

## Before You Start Renovating Your Kitchen

Your kitchen is probably the most used room in your house. Poor layout, inadequate lighting, cramped spaces, outdated fixtures and old cabinetry are common complaints of homeowners.

Before you decide to go ahead with a kitchen renovation, it is important to clearly identify the features you want in your new kitchen. Just as important is a thorough pre-renovation inspection to identify any existing problems.

### HEALTHY HOUSING™

Renovating is an ideal time to make your house healthier for you, the community and the environment. When planning your kitchen renovations, be sure to consider:

- **Occupant health**—moisture control strategies, low emission materials and products, ventilation for improved indoor air quality (IAQ).
- **Energy efficiency**—effective air barriers and insulation, energy-efficient task lighting and appliances.
- **Resource efficiency**—water-efficient appliances and fixtures.
- **Environmental responsibility**—durable materials that will last longer and minimize future waste in landfill sites, kitchen design that includes a compost and recycling centre, recycling fixtures and appliances to reduce construction waste.
- **Affordability**—energy- and water- efficient fixtures to reduce ongoing operating costs, durable products to reduce future repair and replacement expenses.
- **Fixtures and appliances**—the fixtures and appliances may be worn out, inefficient or outdated.
- **Cabinets and countertops**—cabinet finishes, hardware or countertops may be outdated, need repair or replacement.
- **Structural problems**—there may be problems that require structural changes or repairs.
- **Moisture**—the floor, walls or finishes may be unsightly or damaged due to moisture problems.
- **Plumbing and electrical**—many older kitchens don't have enough electrical outlets and circuits. Older plumbing and plumbing fixtures may include lead or galvanized steel piping.
- **Heating and ventilation**—older kitchens often have inadequate ventilation or heating systems. The area may be poorly insulated and have a high degree of air leakage, two factors that lead to high energy consumption.
- **Finishes**—older finishes may be unattractive or not durable enough to withstand the daily wear and tear.

### COMMON SITUATIONS

Kitchen renovations are high on the list of the most common home renovations. A renovation can be as simple as installing new flooring or be a major undertaking that includes enlarging the space and replacing all fixtures and finishes. Homeowners consider kitchen renovations for many reasons including:

- **Size and design**—the existing kitchen may be too small or poorly laid out.

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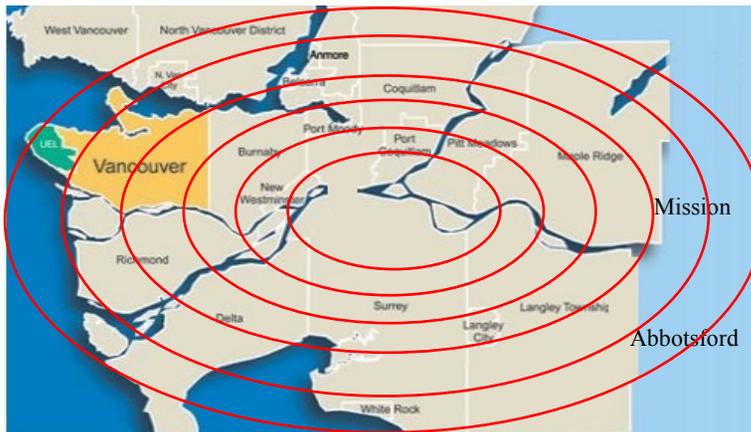
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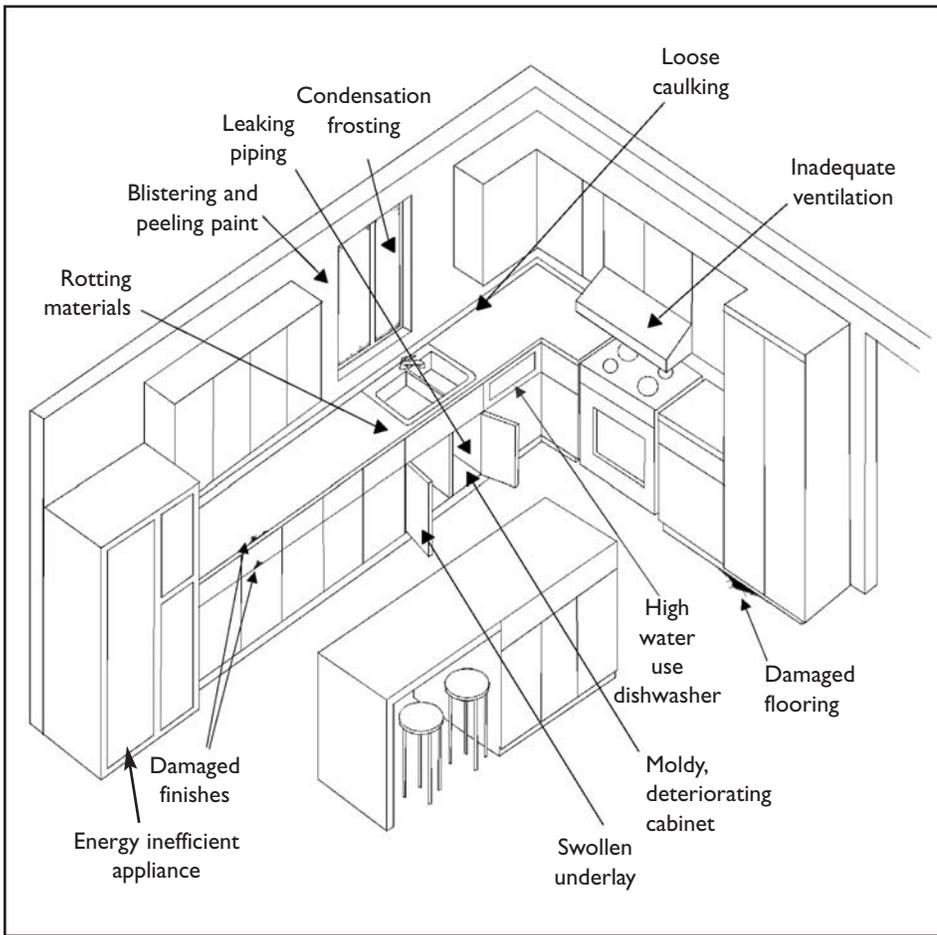


