

GUIDELINE FOR THE DESIGN, CONSTRUCTION AND RECONSTRUCTION OF A FOOD HANDLING ESTABLISHMENT

This guideline provides general information to anyone proposing to construct a new food handling establishment, extensively remodel an existing food handling establishment or convert an existing building into a food handling establishment.

REGISTRATION AND PERMITTING REQUIREMENTS

- 1) All proposals for new construction, renovations to an existing food handling establishment, or conversion of an existing building to be used for a food handling establishment must be reviewed for compliance by a Public Health Inspector prior to the construction, renovation or re-construction.**
- 2) Any person(s) constructing, renovating or re-constructing a food handling establishment must first register the proposed food handling establishment with Manitoba Health on the approved form.**
- 3) All plans and specifications and other information pertinent to review and approval of the application, must be submitted with the registration form and must be clear, complete and to scale.**
- 4) All food handling establishments require a Health permit prior to operating and opening to the public.**

This is a guideline only. Additional items may be required by the Public Health Inspector pursuant to the *Food and Food Handling Establishments Regulation #339/88R (The Public Health Act)* and – if applicable – The City of Winnipeg Food Service Establishment By-Law 5160/89.

DEFINITIONS:

“Food Handling Establishment”: includes a food service establishment, retail food store... or any place, premises, structure or vehicle in which food is: (a) manufactured, processed, prepared, packaged, stored or handled, or (b) sold or offered for sale, but does not include a private dwelling in which food is prepared or served for the consumption by the occupant or his or her family, staff or guests. [M.R. 339/88R]

“Extensively Remodel”: applies to any renovations to an existing operating food handling establishment that will change the structural and equipment layout and/or will involve demolition work to walls, ceilings and floors anywhere on the premises.

Procedure for Obtaining Approval and Permit to Operate a Food Handling Establishment

- Prior to commencing construction/renovation or conversion, the owner/operator must submit a completed registration form (attached) to the local Public Health Inspector for review and approval.
- The registration form must be accompanied with a clear and complete detailed drawing or plan that is to scale, with the information listed below as well as any other information that may be pertinent to the review of the proposal:
 - layout plan showing food preparation, processing, storage, handling, dining, staff areas and washrooms facilities
 - the plans shall show where all of the equipment and plumbing fixtures are located and include a detailed schedule or specifications sheet
 - A list of finishing materials used on walls, floors, ceilings shall be included
 - A proposed menu and hours of operation
- The registration form must also include a schedule indicating the projected dates for commencement and completion of: construction and/or reconstruction of the structure; interior finishing and equipment installation as well as the expected opening date.
- The plans will be reviewed by the Public Health Inspector to ensure that regulatory requirements can be met.
- Upon completion of the review the Public Health Inspector will notify the owner/operator of any non-compliance issues or concerns with the proposal, or advise that construction of the food handling establishment can proceed as proposed.
- **Notes:** If there is to be a change in construction plans from what was originally submitted, before or during construction or renovation, it is the owner/operator’s responsibility to contact the Public Health Inspector prior to making the changes, and provide a new design plan for review and approval showing the proposed changes.
- It is the responsibility of the owner/operator to keep the Public Health Inspector informed of when the food handling establishment is expected to be ready for inspection and give at least 5 working days notice for an “opening” inspection.
- A permit will only be issued after an inspection has been carried out and all construction is complete and regulatory requirements are met.
- For construction, renovation or conversion of food handling establishments within the City of Winnipeg, all plans and specifications must be submitted to the *City’s One Stop Plan Approval* office located at Unit 31 – 30 Fort Street.

CONSTRUCTION REQUIREMENTS

1. STRUCTURE

(i) BUILDING

- The building must be of sound construction and of an adequate size to accommodate the equipment, food and food related products and the various activities involved with operating a food handling establishment.
- All exterior doors and windows must be tight fitting (preferably self-closing) and capable of restricting the entrance of insects and rodents.
- If the food handling establishment will utilize below grade occupancy for any food preparation or processing activities or food storage, there may be additional requirements by the Public Health Inspector. Contact your Public Health Inspector for further information.

