



THE CITY OF
CALGARY
CITY AUDITOR'S OFFICE

Calgary Housing Company Asset Management Audit

October 5, 2015



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The City Auditor's Office completes all projects in conformance with the *International Standards for the Professional Practice of Internal Auditing*.

Executive Summary

Calgary Housing Company¹ (CHC) is a City of Calgary owned corporation providing safe and affordable housing solutions to citizens of Calgary since 1978. CHC owns and operates approximately 1,771 housing units with a tangible asset value of \$92M and a mortgage payable amount of \$21M at December 31, 2014. As an owner operator, CHC is responsible for the management of all aspects of the housing portfolio, including asset management.

In addition, CHC has the responsibility for the property management of 2,560 units owned by The City of Calgary (The City), and 2,681 units owned by the Province of Alberta (the Province). Property management requirements on behalf of The City and the Province are outlined in operating agreements and legislated direction and generally include responsibility for budgeting expenses, securing renters, collecting rent, complying with laws and regulations, and maintaining the properties (operational maintenance).

CHC identified aging assets as one of its critical risks. In 2016, over 55% of CHC-owned properties will be over 35 years old. CHC properties have a defined service life and must be managed in such a way that the full service life is reached at the lowest cost. Risks associated with failing to implement an effective asset management program include resident safety and quality of life issues from building disrepair, cost increases from delays in critical maintenance or replacement, and ineffective allocation of resources.

Our audit objective was to assess the effectiveness of CHC's asset management program for CHC-owned properties based on leading practices in asset management including the ISO 55000 series² and The City's Corporate Asset Management Program. The results as summarized in Appendix A (CHC-owned Assets Criteria and Results) were based on extensive review of documents and interviews with CHC staff. Overall we determined CHC is in the early stages of program implementation for CHC-owned properties and provided recommendations to further advance overall effectiveness.

We acknowledge that since 2012, there has been an increased focus on asset management with the hire of an Asset Manager, and an Asset Management Lead and Asset Analyst role in 2013 and 2014 respectively. In 2013, CHC Senior Management and the Board of Directors designated implementation of a long-term real estate strategy as an organizational priority. The strategy included developing an asset management plan for regularly acquiring, assessing, maintaining and disposing/repurposing properties, and reporting progress to the Board. Management advised the stated objective was to address sub-standard facility conditions.

The Asset Management team has also created a comprehensive Asset Registry and has undertaken building condition assessment³ (BCA) inspections for CHC-owned properties. Staff are using the results of the BCAs to carry out lifecycle analysis on each building. This analysis includes 10-year cost projections for lifecycle maintenance or replacement for all building components. Using an

¹ Calgary Housing Company is the trade name for CalHome Properties Ltd.

² ISO 55000, ISO55001, and ISO55002 are international standards covering management of any asset type, yet recognizing the particular applicability to the management of physical assets.

³ A building condition assessment (BCA) involves invasive condition assessments to determine the current condition, in part or entirety, of a building. It includes a visible examination of the buildings structure, building envelope (roof, windows, entrances, wall cladding), mechanical and electrical systems.

industry standard Facility Condition Index⁴ rating CHC has been ranking building conditions to prioritize lifecycle investment and identify opportunities for redevelopment or divestiture.

Recommendations for CHC to further improve asset management effectiveness for CHC-owned properties based on asset management best practices were raised specific to a governance framework and enhancement of the asset management program. We noted there is no formal governance framework in place for asset management at the organization level. Asset management activities should be aligned and support the achievement of organizational objectives. We recommend CHC put a governance framework in place for its program starting with a Strategic Asset Management Plan, which outlines asset management objectives that are aligned with the organization's objectives. Similarly, policies and procedures should be designed to ensure that asset management activities are fully integrated and aligned with CHC's overall strategic plan. In addition, responsibilities and accountabilities for all staff involved in asset management should be defined.

We encourage CHC to prioritize completion of an asset management program for CHC-owned assets in order to realize the benefit of a holistic and effective program. Recommendations 1-9 in this report provide direction to CHC on what new components of asset management need to be initiated now and which existing components need to be developed further. We believe that the incremental time requirements and costs involved in moving forward with the asset management program at CHC will be offset by the savings realized through optimizing investments and resource allocation, and reducing risk exposure. In addition, this audit may provide insight of current state for the new Director role as CHC transitions to a Business Unit under The City's Community Services & Protective Services department.

Although the focus of our recommendations is on asset management for CHC-owned assets, we identified potential safety, reputational and financial risks associated with City-owned and Provincially-owned properties given the age of the assets. City and Provincially-owned properties makeup 75% of the total assets managed by CHC, the majority of which are over 35 years old. While overall asset management remains the City's and Province's responsibility, CHC may be viewed as having a duty to report building conditions in their property management role. As the property manager, CHC's responsibilities with respect to asset management are not clearly defined or documented. The final two recommendations in this report seek to clarify and document responsibilities for assets managed on behalf of The City and Province to mitigate risks associated with asset failure. Once asset management responsibilities are clearly defined, they can be incorporated into CHC's overall asset management strategy, which will support prioritization of activities and effective allocation of resources across all housing portfolios.

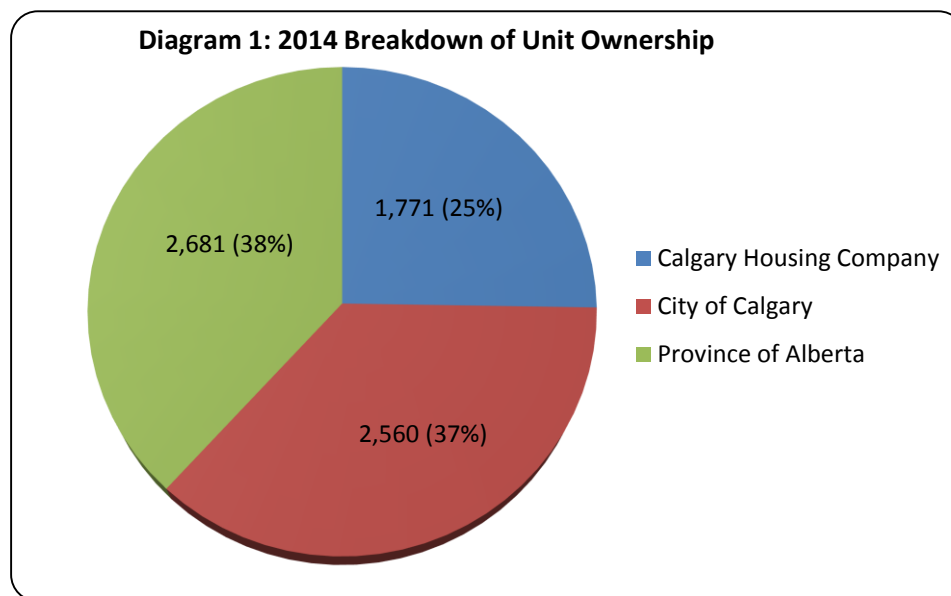
Details of the recommendations are in Sections 4.0 and 5.0 of the report.

