

# Food Service Construction Standards

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A guide to owners, architects and contractors  
in the proper design and construction  
of food service establishments

September, 2004

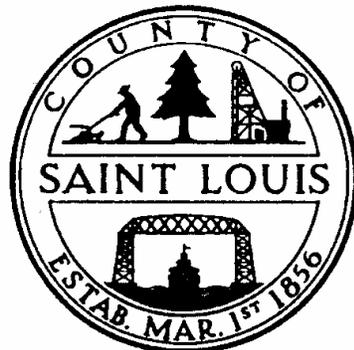
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**For more information, contact one of the St. Louis County Public Health offices listed below:**

Duluth  
222 E. Superior St.  
Duluth, MN 55802-2134  
Phone: (218) 725-5200/FAX: (218) 725-5297

Virginia  
Northland Office Center, East Wing  
307 First St. South  
Virginia, MN 55792-2696  
Phone: (218) 749-0600/FAX: (218) 749-0601

Hibbing  
Courthouse  
1810 12<sup>th</sup> Avenue East  
Hibbing, MN 55746-0101  
Phone: (218) 262-0142/FAX (218) 262-0101



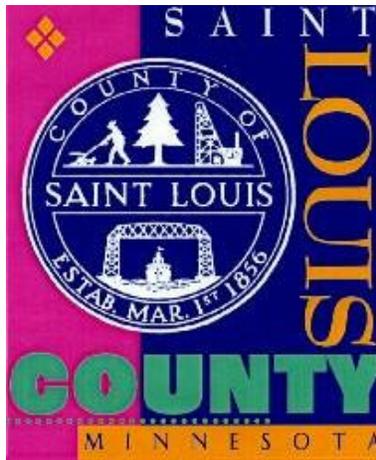
# St. Louis County Food Service Construction Standards

These standards are written and adopted as a part of the St. Louis County Ordinance relating to Food and Beverage Establishments and the Minnesota Food Code.

Minnesota Statutes, section 157.16 states that: Any person wishing to operate a place of business licensed in this section shall first make application, pay the required fee specified in this section, and receive approval for operation, including plan review approval.®

Minnesota Rules, part 4626.1750 states that: The food establishment shall provide notice of opening to the regulatory authority at least 14 calendar days before the opening date.®

Minnesota Rules, part 4626.1770 (C) states that: To qualify for a license, an applicant shall pay the applicable license fees at the time the application is submitted.®



**St. Louis County Public Health  
Environmental Health Division  
Duluth: 218-725-5200  
Hibbing: 218-262-0142  
Ely: 218-365-8220  
Virginia: 218-749-0625**

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## PURPOSE

The purpose of this guide is to provide assistance to owners, contractors, and architects in designing food service establishments that meet the minimum construction requirements of the Minnesota Food Code.

## PLANS AND INSPECTIONS

**Plans must be approved by St. Louis County Public Health before construction can begin.**

### Plans

The following items are required to be submitted to St. Louis County Public Health at least 30 days before constructing, enlarging, altering, or converting any building for use as a food service establishment:

- One complete set of plans (drawn to scale) including site, building, floor, plumbing, and mechanical schematics. Seating capacity must also be indicated.
- Room and area finish schedules for walls, floors, ceilings, and baseboards.
- An equipment layout plan including complete equipment identification.
- One complete set of elevations and shop drawings for all custom equipment by an NSF-listed fabricator.
- One complete set of equipment specifications indicating manufacturer and model number. All food service equipment shall be listed by either NSF International (NSF) or Edison Testing Laboratories (ETL) as meeting applicable NSF International standards for sanitation. Food service equipment listed by Underwriters Laboratory (UL) is also approved as meeting NSF International Standards 2, 3, 4, 5, 6, 7, 8, 12, 13, 18, 20, 25, 29, 35, 51, 59 and C-2. Used equipment must be evaluated and approved prior to installation.
- Proposed menu.
- **A completed plan review application with the required fee.**

**Plans that are incomplete will not receive approval.**

If any changes are proposed after this Department approves the plans, additional plans must be submitted in writing to receive approval.

The proposed construction or remodeling shall conform to the Minnesota State Building, Plumbing, and Mechanical Codes. The applicant must obtain all necessary permits and licenses for the establishment.

