Regional District of Okanagan-Similkameen
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Toll Free (BC/AB): 1.877.610.3737
Email: buildinginfo@rdos.bc.ca Website: www.rdos.bc.ca

Please complete the appropriate attached Mechanical Ventilation Checklist.

This checklist must be returned BEFORE calling for the Framing Inspection.

Framing Inspections will not *be* completed until the form is completed and signed by a certified installer and returned to RDOS Building Inspection Services.

Mechanical Ventilation Checklists

(Please complete the appropriate attached checklist)

Checklist 1	**Forced Air Systems** Forced air heating system ducts intake and distribute ventilation air.
Checklist 2	**HRV Systems** Centrally ducted HRV (heat recovery ventilator) is used alone or in combination with a Forced Air Heating System to meet principal ventilation system requirements.
Checklist 3	**Distributed CRV Systems** Ducted CRV (Central Recirculating Ventilator) is used to meet the fresh air intake and distribution requirements and a Principal Exhaust fan meets the exhaust requirements.
Checklist 4	**Exhaust Fan & Passive Inlets** Use this checklist for small (less than 1800 sq. ft.), single level, **non-forced** air heated dwellings located in climate areas where winter design temperature is warmer than -20.

December, 2015

1 Ventilation Checklist 1—Forced Air Systems SENTENCE 9.32.3.4(6)

Use this Checklist where **forced air heating system ducts intake and distribute** ventilation air.

Civic Address_____ Permit No._____

Climate Zone: ____ Number of Bedrooms [ ] (A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.

Total Floor area of living space [ ] ft^2 (B)

Total Interior Volume of Dwelling [ ] ft^3 Total volume includes all heated interior spaces (including crawlspace if heated).

.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 = [ ] cfm (C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Prinicpal Exhaust System Capacity [ ] cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make_____Model_____ Sone Rating ____

Location: _____ **Capacity at 0.2 ESP** [ ] cfm (E) Must be ≥ than Box (D)

If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

a) Installed Equivalent Length:

Length of duct _____ft. + Ext. hood 30 ft. + (# elbows at 10 ft. each =_____) = [ ] ft

b) Choose either Flex duct or Smooth (rigid) duct _____

c) Duct size required to flow Box E cfm through equivalent length of duct = [ ] in Ø

Use Maximum Equivalent Length Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	Required Exhaust Rate **Table 9.32.3.6**	EXHAUST EQUIPMENT						
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS						Ex.Fan/CEV
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)				Principal System CFM
				Duct Dia (in Ø)		Max. Equiv. Length per table	Installed Equiv. Length	
				rigid	flex			

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct.

TOTAL (must = Box E) [ ]

See *Ventilation Guidelines* Appendix page 16-A Checklist 1, pg1of2

5. Fresh Air must be ducted from outside to Return Air of Forced Air Heating for distribution.

☐ a) Ventilation air duct is connected not more than 15ft, nor less than 10ft upstream of the heating appliance, unless a flow control device is used.

b) Duct Size for Fresh Air intake to RA. Choose one.

☐ Rigid Duct: 4" Ø minimum, must be insulated & vapour barriered for full length, OR

☐ Flex Duct: 5"Ø minimum, must be insulated & vapour barriered for full length.

☐ **6. Forced Air Heating System is ducted to supply air to every bedroom and any level without a bedroom.**

7. If Heated Crawlspace present, (Choose one)

☐ Minimum of one RA grille located in the crawlspace, OR

☐ No RA grille in crawlspace, choose ventilation Option 1, 2, or 3 per sentence 9.37.3.7 (2)

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) ~~**or radon present in dwelling unit?**~~ (per Sentence 9.32.4.1)

☐ **No**, Omit Steps 2 & 3

☐ **Yes,** Proceed to Step 2

2. Exhaust Appliance present which exceeds Box C 0.5 ACH:

☐ **No such appliance.** Omit Step 3

☐ **Yes,** Commit to Depressurization Test (See CAUTION, TECA Vent Manual pg 24)

☐ **Yes,** Proceed to Step 3

3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)

Make-up Air Fan required: **Exhaust Appliance Actual Installed Cfm** _____

Fan Make _____ Model _____ **Make-up Air Fan Cfm** _____

Duct diameter _____inches

Fan Location _____ Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area first (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):

Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm:

Transfer grill size _____ sq. in. Location _____

iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

_____

Installer Certification:

Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.

2012 TECA Ventilation Certification Stamp

Print Name _____

Signature _____

Company _____

Phone _____

2 Ventilation Checklist 2—HRV Systems SENTENCE 9.32.3.4 (3) & (4)

Use this checklist when a centrally ducted HRV (heat recovery ventilator) is used alone or in combination with a Forced Air Heating System to meet principal ventilation system requirements.

