8 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Bussmann TCF10 10A Cube fuse

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
28	10	8.3	20.5	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67	

Test Mounting Details:



UUT30 was mounted to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts. The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1700935-CR-001 R0



Manufacturer:	Johnson Controls, Inc.	UUT 31
Model Line:	Variable Frequency Drives	
Model Number:	JCI drive model VS4D8210B-00000	
Serial Number:		N/A

Product Construction Summary:
Galvanized carbon steel enclosure, NEMA 1

Options/Subcomponent Summary:
208/230V, 4.8 Amp VFD, Eaton R5B3030U Non-fusible 30A disconnect, Bussmann TCF10 10A Cube fuse

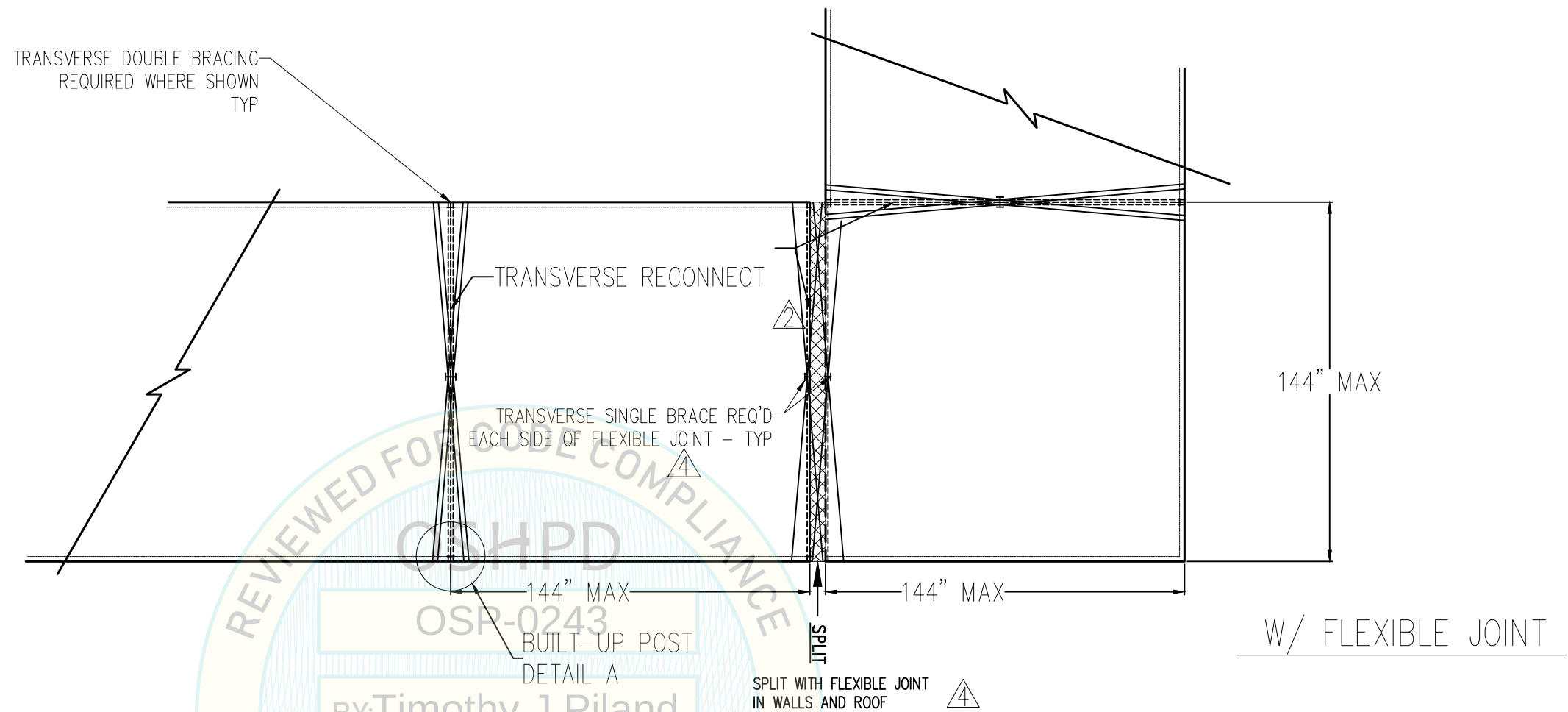
UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
28	10	8.3	20.5	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2019	ICC-ES AC156	2.50	1.0	1.5	4	3	1.67	0.67

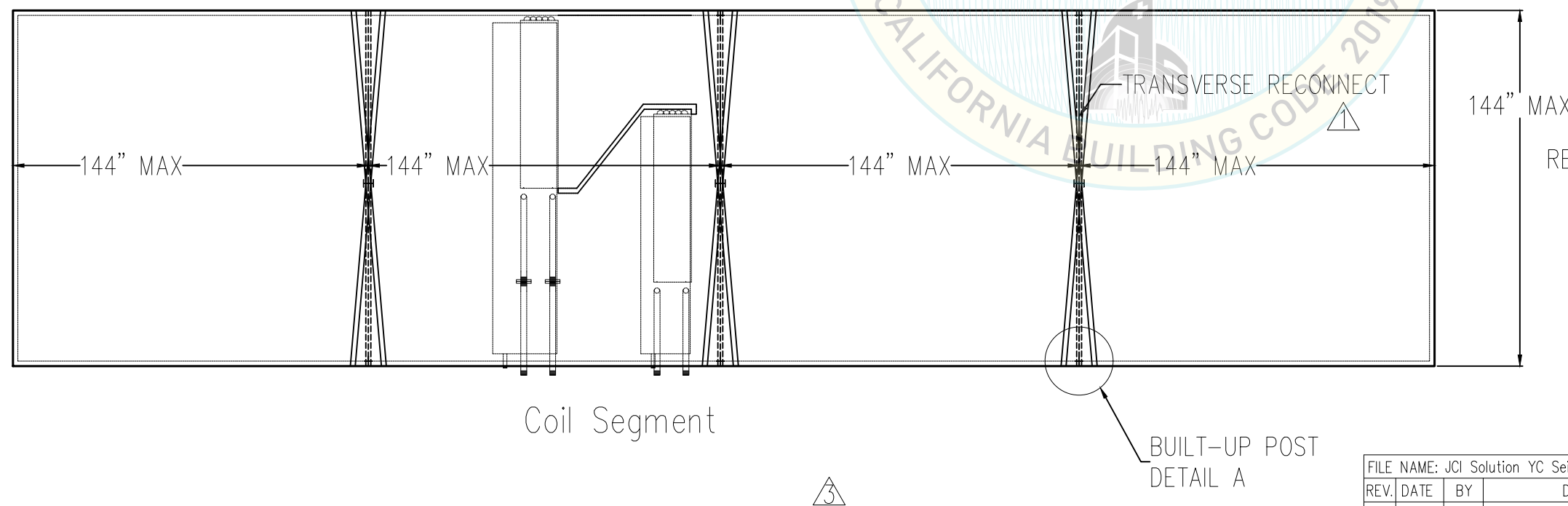
Test Mounting Details:



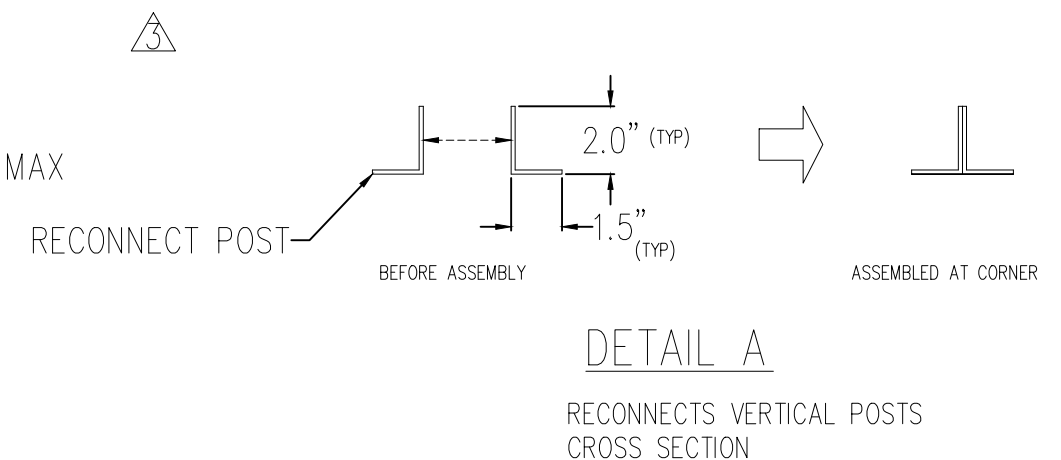
UUT31 was mounted to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts. The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M 12 threaded rod spaced approximately 8-inches on-center. Unit maintained structural integrity and remained functional per manufacturer requirement. Contents were included in testing per operating conditions.