⁴ Facility Condition Index (FCI) is an industry benchmark. The FCI is a relative indicator of a building condition at a point in time and is primarily used by government organizations including housing. The index is expressed as a percentage and is the ratio of the "repair needs" to "replacement value".

1.0 Background

Calhome Properties Ltd⁵ is a City of Calgary owned not-for-profit corporation operating since 1978 under the trade name Calgary Housing Company (CHC). CHC's mandate is the management of housing units and programs providing affordable housing options to Calgarians not well-served by the open housing market. In 2015, the relationship between The City of Calgary (The City) and CHC changed. Although CHC remained a wholly-owned subsidiary, the organization began transitioning to become the Calgary Housing Business Unit (BU) within the Community Services & Protective Services department. CHC will continue to report through an independent Board of Directors⁶ (Board) to the Shareholder, The City, as represented by Council and in addition will report through Administration to Council as a BU.

CHC manages 7,012 units in 212 properties⁷ owned by CHC, The City and the Province of Alberta (the Province). The breakdown of ownership is detailed in Diagram 1.



CHC owns and manages 1,771 units in 44 properties. The tangible asset value of CHC-owned infrastructure is \$92M with a mortgage payable amount of \$21M at December 31, 2014. CHC is responsible for the management of all aspects of their housing portfolio, including asset management.

CHC also manages 2,560 units in 68 properties owned by The City, and 2,681 units in 100 properties owned by the Province of Alberta (the Province). As a property manager, CHC acts on behalf of The City and the Province and is responsible for budgeting expenses, securing renters, collecting rent, complying with laws and regulations, and maintaining the properties. This includes preventive maintenance, repair or corrective maintenance, routine cleaning and maintenance.

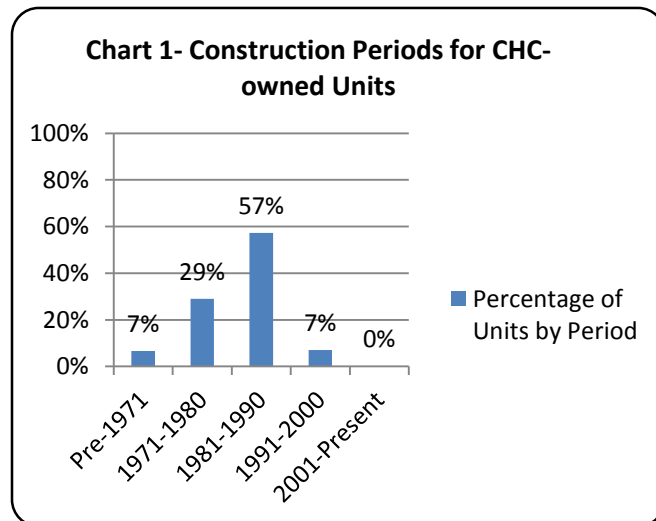
⁵ Incorporated as The City of Calgary Housing Company in June 1978 and in April 1983 had a legal name change to Calhome Properties Ltd.

⁶ The Board includes members from the community, City Administration, and City Council.

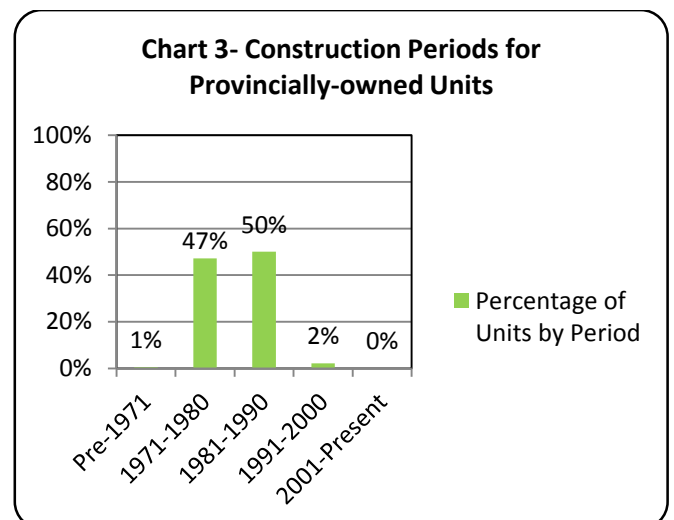
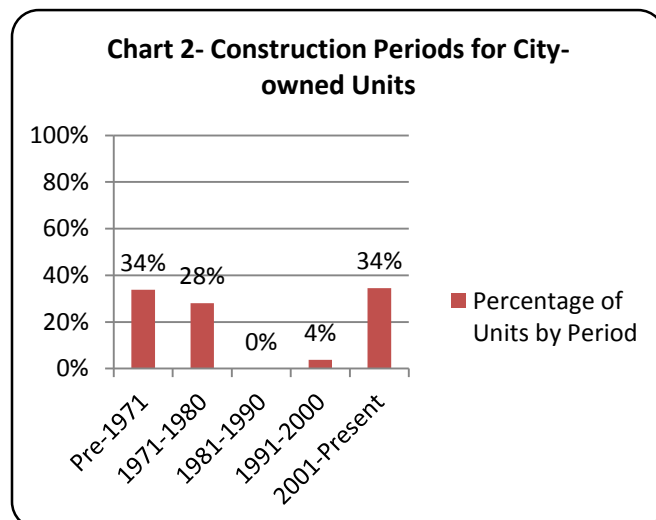
⁷ A property may represent more than one building.