Civic Address_____ Permit No._____

Climate Zone: ____ Number of Bedrooms _____ (A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.

Total Floor area of living space _____ ft² (B)

Total Interior Volume of Dwelling _____ ft³ Total volume includes all heated interior spaces (including crawlspace if heated).

.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 = _____ cfm (C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Use the bedroom count (Box A above) and total square footage (Box B above) to determine the minimum principal Air Flow rate required by Table 9.32.3.5
Minimum Required Rate _____ cfm (D)

2. HRV Make _____ **Model** _____

3. HRV Capacity: CFM @ 0.4 ESP. Box E must meet Box D requirement. _____ cfm (E)

4. List Exhaust Grilles Locations: 1 minimum @ 6 ft or higher from floor of uppermost level.

_____ _____
_____ _____
_____ _____

5. Required Kitchen and Bathroom Exhaust
If HRV used to meet all or part of Kitchen/Bathroom spot exhuast requirements list below.

ROOM	REQUIRED EXHAUST RATE **Table 9.32.3.6**	EXHAUST EQUIPMENT						
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS						HRV
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)				Principal System CFM
				Duct Dia (in Ø)		Max. Equiv. Length per table	Installed Equiv. Length	
				rigid	flex			
							TOTAL (must = Box E)	

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct.
See *Ventilation Guidelines* Appendix page 16-A

6. HRV Fresh Air Distribution (Choose a or b)

a) Supply Air from HRV direct connect to Return Air of a Forced Air Heating System:

☐ FA system fan and HRV fan continuous operation and

☐ FA system ducted to supply air to every bedroom and each floor level without a bedroom

b) Supply Air from HRV distributed independently

☐ Ducted to every bedroom and each floor level without a bedroom and

☐ HRV fan continuous operation

7. If Heated Crawlspace present, (Choose one)

☐ Minimum of one Forced Air System RA grille located in the crawlspace, OR

☐ No RA grille in crawlspace, choose ventilation Option 1, 2, or 3 per sentence 9.37.3.7 (2)

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) ~~**or radon present in dwelling unit?**~~ (per Sentence 9.32.4.1)

☐ **No**, Omit Steps 2 & 3

☐ **Yes,** Proceed to Step 2

2. Exhaust Appliance present which exceeds Box C 0.5 ACH:

☐ **No such appliance**. Omit Step 3

☐ **Yes,** Commit to Depressurization Test (See CAUTION, TECA Vent Manual pg 24)

☐ **Yes,** Proceed to Step 3

3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)

Make-up Air Fan required: **Exhaust Appliance Actual Installed Cfm** _____

Fan Make _____ Model _____ **Make-up Air Fan Cfm** _____

Duct diameter _____ inches

Fan Location _____ Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area first (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):

Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm:

Transfer grill size _____ sq. in. Location _____

iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

_____

Installer Certification:

Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.

2012 TECA Ventilation Certification Stamp

Print Name _____

Signature _____

Company _____

Phone _____

3 Ventilation Checklist 3—Distributed CRV Systems SENTENCE 9.32.3.4(5)

Use this Checklist when a ducted Central Recirculating Ventilator (CRV) is used to meet the fresh air intake and distribution requirements and a Principal Exhaust fan meets the exhaust requirements.

Civic Address_____ Permit No._____

Climate Zone: ____ Number of Bedrooms [ ] (A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.

Total Floor area of living space [ ] ft^2 (B)

Total Interior Volume of Dwelling [ ] ft^3 Total volume includes all heated interior spaces (including crawlspace if heated).

.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 = [ ] cfm (C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Prinicpal Exhaust System Capacity [ ] cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make_____Model_____ Sone Rating ____

Location: _____ **Capacity at 0.2 ESP** [ ] cfm (E) Must be ≥ than Box (D)

If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

a) Installed Equivalent Length:
Length of duct _____ft. + Ext. hood 30 ft. + (# elbows at 10 ft. each =_____) = [ ] ft

b) Choose either Flex duct or Smooth (rigid) duct

c) Duct size required to flow Box E cfm through equivalent length of duct = [ ] in Ø
Use Maximum Equivalent Length Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	REQUIRED EXHAUST RATE **Table 9.32.3.6**	EXHAUST EQUIPMENT						
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS						Ex.Fan/CEV
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)				Principal System CFM
				Duct Dia (in Ø) rigid	Duct Dia (in Ø) flex	Max. Equiv. Length per table	Installed Equiv. Length	

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct.

TOTAL (must = Box E) [ ]

See *Ventilation Guidelines* Appendix page 16-A

5. CRV Fresh Air Intake & Mixing Fan (Choose a or b)

Make_____ Model_____ **Capacity @ 0.4 ESP** _____ cfm (F)

☐ a) Box F CFM is minimum 2 times Box D cfm for **+5°F and warmer winter design temperature**.

