Retail Food Establishment Review Packet
Attached please find the plan review packet, which includes the Plan Review Form (Appendix C) and the Worksheet for Calculating Minimum Hot Water Requirements (Appendix D). Appendices C & D are included in the *Colorado Retail Food Establishment Rules and Regulations*.

Section 11-401 of the rules and regulations requires detailed plans and specifications be submitted to and approved by the Colorado Department of Public Health and Environment, prior to commencing construction of any newly proposed or proposed extensive remodel of a retail food establishment.

**Please note:** A minimum of two (2) weeks shall be necessary for the department to review plans. Any revision(s) of submitted plans and specifications shall be submitted to the department for review and approval.

To facilitate the plan review process, plans must be complete and must include the following information:

- a. Menu and food handling procedures
- b. Facility floor plan and equipment layout
- c. Equipment list by manufacturer and model number – Domestic equipment is not acceptable
- d. Manufacturer’s specification sheets for all equipment – May include photographs
- e. Mechanical diagrams including plumbing, lighting, electrical, and kitchen and restroom ventilation
- f. Interior finish schedule – May include samples of materials, finishes, and colors

**Please note:** Notations such as “see plans” will not be accepted. Submitted plans may be returned if the information requested in the packet is incomplete.

Please note that a required application fee of $100.00 is due and payable prior to the plans being reviewed. Submit the $100.00 fee and application. Please make the check payable to the Colorado Department of Public Health and Environment. Additional costs for the plan review and pre-opening inspection will be billed after the pre-opening inspection is completed. Please contact this office at least three (3) weeks prior to the contemplated opening and arrange for the final inspection. All construction and cleaning must be completed prior to the opening inspection. In addition, all equipment must be in place and functioning at the time of the opening inspection.

Please submit your plans to:

Colorado Department of Public Health and Environment  
Division of Environmental Health & Sustainability  
ATTN: Plan Review Section  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530

If you have any questions, or need further assistance, please contact the Division of Environmental Health and Sustainability at 303-692-3645.
**RETAIL FOOD ESTABLISHMENT REVIEW APPLICATION**

This form will be used by the Health Department for various review fees for retail food establishments as provided in statute 25-4-1601 to 1612, C.R.S.

**Colorado Department of Public Health and Environment**  
Division of Environmental Health & Sustainability  
ATTN: Plan Review Section  
4300 Cherry Creek Dr. South, C-1  
Denver, CO 80246-1530  
Ph: (303) 692-3645

<table>
<thead>
<tr>
<th>Date: ___________________</th>
<th>Record # ________________</th>
<th>Firm ID # _______________</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Name of Establishment:  
Location Address:  
City: State: Zip: County:  
Mailing Address:  
City: State: Zip:  
Name of Owner/Manager: Phone: ( )  
DBA: Email:  
Type of Ownership  
☐ Individual (If individual or sole proprietor owner, you must complete the enclosed affidavit and provide a notarized copy of an approved identification)  
☐ General Partnership  
☐ Limited Partnership  
☐ Limited Liability Company  
☐ Limited Liability Partnership  
☐ Limited Liability Limited Partnership  
☐ Corporation  
☐ “S” Corporation  
☐ Association  
☐ Estate  
☐ Government  
☐ Joint Venture  
☐ Trust  
☐ Non-profit 501(c)(3) (please enclose copy of IRS letter of exemption)  
☐ Other Non-profit

NOTICE TO APPLICANT: The type of review requested and associated application fee required is indicated in Section A below. If an application fee is required, please make check payable to the Colorado Department of Public Health & Environment and mail the completed application and check to the address above. Fees for the actual review are explained on the next page.

