Appendix I

Hydro One Networks Inc Planning Status Letter

August 20, 2025

Riaz Shaikh,
Manager, Distribution System Planning
Alectra Utilities
161 Cityview Boulevard,
Vaughn, ON L4H 0A9

Via email: riaz.shaikh@alectrautilities.com

Hydro One Networks Inc.

483 Bay Street
8th Floor South Tower
Toronto, Ontario M5G 2P5

HydroOne.com

Dear Mr. Riaz,

Subject: Regional Planning Status – Alectra Utilities Service Area

This letter is in response to your request for a Planning Status letter. For the purposes of regional planning the province has been divided into 21 regions. A map showing details with respect to the 21 regions[1] and the list of Local Distribution Companies (LDCs) in each region are attached in Appendix A and B respectively. Hydro One Networks Inc. is the lead transmitter in 20 regions and Alectra Utilities' service area belongs to the Burlington to Nanticoke, GTA North, GTA West, Kitchener-Waterloo-Cambridge-Guelph (KWCG), Toronto, South Georgian Bay (SGB) / Muskoka and Niagara regions.

Alectra Utilities is connected to the following stations:

Burlington to Nanticoke: Beach TS, Birmingham TS, Dundas TS, Dundas TS #2, Elgin TS, Gage TS, Horning TS, Kenilworth TS, Lake TS, Mohawk TS, Nebo TS, Newton TS, Stirton TS and Winona TS.

GTA North: Armitage TS, Buttonville TS, Kleinburg TS, Woodbridge TS, , Markam MTS#1, Markham MTS#2, Markham MTS#3, Markham MTS#4, Richmond Hill MTS#1, Richmond Hill MTS#2, Vaughan MTS#1, Vaughan MTS#2, Vaughan MTS#3, Vaughan MTS#4, and Holland TS

GTA West: Bramalea TS, Cardiff TS, Churchill Meadows, TS Cooksville TS, Erindale TS, Lorne Park TS, Meadowvale TS, Tomken TS, Goreway TS, Pleasant TS, Jim Yarrow MTS, Richview TS, and Oakville TS.

KWCG: Campbell TS, Cedar TS, Hanlon TS, Arlen MTS, and Fergus TS

Toronto: Only embedded connection

SGB/Muskoka: Barrie TS, Midhurst TS, and Waubaushene TS

Niagara: Bunting TS, Carlton TS, Glendale TS, Vansickle TS

This letter confirms that the second cycle of the Regional Planning process for all the above regions was completed in 2023. The third regional planning cycle is currently underway. The NA for the SGB / Muskoka was kicked off in April 2025 and Niagara region will be kicked off in 2026

[1] Hydro One Regional Planning

respectively (or earlier if required). The Integrated Regional Resource Plan (IRRP) is underway for Toronto, GTA North, GTA West and KWCG regions. The final phase of the regional planning process, the Regional Infrastructure Plan (RIP) for Burlington to Nanticoke region was completed in June 2025. However, based on recent developments, the IESO will be publishing an addendum to the IRRP. All the Regional Planning reports are available on Hydro One Regional Planning website.

A summary of the regional planning status, including needs and plans currently identified in each region that affects Alectra Utilities' service area is provided below.

Burlington to Nanticoke:

- Kenilworth TS: Install capacitor bank for power factor correction. This is planned for completion in 2025.
- Beach TS: The Beach TS Autotransformer and DESN (T5/T6) Replacement project involves like-for-like replacement of 230/115 kV autotransformers (T1, T7, and T8) and DESN transformers, T5/T6. The auto transformer replacement is currently planned for completion in the near term and the T5/T6 transformer replacement is currently planned for completion in the medium-term.
- Birmingham TS: Replace Birmingham TS transformer T1 and MV switchgear to address aging infrastructure. This work is currently planned for completion in the medium term.
- Gage TS: Replace Gage TS T8/T9 DESN transformers. This work is currently planned for completion in the medium term.
- Lake TS: Transformer (T2/T3/T4) and MV Metalclad Switchgear Refurbishment. The T2 transformer replacement was completed in 2024. The T3/T4 and MV metalclad switchgear replacement is planned for completion in the medium term.
- 115kV B7/B8 Transmission Line: Refurbish line sections from Burlington TS to Nelson Junction. This work is planned for completion in 2025.
- Mohawk TS: The station capacity at Mohawk TS is expected to be exceeded in the near to medium term. This need and alternatives will be reviewed in the RIP phase of the current RP cycle.
- Nebo TS: Replace Transformers T3/T4. This work is planned for completion in the medium term.
- Nebo TS: The station capacity at Newton TS (T1/T2) 27.6kV is expected to be exceeded in the medium term. The loading at the station is being monitored and the need will be addressed in the Hamilton Addendum which is scheduled for Q3/Q4 2025.
- Newton TS: The station capacity at Newton TS is expected to be exceeded in the medium term. The loading at the station is being monitored and the need will be addressed in the Hamilton Addendum which is scheduled for Q3/Q4 2025.
- Dundas TS: There is a need for additional transformation capacity to be addressed either through building new DESN or upgrading the existing DESN to 230kV with larger transformers. This work is planned for completion in the medium term.

GTA North:

- Woodbridge TS: The 75/125 MVA T5 Transformer has been identified for replacement with a similar sized unit per the current standard. This work is planned for completion in the medium term.
- Markham MTS #5: Build Markham MTS #5 and uprate P45/P46. The new station will have two 75/125MVA, 230/27.6kV transformers. The limiting section of the 230kV circuits, P45/46, between Parkway TS and Markham MTS #4, will be uprated to provide the needed capacity. The current planned in-service date is 2028.
- Richmond Hill MTS #3: Build new Richmond Hill MTS #3 and supply from 230kV V71P and V75P circuits. The new station will have 2 x 75/125MVA, 230/27.6kV transformers and a 27.6kV switchyard. The current planned in-service date is 2030.
- Vaughan MTS#5: The new Vaughan MTS #5 was identified to provide additional step-down transformation capacity in Vaughan area and planned to be built adjacent to east of Vaughan MTS#2. The new station is planned to have 2 x75/125MVA, 230/27.6kV transformers, a 27.6kV switchgear building and will be supplied from 230kV line H82V/H83V. The current planned in-service date is 2033.
- Vaughan MTS#6: A new need to build one more station in the Vaughan area which will be called Vaughan MTS #6 to supply a new customer. The new station will have 2 x 75/125MVA, 230/27.6kV transformers and a 27.6kV switchgear building and will be supplied from the 230kV Claireville TS x Kleinburg TS line, V43/V44. The current planned in-service date is in 2027.
- New Northern York TS: Build a new TS in the area from B88H/B89H 230kV line. This area is currently supplied from Armitage TS and Holland TS, and the total area load is forecast to exceed the capacity of these existing two stations in the near term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Claireville x Brown Hill Transmission Capacity: Loading on the Claireville TS x Brown Hill TS corridor is expected to exceed supply capacity in the medium term. Alternatives to address this need will be developed and considered in the IRRP and RIP phases of the current RP cycle.

GTA West:

- Milton area transmission reinforcement: In addition to the rapid organic load growth forecasted in T38B/T39B corridor, multiple proponents have requested to connect large-scale loads in Milton area, especially in proximity to Milton SS. Majority of the requests are large data centers with combined capacity exceeding 1000MW. Due to the scale and complexity of such connections, coordinated efforts from IESO bulk system planning, Hydro One, LDCs and major customers will continue to be undertaken in developing solutions and will also be reviewed in the IRRP and RIP phases of the current RP cycle.
- H29/H30 Reconductoring: The H29/H30 Transmission Line Reconductoring project aims to increase the capacity of the existing 230 kV transmission lines to support growing demand in Brampton and surrounding areas. This project is already underway and planned for completion in 2028.
- Bramalea TS T3/T4: Replace T3/T4 230/44kV, 83MVA transformers with 125MVA units in the medium term. Balance T3/T4 load with Bramalea T5/T6 as interim solution to address station capacity need for T3/T4 DESN expected in the medium term.
- Bramalea TS T1/T2: Station capacity at Bramalea TS T1/T2 is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.

- Cardiff TS T1/T2: Station capacity at Cardiff TS T1/T2 is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Cooksville TS: Station capacity at Cooksville TS T1/T2 and T3/T4 are expected to be exceeded in the medium term due to significant load growth expected. These needs and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Erindale TS T1/T2: The station capacity at Erindale TS T1/T2 is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Jim Yarrow MTS: Station capacity at Jim Yarrow MTS (T1/T2) is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Goreway TS T5/T6: Station capacity at Goreway TS T5/T6 is expected to be exceeded in the near term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle. In the interim, available capacity from Goreway TS T1/T2 could be utilized to meet the load growth need in the area.
- Pleasant TS T5/T6: The Pleasant TS T5/T6 230/27.6kV, 75/125MVA transformers are planned for replacement in the medium term due to aging infrastructure. The T5/T6 DESN is also expected to have station capacity need in the near term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Pleasant TS T1/T2: The capacity of Pleasant TS T1/T2 DESN is expected to be slightly exceeded in the near to medium term. These transformers also require replacement and are planned for replacement with new standard transformers which have higher ratings to address the forecasted load growth.
- GTA A MTS: A new need to build one more station which will be called GTA A MTS to supply a new airport terminal. According to the SIA application, the new station is planned to have 2 x75/125MVA, 230/27.6kV transformers and will be supplied from 230kV line V41H/V42H. The projected in-service date is in 2033.
- Lorne Park TS Station Capacity and T2 Transformer Replacement: The station capacity at Lorne Park TS is expected to be moderately exceeded in the medium term. The T2 transformer also requires replacement within the medium term. The plan is to replace T2 with a new transformer per current standard that has higher ratings which will address the station capacity need.
- Tomken TS T1/T2: Replace transformers T1/T2 at Tomken TS in the medium to long term.

KWCG:

- Campbell TS: Two feeder breakers and a bus-tie breaker for 230/13.8kV T1/T2 DESN are identified for replacement in the medium term. The combined load at T1/T2 and T3/T4 DESNs is expected to exceed the station capacity at Campbell TS in the medium term. However, T3/T4 will exceed in the near term and limited options exist to transfer load between T1/T2 and T3/T4. Hydro One and Alectra will continue to monitor load levels. This need to be reviewed in the IRRP and RIP phases of the current RP cycle.
- Cedar TS: The combined load at T1/T2 and T7/T8 DESNs is expected to exceed the station capacity at Cedar TS in the near term. Hydro One and Alectra will continue to monitor load

levels. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle

Toronto:

- Leslie TS: Transformer T1 be replaced with a standard unit of the same size without dual LV voltages (i.e. a 230-27.6-27.6 kV 75/125 MVA unit). When more capacity is required at Leslie TS, the companion transformer T2 can be replaced with the same unit to provide an increase of approximately 70 MVA for the 27.6 kV supply capacity. This work is planned for completion in the medium term.
- Finch TS: The station capacity at Finch TS is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Fairchild TS: Replace transformers T1 & T3/T4 with like-for-like units in the medium term.

SGB/Muskoka:

- Midhurst TS: Replace 230/44kV, 125MVA transformer T4 transformer with a new like-for-like unit. This work is planned for completion in the medium term. Alliston TS: Replace 230/44kV, 83MVA transformers T3/T4 with new like-for-like units. This work is planned for completion in the long term.
- Waubaushene TS T5/T6: Replace 230/44kV, 83MVAtransformers T5/T6 with new 230/44kV 125MVA units in the near term.

Niagara:

- Bunting TS: Replace Bunting TS 115/13.8kV, 40/53/67 MVA T3 transformer with new like-for-like unit. This work is planned completion in the long term.
- Carlton TS T1/T2: The station capacity at Carlton TS T1/T2 DESN is expected to be exceeded in the near term. The plan is for some load to be transferred from Carlton TS to Bunting TS by 2029.
- Glendale TS: Based on asset condition assessment, replace the existing T1/T2 45/60/75 MVA transformers, with new like-for-like units. The planned in-service date is 2026.

Capital contribution is expected by Hydro One Networks Inc. from Alectra Utilities for some of the projects recommended above.

Hydro One Networks Inc. would like to acknowledge and thank you for your work and effort in support of the Regional Planning process. We look forward to continuing to work with you in the future. If you have any further questions, please feel free to contact me.

Sincerely,



Ajay Garg,
Senior Manager, System Planning & Regional Planning Coordination

Hydro One Networks Inc.
Tel: (647) 242-2105

ajay.garg@HydroOne.com

Appendix A: Map of Ontario's Planning Regions

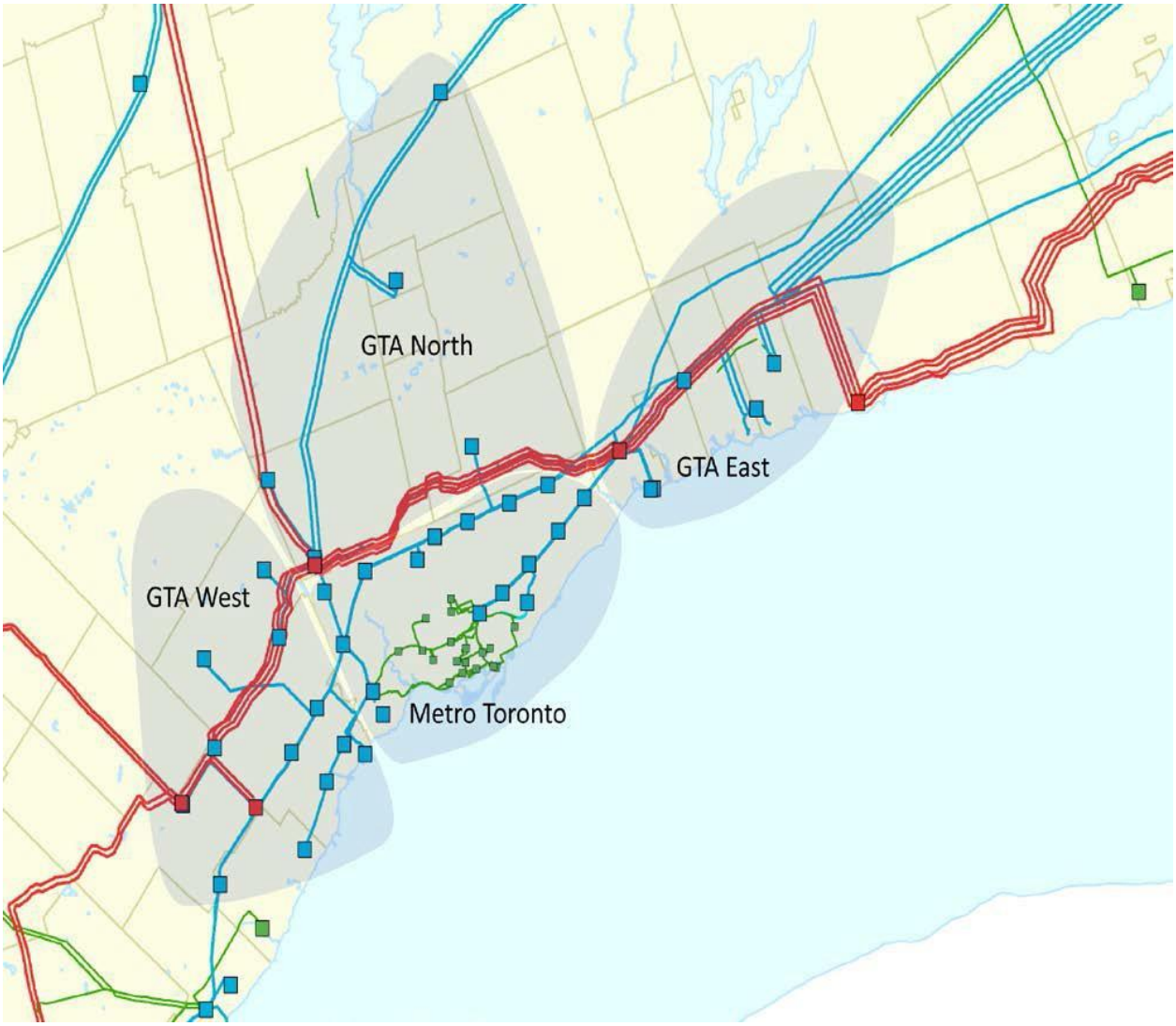
Northern Ontario



Southern Ontario



Greater Toronto Area (GTA)



