MAINTENANCE GUIDE

FOR RESIDENTIAL BUILDINGS HELD IN CO-OWNERSHIP

Children Day



TABLE OF CONTENTS

This table of contents is based on **UNIFORMAT II**, a classification standard for construction planning and design, and covers the major shared components of most buildings. This should facilitate communication and followup with professionals involved in co-ownership management.

A SUBSTRUCTURE

10 - FOUNDATIONS	A1
A1030 Slab on Grade	A2
20 - BASEMENT FOUNDATION WALLS	A3
A2020 Basement Walls	A4

B SHELL - FORTHCOMING

310 - SUPERSTRUCTURE	B
B1010 Floor Maintenance	B
320 - EXTERIOR CLOSURE	e
B2010 Exterior Walls	B
B2020 Exterior Windows	B
B2030 Exterior Doors	B
330 - ROOFING	B

C INTERIORS - FORTHCOMING

C10 - INTERIOR MAINTENANCE	С
C20 - STAIRCASES	С
C30 - INTERIOR FINISHES	С

D SERVICES - FORTHCOMING

D10 - CONVEYING SYSTEMS	D
D2010 Escalators & Moving Walks	D
D20 - PLUMBING	D
D30 - HVAC	D
D40 - FIRE PROTECTION	D
D50 - ELECTRICAL	D

G BUILDING SITEWORK

G20 - SITE MAINTENANCE	G1
G2010 Roadways	G2
G2020 Parking Lots	G2
G2030 Pedestrian Paving	G2
G2040 Site Maintenance	G4
G2050 Landscaping Maintenance	G4
G30 - SITE CIVIL/MECHANICAL UTILITIES	G5
G3010 Water Supply & Distribution Systems	G6
G3030 Storm Sewer Systems	G6
G40 - SITE ELECTRICAL UTILITIES	G7
G4010 Electrical Distribution	G8
G4020 Exterior Lighting	G8

WHY A MAINTENANCE GUIDE?

Since it became the sole mandatory guarantee plan, Garantie de construction résidentielle (GCR) has developed a number of tools to improve residential construction quality in the province of Quebec and increase coverage for home buyers.

GCR is following up its first guide, the *Maintenance Guide* for new homes, with its new *Maintenance Guide for Residential Buildings Held in Co-Ownership*. The primary audience for this guide is syndicates of coowners, who are responsible for ensuring the physical maintenance of common portions of the building.

More and more attention is being paid to the increasingly important topic of upkeep and maintenance on buildings held in coownership, due to the steady growth in popularity of these kinds of homes and the creation of guarantees, as well as the technical and legal changes that the construction industry has undergone.

Common portions of a building are defined under the *Regulation respecting the guarantee plan for new residential buildings* (CQLR c. B-1.1, r. 8) as "those that are part of the building and that are listed in the constituting act of coownership or, in the absence of specific provisions in that act, those listed in article 1044 of the Civil Code" (C.c.Q.). According to the C.c.Q., "those portions of the buildings and land that are owned by all the co-owners and serve for their common use are called the common portions". As an example, common portions are generally composed of the ground, yards, verandas or balconies, access ways, stairways, halls and passageways, doors and windows, elevators, foundations, main walls of buildings, common service areas, central heating and air-conditioning systems, security systems and the piping and wiring, including that which runs through private portions.

Effective maintenance helps extend a building's lifespan and ensures owners are compliant with regulations. Not only is this highly cost effective in the long term, it also gives building occupants peace of mind. It is recommended that you perform regular inspections and maintenance, and reforms will soon be coming into effect that will require you to record such activities in a maintenance log.

This guide presents you with the tools and overviews you need to sort out the masses of relevant information and ensure your co-owned building is soundly managed.

HAPPY MAINTENANCE!

We are publishing the *Maintenance Guide for Residential Buildings Held in Co-Ownership* one chapter at a time. Today's chapter are A-Substructure and G-Building Sitework.



For any question, visit **garantiegcr.com/en/buyer** or contact our customer service at **514-657-2333**.

NOTE

Equipment and components listed in this guide may differ from those found in your home. The information provided is generic and for guidance purposes. The *Maintenance Guide for Residential Buildings Held in Co-Ownership* only covers, but is not limited to, a portion of building components. Its content does not replace the requirements and obligations defined in the *Regulation respecting the guarantee plan for new residential buildings* (B-1.1, r.8).



