# Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

## A. Project Information

| Building number, street name | Unit no. | Lot/con. |
|---|---|---|
| Lot 53 Kenmir, St. Davids | | |

| Municipality | Postal code | Plan number/ other description |
|---|---|---|
| St. Davids | | |

## B. Individual who reviews and takes responsibility for design activities

| Name | Firm |
|---|---|
| Steve Diomin | Sd3 Design |

| Street address | Unit no. | Lot/con. |
|---|---|---|
| 4605 Kent St- Suite 100 | | |

| Municipality | Postal code | Province | E-mail |
|---|---|---|---|
| Niagara Falls | L2H-1J3 | Ontario | sd3designs@gmail.com |

| Telephone number | Fax number | Cell number |
|---|---|---|
| ( ) 905-380-7775 | ( ) | ( ) |

## C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]

| | | |
|---|---|---|
| ☐ House | ☑ HVAC – House | ☐ Building Structural |
| ☐ Small Buildings | ☐ Building Services | ☐ Plumbing – House |
| ☐ Large Buildings | ☐ Detection, Lighting and Power | ☐ Plumbing – All Buildings |
| ☐ Complex Buildings | ☐ Fire Protection | ☐ On-site Sewage Systems |

Description of designer's work: Load Calculation- Heat loss/heat gain calculations
Mechanical ventilation design
Air system design

## D. Declaration of Designer

I Steve Diomin declare that (choose one as appropriate):
(print name)

☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____

Firm BCIN: _____

☑ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5 of Division C, of the Building Code.

Individual BCIN: 34974

Basis for exemption from registration: 3.2.5.1

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

ONTARIO BUILDING CODE BCIN 34974 S. DIOMIN QUALIFIED DESIGNER

04/28/2014
Date

Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.47(1) (d). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practise, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

# Sd3 Design

## Project Summary
***Entire House***
**Sd3 Design**

**Job:** Lot 53 Kenmir
**Date:** 04/28/2014
**By:** Sd3 Design

Cert.#: 5773(RHLG, RASD)
4605 Kent Ave Suite A, Niagara Falls, On Phone: 905-380-7775 Email: sd3designs@gmail.com License: BCIN #34974

## Project Information

For: Huessey Residence
Lot 53 Kenmir, St. Davids, On

Notes: Design only as good as information supplied
Follow Ontario building code.Design to meet SB12 PKG J
Loads based upon unshaded windows
Design to be followed in conjuction with compliance notes


## Design Information

Weather: Niagara Falls, ON, CA

### Winter Design Conditions

| | | |
|---|---|---|
| Outside db | 3 | °F |
| Inside db | 72 | °F |
| Design TD | 69 | °F |

### Summer Design Conditions

| | | |
|---|---|---|
| Outside db | 86 | °F |
| Inside db | 75 | °F |
| Design TD | 11 | °F |
| Daily range | M | |
| Relative humidity | 50 | % |
| Moisture difference | 36 | gr/lb |

### Heating Summary

| | | |
|---|---|---|
| Structure | 66234 | Btuh |
| Ducts | 0 | Btuh |
| Central vent (0 cfm) | 0 | Btuh |
| Humidification | 0 | Btuh |
| Piping | 0 | Btuh |
| Equipment load | 66234 | Btuh |

### Sensible Cooling Equipment Load Sizing

| | | |
|---|---|---|
| Structure | 26754 | Btuh |
| Ducts | 0 | Btuh |
| Central vent (0 cfm) | 0 | Btuh |
| Blower | 0 | Btuh |
| Use manufacturer's data | y | |
| Rate/swing multiplier | 1.00 | |
| Equipment sensible load | 26754 | Btuh |

### Infiltration

| | |
|---|---|
| Method | F280 |
| Exposure category | Partially sheltered |
| Construction category | Tight |
| Number of stories | 2.0 |

| | Heating | Cooling |
|---|---|---|
| Area (ft²) | 3506 | 3506 |
| Volume (ft³) | 32450 | 32450 |
| Air changes/hour | 0.53 | 0.40 |
| Equiv. AVF (cfm) | 286 | 217 |

### Latent Cooling Equipment Load Sizing

| | | |
|---|---|---|
| Structure | 8026 | Btuh |
| Ducts | 0 | Btuh |
| Central vent (0 cfm) | 0 | Btuh |
| Equipment latent load | 8026 | Btuh |
| Equipment total load | 34780 | Btuh |
| Req. total capacity at 0.70 SHR | 3.2 | ton |