Figure 1

### HOUSE AS A SYSTEM

A house is much more than just four walls and a roof—it's an interactive system made up of many components including the basic structure, heating, ventilation and air conditioning (HVAC) equipment, the external environment and the occupants. Each component influences the performance of the entire system. A renovation provides an opportunity to improve how your house performs.

Kitchen renovations often include changes to HVAC equipment that can improve indoor air quality and moisture management in the house. Be careful if choosing large volume exhaust fans because they can cause combustion heating equipment to backdraft. Structural changes may give you a chance to improve air tightness and insulation, resulting in increased occupant comfort and house durability.

### REWARDS

- Repairing structural problems, fixing leaks and making sure that all services are adequate will prolong the life of your house and make the renovation look and work better.
- By using low odour and easy to clean finishes, you will improve the IAQ of your home. Reducing condensation and controlling humidity will help to prevent mold growth.
- Thorough planning will result in a warm, comfortable, useable kitchen with good lighting and plenty of work and storage space.
- A well thought out and executed renovation will increase the value of your house.

### AVOID SURPRISES

Once you start a renovation, there's no turning back. Your life is disrupted and any unexpected problems will lead to higher costs and delays in finishing the project. Thorough planning will help you to develop a realistic understanding of the work to be done and the costs involved. Here are some of the likely situations that people encounter. However, every situation is unique and you may need to hire a qualified professional to do a thorough investigation, find the problems and suggest the best solutions.

ASK YOURSELF . . .

CONSIDER YOUR  
OPTIONS . . .

. . . AND IF YOU DON'T

**Size and design**

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>■ How much workspace do you need? Is an eating area in the kitchen important?</li> <li>■ What are the traffic patterns?</li> <li>■ Is there adequate storage space?</li> <li>■ Does the kitchen meet the needs of everyone in the household including anyone with special needs, extended family and guests?</li> </ul> | <ul style="list-style-type: none"> <li>■ Plan thoroughly before you start. Sometimes a simple reorganization of the space will solve many of the shortcomings of older kitchens.</li> <li>■ Consider an addition or adding space from adjoining areas to meet your space and function requirements.</li> <li>■ Use a professional designer to help you design a plan to best meet your existing and future needs.</li> </ul> | <ul style="list-style-type: none"> <li>■ You will have to live with the results even if they don't meet your needs.</li> <li>■ A poor layout will seriously detract from your enjoyment of the renovation.</li> <li>■ The layout may not be flexible enough to meet existing or future demands for space, storage and anyone with special needs such as wheelchair accessibility.</li> </ul> |
|--|--|--|