A-SUBSTRUCTURE

THIS SECTION OF THE GUIDE DISCUSSES BUILDING FOUNDATIONS. MODERN FOUNDATIONS ARE LAID USING CAST-IN-PLACE CONCRETE, WHICH, IN ADDITION TO SUPPORTING THE BUILDING STRUCTURE, DELINEATE INTERIOR SPACES SUCH AS BASEMENTS AND PARKING LOTS. THIS SECTION PROVIDES GUIDELINES FOR ASSESSING DIFFERENT SITUATIONS, MONITORING FOUNDATION CRACKS AND KNOWING WHEN TO SEEK THE HELP OF A SPECIALIST.

A-SUBSTRUCTURE

A10 FOUNDATIONS

Most thin cracks that appear in foundations in the first year, commonly known as shrinkage cracks, are mainly caused by the drying of the concrete. Drying shrinkage is an inherent, unavoidable property of concrete. During the first few years, expansion/contraction cracks may appear due to temperature differences between the inside and outside of the building, or because foundation walls are partially underground and partially exposed to the elements.

SHOULD YOU WORRY ABOUT CRACKS?

The issue is whether the cracks have an impact on the building, such as if they are letting water or air seep in. It makes sense that a syndicate of co-owners might see cracks on their building and worry that it means water will get in or poor-quality concrete was used. In most cases, however, the cracks are superficial and not necessarily cause for concern.



Most shrinkage cracks on the edges of sump pits and in the middle of large slabs are caused by concrete drying.



Concrete surface defects such as scaling, spalling or dusting reduce the concrete slab's surface strength and can be caused by many different factors, usually when the slab is placed, finished or cured.



There are various reasons why a concrete slab may have cracks wider than 3.2 mm (1/8 inch) where one side of the crack is sinking or is not level with the other side, or have active cracks (cracks that are growing larger).

	CHECKS AND MAINTENANCE	DETAILS
DΕ	 Floating Slab on Grade Concrete slabs should be visually inspected once a year to monitor changes in condition. Shrinkage cracks: No action is required. Only seal if the cracks let in water. Cracks wider than 3.2 mm with sinking: Have them inspected by a contractor or professional. Surface scaling or spalling: Depending on the extent of the repairs needed, it may be best to hire a foundation specialist to resurface the concrete. Concrete dusting: Can only be fixed with a finishing treatment. There are companies that specialize in treating dusting on large slabs. 	These guidelines apply to basement floor slabs only, including any garage floor slabs that are underground. Slabs that are partially or fully exposed to the elements will be covered in section B1010.
	Structural Slab on Grade Shrinkage cracks: No impact if the slab is on the inside of the building. Cracks wider than 3.2 mm: Cracks this size in a structural slab must be inspected by a building professional, even if there is no sinking or difference in level on either side of the crack.	See the building plans and specifications to find out what kind of slab is being used. Structural slabs used for upper flooring will be covered in section B1010.
	Elevator Pits Elevator pits contain a variety of mechanical parts, and must therefore be kept in impeccable condition. For safety reasons, the elevator shaft and pit must be cleaned by a company that specializes in this type of work. If cracks in the concrete or water leaks appear, have them sealed with a polyurethane injection. Alternatively, in cases where there is hydrostatic pressure, tanking could be considered if recommended by an expert.	Inspect the concrete walls and floor of the pit when performing annual maintenance. These surfaces can deteriorate or crack, letting water in. Although elevator pits are drained, water leakages that may affect the parts inside the pit should still be avoided.
	Darkened Concrete Floors, Water Seepage or Musty Smells in Basement Watch out for these signs of a potential water leak.	See section A2020 — "Moisture Protection" and section A2020 — "Basement Wall Insulation," as there may be other possible causes of these phenomena.

A1030

SLAB ON GRAI



A-SUBSTRUCTURE

A20 BASEMENT FOUNDATION WALLS

Foundation wall cracks in above-ground garages do not require sealing unless they cause problems.

Cracks in basement foundation walls are often found at the corners of windows and above doors.



Water leakages through cracks

Even if water can only get in through a crack below ground level, sealing the portion of the foundation above ground is recommended.