### Heating Equipment Summary

| | |
|---|---|
| Make | Int'l Comfort Products |
| Trade | Keeprite |
| Model | N9 or G9 Series |
| AHRI ref | 4705242 |

| | | |
|---|---|---|
| Efficiency | 95 AFUE | |
| Heating input | 80000 | Btuh |
| Heating output | 76000 | Btuh |
| Temperature rise | 59 | °F |
| Actual air flow | 1200 | cfm |
| Air flow factor | 0.018 | cfm/Btuh |
| Static pressure | 0.50 | in H2O |
| Space thermostat | | |

### Cooling Equipment Summary

| | |
|---|---|
| Make | Generic |
| Trade | |
| Cond | SEER 13.0 3 Ton |
| Coil | |
| AHRI ref | |

| | | |
|---|---|---|
| Efficiency | 11.6 EER, 13 SEER | |
| Sensible cooling | 26754 | Btuh |
| Latent cooling | 11466 | Btuh |
| Total cooling | 38220 | Btuh |
| Actual air flow | 1200 | cfm |
| Air flow factor | 0.045 | cfm/Btuh |
| Static pressure | 0.50 | in H2O |
| Load sensible heat ratio | 0.77 | |

# Sd3 Design

## Load Short Form
## *Entire House*
### Sd3 Design

Job: Lot 53 Kenmir
Date: 04/28/2014
By: Sd3 Design

Cert.#: 5773(RHLG, RASD)
4605 Kent Ave Suite A, Niagara Falls, On Phone: 905-380-7775 Email: sd3designs@gmail.com License: BCIN #34974


## Project Information

For: Huessey Residence
Lot 53 Kenmir, St. Davids, On

## Design Information

| | Htg | Clg |
|---|---|---|
| Outside db (°F) | 3 | 86 |
| Inside db (°F) | 72 | 75 |
| Design TD (°F) | 69 | 11 |
| Daily range | - | M |
| Inside humidity (%) | 30 | 50 |
| Moisture difference (gr/lb) | 30 | 36 |

**Infiltration**

| | |
|---|---|
| Method | F280 |
| Exposure category | Partially sheltered |
| Construction category | Tight |
| Number of stories | 2.0 |

### HEATING EQUIPMENT

| | | | |
|---|---|---|---|
| Make | Int'l Comfort Products | | |
| Trade | Keeprite | | |
| Model | N9 or G9 Series | | |
| AHRI ref | 4705242 | | |
| Efficiency | 95 AFUE | | |
| Heating input | 80000 | Btuh | |
| Heating output | 76000 | Btuh | |
| Temperature rise | 59 | °F | |
| Actual air flow | 1200 | cfm | |
| Air flow factor | 0.018 | cfm/Btuh | |
| Static pressure | 0.50 | in H2O | |
| Space thermostat | | | |

