Strata Engineering Inc.
Absolute Building Science

BUILDING ENVELOPE CONDITION ASSESSMENT (BECA)	VS	DEPRECIATION REPORT (RESERVE FUND STUDY)
Determines the condition of Building Envelope components (roofs, windows, cladding, etc.)		Helps predict and plan for future expenditures and maintenance
Identifies priorities for remediation/maintenance within a 5yr period		Guides capital expenditure budgeting over a 30yr period
In-depth sample-based testing and occupant surveys		Thorough visual assessment (non-invasive) + financial assessment
Buildings: 10+ years of age or buildings with concerns		All Buildings: Required to be updated every 3 years
Vital to Lifespan Expansion & Capital Planning		Financial Planning Tool

| OVERVIEW |

BUILDING ENVELOPE CONDITION ASSESSMENT (BECA)

In British Columbia, temperature fluctuations occur from -20 degrees C in the winters, up to 30 degrees C+ in the summer. We rely on the Building Envelope to keep us sheltered from both these varying temperature fluctuations and elements.

A BUILDING ENVELOPE SERVES MANY FUNCTIONS, DIVIDED INTO 3 CATEGORIES:

SUPPORT:
Provides structural support against internal and external forces by ensuring strength and rigidity.

CONTROL:
Regulates the flow of matter and energy of all types between the interior and exterior of the building.

FINISH:
Ensures human needs are met on the inside and outside by making the building visually appealing as well as structurally functional.

PURPOSE

To prevent air-flow and temperature fluctuations through insulation and thermodynamic shielding.

To prevent premature failure of exterior systems and the leaks associated.

To prevent organic matter from entering, decaying, or building up within the interior components.

METHODOLOGY

| PHASE 1 |

- Review of the building plans, architectural drawings and maintenance records.
- Perform a detailed visual inspection of all areas related to the Building Envelope by a Professional Engineer
- Identify locations for invasive testing.

| PHASE 2 |

- Perform invasive testing with tools such as infrared cameras, moisture meters, etc. with exploratory openings.
- Moisture probing of areas of concern.
- Thermographic scans to map out areas potentially affected by water ingress are performed by the inspecting engineer.

| PHASE 3 |

- Provide a Building Envelope Condition Assessment (BECA) report detailing the conditions of different assemblies, necessary repair work, and cost estimates.
- Attend an informational meeting with the Strata Council at no additional cost to discuss the report and our findings.
- Follow up with a scope of work and potential next steps.

BUILDING ENVELOPE COMPONENTS

The building envelope comprises of the below listed components. The Building Envelope Condition Assessment (BECA) provides a thorough assessment of the condition of these components and helps determine their remaining useful life. The useful service life varies depending on whether or not they have been properly maintained over the years.

WINDOWS:
Window components may be repaired or replaced to prevent potential water ingress.

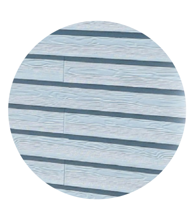
Avg. Expected life (maintained): 25 – 30+ years | Avg. Expected life (not maintained): 15 – 20 years

ROOFING:
Roofing may be repaired or replaced to prevent leaks that could result in potential structural and property damage.

Avg. Expected life (maintained): 20 – 25+ years | Avg. Expected life (not maintained): 15 – 20 years

DOORS:
Doors may be repainted or serviced to improve the thermal efficiency of a house.

Avg. Expected life (maintained): 20 – 35+ years | Avg. Expected life (not maintained): 15 – 30 years



CLADDING & WATERPROOFING MEMBRANES:
These components of the building envelope should be properly installed or rainscreened to extend their useful service life and reduce potential damage due to water ingress.*

**Avg. Expected life varies depending on cladding type*

TYPES OF CLADDING AND WATERPROOFING MEMBRANES:

▶ **Wood Cladding**
Avg. Expected life (maintained): 30 - 35 years Avg. Expected life (not maintained): 20 - 25 years

▶ **Stucco**
Avg. Expected life (maintained): 40 - 50 years
Avg. Expected life (not maintained): 25 - 30 years

▶ **Brick**
Avg. Expected life (maintained): 50+ years
Avg. Expected life (not maintained): 30 years minimum

▶ **Vinyl Cladding**
Avg. Expected life (properly installed and maintained): 35 - 40 years

▶ **Parkade Membranes**
Avg. Expected life (maintained): 12 - 15 years
Avg. Expected life (not maintained): 7 - 10 years

BENEFITS OF THE BECA

Identifies priorities for remediation or maintenance within a 5-year time frame.

Provides a more accurate evaluation of components than visual investigations such as the Depreciation Report.

Forms the basis for creating a detailed design and specification package for remediation.

| OVERVIEW |

DEPRECIATION REPORT (RESERVE FUND STUDY)

A Depreciation Report (DR) is a comprehensive financial document that provides guidance in capital planning over a 30-year period. It is primarily used to strategically plot out the optimal amounts of contributions to the contingency reserve fund for asset renewals. This planning tool is updated once every 3 years to keep track of where all components are in their useful life cycle.

According to the Strata Property Act, Depreciation Reports are required by Strata Corporations with more than 5 strata lots and can only be deferred by a 3/ 4 vote every year.

METHODOLOGY

The Depreciation Report involves detailed visual and financial analysis of all capital items that are anticipated to depreciate during the life of the structure

A non-invasive site investigation to identify the conditions and quantify all “common area” building components including windows, doors (interior and exterior), cladding, parkade waterproofing membranes, roofing systems, HVAC systems, fire protection systems, amenities, and a variety of other components.

The life cycles of these components and their associated restoration costs are summarized with the aid of tables and charts to help plan out appropriate annual budgeting for major capital expenditures to reduce special levies, while staying on top of regular maintenance.

BENEFITS OF A DEPRECIATION REPORT

ONE:
Anticipates major future expenditures as far as 30 years into the horizon as building systems depreciate.

TWO:
Provides repair/replacement timelines of components to maintain the value of the overall property.

THREE:
Increases transparency for owners and allows them to proactively budget themselves with changes in contributions to the contingency reserve fund.

FOUR:
Reinforces buyer’s confidence and minimizes unknown risks.

FIVE:
Satisfies requirements set by mortgage lenders and insurance providers.