Appendix B: List of LDCs for Each Region

[Hydro One as Upstream Transmitter]

Hydro One Networks Inc.
483 Bay Street
8th Floor South Tower
Toronto, Ontario M5G 2P5
HydroOne.com

Region	LDCs
1. Burlington to Nanticoke	• Burlington Hydro Inc. • GrandBridge Energy Inc. (Formerly Energy+ and Brantford Power) • Alectra Utilities Corporation (Formerly Horizon Utilities Inc.) • Hydro One Networks Inc. (Distribution) • Oakville Hydro Electricity Distribution Inc.
2. Greater Ottawa	• Hydro 2000 Inc. • Hydro Ottawa Limited • Hydro Hawkesbury Inc. • Ottawa River Power Corporation • Hydro One Networks Inc. (Distribution) • Renfrew Hydro Inc
3. GTA North	• Alectra Utilities Co. • Hydro One Networks Inc. (Distribution) • Newmarket-Tay Power Distribution Ltd. • Toronto Hydro Electric System Limited
4. GTA West	• Burlington Hydro Inc. • Hydro One Networks Inc. (Distribution) • Alectra Utilities Co. • Milton Hydro Distribution Inc. • Halton Hills Hydro Inc. • Oakville Hydro Electricity Distribution Inc.
5. Kitchener- Waterloo-Cambridge-Guelph (“KWCG”)	• Alectra Utilities Corporation. • Enova Power Corporation. • Grandbridge Energy Inc. • Centre Wellington Hydro Ltd. • Hydro One Networks Inc. (Distribution) • Halton Hills Hydro Inc. • Wellington North Power Inc.

6. Toronto	• Alectra Utilities • Elexicon Energy Inc. • Hydro One Networks Inc. (Distribution) • Toronto Hydro Electric System Limited
7. Northwest Ontario	• Atikokan Hydro Inc. • Fort Frances Power Corporation • Hydro One Networks Inc. (Distribution) • Synergy North • Sioux Lookout Hydro Inc.
8. Windsor-Essex	• E.L.K. Energy Inc. • Entegrus Powerlines Inc. (Chatham-Kent) • EnWin Utilities Ltd. • Essex Powerlines Corporation • Hydro One Networks Inc. (Distribution)
9. East Lake Superior [Hydro One Sault Ste. Marie L.P. is the Lead Transmitter for the region]	• Algoma Power Inc. • Hydro One Networks Inc. (Distribution) • PUC Distribution
10. GTA East	• Elexicon Energy Inc. • Oshawa PUC Networks Inc. • Hydro One Networks Inc. (Distribution)
11. London Area	• Entegrus Powerlines Inc. • ERTH Power Inc. • Hydro One Networks Inc. (Distribution) • London Hydro Inc. • Tillsonburg Hydro Inc.
12. Peterborough to Kingston	• Eastern Ontario Power Inc. • Elexicon Energy Inc. • Hydro One Networks Inc. (Distribution) • Kingston Hydro Corporation • Lakefront Utilities Inc.

13. South Georgian Bay/Muskoka	• Hydro One Networks Inc. (Distribution) • Alectra Utilities • InnPower • Orangeville Hydro • Elexicon Energy • Lakeland Power • EPCOR Electricity Dist. Ontario Inc. • Newmarket-Tay Power Distribution Ltd. • Wasaga Distribution Inc.
14. Sudbury/Algoma	• Greater Sudbury Hydro Inc. • North Bay Hydro • Hydro One Networks Inc. (Distribution)
15. Chatham-Kent/Lambton/Sarnia	• Bluewater Power Distribution Corporation • Entegrus Power Lines Inc. (Chatham-Kent) • Hydro One Networks Inc. (Distribution)
16. Greater Bruce/Huron	• Entegrus Powerlines Inc. • ERTH Power Corporation • Hydro One Networks Inc. (Distribution) • Festival Hydro Inc. • Wellington North Power Inc. • Westario Power Inc.
17. Niagara	• Canadian Niagara Power Inc. [Port Colborne] • Hydro One Networks Inc. (Distribution) • Grimsby Power Inc. • Niagara Peninsula Energy Inc. • Niagara-On-The-Lake Hydro Inc. • Alectra Utilities Co. • Welland Hydro-Electric System Corporation
18. North of Moosonee [Five Nations Energy Inc (FNEI) is the Lead Transmitter for the region]	• Distribution in this region is provided by FNEI

19. North/East of Sudbury	• Northern Ontario Wires Inc. • Hearst Power Distribution Company Limited • North Bay Hydro Distribution Ltd. • Hydro One Networks Inc. (Distribution) • Greater Sudbury Hydro Inc.
20. Renfrew	• Hydro One Networks Inc. (Distribution) • Ottawa River Power Corporation
21. St. Lawrence	• Cooperative Hydro Embrun Inc. • Hydro One Networks Inc. (Distribution) • Rideau St. Lawrence Distribution Inc.

August 18, 2025

Riaz Shaikh,
Manager, Distribution System Planning
Alectra Utilities
161 Cityview Boulevard,
Vaughn, ON L4H 0A9

Via email: riaz.shaikh@alectrautilities.com

Dear Mr. Riaz,

Subject: Regional Planning Status – Alectra Utilities Service Area

This letter is in response to your request for a Planning Status letter. For the purposes of regional planning the province has been divided into 21 regions. A map showing details with respect to the 21 regions[2] and the list of Local Distribution Companies (LDCs) in each region are attached in Appendix A and B respectively. Hydro One Networks Inc. is the lead transmitter in 20 regions and Alectra Utilities' service area belongs to the Burlington to Nanticoke, GTA North, GTA West, Kitchener-Waterloo-Cambridge-Guelph (KWCG), Toronto, South Georgian Bay (SGB) / Muskoka and Niagara regions.

Alectra Utilities is connected to the following stations:

Burlington to Nanticoke: Beach TS, Birmingham TS, Dundas TS, Dundas TS #2, Elgin TS, Gage TS, Horning TS, Kenilworth TS, Lake TS, Mohawk TS, Nebo TS, Newton TS, Stirton TS and Winona TS.

GTA North: Armitage TS, Buttonville TS, Kleinburg TS, Woodbridge TS, , Markam MTS#1, Markham MTS#2, Markham MTS#3, Markham MTS#4, Richmond Hill MTS#1, Richmond Hill MTS#2, Vaughan MTS#1, Vaughan MTS#2, Vaughan MTS#3, Vaughan MTS#4, and Holland TS

GTA West: Bramalea TS, Cardiff TS, Churchill Meadows, TS Cooksville TS, Erindale TS, Lorne Park TS, Meadowvale TS, Tomken TS, Goreway TS, Pleasant TS, Jim Yarrow MTS, Richview TS, and Oakville TS.

KWCG: Campbell TS, Cedar TS, Hanlon TS, Arlen MTS, and Fergus TS

Toronto: Only embedded connection
SGB/Muskoka: Barrie TS, Midhurst TS, and Waubaushene TS
Niagara: Bunting TS, Carlton TS, Glendale TS, Vansickle TS

This letter confirms that the second cycle of the Regional Planning process for all the above regions

[2] Hydro One Regional Planning

was completed in 2023. The third regional planning cycle is currently underway. The NA for the SGB / Muskoka and Niagara regions will be kicked off in 2025 and 2026 respectively (or earlier if required). The Integrated Regional Resource Plan (IRRP) is underway for Toronto, GTA North, GTA West and KWCG regions. The final phase of the regional planning process, the Regional Infrastructure Plan (RIP) is underway for Burlington to Nanticoke region and expected to be complete by June 2025. All the Regional Planning reports are available on Hydro One Regional Planning website.

A summary of the regional planning status, including needs and plans currently identified in each region that affects Alectra Utilities' service area is provided below.

Burlington to Nanticoke:

- Kenilworth TS: Install capacitor bank for power factor correction. This is planned for completion in 2025.
- Beach TS: The Beach TS Autotransformer and DESN (T5/T6) Replacement project involves like-for-like replacement of 230/115 kV autotransformers (T1, T7, and T8) and DESN transformers, T5/T6. The auto transformer replacement is currently planned for completion in the near term and the T5/T6 transformer replacement is currently planned for completion in the medium-term.
- Birmingham TS: Replace Birmingham TS transformer T1 and MV switchgear to address aging infrastructure. This work is currently planned for completion in the medium term.
- Gage TS: Replace Gage TS T8/T9 DESN transformers. This work is currently planned for completion in the medium term.
- Lake TS: Transformer (T2/T3/T4) and MV Metalclad Switchgear Refurbishment. The T2 transformer replacement was completed in 2024. The T3/T4 and MV metalclad switchgear replacement is planned for completion in the medium term.
- 115kV B7/B8 Transmission Line: Refurbish line sections from Burlington TS to Nelson Junction. This work is planned for completion in 2025.
- Mohawk TS: The station capacity at Mohawk TS is expected to be exceeded in the near to medium term. This need and alternatives will be reviewed in the RIP phase of the current RP cycle.
- Nebo TS: Replace Transformers T3/T4. This work is planned for completion in the medium term.
- Nebo TS: The station capacity at Newton TS (T1/T2) 27.6kV is expected to be exceeded in the medium term. This need will be addressed in the Hamilton Addendum which is scheduled for Q2 2025.Newton TS: The station capacity at Newton TS is expected to be exceeded in the medium term. This need will be addressed in the Hamilton Addendum which is scheduled for Q2 2025.
- Dundas TS: There is a need for additional transformation capacity to be addressed either through building new DESN or upgrading the existing DESN to 230kV with larger transformers. This work is planned for completion in the medium term.

GTA North:

- Woodbridge TS: The 75/125 MVA T5 Transformer has been identified for replacement with a similar sized unit per the current standard. This work is planned for completion in the medium term.
- Markham MTS #5: Build Markham MTS #5 and uprate P45/P46. The new station will have two 75/125MVA, 230/27.6kV transformers. The limiting section of the 230kV circuits, P45/46, between Parkway TS and Markham MTS #4, will be uprated to provide the needed capacity. The current planned in-service date is 2028.
- Richmond Hill MTS #3: Build new Richmond Hill MTS #3 and supply from 230kV V71P and V75P circuits. The new station will have 2 x 75/125MVA, 230/27.6kV transformers and a 27.6kV switchyard. The current planned in-service date is 2030.
- Vaughan MTS#5: The new Vaughan MTS #5 was identified to provide additional step-down transformation capacity in Vaughan area and planned to be built adjacent to east of Vaughan MTS#2. The new station is planned to have 2 x75/125MVA, 230/27.6kV transformers, a 27.6kV switchgear building and will be supplied from 230kV line H82V/H83V. The current planned in-service date is 2033.
- Vaughan MTS#6: A new need to build one more station in the Vaughan area which will be called Vaughan MTS #6 to supply a new customer. The new station will have 2 x 75/125MVA, 230/27.6kV transformers and a 27.6kV switchgear building and will be supplied from the 230kV Claireville TS x Kleinburg TS line, V43/V44. The current planned in-service date is in 2027.
- New Northern York TS: Build a new TS in the area from B88H/B89H 230kV line. This area is currently supplied from Armitage TS and Holland TS, and the total area load is forecast to exceed the capacity of these existing two stations in the near term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Claireville x Brown Hill Transmission Capacity: Loading on the Claireville TS x Brown Hill TS corridor is expected to exceed supply capacity in the medium term. Alternatives to address this need will be developed and considered in the IRRP and RIP phases of the current RP cycle.

GTA West:

- Milton area transmission reinforcement: In addition to the rapid organic load growth forecasted in T38B/T39B corridor, multiple proponents have requested to connect large-scale loads in Milton area, especially in proximity to Milton SS. Majority of the requests are large data centers with combined capacity exceeding 1000MW. Due to the scale and complexity of such connections, coordinated efforts from IESO bulk system planning, Hydro One, LDCs and major customers will continue to be undertaken in developing solutions and will also be reviewed in the IRRP and RIP phases of the current RP cycle.
- H29/H30 Reconductoring: The H29/H30 Transmission Line Reconductoring project aims to increase the capacity of the existing 230 kV transmission lines to support growing demand in Brampton and surrounding areas. This project is already underway and planned for completion in 2028.
- Bramalea TS T3/T4: Replace T3/T4 230/44kV, 83MVA transformers with 125MVA units in the medium term. Balance T3/T4 load with Bramalea T5/T6 as interim solution to address station capacity need for T3/T4 DESN expected in the medium term.
- Bramalea TS T1/T2: Station capacity at Bramalea TS T1/T2 is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.

- Cardiff TS T1/T2: Station capacity at Cardiff TS T1/T2 is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Cooksville TS: Station capacity at Cooksville TS T1/T2 and T3/T4 are expected to be exceeded in the medium term due to significant load growth expected. These needs and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Erindale TS T1/T2: The station capacity at Erindale TS T1/T2 is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Jim Yarrow MTS: Station capacity at Jim Yarrow MTS (T1/T2) is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Goreway TS T5/T6: Station capacity at Goreway TS T5/T6 is expected to be exceeded in the near term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle. In the interim, available capacity from Goreway TS T1/T2 could be utilized to meet the load growth need in the area.
- Pleasant TS T5/T6: The Pleasant TS T5/T6 230/27.6kV, 75/125MVA transformers are planned for replacement in the medium term due to aging infrastructure. The T5/T6 DESN is also expected to have station capacity need in the near term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Pleasant TS T1/T2: The capacity of Pleasant TS T1/T2 DESN is expected to be slightly exceeded in the near to medium term. These transformers also require replacement and are planned for replacement with new standard transformers which have higher ratings to address the forecasted load growth.
- Pearson CTS: A new need to build one more station which will be called Pearson CTS to supply a new airport terminal. The new station is planned to have 2 x75/125MVA, 230/27.6kV transformers and will be supplied from 230kV line V41H/V42H. The current planned in-service date is 2033.
- Lorne Park TS Station Capacity and T2 Transformer Replacement: The station capacity at Lorne Park TS is expected to be moderately exceeded in the medium term. The T2 transformer also requires replacement within the medium term. The plan is to replace T2 with a new transformer per current standard that has higher ratings which will address the station capacity need.
- Tomken TS T1/T2: Replace transformers T1/T2 at Tomken TS in the medium to long term.