**Fixtures and appliances**

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|--|--|---|
| <ul style="list-style-type: none"> <li>■ Do the existing fixtures and appliances have years of useful life left?</li> <li>■ Do you like the style and features of your appliances? Are they energy-efficient?</li> <li>■ Is there adequate general and task lighting?</li> </ul> | <ul style="list-style-type: none"> <li>■ Replace or repair worn out appliances or fixtures.</li> <li>■ Familiarize yourself with available products and options.</li> <li>■ Choose efficient fixtures that will reduce water and electricity consumption. New kitchen appliances carry an EnerGuide label identifying their energy efficiency rating.</li> <li>■ Update lighting so that it provides the brightness that you need. Compact fluorescent light fixtures are four times more efficient than standard incandescent bulbs.</li> </ul> | <ul style="list-style-type: none"> <li>■ Old fixtures may have to be replaced later and the new fixtures may not fit into the spaces allowed. This may involve further modification of cabinets or room layout.</li> <li>■ If you don't do your homework, you may find more appropriate, appealing appliances or fixtures after you have completed the work.</li> <li>■ Outdated appliances and lighting usually mean higher ongoing energy costs.</li> </ul> |
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**Cabinets and countertops**

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>■ Are existing cabinets or countertops damaged? Do you like the style of the cabinets and countertops?</li> <li>■ Is there enough storage and workspace?</li> </ul> | <ul style="list-style-type: none"> <li>■ Replace or repair damaged or outdated cabinets or countertops.</li> <li>■ Install additional cabinets or countertops to meet your work needs. Consult with a kitchen planner to organize storage and workspace more efficiently.</li> </ul> | <ul style="list-style-type: none"> <li>■ Damaged, hard-to-clean countertops can harbour bacteria. The kitchen may be less functional and an unappealing work and living space.</li> </ul> |
|--|--|---|

### ASK YOURSELF . . .

#### Structural problems

- Are there any existing structural deficiencies in this area or nearby areas of the house?
- Do any structural walls or lintels need to be removed?
- Will installation of new windows or doors require special structural details?
- Are the walls, ceiling, floor or basement areas well-insulated and air-sealed to provide a comfortable energy-efficient space?

### CONSIDER YOUR OPTIONS . . .

- Carry out a complete inspection. You may want to hire an expert.
- Repair, strengthen or replace structural components so they can carry the new loads.
- Insulate and air-seal the building to provide warm interior surfaces and a draft-free living space.
- Remove wall coverings, when possible, to properly insulate and install a sealed air and vapour barrier. The open wall cavities will also make it easier to install new wiring, plumbing and other services.

### . . . AND IF YOU DON'T

- Structural deficiencies can lead to cracked finishes, floor vibration, bowing or displacement of walls, floors or roof structures and possible structural failure.
- Exterior walls that are poorly insulated and not air-sealed will lead to continued high energy costs, possible condensation problems and discomfort in the living space.

#### Moisture

- Do any of the finishes have moisture damage?
- Is there visible mold growth on any surfaces? Are there any water stains?
- Is there blistered or peeled paint?
- Is any of the caulking or grout cracked or missing?
- Has there been condensation on windows, wall or ceiling surfaces?
- Determine the source of the moisture. It may be from building or plumbing leaks or from condensation of humidity on cold surfaces.
- Clean up visible mold growth according to CMHC guidelines.
- Insulate, air-seal and use energy-efficient windows to provide warmer inside surface temperatures.
- Repair or replace all deteriorated finishes or structural components.
- Maintain caulking, grout and flashings to prevent water access to the building structure.
- Minimize moisture sources and ventilate to control high humidity.
- Unsolved water damage problems will continue and lead to further deterioration of the building or newly renovated areas.
- Mold growth caused by excess moisture can be a serious source of IAQ problems.
- Superficial cleanup or hiding of moisture damage behind new finishes will allow deterioration to continue.

## ASK YOURSELF . . .

**Plumbing and electrical**

- Is the electrical service adequate for the number of outlets and circuits required and for future expectations?
- Does the existing plumbing service work well? Is there adequate water pressure? Do the drains flow quickly?
- Are there any leaks or evidence of water damage?
- If the house is pre-1950, are there any lead or galvanized steel water pipes?

CONSIDER YOUR  
OPTIONS . . .

- Have a professional electrician assess the electrical service and your needs. Upgrade and repair the electrical service and wiring as required.
- Repair any plumbing leaks and upgrade the existing service as required.
- Equip outlets near the sink with ground fault circuit interrupters to prevent shocks.
- Replace any lead or corroded metal water pipes.

## . . . AND IF YOU DON'T

- An undersized electrical service can lead to circuit overloads and the constant jockeying of countertop appliances.
- Inadequate or leaky plumbing will cause ongoing inconvenience. Leaks can lead to mold growth and IAQ problems.
- Even minor leaks around plumbing joints, gaskets and sinks will damage new materials.
- Lead piping and corroded metals can contaminate water.