Name & Title of Applicant (Please Print): Signature of Applicant

<table>
<thead>
<tr>
<th>REVIEW TYPE</th>
<th>APPLICATION FEE</th>
<th>REVIEW FEE (NOT TO EXCEED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan Review (PR)</td>
<td>$100.00</td>
<td>$580.00</td>
</tr>
<tr>
<td>Equipment Product Review (ER)</td>
<td>$100.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>HACCP Plan Review/Written (HW)</td>
<td>Not Required</td>
<td>$100.00</td>
</tr>
<tr>
<td>HACCP Plan Review/Operational (HO)</td>
<td>Not required</td>
<td>$400.00</td>
</tr>
<tr>
<td>Services Requested – Real Estate Review (RE)</td>
<td>$75.00</td>
<td>Cost of Actual Time Spent</td>
</tr>
<tr>
<td>Special Event (SE)</td>
<td>Not Required</td>
<td>Not Required</td>
</tr>
<tr>
<td>Special Service (SS)</td>
<td>Not Required</td>
<td>Not Required</td>
</tr>
<tr>
<td>Fee Exempt (EX)</td>
<td>Not Required</td>
<td>Not Required</td>
</tr>
</tbody>
</table>

Comments:
Plan Review (PR):
The fee for filing an application for a plan review is $100.00, and must accompany the application (when required). The application filing fee does not include the cost of plan review activities. An invoice for the actual time spent on review activities will be sent to you at a later date and will not exceed $580.00. ([CRS 25-4-1607(2)]. There will be a delay in reviewing your plan review if either the application fee or the application form are not submitted with the plans.

Equipment Product Review (ER):
The fee for filing an application for an equipment or product review is $100.00. This fee must accompany the application. The application filing fee does not include the cost of the review activities. An invoice for the actual time spent on the review activities will be sent to you at a later date and will not exceed $500.00. ([CRS 25-4-1607(3)].

HACCP (Written) (HW):
An application filing fee is not required for this review process. Upon completion of the written review, an invoice for actual time spent on the review activities will be sent to you. The invoice will not exceed $100.00. ([CRS 25-4-1607(4)].

HACCP (Operational) (HO):
An application filing fee is not required for this review process. Upon completion of the operational review, an invoice for actual time spent on the review activities will be sent to you. The invoice will not exceed $400.00. ([CRS 25-4-1607(4)].

Note: If an HACCP plan undergoes significant changes from the original approved plan, the second review may be billed as a new plan. A facility may be required to have separate HACCP plans for food preparation methods that deviate from more than one section of the regulation. An HACCP plan is not considered part of the plan review process. Separate charges can be applied to an HACCP plan that were included with a facility's plan submittal.

Real Estate (RE):
A $75 pre-paid fee is required with this application, but shall be applied to the actual cost of the services. Additional fees will be added upon completion of the review. An invoice for actual time spent on the review activities will be sent to you. ([CRS 25-4-1607(5)].

Special Events (SE):
No application filing fee is required. Actual cost of services associated with the oversight of a special event will be billed when services are completed. ([CRS 15-4-1607(6)].

Special Services (SS):
The fee for any other requested service that involves review activities and that are not specifically listed above are chargeable based on the actual cost of such service. ([CRS 25-4-1607(7)].

Fee Exempt (EX):
Parochial, public and private schools, penal institutions, and charitable organizations (benevolent, nonprofit retail food establishments) are exempt from the fees associated with plan review activities.
Subject: Implementation of C.R.S., 24-76.5-101, et. seq., “Restrictions on Public Benefits” (HB 1023)

To Whom It May Concern:

You will find an affidavit included with your renewal registration/application. All licenses, certifications, and registrations issued to individual owners or sole proprietors by the Colorado Department of Public Health and Environment must be accompanied by verification of citizenship. This requirement does not apply to you if you are not an individual owner or sole proprietor. Verification includes completing the enclosed affidavit and providing a notarized copy of an approved identification. Approved identification includes:

- A valid Colorado driver’s license or a Colorado identification card;
- A United States military card or a military dependent’s identification card;
- A United States Coast Guard Merchant Mariner card;
- A Native American Tribal Document,

You may access a notary in your area by conducting a search through directory assistance for “public notaries.”

C.R.S., 24-76.5-101, “Restrictions on Public Benefits” became effective August 1, 2006, and requires “each agency or political subdivision of the state” to verify the lawful presence in the United States of every applicant for public benefits. The law requires the verification of citizenship in order for persons eighteen years of age or older to receive certain benefits or obtain a license or certification from the department. If the recipient of the benefit is under eighteen years of age, the law does not apply.

