

SCHEDULE F – TRIPLE BOTTOM LINE REPORT TEMPLATE

The Triple Bottom Line refers to the environmental, economic and social aspects of sustainable initiatives.

The purpose of the Triple Bottom Line Report is to share the story of your experience undertaking your project with others seeking to address similar issues in their own communities.

The Project Officer will ensure a Word template of Schedule F is available for completion, and will help with any questions. FCM will post your report on the [Green Municipal Fund™ \(GMF\) website](#).

Instructions:

- Use **plain language** that can be understood by people who are not specialists on the subject.
- **Five to 10 pages**, but may be longer or shorter, depending on the complexity of the project.
- The report, including all attachments and appendices, must be submitted in **PDF format** with searchable text functionality.
- Reports must be clearly identified as **final** (not draft).
- **Reports must be dated.**

VERY IMPORTANT:

Timing: You need to email a report, to your GMF project officer (contact info is in Schedule C), on the dates indicated in Schedule C or whenever FCM asks for such a report.

Copyright: Before you submit a report to FCM, make sure you hold the copyright for the report. If you're hiring a consultant to prepare the report, please make sure to get the copyright (see FCM's copyright tips document), or else FCM will not be able to disburse the Grant Amount.

Accessibility for people with disabilities: Please do not change the format, font, layout, etc. of this report. In accordance with FCM's Accessibility Guidelines, this template is designed in order to be accessible.

Confidentiality: If your report contains any Confidential Information that you would prefer not be made available to the public (e.g. through a case study or other materials produced by FCM that relate to your Project), please submit two versions of the report:

1. **Complete report including Confidential Information:** Please clearly label this report with the word "**Confidential**" or similar wording and FCM will treat it as confidential.
2. **Abridged report excluding Confidential Information:** This report may be posted on the FCM website and otherwise made available to interested third parties, to help FCM meet its knowledge sharing objectives.

GMF number:	17137
Lead Applicant:	National Affordable Housing Corporation
Phone, fax, e-mail, and address of lead contact:	306-716-1533
Date of the Report:	December 28, 2020

1. Summary of the Initiative

Our objective with the Planning Grant funding was to incorporate Net Zero Ready specific planning activities alongside our standard project planning process so that we may understand the options, construction costs, energy savings, and operating implications of upgrading construction plans for our mixed affordable rental project to include Net Zero Ready (NZR) and Net Zero (NZ) components. Understanding the construction cost implications of the potential upgrades was of particular interest to the NAHC as our affordable rental projects have limited construction and operating budgets.

When compared to our original plan for this funding, the only changes we experienced were related to our ability to host in-person workshops and meetings with our team of architects, engineers and our builder due to COVID19. Rather than engaging in in-person workshops and group meetings for the project, we completed the same activities and objectives through Zoom & Microsoft Team meetings, conference calls and email. Our work methods changed just as the rest of the nation's work methods changed to limit in-person contact.

2. Triple Bottom Line Findings and Recommendations

The environmental outcomes of this funded initiative are that we know understand how we may successfully deliver NZR (and NZ) units within our mixed affordable market rental project provided additional financial support can be secured to help with the added construction costs of upgrades required to achieve the desired level of energy efficiency. We now have a construction path that includes upgraded elements that will allow us to achieve a 6-unit NZR project at our Plainsview Townhomes mixed affordable market rental development in Regina, SK. When compared to equivalent sized units built to the standard 2015 energy code, our 6 upgraded NZR units will consume 75.6% less energy to heat and cool, and 51.7% less energy once lighting, appliance, and electrical loads are included. These energy savings will allow for a Net Zero energy consumption if energy generation upgrades are added in the future (i.e., solar panels).

Financially, the outcomes of the planning work supported by this funding helped the NAHC's team assess and recommend the most cost-effective energy saving and energy generation options. The team also determined cost implications of structural (i.e., foundation, envelope, openings, etc) and design (i.e., plumbing, electrical, mechanical, etc) changes required to achieve NZR and NZ in the 6-units. A budget was then established using the eligible costs outlined in the FCM guide; the total eligible costs for a 6-unit NZR pilot project at Plainsview Townhomes would be \$1,218,320. Achieving the compliment of NZR and NZ upgrades is not affordable for the NAHC from a construction financing and budget perspective unless additional funding from government or other agencies can be secured for the necessary upgrades and changes.

From the end-user housing affordability perspective, building to either the NZR and NZ standard would result in cost savings and greater affordability for 6-families living in the units due to the reduced utility costs for living in these rentals.