Visible cracks on parging do not necessarily mean there are cracks in the concrete underneath.



Type C cracking

CHECKS AND MA

Cracks

BASEMENT FOUNDATION WALLS (CONT.)

A2020

Foundation walls should be for cracks and water leakage

Foundation walls can get dif and not all of them have the building. The seriousness c on their cause, size, shape, length.

Type A cracks:

Vertical cracks, commonly re cracks, less than 1.6 mm (1 cracks are common in four generally harmless.

Type B cracks:

Vertical cracks 1.6 mm (1/1 inch) wide. These cracks wa

Type C cracks:

Cracks that do not run verti than 3.2 mm (1/8 inch). T immediately inspected by a determine the cause, make perform repairs.

Regular inspections of foundation and outside the building) are for cracks, water seepage floor, and damage to the bott near the cracks.

Water Leakages Thro

If water is leaking through a immediately. There are multip from the outside, but cracks the inside with an epoxy or ex sealant injection.

AINTENANCE	DETAILS
inspected once a year es	No matter their size, horizontal cracks running across a wall must be fixed.
fferent kinds of cracks, e same impact on the of the cracks depends , pattern, location and	Monitoring and documenting the progression of cracks can help determine whether they are active (growing larger and needing to be fixed) or dormant (stable and not requiring action).
eferred to as shrinkage I/16 inch) wide. These ndation walls and are	
6 inch) to 3.2 mm (1/8 arrant further attention.	
ically or that are wider hese cracks must be professional, who will recommendations and	
ation walls (both inside e recommended. Look through the basement tom portion of the walls	
ugh Cracks	
crack, call a specialist ole ways to seal a crack can only be sealed on xpanding polyurethane	When deciding on a crack repair method, think about the landscaping, the sidewalk, the patio, the indoor basement stairs, the wall design and the shape of the crack.





A20 BASEMENT FOUNDATION WALLS (CONT.)



When a building is being constructed, a moisture barrier is added to the exterior side of below grade foundation before it is backfilled. Depending on the soil type, different moisture proofing methods can be used, such as an asphalt coating or a liquid membrane. To finish off, a drain pipe is installed, as well as a layer of crushed stone backfill along the foundation wall footings around the perimeter of the building.



Efflorescence occurs when a powdery substance—a mineral salt deposit—forms on a concrete surface. The substance is created when there is enough moisture in the concrete to dissolve the soluble mineral salts in the material and the concrete is porous enough that the resulting saline solution evaporates.

CHECKS AND MA

Cement Parging Finis

BASEMENT FOUNDATION WALLS

A2020

A finish coat of cement is ofter walls; it serves a purely aesth

Moisture Protection

Basement Wall Insulat

Efflorescence

CHECKS AND MAINTENANCE	DETAILS
Cement Parging Finish	
A finish coat of cement is often applied to foundation walls; it serves a purely aesthetic purpose. Different phenomena can affect parging. If there is a crack in the foundation, the parging on top can certainly crack too, but that does not always happen. Parging may crack or break off in chunks for reasons that have nothing to do with the soundness of the foundation. The parging will often not adhere as well when applied to wall surfaces that have not been cleaned of dust or sand. An adhesion promoting additive may be needed to fix the parts of the parging that have come off.	Contrary to popular belief, parging foundation is not required by the building codes. However, it is required in some municipalities. Here's a trick you can use if you want to find out whether a crack is in the foundation or just the parging: Dig down a little bit into the soil under the crack and see whether it continues down the foundation wall.
Moisture Protection	
If the French drain or the materials used to protect the foundation walls are deficient, this may lead to excess moisture in the basement or a water leakage, especially in the winter. If a water leakage occurs without any cracks being detected, call a contractor to identify the issue.	When landscaping, make sure not to put any soil above the edge of the moisture barrier.
Resement Wall Insulation	
Even if the foundation walls are insulated, condensation can still pose a problem. Inspect the basement floors and the base of the walls for moisture, puddles and mould.	Call a contractor or a professional right away if there is excessive water or moisture in the basement. They will be able to determine the source and prevent mould spores from growing and spreading.
Efflorescence	
Efflorescence on foundation walls is a sign of excessive moisture behind the components (on the backfilled side of the wall). Call a specialist to fix the moisture problem, then have the wall surface cleaned to eliminate the efflorescence.	While it does not affect the properties of the concrete, efflorescence can be removed with a non acidic cleaner or a stronger acid based cleaner.Always follow the manufacturer's safety and use instructions for the product you choose.Important note: Hydrochloric acid, which is sometimes used for this type of work, should only be handled by a professional.