PLAN VIEW: INTERIOR SEISMIC BRACING REQUIREMENTS W/ FLEXIBLE JOINT

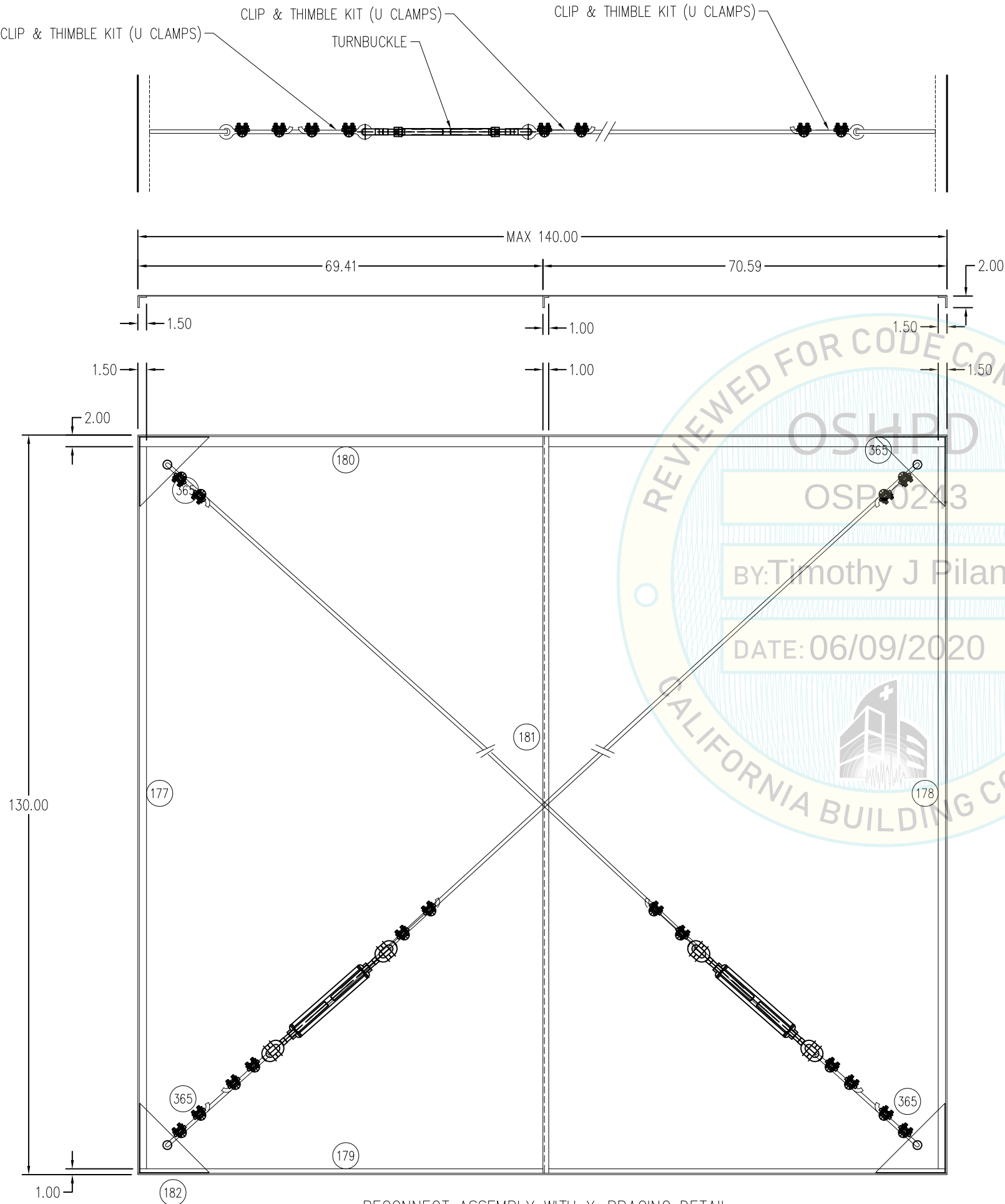


PLAN VIEW: INTERIOR SEISMIC BRACING REQUIREMENTS W/ END WALL



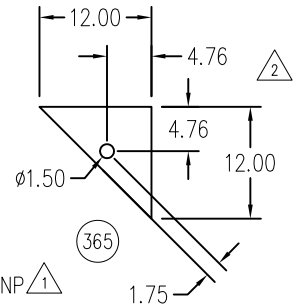
SEE SHT 2 FOR BRACING DETAIL

FILE NAME: JCI Solution YC Seismic Reconnect Narrow.dwg				DRAWN BY: HJ DUBENSKY		ISSUED ON: 04/03/12		TITLE: JCI-YORK CUSTOM AHUS Unit WIDTH ≤ 144” Reconnect Assy Requirements	
REV.	DATE	BY	DESCRIPTION	PRODUCT TYPE: YC		CHECKED BY:			
2	11/3/17	JR	ADDED BRACING TO SPLIT END	THIS DRAWING IS PROPERTY OF JOHNSON CONTROLS INC. AND CANNOT BE REPRODUCED NOR DELIVERED TO OTHERS WITHOUT EXPRESS WRITTEN PERMISSION FROM JOHNSON CONTROLS INC.					
3	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS,						
			UPDATED NOTES AND LEADERS						
4	1/30/20	JR	UPDATED NOTES AROUND FLEXIBLE JOINT			JOB NO.: OSHPD SEISMIC			
						DRAWING NO.:			
						Page 58 of 69 SHEET 1 OF 12			



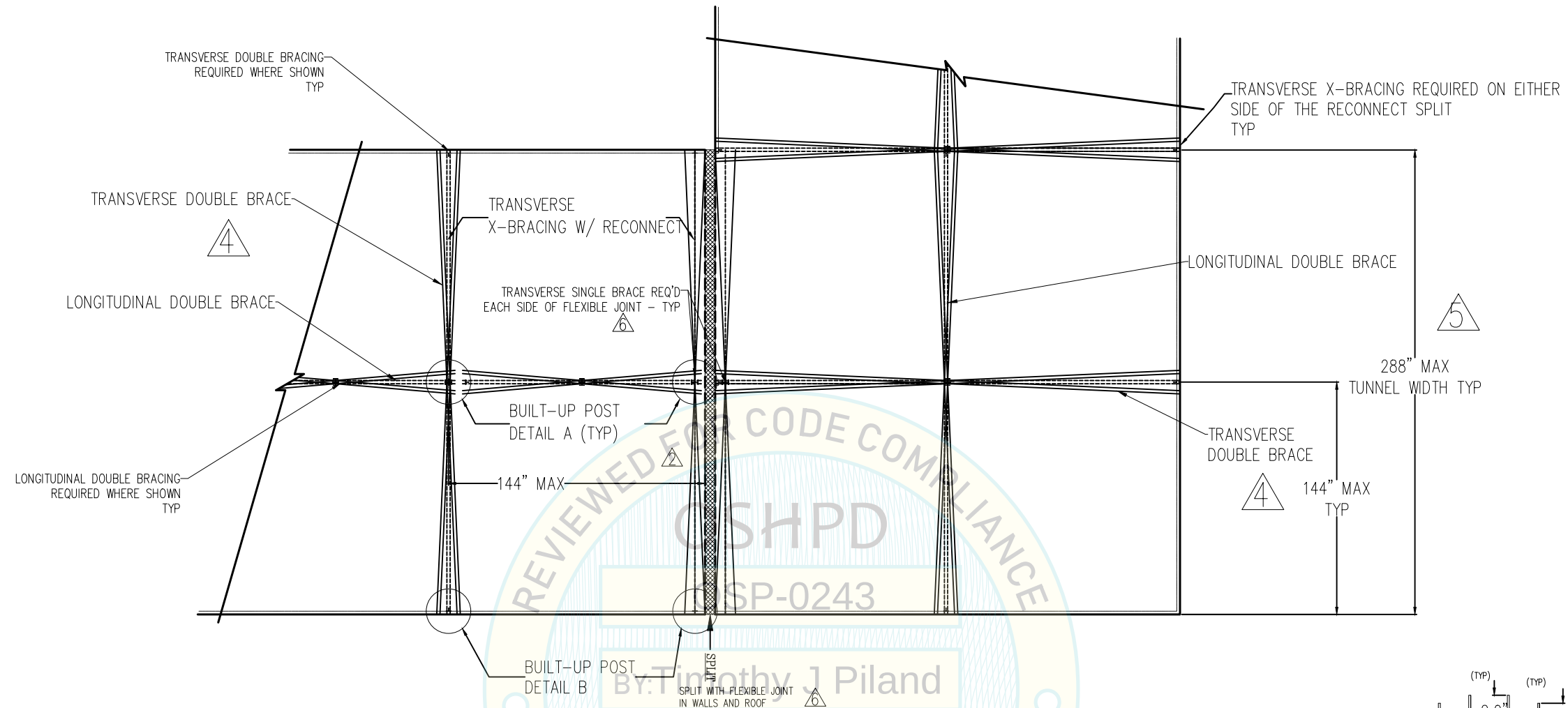
LEVEL	ITEM	*=Stocked	PART NO.	TOTAL QTY.	SORT FIELD	DESCRIPTION	SHEET/REF.	QTY. ONE
	176			1	RECONNECT ASSY	RECONNECT ASSY 137.50 X 131.00	8.02	1
	182		091 20002 002	4	BRACE	BRACE,SHIPPING,12GA G90		4
	179			1	C:RECON-BOT	2.82W X 137.68L X SHEET,GLV,G90,12GA		1
	178			1	C:RECON-LFT	3.32W X 130.75L X SHEET,GLV,G90,12GA		1
	177			1	C:RECON-RGT	3.32W X 130.75L X SHEET,GLV,G90,12GA		1
	181			1	C:RECON-STF	3.64W X 130.75L X SHEET,GLV,G90,12GA		1
	180			1	C:RECON-TOP	3.82W X 137.68L X SHEET,GLV,G90,12GA		1
	365			4	CORNER BRACE	13.64 X 13.64 X SHEET,GLV,G90,12GA		4
	185	*	021 30404 003	49	NUT	NUT,FLANGED_LOCK,PLTD,.25-20		49
	183	*	021 30530 002	62	SCREW	SCREW,TEK,PLTD,10-16_1.0		62
	184	*	021 30470 002	34	SCREW	SCREW,HC,GR5,PLTD,.25-20_.75		34

1. (2) DIAGONAL BRACING REQUIRED USING $\frac{3}{8}$ " (6x19 Class IWRC) WIRE ROPE, $\frac{1}{2}$ " TURN BUCKLE, $\frac{3}{8}$ " U CLAMPS (QTY: 2 CLAMPS EACH JOINT), $\frac{3}{8}$ " ROPE TURN BUCKLE CLIPS.
2. RECONNECTS TO BE ATTACHED TO ROOF/WALLS/FLOOR WITH TEK SCREWS (10-16 X 0.75) MAX SPACING 6.5"
3. CORNER BRACES TO BE CONTINUOUSLY WELDED WITH 0.18" FILLET WELD MATERIAL GRADE AND THICKNESS CALLED OUT IN BOM
4.