KWCG:

- Campbell TS: Two feeder breakers and a bus-tie breaker for 230/13.8kV T1/T2 DESN are identified for replacement in the medium term. The combined load at T1/T2 and T3/T4 DESNs is expected to exceed the station capacity at Campbell TS in the medium term. However, T3/T4 will exceed in the near term and limited options exist to transfer load between T1/T2 and T3/T4. Hydro One and Alectra will continue to monitor load levels. This need to be reviewed in the IRRP and RIP phases of the current RP cycle.
- Cedar TS: The combined load at T1/T2 and T7/T8 DESNs is expected to exceed the station capacity at Cedar TS in the near term. Hydro One and Alectra will continue to monitor load

levels. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle

Toronto:

- Leslie TS: Transformer T1 be replaced with a standard unit of the same size without dual LV voltages (i.e. a 230-27.6-27.6 kV 75/125 MVA unit). When more capacity is required at Leslie TS, the companion transformer T2 can be replaced with the same unit to provide an increase of approximately 70 MVA for the 27.6 kV supply capacity. This work is planned for completion in the medium term.
- Finch TS: The station capacity at Finch TS is expected to be exceeded in the medium term. This need and alternatives will be reviewed in the IRRP and RIP phases of the current RP cycle.
- Fairchild TS: Replace transformers T1 & T3/T4 with like-for-like units in the medium term.

SGB/Muskoka:

- Midhurst TS: Replace 230/44kV, 125MVA transformer T4 transformer with a new like-for-like unit. This work is planned for completion in the medium term. Alliston TS: Replace 230/44kV, 83MVA transformers T3/T4 with new like-for-like units. This work is planned for completion in the long term.
- Waubaushene TS T5/T6: Replace 230/44kV, 83MVAtransformers T5/T6 with new 230/44kV 125MVA units in the near term.

Niagara:

- Bunting TS: Replace Bunting TS 115/13.8kV, 40/53/67 MVA T3 transformer with new like-for-like unit. This work is planned completion in the long term.
- Carlton TS T1/T2: The station capacity at Carlton TS T1/T2 DESN is expected to be exceeded in the near term. The plan is for some load to be transferred from Carlton TS to Bunting TS by 2029.
- Glendale TS: Based on asset condition assessment, replace the existing T1/T2 45/60/75 MVA transformers, with new like-for-like units. The planned in-service date is 2026.

Capital contribution is expected by Hydro One Networks Inc. from Alectra Utilities for some of the projects recommended above.

Hydro One Networks Inc. would like to acknowledge and thank you for your work and effort in support of the Regional Planning process. We look forward to continuing to work with you in the future. If you have any further questions, please feel free to contact me.

Sincerely,



Ajay Garg,
Senior Manager, System Planning & Regional Planning Coordination

Hydro One Networks Inc.
Tel: (647) 242-2105

ajay.garg@HydroOne.com

Appendix A: Map of Ontario's Planning Regions

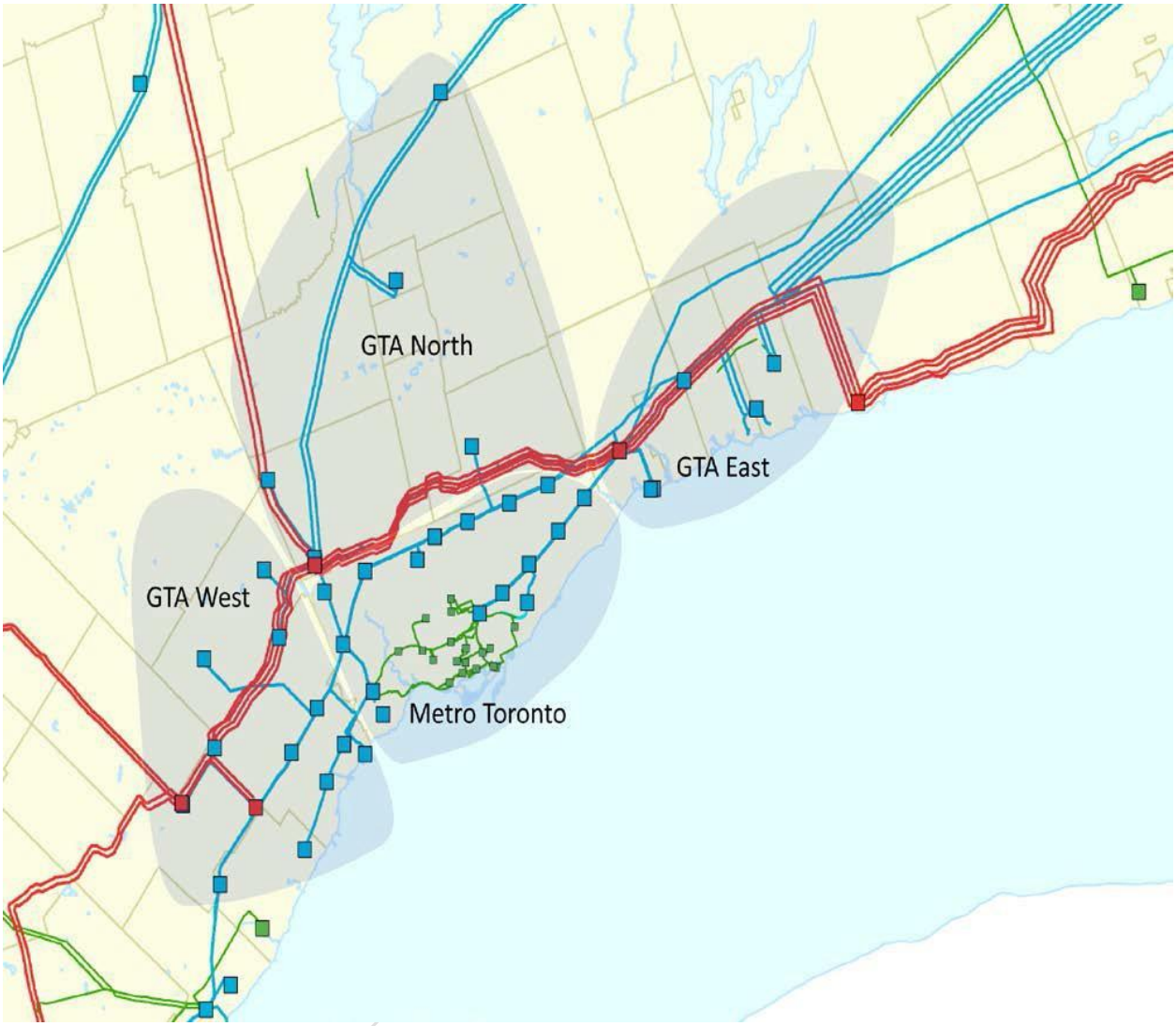
Northern Ontario



Southern Ontario



Greater Toronto Area (GTA)



Appendix B: List of LDCs for Each Region

[Hydro One as Upstream Transmitter]

Region	LDCs
1. Burlington to Nanticoke	• Burlington Hydro Inc. • GrandBridge Energy Inc. (Formerly Energy+ and Brantford Power) • Alectra Utilities Corporation (Formerly Horizon Utilities Inc.) • Hydro One Networks Inc. (Distribution) • Oakville Hydro Electricity Distribution Inc.
2. Greater Ottawa	• Hydro 2000 Inc. • Hydro Ottawa Limited • Hydro Hawkesbury Inc. • Ottawa River Power Corporation • Hydro One Networks Inc. (Distribution) • Renfrew Hydro Inc
3. GTA North	• Alectra Utilities Co. • Hydro One Networks Inc. (Distribution) • Newmarket-Tay Power Distribution Ltd. • Toronto Hydro Electric System Limited
4. GTA West	• Burlington Hydro Inc. • Hydro One Networks Inc. (Distribution) • Alectra Utilities Co. • Milton Hydro Distribution Inc. • Halton Hills Hydro Inc. • Oakville Hydro Electricity Distribution Inc.
5. Kitchener- Waterloo-Cambridge-Guelph (“KWCG”)	• Alectra Utilities Corporation. • Enova Power Corporation. • Grandbridge Energy Inc. • Centre Wellington Hydro Ltd. • Hydro One Networks Inc. (Distribution) • Halton Hills Hydro Inc. • Wellington North Power Inc.

6. Toronto	• Alectra Utilities • Elexicon Energy Inc. • Hydro One Networks Inc. (Distribution) • Toronto Hydro Electric System Limited
7. Northwest Ontario	• Atikokan Hydro Inc. • Fort Frances Power Corporation • Hydro One Networks Inc. (Distribution) • Synergy North • Sioux Lookout Hydro Inc.
8. Windsor-Essex	• E.L.K. Energy Inc. • Entegrus Powerlines Inc. (Chatham-Kent) • EnWin Utilities Ltd. • Essex Powerlines Corporation • Hydro One Networks Inc. (Distribution)
9. East Lake Superior [Hydro One Sault Ste. Marie L.P. is the Lead Transmitter for the region]	• Algoma Power Inc. • Hydro One Networks Inc. (Distribution) • PUC Distribution
10. GTA East	• Elexicon Energy Inc. • Oshawa PUC Networks Inc. • Hydro One Networks Inc. (Distribution)
11. London Area	• Entegrus Powerlines Inc. • ERTH Power Inc. • Hydro One Networks Inc. (Distribution) • London Hydro Inc. • Tillsonburg Hydro Inc.
12. Peterborough to Kingston	• Eastern Ontario Power Inc. • Elexicon Energy Inc. • Hydro One Networks Inc. (Distribution) • Kingston Hydro Corporation • Lakefront Utilities Inc.

13. South Georgian Bay/Muskoka	• Hydro One Networks Inc. (Distribution) • Alectra Utilities • InnPower • Orangeville Hydro • Elexicon Energy • Lakeland Power • EPCOR Electricity Dist. Ontario Inc. • Newmarket-Tay Power Distribution Ltd. • Wasaga Distribution Inc.
14. Sudbury/Algoma	• Greater Sudbury Hydro Inc. • North Bay Hydro • Hydro One Networks Inc. (Distribution)
15. Chatham-Kent/Lambton/Sarnia	• Bluewater Power Distribution Corporation • Entegrus Power Lines Inc. (Chatham-Kent) • Hydro One Networks Inc. (Distribution)
16. Greater Bruce/Huron	• Entegrus Powerlines Inc. • ERTH Power Corporation • Hydro One Networks Inc. (Distribution) • Festival Hydro Inc. • Wellington North Power Inc. • Westario Power Inc.
17. Niagara	• Canadian Niagara Power Inc. [Port Colborne] • Hydro One Networks Inc. (Distribution) • Grimsby Power Inc. • Niagara Peninsula Energy Inc. • Niagara-On-The-Lake Hydro Inc. • Alectra Utilities Co. • Welland Hydro-Electric System Corporation
18. North of Moosonee [Five Nations Energy Inc (FNEI) is the Lead Transmitter for the region]	• Distribution in this region is provided by FNEI

19. North/East of Sudbury	• Northern Ontario Wires Inc. • Hearst Power Distribution Company Limited • North Bay Hydro Distribution Ltd. • Hydro One Networks Inc. (Distribution) • Greater Sudbury Hydro Inc.
20. Renfrew	• Hydro One Networks Inc. (Distribution) • Ottawa River Power Corporation
21. St. Lawrence	• Cooperative Hydro Embrun Inc. • Hydro One Networks Inc. (Distribution) • Rideau St. Lawrence Distribution Inc.

Appendix J

Load Forecast & System Adequacy Assessment Report



Load Forecast & System Capacity Adequacy Assessment Report

10-Year Outlook (2024-2034)

Page intentionally left blank.

Table of Contents

Executive Summary ..... **i**
1. Introduction **1**
1.1. Alectra Utilities Planning Areas 2
2. 2023 Alectra Utilities System Review **4**
2.1 2023 Weather Data Analysis 4
2.2 Regression of Peak Demand vs. Temperature 7
2.2.1 Simcoe Planning Zone 7
2.2.2 York Planning Zone 9
2.2.3 Central (North) Planning Zone 11
2.2.4 Central (South) Planning Zone 12
2.2.5 West Planning Zone 13
2.2.6 Southwest Planning Zone 15
2.3 Weather Correction 15
2.4 Global Adjustment Impact 16
3. Peak Demand Projection 2024-2034 ..... **18**
3.1 Load Forecast Process 18
3.2 End-Use Analysis 19
3.3 Population, Housing, and Employment Growth 20
3.3.1 Simcoe County Region 20
3.3.2 York Planning Zone 21
3.3.3 Central (North) Planning Zone 25
3.3.4 Central (South) Planning Zone 26
3.3.5 West Planning Zone 28
3.3.6 Southwest Planning Zone 29
3.4 Future CDM Impact 30
3.5 Future DER (Non-Wires Alternatives) Impact 31
3.6 Future Electric Vehicles (EV) Impact 32
3.7 Non-Coincident Summer Peak Load Forecast 39
3.7.1 Non-Coincident Summer Peak Load Forecast with CDM 39
3.7.2 Non-Coincident Summer Peak Load Forecast with CDM and EV 40
3.8 Non-Coincident Winter Peak Load Forecast 41
3.8.1 Non-Coincident Winter Peak Load Forecast with CDM 41

3.8.2 Non-Coincident Winter Peak Load Forecast with CDM and EV 42
3.8.3 Non-Coincident Winter Peak Load Forecast with CDM, EV, and Decarbonization 43
4. System Capacity Adequacy Assessment....50
4.1 York Planning Zone 50
4.1.1 York....50
4.1.2 Aurora....60
4.2 Simcoe Planning Zone....61
4.2.1 New Tecumseth....61
4.2.2 Barrie....65
4.2.3 Bradford....72
4.3 Central South - Mississauga 76
4.3.1 Mississauga Downtown 76
4.3.2 Mississauga (North)....79
4.3.3 Mississauga (South) 82
4.4 Central (North) - Brampton....88
4.4.1 Brampton (East)....91
4.4.2 Brampton (West)....95
4.5 West Region - Hamilton 99
4.6 Southwest Region - Guelph 106
References 112
Appendix A – Population, Housing, and Employment Growth 113

List of Tables

Table 1. Alectra Utilities' Operating Areas 2

Table 2. Number of Days Over 30º C in 2023 4

Table 3. No. of Occurrence with 3-day WA exceeding 30º C in 2023 4

Table 4. 3-day WMA temperatures, 1984-2023 7

Table 5. Weather System Peak Correction for Each Planning Zone, 2023 16

Table 6. Customer Participation in the Industrial Conservation Initiative and Resulted Peak Demand Reduction 17

Table 7. Projected Cumulative EV in Alectra Utilities' Service Territory 34

Table 8. Three Types of EV chargers 35

Table 9. EV Charging Equipment Capacity Forecast in Alectra Utilities' Service Territory, (MW), 2024-2034 36

Table 10. Winter Decarbonization Assumptions 43

Table 11. LTR Capacity with Existing and Forecast Load for Markham and Richmond Hill, 2024-2034 51

Table 12. LTR Capacity with Existing and Forecast Load for the City of Vaughan's TSs, 2024-2034 58

Table 13. Alliston 10-Year Load Growth Projection 13.8kV MSs, 2024-2034 63

Table 14. Transformer Station Capacity Allocation Chart in the City of Barrie 65

Table 15. Barrie 10-Year Load Growth Projection for 13.8kV Substations 67

Table 16. Bradford 10-Year Load Growth Projection, 2024-2034 75

Table 17. Downtown Mississauga Station Loading, 2024-2034 77

Table 18. LTR Capacity with Existing and Forecast Load for Mississauga North TSs, 2024-2034 79

Table 19. LTR Capacity with Existing and Forecast Load for Mississauga South TSs, 2024 - 2034 84