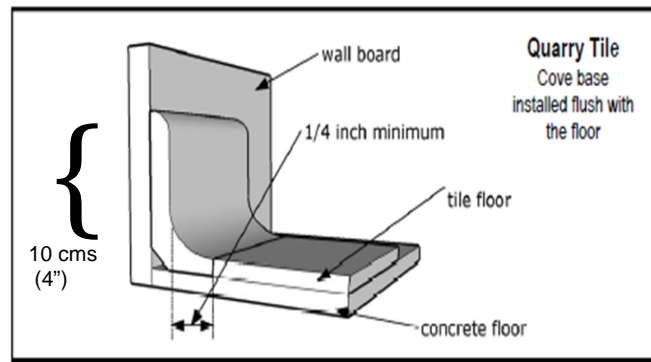
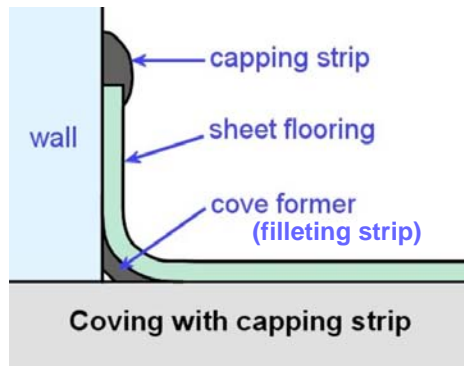
(ii) FLOORS

- Floors and floor coverings of all food preparation areas, food storage areas, equipment and utensil washing areas and walk-in-refrigeration units shall be constructed of smooth, impervious and durable material which is either seamless or with seams that are heat-sealed or chemically bonded.
- Floor coverings in food preparation areas, equipment and utensil washing areas must be covered and sealed at all floor and wall junctions to a height of 10cms (4 inches).
- All floors in washrooms must be made of impervious durable materials and wall and floor junctions covered and sealed.

List of Approved Floor Coverings

	Vinyl Tiles	Quarry Tiles	Sealed Concrete	Poured Seamless	Commercial Sheet Vinyl (seamless)
Kitchen – Cooking area/ Food prep area		✓	✓	✓	✓
Dishwashing		✓	✓	✓	✓
Dry storage	✓	✓	✓	✓	✓
Serving Area	✓	✓	✓	✓	✓
Washrooms		✓	✓	✓	✓
Walk-in refrigerators		✓	✓	✓	✓

Examples of Acceptable Coving Installations:



Note: In rural or remote areas where professional installation & repair services are not available, consideration can be given to alternative flooring & coving methods. All coving seams must be sealed and protected against the entry of: moisture, dirt and pests.

(iii) WALLS, PARTITIONS and CEILINGS

- All walls and partitions in food preparation areas, equipment and utensils washing areas and walk-in refrigeration units must be of a smooth non-absorbent finish and easily cleanable and durable for the purpose intended.
- Studs, joists and rafters in food preparation areas, equipment and utensil washing areas and walk-in refrigeration units must be covered and not exposed.
- Ceilings in all food preparation, equipment and utensil washing areas must be of a smooth non-absorbent finish and easy to clean. Where a T-bar ceiling is used the inserts must be non-perforated and plastic coated or have another finish that is non-absorbent and washable.
- All finishing materials should be of commercial grade quality.