If you need assistance in complying with this law or if there is additional information you feel we need to be aware of, please do not hesitate to contact me at 303-692-3645.

Sincerely,

Karen Gillespie
Division of Environmental Health & Sustainability
AFFIDAVIT - RESTRICTIONS ON PUBLIC BENEFITS

I, __________________________________, swear or affirm under penalty of perjury under the laws of the State of Colorado that (check one):

☐ I am a United States citizen, or

☐ I am a Permanent Resident of the United States, or

☐ I am lawfully present in the United States pursuant to Federal law.

I understand that this sworn statement is required by law because I have applied for a public benefit. I understand that state law requires me to provide proof that I am lawfully present in the United States prior to receipt of this public benefit. I further acknowledge that making a false, fictitious, or fraudulent statement or representation in this sworn affidavit is punishable under the criminal laws of Colorado as perjury in the second degree under Colorado Revised Statute 18-8-503 and it shall constitute a separate criminal offense each time a public benefit is fraudulently received.

Doing Business As:  ____________________________________________________________________

Address:   _______________________________________________________________________________

Street                         Unit               City    Zip

___________________________________

Signature Date

RETURN THIS FORM WITH NOTARIZED COPY OF ID ATTACHED

_______________________________
(Notary’s official signature)

______________
(My commission expires)
**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): ____________________
Seating Capacity (indoor and outdoor): 
Total Square Feet of the Establishment: 
Total Square Feet of the Kitchen Area: 

Have these plans been submitted or do you intend to submit these plans to other counties in the State of Colorado? ___ Yes ___ No If yes, which county(s): 

If Operation is Seasonal, List the Months of Operation: 

Day(s) and Hours of Operation: ______________________   ______________________

    day(s)   hours

Projected Daily Maximum Number of Meals to be Served: 

    _______ Breakfast

    _______ Lunch

    _______ Dinner

Number of Staff (maximum per shift): 

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: ____________________
E. Submit installation specifications. Use the following chart to indicate equipment spacing and elevation; which equipment will be placed on legs and/or casters, quick disconnects (etc.):
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:

<table>
<thead>
<tr>
<th>TYPE OF UNIT</th>
<th># OF UNITS PROVIDED</th>
<th>TOTAL CUBIC FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk-in Refrigeration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach-in Refrigeration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk-in Freezer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach-in Freezer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blast Chiller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Display</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 |  |  |  |  |  | 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:

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>INTERNAL PROTECTION</th>
<th>EXTERNAL PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warewashing Machines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Wash Hoods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Injection Towers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soda Stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee Urns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ice Makers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipper Wells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Disposal with Pre-rinse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tea Dispenser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mop Sink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose Bibb(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reel Lines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steam Kettle Faucets</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.
         
         \[
         \text{Length} = \_\_\_\_\_\_\_\_\_\_ \quad \text{Width} = \_\_\_\_\_\_\_\_\_\_ \quad \text{Depth} = \_\_\_\_\_\_\_\_\_\_.
         \]
      2. Insert measurements into equation
         \[
         \left( \frac{\text{Length} \times \text{Width} \times \text{Depth} \times 3 \times 0.375}{231} \right) = \_\_\_\_\_\_\_\_\_.
         \]

      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
         
         \[
         \text{Length} = \_\_\_\_\_\_\_\_\_\_ \quad \text{Width} = \_\_\_\_\_\_\_\_\_\_ \quad \text{Depth} = \_\_\_\_\_\_\_\_\_\_\_.
         \]
      2. Insert measurements into equation
         \[
         \left( \frac{\text{Length} \times \text{Width} \times \text{Depth} \times 0.375}{231} \right) = \_\_\_\_\_\_\_\_.
         \]

      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:

\[
\left( \frac{0.04 \times \text{adjustment factor}}{1000} \right) + 1 = \text{adjustment factor}
\]

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

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:

\[
\text{(Max hourly usage as calculated above) x (100) x (8.33) = minimum BTU rating}
\]

.75 or use manufacturer’s thermal efficiency

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

\[
\text{(Max hourly usage as calculated above) x (100) x (8.33) = minimum Kilowatt rating}
\]

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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.

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