Table 20. LTR Capacity with Existing and Forecast Load for Brampton East TSs, 2024 - 2034 92

Table 21. LTR Capacity with Existing and Forecast Load for Brampton West TSs, 2024-2034 95

Table 22. LTR Capacity with Existing and Forecast Load for South – East Hamilton TSs, 2024-2034 101

Table 23. LTR Capacity with Existing and Forecasted Load for Newtwon TS in Hamilton North-West, 2024-2033 103

Table 24. LTR and Existing Capacity and Load Forecast Load for Guelph TSs, 2024-2034 ... 110

List of Figures

Figure 1. Alectra Utilities' Service Territory 1
Figure 2. Ranking of 3-day WMA high temperatures (Pearson Airport) 6
Figure 3.Simcoe Planning Zone Summer Peak vs. Temperature, 2023 8
Figure 4. York Planning Summer Peak vs. Temperature 9
Figure 5. York Planning Zone (Aurora) Summer Peak vs. Temperature, 2023 10
Figure 6. Central (North) Planning Zone Region Summer Peak vs. Temperature, 2023 11
Figure 7. Central (South) Planning Zone Summer Peak vs. Temperature, 2023 12
Figure 8. West Planning Zone (Hamilton) Summer Peak vs. Temperature, 2023 13
Figure 9. West Planning Zone (St. Catharines) Region Summer Peak vs. Temperature, 2023 14
Figure 10. Southwest Planning Zone Summer Peak vs. Temperature 15
Figure 11. Alectra Utilities Annual Load Forecast Process 18
Figure 12. Total CDM Projection 2024-2044 based on IESO IRRP reports 30
Figure 13. DER Forecast with Historical Actuals, 2019 - 2034 31
Figure 14. Projected Cumulative EVs in Alectra Utilities' Service Territory 34
Figure 15. EV Charging Equipment Capacity Forecast in Alectra Utilities' Service Territory, 2024-2034 36
Figure 16. EV Charging Load Peak Demand – Alectra Utilities' Service Area, 2024-2034 37
Figure 17. Non-Coincident Summer Peak Load Forecast with EV, 2024-2034 38
Figure 18. Non-Coincident Summer Peak Load Forecast with CDM, 2024-2034 39
Figure 19. Non-Coincident Summer Peak Load Forecast with CDM and EV, 2024-2034 40
Figure 20. Non-Coincident Winter Peak Load Forecast with CDM, 2024-2034 41
Figure 21. Non-Coincident Winter Peak Load Forecast with CDM and EV, 2024-2034 42
Figure 22. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit (MW), ... 44
Figure 23. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit (MW), ... 45
Figure 24. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit, ... 46
Figure 25. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit (MW), ... 47
Figure 26. Non-Coincident Winter System Peak vs. Summer Peak, Medium Scenario, (1-in-2) 48
Figure 27. Non-Coincident Winter System Peak vs. Summer Peak Medium Scenario, (1-in-10) 49
Figure 28. Load vs. LTR for Markham and Richmond Hill (2024-2034) 52
Figure 29. The Yonge North Subway Extension 55

Figure 30. Yonge Steeles Secondary Plan [12] 56
Figure 31. York Region Station - Vaughan, Ongoing Expansions and Growth Expected to 2035 57
Figure 32. Load vs. LTR for Vaughan (2024-2034) 58
Figure 33. Population & Employment Initial Target vs. Current Trend for VMC 60
Figure 34. Town of Alliston & Associated Commercial Developments 63
Figure 35. Overview of the City of Barrie's Development Areas 66
Figure 36. Overview of Barrie Downtown Development Areas 70
Figure 37. Town of Bradford Proposed Developments 74
Figure 38. City of Mississauga Downtown Core 76
Figure 39. Downtown Mississauga Concept Plan 78
Figure 40. Load vs. LTR for Mississauga-North (2024-2034) 80
Figure 41. Hurontario-Eglinton Concept Plan 81
Figure 42. Load vs. LTR for Mississauga-South (2024-2034) 85
Figure 43. Lakeview Village Concept Plan 86
Figure 44. Lakeview Village Phasing Plan 87
Figure 45. Brampton Secondary Plan Area 89
Figure 46. Brampton 2040 Vision Plan 90
Figure 47. Brampton Region Stations, Ongoing Expansions and Growth Expected to 2035 91
Figure 48. Load vs. LTR for Brampton-East (2024-2034) 92
Figure 49. Countryside Villages Development 94
Figure 50. Load vs. LTR for Brampton-West (2024-2034) 96
Figure 51. Heritage Heights Development Plan 97
Figure 52. Hamilton Secondary Plan 99
Figure 53. Hamilton Region Stations, Ongoing Expansions and Growth Expected to 2035 101
Figure 54 Load vs. LTR for Hamilton-South West (2024-2034) 102
Figure 55. Load vs. LTR for Hamilton-North West (2024-2034) 103
Figure 56. Hamilton Newton TS Area 105
Figure 57 Guelph Downtown Secondary Plan [17] 106
Figure 58. Guelph Region Stations, Ongoing Expansions and Growth Expected to 2034 108
Figure 59. Campbell and Cedar Stations Guelph North 109
Figure 60. Load vs. LTR for Guelph (2024-2034) 110

Executive Summary

This report provides a comprehensive 10-year forecast of peak demand (2024–2034) and system capacity adequacy assessment for the Alectra Utilities' (Alectra . This analysis considers historical system loading, regional population and employment growth, weather correction, Conservation Demand Management (CDM), including energy efficiency, Distributed Energy Resources (DER) impacts, Global Adjustment (GA) Impact, transportation and building heating electrification. The results inform future infrastructure planning and investments to ensure Alectra Utilities continues to deliver safe and reliable electricity to its customers across its entire service territory.

Alectra Utilities applied "end-use analysis" methodology with the weather correction to forecast coincident peak demand. This forecast methodology incorporates regional growth in population, housing, and employment at the regional level for each of the regions that Alectra Utilities services. The information sources included third-party reports such as municipal long-term planning reports, provincial population reports, employment growth projections, municipal energy plans, and development applications. The peak demand is a composite of residential, Industrial, Commercial, and Institutional (ICI) demands. The results of the analysis were completed for two weather scenarios: Normal (1-in-2) and Extreme (1-in-10). Alectra Utilities load forecasting process is aligned with Ontario Energy Board (OEB) Regional Planning Process Advisory Group (RPPAG) Load Forecast Guideline.

Alectra Utilities selected 2023 as the forecast starting point which is the last historical year before the 2024-2034 forecast period. A review of 2023 utility system performance highlights year-over-year variations in peak demand, influenced primarily by weather conditions. Detailed weather analysis and regression modelling were applied to determine the weather corrected starting point.

The key drivers of future peak demand include organic growth comprising of residential development and ICI growth, data centre expansion driven by artificial intelligence (AI), data storage and cloud computing, transportation electrification and decarbonization of building heating. Separate forecasts are presented for non-coincident summer and winter peaks, with and without the impacts of CDM, DERs, electric vehicles (EV)s and decarbonization of building heating. The effect of the GA on system peak was examined and incorporated into the analysis.

Alectra Utilities will maintain a summer-peaking load profile over the 10-year forecast period. By 2034, the Summer Peak demand is projected to increase to 7,845MW and 8,217MW based on

(1-in-2) and (1-in-10) weather scenarios, respectively. The winter peak is forecasted to reach 6,654MW and 6,925MW based on (1-in-2) and (1-in-10) weather scenarios, respectively.

The EV charging load is expected to grow; reaching approximately 12% of the total system peak load by 2034. The CDM and DERs are expected to temper the net increase in peak demand. By 2034, Alectra Utilities is forecasting 242MW of peak demand savings due to CDM initiatives with additional 170MW from DERs.

A System Capacity Adequacy Assessment compares forecasted non-coincident peak demand against existing stations and distribution system capacity. Alectra Utilities elected the 1-in-10 weather scenario as basis for analyzing system capacity needs. Planning standards and processes were applied to identify system capacity expansion requirements. The assessment identifies when and where future capacity will be needed, including new Transformer Stations (TSs), Municipal Stations (MSs), and associated feeder expansions, organized by year and municipality.

The results of System Capacity Adequacy Assessment show that significant infrastructure expansion is required over the 10-year forecast period to meet the projected load growth across the entire Alectra Utilities' service territory. The system expansion needs include the addition of two new MSs, eleven new TSs and an upgrade to two existing MSs and two existing TSs. Alectra Utilities will require three new TSs and one MS, while expanding two existing TSs and two existing MSs, all to be in-service by 2031.

1. Introduction

Alectra Utilities operates within a 1,912 square kilometre service territory comprising 17 communities including: Alliston, Aurora, Barrie, Beeton, Brampton, Bradford West Gwillimbury, Guelph, Hamilton, Markham, Mississauga, Penetanguishene, Richmond Hill, Rockwood, St. Catharines, Thornton, Tottenham and Vaughan, as illustrated in Figure 1.

Alectra Utilities serves over 1 million customers and recorded a record system peak of 5,720MW in the summer of 2020. Alectra Utilities is a summer-peaking utility, with the system peak highly correlated to hot weather.

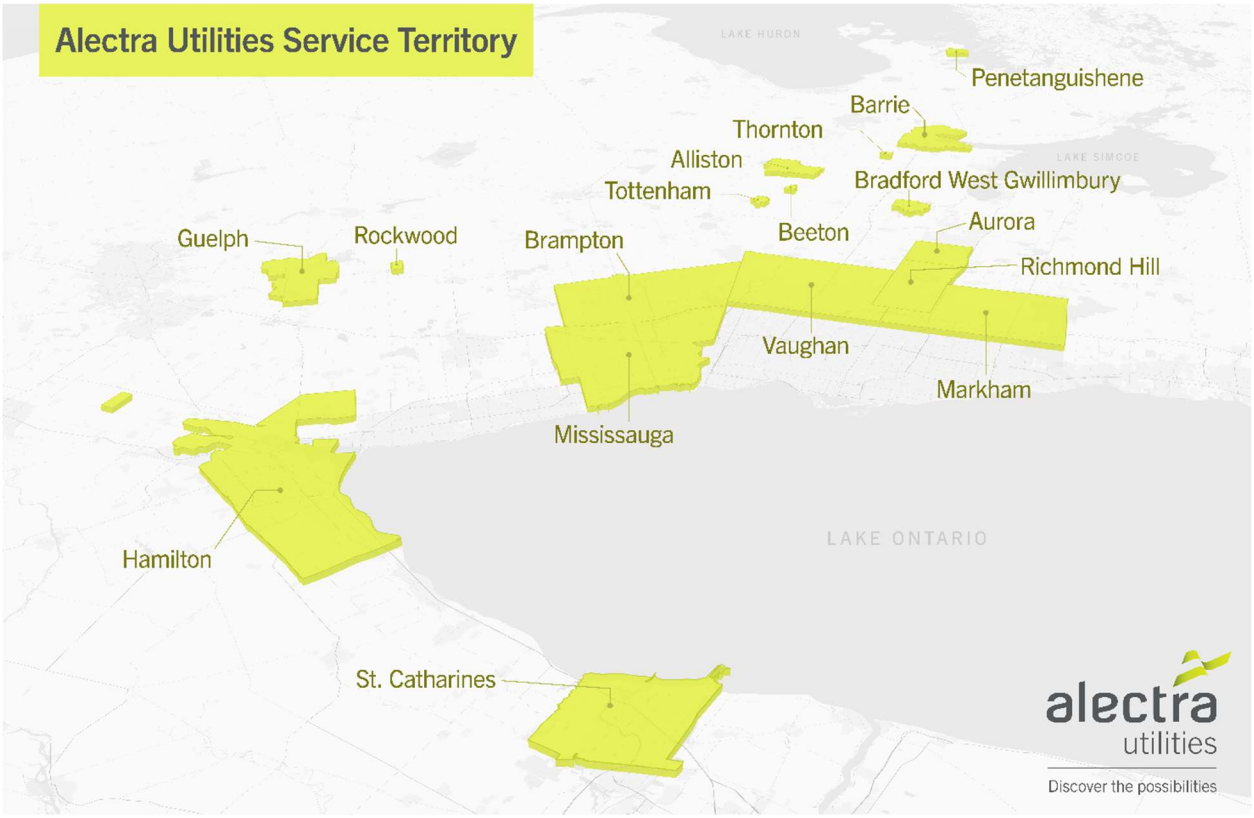


Figure 1. Alectra Utilities' Service Territory

Alectra Utilities electrical distribution grid is supplied from 82 TSs and 149 MSs. The grid is made up of 1,371 distribution feeders energized at 4.16kV, 8.32kV, 13.8kV, 27.6kV, and 44kV voltage levels.

1.1. Alectra Utilities Planning Areas

Alectra Utilities' distribution system is electrically segmented into four operating areas: East, Central, West, and Southwest. The 17 communities served are grouped into these four distinct operating areas based on their geographic locations. The groupings are shown in Table 1 below.

Table 1. Alectra Utilities' Operating Areas

Operating Area	Planning Zone	Municipality
Alectra East	York	Markham, Richmond Hill, Vaughan, and Aurora
	Simcoe	Alliston, Barrie, Beeton, Bradford, Penetanguishene, Thornton, and Tottenham
Alectra Central	Central North	Brampton
	Central South	Mississauga
Alectra West	West	Hamilton and St Catharines
Alectra Southwest	Southwest	Guelph and Rockwood

The system planning forecasts, and capacity adequacy assessment are performed for each planning zone within the four operating areas

Alectra Utilities' service area is not contiguous and hence the distribution system is not electrically connected. Each planning zone operates independently and may peak at different times. Due to these reasons the load forecasts and system capacity adequacy assessment are performed separately for each operating area using the same methodology.

Alectra East (York) – This Planning Zone consists of Southern York and Aurora subzones. The Southern York subzone is composed of three distinct municipal districts (Vaughan, Markham, and Richmond Hill) that have interconnected 27.6kV distribution grid. The Aurora subzone has 44kV sub-transmission. Since the York subzone is not connected to the Aurora subzone under normal operation conditions, load forecasts and capacity adequacy assessment are performed separately.

Alectra East (Simcoe) - This Planning Zone includes the City of Barrie and the Towns of Penetanguishene, Bradford West Gwillimbury, New Tecumseth (which is made up of Town of Alliston as well as the Villages of Beeton and Tottenham), along with the Township of Essa (Thornton). Since electrical distribution systems in these territories are not connected, resource

adequacy assessment needs to be performed separately for each area. Therefore, load forecasts and system adequacy assessment are performed separately.

Alectra Central (Central North) – This Planning Zone encompasses the City of Brampton and operates at 27.6kV and 44kV distribution voltages.

Alectra Central (Central South) – This Planning Zone encompasses the City of Mississauga and operates at several voltage levels - 4.16kV, 13.8kV, 27.6kV, and 44kV. There are four distinct system planning areas consisting of 4.16kV/27.6kV in the south, 27.6kV in the north, and 13.8/44kV in the East and the west. There is no interconnection between the south and north systems. The resource adequacy assessment is performed separately for each planning area.

Alectra West – This Planning Zone encompasses the Cities of Hamilton and St. Catharines and operates at 4.16kV, 8.32kV, 13.8kV, and 44kV distribution voltages. Since the electrical distribution grid within the City of St. Catharines is not electrically connected the distribution grid within the City of Hamilton, the capacity adequacy assessment is performed separately for each area.