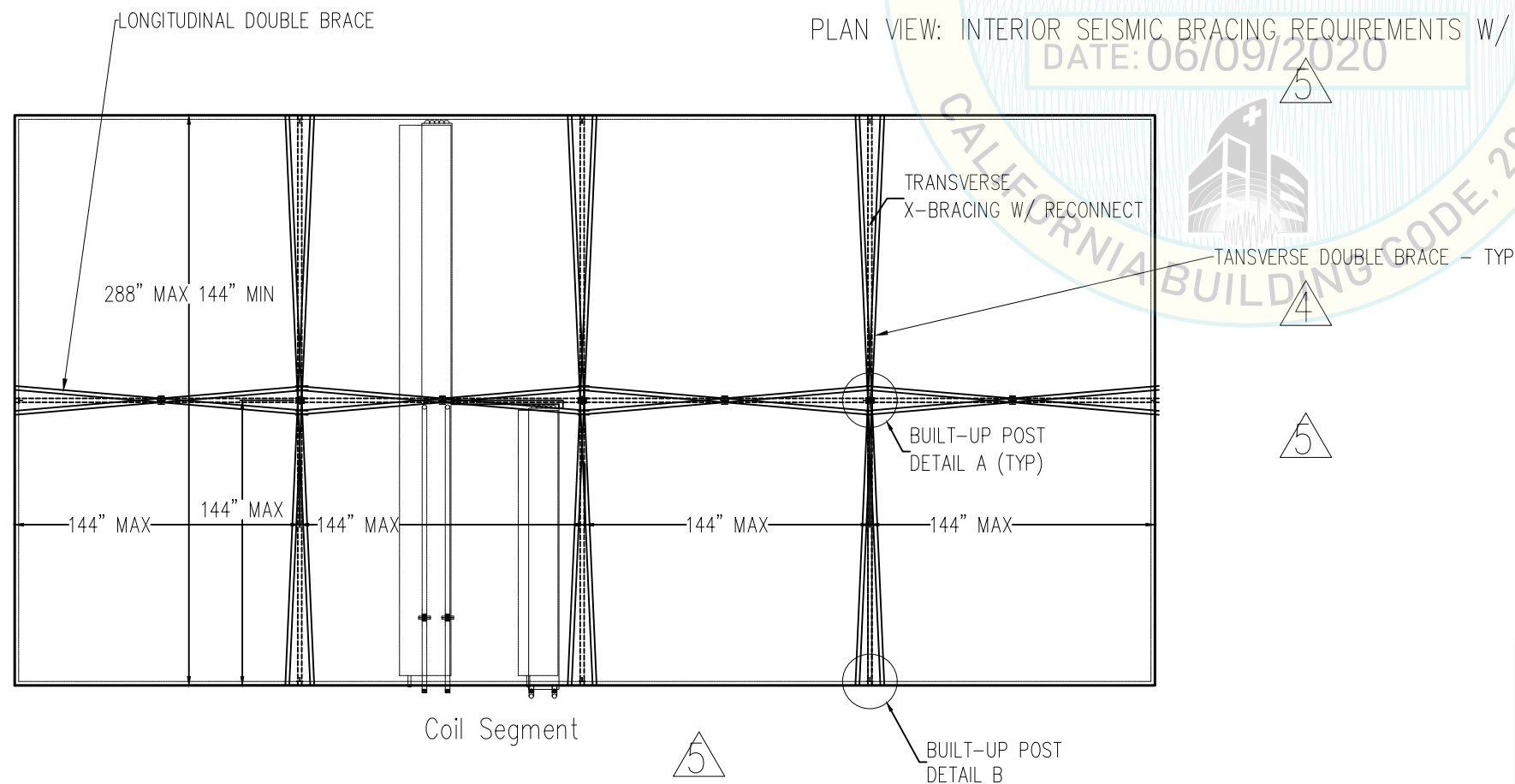


CORNER BRACE DETAIL
(12 GA MTL)

FILE NAME: Transverse Reconnect Details Narrow.dwg				DRAWN BY: HJ DUBENSKY		ISSUED ON: 02/21/12		TITLE: JCI-YORK CUSTOM AHU Unit WIDTH ≤ 144", Transverse Reconnect Assy			
REV.	DATE	BY	DESCRIPTION	PRODUCT TYPE: YC		CHECKED BY:					
1	11/3/17	JR	ADDED WELD INFO TO NOTE 2/ ADDED NOTE 3	THIS DRAWING IS PROPERTY OF JOHNSON CONTROLS INC. AND CANNOT BE REPRODUCED NOR DELIVERED TO OTHERS WITHOUT EXPRESS WRITTEN PERMISSION FROM JOHNSON CONTROLS INC.				JOB NO.: OSHPD SEISMIC			
2	09/13/19	KD	ADDED HOLE DIMENSIONS					DRAWING NO.:			
								SIZE: BB		SHEET 2 OF 12	
								Page 59 of 69			



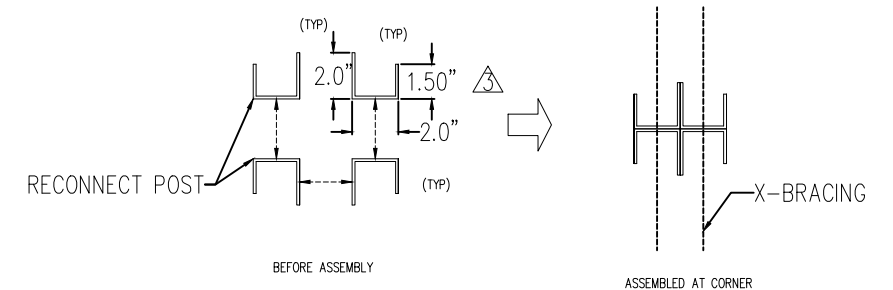
PLAN VIEW: INTERIOR SEISMIC BRACING REQUIREMENTS W/ FLEXIBLE JOINT



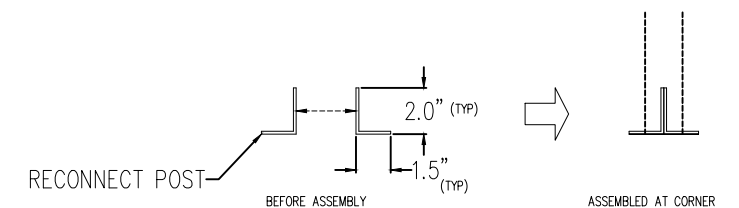
PLAN VIEW: INTERIOR SEISMIC BRACING REQUIREMENTS W/ END WALL

06/09/2020

OSP-0243



DETAIL A
RECONNECTS VERTICAL POSTS
CROSS SECTION
(W/ X-BRACING)

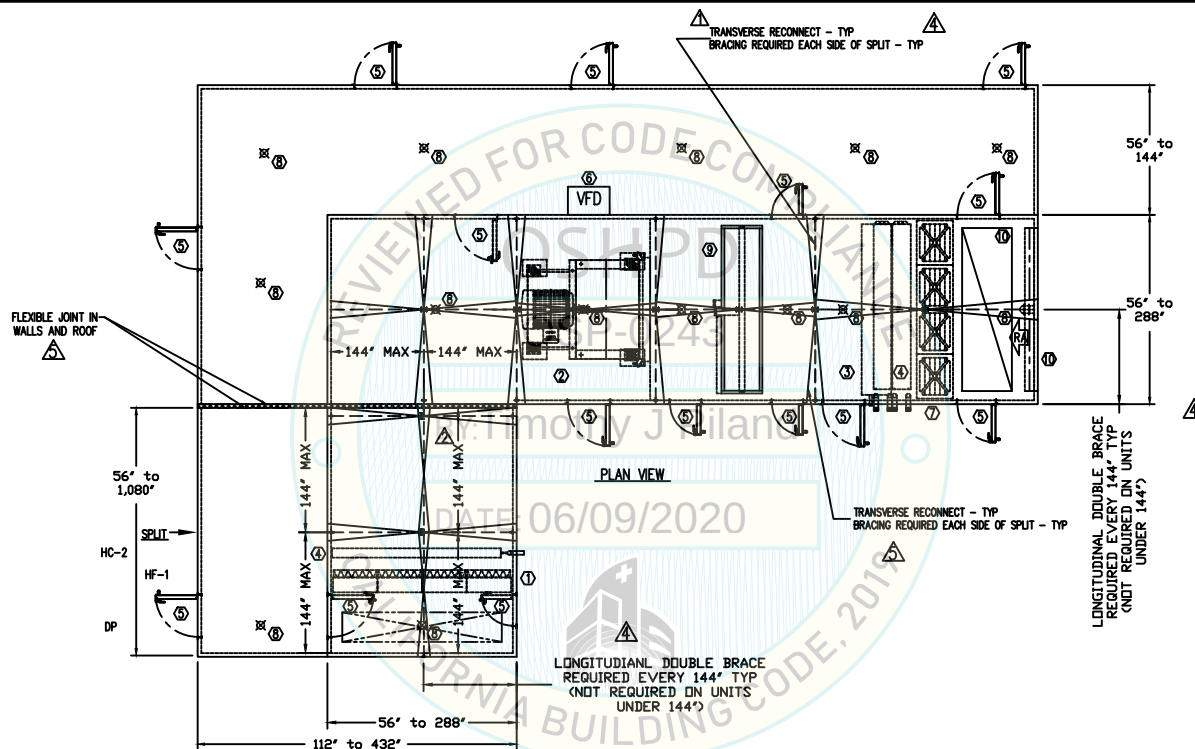


DETAIL B
RECONNECTS VERTICAL POSTS
CROSS SECTION
(W/ X-BRACING)