Examples of Approved Wall Surfaces

	Glazed Surface	Concrete Filled Epoxy Paint	Drywall with Epoxy Paint	Plastic/ Fiberglass Wall Panels	Stainless Steel or Aluminum
Kitchen - cooking area			✓	✓	✓
Kitchen – food prep area	✓	✓	✓	✓	✓
Dishwashing	✓	✓		✓	✓
Dry storage	✓	✓	✓	✓	✓
Serving	✓	✓	✓	✓	✓
Washrooms	✓	✓	✓	✓	✓
Walk-in refrigerator	✓			✓	✓

(iv) SEPARATION REQUIREMENTS

- In accordance with Section 32 of the regulation, where a food establishment is an extension of a private dwelling or abuts to a private dwelling, it must be designed to ensure full separation between the business operation and private life.
- A separate entrance to the business operation is required. The space must be given a unique suite number as part its legal address. *(i.e. if the civic address is 123 Main Street, the address sign posted at the business entrance should read “123-A Main Street” or “#2-123 Main Street”.)*
- The business space and the dwelling must be physically separated by a solid wall or full door. The door must be equipped with a self-closing mechanism that must not be circumvented or propped open at any time.
- Unless otherwise approved, all food, storage, processing and cooking facilities must be separate from those of the private dwelling. No person shall use the business space for sleeping purposes or allow unauthorized persons or animals to enter the food operation.

2. EQUIPMENT DESIGN AND INSTALLATION

- All kitchen equipment must be of commercial grade quality and preferably certified (listed) by NSF International (NSF).
- Equipment not NSF certified may be subject to approval by a Public Health Inspector prior to use, to ensure it is suitable for the purpose intended.
- It is recommended that heavy and/or large food equipment that is not readily moveable be mounted on wheels wherever possible.
- Equipment that is not mounted on wheels and not readily moveable, must be sealed to the floor or mounted on legs providing a minimum height of 15 cm (6 inches) from the floor and located such that access can be gained to all sides of the equipment for cleaning purposes.
- All table or countertop mounted equipment that is not readily moveable and is not sealed directly to the table or countertop, must be set on legs allowing a minimum of 10 cm (4 inches) of space between the piece of equipment and the table or countertop.

- A minimum of 91 cm (36 inches) of unobstructed functional space is required for walkways, whereas a minimum of 107-123 cm (42-48 inches) is recommended for work aisles.

3. SINKS

Handwash Basins:

- A minimum of one separate handwash basin with hot and cold water is required to be conveniently located in the food preparation area, and depending on the size of the kitchen and location of food preparation areas within the kitchen, additional handwash basins may be required.
- A handwash basin in a washroom cannot be considered as a designated handwash basin for a given food preparation area.
- The handwash basin must be equipped with a mixing valve or combination faucet.
- A liquid soap dispenser and a single use towel dispenser are provided at the handwash basin.

Dishwashing:

- A stainless steel three-compartment sink of sufficient size to adequately clean and sanitize each utensil (tableware, pots, pans, etc) is required, unless otherwise approved by a Public Health Inspector.
- The dishwashing area must be designed such that there is sufficient space for: handling dirty and clean utensils; maintaining an adequate separation distance to prevent them from coming in contact with each other and ensuring the work flow is uninterrupted and goes from soiled dishes to clean dishes.
- Dish tables and/or drain boards or racks are required and must be: non-corrodible; self-draining; and of sufficient size and numbers for the handling of soiled and clean utensils as well as air-drying of clean utensils.
- Where a mechanical dishwasher is to be used, it must be of commercial grade and NSF International certified (or equivalent) and approved by a Public Health Inspector.
- Properly sized grease traps or interceptors, servicing utensil washing sinks, must meet the Manitoba Plumbing Code and located such that they are accessible for easy cleaning and maintenance.

Examples of Dishwashing Areas:

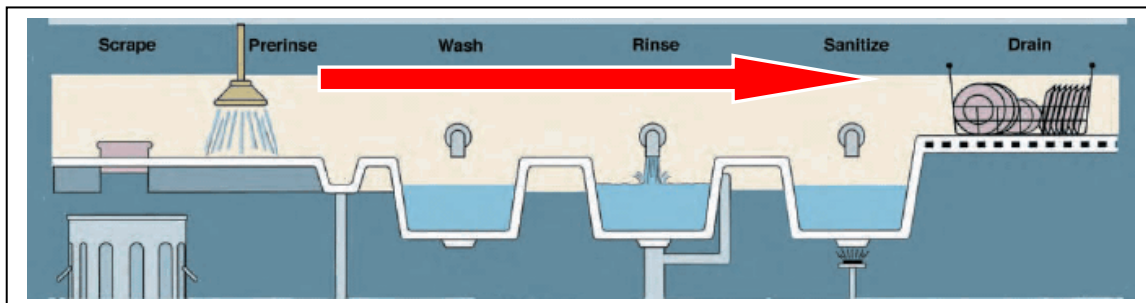


Figure 1: Manual 3-sink configuration flowing from dirty to clean. Sink equipped with “dirty” dish sorting area and “clean” dish air-drying area.