Alectra Southwest – This Planning Zone Covers two distinct areas, the City of Guelph and the Village of Rockwood. The primary distribution voltages are 8.32kV/13.8kV and 44kV. The resource adequacy assessment is performed separately for each area.

2. 2023 Alectra Utilities System Review

2.1 2023 Weather Data Analysis

The summer weather in 2023 was colder than in 2022. It was the 19th coolest summer in the last 40 years. Temperature measured by Environment Canada at the Toronto Pearson Airport was used in this report. In the summer of 2023, there were only a total of 13 days when the ambient air temperature exceeded 30°C, as shown in Table 2 below.

Table 2. Number of Days Over 30º C in 2023

	May	June	July	August	September	October	Total
No. of days over 30°C	1	2	5	0	4	1	**13**

In the summer of 2023, there were nine occurrences when the 3-day Weighted Average (WA) temperature exceeded 30°C. as shown in Table 3 below.

Table 3. No. of Occurrence with 3-day WA exceeding 30º C in 2023

	May	June	July	August	September	October	Total
No. of occurrences 3-day WA temperature exceeded 30°C	0	2	3	0	4	0	**9**

There were four occurrences in September of 2023 when the 3-day WA exceeded 30º C. Alectra Utilities observed a peak day reduction on September 6th, 2023, for the Alectra's York and Southwest regions and on September 5th, 2023, for Alectra Utilities' other regions.

Normal Weather Update

Alectra Utilities' summer system peaks invariably coincide with hot weather conditions (high temperatures). The peak demand is **driven largely** by cooling load (i.e.: air conditioners). Prolonged periods of hot weather present the biggest challenge to the capacity of Alectra Utilities' network when a significant number of customers are using their home and workplace air conditioners at the same time and diversity of operation among customers is lost.

Weather variables have been explored in terms of impact on peak demand.

Peak demand weather correction is the process of estimating what peak demand would have been for a given time if the weather had been normal (1-in-2 weather) or hot weather (1-in-10).

The weighted 3-day moving average (WMA) temperature was used to correlate the peak demand and weather in the report

The weighted 3-day moving average is calculated as follows:

$$T'_0 = 0.6 * T_0 + 0.3 * T_{-1} + 0.1 * T_{-2}$$

Where, T'_0 is weighted 3-day moving average temperature of current day

$T_0, T_{-1}, \text{and } T_{-2}$, are the same as defined above

The highest actual temperature of 34°C was recorded on September 4th, 2023. The highest 3-day WMA temperature was 33.24°C which occurred on September 5th, 2023. The 40-year 3-day WMA temperature ranking table was updated to include 2023 (now from 1984 to 2023). The detailed results are shown in Figure 2.



No.	Year	Highest Temp (°C)
1	1996	30.09
2	2000	30.11
3	1992	30.48
4	2014	30.58
5	2009	30.59
6	1985	30.97
7	2004	31.34
8	1984	31.37
9	2019	31.91
10	1989	32.02
11	1998	32.18
12	1986	32.34
13	2017	32.80
14	2015	32.88
15	1990	32.93
16	2021	33.06
17	2008	33.17
18	1997	33.19
19	**2023**	**33.24**
20	1987	33.30
20	1993	33.41
19	2003	33.71
18	2007	34.34
17	2018	34.35
16	1999	34.36
15	2020	34.36
14	2022	34.43
13	2010	34.50
12	2013	34.53
11	1991	34.82
10	2005	34.90
9	2006	34.93
8	1994	34.98
7	1995	35.06
6	2016	35.18
5	2002	35.21
4	2012	35.21
3	2011	36.43
2	1988	36.89
1	2001	37.01

Figure 2. Ranking of 3-day WMA high temperatures (Pearson Airport)

Figure 2 illustrates the 3-day WMA and how they compared to other years within the 40-year period and the probability of occurrence (frequency).

Table 4. 3-day WMA temperatures, 1984-2023

Probability of Occurrence	Highest Temperature Recorded 3-day WMA (1984-2023)
10% (1-in-10)	35.21°C
50% (1-in-2)	33.41°C

Table 4 indicate that 1-in-2 temperature for 2023 is 33.41°C and 1-in-10 is 35.21°C. These values are used in the weather correction process.

2.2 Regression of Peak Demand vs. Temperature

Currently, each of the Alectra Utilities operating areas is summer-peaking. Temperature and Alectra Utilities peak demand load data from May to September 2023 were analyzed to reveal correlations between daily maximum temperatures and system peak demands. The results for each region are shown in Figure 4 – Figure 10.

These figures indicate clearly that the peak demand for this period is correlated with temperature and that the peak demand consists of two main components:

- The temperature-insensitive component (i.e.: the base load).
- The temperature-sensitive component (i.e.: the load associated with space cooling). This component increases with the temperature when the temperature is over 22°C.
- The linear regression equations can be interpreted as the peak demand in each planning zone at a specific temperature X. The slope of a linear regression line indicates the rate of change in the dependent variable (Y) for every one-unit increase in the independent variable (X).

2.2.1 Simcoe Planning Zone

Temperature and Simcoe County peak demand data from May to September 2023 were analyzed to reveal correlations between daily maximum temperatures and system peak demands. The results is shown in Figure 3.

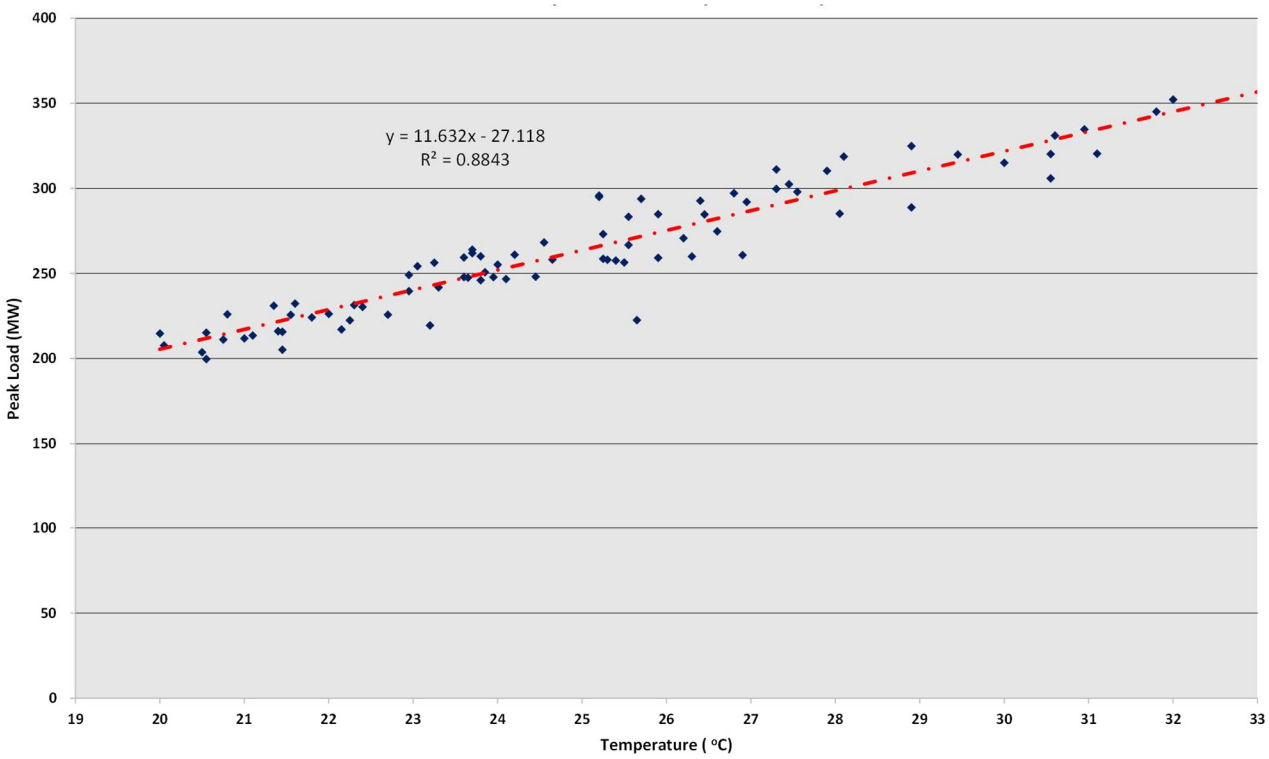


Figure 3.Simcoe Planning Zone Summer Peak vs. Temperature, 2023

Figure 3The linear regression equation in Figure 3 indicates that for every 1°C increase in temperatures above 22°C, the peak demand in Simcoe County increases by 11.63MW (3.4% of maximum peak).

2.2.2 York Planning Zone

Temperature and York Planning Zone peak demand data from May to September 2023 were analyzed to reveal correlations between daily maximum temperatures and system peak demands. The results are illustrated in Figure 4 and Figure 5.

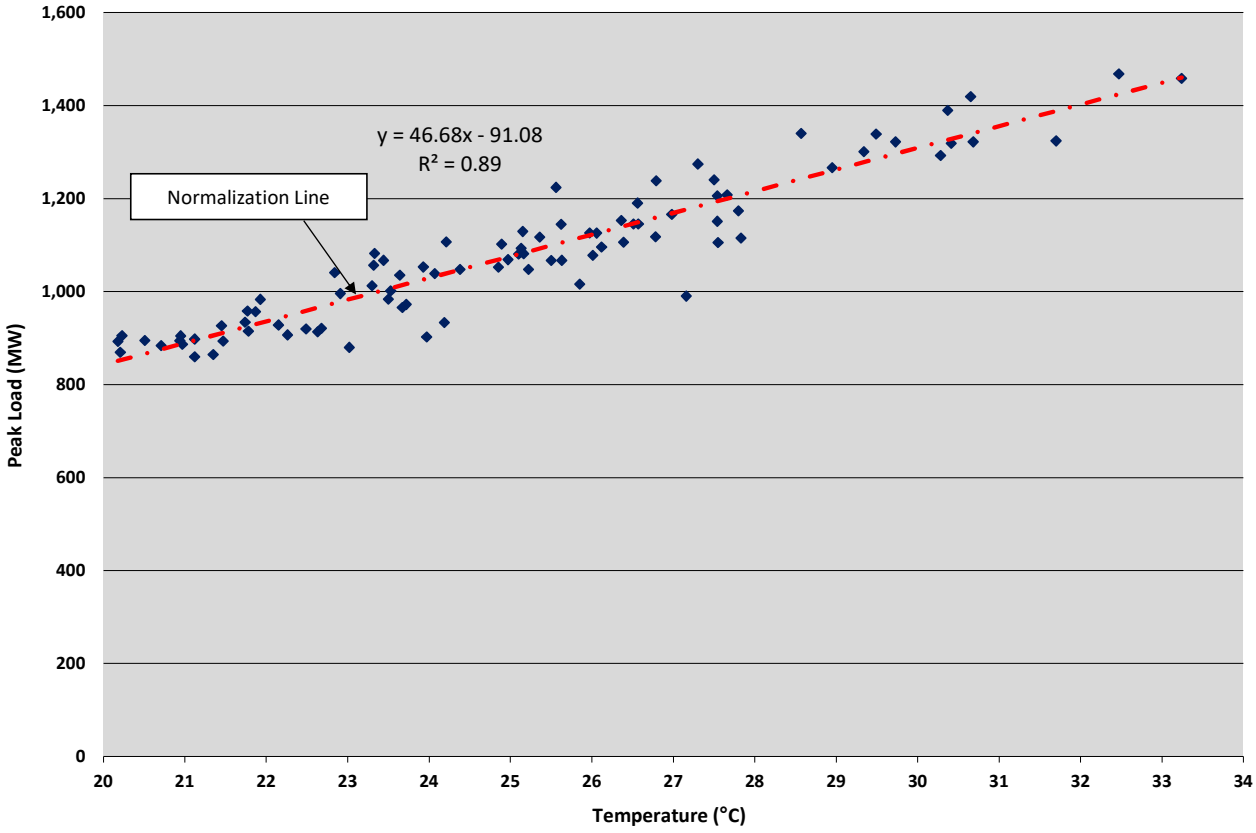


Figure 4. York Planning Summer Peak vs. Temperature

From Figure 4, the linear regression equation indicates that for every 1°C increase in temperatures above 22°C, the peak demand in York Planning Zone increases by 46.68MW (3.2% of maximum peak).

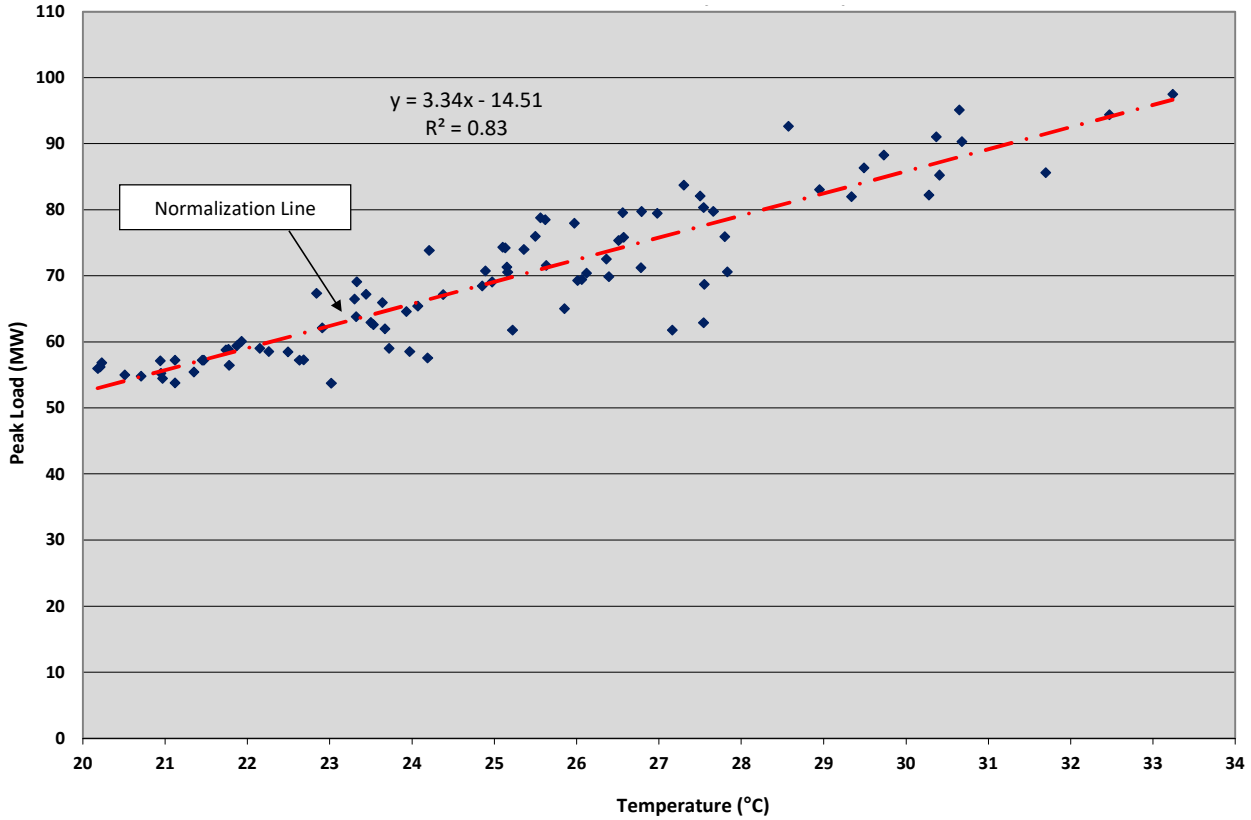


Figure 5. York Planning Zone (Aurora) Summer Peak vs. Temperature, 2023

From Figure 5, the linear regression equation indicates that for every 1°C increase in temperatures above 22°C, the peak demand in York Planning Zone (Aurora) increases by 3.34MW (3.4% of maximum peak).