☐ b) Box F CFM is minimum 3 times Box D for **less than +5°F winter design temperature.**

c) Duct Size for Fresh Air intake into return air of CRV:

☐ Min 4"Ø rigid duct, must be insulated & vapour barriered for full length, OR

☐ Min 5"Ø, flex duct, must be insulated & vapour barriered for full length,

6. CRV Fresh Air Circulation (Choose a or b)

☐ a) Draw air from bedrooms and Supply air to common area.

☐ b) Draw air from common area and Supply air to bedrooms.

7. If Heated Crawlspace present

☐ Choose ventilation option 1, 2, or 3 per sentence 9.37.3.7 (2).

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) ~~**or radon present in dwelling unit?**~~ (per Sentence 9.32.4.1)

☐ **No**, Omit Steps 2 & 3

☐ **Yes,** Proceed to Step 2

2. Exhaust Appliance present which exceeds Box C 0.5 ACH:

☐ **No such appliance**. Omit Step 3

☐ **Yes,** Commit to Depressurization Test (See CAUTION, TECA Vent Manual pg 24)

☐ **Yes,** Proceed to Step 3

3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)

Make-up Air Fan required: **Exhaust Appliance Actual Installed Cfm** _____

Fan Make _____ Model _____ **Make-up Air Fan Cfm** _____

Duct diameter _____inches

Fan Location _____ Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area first (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):

Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm:

Transfer grill size _____ sq. in. Location _____

iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

_____

Installer Certification:

Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.

2012 TECA Ventilation Certification Stamp

Print Name_____

Signature_____

Company_____

Phone _____

Checklist 3, pg2of2

4 Ventilation Checklist 4—Exhaust Fan & Passive Inlets SENTENCE 9.32.3.4(6)

Use this checklist for small (≤ 1800 sqft), single level, **non-forced air** heated dwellings located in coastal climate areas where winter design temperature is warmer than or equal to ~~+14°F~~ -20°C

Civic Address_____ Permit No._____

Climate Zone: ____ Number of Bedrooms [ ] (A) — A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.

Total Floor area of living space [ ] ft² (B)

Total Interior Volume of Dwelling [ ] ft³ — Total volume includes all heated interior spaces (including crawlspace if heated).

.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 = [ ] cfm (C) — Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Prinicpal Exhaust System Capacity [ ] cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make_____Model_____ Sone Rating ____

Location: _____ **Capacity at 0.2 ESP** [ ] cfm (E) Must be ≥ than Box (D)

If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

a) Installed Equivalent Length:
Length of duct _____ft. + Ext. hood 30 ft. + (# elbows at 10 ft. each =_____) = [ ] ft

b) Choose either Flex duct or Smooth (rigid) duct

c) Duct size required to flow Box E cfm through equivalent length of duct = [ ] in Ø
Use Maximum Equivalent Length Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	REQUIRED EXHAUST RATE **Table 9.32.3.6**	EXHAUST EQUIPMENT: Spot Exhaust Kitchen & Bath WALL/CEILING FANS — Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3) — Duct Dia (in Ø) rigid	Duct Dia (in Ø) flex	Max. Equiv. Length per table	Installed Equiv. Length	Ex.Fan/CEV Principal System CFM

TOTAL (must = Box E) [ ]

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct.

See *Ventilation Guidelines* Appendix page 16-A

5. Required Inlets for passive Ventilation Air Supply

☐ a) High wall installation (minimum 6 ft above floor)
☐ b) Located in each bedroom and at least one common area
☐ c) Inlet Free Area greater than or equal to 4 Sq In

6. If Heated Crawlspace present

☐ Choose ventilation option 1, 2, or 3 per sentence 9.37.3.7 (2).

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) ~~**or radon present in dwelling unit?**~~ (per Sentence 9.32.4.1)

☐ **No**, Omit Steps 2 & 3
☐ **Yes,** Proceed to Step 2

2. Exhaust Appliance present which exceeds Box C 0.5 ACH:

☐ **No such appliance**. Omit Step 3
☐ **Yes,** Commit to Depressurization Test (See CAUTION, TECA Vent Manual pg 24)
☐ **Yes,** Proceed to Step 3

3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)

Make-up Air Fan required: **Exhaust Appliance Actual Installed Cfm** _____

Fan Make _____ Model _____ **Make-up Air Fan Cfm** _____

Duct diameter _____ inches

Fan Location _____ Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area first (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):
Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm:

Transfer grill size _____ sq. in. Location _____

iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

_____

Installer Certification:

Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.

2012 TECA Ventilation Certification Stamp

Print Name _____

Signature _____

Company _____

Phone _____