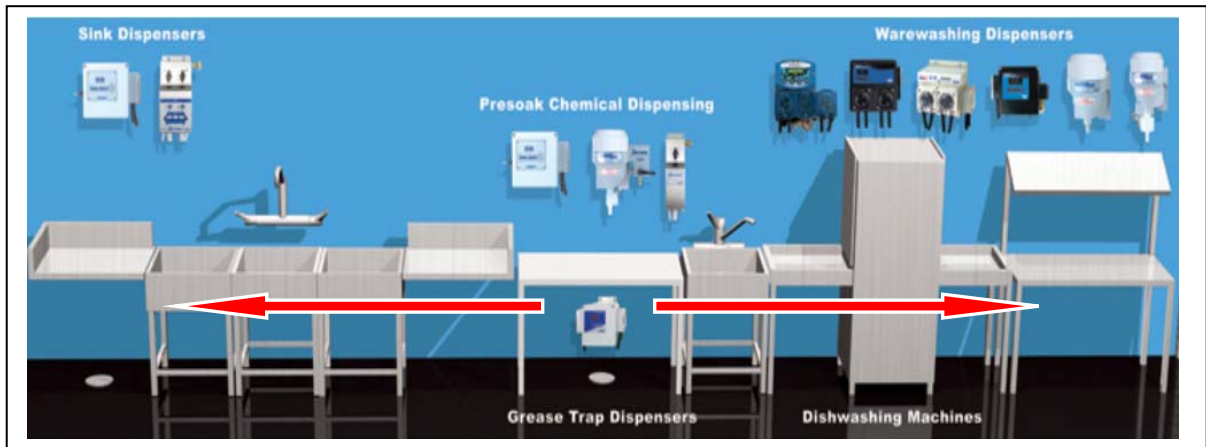


Figure 2: Dishwashing configuration with both manual and mechanical components integrated so that work flow is uninterrupted from “dirty to clean”.

Janitorial Sink

- A separate janitorial style sink is recommended for filling cleaning pails and disposing of cleaning wastes to prevent contamination of food and dishwashing areas.

4. STORAGE SPACE

- Adequate storage space is required and must be provided to ensure that food products are protected from contamination at all times.
- Sufficient refrigerator and freezer space must be provided such that potentially hazardous foods required to meet menu demands at peak times, are able to be rapidly cooled and properly stored.
- Placement of refrigeration equipment should be carefully considered to ensure that refrigeration space is available and conveniently located near food preparation areas; and not affected by extreme heat sources such as ovens, grills and deep fryers.
- Storage space must be provided to allow for the storage and separation of items that are distinct from each other such as food products, equipment and cleaning supplies.
- Adequate storage facilities such as lockers or change rooms should be provided for wearing apparel and other personal items of employees.
- It is also recommended that an area be set aside for the storage of unused items.
- Shelves to be used for the storage of food and food containers and that are not easily moveable such as dollies, racks or pallets, must be sealed directly to the floor such that food particles, dust or debris cannot get under the bottom shelf, or have a minimum height of 15 cm (6 inches) between the bottom shelf and the floor.
- Storage shelving, dunnage racks, dollies and pallets that are not smooth and easily cleanable are not recommended in food preparation areas and may be prohibited in some areas of the food handling establishment.