SEE SHT 4 FOR BRACING DETAIL

FILE NAME: JCI Solution YC Seismic Bracing Wide.dwg				DRAWN BY:	ISSUED ON:	TITLE: JCI-YORK CUSTOM AHUs Unit WIDTH > 144" Bracing and Reconnect Assy Requirements	
REV.	DATE	BY	DESCRIPTION	HJ DUBENSKY	04/02/12		
2	11/3/17	JR	ADDED BRACING TO SPLIT END	PRODUCT TYPE:	CHECKED BY:	JOB NO.: OSHPD SEISMIC	
3	4/20/18	JR	DIM 1.5" WAS 2.0"	YC			
4	3/26/19	KD	ADDED NOTES	THIS DRAWING IS PROPERTY OF JOHNSON CONTROLS INC. AND CANNOT BE REPRODUCED NOR DELIVERED TO OTHERS WITHOUT EXPRESS WRITTEN PERMISSION FROM JOHNSON CONTROLS INC.		DRAWING NO.:	
5	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED				
			NOTES AND LEADERS				
6	1/30/20	JR	UPDATED NOTES AROUND FLEXIBLE JOINT			Page 69 of 69 SHEET 3 OF 12	





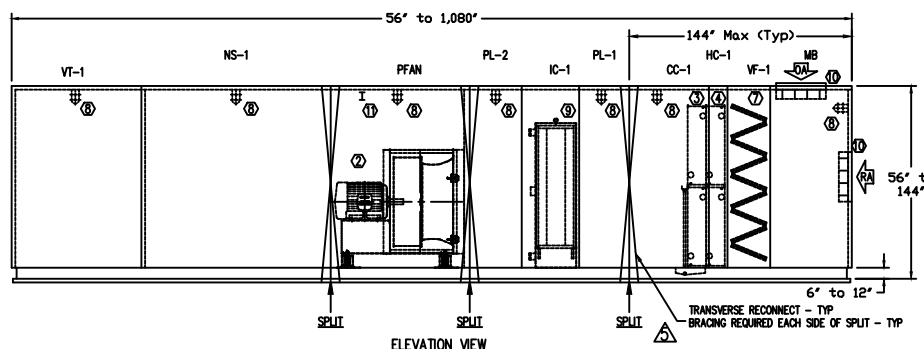
SECTION LIST	
SECT #	DESCRIPTION
MB	MIXING BOX
VF-1	VEE FILTER
HC-1	HEATING COIL
CC-1	COOLING COIL
PL-1	PLENUM
IC-1	IFB COIL
PL-2	PLENUM
PFAN	SUPPLY FAN
NS-1	NON-STANDARD
HC-2	HEATING COIL
HF-1	HEPA FILTER
DP	DISCHARGE PLENUM
VT-1	SERVICE VESTIBULE

See Appendix - Component List

1. HEPA Filter
2. Fan (Plenum)
3. Cooling Coil
4. Heating Coil
5. Access Door
6. VFD, Motor Control
7. Angle Filter
8. Vapor Proof Light
9. Integral Face & Bypass Coil
10. Control Damper
11. Motor Removal Rail

Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.05".
7. Interior Options: Solid, Perforated.
8. Insulation Types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (Smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".



REFER TO
X-BRACING W/ RECONNECT,
SHEET 2 FOR WIDTHS 144" AND UNDER
SHEET 4 FOR WIDTHS 144" AND UNDER

FILE NAME:

REV.	DATE	BY	DESCRIPTION
4	3/26/19	KD	ADDED NOTATIONS
5	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES
6	1/30/20	U6/UP	UPDATED NOTES AROUND FLEXIBLE JOINT

YORK Custom AHU

FOR

L SHAPED UNIT
Seismic Certification

OSP-0243



DIMENSIONAL TOLERANCES - UNIT: ± 0.5 / PIPING: ± 2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

DRAWN BY		JOB NUMBER:	
KMS		OSHPD UNIT F	
DATE		SHEET	OF
2/21/2022		62	12

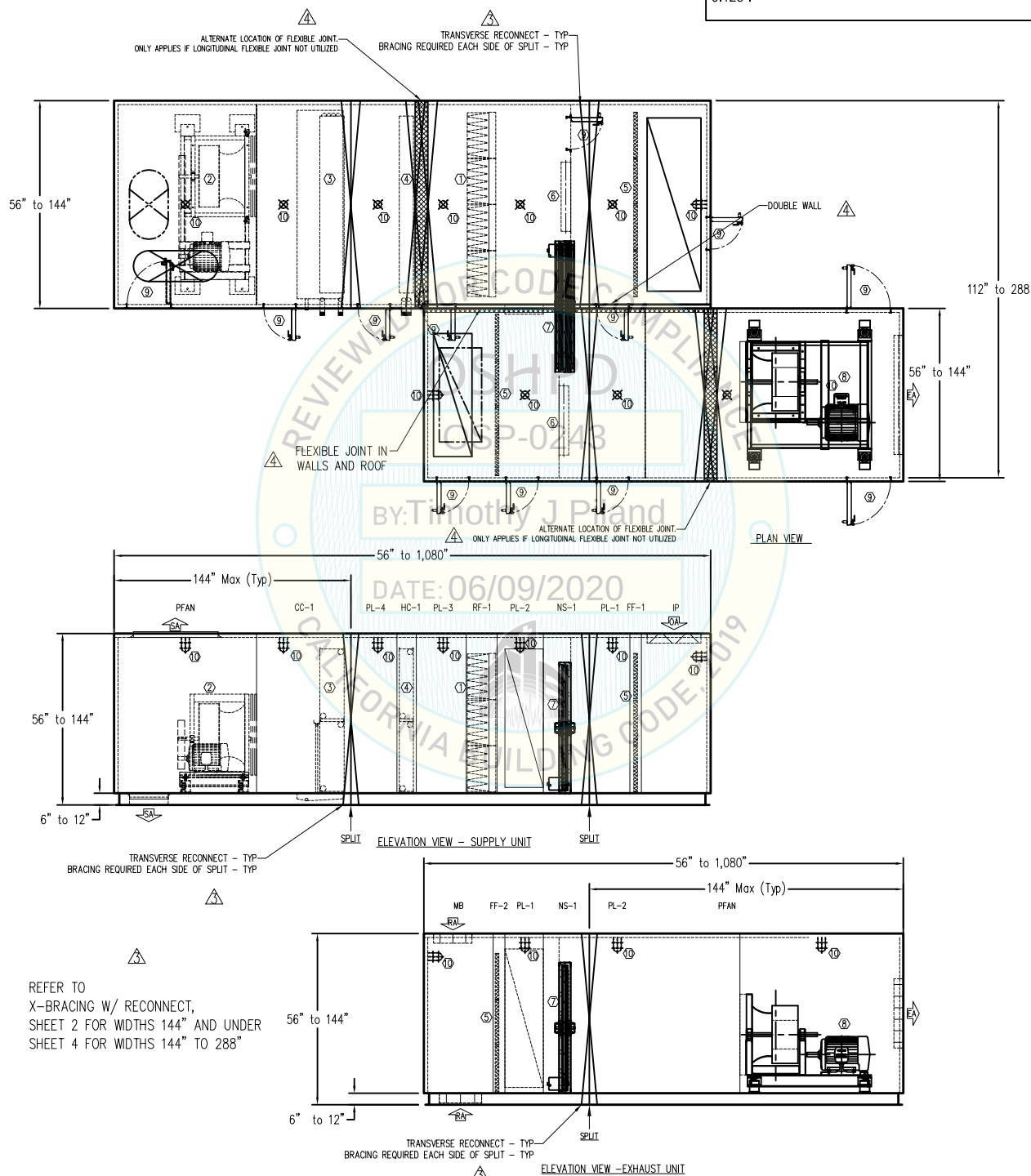
See Appendix - Component List

1. Rigid Filter
2. Fan (Plenum)
3. Cooling Coil
4. Heating Coil
5. Flat Filter
6. Control Damper
7. Heat Wheel
8. Fan (Plenum)
9. Access Door
10. Vapor Proof Light

SECTION LIST - SUPPLY UNIT		SECTION LIST - EXHAUST UNIT	
SECT #	DESCRIPTION	SECT #	DESCRIPTION
IP	INLET PLENUM	MB	MIXING BOX
FF-1	FLAT FILTER	FF-2	FLAT FILTER
PL-1	PLENUM	PL-1	PLENUM
NS-1	NON-STANDARD	NS-1	NON-STANDARD
PL-2	PLENUM	PL-2	PLENUM
RF-1	RIGID FILTER	PFAN	SUPPLY FAN
PL-3	PLENUM		
HC-1	HEATING COIL		
PL-4	PLENUM		
CC-1	COOLING COIL		
PFAN	SUPPLY FAN		

Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.05"
7. Interior Options: Solid, Perforated.
8. Insulation types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".