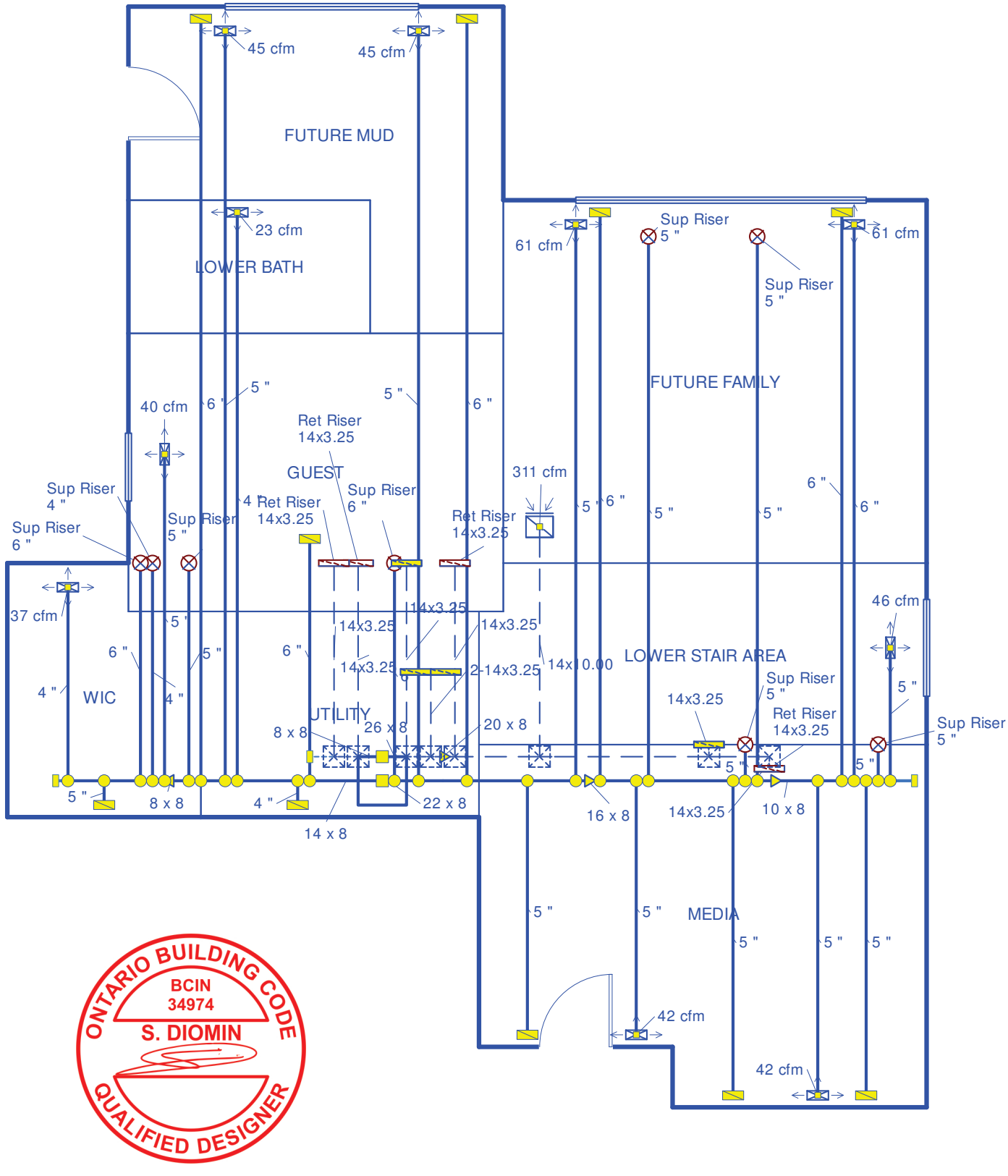
### COOLING EQUIPMENT

| | | | |
|---|---|---|---|
| Make | Generic | | |
| Trade | | | |
| Cond | SEER 13.0 3 Ton | | |
| Coil | | | |
| AHRI ref | | | |
| Efficiency | 11.6 EER, 13 SEER | | |
| Sensible cooling | 26754 | Btuh | |
| Latent cooling | 11466 | Btuh | |
| Total cooling | 38220 | Btuh | |
| Actual air flow | 1200 | cfm | |
| Air flow factor | 0.045 | cfm/Btuh | |
| Static pressure | 0.50 | in H2O | |
| Load sensible heat ratio | 0.77 | | |

| ROOM NAME | Area (ft²) | Htg load (Btuh) | Clg load (Btuh) | Htg AVF (cfm) | Clg AVF (cfm) |
|---|---|---|---|---|---|
| DINING | 124 | 5826 | 3378 | 106 | 152 |
| FUTURE MUD | 154 | 4941 | 1854 | 90 | 83 |
| GREAT | 263 | 5591 | 3281 | 101 | 147 |
| KITCHEN | 233 | 2304 | 1921 | 42 | 86 |
| MUD | 105 | 2438 | 217 | 44 | 10 |
| POWDER | 39 | 1074 | 125 | 19 | 6 |
| FOYER HALL AREA | 300 | 2789 | 708 | 51 | 32 |
| FLEX | 158 | 3361 | 1803 | 61 | 81 |
| ENSUITE | 124 | 2567 | 635 | 47 | 28 |
| MASTER | 284 | 5519 | 2445 | 100 | 110 |
| BEDROOM 2 | 149 | 2573 | 1807 | 47 | 81 |
| UPPER BATH | 57 | 1507 | 576 | 27 | 26 |
| LAUNDRY | 94 | 3275 | 1055 | 59 | 47 |
| BEDROOM 3 | 144 | 4324 | 1946 | 78 | 87 |
| UPPER HALL | 215 | 0 | 0 | 0 | 0 |
| FUTURE FAMILY | 263 | 6585 | 2718 | 119 | 122 |