2.2.3 Central North (Brampton) Planning Zone

Similar to other regions, temperature and Central North Planning Zone, which includes the City of Brampton, peak demand load data from May 2023 to September 2023 were analyzed to reveal correlations between daily maximum temperatures and system peak demands, and the results is shown in Figure 6.

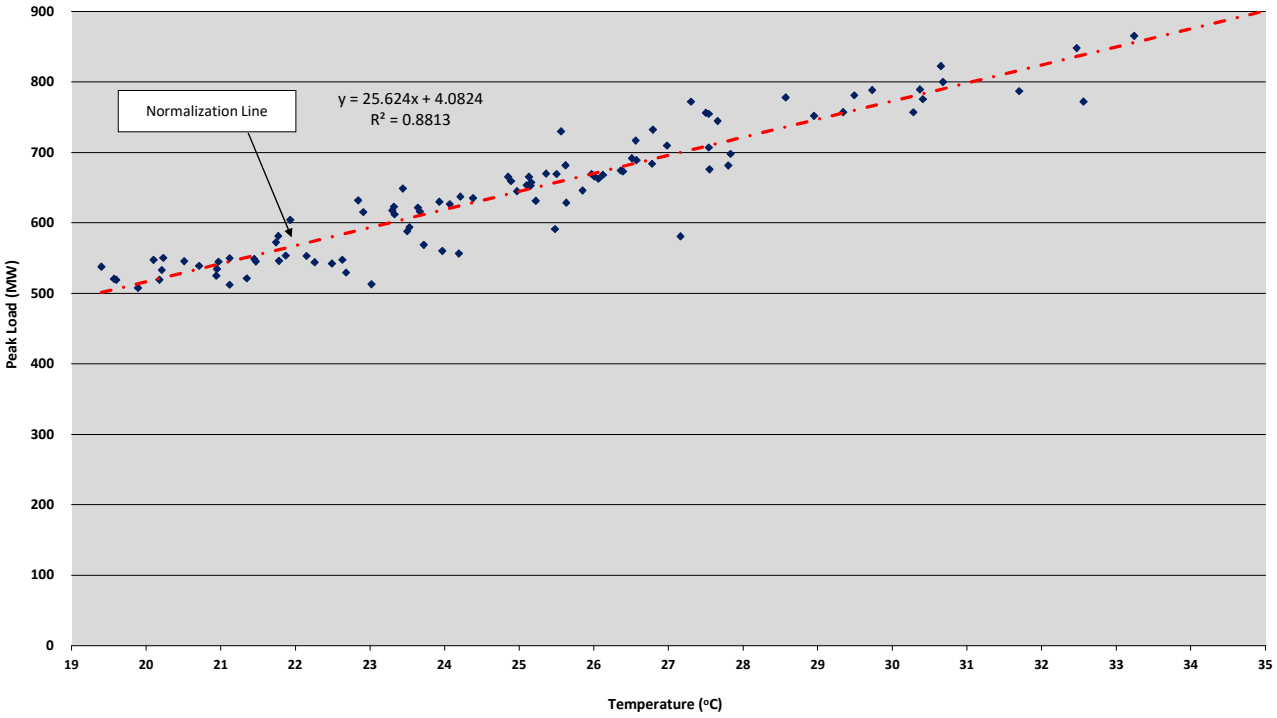


Figure 6. Central (North) Planning Zone Region Summer Peak vs. Temperature, 2023

The linear regression equation in Figure 6 indicates that for every 1°C increase in temperatures above 22°C, the peak demand in Central (North) Planning Zone increases by 25.62MW (2.96% of maximum peak).

2.2.4 Central South (Mississauga) Planning Zone

The 2023 daily system peak values for the Central South Planning Zone, which includes the City of Mississauga, during the summer months (May to September) were used to determine the System Peak versus Temperature relationship. Figure 7 shows the Mississauga Summer Peak (MW) versus the Daily Maximum Temperature.

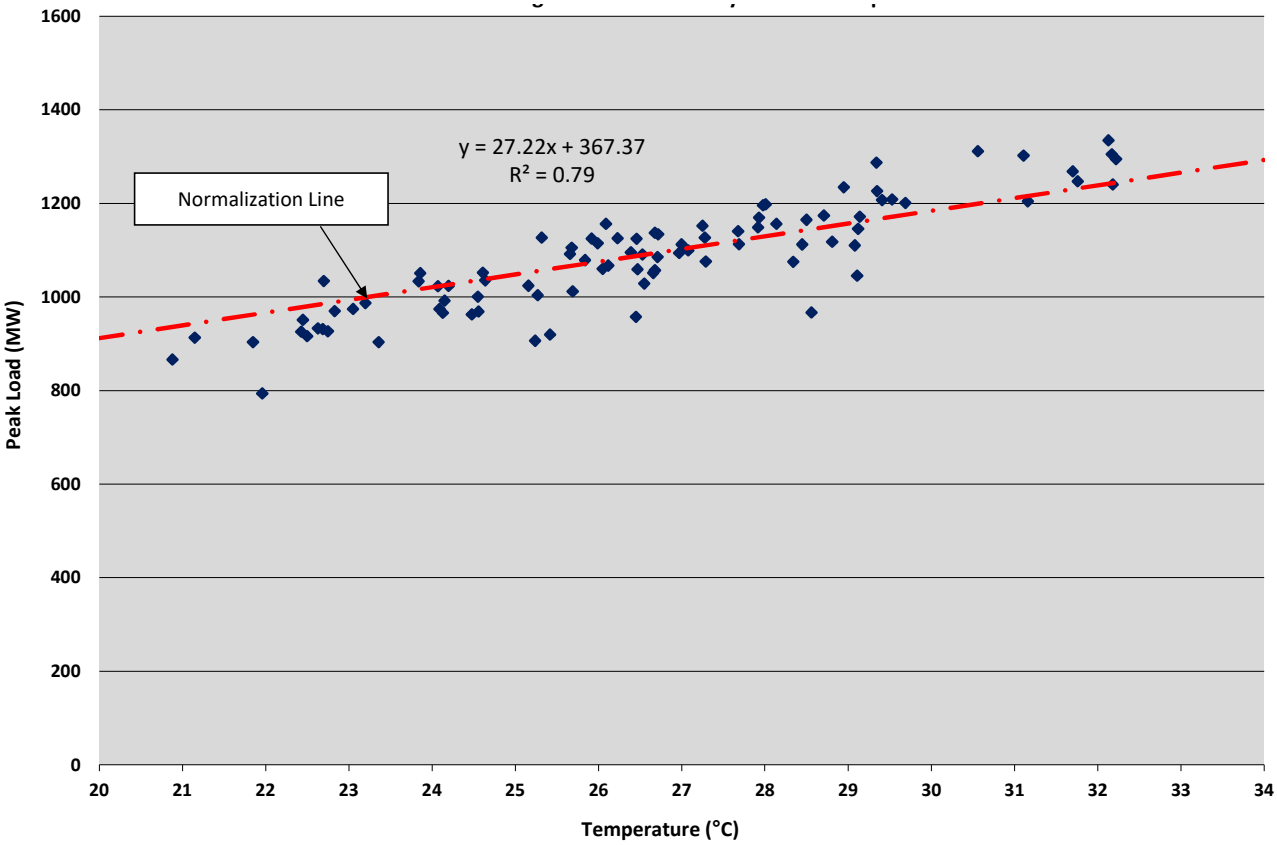


Figure 7. Central (South) Planning Zone Summer Peak vs. Temperature, 2023

The linear regression equation in Figure 7 indicates that for every 1°C increase in temperatures above 22°C, the peak demand in the Central (South) Planning Zone increases by 27.22MW.

2.2.5 West Planning Zone

The West Planning Zone (Hamilton and St. Catharines) system peak versus temperature relationships are shown in Figure 8 and Figure 9.

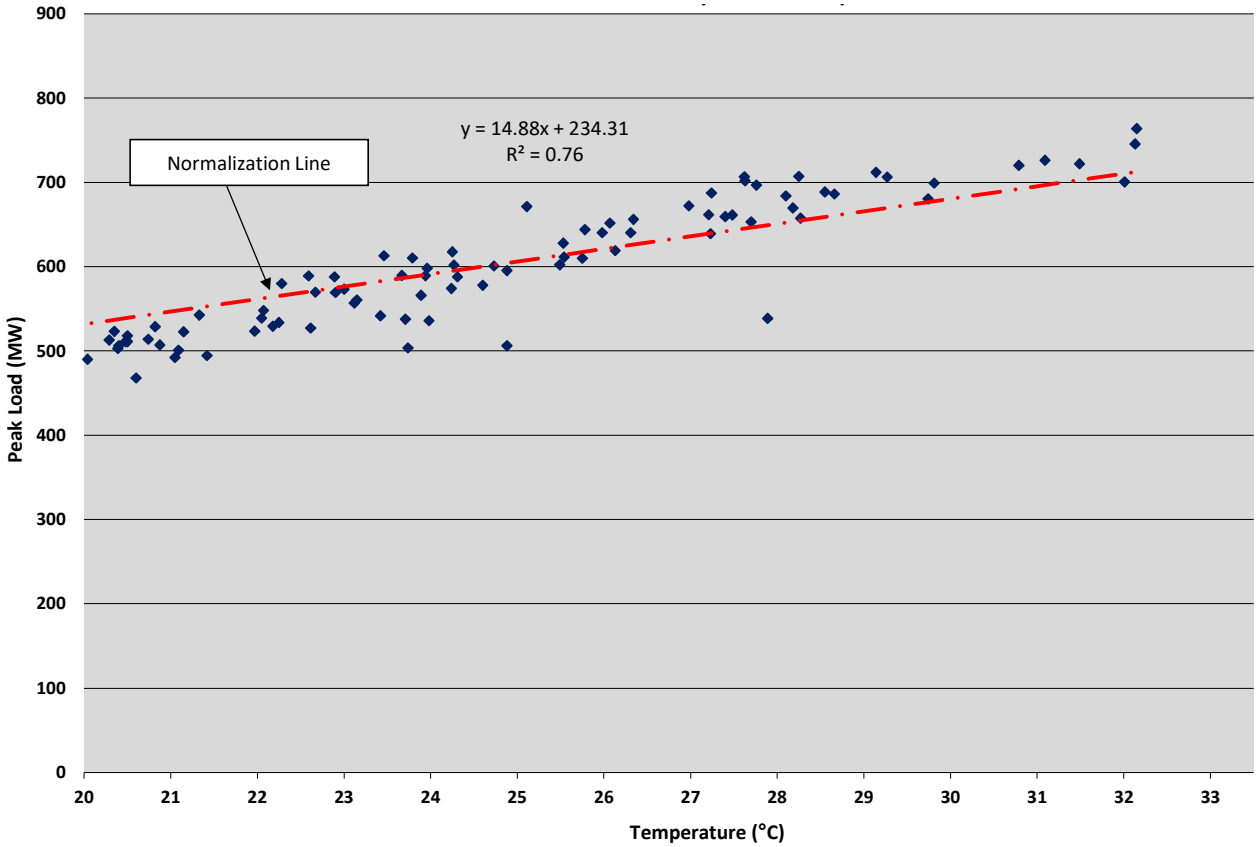


Figure 8. West Planning Zone (Hamilton) Summer Peak vs. Temperature, 2023

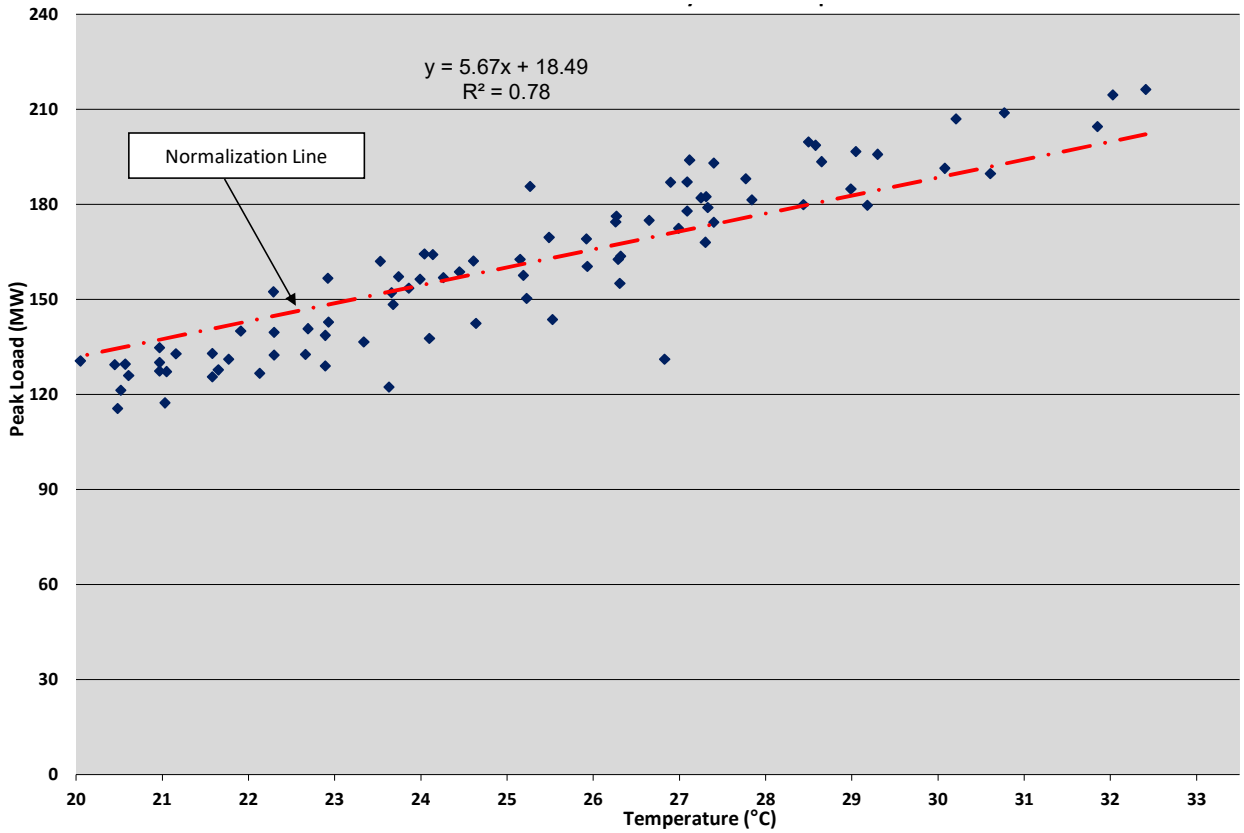


Figure 9. West Planning Zone (St. Catharines) Region Summer Peak vs. Temperature, 2023

The linear regression equations in Figure 8 and Figure 9 indicate that for every 1°C increase in temperatures above 22°C, the peak demand in Hamilton and St. Catharines increases respectively by 14.88MW and 5.6 7MW, respectively.

2.2.6 Southwest Planning Zone

The Southwest Planning Zone (Guelph and Rockwood) region system peak versus temperature relationship is shown in Figure 10.