## Field Inspections

The County inspector may make on-site inspections of the facility construction/remodeling or equipment installation. **You are required to give a minimum of 14 days notice to the Department prior to the opening date. All license applications and fees must be submitted before opening for business. You may not operate until applications and fees are submitted and final approval is given. (MN Statutes, section 157.16)**

Plumbing rough-in, pre-opening and opening inspections are required. It is the responsibility of the plumber to contact a plumbing inspector at least 48 hours before the requested inspection time to schedule an appointment for an inspection.

## Certified Food Manager Requirements

A Certified Food Manager (CFM) has been required at most foodservice facilities since July 1, 2000. If you do not have a CFM on staff at the time of opening your foodservice facility, you must hire a CFM or arrange to have one of your staff certified within 90 days of opening.

To become a CFM, a person must attend a food manager course, pass one of the state recognized food manager exams and submit: 1) a completed application, 2) copy of exam certificate, and 3) check or money order for \$15 made payable to Minnesota Department of Health (MDH) to:

MDH  
Food Manager Certification  
P.O. Box 64975  
St. Paul, MN 55164-0975

The CFM must be employed fulltime or on duty during food preparation. The CFM must have the authority to take corrective action, as needed, to protect the health of the consumer.

If you need more information regarding this requirement, it is available on the MDH website at [www.health.state.mn.us](http://www.health.state.mn.us) and select "Food Manager Certification" from the pull-down menu or call (651) 215-0870.

## EQUIPMENT

**All food service equipment shall be constructed to conform to standards of NSF International regarding design, materials, workmanship, and installation.**

### Installation

1. **Table-Mounted Equipment:** Table-mounted equipment shall be installed in one of the following methods:
  - A. Sealed to the counter or shelf.

- B. Mounted on legs with a sanitary design of sufficient height to ensure a minimum four inches of unobstructed clearance beneath the unit. The clearance space between the table and table-mounted equipment may be:
    - I. 7.5 centimeters (three inches) if the horizontal distance of the table top under the equipment is no more than 50 centimeters (20 inches) from the point of access for cleaning, or
    - II. 5 centimeters (two inches) if the horizontal distance of the table top under the equipment is no more than 7.5 centimeters (three inches) from the point of access for cleaning.
  - C. Designed to be portable and equipped with:
    - I. Flexible utility connections, adequate in length to clean around and behind the equipment.
    - II. Flexible utility connections and quick disconnects.
2. **Floor-Mounted Equipment:** (For example: reach-in refrigerators or ovens.) Floor-mounted equipment shall be installed in one of the following methods:
- A. Sealed to the floor or placed on a raised concrete base.
  - B. Mounted on legs with a sanitary design of sufficient height to ensure a minimum six inches of unobstructed clearance beneath the unit.
  - C. If no part of the floor under the floor-mounted equipment is more than 15 centimeters (six inches) from the point of cleaning access, the clearance space may be 10 centimeters (four inches).
  - D. Installed with casters, rollers, or gliders and equipped with:
    - I. flexible utility connections, adequate in length to clean around and behind the equipment.
    - II. flexible utility connections and quick disconnects.

### **Food Prep Area Sinks**

- 1. A separate food preparation sink is required if a food product will be washed or thawed using a sink.
- 2. Adequate and conveniently located handwashing sinks are required in all food prep, bar and dishwash areas. See HANDWASHING FACILITIES for requirements.

### **Refrigeration**

**Mechanical refrigeration is required for potentially hazardous foods and shall meet the standards of NSF International.**

The following requirements shall be met:

- 1. All refrigeration units, including prep tables and salad bar units, shall maintain potentially hazardous food at the required temperature of 41°F or below.
- 2. Integrally mounted thermometers shall be scaled to at least 5°F. increments, and accurate

to plus/minus 3°F.

3. Condensate from walk-in refrigeration equipment shall be drained to a floor drain located outside of the unit, or the unit shall be equipped with an evaporator pan.
4. The location and installation of refrigeration compressors, other than self-contained units, if any, shall be identified in the plans.

### **Special Equipment**

1. **Dipper wells:** Dipper wells, with running water, are required when bulk ice cream is dispensed. A dipper well may also be required for other in-use food scoops that are not appropriately stored in the food product. The dipper well shall be located adjacent to the proposed area of use. The water line shall have an approved air gap (see UTILITIES). The dipper well shall be indirectly wasted to a floor drain or trapped waste line.
2. **Single-service articles:** Articles that are intended for food contact or lip contact shall be furnished for consumer self-service with the original individual wrapper intact or from an approved dispenser.