| | | | | | |
|---|---|---|---|---|---|
| LOWER BATH | 55 | 1289 | 156 | 23 | 7 |
| GUEST | 178 | 2221 | 840 | 40 | 38 |
| WIC | 78 | 2034 | 42 | 37 | 2 |
| UTILITY | 98 | 0 | 0 | 0 | 0 |
| MEDIA | 258 | 4608 | 229 | 83 | 10 |
| LOWER STAIR AREA | 137 | 1407 | 1018 | 25 | 46 |
| Entire House d | 3506 | 66234 | 26754 | 1200 | 1200 |
| Other equip loads | | 0 | 0 | | |
| Equip. @ 1.00 RSM | | | 26754 | | |
| Latent cooling | | | 8026 | | |
| TOTALS | 3506 | 66234 | 34780 | 1200 | 1200 |

# BASEMENT




ONTARIO BUILDING CODE
BCIN
34974
S. DIOMIN
QUALIFIED DESIGNER

**Job #: Lot 53 Kenmir**
**Performed by Sd3 Design for:**
Huessey Residence
Lot 53 Kenmir
St. Davids, On


**Sd3 Design**
4605 Kent Ave Suite A
Niagara Falls, On
Phone: 905-380-7775
sd3designs@gmail.com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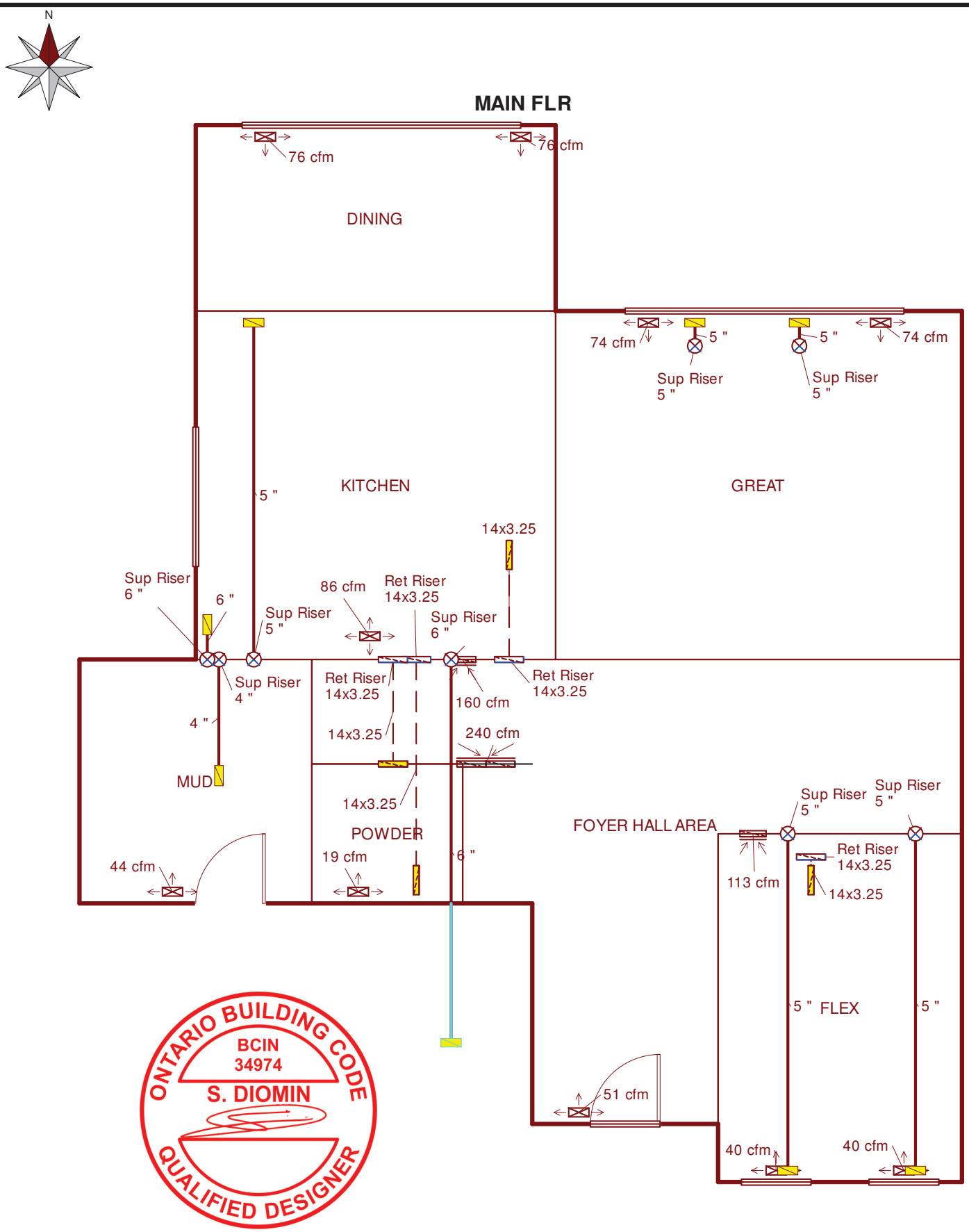