CHC operates in an environment of funding uncertainty given that governments are reducing the amount of funding provided to develop and manage housing. Costs are increasing, and maintenance funding for Provincially-owned properties is not keeping pace with inflation.

The housing stock that CHC owns and manages is also aging. Currently 36% of CHC-owned units are over 35 years old, which will rise to 55% in 2016 (Chart 1).



Currently 62% of City-owned units and 48% of Provincially-owned units are over 35 years old.



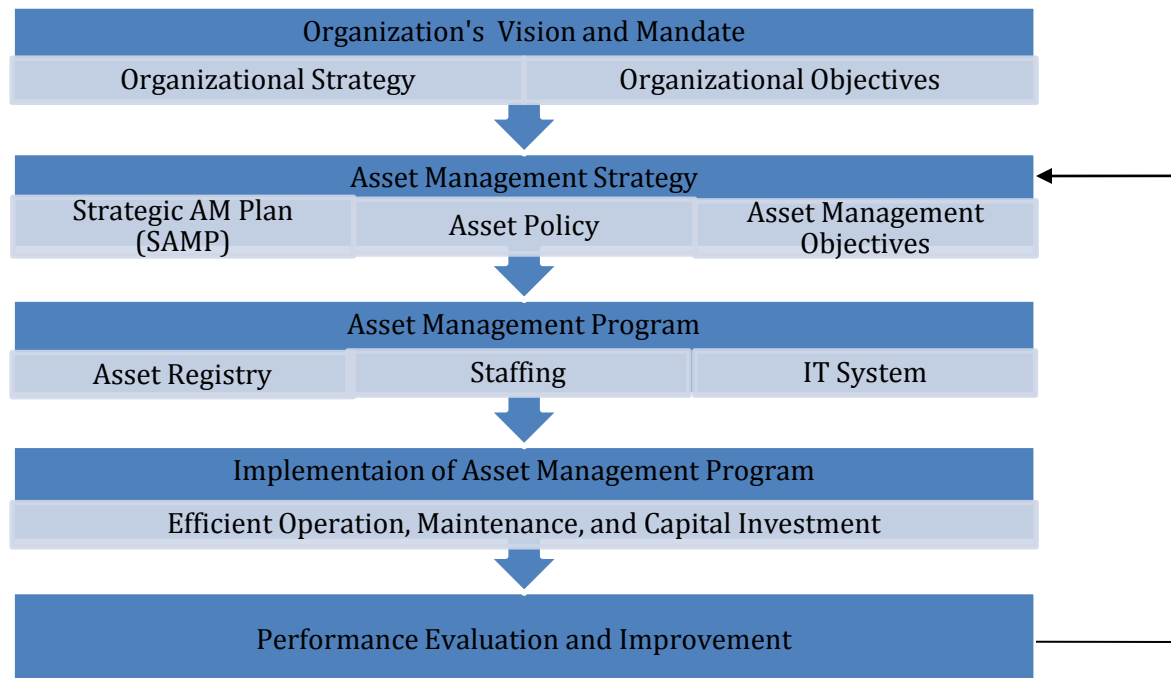
Asset management is the coordinated activities through which an organization manages its assets, their associated performance, risks, and expenditures over their lifecycles. Effective asset management helps an organization realize optimal asset value over an asset's full lifecycle by supporting effective forecasting and decision-making.

There are internationally recognized and established standards for asset management including those from Institute for Asset Management and the British Standards Institute (Publicly Available Specification 55 (PAS 55)), and the International Standards Organization (ISO). PAS 55 was first published in 2004 and ISO used it as a basis for development of the ISO 55000 set of international

standards which was launched in 2014. The City of Calgary's Asset Management Program developed in 2005 was based on PAS 55.

Best practice guidance states in order to have an effective asset management program there should be a line of sight linking asset management activities to organizational objectives. The diagram below shows how asset management flows down from the top of an organization and how the process should be evaluated and improvements made on a continuous basis.

Diagram 2: Line of Sight for Asset Management



2.0 Audit Objectives, Scope and Approach

2.1 Audit Objective & Scope

Our audit objective was to assess the effectiveness of CHC's asset management program. Our audit focused primarily on CHC-owned properties although we considered CHC's role in managing City-owned and Provincially-owned buildings. Planning activities covered the period from January 1, 2014, to March 19, 2015.

During the planning phase of the audit we reviewed leading asset management standards and practices and gathered information to further our understanding of key asset management processes. We identified a significant amount of opportunities to build on the asset management program for CHC-owned properties and with Management agreement determined additional detailed testing was not required.

2.2 Audit Approach

We reviewed the ISO 55000 series for asset management and PAS 55. We also referenced The City's Asset Management Program which has been in place for over a decade as well as the program put in place by the Government of Ontario⁸.

We considered the framework, processes, and documents that an effective asset management program should include and developed audit criteria (as noted in Appendix A, CHC-owned Assets Criteria and Results). We then assessed the current state of CHC's asset management program for CHC-owned assets based on information gathered and interviews with CHC staff during the planning phase. Our review of documents included:

- 2015-2018 Action Plan
- CHC 2013-2015 Business Plan
- Strategic Planning document⁹
- 2013 and 2014 Board Agenda Items and Minutes
- Infrastructure & Asset Management 2014 priorities and work plan
- Detailed Action Plan for Critical Risk Factors presented to The City's Audit Committee
- Update on 2014 work plan report and proposed 2015 work plan presented to the Development and Asset Committee
- Asset Acquisition Policy
- 2013 and 2014 Development and Asset Committee Agenda Items and Minutes
- Asset Registry and lifecycle analysis spreadsheets.

We also reviewed CHC's role as a property manager for City-owned and Provincially-owned properties and whether owner expectations with respect to asset management were clearly defined.