THIS SECTION OF THE GUIDE FOCUSES ON THE IMPORTANCE OF PERFORMING REGULAR MAINTENANCE ON PARKING AREAS, DRIVEWAYS, SIDEWALKS AND LANDSCAPE DESIGN.



G2O SITE MAINTENANCE

MANAGING SURFACE WATER IS ESSENTIAL, as this helps to optimize land use, ensure occupant safety and protect the building. Landscape design and pedestrian and automobile access ways must all be maintained so that water drains away from the building and toward a street or ditch. Ponding near the building can significantly damage the foundations and the resulting moisture can impact indoor structures and air quality.



Rule number 1: Keep water away from the building, sidewalks and parking areas, and redirect it to the street or a ditch. **Rule number 2:** Ensure parking areas are safe with a striping plan that determines the exact location of traffic lanes, pedestrian walkways and parking spots. Signage with symbols should indicate entrances, directional flow, reserved handicap parking spots and the location of barrier-free entrances. Parking bumpers and curbs should be used to protect buildings and pedestrians by clearly demarcating each space.

In Quebec, outdoor pedestrian access ways are the main location on a property where people fall and injure themselves. Municipalities and insurers may be entitled to demand alterations if the safety of occupants is at risk.



	CHECKS AND MAINTENANCE	DETAILS
G2O1O ROADWAYS	Roadways After spring cleanup, you should perform a visual inspection to identify any potential issues, such as potholes, peeling, cracks or rutting due to road creep. Any sign of accelerated aging or irregularities after the spring thaw will necessitate immediate and permanent professional repairs to maintain the asphalt's longevity.	During heat waves, you should prevent extra- heavy vehicles from travelling over roadways and avoid placing industrial dumpsters directly on the road. Surfaces should be cleaned according to the manufacturer's recommendations. Be careful about using generic cleaners on asphalt and products containing concrete.
G2O2O PARKING LOTS	Signage Striping must be visually inspected each year to determine if it requires repainting.	You should use international icons printed in white on a blue background.
	 Bumpers and Curbs During the annual spring inspection, bumpers and curbs that have been moved or damaged from impact must be repaired. These impacts are often caused by snowplows. You must restore and repair any damage. 	Anchor rods can be inserted into parking bumpers to increase impact resistance. Concrete curbs help identify parking areas and protect pedestrians by visually demarcating spaces used for different purposes.
G2O3O PEDESTRIAN PAVING	Sidewalks and Pedestrian Areas All spaces reserved for pedestrians should have a smooth and unencumbered surface, regardless of their finishing material. In some cases, the ground may need to be levelled for interlocking paving. Simply lift pavers occasionally and add sand when necessary. Pavers should be kept clear year-round. Water poses a risk to pavers, as it can potentially ice over.	If your sidewalk or driveway have shifted in winter and are interfering with occupant access or posing a safety risk, you should consult an expert who is able to assess and fix the problem.
	Ramps Access ramps connecting outdoor parking to a barrier-free entrance should combine ease of access with peace of mind. In winter, special attention must be paid to keeping ramps clear.	Outdoor walkways that are part of barrier-free paths must have a continuous non-slip surface and be clearly visible at all times.
	Stairs Guardrails, handrails and outdoor stairs must be kept clear at all times and examined to ensure they are strong and stable. Any elements showing signs of damage must be fixed (painting, staining, unstable fasteners).	Handrails must not have any roughness or weak fasteners that could put users' safety at risk.



G2O SITE MAINTENANCE (CONTINUED)

The Civil Code governing all of Quebec states that sites must be developed so that water cannot run off onto neighbouring property.



You must maintain clearance of at least 150 mm (6 in.) from the finished ground level around the edges of the foundation walls to the tops of these walls. Where these walls are covered in exterior cladding sensitive to moisture, necessary clearance increases to a minimum of 200 mm (8 in.).