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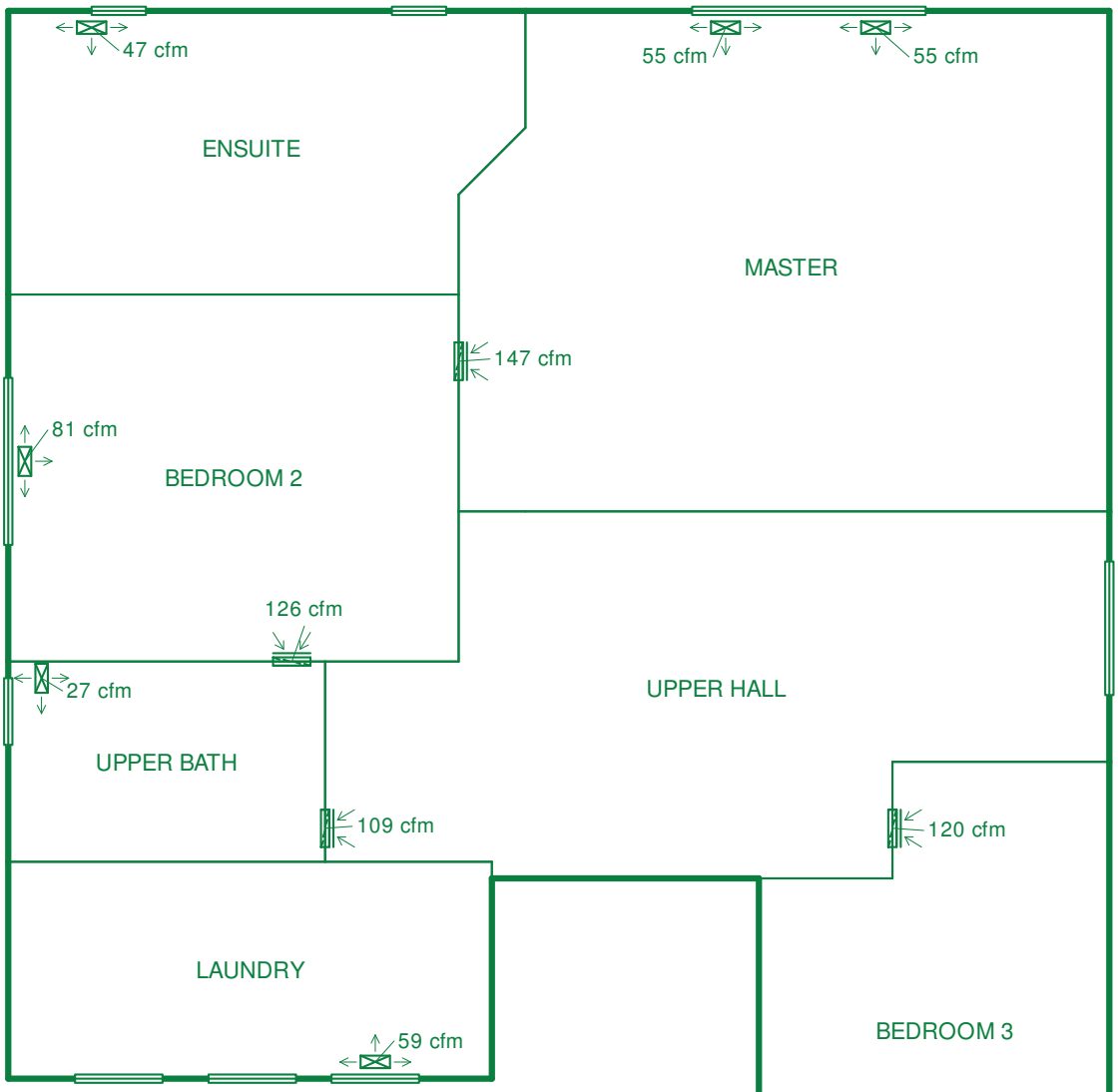
## 2ND FLOOR