5. COMMERCIAL KITCHEN VENTILATION SYSTEMS

- The purpose of a commercial kitchen ventilation (CKV) system is to safely capture and remove contaminants (such as grease, smoke, vapors, fumes, objectionable odors, etc.) in a method that prevents or reduces problems affecting the health, safety, and comfort of employees and customers.
- Ventilation requirements are driven by many different variables ranging from: types of commercial kitchen equipment, menu, loading, capacities, floor area, ceiling height, air changes per hour, fresh air percentages, mechanical systems sizing, controls, distribution, installation, preventive maintenance, occupancy, etc. Design decisions and regulatory approval for different ventilation approaches must accommodate all variables relating to HVAC¹ effectiveness and safety in order to minimize hazards to people and property.
- General ventilation (also known as dilution ventilation) refers to the removal and supply of air from a general area, room, or building for the control of the ambient environment through the use of HVAC equipment.
- Beyond the general ventilation system, a CKV system may include different kinds of hoods, ventilators, extractors, filters and/or other methods for the capture and removal of heat, smoke, moisture and grease-laden vapors. Hoods are categorized by fire hazard.
 - **Type I Hoods** are used where grease and smoke deposition from cooking fatty foods or cooking with oil creates a fire hazard by leaving a film of grease on surfaces. (*i.e. frying, grilling, deep-frying²*)
 - **Type II Hoods** are used primarily for the general collection and removal of steam, vapor, heat, or odors. (*i.e. baking, reheating, boiling, steaming, mechanical dishwashing, etc.*)

Generally speaking, a filter or grease extractor serves two purposes: to collect and contain grease, and to serve as a mechanical fire barrier to inhibit flame penetration. Type II hoods typically do not have filters or extractors, as required for Type I hoods.

- **All newly constructed or renovated food handling establishments shall have an approved CKV system consisting of a Type I or Type II hood that is appropriate to the menu being proposed.**
- Hoods must be installed above **all** food heat processing appliances that produce grease, smoke, vapor, fumes, steam, odor or heat.
- The proponent shall consult with the local authority having jurisdiction and the Public Health Inspector to propose & determine what type of CKV and fire suppression system is needed to meet the requirements of: the Building Code, the Fire Code and NFPA 96 “*Standard for Ventilation Control & Fire Protection of Commercial Cooking Operations*”.
- Prior to issuance of a health permit, written documentation shall be obtained from the authority having jurisdiction confirming that the CKV system meets fire and building code requirements. This information shall be provided to the Public Health Inspector

¹ The HVAC acronym stands for Heating, Ventilation & Air Conditioning (HVAC) system

² Cooking equipment such as self-contained or ‘ventless’ fryers that have been listed in accordance with ANSII/UL 197 “*Standard for Commercial Electrical Cooking Appliances*” or an equivalent standard for reduced emissions do not require Type I Hood. However, general ventilation or CKV is still required for removal of odours, vapours, heat and escape gases.

for review and approval, pursuant to Section 18 'Ventilation Requirements' under *Manitoba Regulation 339/88R*.

- **NOTE:** In existing establishments equipped with Type II-style hoods, any changes in ownership and food menus may require upgrades to the CKV system. Any anticipated changes to menus or cooking equipment appliances must be submitted (in writing) for review and pre-approved by health and fire inspection personnel.

Examples of "Type I" Exhaust Hoods for Grease:

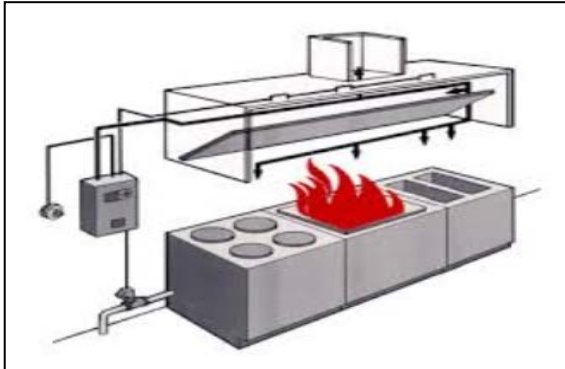


Figure 4: Type I Hood with Grease Filters & Fire Suppression System.