Trim tree branches that interfere with pedestrian or automobile access ways or are too close to the building.

	CHECKS AND MAINTENANCE	DETAILS
G2O4O SITE MAINTENANCE	Drainage slope Ground settlement is common around the perimeter of foundation walls or beneath balconies and patios in the first few years following construction. It is important to add more soil so that the ground slopes upward again, as these depressions can cause water to pool near the building.	Slopes on the edges of the foundations that are 2 m (6.5 ft.) in length should have an angle of 10%.
	Retaining walls It is easier to maintain a concrete retaining wall than a block wall. However, you must make sure that retaining walls are stable. Any sign of deformation, a change in slope or cracks will require immediate attention from the expert who built the wall. In addition to redirecting surface water to a ditch, drain or drainage well, you should also take care to monitor the underground drainage system. You should also check the mortar joints of masonry walls and replace damaged components.	A retaining wall is an outdoor wall whose primary purpose is to hold back earth or aggregate. This can be to protect a below-grade driveway or to hold back an embankment containing plants or protecting against ice. Retaining walls can purely aesthetic and part of the landscape design–what we call a sleeper wall–or fully functional, working to keep the building accessible by preventing landslides.
G2O5O LANDSCAPING MAINTENANCE	Trees Trim any tree branches that are starting to interfere with pedestrian or automobile access ways or growing too close to the building. In high winds, branches can scrape building components, potentially causing damage. Once a tree or its branches has grown less than 3 m from medium-voltage wires, you should notify Hydro-Québec, which will perform the necessary work for free.	Plant deciduous trees on the south side of the house. This will help you block the sun in summer and stay warm in winter. Plant coniferous trees on the northwest side of the house. They will help keep the prevailing winter winds in check and your energy costs down. You should plant trees at least 3 m (10 ft.) and shrubs at least 0.3 m (1 ft.) from foundations, as their root systems can damage foundations and your drainage system if placed too close to the building.
	Shrubs and plants Make sure that the exposed part of the foundation wall is not heavily and repeatedly watered by the flower bed in front of it, as this could cause excess indoor moisture or even water seepage.	Flower beds built around the edges of the foundation walls must be at natural ground level. They cannot be raised and supported by foundation walls.



Walls sometimes have openings at the bottom, also called weep holes, to assist with drainage. Weep holes must be kept free of any obstructions.



G30 SITE CIVIL/MECHANICAL UTILITIES



Make sure that automatic irrigation systems are programmed efficiently for time management and optimal watering and pressure. Your system and irrigation must comply with municipal regulations.



Window wells must have sufficient clearance between ground level and the window. A window well in front of a bedroom window must be a specific width and depth so that it is large enough to be used as an emergency exit.



An areaway (basement level) provides direct access to the property and natural light and can be used to evacuate the dwelling. Make sure nothing is blocking this exit.



Sump pits and drains, whether in the parking area or at the base of a garage door, have grills that allow water to flow through. Make sure these are completely clear.

	CHECKS AND MAINTENANCE	DETAILS
G3010 WATER SUPPLY AND DISTRIBUTION SYSTEMS	Irrigation System It is important that you completely shut off the watering system for the lawn and flower bed in fall. Once winter is over, check the sprinkler heads and controllers and look for potential underground seepage. If these systems require overhauls or repairs, you should call a specialist.	An automatic irrigation system reduces the need for manual labour. Automatic rain sensors should be added to all systems to prevent unnecessary watering cycles on days when it rains. These are inexpensive and easy to install and can greatly enhance your system.
	Outside Faucet All garden hoses should be disconnected in fall to prepare for winter.	Winter freezing can result in burst pipes, causing water damage indoors.
G3O3O STORM SEWER SYSTEMS	Window Wells Remove snow from window wells in winter to ensure occupant safety. In other seasons, clean debris from window wells that could accumulate and interfere with runoff or cause seepage that might result in a clogged drain.	For window wells in front of bedroom windows, ensure a minimum clearance of 760 mm (30 in.). A minimum clearance of 150 mm (6 in.) is also required underneath windows.
	Areaway Make sure that the property's surface runoff does not flow into the areaway. Clean all sludge from the floor drain that might prevent water from draining. Check the strength and finishing of guardrails. Make sure that the handrails on the access stairway are solid. Refer to section <i>G2040 – Retaining Walls</i> or maintenance of the wall surrounding the areaway.	If you spot any deformations in the areaway's floor slab or the retaining wall or notice any cracks or damage where the building's concrete wall joins the retaining wall, contact an expert immediately.
	Sump Pit and Drain Regularly clean the sludge and sand that build up at the bottom of the pit and that could eventually hinder proper drainage. Ensure that the perforated cover or grid is solidly in place and has not been damaged.	Grids and covers that have been moved can cause a variety of issues. A grid that has rolled up at the base of a garage door can cause a flat tire. A parking grid that has been moved poses a risk of a fall or fracture, which is why grids must be checked to ensure they are stable.
	Gutters Clean gutters next to trees at least once a month before winter. Use bends, extensions or splash blocks at the bottom of downspouts to carry water away from the foundation. Check these annually to ensure they work properly.	Never connect downspouts to the building's French drain. This could overload the drain and cause water seepage in the basement.