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# RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

for design and performance of residential ventilation systems to OBC 2012 Div. B 9.32

## LOCATION

1. Location

Township: St. Davids- Niagara on the Lake

Civic Address: Lot 53 Kenmir

## BUILDER

2. Builder Name:

Address: City:

Postal Code: Ph: Fax:

## DESIGNER

3. Designer Name: Steve Diomin

Address: 4605 Kent St

Postal Code: L2H-1J3 City: Niagara Falls

Ph: 905-380-7775 Fax:

Firm BCIN:

Designer BCIN: 34974

HRAI#: 5773

## HEATING SYSTEM

4. Heating Systems

- [x] Forced Air
- [ ] Non Forced Air
- [ ] Oil
- [ ] Electric
- [ ] Gas
- [ ] Other

## HEATING SYSTEM COMBUSTION APPLIANCES

5. Combustion Appliances 9.32.3.1.(1)

- [x] a) Direct Vent
- [ ] b) Induced Draft
- [ ] c) Natural Draft
- [ ] d) Solid Fuel Appliances
- [ ] e) No combustion appliances

## HOUSE TYPE

6. Type of House 9.32.3.1.(2)

- [x] Type 1 a) or b) type appliances only
- [ ] Type 2 a) or b) type appliances with a d) type appliance
- [ ] Type 3 any type c) appliance = part 6 design
- [ ] Type 4 electric space heat

## SYSTEM DESIGN OPTION

7. System Design Option

- [x] Exhaust only forced air system/coupled
- [ ] HRV with extended exhaust or simplified coupled
- [ ] HRV full ducting/not coupled to forced air
- [ ] Part 6 design

## TOTAL VENTILATION CAPACITY (TVC)

8.TVC Capacity OBC 9.32.3.3

| | | | | | |
|---|---|---|---|---|---|
| Bsmt & Master bedroom | 1 | @ | 21.2 CFM (10 L/S) | 21.2 | CFM |
| Other Bedrooms | 3 | @ | 10.6 CFM (5 L/S) | 31.8 | CFM |
| Bathrooms & Kitchen | 5 | @ | 10.6 CFM (5 L/S) | 53.0 | CFM |
| Other Habitable Rooms | 8 | @ | 10.6 CFM (5 L/S) | 84.8 | CFM |
| Total Ventilation Capacity (TVC) | | | | 190.8 | CFM |

## TVC SYSTEM

8. TVC System

- [ ] HRV
- [ ] Central Exhaust
- [x] Multiple Fans

## PRINCIPAL EXH. FAN CAPACITY

9. Principal Exhaust Fan Capacity (PEF)

| | | | | | |
|---|---|---|---|---|---|
| Master Bedroom | 1 | @ | 31.8CFM(15L/S) | 31.8 | CFM |
| Other Bedrooms | 3 | @ | 15.9CFM(7.5L/S) | 47.7 | CFM |
| | | | Total | 79.5 | CFM |

## PRINCIPAL EXHAUST FAN

10. Principal Exhaust Fan

**Fan 1**

Location: Main bath

Manufacturer: Broan Model: 90 [x] HVI rated

**Design Airflow** High: 90 CFM Low: CFM Sones: 2.5

**If Using HRV/ERV:**

% Sensible Efficiency @ 0°C watts

% Sensible Efficiency @ -25°C watts

## SUPPLIMENTAL EXHAUST CAPACITY

11. Supplemental Exhaust Fan Capacity (SEF)

| | | |
|---|---|---|
| Total Ventilation Capacity | 190.8 | CFM |
| Less Principle Ventilation Capacity | 90 | CFM |
| Required Supplemental Ventilation Capacity | 100.8 | CFM |

## ADDITIONAL EXHAUST EQUIPMENT

12. Additional Equipment

**Fan 2**

Location Sones

Manufacturer/Model [ ] TVC

Design airflow CFM

All other baths to be Broan 50 cfm fans

**Fan 3**

Location Sones

Manufacturer/Model [ ] TVC

Design airflow

Kitchen to be Generic 130 cfm hood fan

**Fan 4**

Location Sones

Manufacturer/Model [ ] TVC

Design airflow

Laundry requires 50 cfm fan unless has operable window

## DESIGNER CONSENT

13 Designer Consent

I, Steve Diomin

have reviewed and take responsibility fo

described In this document and I am qua ate

categories.