### **Display Equipment**

1. Salad bars shall consist of mechanical refrigeration, approved food shields, and shall be indirectly wasted to a floor drain. Salad bars shall be located on a smooth, easily cleanable floor, such as a commercial vinyl or equivalent, which extends three feet beyond or around the edge of the salad bars and buffets.
2. Food on display for self-service or otherwise shall be protected from consumer contamination by using easily cleanable counter protector devices, display cases, and similar equipment. These devices shall be designed and installed to intercept the direct line between the mouth of the customer and the foods on display.
3. Self-service beverage dispensers shall be push-button operated. Lever activated dispensers shall not be permitted.

### **Bar Facilities**

1. At least one handwashing sink is required and shall be equipped with fingernail brush, dispensable soap and single service towel dispenser.
2. All refrigeration units shall meet NSF standards. Refrigerators meeting NSF standard No. 2 shall be permitted for the storage of pre-packaged food, or canned or bottled products only. All other refrigerated food shall be stored in a unit meeting the requirements of NSF standard No. 7.
3. A glass washer, or three-compartment sink with two integral drain boards, is required for glass washing. A separate dump sink should be provided. If a four-compartment sink is used, the first compartment may be used as the dump sink.
4. Shielded lighting shall provide at least 20 foot-candles of illumination on food contact

and dishwashing surfaces, including undercounter areas.

5. Ice bins shall be self-draining into an indirect waste in compliance with the Minnesota Plumbing Code Chapter 4715. Ice for consumption shall be stored separately from ice used for cooling bottles and condiments.
6. Separate drop-in cold plates in ice bins for cooling beverage lines are **not** permitted. All cold plates shall be integrally formed into the unit.
7. Liquor storage requirements are the same as for dry food storage rooms. If bar dispensing equipment is installed in the liquor storeroom, storage requirements are the same as for food preparation areas, except the ceiling shall have an easily cleanable finish.
8. All interior surfaces of the bar shall be smooth and accessible for cleaning. Splash zones behind the bar must be finished with durable, nonabsorbent materials such as a fiberglass reinforced panel or ceramic tile.

### **Beverage Dispensing Equipment**

1. Beverage lines extending through a floor or wall shall be installed so they do not obstruct the cleaning of floors and walls.
2. Beverage dispensing guns and drains shall not be installed directly over food, ice, or clean glassware.
3. Approved stainless steel backflow preventers shall be installed on post-mix carbonated beverage systems.
  - Watts Regulator – Model No.9BD
  - Carmum Industries – Model No. 77-6050-00
  - Chudnow – Model No. S47 D-VV

A backflow preventer shall be located in the water line to the carbonator, preferable between the pump and the carbonator. However, in units that have the pump within an enclosure along with the carbonator, the backflow preventer should be located in an accessible and visible location outside the enclosure. There shall be no copper tubing used after the backflow preventer.

### **Wait Stations/Service Counters/Cabinetry within the Food Service Area**

1. All service counters and other millwork surfaces shall be protected with stainless steel, plastic laminate or equivalent covering all exposed wood. Finished hardwood may be acceptable. On a limited basis for decorative purposes on service and display area equipment.
2. Cut outs in millwork shall be sealed by the fabricator.
3. All counters shall be on six-inch stainless steel legs meeting NSF standards, or on a solid masonry base. **Enclosed hollow bases are not permitted.**

4. Ice bins shall be equipped with protective covers and shall be self-draining into an indirect waste.
5. Food prep sinks or three-compartment sinks shall not be installed in plastic laminated counters.

