

APPENDIX C - Plan Review

Date: _____

Name of Establishment: _____ Phone: _____

Fax: _____

Address of Establishment: _____ Phone: _____

Fax: _____

Name of Operator (owner): _____ Phone: _____

FAX: _____

Address of Operator (owner): _____ Phone: _____

FAX: _____

Name of Local Contact: _____ Phone: _____

FAX: _____

Name of Contractor: _____ Phone: _____

FAX: _____

Address of Architect: _____ Phone: _____

FAX: _____

Name of Architect: _____ Phone: _____

FAX: _____

Date Construction will begin: _____ Date of Planned Opening: _____

New Establishment: _____ Remodel: _____

Type of Establishment (check all that apply):

Full Service

Coffee Shop

Bar

Market (Grocery)

Convenience Store

Fish Market

Deli

Meat Market

Caterer

Concession

School

Specialty Shop

Fast Food

Mobile Unit

Other (please specify): _____

THE FOLLOWING DOCUMENTS ARE NECESSARY AND MUST BE INCLUDED IN ORDER TO COMPLETE THE PLAN REVIEW. LACK OF COMPLETE INFORMATION MAY DELAY REVIEW AND PLAN APPROVAL.

1. Proposed menu, including a list of foods which will require cooling after cooking and the method that will be used to cool these foods.
2. Facility floor plan. Drawn to scale.
3. Specification sheets of all equipment, including make and model numbers.
4. Shop drawings of all custom fabricated equipment and cabinetry. Drawn to scale.
5. Site plan showing the location of the business in the building, location of the building on site including alleys, streets and the location of any outside facility (dumpsters, walk-in units, grease interceptors etc.).
6. A complete interior finish schedule.
7. Mechanical, plumbing and electrical schedules. Drawn to scale.
8. Water heater specifications, including make and model number.
9. Location of chemical and personal belongings storage.
10. Water supply and wastewater systems.

I. Menu And Food Handling Procedures:

- A. Submit Menu
- B. Is there a Hazard Analysis Critical Control Point (HACCP) Plan/Food Handling Procedure Manual that describes preparation, cooling, reheating, cooking of foods and the handling of leftovers? ___ Yes ___ No If yes, please submit with plans.
- C. List the foods that will be prepared more than 12 hours in advance of service.
- D. List the foods and describe the methods of how hot foods will be cooled to 41°F (5°C) or below.
- E. List the foods and describe the methods of how foods will be rapidly reheated to 165°F (74°C) or above.
- F. List the foods and indicate how hot foods will be held at 135°F (57°C) or above.
- G. How will frozen foods be thawed?
- H. Will raw meats, poultry, and seafood be stored/displayed in the same refrigerator(s) and freezer(s) with cooked, ready-to-eat foods? ___ Yes ___ No
- I. Indicate the total number of refrigeration and freezer units:
- J. Will catering be conducted? ___ Yes ___ No
- K. Will food be transported or delivered to another location? ___ Yes ___ No
If yes, what equipment will be provided to maintain food at proper temperatures during transport?
- L. Will the produce used be washed in the establishment, or will all produce be received pre-washed:
- M. Will vacuum packaging be conducted in the establishment? ___ Yes ___ No
If yes, please provide the required HACCP Plan for each category of food to be vacuum packaged.

II. Facility Floor Plan:

- A. Submit Floor Plan Drawn To Scale.
- B. Floor Plan Must Include Location and Identification of All Equipment and Areas Including:
 - 1. Sinks -
 - a) Handsink(s)
 - b) Vegetable/Food Preparation Sink(s)
 - c) Utility/Mop Sink(s)
 - d) Dump Sink(s)
 - e) Warewashing Sink(s)
 - f) Other
 - 2. Wait Station(s)
 - 3. Toilet Facilities
 - 4. Dry/Food Storage Area(s)
 - 5. Employee Break/Locker Area(s)
 - 6. Chemical Storage Area(s)
 - 7. Water Heater Location
 - 8. Bar Service Area(s)
 - 9. Indoor/Outdoor Seating
 - 10. Outdoor Cooking/Bar Area(s)
 - 11. Location Of Laundry Facility
 - 12. Recycle/Damaged/Returned Goods Location
 - 13. Location Of All Floor Sinks and Floor Drains
 - 14. Grease Interceptor/Grease Trap
 - 15. Ice Bins/Ice Machines
 - 16. Dipper Wells
 - 17. Chemical Dispensing Units

III. Equipment Specifications:

- A. Submit equipment specification sheets, including make and model numbers of the equipment. If the specification sheet lists more than one piece of equipment, identify the specific equipment to be used. If there is no specification sheet available, the equipment will only be accepted upon a field inspection to determine if it meets commercial design criteria.
- B. Submit shop drawings of all ventilation hoods. Drawn to scale.
- C. Submit shop drawings of all custom fabricated equipment and cabinetry. Drawn to scale.
- D. Submit the following water heater information: (See Appendix D for criteria on calculating adequate amounts of hot water)

