



Northumberland County Housing Corporation (NCHC) Report to Board

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123 King Street Redevelopment – Design Energy Performance Update

Prepared by:

Willie Reynolds Manager, Major Capital Projects, Public Works

Issue

The Northumberland County Housing Corporation (NCHC) must determine an appropriate energy performance target for the Architectural and Engineering design for 123 King Street redevelopment that maximizes eligibility for Build Canada Homes funding program.

Recommendation

That the NCHC Board approve a Passive House model as the energy performance target as certified by organizations such as PHIUS for the 123 King Street redevelopment.

Background

The 123 King Street redevelopment is intended to increase the supply of affordable housing from 22 to 60 units while improving long-term building performance and financial sustainability. Past federal housing programs demonstrated a strong preference for energy performance standards, such as Passive House, to maximize funding competitiveness and reduce lifecycle operating costs.

In this context, Passive House and PHIUS have increasingly been adopted by some of the largest public housing providers in Canada. Toronto Community Housing has delivered and is advancing Passive House projects, CityHousing Hamilton has incorporated Passive House as a standard approach in several new affordable housing developments, including certified multi-unit residential projects in downtown Hamilton. Ottawa Community Housing has likewise pursued Passive House or Passive House equivalent performance across multiple new developments.

There are multiple certification agencies for Passive House, including the European 'Passivhaus'. PHIUS is a North American model for Passive House and adjusts targets based on local climate and provides a little more flexibility and is more built around US

and Canadian building codes and construction methodologies rather than the European model. In addition, PHIUS allows for more flexibility in material standards which opens the market to Canadian based products, which is also a funding requirement.

With federal housing initiatives such as Build Canada Homes now in effect, though without yet defined performance targets, MCP staff have evaluated Passive House as the most appropriate energy performance target to align the 123 King Street redevelopment with demonstrated sector practice, funding competitiveness, and long-term affordability objectives.

Analysis

While the CMHC funding programs that previously supported affordable housing have been dissolved, those programs historically provided up to 15% in non-repayable capital grants for projects achieving Passive House. Industry data indicates that Passive House construction typically carries an estimated 3-6% capital cost premium, or approximately \$1.2-\$2.4 million on a \$40 million project. Based on historical CMHC funding precedents, a comparable project could have received up to \$6.0 million in non-repayable funding, resulting in a potential net capital benefit of approximately \$3.6-\$4.8 million, before accounting for long-term operational and lifecycle savings.

The Build Canada Homes initiative is currently in effect, although detailed program criteria and performance targets have not yet been defined. Based on industry discussions and federal policy direction, it is anticipated that this program will share similarities with prior CMHC initiatives and will continue to prioritize projects that demonstrate energy performance and long-term affordability and sustainability outcomes.

Proceeding with a Passive House or PHIUS approach positions the 123 King Street redevelopment to remain competitive under existing and evolving federal funding frameworks, while also delivering lifecycle savings. For these reasons, Passive House or PHIUS represents the most financially and strategically advantageous energy performance target for the project.

Next Steps & Board Discussion

If the Board endorses Passive House the following actions would be required to continue advancing the project:

- Initiate procurement of a Prime Consultant team with Passive House experience.
- Prepare Build Canada homes application based on funding alignment.
- Return to the Board with design progress and updated financial impacts



Conclusion

The analysis undertaken to date indicates that the 123 King Street redevelopment is well suited to pursue Passive House as the energy performance target as certified by PHIUS or other certification agencies, aligns with Build Canada Homes funding and NCHC's long-term objectives for affordability, asset durability, and operational efficiency.

While construction carries an upfront capital premium, this risk is balanced by the potential to maximize non-repayable funding, reduce long-term operating costs, and improve lifecycle value. Establishing a clear energy performance target at this stage provides direction for design, procurement, and funding application.