FILE NAME:

REV.	DATE	BY	DESCRIPTION
1	11/3/17	JR	ADDED NOTE
2	5/17/18	JR	CHANGED NOTE TO "FLEXIBLE JOINT OR DOUBLE WALL"
3	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES
4	1/30/20	JR	UPDATED FLEXIBLE JOINT NOTES / ADDED ALTERNATE LOCATIONS

DIMENSIONAL TOLERANCES - UNIT: ±0.5 / PIPING: ±2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

Solution AHU
06/09/2020



FOR

Side by Side Unit
Seismic Certification

DRAWN BY
HJD

DATE
02/17/12

JOB NUMBER
OSHPD UNIT B

SHEET
6 OF 12

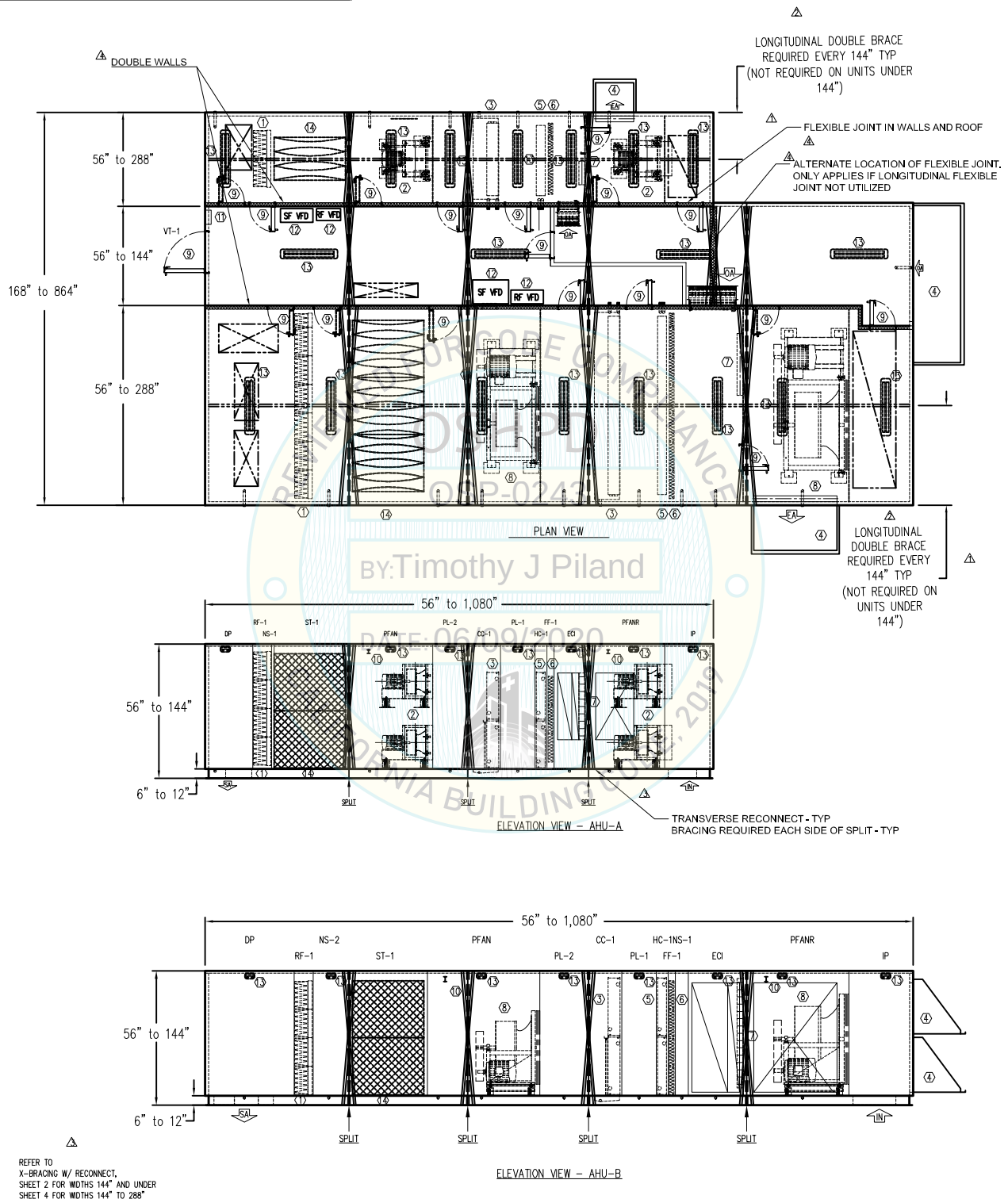
Page 63 of 69

Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.03".
7. Interior Options: Solid, Perforated.
8. Insulation Types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".

SECTION LIST - AHU-A		SECTION LIST - AHU-B	
SECT #	DESCRIPTION	SECT #	DESCRIPTION
IP	INLET PLENUM	IP	INLET PLENUM
PFANR	RETURN FAN	PFANR	RETURN FAN
EQ	INDOOR ECONOMIZER	EQ	INDOOR ECONOMIZER
FF-1	FLAT FILTER	NS-1	NON-STANDARD
HC-1	HEATING COIL	FF-1	FLAT FILTER
PL-1	PLENUM	HC-1	HEATING COIL
CC-1	COOLING COIL	PL-1	PLENUM
PL-2	PLENUM	CC-1	COOLING COIL
PFAN	SUPPLY FAN	PL-2	PLENUM
ST-1	SOUND ATTENUATOR	PFAN	SUPPLY FAN
NS-1	NON-STANDARD	ST-1	SOUND ATTENUATOR
RF-1	RIGID FILTER	NS-2	NON-STANDARD
DP	DISCHARGE PLENUM	RF-1	RIGID FILTER
		DP	DISCHARGE PLENUM
		VT-1	SERVICE VESTIBULE

- See Appendix - Component List
1. Rigid Filter
 2. Multiple Fans (Plenum)
 3. Cooling Coil
 4. Weather Hood
 5. Heating Coil
 6. Flat Filter
 7. Control Damper
 8. Fan (Plenum)
 9. Access Door
 10. Motor Removal Rail
 11. Louver
 12. VFD, Motor Control
 13. Fluorescent Light
 14. Sound Attenuator



FILE NAME:

REV.	DATE	BY	DESCRIPTION
2	3/28/19	KD	UPDATED NOTES
3	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES
4	1/30/20	JR	UPDATED FLEXIBLE JOINT NOTES\ ADDED ALTERNATE FLEXIBLE JOINT

DIMENSIONAL TOLERANCES - UNIT: ±0.5 / PIPING: ±2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

YORK Custom AHU
06/09/2020



FOR
Side by Side Units with Shared Vestibule
Seismic Certification

DRAWN BY
KMS
DATE
01/09/12
JOB NUMBER
OSHPD UNIT D
SHEET
7
OF
12
Page 64 of 69

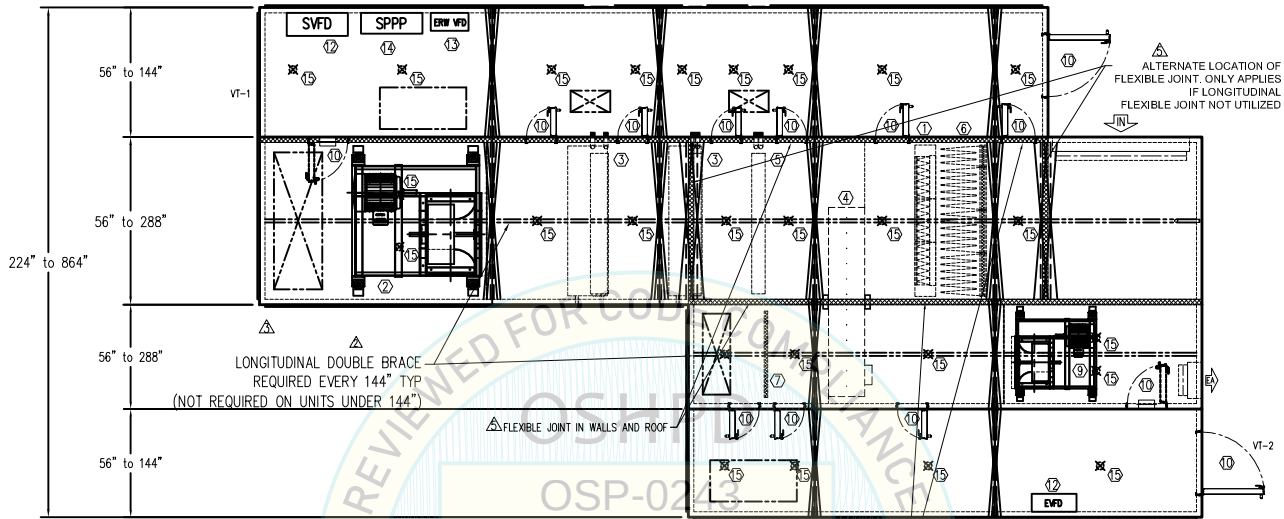
Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.05".
7. Interior Options: Solid, Perforated.
8. Insulation Types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".