- 1. Make: _____ Model Number: _____
- 2. BTU/Kilowatt Rating: _____
- 3. Recovery Rate, 100°F rise, at sea level: _____

F. Submit the following warewashing information:

1. MANUAL - Include the following for all warewashing sinks: (Kitchen, Dishroom, Bar, etc.)

a) Size of each sink compartment:

Length: _____ Width: _____ Depth: _____

Length: _____ Width: _____ Depth: _____

Length: _____ Width: _____ Depth: _____

b) Size of all soiled and clean drain board(s)/drying racks:

Length: _____ Width: _____ Depth: _____

Length: _____ Width: _____ Depth: _____

Length: _____ Width: _____ Depth: _____

c) Pre-Rinse / Spray Hose Provided: _____ yes _____ no

2. MECHANICAL:

a) Make and model numbers of warewashing machine(s): _____

b) Heat or chemical sanitization: _____

c) Booster Heater:

1. Make and Model Number: _____

2. Recovery Rate, 40°F Rise, at sea level: _____

3. Distance from the Warewashing Machine: _____

d) Manufacturer's hot water requirement (gallons per hour): _____

e) Size of all drain boards/drying racks (length and width): _____

f) Pre-Rinse / Spray Hose Provided: _____ Yes _____ No

g) Soak Sink Provided: _____ Yes _____ No

G. Garbage Disposals: _____ Yes _____ No If yes, Indicate Location(s) _____

H. Refrigeration/Freezer Capacities - Complete the following table:

TYPE OF UNIT	# OF UNITS PROVIDED	TOTAL CUBIC FEET
Walk-in Refrigeration		
Reach-in Refrigeration		
Walk-in Freezer		
Reach-in Freezer		
Blast Chiller		
Retail Display		

I. Displayed Food Items:

1. Bulk Food Items: _____ Yes _____ No If yes, submit equipment specifications for food bins. Include vendor provided equipment.
2. Food Shields - Submit the type and location (If custom design, please submit shop drawings): _____

IV. PREMISES:

A. Submit site plan which includes the following: Refuse Enclosures, Compactors, Outside Walk-in Cooler(s)/Freezer(s), Location of Water Supply, Sewage Disposal System, Grease Interceptor, Alleys, Streets, Parking and Outside Storage Areas.

B. Water Supply and Wastewater Systems:

1. Water Supply:

a) Community/Public:

Name of District: _____

b) Non-Community/Private: _____ PWSID #: _____

c) Well: _____ Spring: _____

If it is a well, indicate the depth: _____

Method of Disinfection: _____

2. Sewage Disposal:

a) Municipal/Public: _____

Name of District: _____

b) Individual Sewage Disposal System (ISDS): _____

V. Interior Finishes:

Use the following chart to indicate all interior finishes:

ROOM FINISH SCHEDULE:

Room Name and Mark	Floors			Walls (Material and Finish)				Ceilings	
	material	finish	base	North	South	East	West	material	finish
example: Kitchen 101	quarry tile	smooth, sealed	6" quarry tile	FRP smooth	FRP smooth	painted smooth	painted smooth	Vinyl acoustical tile	smooth

VI. Mechanical, Plumbing, and Electrical Schedules:

A. Plumbing:

1. Submit the location of all floor sinks and floor drains.
2. List all the equipment that will be installed with an indirect waste pipe.
3. Submit the location of all hose bibbs.
4. Submit the number and location of all toilet fixtures (Including handsinks, urinals, and water closets).
5. Submit the location of the grease trap or interceptor.
6. Submit the make, model and location of all chemical dispensing unit(s).
7. Use the following chart to list the location of all backflow prevention devices, including all vendor supplied items:

EQUIPMENT	INTERNAL PROTECTION	EXTERNAL PROTECTION
Warewashing Machines		
Water Wash Hoods		
Chemical Injection Towers		
Soda Stations		
Coffee Urns		
Ice Makers		
Dipper Wells		
Commercial Disposal with Pre-rinse		
Tea Dispenser		
Mop Sink		
Hose Bibb(s)		
Reel Lines		
Steam Kettle Faucets		

B. Mechanical:

1. Submit a complete ventilation schedule including exhaust capacities (cubic feet per minute ratings) for all hoods and the location and capacity of all make-up air diffusers.
2. If the ventilation hoods are UL listed for lower air flows, submit the information located on the manufacturer's UL listing card.
3. Include ventilation systems in restrooms.

C. Electrical:

1. Submit the location and type of light fixtures throughout the facility, including the fixtures in walk-in refrigeration/freezer units.
2. Submit the type of bulbs and/or shielding for each type of light fixture, where required.
3. Indicate the location of transformers and electrical panels if located in the food preparation/ food storage areas.

APPENDIX D - Worksheet for Calculating Minimum Hot Water Requirements

The following worksheet is provided to assist operators in calculating hot water usage and sizing of the water heater required for the operation.