Figure 5: Type I Grease Exhaust Hood



Figure 6: Type I Grease Exhaust Hood with Integrated Make-Up Air

Examples of "Type II" Exhaust Hoods for General Removal of Steam, Vapor, Heat, Odours:



Figure 7: Type II Condensate Hood



Figure 8: Type II Condensate Hood in Dishwasher Area.

6. LIGHTING

- Bright and direct lighting is required in all food preparation areas and dishwashing areas. A minimum of 215 lx (20 foot candles) is required on all work surfaces in these areas. A minimum of 540 lx (50 foot candles) is recommended.
- Storage areas, washrooms and dining areas must be provided with sufficient lighting fixtures to allow for proper cleaning operations. A minimum of 215 lx (20 foot candles) is required at a distance of 76 cm (30in) from the floor.
- All lighting in food preparation areas, dishwashing areas, food and food equipment storage areas and food display areas must be shielded to protect them from shattering and protect food and equipment from broken glass.

Note: Shatter-proof bulbs or shatter-proof fluorescent tubes may be used in place of shields where appropriate.

7. WASHROOM FACILITIES

- Toilet and handwashing facilities must be provided for staff and must be located in a convenient location.
- Toilet facilities, meeting the requirements of the *Manitoba Building Code* and approved by the local authority having jurisdiction, must be provided for patrons.
- The following table outlines the minimum number of water closets required for each gender in new or re-constructed assembly occupancies, as indicated in *Table 3.7.2.2.A of the 2010 National Building Code*, as adopted by Manitoba:

Number of Persons of Each Sex	Minimum Number of Water Closets	
	Male	Female
1 - 25	1	1
26 - 50	1	2
51 - 75	2	3
76 - 100	2	4
101 - 125	3	5
126 - 150	3	6
151 - 175	4	7
176 - 200	4	8
201 - 250	5	9
251 - 300	5	10
301 - 350	6	11
351 - 400	6	12
Over 400	7 + 1 for each additional increment of 200 males in excess of 400	13 + 1 for each additional increment of 100 females in excess of 400

- **Note:** both sexes are permitted to be served by a single water closet if the occupant load is not more than 10.

- A Public Health Inspector may specify a maximum seating limitation in the operating permit where washroom facilities do not meet minimum requirements of the *Building Code*.
- Urinals are permitted to be substituted for two thirds of the number of water closets required in the above noted *Table* for males, except that if only 2 water closets are required for males, one urinal is permitted to be substituted for one of the water closets.

8. GARBAGE FACILITIES

- Garbage containers or facilities must be provided inside and outside the establishment.
- The containers or facilities must be durable, easily cleanable, rodent proof and must be provided in sufficient numbers and located at convenient locations both inside and outside.

9. POTABLE WATER SOURCE

- Section 11 requires that water must be potable. Where a food handling establishment is not serviced by a licensed municipal water supply system, the system must comply with *Manitoba Regulation 40/2007, Drinking Water Safety Regulation*, under *The Drinking Water Safety Act* and meet all requirements for a semi-public water system.

10. SEWAGE DISPOSAL

- The food handling establishment must be hooked up to a municipal sewer system or other wastewater treatment system licensed under *The Environment Act* or serviced by a onsite wastewater system that is of adequate size to receive and treat all wastewater generated at peak operating times
- The system must also be in compliance with the *Onsite Wastewater Management Regulation* under *The Environment Act*.

11. INSECTS & RODENT CONTROL

- All outer openings are to be screened or have other adequate controls (i.e. proper application of air current devices).
- All outer doors must be equipped with self-closing mechanisms and tight fitting.

12. OUTDOOR PATIOS

- Food and drink preparation is not permitted outside of the permitted establishment.
- For further information on outdoor cooking areas, refer to departmental Guideline #15-01 entitled "*Guidelines for the Establishment and Operation of Outdoor Cooking Operations at a Food Service Establishment*".