3. Community Context

Community Profile – Regina has an estimated population of 232,000 and a median annual income of \$81,832. The millennial age group of 25–29 years of age is the largest demographic in Regina and there is a growing unmet need for family-friendly rentals amid shifting economies and reduced access to the homeownership market. The Plainsview Townhomes mixed affordable market rental development will be located in a new subdivision in NW Regina, across from a new public and catholic school that were built just 2 years ago. This area of Regina has the *lowest vacancy rate* for 2-bedroom units (2.7%) and *the highest average rent* (\$1268/month) in the city. Additionally, many rental providers in NW Regina have waiting lists for larger 3-bedroom units that are deemed more suitable for families. It should also be noted that the NAHC's project will add mix of 2-bedroom and 3-bedroom units to NW Regina, including 22 affordable rentals

with 4 of these being deeply discounted and designated specifically to low-income families with children that have complex medical needs and attending the Hope's Home Medical Daycare across the street in Plainsview School.

About the NAHC – To date the NAHC has helped facilitate the development of more than 972 units of affordable housing in Saskatchewan, co-managed approximately 680 rentals and condos, and currently has 3 mixed affordable market rental projects (a total of 176 units) under various stages of development in Saskatchewan. The organization has a Board of Directors, Housing Steering Committee, a 3-Person Management Team, 4 contract personnel, partners with experienced property management firms, and has additional partner support personnel from local non-profit service providers. The NAHC team develops rental projects, manages a portfolio of rental assets, and provides supportive affordable housing to low-income hard-to-house tenants.

4. Project Team

The NAHC's team was solely responsible for developing this funding initiative. The NAHC developed the preliminary plan and engaged local architects, engineers and the NAHC's builder partners with the goal of understanding how the project could successfully achieve NZR and NZ levels in addition to assessing various options and cost implications of building to NZR and NZ for 6-units.

Project Champion – Upon arriving at best options and costs, the NAHC's CEO became a champion for this project. One of the CEO's leadership roles is to liaison with the builder and factory regarding construction agreements and expenditures. Fast decision-making and risk mitigation strategies were needed to commit to revised construction plans for our quickly advancing modular project. This is because modular construction contracts and line spot reservations are committed up to 2-years in advance of the projects actually breaking ground on site. The individual modular units for Plainsview Townhomes had already been scheduled into the factory's line slots, albeit only at standard energy efficiency levels. Any delays or changes to the project would risk the NAHC completely losing its factory line spot reservations to another company and would cause project delays of 6-10 months or more, resulting in an entire missed construction season window.

5. Outcomes and Next Steps

Next Step #1 – Complete an Energy Feasibility Study for the 6-units

While costs associated with completing a Feasibility Study may have been eligible for an FCM Study Grant under the Green Municipal Fund, timelines for review and approval would have delayed the NAHC's project timelines for Plainsview. Therefore, the NAHC has initiated an Energy Feasibility Study step at its own expense; we anticipate completion by January 10, 2021.

Next Step #2 – Apply for FCM's GMF Pilot Funding to Support NZR/NZ Efforts for Plainsview Townhomes

With a Feasibility Study in hand, the NAHC can apply for additional FCM Pilot Funding support for the 6-unit project. However, given project timelines, the modular factory schedule, and Saskatchewan's quick approaching short construction season, the NAHC is concerned that it may not be possible to secure FCM support and participation in this project. FCM has indicated that it may take 6 months to approve additional project funding (i.e., June 2020 if the NAHC submits a Pilot Funding application this January) towards an energy efficient affordable residential rental project. Despite this, the NAHC must make a final decision regarding construction elements associated with the potential energy efficiency levels to be achieved for the 6-units by January 29th otherwise the NAHC will miss the 2021 construction season. The short construction season in Saskatchewan (Apr–Nov) often drives decisions and timelines. Housing providers must plan according to the short construction season in order to mitigate risk, unnecessary financing/interest costs, and achieve best case construction schedule goals and occupancy timelines. Construction of Plainsview Townhomes must be well underway with pre-leasing occurring throughout the summer ahead of the 2021 school year if the NAHC is to best serve families in need of affordable housing near Plainsview & St. Nicholas Schools in NW Regina. There was some concern that waiting on FCM's current review and approval for Pilot Funding could delay substantial completion of the project into 2022 and result in high carrying costs (interest on land financing, etc). Many construction components related to the structural, envelope, mechanical, electrical and plumbing needed to be changed for modular units that had already been approved by the NAHC with line-spot deposits paid months in advance to secure the NAHC's scheduled line spot in the factory queue. Delaying our decision to make these changes would have meant that the 6-units would have lost their factory line-spot. The NAHC had to be willing to made the decision to

cover the costs of the necessary upgrades on our own regardless of whether or not FCM decided to participate with pilot funding support or not so as to not lose our designated factory line-spot. The NAHC's decision ensured our units did not get pulled from the factory queue while we waited for FCM to review our funding applications. Had we lost our line-spot it would not have been possible for our modular units to get a new scheduled line-spot in the busy factory schedule for months. This would have delayed substantial completion for the project and the ability, left us paying interest on land and construction financing for a far many more months, and delayed our ability to more affordable long-term mortgage financing for the project.