3.0 Results

Based on our evaluation CHC is in the early stages of asset management program implementation for CHC-owned properties. Appendix A provides a complete list of the audit criteria used in our assessment of CHC's program. Although all criteria should be considered as part of an effective asset management program, we did not raise a recommendation on each criterion. Instead, our recommendations are intended to help CHC move forward and are focused on areas that they should address first to build on their asset management program.

Since owning and operating 1,771 housing units is part of CHC's core business, an effective asset management program is central to CHC. This need is highlighted given aging assets and funding uncertainty. Sections 3.1 to 3.6 highlight the results of our review of asset management for CHC-owned properties.

While asset management is ultimately the City and Province's responsibility as the owner of the 5,241 housing units that CHC manages on their behalf, CHC is responsible for the maintenance aspect of property management for these units. Section 3.7 discusses our review results regarding CHC's role in managing City-owned and Provincially-owned properties.

⁸ Ontario was the first province to formally adopt an asset management system for infrastructure and they remain a leader in Canada.

⁹ Presented at the December 12, 2012 CHC Strategic Retreat and included CHC's *Real Estate Strategy*.

3.1 Strategic Asset Management Plan, Policy and Program

An asset management program is most effective when it is developed using an integrated strategic approach. An effective asset management program not only manages the operation and maintenance of an organization's assets but also manages the risks associated with the ownership and use of the assets, such as, asset failure due to poor physical condition.

Per leading practices, a key first step in implementing asset management is to put a framework in place. This framework establishes common goals for the management of assets and helps to facilitate collaboration and alignment between functional silos. It includes a Strategic Asset Management Plan (SAMP), an Asset Management Policy (Policy), and an Asset Management Program (Program).

The SAMP is an overall long term plan for the organization that is derived from, and embodies the organization's vision, mission, values, business policies, stakeholder requirements, objectives, and the management of risks to its assets. This strategy helps to have a line-of-sight from the management of assets to the organization's overall objectives. A Policy plays an important role in setting the organization's asset management commitments and providing clear parameters for staff to work within.

The strategic objectives set in the SAMP should flow through to a documented Program that includes the processes to achieve the organization's objectives and staff roles and responsibilities relative to those processes. The Program should include the "what, who, when, and how" pertaining to asset management to ensure that the organization realizes optimal asset value over the asset's lifecycle.

In 2012 there was an increased focus by the Board on asset management, stewardship and accountability. In 2013 the Board gave management a mandate to invest in asset management and development. The Board set the following priorities as part of its 2013 strategic direction (*Real Estate Strategy*):

- Establish an Asset Management (Real Estate) Plan;
- Strategic investment in properties;
- Build in future growth; and
- Establish a reserve to deal with aging infrastructure.

In response to the Board's direction to focus on asset management, CHC created a number of new positions. The following positions were filled starting in late 2012 and into 2014:

- Asset Manager
- Asset Management Lead
- Asset Analyst
- Manager New Development Project Lead.

Management advised that the focus of the Asset Management Plan was to identify asset condition through objective site and facility assessments and develop a prioritized project list to identify and address facilities in sub-standard condition. The asset management team (Team) developed their 2013 and 2014 work plan to address the Board's priorities. As a result, the Team created a comprehensive Asset Registry and conducted and refined building condition

assessment (BCA)¹⁰ inspections. This work was initiated specifically on CHC-owned properties where funding and building standards were within the authority and mandate of CHC management.

The Team used the BCA results along with other community related factors, such as desirability studies, to carry out lifecycle analysis on each building. This analysis provided the basis for 10-year cost projections for lifecycle maintenance or replacement of building components. CHC ranked buildings using an industry standard Facility Condition Index¹¹ to prioritize lifecycle investment based on risk and identify opportunities for redevelopment and divestiture.

To date, assessments for CHC-owned buildings are complete and the results have been integrated with the prioritization and definition of capital budgets and used to develop and refine the draft 10-Year Capital Plan and draft 10-Year Capital Budget Forecast (Forecast). The asset management work underway is directed at addressing the priorities set by the Board.

While CHC has received Board direction and has documents that guide asset management including the Real Estate Strategy and the draft 10-Year Capital Plan and draft Forecast, there is no documented SAMP that aligns asset management activities with CHC's overall strategic objectives and no Policy. We also noted that CHC has not assessed key asset management risks and developed mitigating strategies. We raised three recommendations in Section 4.1.

As noted above, CHC has begun to implement components of a Program which are detailed further in Sections 3.2 to 3.6. We raised one recommendation in Section 4.2 related to the need for an overall Program.

3.2 Asset Registry

In 2013 and 2014, CHC was part of a provincial project to create Housing Access Link (HAL), an enterprise-wide software solution to address current and evolving needs of stakeholder organizations including housing property/asset management and tenant information management. CHC created an Asset Registry using Excel spreadsheets as an interim system pending the implementation of HAL. However, the HAL project was abandoned in 2014. Management advised that they have initiated a full enterprise software review. We identified that internal controls over the security and integrity of the Asset Registry data can be improved in the interim pending implementation of a comprehensive software package and raised a recommendation in Section 4.3.

The Asset Registry includes a worksheet for each building and lifecycle analysis worksheets that include building component replacement costs. We noted that the Asset Registry does not include all pertinent information such as demolition or disposal costs, and hazardous substances, which impact decisions to refurbish or divest of a property. We also identified that responsibility to maintain and update the Asset Registry has not been assigned. Our recommendations are detailed in Section 4.3.

¹⁰ A building condition assessment (BCA) involves invasive condition assessments to determine the current condition, in part or entirety, of a building. It includes a visible examination of the building's structure, building envelope (roof, windows, entrances, wall cladding), mechanical and electrical systems.

¹¹ Facility Condition Index (FCI) is an industry benchmark. The FCI is a relative indicator of a building's condition at a point in time and is primarily used by government organizations including housing organizations. The index is expressed as a percentage and is the ratio of the "repair needs" to "replacement value". Land value is not considered when evaluating FCI.

Asset management best practices include identifying necessary technology to support the requirements of the Asset Registry and using an integrated system with automated data collection and reporting workflows to keep asset data current. Management advised they are pursuing an enterprise solution with asset management functionality that could integrate into CHC's Asset Registry.