## ROOM AND AREA FINISHES

### **Food Preparation, Dishwashing Areas, Toilet Rooms and Janitorial Rooms**

1. **Floors:** Floors shall be constructed of smooth, durable, nonabsorbent, grease-resistant, and easily cleanable material, such as quarry tile, ceramic tile, terrazzo or an epoxy resin surface with a 250 mil application installed on a smooth concrete surface. Grout shall be a water-resistant material, such as Hydroment™ or epoxy, not exceeding ¼ inch wide.
2. In food establishments in which cleaning methods other than water flushing are used for cleaning floors, the floor and wall junctures shall be coved and closed to no larger than one millimeter (1/32 inch).
3. The floors in food establishments, in which water flushing cleaning methods are used, shall be provided with drains and graded to drain; the floor and wall junctures shall be coved and sealed.
4. **Walls:** Wall surfaces in dishwashing, storage and food preparation areas shall be smooth, light-colored, easily cleanable and nonabsorbent to the highest level of splash or spray.
  - A. Sheetrock with an enamel paint finish meets the minimum standards for nonsplash zones and dry storage areas.
  - B. Wall surfaces in splash zones or high moisture areas such as dishwashing, hand and janitorial sink areas, etc., must be finished with durable, nonabsorbent materials such as a fiber glass reinforced panel or ceramic tile.
  - C. Stainless steel or equivalent materials must be installed behind the cooking line.
  - D. Block walls must be smoothly troweled and finished with a minimum of epoxy or enamel paint to provide a smooth, nonabsorbent surface equivalent to an orange peel finish.
5. **Ceilings:** Ceilings should be smooth, nonabsorbent, light-colored, and capable of withstanding frequent cleaning. Fissured, perforated or rough acoustical tile is **not** permitted.

### **Dry Storage Room**

1. **Floors:** Floors shall be constructed of a minimum of 1/8 inch vinyl composition tile or other durable, nonabsorbent, easily cleanable material.

2. In food establishments in which cleaning methods other than water flushing are used for cleaning floors, the floor and wall junctures shall be coved and closed to no larger than one millimeter (1/32 inch).
3. The floors in food establishments, in which water flushing cleaning methods are used, shall be provided with drains and graded to drain, and the floor and wall junctures shall be coved and sealed.
4. **Walls:** Walls shall be constructed with a smooth, light-colored finish capable of being scrubbed. Semi-gloss painted sheetrock (water or oil-based) may be utilized.
5. **Ceiling:** Ceilings shall be smooth, non-absorbent, light-colored, and washable.
6. Sealed concrete floors, studs, joints and rafters may be exposed only in areas used exclusively for the storage of food and single-use articles in unopened packages.

### **Walk-In Refrigerators/Freezers**

1. Walk-in refrigerators or freezers shall meet NSF international standards.
2. Walk-in refrigerators or freezers installed without prefabricated floors shall have a terrazzo, quarry tile floor or an epoxy resin surface with a 250-mil application installed on a smooth concrete surface. Galvanized materials are not permitted for floors of walk-in refrigerators and freezers. In beer refrigerators with no food storage, diamond plate aluminum, sealed concrete or an epoxy resin surface with a 250-mil application installed on a smooth concrete surface is the minimum acceptable finish. An insulated floor is required for walk-in **freezers**.
3. **Base:** A base is required which should be stainless steel, vinyl screed or a material matching the finish of the cooler floor. Vinyl bases are not acceptable. A quarry tile base may only be used when placed against a rigid foam-filled cooler wall with the screed securely fastened to the floor. The base shall provide a ¼-inch radius at the floor juncture and should be sealed to the floor.
4. Shelving shall meet NSF standards for cold storage use and be corrosion resistant. Chrome-plated and galvanized shelving shall not be permitted in refrigerators.

### **Wait Areas**

1. **Floors:** The floor material underneath and extending outward a minimum of three feet from the counter at any food pick-up station, or station equipped with plumbing, shall be constructed of durable, non-absorbent and easily cleanable material.
2. Wait stations without plumbing connections may use the dining room finishes.
3. In food establishments, in which cleaning methods other than water flushing are used for cleaning floors, the floor and wall junctures shall be coved and closed to no larger than one millimeter (1/32 inch).

4. The floors in food establishments, in which water flushing cleaning methods are used, shall be provided with drains and graded to drain, and the floor and wall junctures shall be coved and sealed.
5. **Walls:** Walls shall be nonabsorbent, easily cleanable, and durable.
6. **Ceiling:** Ceilings shall be smooth, nonabsorbent, light-colored, and washable, except wait stations within a dining room where the dining room ceiling finish may be used.

## **Bar**

1. **Floor and Base:** Floor and base materials shall meet the same requirements as FOOD PREPARATION area.
2. **Walls:** Walls may have the same finish as the rest of the room.
3. **Ceiling:** Ceilings shall be smooth, nonabsorbent, light-colored, and washable.

