

FOOD ESTABLISHMENT CONSTRUCTION GUIDE

This construction guide is to be used in conjunction with the Texas Food Establishment Regulations and should not be considered all-inclusive. Please contact local health department, city building code official, fire department, and occupational licensing office for additional requirements.

A license applicant or license holder must submit payment along with properly prepared plans and specifications to the Health Department for review before:

- food establishments are constructed; or
- an existing structure is converted into a food establishment; or
- remodeling food establishments or making changes to the food operation and type of food service provided; or
- if the inspector, in consultation with supervisor and/or manager, determines that plans and specifications are necessary to ensure compliance with Texas Food Establishment Regulations.

If acquiring an existing food establishment that won't be modified, call district inspector to determine whether the plan review application process is required.

Food establishment plan submissions must include:

Intended menu:

- Anticipated volume of food to be stored, prepared, and sold or served;
- Proposed equipment types, manufacturer and model numbers (if available);
- Proposed floor plan that includes: the location of all equipment; lighting schedules; plumbing schedules; and proposed finish schedule for walls, floors and ceilings;
- Evidence that standard operating procedures that ensure compliance with the requirements of this Chapter are developed or are being developed; and
- Any other information that may be required for the proper review of the proposed construction, conversion or modification, and food establishment operational procedures.

MINIMUM ESTABLISHMENT REQUIREMENTS

FLOORS

- Floors of all food prep, food service, food storage, dishwashing areas, walk-in refrigerators, restrooms, refuse storage areas, and any other areas subject to moisture must be constructed of smooth, DURABLE material that is impervious to water and easily cleanable such as ceramic tile, terrazzo, durable grade linoleum or sealed concrete.
- Carpet is not allowed in food preparation areas, food storage areas or restrooms.
- Utility service lines and pipes installed so not to obstruct or prevent cleaning of floors, walls, or ceilings.
- Exposed horizontal utility service lines may not be installed on the floor.

- Floor and wall junctures must be coved and closed to no larger than one millimeter (one thirty-second 1/32 inch). If water flush cleaning methods are used, floors must be graded to drain and the floor to wall junctures must be coved and sealed.

WALLS AND CEILINGS

- Must be light colored [at least 50% Light Reflectivity Value (LRV)], smooth, durable, non-absorbent, sealed and easily cleanable
- Walls and ceilings in restrooms are not required to meet the 50% LRV but must meet all other construction requirements.
- Pipes and utility lines should not be unnecessarily exposed.
- Exposed studs, joists and rafters are prohibited in areas subject to moisture.

WATER SUPPLY

- Potable water supply to the food establishment must be provided from a source that complies with state laws and regulations.
- Water under pressure must be provided to all fixtures, equipment, and nonfood equipment that require water use.

SEWAGE DISPOSAL

All sewage and wastewater must be disposed into a public sewage system or an individual sewage disposal system that complies with state laws and regulations.

PLUMBING

- Plumbing must be sized, installed and maintained in a safe manner and according to the International Plumbing Code, applicable local ordinance or health code.
- The supply lines or fittings for every plumbing fixture must be installed to prevent backflow. This includes all hose bibbs and carbonator water supply lines.
- An air gap between the water supply inlet and the flood level rim of the plumbing fixture, equipment, or nonfood equipment must be at least twice the diameter of the water supply inlet and not less than one (1) inch.
- Backflow or backsiphonage prevention devices installed on a water supply system must meet American Society of Sanitary Engineering (A.S.S.E.) standards for construction, installation, maintenance, inspection, and testing for that specific application and type of device.
- Water filter, screen, and other water conditioning devices installed on water lines must be located to must facilitate disassembly for periodic servicing and cleaning.
- Cross connections are prohibited between potable and non-potable systems. The piping of a nondrinking water system must be durably identified so that it is readily distinguishable from piping that carries drinking water.
- Equipment and fixtures utilized for the storage, preparation and handling of food (including ice) must discharge through an indirect waste pipe by means of an air gap. Warewashing machines may have a direct connection between the waste outlet and a

floor drain when the machine is located within 1.5 m (5 feet) of a trapped floor drain and the machine outlet is connected to the inlet side of a properly vented floor drain trap.

- Floor drains must be easily accessible for maintenance and cleaning and be equipped with proper strainers. For equipment equal to or greater than 6” from the floor, drains must be at least flush with the front of the equipment. If equipment is less than 6” from the floor, drain must be at least 50% exposed.
- A grease trap, if required, should be installed to be easily accessible for cleaning and maintenance. Contact local plumbing department for requirements.