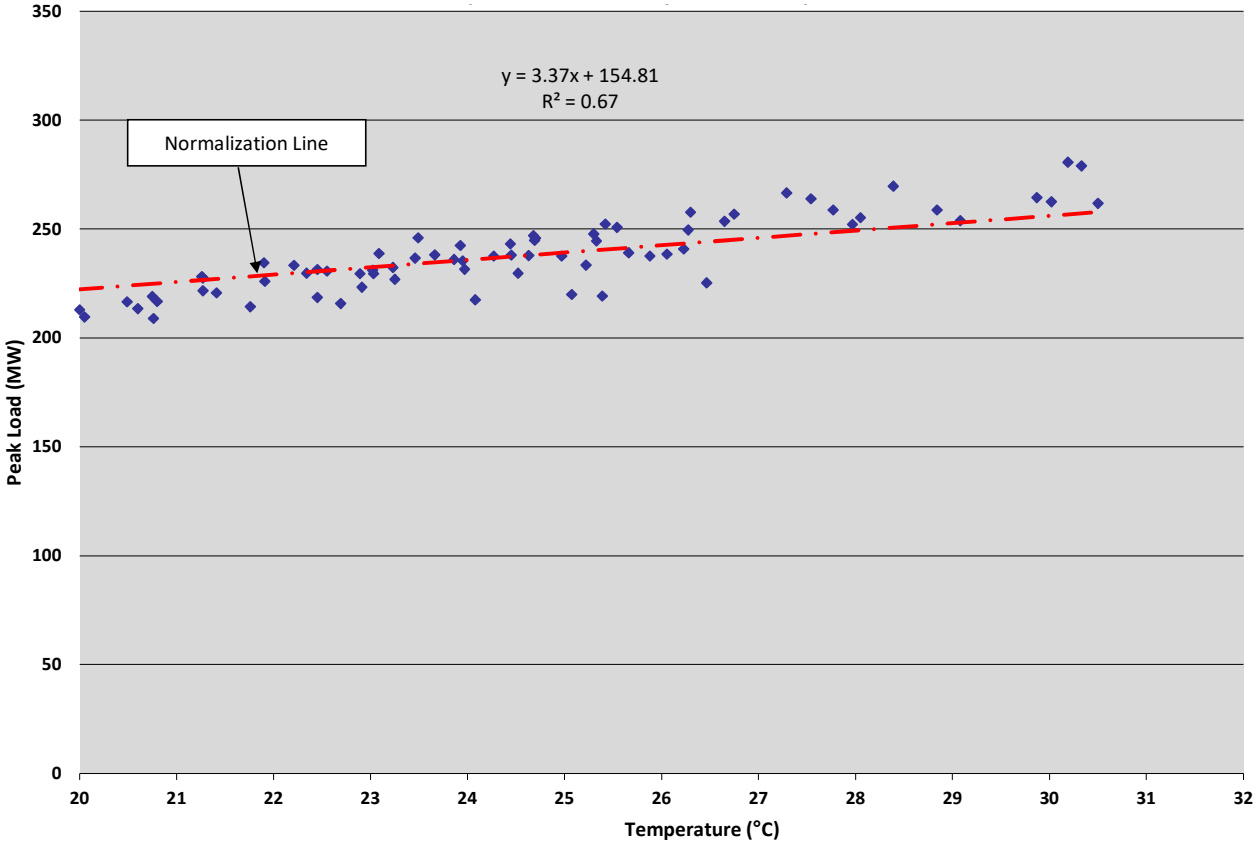


Figure 10. Southwest Planning Zone Summer Peak vs. Temperature

The linear regression equation in Figure 10, indicates that for every 1°C increase in temperatures above 22°C, the peak demand in Southwest Planning Zone increases by 3.37MW.

2.3 Weather Correction

Peak demand weather correction is the process of adjusting the peak demand for a historical period under normal weather conditions, in order to account for weather variability and determine the starting point of the forecast. Using the regression equations in Figure 4 – Figure 10, the weather-corrected peak demands for each region are shown in Table 5.

Table 5. Weather System Peak Correction for Each Planning Zone, 2023

Planning Zone - Subzone	Peak (MW)	Temp Diff. between Peak and 1-in-2	Slope for Temp. (MW/°C)	Weather-Corrected Peak (MW)
York - Southern York	1,468	0.94	46.68	1,512
York - Aurora	98	0.17	3.34	98
York - Simcoe	352	1.40	11.63	368
Central South (Mississauga)	1,283	0.17	27.22	1,288
Central North (Brampton)	865	0.19	25.60	870
West - Hamilton	764	0.19	14.88	767
West - St. Catharines	216	0.96	5.67	222
South West - Guelph and Rockwood	281	0.96	3.37	284
Total	**5,326**	---	---	**5,409**

From Table 5, the non-coincident corrected peak for the 1-in-2 scenario is 5,409MW across the entire Alectra Utilities' system territory. The weather-corrected peak or a starting point for the forecast is 5,409MW for the entire Alectra Utilities' system territory. The weather-corrected system peak is 83MW or 1.5% higher than the actual peak in 2023.

2.4 Global Adjustment Impact

The Industrial Conservation Initiative is a form of demand response that enables participating customers to manage their Global Adjustment (GA) costs by reducing demand during peak periods.

Customers who participate in the Industrial Conservation Initiative pay GA based on their percentage contribution to the top five peak Ontario demand hours over a 12-month period. Customers participating in this initiative are referred to as Class A.

Ontario's electricity system is built to meet the highest demand periods of the year. By reducing demand during peak periods, Industrial Conservation Initiative participants can both reduce their global adjustment costs and help defer the need for investments in new electricity infrastructure that would otherwise be needed.

In April 2017, the Government of Ontario reduced the Industrial Conservation Initiative threshold from 1MW to 500 kW to making Ontario consumers and market participants in targeted manufacturing and industrial sectors, including greenhouses, with an average monthly peak

demand of greater than 500kW and less than 1MW, eligible to opt in to the Industrial Conservation Initiative [2].

Customers with an average peak demand of above 1MW and less than or equal to 5MW will be informed by their distributor or the IESO if they are transmission-connected, before May 31 each year, if they are eligible. These customers must opt in by June 15 of each year to participate in Industrial Conservation Initiative. They will then be charged as Class A customers for the adjustment period starting on July 1 [2].

Table 6 shows the customer participation in the Industrial Conservation Initiative program and the resulting peak demand reduction for each region in Alectra Utilities' system territory in summer 2023.

Table 6. Customer Participation in the Industrial Conservation Initiative and Resulted Peak Demand Reduction

Planning Zone - Subzone	Total Participated Customers (#)	Peak Load Date	Peak Demand Reduction (MW)	Largest Reduction from Single Customer (MW)	Largest Reduction from Single Customer (%)
York - Southern York	162	Sept. 6, 2023	52.0	15.9	31%
Central South (Mississauga)	149	Sept. 5, 2023	65.5	32.0	49%
Simcoe	30	Sept. 5, 2023	6.2	1.6	26%
Central North (Brampton)	117	Sept. 5, 2023	28.9	2.4	8%
West- Hamilton & St. Catharines	82	Sept. 5, 2023	40.0	6.0	15%
Southwest – Guelph & Rockwood	65	Sept. 6, 2023	32.4	5.7	18%
Total	**605**	**---**	**225.0**	**---**	**---**

As indicated in Table 6, 605 customers in Alectra Utilities' service area participated in the Industrial Conservation Initiative program. They collectively reduced the total non-coincident peak demand by 225M W. The peak day reduction was September 6th, 2023, for the York region and Guelph and September 5th, 2023, for the other regions. The biggest reduction from a single customer is 32M W. **In the absence of the GA program**, the system's coincident peak would have been 4.2% higher.

For the load forecast purpose, Alectra Utilities incorporates 225MW of peak demand reduction from the GA program based on the observed historical peak.

3. Peak Demand Projection 2024-2034

3.1 Load Forecast Process

Figure 11 shows the detailed steps, the inputs, the forecast methodology, and the resource adequacy assessment of Alectra Utilities annual load forecast process.

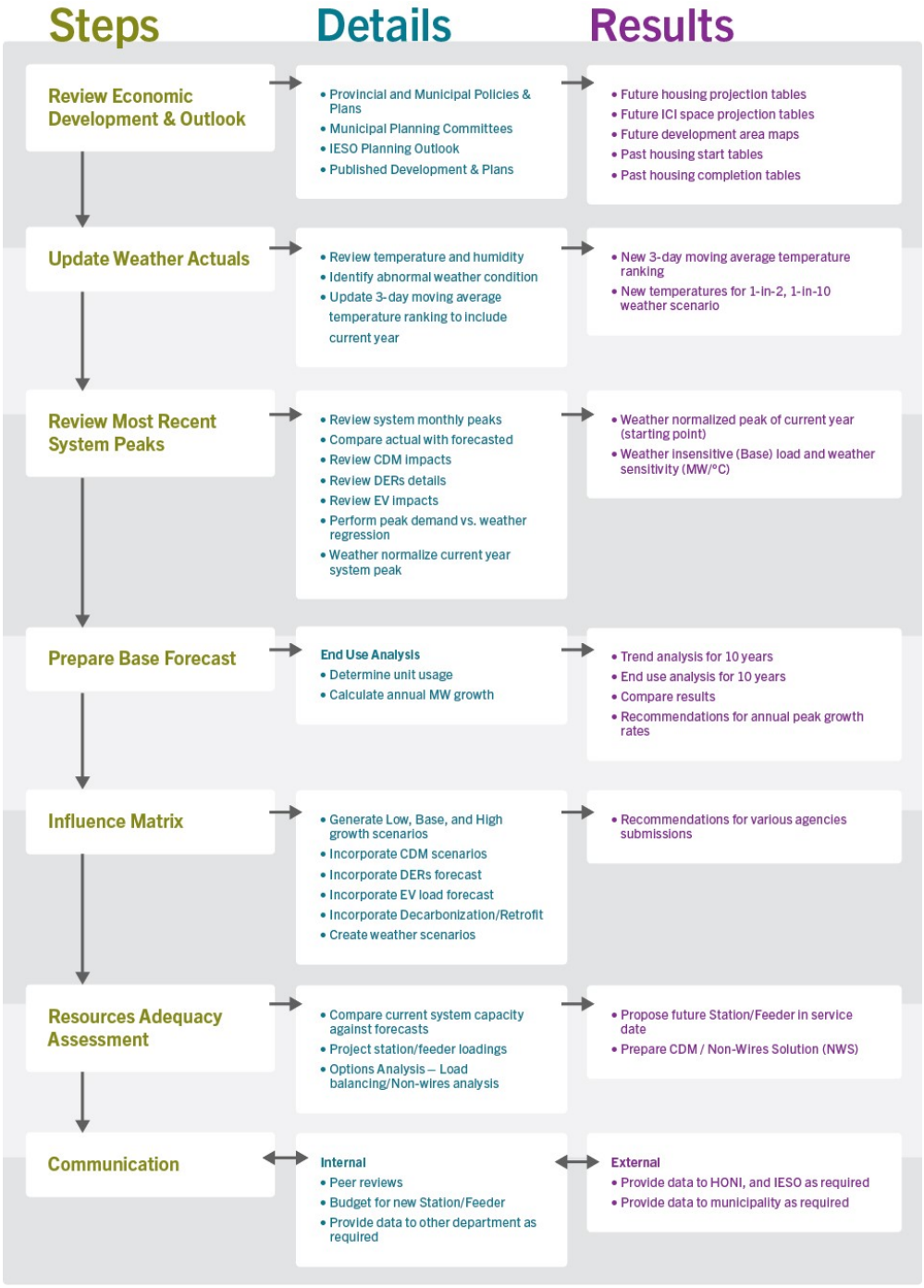


Figure 11. Alectra Utilities Annual Load Forecast Process

The Load Forecasted Process aligns with OEB's RPPAG Load Forecast Guideline. The Regional Planning Process Advisory Group (RPPAG) Load Forecast Guideline was developed by the RPPAG and endorsed by the OEB to standardize and improve consistency in how Ontario's electricity distributors, transmitters, and the Independent Electricity System Operator (IESO) prepare load forecasts for regional planning purposes.

3.2 End-Use Analysis

The approach used in this report to forecast future peak demand is an "end-use" analysis, which is based on how electricity will be used across various sectors and applications. This approach incorporates historical system data, regional growth indicators for each of the four Alectra Utilities planning areas (Alectra East, Alectra Central, Alectra West and Alectra Southwest) and known emerging demand drivers (e.g.: artificial intelligence & data centre expansion, adoption of electric vehicles, fleet and transportation electrification). The forecast methodology produces an accurate and transparent forecast that reflects both historic load growth and new trends impacting the distribution system capacity. The expected changes due to electrification and growth in data centres is different than what occurred in the past, therefore the historical trend analysis may not produce accurate results.

Unit Usage

The "end-use" analysis approach is based on the premise that electricity demand is driven by specific applications. The peak demand is a composite of residential and industrial-commercial load demands with each sector projected separately. The weather-corrected peak demand will be used as the starting point for the forecast. Future load requirements are estimated by applying typical load to projected residential, commercial and industrial growth estimates. To account for increased high-density residential units development, the forecast from 2024 – 2034 incorporates average demand values by residential unit type.

The "end use" analysis [1] utilizes information from various entities including municipal long-term planning reports, provincial population and employment growth projections, publicly available third-party reports of municipal growth projections and includes load from known large development and customer requests such as data centres.

For Alectra Utilities' 2024-2034 load forecast, average annual residential and non-residential development, based on the municipal development charge reports, will be adopted [3]-[11].

3.3 Population, Housing, and Employment Growth

3.3.1 Simcoe Planning Zone

Simcoe County region consists of five distinct service areas: Barrie, Bradford, New Tecumseth (which consists of Alliston, Beeton, Tottenham), Penetanguishene, and Thornton. These five areas are not connected electrically; system capacity adequacies were assessed individually.

Simcoe County municipalities continued to grow at a moderate pace.. According to the Hemson GGH Growth Report [11], it is forecasted that by 2031 the City of Barrie will have a population of 211,000 – an increase of 56,000 from 2021. The community of Bradford is forecasted to have a population of 58,340 by 2031 – an increase of 13,850 from 2021, New Tecumseth (Alliston, Beeton, and Tottenham) is forecasted to have a population of 57,050 by 2031 – an increase of 11,570 from 2021 [10]. Penetanguishene is forecasted to have a population of 11,600 by 2031 – an increase of 1,260 from 2021 (refer to details in *Appendix A - System Capability Assessment for Renewable Energy Generation*).

The *Growth Plan* population allocation of 337,990 people for the Simcoe County Area translates into a total of approximately 120,790 housing units in 2031. This represents a growth of 32,650 new housing units from 2021 to 2031. If current the age-specific household formation and occupancy patterns are maintained, future demand for housing units will be mainly in single and semi-detached units. Also, the total employment in Simcoe County is projected to grow to 155,840 by 2031 and 187,160 by 2041.