## **Dining Rooms**

Floors may be covered by carpeting, provided it is commercial, closely-woven construction.

### **Customer Self-Service Areas (Buffets and Salad Bars):**

1. **Floors:** The floor underneath and extending three feet from any serving side of buffets and salad bars located in the dining area shall meet the same requirements as FOOD PREPARATION area.
2. **Base:** The base shall meet the same requirements as FOOD PREPARATION area.
3. **Walls:** When the buffet or salad bar is placed against a wall, the wall shall be smooth, nonabsorbent, durable and washable.

## **STORAGE FACILITIES**

### **Food, Equipment, Utensils and Linen Storage**

1. Separate storage areas are required for clean equipment and utensils on approved shelving at least six inches off the floor. Pegboard is not acceptable. Utensil racks may **not** be located in areas subject to contamination such as adjacent to or over sinks or preparation areas.
2. Food shall be protected from contamination by storing the food:
  - A. in a clean, dry location; and
  - B. where it is not exposed to splash, dust, or other contamination.

3. Food shall not be stored:
  - A. In a locker room;
  - B. in a toilet room;
  - C. in a dressing room;
  - D. in a garbage room;
  - E. in a mechanical room;
  - F. under a sewer line that is not shielded to intercept potential drips;
  - G. under a leaking water line, including a leaking automatic fire sprinkler head, or under a line on which water has condensed;
  - H. under an open stairwell;
  - I. under any other source of contamination.
4. An adequate area shall be provided for clean linen storage, where the linen will be protected from contamination. Clean linen shall be stored on shelving that is smooth and easily cleanable and at least six inches above the floor.
5. Soiled linens shall be kept in clean, nonabsorbent receptacles or clean, washable laundry bags and stored and transported to prevent contamination of food, clean equipment, clean utensils, and single-service and single-use articles.
6. Laundered linens and single-service and single-use articles that are packaged, in a cabinet or similar facility, may be stored in a locker room.

## **Food and Single-Service Dry Storage**

### **1. Case Lots**

- A. Food in packages and working containers may be stored less than 15 cm (six inches) above the floor on case lot handling equipment.
- B. Pressurized beverage containers, cased food in waterproof containers (including bottles or cans), and milk containers in plastic crates may be stored on a floor that is clean and not exposed to floor moisture.
- C. Dollies, pallets, racks, skids, and other equipment used to store and transport large quantities of packaged foods received from a supplier in a cased or overwrapped lot, shall be designed to be moved by hand or by hand trucks, forklifts, or other conveniently available equipment.

### **2. Open Case Storage**

- A. Food shall be protected from contamination by storing the food at least 15 centimeters (six inches) above the floor.
- B. Shelving must meet NSF standard No. 2.

## **Toxic Supplies Storage**

1. Poisonous or toxic materials shall be stored so they cannot contaminate food, equipment, utensils, linens, and single-service and single-use articles by:

- A. separating the poisonous or toxic materials by spacing or partitioning; and
  - B. locating the poisonous or toxic materials in an area that is not above food, equipment, utensils, linens, and single-service or single-use articles.
2. The janitorial station may be used for chemical storage.

## **HANDWASHING FACILITIES**

1. A minimum of one handwashing sink that is easily accessible to all employees in food preparation, bar, dishwashing areas and toilet rooms shall be provided. The number of handwashing sinks required is determined by a number of factors, including size of facility and employee accessibility. All handwashing sinks shall be conveniently located and freestanding.
2. Each handwashing sink shall be provided with hot and cold water tempered by means of a mixing valve or combination faucet capable of providing a temperature of at least 110° F. Any self-closing, slow-closing, or metering faucet used shall be designed to provide a flow of water for at least 15 seconds without the need to reactivate the faucet.
3. Each handwashing lavatory or group of two adjacent lavatories shall have available:
  - A. a supply of hand cleaning liquid, powder, or bar soap; and
  - B. a nailbrush at the handwashing lavatory used by employees.
4. Each handwashing lavatory or group of adjacent lavatories shall be provided with:
  - A. individual, disposable towels;
  - B. a continuous towel system that supplies the user with a clean towel; or
  - C. a heated-air hand-drying device. A heated-air hand drying device shall not be the only device provided at a sink used by food employees in a food preparation or warewashing area;
  - D. A waste receptacle shall be provided for each handwashing lavatory or group of adjacent lavatories that is provided with individual, disposable towels.