HOT WATER

- Hot water must be supplied to all sinks and be sufficient to meet the peak hot water demands throughout the food establishment.
- The hot water supply to any fixture must be installed on the left side of the fixture.

HANDWASHING FACILITY

A minimum of one handwashing sink is required in all food preparation areas, bars, and ware washing areas. Based on the design of the facility, more than one sink may be required.

The handwashing sink:

- Must be conveniently located and easily accessible.
- Must be equipped to provide water at a temperature of at least 38°C (100°F) through a mixing valve or combination faucet.
- Metered faucets must provide water for a minimum of 15 seconds without the need to reactivate the faucet.
- Soap, disposable towels, hand wash sign, and trash container must be provided at all handwashing sinks.
- Must be located to avoid contamination of food and food contact surfaces. Splash guards may be necessary to accomplish this.

MOP SINK

- At least one mop sink or curbed cleaning facility with a floor drain must be provided.
- After use, mops must be placed in a position that allows them to air-dry without soiling walls, equipment, or supplies.

RESTROOMS

- The number of restrooms provided for employees and customers is specified by the International Plumbing Code. City or County code officials having jurisdiction on this matter will make the final determination.
- Public access to restrooms may not be through food preparation areas, food and equipment storage areas, or warewashing areas.
- Handwash sinks must be in, or immediately adjacent to restrooms.

- Restrooms must be provided with tight fitting, self-closing doors unless situated so not to open directly into food establishment or when restroom uses an offset entrance maze and offensive odors are controlled.
- Toilet tissue must be provided at each toilet.
- Restrooms must be provided with adequate, mechanical ventilation.
- An adequate number of trash receptacles must be provided with covered trash receptacles provided in the women's restroom.

LIGHTING

All lights must be shielded, coated, or otherwise shatter-resistant in areas where there is exposed food, clean equipment, utensils, linens, and unwrapped single-service and single-use articles. Adequate artificial illumination must be provided in accordance with the following minimum requirements:

- At least 540 lux (50-foot candles):
 - at surfaces where food employees work with food, utensils, or equipment including under ventilation hoods.
- At least 215 lux (20-foot candles):
 - in consumer self-service areas and inside lighted equipment (including reach-in and under-counter refrigerators).
 - thirty inches above the floor in areas used for handwashing, warewashing, equipment and utensil storage and in restrooms above fixtures and handsinks.
- At least 108 lux (10-foot candles)
 - 30 inches above the floor in walk-in refrigeration units and dry food storage areas or in other areas and rooms during cleaning periods.

EQUIPMENT

- Food on display must be protected from contamination by packaging material; counter, service line, or salad bar food guards; display cases; or other effective means.
- Equipment and utensils must be designed and constructed of non-toxic, durable materials.
- Wood and wood wicker may not be used as a food-contact surface. Hard, close-grained wood may be used for items such as cutting blocks, boards, bakers' tables, rolling pins, salad bowls.
- Equipment must be designated as "commercial" or "commercial grade" by the manufacturer if the equipment is used to meet or maintain temperature for time/temperature control for safety food. This includes, but is not limited to sinks, ovens, ranges, mixers, prep freezers, refrigerators, grills, griddles, fryers, ice machines, steam tables, slicers, grinders, food processors, crock-pot/hot holding units and other similar food processing equipment.
- Food equipment that is certified or classified for sanitation by an American National Standards Institute (ANSI) - accredited certification program such as NSF and for commercial use are acceptable.

- Microwave ovens and residential freezers used for long term storage do not have to be “commercial grade”.
- Soft drink machines for self-service and refilling must be designed to prevent contact with the lip-contact surface of glasses or cups.
- Beverage tubing and cold-plate beverage cooling devices should not be installed in contact with stored ice that is intended for consumption. This does not apply to cold plates that are constructed integrally with an ice storage bin.
- Liquid waste drain lines may not pass through an ice machine or ice storage bin.
- Equipment must be installed to facilitate cleaning.
- Floor mounted food equipment that is not easily moveable should be elevated on wheels or legs with a minimum height of six (6) inches. This also includes dry storage shelving and shelving located in walk-in refrigerators and freezers.
- Counter-mounted equipment that is not easily movable needs to be installed to allow equipment cleaning and areas underneath and around the equipment by being either sealed to the counter; or elevated on legs.
- Equipment may be located under automatic fire sprinkler heads, but not under unshielded sewer lines or water lines.
- Food establishment laundry areas must be used only for the washing and drying of items used for the establishment. If work clothes or linens are laundered on the premises, a mechanical clothes washer and dryer must be provided and used.
- Washer or dryer must be located so its protected from contamination and only where there is no exposed food; clean equipment, utensils, and linens; and unwrapped single-service and single-use articles.