G40 SITE ELECTRICAL UTILITIES

Maintenance of outdoor electrical systems is highly important—it has a positive impact on quality of life and helps reduce energy costs, whether it's checking on the power supply to electrical outlets or general lighting for parking, access ways and pedestrian walkways. When it comes to electrical maintenance, an ounce of prevention is worth a pound of cure.

Quebec law requires that you do business with a master electrician to assemble new electrical circuits.





Snowplows are a threat to outdoor lighting. Protect streetlights and light fixtures by signalling their location with reflective stakes.



If the electrical panel has not been installed yet, only a master electrician is capable of ensuring that it has proper and sufficient capacity and is safe. If this panel is for an existing residential building held in co-ownership, you must also obtain approval from the other coowners and ensure that the installation is permitted under municipal regulations.



All outdoor light fixtures must be regularly checked to ensure they work properly and to identify any visible malfunctions.

	CHECKS AND MAINTENANCE	DETAILS
G4010 ELECTRICAL DISTRIBUTION	Wall Sockets Make sure that electrical outlets and switches exposed to the elements are equipped with sealed covers and that all components are intact and solidly attached. Covers that are open for long periods of time risk having the components inside the outlet prematurely corrode. It is also important to check that GFCI protection is working properly to prevent any risk of fire or electrocution. This is why manufacturers equip their devices with test and reset buttons on the front.	Have a specialist replace all damaged elements. For outdoor connections used over very long periods of time (e.g., Christmas decorations, smart outlets), you should replace the cover with a "wet location" cover.
	Utility Pole Outlets Ensure that sockets are straight and solid. Repaint if necessary. If outdoor outlets have thermostat control, ensure that it is programmed to cut power when the temperature drops to -10 °C or below to conserve energy.	If you have new outdoor smart plugs that are permanently connected to utility poles, replace their outlet covers with "wet location" covers.
	Electric Vehicle Charging Station Preventive maintenance must be performed by a specialty firm. The user must regularly inspect the mobile plug's contacts, the charging cable (looking for signs of wear and tear) and the connector and ensure that the mobile plug is sound (looking for cracks, breaks and stripped metal).	Charging station maintenance is important and should be performed each year by a specialty firm, as electric stations have multiple electronic modules and firmware that give them a complex and challenging structure.
G4020 EXTERIOR LIGHTING	Exterior Lighting Disconnect or turn off the outdoor lighting circuit breaker at least once a year and use fine steel wool to remove any traces of corrosion from the inside of the lamp socket. Use chemical-free products to clean outdoor light fixtures. If necessary, you can use a wet cloth with window cleaner. Check the finishing on lighting poles and towers each year for corrosion, which can damage elements, necessitating a rapid response.	Choose long-lasting, weatherproof outdoor bulbs for your outdoor lighting fixture accessories. Low-voltage (12 v) outdoor lighting makes things safer. However, you will need to check the transformer's wattage, as it must be higher than the total wattage of the bulbs.



CONTACT US

Garantie de construction résidentielle

4101, Molson Street, Suite 300, Montreal, Quebec H1Y 3L1

Phone: 514-657-2333 Toll-free: 1-855-657-2333

info@garantiegcr.com

Garantiegcr.com