Date: 04 / 28 / 2014

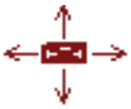
Signature:

ONTARIO BUILDING CODE BCIN 34974 S. DIOMIN QUALIFIED DESIGNER

# System Design Compliance Notes

- Mechanical drawings are diagrammatic and shall be read in conjunction with architectural drawings and manufacturer's specifications
- It is the responsibility of the installing contractor to be sure to conform to Ontario Building Code requirements and that of manufacturer's installation instructions.
- If required HRV shall be installed to manufacturer installation instructions. The condensate drain shall discharge to a hub drain or lead to a condensate pump. A stand may have to be included for the HRV to drain properly.
- Provide mechanical exhaust in each kitchen, and bathroom acceptable to Part 9 of the OBC.
- Return air system to be unobstructed and capable of returning the entire air supply.
- Provide a ¾" minimum clear undercut of all doors for the return air from rooms where there is no direct return from these rooms.
- All branch outlets shall be equipped with a volume control damper at the boot or a lockable diffuser.
- Return grilles shown assume stud cavity is in-line with joist cavity. Provisions shall be made if not the case.
- All basement supply outlets shall be located within 4'0" of any outside wall. Unfinished basements require one supply duct per 431 sq ft area.
- All supply and return ducts exposed to an unheated space shall be insulated with R-12 duct wrap insulation and spray foamed r50.
- Supply duct carrying outdoor air within a heated space shall be insulated with R-3 insulation and if the duct exceeds 3m in length, R-7 is required.
- Carbon Monoxide detectors shall be installed in accordance with the provisions of the applicable building code for fuel burning appliance and storage garage residential occupancy.
- Interior "lines" do not always represent that of interior "walls" and are for the most part notations representing room separation.
- Do not scale drawings. Drawings are diagrammatic only. See architectural drawings for scale.
- Finished basements, grilles and register should be low wall
- Supply take-offs from main trunk should be that of a "y" configuration or 45 degree side take off for proper air flow
- Finished rooms over garages can incorporate a supply air in the joist cavity if the garage ceiling is properly gas proofed.
- Where necessary install high/Low return air grilles for premium air flow performance as this is a 2 dimensional drawing.
- Vent mechanical equipment and drain condensate according to local TSSA standards and manufacturers installation instructions.
- Proper system commissioning and balancing should be done by an accredited person and shall be done at system start up.
- Loads are a logical estimate based on the information given. If no interior shading is communicated at time of design, the cooling loads are that of un-shaded windows. Structures with the majority of windows facing East/West will have a higher cooling load. If better values than this are selected for windows, cooling loads will be less and the mechanical designer should be made aware of such information.
- Return air grilles to be sized based on engineering data from selected grilles/register manufacturer.CFM by 400-500 face velocity.
- This submitted design represents that of the original submitted house design. Any changes to the house plan could and may result in a change being necessary to the HVAC design in which the mechanical system would have to be re-designed. Steve Diomin does not accept any responsibility for installed systems that do not reflect that of the submitted mechanical HVAC design regardless of issue(s) arising unless otherwise stated and approved.
- Steve Diomin does not claim any responsibility for deviated designs and or installations not matching the mechanical design submitted for permit and cannot be held responsible for such actions. By receiving this package and submitting for building permit you have accepted these terms and conditions.
- This package remains property of SD3 Designs and or Steve Diomin until paid for in full.

# DUCT LEGEND

| | | | |
|---|---|---|---|
|  | Furnace |  | Trunk Fitting |
|  | Return Grill |  | Return Boot |
|  | Supply Register floor or ceiling |  | Double Wall Return Grill |
|  | Supply Boot |  | Single Wall Return Grill |
|  | Supply REgister wall |  | Top Takeoff |
|  | Return Air Joist Cutout |  | Duct Reducer |
|  | Supply Riser Round |  | Supply Riser Square/Rectangular |
|  | Supply Duct Single Line |  | Return Duct Single Line |
| 5" | Round Branch Notation | 14x3.25 | Return stud Cavity Notation |