HOODS AND DUCTS

Ventilation hood systems and devices must:

- Meet the requirements of locally adopted codes or the Mechanical Industry Regulations (OAC 158:50).
- Installed in sufficient number and capacity above equipment to prevent grease or condensation from collecting on walls and ceilings and to prevent the collection of smoke and noxious odors in the food service establishment.
- Filters or other grease extracting equipment must be designed to be readily removable for cleaning and replacement, if not designed to be cleaned in place.

REFRIGERATION

Refrigeration units must:

- Be capable of operating at 41°F or below at all times, including peak usage times.
- Have a temperature measuring device located within to measure the air temperature or a simulated product temperature in the warmest part of a mechanically refrigerated unit.
- Be provided in adequate number and size to meet food storage and proper cool down requirements of foods as determined by menu.
- Residential, home-type refrigerators are not permitted.

HOT FOOD STORAGE OR DISPLAY

All hot storage or display facilities must:

- Be capable of maintaining hot food to an internal temperature of 135°F or above.
- Have a temperature measuring device located within to measure the air temperature or a simulated product temperature in the coolest part of the hot food storage unit.

STORAGE

- Food, clean utensils and equipment, linens, and single-service articles must be stored a minimum of six (6) inches above the floor.
- Items that are kept in closed packages may be stored less than six (6) inches above the floor if stored on dollies, pallets, racks and skids if appropriate moving equipment is available onsite.
- All exposed surfaces of cabinetry and shelving must be finished with a smooth, nonabsorbent, corrosion resistant, easily cleanable surface.

CUSTOMER SELF SERVICE

Adequate sneeze shields must be installed at all displays of unpackaged foods accessible for service by the customer.

DISHWASHING FACILITIES

A commercial dishwasher or a three-compartment sink is required. Accurate test kits must be provided. In a bar area, a separate dump sink or waste sink must be provided.

- The three-compartment sink:
 - Must be NSF certified or equivalent.
 - Must have rounded (coved) corners, be smooth, and have no welded seams.
 - Must have adequately sized self-draining drain boards, racks, tables or shelving to accommodate soiled and clean items.
 - Must have compartments large enough to accommodate immersion of at least half of the largest piece of equipment or utensil used in the establishment; and
 - Must not be used for handwashing or disposing of mop water.
- The commercial dishwasher:
 - Must have an easily accessible and readable data plate affixed to the machine by the manufacturer that indicates the machine's design and operating specifications.
 - Must have an exhaust system installed above hot water sanitizing machines to remove steam.
 - Accurate thermometers must be installed on all dishwashers and they must be equipped with a device that audibly or visually indicates when more detergent needs to be added.
 - Must automatically dispense detergents and sanitizers.
 - Hot water sanitizing machines must have an accurate pressure gauge.

OUTER OPENINGS

- If windows or doors are kept open, the openings must be protected against the entry of insects and rodents by sixteen (16) mesh to one (1) inch screens, properly designed air curtains or other effective means.
- Outer opening doors must be equipped with adequate self-closing devices and vermin resistant thresholds.

GARBAGE AND REFUSE

- Receptacles for refuse, recyclables, and returnable materials containing food residue must be durable, cleanable, insect and rodent resistant, leak proof and non-absorbent.
- Receptacles used outside the food service establishment must be designed and constructed to have tight fitting lids, doors or covers. They must be in good repair and have a drain plug, if applicable.
- The outdoor storage surface for refuse should be constructed of non-absorbent material, such as concrete or asphalt, and must be smooth, durable, and sloped to drain.

LIVING AND LAUNDRY AREAS

- No operation of a food establishment may be conducted in any room used as living or sleeping quarters.
- Laundry equipment may be installed in storage rooms containing only pre-packaged food or packaged single-service items.

EMPLOYEE LOCKER AREAS

- Dressing rooms must be provided, if the employees routinely change their clothes in the establishment.
- Lockers or other suitable are must be provided for storing employee's clothing and other possessions.