**Heating and ventilation**

- Is the room comfortable and easy to heat?
- Does excess condensation form on windows or other surfaces?
- Is there an exhaust fan that is ducted to the outside?
- Is the air fresh and clean? Are there lingering musty smells?
- Would a large exhaust fan lead to backdrafting of an oil or wood stove, furnace or water heater?

- Make sure that there is adequate heating to the area. Poor insulation levels and high air leakage will make the area hard to heat, drafty and uncomfortable.
- Install an exhaust fan with adequate airflow capacity, 50 L/s (105 cubic feet per minute minimum). The fan should be quiet with a sound rating of 3.5 sones or less and be vented to the outside. Choose ventilation appliances that are certified by HVI (Heating and Ventilating Institute).
- Install a whole house ventilation system if possible. Consider one that includes heat recovery.
- Use a licensed installer for heating and ventilation work.

- The heating system may not be able to maintain a comfortable temperature in the living space during cold, windy weather.
- You may experience lingering odours and excess humidity in the house.
- Large volume exhaust fans can cause backdrafting (smells, smoke or toxic gases escaping into the house) of combustion equipment such as fuel burning fireplaces, furnaces, wood stoves and water heaters that use oil, natural gas or propane. A trained technician can remedy or avoid this health and safety problem.

### ASK YOURSELF . . .

#### Finishes

- What is the condition of current finishes? Do they need to be replaced because of wear or styling?
- What finishes will be durable enough for the intended use, for example countertops, floor covering and wall finishes?
- Are the planned materials and finishes low odour and low in chemical emissions such as volatile organic compounds (VOCs)?
- What preparation is required for the new finishes? Are special skills needed to install the finishes?

### CONSIDER YOUR OPTIONS . . .

- Decide what finishes need to be repaired or replaced. Do your research. There are many new and different products on the market. Vinyl, ceramic and hardwood flooring all have different installation requirements.
- Choose products that are designed to meet specific needs e.g., water resistance, durability or cleaning.
- Choose low odour materials, finishes and adhesives to minimize effects on Indoor Air Quality (IAQ).
- Use a qualified installer for products that require special installation conditions or skills.

### . . . AND IF YOU DON'T

- Improper installation of finishes will void the warranty and may provide unattractive results.
- Cracked ceramic tile or grout are common problems resulting from inadequate subfloor strength and stiffness.
- Hardwood flooring can shrink or swell if it is not allowed time to condition to the humidity of the space before installation or if it is not sealed properly.
- Potentially harmful emissions from new materials can linger for long periods within the house.

### SKILLS TO DO THE JOB

A homeowner with good fix-it skills may be able to do some of the work on the renovation such as:

- Removing old fixtures and finishes
- Caulking or repairing roof and window leaks
- Installing insulation
- Air-sealing the building
- Painting

Consider a professional renovator for structural changes, finish work or to undertake the complete project management. If you are doing it yourself, you will still need to hire subcontractors to carry out the electrical, plumbing, heating and ventilation work. Depending on the nature of the project, you may also need to hire other tradespeople to do roofing, window and door installation, install

cabinets and flooring or paint and do drywall finishing. Remember to obtain all necessary permits, sign a written contract, ensure that workers use safe working practices, have professional licenses where required and are covered by workers' compensation. Protect yourself, your family and your home.

Use the Kitchen Assessment Worksheet to record the present condition, any problems and to estimate costs for your kitchen renovation.

Kitchen Assessment Worksheet			
Room dimensions			
	Present condition/problems	Options or Upgrades	Cost
Ceiling and Finishes			
Walls and Finishes			
Floor and Finishes			
Room Lighting			
Task Lighting			
Windows			
Doors			
Cabinets, Countertops and Hardware			
Sink and Faucets			
Appliances			
Plumbing			
Electrical Services			
Heating			
Ventilation			
Other			

### COSTING YOUR PROJECT

The cost of the renovation work will depend on the condition of the existing structure, the extent of the work to be done and local labour and material prices. Costs of finishes and fixtures vary widely. A good budget checklist will help you to develop a realistic cost for the project before you start.

Some of the items to include are:

- Design changes
- Structural considerations
- Fixtures and appliances
- Moisture damage and deteriorated finishes
- Floor and wall finishes
- Plumbing and electrical problems
- Heating and ventilation
- Permit and inspection costs
- Waste disposal

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Printed in Canada  
Produced by CMHC 07-03-07  
Revised 2001, 2002, 2003, 2005, 2007

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