I. Calculate Total Water Required By All Fixtures:

A. Three compartment sink calculation of water usage:

1. Measure dimensions, in inches, of each compartment, if compartments are not the same dimensions see note below.

Length = _____ Width = _____ Depth = _____

2. Insert measurements into equation

$$\left(\frac{\text{Length}}{\text{Length}} \times \frac{\text{Width}}{\text{Width}} \times \frac{\text{Depth}}{\text{Depth}} \times 3 \times .375 \right) \div 231 = \frac{\text{Water Usage}}{\text{Water Usage}}$$

Note: If all the compartment sizes of the sink are not the same, then 3 is taken out of the equation, and the above calculation is done for each compartment. The volumes are added to obtain the total gallons per hour of hot water used in the sink.

Enter number into the attached "Table to Calculate Total Water Required By All Fixtures," found on page Appendix D-4.

B. Utensil soak sink

1. Measure dimensions, in inches, of the sink

Length = _____ Width = _____ Depth = _____

2. Insert measurements into equation

$$\left(\frac{\text{Length}}{\text{Length}} \times \frac{\text{Width}}{\text{Width}} \times \frac{\text{Depth}}{\text{Depth}} \times .375 \right) \div 231 = \frac{\text{Water Usage}}{\text{Water Usage}}$$

Enter number into the attached "Table to Calculate Total Water Required By All Fixtures," found on page Appendix D-4.

C. Dishmachine and conveyor pre-rinse water usage:

Use manufacturer's rating in gallons per hour

Enter number into attached "Table to Calculate Total Water Required By All Fixtures."

Clothes washer water usage:

Use manufacturer's rating, or 32 GPH for 9-12 pound washer, or 42 GPH for 16 pound washer.

Enter number into the attached "Table to Calculate Total Water Required By All Fixtures," found on page Appendix D-4.

D. Use the gallon per hour rating for each type of fixture found in the "Table to Calculate Total Water Required By All Fixtures" and the number of fixtures in the operation to determine maximum hourly usage for each type of fixture in the operation.

Total water (gph) required by all fixtures: _____

II. Calculate Maximum Hourly Hot Water Usage

If gas water heater is used go to Step A; if electric, Step B.

A. Gas Water Heater: If a gas water heater is to be used, calculate the maximum hourly hot water usage for the facility by adjusting the total water required by all fixtures for altitude. The altitude adjustment is 4% per 1000 feet of elevation, or 20% at 5000 feet.

Use the following equations to determine the maximum hourly hot water usage when a gas powered water heater is to be used:

$$(.04 \times \frac{\text{elevation of facility}}{1000}) + 1 = \text{adjustment factor}$$

$$\frac{\text{adjustment factor}}{\text{adjustment factor}} \times \frac{\text{total water required by all fixtures}}{\text{total water required by all fixtures}} = \frac{\text{maximum hourly hot water usage}}{\text{maximum hourly hot water usage}}$$

For example, if the total gallon per hour usage for an establishment at an elevation of 5000 feet is 100 GPH, the adjustment factor is 1.2. Therefore, a water heater with 120 GPH recovery rate would be required.

Use this value in the equation to calculate the minimum BTU rating of the water heater.

B. Electric Water Heater: If an electric water heater is to be used, the maximum hourly usage for the operation is the same as the total water required by all fixtures. Use this value in the equation to calculate the minimum Kilowatt rating of the water heater.

C. Insert the value determined in step A or B above in III D (3), Appendix C, Plan Review Form, Page Appendix C-6. This value is the minimum recovery rate of the water heater which should be provided for the facility.

III. Calculate the minimum BTU or Kilowatt rating of water heater:

A. For gas water heater, calculate the minimum BTU rating:

$$\frac{(\text{Max hourly usage as calculated above}) \times (100) \times (8.33)}{.75 \text{ or use manufacturer's thermal efficiency}} = \text{minimum BTU rating}$$

B. For electric water heater, calculate the minimum Kilowatt rating :

$$\frac{(\text{Max hourly usage as calculated above}) \times (100) \times (8.33)}{3412} = \text{minimum Kilowatt rating}$$

C. Select water heater based upon BTU or Kilowatt rating.

Make: _____ ; Model #: _____

BTU or Kilowatt Rating: _____

Recovery rate: _____ gallons per hour at 100°F rise at sea level.

Table to Calculate Total Water Required By All Fixtures.

Plumbing Fixture	Water Usage (gallons per hour)	Number of fixtures	Maximum hourly water usage per type of fixture (gallons per hour)
example: warewashing machine	50	1	50
example: handsink(s)	5	4	(5 x 4 =) 20
3-compartment sink			
3-compartment sink (bar)			
utensils soak sink			
warewashing machine			
warewashing machine conveyor pre-rinse			
clothes washer			
hand operated pre-rinse sprayer	32		
handsink(s), include rest rooms	5		
mop sink	7		
garbage can washer	35		
showers	14		
hose bibb used for cleaning	35		
Total water (gph) required by all fixtures			