6. Lessons Learned and Knowledge Sharing

Technical Lesson Learned

The NAHC, with our engineers, architect and builder learned that significant energy savings in 6-units at the project is possible but at an increased construction cost. We learned that we can achieve Net Zero Ready and even Net Zero for 6-unit pilot project at Plainsview Townhomes by improving insulation levels throughout and enhancing envelope air tightness levels. These passive approaches would be used in combination with well proven technologies like air source heat pumps and drain water heat recovery units. Unfortunately, we also learned that the resulting higher construction and financing costs required to achieve NZR or NZ are not directly justifiable because they are not offset by increased rental revenues because the utility savings are incurred directly by the tenants (i.e., not the project owner/operator).

The team did experience some challenges modeling a base standard unit built to minimum energy code at first as most comparable similarly build units at our disposal had already been built to include some upgraded features. This challenge was not unsurmountable though, it was simply discovered mid-way through the project and adjustments were made to arrive at a proper modelling comparable that served to better measure the energy savings of the various upgrade components.

Risk-Mitigation Lessons Learned

The Federal Government's release of modular-focused Rapid Housing Initiative added significant planning pressure because of additional housing groups seeking modular factory line spots. The added demand meant that no deadline could be missed or delayed with the factory. In order to mitigate risk of not losing the NAHC's reserved factory line spot while retaining the opportunity to build the 6-unit NZR pilot, decisions regarding key construction elements had to be finalized according to advanced schedules given the modular factory processes. The CEO quickly worked with the builder and factory to approve recommended structural, envelop, mechanical, electrical and plumbing configurations so as not to eliminate the possibility of achieving higher energy efficiency levels. In doing so, the CEO kept NZR and NZ options on the table in a way that was independent of FCM's decision to provide funding support for a 6-unit NZR pilot project. This risk-mitigation strategy was key to ensuring that the NAHC's affordable housing component will be successfully completed according to schedule regardless of subsequent FCM decisions to approve GMF Pilot Funding for the energy efficient upgrades.

This risk taught our team a key lesson with respect to the FCM funding stream itself and how it had the potential to impact our decision processes if we chose to pursue pilot support for our entire 48-unit Plainsview Townhomes and did not handle our own decisions in a timely manner based on our modular construction commitments. Choosing to limit our pilot project size to 6-units further mitigated this risk for the NAHC. For example, had we decided to pursue FCM's support across the entire 48-unit build as a pilot as opposed to only 6-units, we would have had to make significant structural changes and additions to accommodate NZR or NZE across all 48-units units that had been already been scheduled into line-spots for construction in the modular factory. Changes across this many units in the factory queue would have caused significant factory delay such that our entire project would to be pulled from the existing factory queue. This would have had the very real potential of causing the NAHC to miss the 2021 construction season despite already having financed the purchase of 1.78 acres of land, paid modular line deposits, and more. In addition, the NAHC would likely have been subject to factory line change-order, re-stocking, and even factory loss or of revenue penalties for pulling all large 48-unit project from a pre-paid and agreed upon designated line slot.

The NAHC has a proven model for developing affordable housing and obtaining financing using CMHC Mortgage Loan Insurance Flexibilities for Affordable Housing combined with meaningful funding support from Municipal and Provincial governments. During our risk mitigation planning, it became clear that FCM's

approval timelines for energy efficiency upgrades had the potential to derail the timeline for the entire affordable housing project if we allowed the NZR upgrade decision to impact the broader go/no-go decision process for the entire project itself. In other words, we were forced to simplify the decisions into two independent decision steps:

- (1) Use our proven model to obtain government support and financing to build our standard 48-unit mixed affordable market housing development; and
- (2) Upgrade 6-units to NZR levels with FCM GMF pilot funding support

Isolating these two decisions proved to be the critical risk mitigation strategy needed to ensure the affordable housing project would move forward regardless of the uncertainty around FCM approvals and timelines. This may be a valuable lesson for other well-intentioned groups attempting to tackle all financing, construction, and timing problems simultaneously as there is high risk of failure due to the overwhelming complexity of solving all these problems at once. The process is not linear nor straight forward. Its complexity requires flexibility by funding agencies and competent decision-making by the housing provider's leadership experienced team to mitigate risk in order to avoid the potential pitfalls and distractions of complicated funding opportunities if they ultimately jeopardize an entire affordable housing project initiative altogether.