3.3 Building Conditions

CHC reported to the Board that "Failure to be aware of the condition of our assets can result in significantly shortened life spans and increased economic obsolescence." As noted above, CHC conducted and refined BCAs and is now working on setting baseline BCA standards to be incorporated into maintenance plans.

Using the information from BCA reports along with other community related factors CHC has determined where each of the CHC-owned buildings fall on the FCI. CHC calculated the FCI by dividing the expected 10-year capital expense of the asset by the market value of the building. CHC has created an FCI report that shows the building FCI percentage colour coded as follows:

- 0 - 15% Good condition (Green)
- 15 - 30% Fair condition (Yellow)
- Above 30% Poor condition (Red).

As FCI increases, risk of a failure of a building component increases, building maintenance and operating costs increase and tenants may be negatively impacted. At the time of our review, the majority of CHC-owned buildings (61%) were ranked as being in Good condition. CHC has set a goal of moving all their buildings ranked below Good (i.e. Poor/Fair) on the FCI up to Good; however, they have not set a target date for that goal.

3.4 Asset Management Staff

As noted above, there was an increased Board focus on asset management, stewardship and accountability in 2012. In response CHC created a number of asset management specific positions.

Asset management activities and responsibilities fall across a wide range of roles within an organization and are not confined to one specific division, such as, the asset management team. We raised a recommendation in Section 4.4 to review the current organization chart and establish and communicate the responsibilities and accountabilities of staff involved in asset management activities once the SAMP and Program have been developed. This will support coordination of activities throughout the organization and identification of resource requirements.

3.5 Capital Decision-Making and Prioritization

The method and criteria for decision making regarding the management of buildings over their lifecycle should be determined including prioritization and cost effective strategies. An effective asset management program includes taking a predictive maintenance approach rather than a reactive one.

CHC's draft 10-Year Capital Plan and Forecast include the types of maintenance required to achieve optimal value from an asset: corrective maintenance, preventative, and predictive. The Forecast defines predictive maintenance as: "Tasks are only performed if an element is nearing its life expectancy and it is prudent to replace an element before it fails and therefore

minimizing disruptions and/or preventing a life safety issue". The Forecast also identifies investment strategies that achieve desired levels of service at the lowest lifecycle cost.

Based on interviews, we determined that staff are using the results of BCAs to prepare a lifecycle analysis for each building which includes the current required work and the lifecycle replacements required. Staff prepare a budget based on the estimated cost of the work and these figures are incorporated into the Forecast. CHC Finance staff estimate the revenue for the units, less the estimated cost for administration, operating and capital work. The remaining balance for each year becomes the amount that CHC has available for investments or development.

CHC's asset management strategy prioritizes capital work based on risk. The order of priority is as follows:

1. Safety related;
2. Envelope related issues (roof, siding, doors, windows);
3. Criticality ranking based on condition; and
4. Looking at energy efficiency related projects based on payback (newest priority).

Through discussions with Management, we suggested that CHC ensure that when the 10-Year Capital Plan and Forecast are finalized they align with the SAMP.

3.6 Integration of Processes

Multiple divisions such as Infrastructure and Asset Management; Operations Management; and Finance and Supply play a part in asset management activities. Ensuring that the necessary processes are in place and are executed effectively by staff is essential to minimizing lifecycle costs and maximizing the return on the asset investment. Processes need to be integrated in order to ensure work is aligned to meet asset management objectives. We raised a recommendation in Section 4.5 to integrate asset management activities into the organization's processes and procedures including Finance and Supply once the SAMP and Program have been developed.

3.7 City-owned and Provincially-owned Properties

Approximately 75% of the assets managed by CHC are owned by The City and the Province. The majority of these buildings are over 35 years old and could pose a health and safety risk to the tenants if lifecycle maintenance is not appropriately conducted causing assets to fail (i.e. roof collapse). This risk increases as buildings age if lifecycle maintenance is not conducted.

Although CHC has operating agreements with The City and the Province, CHC does not have agreements detailing asset management roles and responsibilities including the nature, quality and scope of service to be provided. From a liability perspective, CHC needs to consider mitigating strategies to reduce potential reputational or financial risks if these assets fail to be safe for occupancy. Once asset management responsibilities are clearly defined and documented, they can be incorporated into CHC's overall asset management strategy, which will support prioritization of activities and effective allocation of resources across all housing portfolios. We raised two recommendations in Section 5.0.

We would like to thank staff from CHC for their assistance and support throughout this audit. We would also like to thank the staff from The City's Asset and Project Management division who shared their knowledge and expertise during the planning phase.

4.0 Observations - CHC-owned Properties

In Section 4.0 we raise nine recommendations based on leading practices in asset management. The scope of these recommendations apply to the CHC portfolio of properties.

4.1 Asset Management Strategy

Similar to an organization's need to have a documented organizational strategy to help them meet their mission and objectives, a strategy specific to asset management is needed. For CHC an asset management strategy can outline the priorities for maintenance of current buildings and future developments along with the mitigating actions to address risks related to owning and managing housing units. We identified the need for a SAMP and Policy and the identification of asset management risks and development of mitigation strategies as key to an effective asset management strategy.

4.1.1 Strategic Asset Management Plan

CHC does not have a comprehensive documented SAMP. CHC should have a documented overall long-term SAMP that includes asset management objectives that align and support the organization's objectives. The SAMP should also be communicated to staff with roles in asset management. Without an overarching SAMP, asset management practices may not align and support the organization's objectives, decisions may not meet stakeholders' expectations and the expected life of a building may not be realized.

As noted in the Section 3.0, CHC have created a number of strategies to address asset management and they have communicated this information to CHC Committees and the Board. However, CHC does not have a documented SAMP to address asset management.

Recommendation 1

The Director develop, document, and communicate a Strategic Asset Management Plan that includes asset management objectives that align and support the organization's objectives.