## EMPLOYEE AREA

### Dressing Rooms and Lockers

1. Dressing rooms or dressing areas shall be designated if employees routinely change clothes in the establishment.
2. Lockers or other suitable facilities shall be provided for the orderly storage of employees' clothing and other possessions.
3. Lockers or other suitable facilities shall be located in a designated room or area where contamination of food, equipment, utensils, linens, and single-service and single-use articles cannot occur.

### Break Areas

Areas designated for employees to eat, drink, and use tobacco shall be located so that food, equipment, linens, and single-service and single-use articles are protected from contamination.

## TOILET ROOMS

1. **Floor, Base, Wall and Ceiling:** All room finishes shall meet the same requirements as FOOD PREPARATION area.
2. At least one toilet, and not fewer than the number of toilets required by Minnesota Plumbing Code Chapter 4715, shall be provided. In accordance with Minnesota Plumbing Code Chapter 4715, urinals may be substituted for toilets if more than the required minimum number of toilets is provided.
3. Handwashing sinks shall be conveniently located within all toilet rooms.
4. A toilet room located on the premises shall be completely enclosed and provided with a tight-fitting and self-closing door. This part does not apply to a toilet room that is located outside a food establishment and does not open directly into the food establishment, including a toilet room that is provided by the management of a shopping mall.
5. Each toilet room shall be equipped with an exhaust fan vented to the outside.
6. Women's toilet rooms shall have a minimum of one covered waste container for sanitary napkin disposal.

## **JANITORIAL STATION**

1. Janitorial station room finishes shall meet the same requirements as stated for the FOOD PREPARATION area.
2. An area shall be designated for the proper storage of maintenance equipment and cleaning supplies. At least one janitorial station shall be provided. The janitorial station should be conveniently located for maintenance of food service areas, but shall be separated from food preparation and food storage areas.
3. The sink shall be connected with a drain to the sanitary sewer. Hot and cold water, under pressure, with a mixing faucet and necessary backflow protection is required.
4. A minimum of a commercial grade vinyl floor, or equivalent, shall be installed on the floor extending at least three feet in all directions from the fixture.
5. Facilities shall be provided to allow mops to air-dry without soiling walls, equipment or supplies. A broom rack shall be provided to elevate items such as brooms and dustpans off the floor.

## **UTILITIES**

### **Plumbing**

All plumbing shall be installed in accordance with the Minnesota State Plumbing Code. In municipalities where no plumbing delegation agreement exists, a copy of the plumbing plans must be submitted for review to the Minnesota Department of Health, Division of Environmental Health, Engineering Unit.

### **Utility Service Lines**

1. Utility service lines and pipes shall not be unnecessarily exposed.
2. Exposed utility service lines and pipes shall be installed so they do not obstruct or prevent cleaning of the floors, walls, or ceilings.
3. Exposed utility service lines and pipes shall not be installed directly on the walls or floor, except:
  - A. quick disconnect gas hoses approved by the American Gas Association or NSF International; and
  - B. flexible cords and caps for commercial cooking equipment on casters, listed by

### **Potable Water Backflow Protection**

1. Water inlets shall have an air gap between the water inlet and the floor rim of the fixture. The air gap shall be two times the diameter of the water inlet or faucet. Any water inlet or faucet that does not meet this requirement shall be considered a submerged inlet. Any water inlet to which a hose can be attached shall be considered a submerged inlet.
2. Vacuum breakers shall be installed on any submerged inlet such as toilets, urinals, dishwashers, garbage grinders, and any threaded water outlets. Toilets must have anti-siphon ballcock assemblies.
3. Double check valves with atmospheric vents or reduced zone backflow preventers are required on any water outlet on which a vacuum breaker cannot be installed after the last shut-off valve or solenoid switch (e.g. pressure spray hoses).
4. A backflow preventer shall be located in the water line to the carbonator, preferably between the pump and the carbonator. (See page 8 for more information on beverage dispensing equipment.)
5. Chemical dispensing systems shall have approved backflow devices, such as Watts 800 series.