See Appendix - Component List

1. Rigid Filter
2. Fan (Plenum)
3. Cooling Coil
4. Energy Recovery Wheel
5. Heating Coil
6. Bag Filter
7. Flat Filter
8. Control Damper
9. Fan (Plenum)
10. Access Door
11. Motor Removal Rail
12. VFD, Motor Control
13. VFD, Energy Recovery Wheel Motor Control
14. Single Point Power Panel
15. Vapor Proof Light

SECTION LIST	
SECT #	DESCRIPTION
IP	INLET PLENUM
PL-1	PLENUM
BF-1	BAG FILTER
RF-1	FUTURE CARBON FILTER (BY OTHERS)
PL-2	PLENUM
NS-1	ENERGY WHEEL
PL-3	PLENUM
HC-1	HEATING COIL
CC-1	COOLING COIL
PL-4	PLENUM
CC-2	COOLING COIL
PFAN	SUPPLY FAN
DP	DISCHARGE PLENUM
VT-1	SERVICE VESTIBULE
IPX	INLET PLENUM
FF-1	FLAT FILTER
PL-5	PLENUM
NS-2	ENERGY WHEEL
PL-6	PLENUM
PFANX	EXHAUST FAN
VT-2	SERVICE VESTIBULE

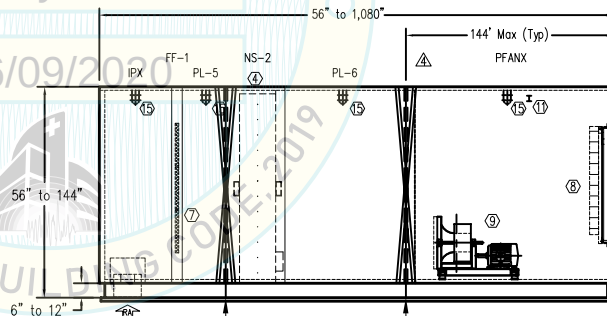


PLAN VIEW

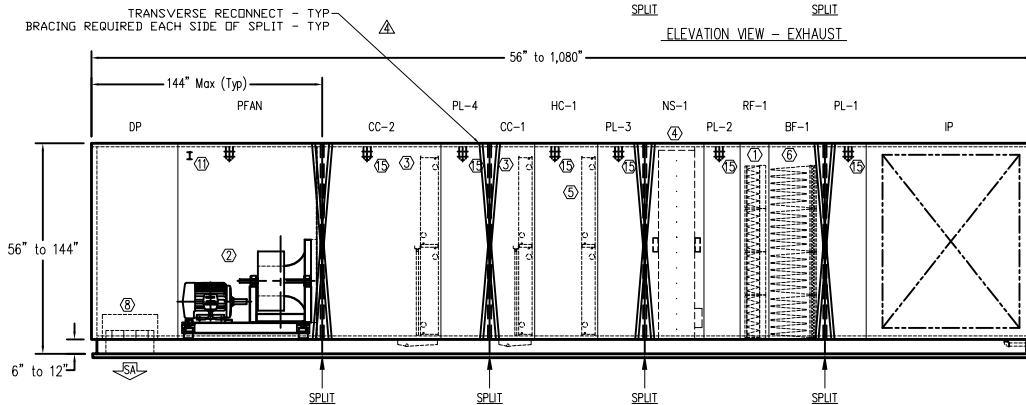
By: Timothy J Piland

DATE: 06/09/2020

REVIEWED FOR COMPLIANCE
CALIFORNIA BUILDING CODE 2019



ELEVATION VIEW - EXHAUST



ELEVATION VIEW - SUPPLY

REFER TO
X-BRACING W/ RECONNECT,
SHEET 2 FOR WIDTHS 144" AND UNDER
SHEET 4 FOR WIDTHS 144" TO 288"

FILE NAME:

REV.	DATE	BY	DESCRIPTION
2	5/10/18	JR	ADDED BRACING REQUIREMENT ALONG TUNNEL LENGTH OVER 144"
3	3/28/19	KD	ADDED TO LEADER NOTES
4	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES
5	1/30/20	JR	UPDATED FLEXIBLE JOINT NOTES, ADDED ALTERNATE FLEXIBLE JOINT

DIMENSIONAL TOLERANCES - UNIT: ± 0.5 / PIPING: ± 2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

YORK Custom AHU
06/09/2020



FOR

Side by Side Units with Vestibules
Seismic Certification

OSP-0243

DRAWN BY
KMS

DATE
02/17/12

JOB NUMBER
OSHPD UNIT E

SHEET
8 OF 12

Page 65 of 69

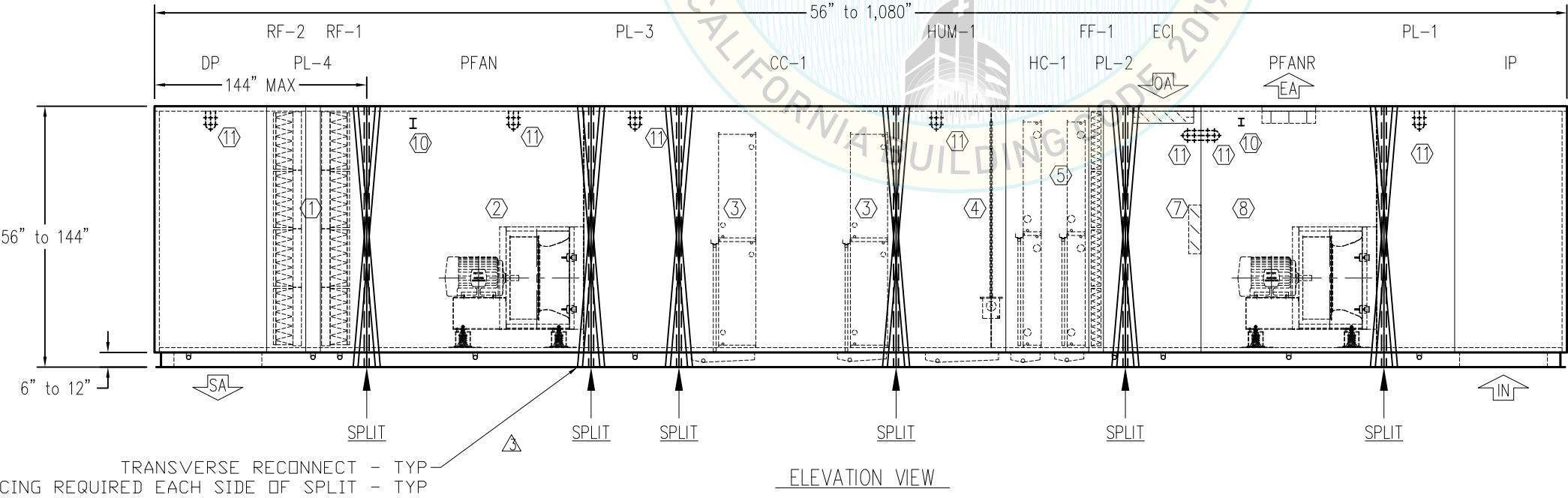
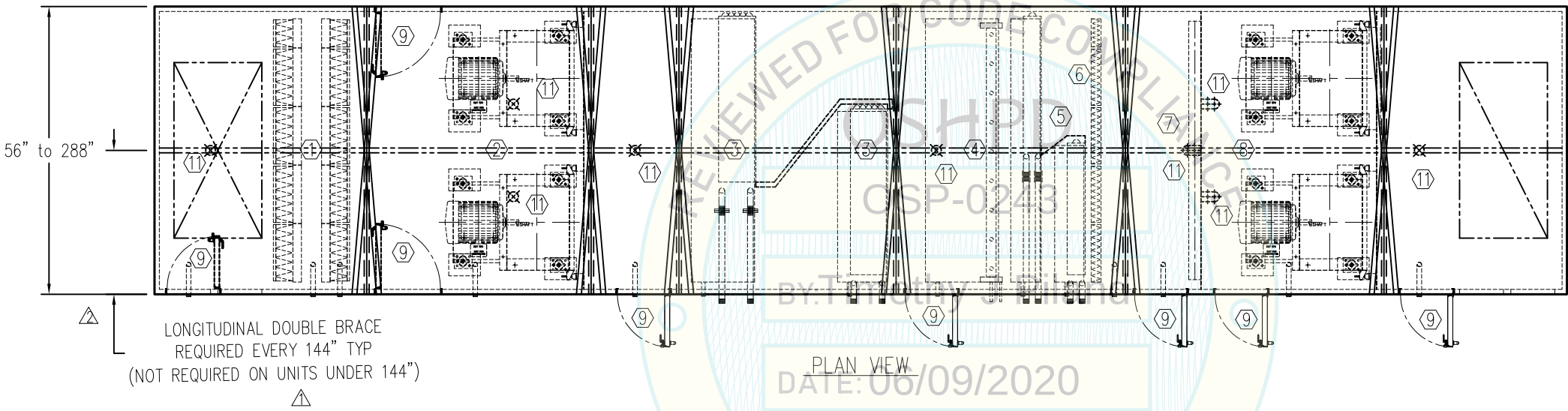
See Appendix - Component List

- 1. Rigid Filter
- 2. Fan (Plenum)
- 3. Cooling Coil
- 4. Humidifier
- 5. Heating Coil
- 6. Flat Filter
- 7. Control Damper
- 8. Fan (Plenum)
- 9. Access Door
- 10. Motor Removal Rail
- 11. Vapor Proof Light

Unit Construction Information:

- 1. Wall and Roof Panel Thickness: 2", 3", 4".
- 2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
- 3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
- 4. Exterior Thickness: 20ga, 0.04".
- 5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
- 6. Interior Thickness: 22ga, 20ga, 0.05".
- 7. Interior Options: Solid, Perforated.
- 8. Insulation Types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
- 9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel
- 10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".