Management Response

| Action Plan | Responsibility |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agree. A Strategic Asset Management Plan document will be developed for CHC-owned assets that includes asset management objectives that align and support corporate objectives. The SAMP will be documented and communicated to CHC staff. | <u>Lead:</u> Manager, Infrastructure & Asset Management, CHC <u>Support:</u> Asset Management Lead <u>Commitment Date:</u> December 30, 2016 |

4.1.2 Asset Management Policy

CHC does not have a documented Policy. A Policy establishes the foundation and direction for the asset management program and confirms asset management commitments and expectations for decisions, activities and behaviour. Without a Policy, there is a risk decisions may not support CHC in achieving its asset management commitments; for

example, not investing in safe and reliable capital improvements at the optimal times in the asset's lifecycle.

Benefits of a Policy include:

- Establishes corporate roles and governance for asset management;
- Provides clarity on asset management expectations; and
- Sets long term organizational asset management objectives and principles to guide the organization.

Recommendation 2

The Director establish an Asset Management Policy that aligns with long term organizational asset management objectives and sets-out expectations for decisions, activities and behaviour.

Management Response

| Action Plan | Responsibility |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>A documented Asset Management Policy will be developed for CHC-owned assets that aligns with the organization's objectives. The Asset Management Policy will be communicated to CHC staff.</p> | <p><u>Lead:</u> Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support:</u> Asset Management Lead</p> <p><u>Commitment Date:</u> December 30, 2016</p> |

4.1.3 Asset Management Risk Register

CHC does not have a comprehensive asset management risk assessment that identifies risks (e.g. asset failure) and assesses likelihood and impact (e.g. cost to repair, and social, environmental, or safety impacts). Asset management risks should be identified and assessed on an asset management risk register that includes mitigation strategies to ensure that risks, such as, safety and security of tenants are effectively managed. Other potential risks related to asset management include funding sources, labour shortages of skilled workers for capital work, and reputational risk for under-maintained buildings.

In 2014 CHC identified aging assets (majority of assets are over 35 years old) and increasing maintenance costs as two critical risks. These risks were communicated to CHC's Board and to The City's Audit Committee and were to be addressed through the asset management program. CHC has begun to mitigate these risks by determining building conditions as reported in Section 3.3. Although CHC has identified risks related to asset management there is no comprehensive asset management risk register.

Recommendation 3

CHC Director expand the identification of key risks related to asset management and develop appropriate mitigation strategies.

Management Response

| Action Plan | Responsibility |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>A risk registry will be developed for CHC-owned assets including mitigation strategies for significant risks. This work will be in alignment with the following work underway:</p> <ul style="list-style-type: none"> • Corporate Asset Management Level of Service Framework • Corporate Asset Management Integrated Infrastructure Risk Management Framework • The City's Integrated Risk Management program | <p><u>Lead:</u> Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support:</u> Asset Management Lead</p> <p><u>Commitment Date:</u> December 30, 2016</p> |

4.2 Asset Management Program

CHC does not have a documented Program. A Program should exist that aligns with the organization's SAMP and Policy. There is a risk that without a formal Program, decision-making regarding management of buildings over their lifecycle and prioritization of those activities will not align with strategic objectives defined in the SAMP.

As discussed in Section 3.0, Management have created documents outlining capital improvements and investment strategies (some in draft) and have undertaken asset related initiatives all of which are components of an effective Program. However, there is no formal Program to ensure that various asset management initiatives are coordinated and are aligned with CHC's strategic objectives.

The Program should include the "what, who, when, and how" pertaining to asset management. This section provides our high level observation regarding the need for a Program. The specifics of the "what" are under 4.3 Assets; the "who" are under 4.4 Asset Management Staff; and the "when and how" are under 4.5 Integration of Processes.

Recommendation 4

Once the Strategic Asset Management Plan has been developed, the Director develop an Asset Management Program. The Program should outline the short and long term asset management activities of the organization that will ensure achievement of the objectives set out in the Strategic Asset Management Plan.

Management Response

| Action Plan | Responsibility |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>An Asset Management Program document will be developed that provides a plan for the short and long term activities that support asset management for the CHC-owned properties. This Program will be in alignment with the following work under way:</p> <ul style="list-style-type: none"> • Infrastructure & Asset Management work plans presented to the CHC Board. • Work plans under way within The City's Corporate Asset Management group | <p><u>Lead</u>: Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support</u>: Asset Management Lead</p> <p><u>Commitment Date</u>: June 30, 2017</p> |

4.3 Assets

To effectively manage an organization's assets the organization first needs to know what they own or manage and the asset's condition. CHC has done a significant amount of work in this area as noted in Section 3.0; however, we noted opportunities to improve the completeness, security and integrity of asset information.

4.3.1 Asset Registry Completeness

All pertinent information was not included in the Asset Registry and/or lifecycle analysis spreadsheets. Information required for decision-making should be included in the Registry or Lifecycle Analysis spreadsheets to support accurate cost forecasting. At a minimum the following should be included:

- Estimated useful life of building components;
- Current condition of the building components;
- Estimated costs for lifecycle maintenance, replacement, and disposal cost; and
- Historical cost and book value.

As noted in Section 3.2, CHC is using spreadsheets for their Asset Registry and has incorporated lifecycle analysis worksheets for each CHC-owned building into the Registry. The lifecycle analysis worksheet includes the replacement cost of the building and the normal lifecycle of building components in years along with the expected replacement costs. However, we noted that disposal or demolition costs were not included and hazardous substances were not identified.

Recommendation 5

The Infrastructure and Asset Manager include hazardous substances and disposal or demolition costs in the lifecycle analysis component of the Asset Registry.

Management Response

| Action Plan | Responsibility |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>Estimates of demolition costs including disposal of hazardous material will be included in the lifecycle analysis in the asset registry for CHC-owned properties.</p> | <p><u>Lead</u>: Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support</u>: Asset Management Lead</p> <p><u>Commitment Date</u>: June 30, 2017</p> |

4.3.2 Asset Registry Maintenance

CHC has not assigned responsibility for maintaining and updating the data in the Asset Registry. Accurate and up-to-date data and information are crucial to support short and long-term decisions. If the Registry is not updated, decisions with respect to maintenance, betterment or divestiture might not result in optimizing asset use and efficiently allocating resources.

Recommendation 6

The Infrastructure and Asset Manager assign responsibility to maintain the asset data in the Asset Registry to ensure the data remains current and accurate.