### **Indirect Waste Connections**

1. An indirect waste connection discharges waste through an air gap into the sewer system. Refrigeration equipment (including walk-in refrigerators and freezers), potato peelers, ice machines, steam tables, steam cookers, ice bins, salad bars, dipper wells, and other similar fixtures shall be indirectly wasted to the sewer.
2. The air gap between the indirect waste and the building drainage system subject to negative pressure shall be at least twice the effective diameter of the drain served, but no less than one inch. All other air gaps shall be at least one inch.
3. Indirect waste pipes shall not discharge into prep sinks or three-compartment sinks.

### **Water Supply**

An adequate supply of potable water, to satisfy the needs of the food service establishment, shall be provided from a municipal water supply or non-community public water supply – meeting the requirements of the Minnesota Well Code, Chapter 4725. A permit for constructing a well is required.

### **Water Heater**

1. A water heater for food service meeting NSF standard No. 5 shall be provided and appropriately sized for the operation.
2. The water heater shall be sized to satisfy the needs of the Food Service Establishment.

## **Sewage Disposal**

All water-carried sewage shall be dispensed to a municipal sewer system or to an on-site (septic) sewage treatment system meeting the requirements of the Minnesota Pollution Control Agency, Chapter 7080. A permit for constructing an on-site system is required. In areas where there is no sewage delegation agreement with the local unit of government, plans must be submitted to the MDH Plumbing Unit.

## **Grease Traps**

Grease removal devices, if required by the local building or sewer authority, shall be installed in accordance with the Minnesota Plumbing Code, Chapter 4715. If used, a grease trap shall be located to be easily accessible for cleaning.

## **Overhead Sewer Lines**

1. Sewage and waste lines should not be located directly above food preparation, food display, food storage, or dishwashing and storage areas.
2. If sewer lines must be installed over the areas listed above, they shall be equipped with a functional seamless pan or gutter, which is open at the ends and pitched to carry any leakage away from the food or utensil areas.

# **DISHWASHING**

## **Manual Dishwashing**

1. A dishwashing three-compartment sink with integral drain boards on each end is required. The sink shall meet NSF standards. Each compartment shall be large enough to allow complete immersion of the largest utensil.
2. A scrapping area is required. A disposal shall not be installed in a drain board or in any compartment of a three-compartment sink.
3. When hot water is used for sanitizing, the following facilities shall be provided:
  - A. An integral heating device or fixture that meets NSF standard No. 5 installed in, or under, the sanitizing (third) compartment of the three-compartment sink, capable of maintaining the water at a minimum temperature of 170° F;
  - B. A numerically scaled indicating thermometer accurate to plus or minus 3° F, integral to the sink, that can be used for frequent checks of water temperature; and
  - C. Dish baskets of such size and design to permit complete immersion of utensils in hot water.

## **Mechanical Dishwashing**

A dish machine is recommended for reusable dishes, flatware or glassware. It may be required for a large operation.

1. General requirements:
  - A. All spray-type dishwashing machines shall conform to NSF standard No. 3.
  - B. A scrapping area is required.
  - C. A soiled dish table of adequate size for the proper handling of soiled utensils prior to washing shall be provided. (The soiled dish table shall not drain into the washing compartment of the dish machine.)
  - D. Hot water sanitizing machines shall have space for and a minimum of three racks for drying utensils.
  - E. Mechanical exhaust ventilation shall be provided over **all** dishwashing machines, except undercounter and bar-glass washers, to effectively remove steam and vapors.
2. Chemical sanitizing machines:
  - A. A sanitizer alert system shall be installed, which automatically warns the user by a warning light in a visible location or an audible alarm that the sanitizer supply has been depleted.
  - B. Chemical sanitizing machines shall have space for, and a minimum of, five racks for drying utensils.
3. Hot water sanitizing machines:
  - A. A booster heater, meeting the requirements of NSF standard No. 5, is required if a special high-temperature water heating system is not installed to heat warm water (120°-140° F) to higher temperatures in order to supply 180°-195° F for the final rinse of the dish machine. The heater size shall be determined by the demand rinse of the dish machine.
  - B. Hot water sanitizing machines shall have space for, and a minimum of, three racks for drying utensils.

## **LAUNDRY FACILITIES**

If a mechanical clothes washer or dryer is provided, it shall be located so that the washer or dryer is protected from contamination and only in an area where there is no exposed food, clean equipment, utensils, linens, or unwrapped single-service or single-use articles.