SECTION LIST	
SECT #	DESCRIPTION
IP	INLET PLENUM
PL-1	PLENUM
PFANR	RETURN FAN
ECI	INDOOR ECONOMIZER
PL-2	PLENUM
FF-1	FLAT FILTER
HC-1	HEATING COIL
HUM-1	HUMIDIFIER
CC-1	COOLING COIL
PL-3	PLENUM
PFAN	SUPPLY FAN
RF-1	RIGID FILTER
PL-4	PLENUM
RF-2	RIGID FILTER
DP	DISCHARGE PLENUM



REFER TO
X-BRACING W/ RECONNECT,
SHEET 2 FOR WIDTHS 144" AND UNDER
SHEET 4 FOR WIDTHS 144" TO 288"

DIMENSIONAL TOLERANCES - UNIT: ±0.5 / PIPING: ±2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

FILE NAME:

REV.	DATE	BY	DESCRIPTION
1	5/10/18	JR	ADDED BRACING REQUIREMENT ALONG TUNNEL LENGTH OVER 144' WIDE
2	3/28/19	KD	ADDED TO LEADER NOTE
3	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES
06/09/2020			

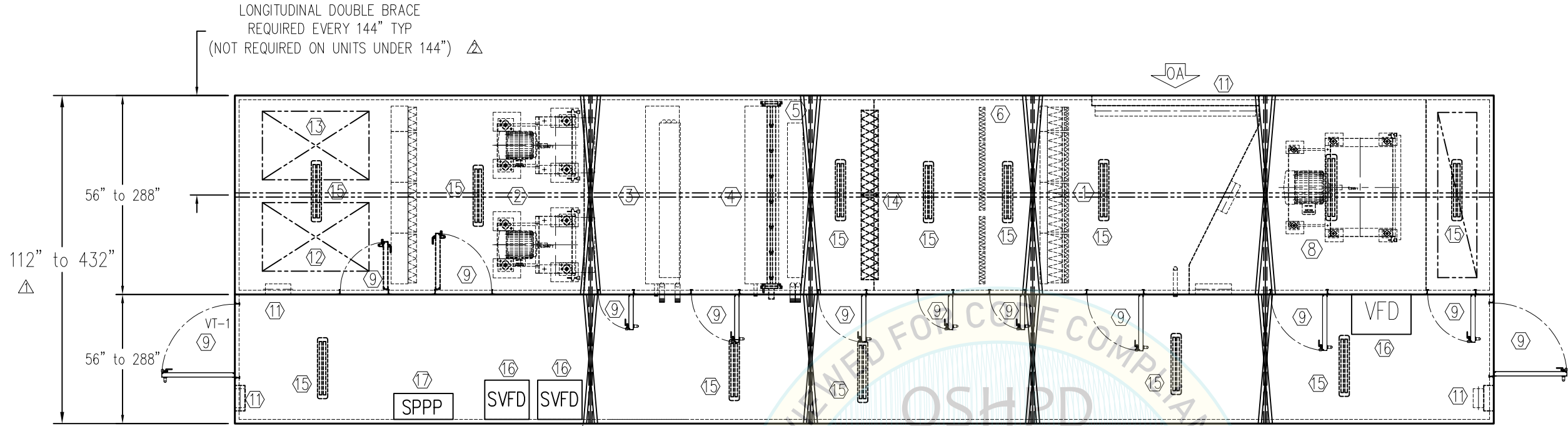
YORK Custom AHU

FOR

SINGLE WIDE UNIT
SEISMIC CERTIFICATION
OSP-0243



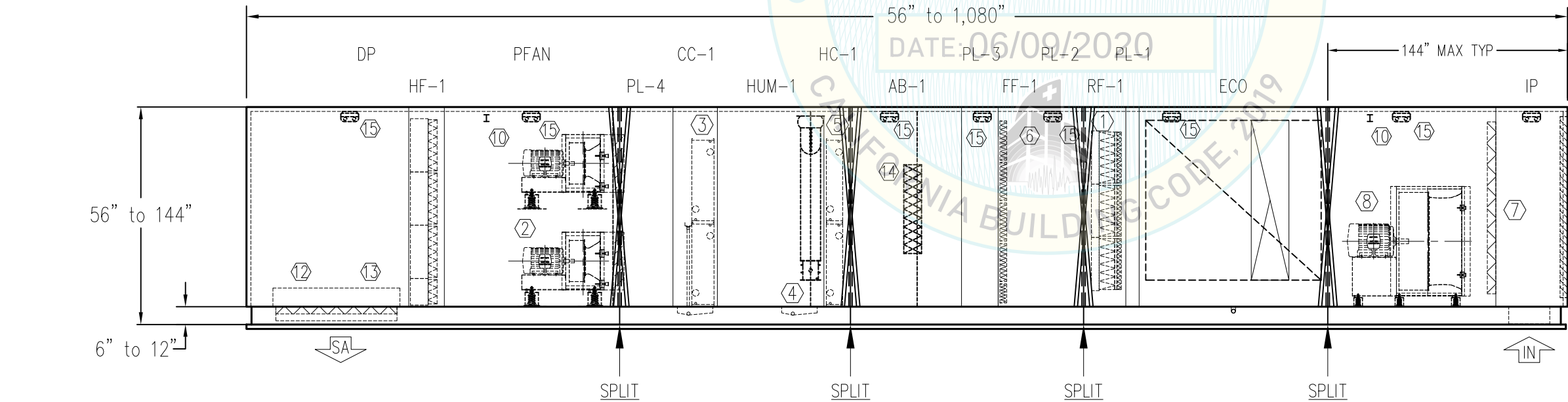
DRAWN BY DAVE N	JOB NUMBER: OSHPD UNIT A
DATE 01/09/12	SHEET 9 OF 12 Page 66 of 69



SECTION LIST	
SECT #	DESCRIPTION
IP	INLET PLENUM
PFANR	RETURN FAN
ECO	OUTDOOR ECONOMIZER
PL-1	PLENUM
RF-1	RIGID FILTER
PL-2	PLENUM
FF-1	FLAT FILTER
PL-3	PLENUM
AB-1	AIR BLENDER
HC-1	HEATING COIL
HUM-1	HUMIDIFIER
CC-1	COOLING COIL
PL-4	PLENUM
PFAN	SUPPLY FAN
HF-1	HEPA FILTER
DP	DISCHARGE PLENUM
VT-1	SERVICE VESTIBULE

See Appendix - Component List

1. Rigid Filter
2. Multiple Fans (Plenum)
3. Cooling Coil
4. Humidifier
5. Heating Coil
6. Flat Filter
7. Control Damper
8. Fan (Plenum)
9. Access Door
10. Motor Removal Rail
11. Louver
12. ULL Damper
13. Smoke Damper
14. Air Blender
15. Fluorescent Light
16. VFD, Motor Control
17. Single Point Power Panel



Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.05".
7. Interior Options: Solid, Perforated.
8. Insulation Types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".

DIMENSIONAL TOLERANCES - UNIT: ±0.5 / PIPING: ±2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

FILE NAME:

REV.	DATE	BY	DESCRIPTION
1	4/20/18	JR	DIM 488" WAS 576"
2	3/26/19	KD	ADDED NOTE TO DRAWING
3	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES

06/09/2020

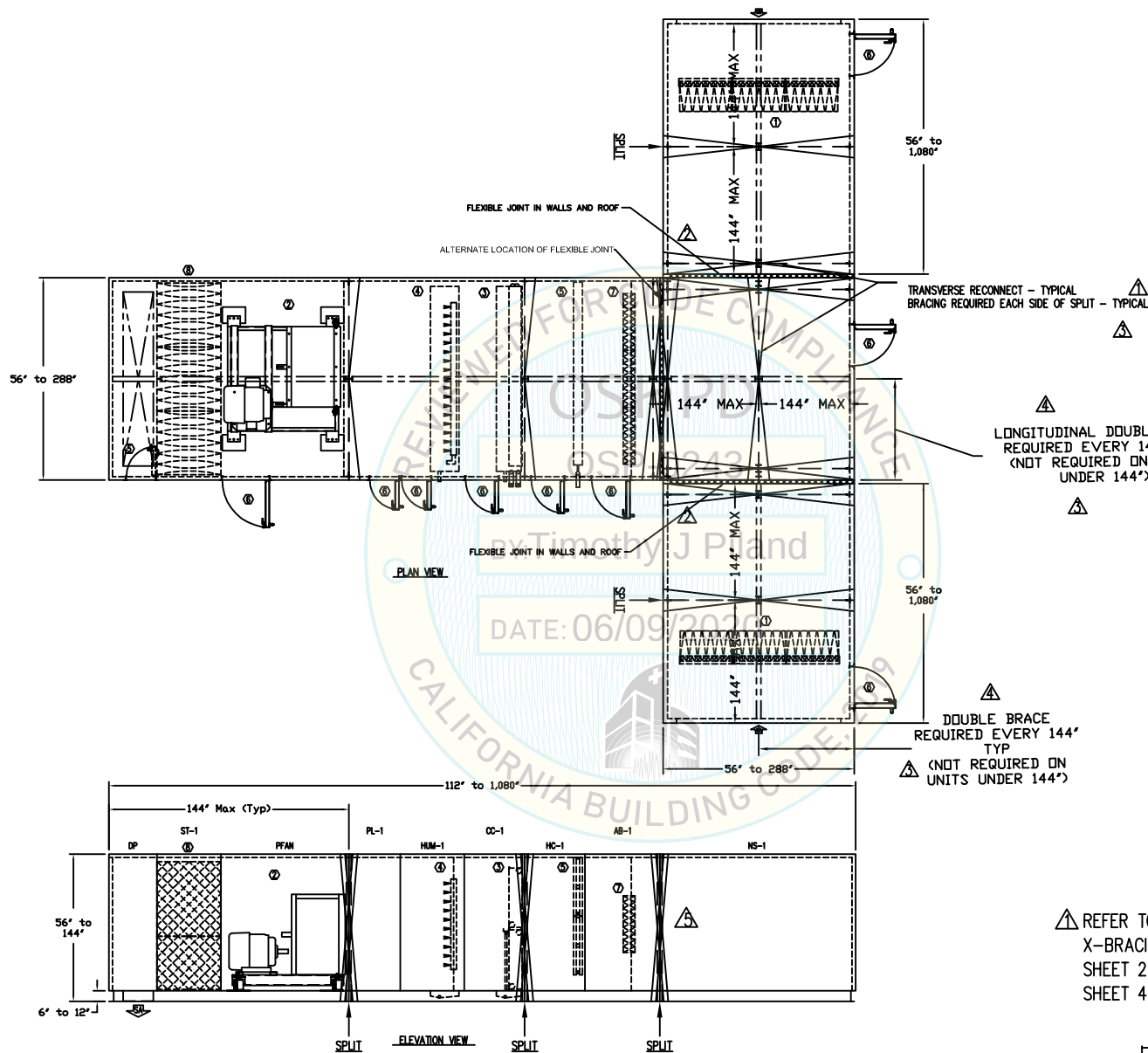
YORK Custom AHU

FOR

Single Wide Unit with Vestibule
Seismic Certification
OSP-0243



DRAWN BY KMS	JOB NUMBER: OSHPD UNIT C
DATE 01/09/12	SHEET OF 10 OF 12



Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.05".
7. Interior Options: Solid, Perforated.
8. Insulation Types: Fiberglass, Foan, Fiberglass and Foan Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".