Management Response

| Action Plan | Responsibility |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>Specific positions will be assigned the responsibility for the maintenance, currency and accuracy of the data in the asset registry for CHC-owned properties. These positions will be made aware of their responsibilities.</p> | <p><u>Lead</u>: Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support</u>: Asset Management Lead</p> <p><u>Commitment Date</u>: September 30, 2016</p> |

4.3.3 Asset Registry Security and Integrity

Internal controls for the Asset Registry were not in place. Controls are needed to ensure appropriate access to and integrity of the Asset Registry as an interim measure pending implementation of enterprise software. At minimum the spreadsheets should be stored in a separate folder with defined users and be password protected.

Risks to using a spreadsheet for the Registry include:

- Duplication of entries;
- Data deletion;
- Formulas changed in error;
- Unauthorized access and changes; and
- Lost data.

Recommendation 7

The Infrastructure and Asset Manager implement internal controls to protect the security and integrity of the data.

Management Response

| Action Plan | Responsibility |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>Controls will be defined and implemented that ensure data security, continuity and integrity specifically in relation to the data registry and Building Condition Assessments and other identified critical supporting data related to the asset management function for CHC-owned properties.</p> | <p><u>Lead</u>: Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support</u>: Asset Management Lead</p> <p><u>Commitment Date</u>: September 30, 2016</p> |

4.4 Asset Management Staff

Through interviews with staff, we determined that responsibilities and accountabilities for asset management activities needed to be further developed. Responsibilities and accountabilities for all staff involved in asset management activities across CHC should be defined and documented. Without a clear definition there is a risk that staff are working in silos and asset management objectives will not be achieved.

Successful implementation of any program requires having the right people to lead and to support the program and this is no different for an asset management program. Having the “right people” starts with senior leadership and includes all divisions of the organization. As discussed in Section 3.4, CHC hired staff to work on asset management. There is an opportunity to review responsibilities and accountabilities for staff involved in asset management activities throughout the organization to ensure coordination and identification of resource requirements.

Recommendation 8

Once the Strategic Asset Management Plan and Asset Management Program have been developed, the Director review the current organization structure and establish and communicate the responsibilities and accountabilities of staff involved in asset management activities.

Management Response

| Action Plan | Responsibility |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>The current organization structure will be reviewed to ensure that for functions supporting asset management for CHC-owned properties:</p> <ul style="list-style-type: none"> • Roles and responsibilities are defined • Positions are identified • Accountability is understood for each identified position • Inter-relationships with other positions are understood • Level of skills required to support identified roles and responsibilities are identified • The skills of individuals currently in identified positions are understood and assessed relative to required skill levels. Where there is a gap between current and required skills a development plan will be defined. | <p><u>Lead:</u> Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support:</u> Asset Management Lead</p> <p><u>Commitment Date:</u> December 30, 2016</p> |

4.5 Integration of Processes

Through interviews and review of projects in 2014 we noted that asset management activities have not been fully integrated across the organization. CHC should integrate asset management into the organization's processes and procedures. If proper coordination and integration are not in place across the various divisions with asset related responsibilities asset management objectives will not be achieved.

We reviewed capital projects for 2014 and identified that some of the projects were completed using operational funding. Management commented that the project list for 2014 was created in 2013 by staff in the Major Projects division not by the Asset Management team and that going forward this would not be the case. Staff will now be using BCA data to re-evaluate the proposed 2015 projects. This may result in shifts of capital for 2015 if a critical work alternative is identified. Otherwise, the capital plan for 2016 and on will be re-evaluated based on the BCA data.

We determined that processes of the Asset Management division were not fully integrated into the capital projects division's processes. There is also an opportunity to integrate asset management throughout other areas of CHC such as Finance and Procurement.

Recommendation 9

Once the Strategic Asset Management Plan and Asset Management Program have been developed, the Director integrate asset management activities into the organization's processes and procedures including Finance and Procurement.

Management Response

| Action Plan | Responsibility |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>Process documents will be developed for asset management related activities and interacting organizations defining:</p> <ul style="list-style-type: none"> • Information generation and workflows • Decision making • Roles and responsibilities <p>This process documentation will be developed and approved by all interacting organizations.</p> | <p><u>Lead:</u> Manager, Infrastructure & Asset Management, CHC</p> <p><u>Support:</u> Asset Management Lead</p> <p><u>Commitment Date:</u> June 30, 2017</p> |

5.0 Observations - City-owned and Provincially-owned Properties

CHC's roles and responsibilities for asset management for City-owned and Provincially-owned properties are not defined and documented in agreements that detail the nature, quality and scope of service to be provided. While overall asset management is the City's and Province's responsibility, as the property manager, CHC is responsible for the maintenance aspect of asset management. Expectations with respect to asset management should be defined and documented.

Clear asset management expectations support CHC's ability to prioritize activities and effectively allocate resources across the housing portfolios. CHC's role as the property manager for City-owned and Provincially-owned buildings also carries reputational risk and potential liability due to safety and security issues resulting from asset failure. The impact could be significant given aging assets in those portfolios. Although CHC is the property manager and not the owner, the building condition is a reflection on CHC and The City. Defined and documented roles and responsibilities can help to reduce risk exposure or transfer those risks to the owners.

While CHC does have operating agreements in place with stakeholders, not all aspects of asset management are part of those agreements. CHC needs to know The City's and Province's expectations relating to building management and maintenance. CHC has not defined and documented expected levels of service for all assets. BCAs have not been done for City-owned and Provincially-owned buildings in a number of years as CHC does not receive funding to perform the inspections. According to Management, information on these assets is out-of-date and incomplete. Staff are gathering information on past capital work on each building by going through records. They are including information from tenant complaints, and feedback from Project Inspectors to estimate the condition of the various components (e.g. roof, windows, and cabinets) of each building. While asset management is the owner's responsibility, strong property management

should provide the owner with information to assist with realization and preservation of asset value to support effective asset management.

Based on operating agreements, The City and the Province provide funding for operating costs which includes general repairs but not capital maintenance or improvements. For capital work CHC is expected to notify the respective property owner who then approves the work and provides funding. Documentation should be in place indicating that CHC will not be liable for any issues arising (e.g. roof collapse, or mold as a result of leaking building components) as a result of funding not being provided for work that CHC has identified as required or critical.