## **SOLID WASTE & RECYCLABLE MATERIALS**

### **Storage Areas**

1. A sufficient area shall be provided for the storage of solid waste and recyclable materials. The area shall be separated from food preparation and storage areas.
2. An outdoor storage surface for refuse, recyclables and returnables shall be constructed of concrete, asphalt or other nonabsorbent material and should be smooth, durable and sloped to drain.
3. Liquid waste from compacting shall be disposed as sewage. The drain when installed shall be connected to the sanitary sewer and the local sanitary district consulted.
4. If a garbage enclosure is proposed for installation, it shall be constructed of durable, non-absorbent materials, and provided with a washable finish capable of withstanding frequent cleaning. Enclosures shall meet local zoning and building codes.
5. Interior garbage storage and refuse rooms, if utilized, shall meet the same room and area finish requirements as the food preparation area, and shall be equipped with hot and cold running water and a floor drain.

### **Containers**

Sufficient containers, with tight-fitting covers, shall be provided.

## **LIGHTING**

### **Lighting Capacity**

1. Any room or area in which food or beverages (other than alcoholic beverages) are prepared, or in which utensils are washed, should be provided with at least 50 foot-candles measured 30 inches above the floor. This requirement includes hoods over cooking equipment.
2. The interior of walk-in refrigerators and freezers should be provided with at least 10-foot candles measured 30 inches above the floor. Compliance with this recommendation usually requires a minimum of two fixtures. Lighting in walk-in refrigerators shall be placed so it is not obstructed by the normal storage of food on the shelves.
3. All bar sinks should be provided with at least 20-foot candles of light directly over the sink units at all times during operating hours. In addition, at least 30-foot candles of

available lighting should be provided in the general bar area for cleaning.

4. All other rooms or areas shall be sufficiently lighted throughout with not less than 20-foot candles, measured 30 inches above the floor.
5. Food and utensil storage rooms, toilets, and dressing rooms shall be provided with at least 20-foot candles of light measured 30 inches above the floor.

### **Breakage Protection**

1. All light fixtures in food preparation, food display, food service, food storage, dishwashing and utensil storage areas shall be shielded, coated or otherwise shatter resistant.
2. Infrared or other heat lamps shall be protected against breakage by a shield surrounding and extending beyond the bulb, leaving only the face of the bulb exposed.

## **INSECT AND RODENT CONTROL**

1. Except in temporary food establishments, openings to a portion of a building that is not part of the food establishment or to the outdoors shall be protected against the entry of insects and rodents by:
  - A. filling or closing holes and other gaps along floors, walls, and ceilings;
  - B. closed, tight-fitting windows; and
  - C. solid self-closing, tight-fitting doors.
2. If windows or doors are kept open for ventilation or other purposes, or the food operation is conducted in a temporary food establishment that is not provided with windows and solid doors, the openings shall be protected against the entry of insects and rodents by:
  - A. 16 mesh to 25.4 millimeters (one inch) screens;
  - B. properly designed and installed air curtains; or
  - C. other effective means.
3. Item 2 does not apply if flying insects and other pests are absent due to the location of the establishment, the weather, or other limiting condition.

## VENTILATION

All cooking equipment that produces grease vapors, steam, fumes, smoke or odors shall be located under a local exhaust ventilation system. Contact your local building official for more information or visit [www.mda.state.mn.us/dairyfood/ventguide.pdf](http://www.mda.state.mn.us/dairyfood/ventguide.pdf) for additional ventilation guidelines.

All ventilation systems shall be installed in complete accordance and as specified by all municipal, county, state, fire, and building department requirements, including the Uniform Mechanical Code with Minnesota amendments. Fire marshals may require compliance with National Fire Protection Association (NFPA) standard No. 96.

## MINNESOTA CLEAN INDOOR AIR ACT (MCIAA)

A food establishment shall meet the requirements of the Minnesota Clean Indoor Air Act, Minnesota Statutes, sections 144.411 to 144.417, and rules adopted under those sections.

Refer to the “Smoking in Restaurants and Bars” handout or visit [www.health.state.mn.us/divs/eh/indoorair/mciaa/restbars.html](http://www.health.state.mn.us/divs/eh/indoorair/mciaa/restbars.html) for more information.

*To request in another format call (651) 215-0700. TDD: MN Relay Service at (651) 215-0707 or toll free at 1-800-627-3529.*

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