The NAHC found working with a team of engineers, architects and a builder with real experience measuring energy in actual residential units added value and significant understanding to the goals we were working to achieve throughout our planning and analysis.

The NAHC will now be able to more confidently share knowledge about the potential to achieve NZR & NZ, and our new informed understanding of the actual costs associated with pursuing energy efficiency at various conferences and seminars where we are invited to speak in the future. Should the NAHC be able to (and choose to) build to NZR for the 6-units, the experience and a 5-year measurement of energy performance at the project will be highlighted in various mediums in the coming years, including:

- Highlighted in articles on the NAHC's online Solutions Centre;
- Featured in newspaper articles and with our affordable housing partners;
- Featured by ourselves, builder partners, the Saskatoon & Region Home Builders' Association, and Canadian Home Builders' Association in articles, speaking engagements, and more.
- Shared by NAHC mentors to mentees in the Canadian Housing & Renewal Association Mentorship program. Our mentors will share knowledge (process, funding available, lessons learned, etc) throughout our regular training sessions with young professional housing mentees assigned to us by the CHRA.
- NAHC will engage in efforts to share our experience and knowledge in a manner that supports efficient processes for review and approval of government funding for energy efficiency and affordable housing development initiatives. The NAHC believes funding and support for energy efficient projects or upgrades will be paramount to achieving higher levels of energy efficiency in affordable housing.

7. Publicity and Outreach

This small planning grant funded initiative did not receive media coverage. Municipal administration contacts at the City of Regina recognized the funding had received by the NAHC and expressed positive support and interest to the NAHC when they learned about efforts to work with FCM towards participation in higher energy efficiency levels being achieved in 6-units at Plainsview Townhomes.

All in-person planning sessions and group workshops were cancelled due to COVID19; in lieu of hosting in-person working sessions all work was completed via Zoom and Microsoft Team platforms, telephone and email therefore there are no good photos of the funded initiative in progress. Two photos have been included on the following page showing the Plainsview Townhomes project site location in Regina, Saskatchewan with signage installed in 2020 by Rosewood Park subdivision developer Troika Management Corporation showing future residential development by the NAHC.

8. Contacts

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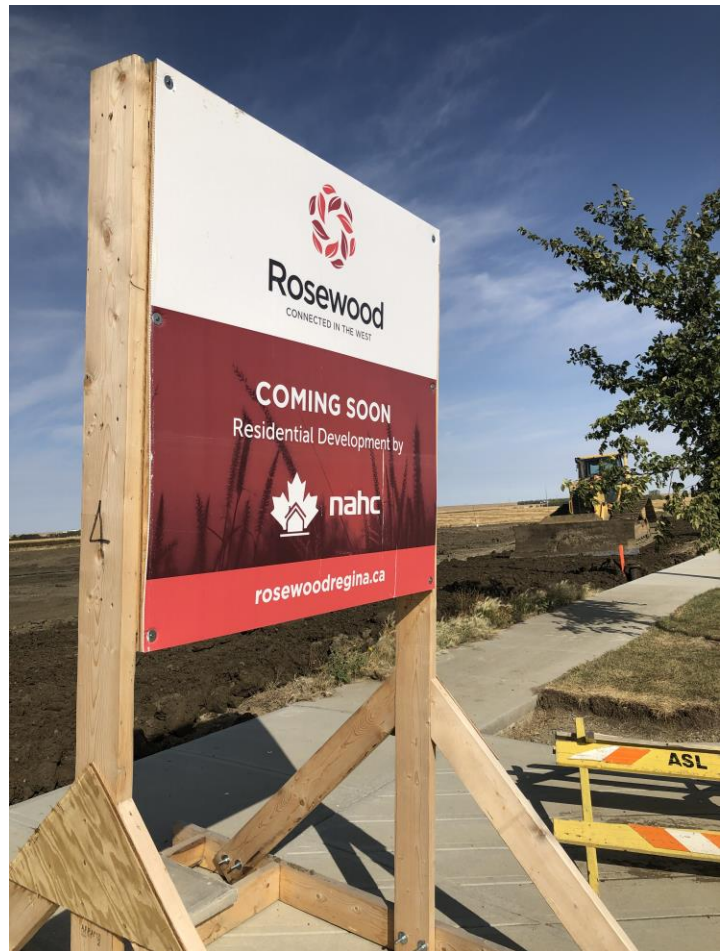
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Before Photo – View of Plainview Townhomes site facing west in Regina, SK. Located at 1420 N Silverleaf Blvd. Photo taken prior to project development; subdivision parcel grading work being completed by Rosewood subdivision developer.



Before Photo – View of Plainview Townhomes site facing northwest in Regina, SK. Located at 1420 N Silverleaf Blvd. Photo taken prior to project development.

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