At the start of the audit CHC was negotiating and drafting a Service Level Agreement (SLA) with The City, which was an update to the 1994 agreement. At time of reporting, the draft SLA discussions were on hold. The draft SLA proposes funding to conduct BCA inspections every three years. We were advised that once BCAs are conducted for City-owned buildings and work is identified based on the results, CHC will provide a projected reserve fund requirement and The City will then contribute appropriate funds to support the reserve. Properties will be maintained to an agreed upon FCI level on an ongoing basis as confirmed through an annual review.

The Province appoints and authorizes CHC to manage, administer and maintain the social housing portfolio under the Alberta Housing Act and the Residential Tenancies Act. There is no detailed agreement between CHC and the Province of Alberta detailing asset management expectations. CHC indicated that they have been working with the Province to coordinate the roles and responsibilities relating to lifecycle maintenance; however, negotiations have not started.

Recommendation 10

The Director confirm, with The City, Calgary Housing Company's asset management roles and responsibilities as they pertain to City-owned property, and adjust supporting documentation accordingly.

Management Response

| Action Plan | Responsibility |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Agree.</p> <p>Together with City counterparts, CHC will document the current roles and responsibilities relating to asset management based on current operating agreements with The City. However, obtaining agreement from The City regarding the current roles and responsibilities remains outside of the control of CHC.</p> | <p><u>Lead</u>: Manager, Infrastructure and Asset Management, CHC</p> <p><u>Support</u>: Asset Management Lead</p> <p><u>Commitment Date</u>: December 30, 2016</p> |

Recommendation 11

The Director confirm, with the Province, Calgary Housing Company's asset management roles and responsibilities as they pertain to Provincially-owned property, and adjust supporting documentation accordingly.

Management Response

| Action Plan | Responsibility |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agree. Together with Provincial counterparts, CHC will document the current roles and responsibilities relating to asset management based on current operating agreements with the Province. However, obtaining agreement from the Province regarding current roles and responsibilities remains outside of the control of CHC. | <u>Lead</u> : Manager Infrastructure and Asset Management, CHC <u>Support</u> : Asset Management Lead <u>Commitment Date</u> : December 30, 2017 |

We recognize that recommendations 10 and 11 will require discussions with City and Province stakeholders. Once roles and responsibilities are defined they can be incorporated into CHC's overall asset management strategy.

Appendix A: CHC-owned Assets Criteria and Results

We assessed CHC's asset management program for CHC-owned assets against audit criterion developed based on asset management best practice. We categorized CHC's current state as either *Aware* or *Developing*, which represent the first two maturity stages of asset management development. We defined *Aware* as CHC understands or has identified the need to fulfill the criteria and there is intent to implement it; and *Developing* as CHC understands the importance of the criteria and work has begun or is progressing on implementation. Our recommendations were targeted to assist CHC focus on the key components that should be addressed next to support efficient development of an effective program.

| # | Criteria | Aware | Developing | Not Assessed | Rec. # |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|--------------|--------|
| Strategy | | | | | |
| 1. | Developed, documented, and communicated a Strategic Asset Management Plan (SAMP). | ✓ | | | 1 |
| 2. | Established an Asset Policy that is appropriate to the nature and scale of CHC's assets and operations. | ✓ | | | 2 |
| 3. | Identified and monitored risks associated with asset management, and determined mitigating actions. | ✓ | | | 3 |
| 4. | Identified and monitored legal, regulatory, and statutory requirements. | | ✓ | | |
| Program | | | | | |
| 5. | Created and documented an Asset Management Program that aligns with the Asset Policy and SAMP that includes the what, who, how and when. | | ✓ | | 4 |
| Asset (What) | | | | | |
| 6. | Created an Asset Registry of infrastructure assets that includes all pertinent information. | | ✓ | | 5 |
| 7. | Established a process to maintain the Asset Registry and ensure information is current and accurate. | ✓ | | | 6 |
| 8. | Implemented and documented controls to address appropriate access, | ✓ | | | 7 |

| # | Criteria | Aware | Developing | Not Assessed | Rec. # |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------|--------------|-----------------|
| | preservation, and integrity of the Asset Registry. | | | | |
| 9. | Identified condition assessment techniques and determined objective ratings for all critical assets. | | ✓ | | See Section 3.3 |
| 10. | Determined current building conditions and included in the Asset Registry. | | ✓ ¹² | | See Section 3.3 |
| 11. | Established and documented tenant levels of service. | | | ✓ | |
| 12. | Identified funding requirements to operate and maintain buildings and addressed potential gaps. | | ✓ | | |
| 13. | Developed and documented policy or guidelines for new acquisitions or developments incorporating the full lifecycle of the asset (cradle to grave). | | ✓ | | |
| 14. | Established performance measures, targets and reporting mechanisms. | | ✓ | | |
| People (Who) | | | | | |
| 15. | Identified roles and responsibilities for staff involved in asset management including required competencies. | ✓ | | | 8 |
| 16. | Identified staff training and development needs, with regard to asset management. | | | ✓ | |
| 17. | Succession plans have been considered for roles that are critical to asset management. | | | ✓ | |
| 18. | A culture of continuous improvement is in place. | | | ✓ | |
| Systems & Processes (How & When) | | | | | |
| 19. | Identified necessary technology to support the requirements of the Asset | ✓ | | | See Section 3.2 |

¹² CHC has recently determined building conditions for CHC-owned assets, although, processes and funding to ensure this information remains current have not been established.

| # | Criteria | Aware | Developing | Not Assessed | Rec. # |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|--------------|-----------------|
| | Registry and integration with other CHC systems. | | | | |
| 20. | Determined the method and criteria for decision making regarding the management of buildings over their lifecycle including prioritization and cost effective strategies (i.e. predictive maintenance approach versus reactive). | | ✓ | | See Section 3.5 |
| 21. | Integrated and communicated asset management processes across the organization. | ✓ | | | 9 |
| 22. | Applied effective project management strategies to ensure capital projects are completed on time and on budget. | ✓ | | | |