See Appendix - Component List

1. Bag Filter
2. Fan (Plenum)
3. Cooling Coil
4. Humidifier
5. Heating Coil
6. Access Door
7. Air Blender
8. Sound Attenuator

SECTION LIST - FRONT	
SECT #	DESCRIPTION
NS-1	NON-STANDARD
AB-1	AIR BLENDER
HC-1	HEATING COIL
CC-1	COOLING COIL
HUM-1	HUMIDIFIER
PL-1	PLENUM
PFAN	SUPPLY FAN
ST-1	SOUND ATTENUATOR
DP	DISCHARGE PLENUM
IP-1	INLET PLENUM
RF-1	RIGID FILTER
PL-1	PLENUM
RF-2	RIGID FILTER
IP-2	INLET PLENUM

REFER TO
X-BRACING W/ RECONNECT,
SHEET 2 FOR WIDTHS 144" AND UNDER
SHEET 4 FOR WIDTHS 144" TO 288"

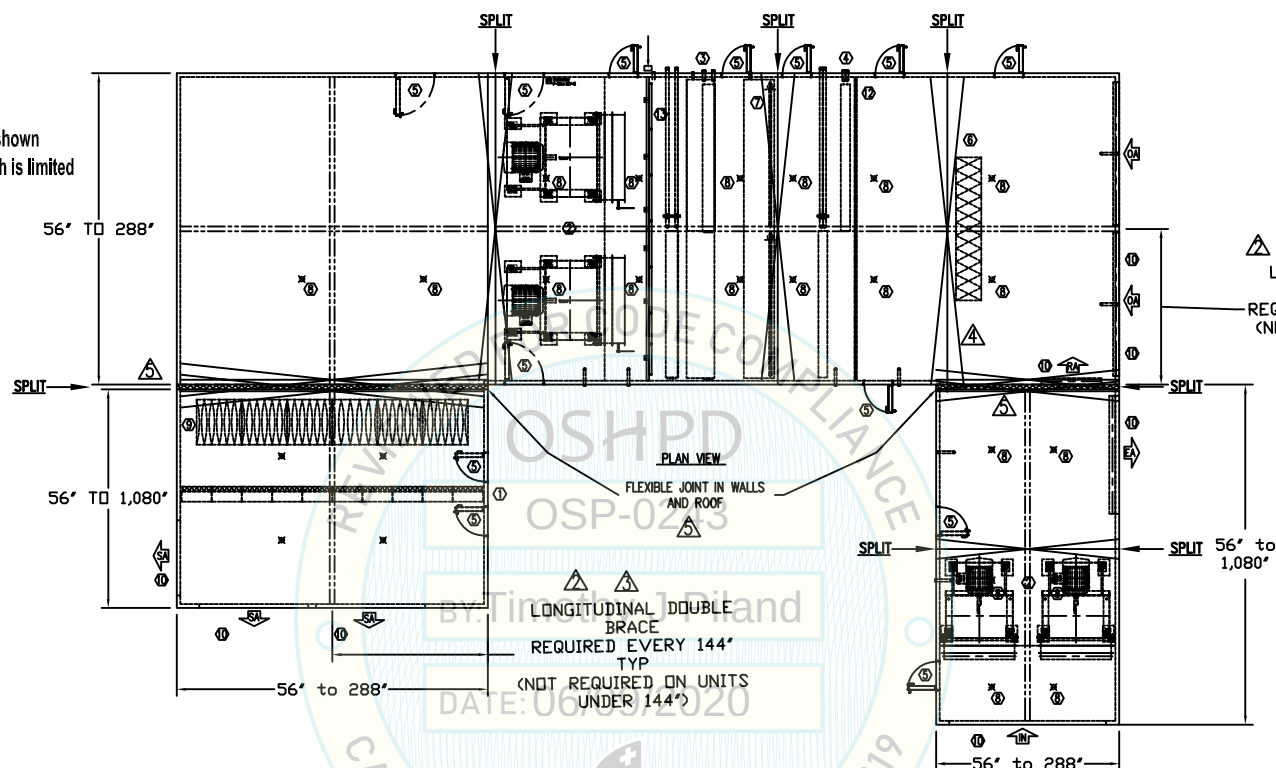
DIMENSIONAL TOLERANCES - UNIT: ± 0.5 / PIPING: ± 2
UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

FILE NAME:				UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY				
REV.	DATE	BY	DESCRIPTION	YORK Custom AHU	FOR T Shaped Unit Seismic Certification		DRAWN BY	JOB NUMBER:
4	3/28/19	KD	ADDED TO LEADER NOTES				KMS	OSHPD UNIT C
5	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES					
6	1/30/20	JR	UPDATED FLEXIBLE JOINT NOTES\ ADDED ALTERNATE FLEXIBLE JOINT					
							DATE	SHEET OF
							2/17/2012	11 OF 12

See Appendix - Component List

1. HEPA Filter
2. Multiple Fans (Plenum)
3. Cooling Coil
4. Heating Coil
5. Access Door
6. Air Blender
7. Humidifier
8. Vapor Proof Light
9. Sound Attenuator
10. Control Damper
11. Motor Removal Rail
12. Flat Filter
13. UV Lights

Vestibule not shown
 △ Vestibule Width is limited to 144"

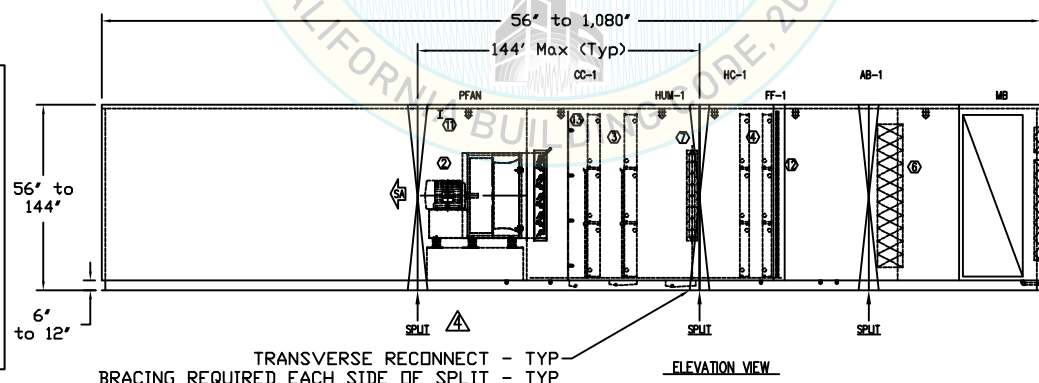


△ △ LONGITUDINAL DOUBLE BRACE
 REQUIRED EVERY 144' TYP
 (NOT REQUIRED ON UNITS UNDER 144')

REFER TO
 X-BRACING W/ RECONNECT,
 SHEET 2 FOR WIDTHS 144" AND UNDER
 SHEET 4 FOR WIDTHS 144" TO 288"

Unit Construction Information:

1. Wall and Roof Panel Thickness: 2", 3", 4".
2. Wall and Roof Panel Options: Standard, Thermal Break, Ultra Thermal Break.
3. Exterior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Texture.
4. Exterior Thickness: 20ga, 0.04".
5. Interior Materials: Galvanized Steel, Stainless Steel, Pre-painted Galvanized Steel, Aluminum Smooth.
6. Interior Thickness: 22ga, 20ga, 0.05".
7. Interior Options: Solid, Per-Forated.
8. Insulation Types: Fiberglass, Foam, Fiberglass and Foam Combination, Mineral Wool.
9. Floor Panel Materials: Painted Steel Tread Plate, Painted Steel (smooth), Stainless Steel Tread Plate, Galvanized Steel, Stainless Steel (304L and 316L).
10. Floor Thickness: 18ga, 16ga, 14ga, 12ga, 10ga, 0.125".



TRANSVERSE RECONNECT - TYP
 BRACING REQUIRED EACH SIDE OF SPLIT - TYP

ELEVATION VIEW

SECTION LIST	
SECT #	DESCRIPTION
MB	MIXING BOX
AB-1	AIR BLENDER
FF-1	FLAT FILTER
HC-1	HEATING COIL
HUM-1	HUMIDIFIER
CC-1	COOLING COIL
PFAN	SUPPLY FAN
IP-1	INLET PLENUM
PFANR	RETURN FAN
DP-1	DISCHARGE PLENUM
IP-2	INLET PLENUM
ST-1	SOUND ATTENUATOR
PL-1	PLENUM
HF-1	HEPA FILTER
DP-2	DISCHARGE PLENUM

DIMENSIONAL TOLERANCES - UNIT: ±0.5 / PIPING: ±2
 UNIT COMPONENTS ARE SHOWN FOR REPRESENTATIONAL PURPOSES ONLY

FILE NAME:

REV.	DATE	BY	DESCRIPTION
2	5/10/18	JR	ADDED BRACING REQUIREMENT ALONG TUNNEL LENGTH OVER 144"
3	3/26/19	KD	UPDATED LEADER NOTES
4	9/13/19	KD	ADDED TRANSVERSE BRACES/CALLOUTS, UPDATED LEADER NOTES
5	1/30/20	JR	UPDATED FLEXIBLE JOINT NOTES\ ADDED ALTERNATE FLEXIBLE JOINT

YORK Custom AHU

FOR

U SHAPED UNIT
 Seismic Certification

Johnson
 Controls

DRAWN BY	KMS	JOB NUMBER:	OSHPD UNIT H
DATE	2/21/2012	SHEET	12 OF 12