Barrie

- City recommended a target for 2031 of 19,600 new residences, which requires 1960 new dwelling units per year between 2021 and 2031 to accommodate a population of 211,000
- The Growth Plan has set a density target for the Downtown Barrie Urban Growth Centre of 150 residents and jobs per hectare, to be achieved by 2031
- For an area of approximately 156 hectares, this translates to around 23,408 people living and/or working within the Urban Growth Centre
- Growth in brownfield developments (high-rise residential and commercial ranging from 8 to 42 stories) is expected in the Barrie downtown area driven by general demand for housing and provincial intensification targets

- Alectra Utilities has identified eleven projects to be connected over the 10-year period within downtown Barrie with a projected load of 22.3MVA

Bradford

- City recommended a target for 2031 of 5,960 new residences, which requires 596 new dwelling units per year between 2021 and 2031 to accommodate a population of 58,340
- This is approximate 7MVA of residential load

New Tecumseth

- Liberty Development – 1.5MVA
- Value Centers – 2.0MVA
- Smart Centers – 1.5MVA
- Villarboit – 8MVA

New Tecumseth's total development is 13MVA.

3.3.2 York Planning Zone

The province prepared a *Growth Plan* for the Greater Golden Horseshoe (GGH) under the *Places to Grow Act*, 2005. On April 4, 2007, the Planning and Economic Development Committee (PEDC) of York Region presented a report titled “Planning for Tomorrow Part 1- York Region Population and Employment Forecasts”. The preliminary population forecast (40% 2031 scenario) calls for 224,000 more people and 105,000 more jobs than are currently approved for in the Region’s Official Plan for 2026. The PEDC recommended that the Regional Council direct staff to work with the area municipalities to refine the forecast and land budget model.

“Planning for Tomorrow Part 1” called for dramatic increases in population, employment, and housing in the York region. For 2024-2034 Load Forecast, average annual residential and non-residential development, is based on the latest municipal development charges report.

York Region Economic Profiles

The four municipalities in York Region have separate economic profiles and are as follows:

Vaughan

The City of Vaughan has a relatively even distribution of both goods-producing industries and services-producing industries. Among goods-producing industries, manufacturing was by far the

largest sector in Vaughan, accounting for 30.8% of total employment. Within this sector, the top three sub-sectors were: plastics product manufacturing (12%), motor vehicle parts manufacturing (11%), and household and institutional furniture and kitchen cabinet manufacturing (5%). Vaughan also has a large construction sector, which represented 10.9% of total employment, and accounted for 64% of total construction employment in the York Region. Within service-producing industries, personal services, retail trade, and business services were the dominant sectors, employing 12.7%, 11.5%, and 8.7% of all jobs in Vaughan.

Markham

Service-based employment in the City of Markham accounted for 79.7% of all jobs in the survey area. Among service-producing industries, the business services sector is the single-largest employer, accounting for 30.0% of total employment. Computer systems design and related services were the dominant sub-sector, accounting for 25% of business services employment. Within goods-producing industries, manufacturing is the dominant employer, accounting for 15.7% of jobs. City of Markham's major types of manufacturing include computer and electronic product manufacturing and printing and related support activities, which account for 30% and 14% of manufacturing employment, respectively.

Richmond Hill

Employment in the Town of Richmond Hill was predominantly service-oriented, accounting for 85.3% of employment. Service-producing employment was spread out across several sectors, with personal services accounting for 19.4% of employment in the area and retail trade and business services close behind at 15.7% and 14.0%, respectively. Within the personal services sector, restaurants were the dominant sub-sector, with full-service restaurants and limited service eating establishments accounting for 19% and 14% of personal services employment.

Among goods-producing industries, manufacturing was the dominant sector, comprising 14.2% of total employment in the survey area. The top two manufacturing sub-sectors within the Town of Richmond Hill's manufacturing sector were printing and related support activities (14%) and pharmaceutical and medicine manufacturing (14%).

Aurora

Manufacturing is the primary employer in the Town of Aurora, accounting for 24.7% of jobs. Within the manufacturing sector, motor vehicle parts manufacturing and printing and related support

activities are the dominant sub-sectors, accounting for 25% and 16% of manufacturing employment, respectively. Peak growth will depend on the recovery of the manufacturing sector, especially the auto industry.

Major developments in York Planning Zone

Markham Future Urban Area (FUA)

The Markham Future Urban Area covers approximately 1,288 hectares (3,183 acres bordered by Major Mackenzie Drive to the south, the Hydro Corridor and Woodbine Avenue to the west, the northerly City limits and Elgin Mills Road to the north, and the Robinson Creek to the east.

Approximately 675 hectares (1,668 acres) of developable lands are designated for future neighborhoods, located primarily between Major Mackenzie Drive and Elgin Mills Road. Approximately 300 hectares (741 acres) located north of Elgin Mills Road are designated for employment uses (refer to attached map for details). In total, the Future Urban Area is intended to accommodate approximately 12,000 residential units with a population of approximately 38,000 persons and approximately 19,000 jobs.

Markham Centre (Downtown Markham)

Markham Centre includes more than 400 acres of parks of all kinds for enjoying the natural and scenic beauty of the Rouge River Valley or for active sports and recreational activities. Trails will link the various parks and open spaces in the centre and throughout the City of Markham and York Region.

Markham Centre generally occupies the land between Highway 7 and Highway 407 between the Ontario Hydro transmission right-of-way and McCowan Road, an area of 402 ha (992 acres). Overall, Markham Centre will be home to about 25,000 residents and jobs for about 17,000 persons in almost 10 million square feet of office, industrial and retail space.

Data Centre in Richmond Hill

A large data centre compound has been developed in the Leslie St/Elgin Mills Rd area in the Town of Richmond Hill since 2016 and six buildings (DC1 to DC6) have been proposed. Three buildings have been built and one is under construction. Two more buildings are to be built in the next 5 years. The total data centre capacity requested in this area is 176MW.

Richmond Hill Centre (RHC)

RHC is planned to accommodate a population of approximately 23,000 residents, 16,500 jobs, and 13,000 residential units at full build-out within an Urban Growth Centre boundary of approximately 60 hectares. This density of people and jobs is premised on the completion of the Yonge North Subway Extension, including High Tech and Bridge Stations, as well as the provision of an appropriate mix of uses and the servicing required to support the cumulative growth forecasted for this Centre.

Vaughan Metropolitan Centre (VMC)

The average density of projects continues to significantly exceed those planned in the current VMC Secondary Plan (SP).

Developments and approvals to date are heavily weighted towards residential uses in the form of high-rise condominiums, predominantly consisting of 1-and 2-bedroom units. Development is proceeding at a greater intensity than anticipated in the 2010 Secondary Plan. It was planned for 25,000 residents by 2031, and numbers are expected to exceed dramatically. The target has been pushed higher and higher through various initiatives and the latest development trajectory is 129,012 residents, i.e.: approximately 70,000 units.

New Community Areas

The City of Vaughan's 2010 Official Plan identifies two "New Community Areas" where new residential uses and related development are planned to occur in accordance with the Region's Official Plan.

The City has initiated the Secondary Plan for Block 27 which is one of the New Community Areas and will be a significant source of new low-rise housing units up to 2031. The Block 27 Secondary Plan Area is approximately 400 hectares (988 acres) located north of Teston Road, east of Jane Street, south of Kirby Road, and west of Keele Street. The long-term vision for the Secondary Plan is to accommodate up to 30,800 residents in 9,000 units by the ultimate build-out of 2031 and beyond.

Block 41 is another new community area and is approximately 435 hectares in size and is bounded by Teston Road to the south, Kirby Road to the north, Pine Valley Drive to the west, and Weston Road to the east. Approximately 3,560 units will be developed in the block. It would result in an approximate 12,460 residents and jobs.

3.3.3 Central North (Brampton) Planning Zone

According to the Hemson Report [8], it is forecasted that by 2031 the City of Brampton will have a population of 807,875 – an increase of 116,493 from 2021. The housing units will be increased from 247,826 units in 2021 to 280,723 units in 2031. Also, the City of Brampton will experience employment growth from 199,516 jobs in 2021 to around 252,555 jobs in 2031 and 295,170 in 2041. More details about the population, housing, and employment growth are presented in Appendix A.

Major developments in Brampton are presented below.

Brampton Northwest

- Heritage Heights
    - By 2040, the development will be comprised of 13,655 low density, 11,225 medium density and 10,975 high-density dwelling units as well as mixed use commercial space of 1.4 million square meters.
    - The total estimated load is 100MVA.

Brampton Central

- The Downtown Brampton plan will add 18,000 residential and 550,000 square meters of industrial and commercial space which is estimated to require total capacity of 35MVA by 2040.
- The Uptown vision is projected to add 30,000 residential and 560,000 square meters of commercial space which will require a total of 47MVA by 2035.
- Bramalea New town is projected to add 10,000 residential and 465,000 square meters of industrial and commercial space which will require a total capacity of 24MVA by 2035.

Brampton Southwest

- Bram WEST Development is a new development located in the City of Brampton's southwest area. This is an emerging area of Brampton with potential for residential and commercial development. By 2034, Bram WEST development could bring approximately 15,132 dwelling units with capacity of 39MVA.

Brampton Northeast

- Bram EAST Development is a new development located in the City of Brampton's southeast area. There is ongoing expansion of 60MVA to supply the ICI growth along the Highway 50 and Countryside drive. Brampton Transit has plans to electrify their fleet and indicated to Alectra Utilities a requirement of additional 18MVA for their facility.

3.3.4 Central South (Mississauga) Planning Zone

Long-Term Residential Forecast

The report "Development Charges Background Study" published on March 4, 2022, by Hemson Consulting Ltd [7], provides the results of the long-term population, housing, and employment forecasts for the City of Mississauga to 2041. The City is now in a post-greenfield phase. Population growth will be accommodated through intensification and redevelopment within the existing built-up area and Mississauga will continue to become more focused on higher density housing forms, particularly apartment development in the Downtown Core, infill in major and community nodes, and through redevelopment along intensification corridors.

Employment growth will also be primarily concentrated in higher-density forms. Most of the future employment growth will be in large office buildings. A smaller amount of future growth will be attributable to the build-out of remaining employment lands and new commercial and institutional growth to support the growing population.

The City of Mississauga is forecasted to grow to a total population of approximately 818,100 by 2031 and 883,290 by 2041, and total employment will grow to 507,740 by 2031 and 531,030 by 2041. This population growth will increase the housing units from 249,514 in 2021 to 279,850 and 317,840 in 2031 and 2041, respectively. More details can be found in *Appendix A - System Capability Assessment for Renewable Energy Generation*.

Long-Term Non-Residential Growth Forecasts

The employment forecasting employs four land-use based categories of employment activities:

- **Major office employment** - employment in free-standing office buildings of 20,000 square feet or higher
- **Population-related employment** – employment providing services to a resident population in retail and institutional establishments, including the jobs of those who work from home

- **Employment land** – employment uses in industrial-type buildings, typically concentrated in business parks and other designated employment areas
- **Institutional employment** – refers to employment accommodated in education, health care, local government, and information & cultural industries

Like growth in population, employment growth in the City of Mississauga is also affected strongly by land supply and commercial sector growth. Because the City's supply of employment land is nearly fully developed, new employment growth will increasingly be accommodated through major office development.

About 57% of the City's long-term net employment growth is anticipated to be in major office development. Retail and service commercial employment is forecasted to grow in step with population growth as it is primarily providing services to the residential population. A similar pattern is anticipated for institutional employment, which comprises about 40% of the total retail and service commercial employment forecasted. Generally, employment land employment growth is limited by the availability of new greenfield land for development; the supply of which is largely exhausted. In addition, some growth will occur within existing employment areas during the current period, as the economic recovery leads to higher occupancy of existing space.

Central (South) Planning Zone – Sub Zones

The Central (South) Planning Sub Zones include the City of Mississauga divided into North, South, West, and East areas. The North consists of a 27.6kV distribution system. South consists of a 4.16kV distribution system with a 27.6kV sub-transmission system. East and West sections consist of a 13.8kV distribution system with a 44kV sub-transmission system.

Major developments in Mississauga are listed here:

- Downtown Mississauga
  - ~15,000 to 20,000 apartment units
  - ~46MVA of connected transformation
- Lakeview Village – 2027 - 2035
  - ~8,000 Dwellings consisting of apartment and low-rise units
  - 91MVA of total power which includes ~30MVA for District Energy project
- Uptown Mississauga (Hurontario and Eglinton)

- ~6,000 Apartment Units
- 12MVA

- Trilluim Hospital (Hurontario and Queensway) – 2027 to 2032
  - ~24MVA of total power with full redundancy from two different TS
- Brightwater Development
  - ~8,000 Apartment Units
  - 12MVA
- GTAA Terminal Expansion
  - 169MVA is the total capacity requirement with full redundancy

3.3.5 West Planning Zone

According to the Hamilton Development Charge Reports [14], by 2031 and 2041, the City of Hamilton will have a population of 652,000 and 733,000, respectively. Based on City of St. Catharines Development Charge Report, the population of St. Catharines will reach 148,099 and 163,865 in 2031 and 2041, respectively.

The total housing units, in the City of Hamilton, are projected to increase from 222,540 units in 2021 to 258,100 units in 2031, and 298,170 units in 2041. The total housing units, in the City of St. Catharines are projected to increase from 59,549 units in 2021 to 64,999 units in 2031 and 72,469 units in 2041.

The total employment in the City of Hamilton region, is projected to grow to 271,000 by 2031 and 310,000 by 2041. The total employment in the City of St. Catharines, is projected to reach 71,549 by 2031 and 80,240 by 2041. The City of Hamilton has a mixture of residential, commercial, and industrial developments in both greenfield and intensification areas.

A few notable areas area listed below:

The Light Rail Transit (LRT) system, which spans from McMaster University to Centennial Parkway North will include a 7.2MVA maintenance facility. Hamilton. McMaster University growth is projected to have 15MVA of load due to its Innovation Park developments as well as additional load for new student housing. The City of Hamilton's Downtown Core will have many high-rise residential and commercial developments. Also, Hamilton's Industrial Area which stretches along the waterfront piers has seen several growth requests ranging from 1-2MVA upgrades to 10MVA+

for new capacity. The Stelco land redevelopment has a long-term growth projection of 200MW. Additional details regarding the population, housing, and employment in the cities of Hamilton and St. Catharines are presented in Appendix A.

3.3.6 Southwest Planning Zone

According to the Development Charge Report [13], the City of Guelph is projected to have a population of 174,044 by 2031, 189,917 by 2041. Also, the housing units are projected to increase to 68,200 units by 2031 and 77,700 units by 2041. The City of Guelph is projected to see employment growth from 95,000 jobs by 2031 to 105,000 jobs by 2041. Additional details about the population, housing, and employment growth in the Guelph region are presented in Appendix A.

The City of Guelph is seeing a combination of residential, commercial, and industrial developments. The north side of the City of Guelph has commercial and industrial intensification, with areas in the south experiencing greenfield growth. The City of Guelph is seeing interest in green initiatives including the electrification of transportation and heating. The City of Guelph has requested for 15MW for an electric bus terminal. The University of Guelph has an electrification projection of up to 65MW.

3.4 Future Conservation and Demand Management (CDM) Impact

CDM is a cost-effective resource that reduces demand and is integrated into Alectra Utilities' load forecasting. It is achieved through a combination of building codes, energy efficiency initiatives and standards, amendments, and specific targeted program activities.

The analysis incorporated the impact of and committed CDM programs, including the 2021-2024 Framework, and accounted for the persistence of peak demand savings over the forecast horizon. Similar to the estimation of peak demand savings from codes and standards, annual peak demand reduction percentages attributable to CDM program savings were projected and are shown in Figure 12. The information on CDM programs is sourced from the IESO' IRRP reports for each of Alectra's planning zoned. By 2034 Alectra Utilities' service area is expected to achieve 242M W in peak demand savings.

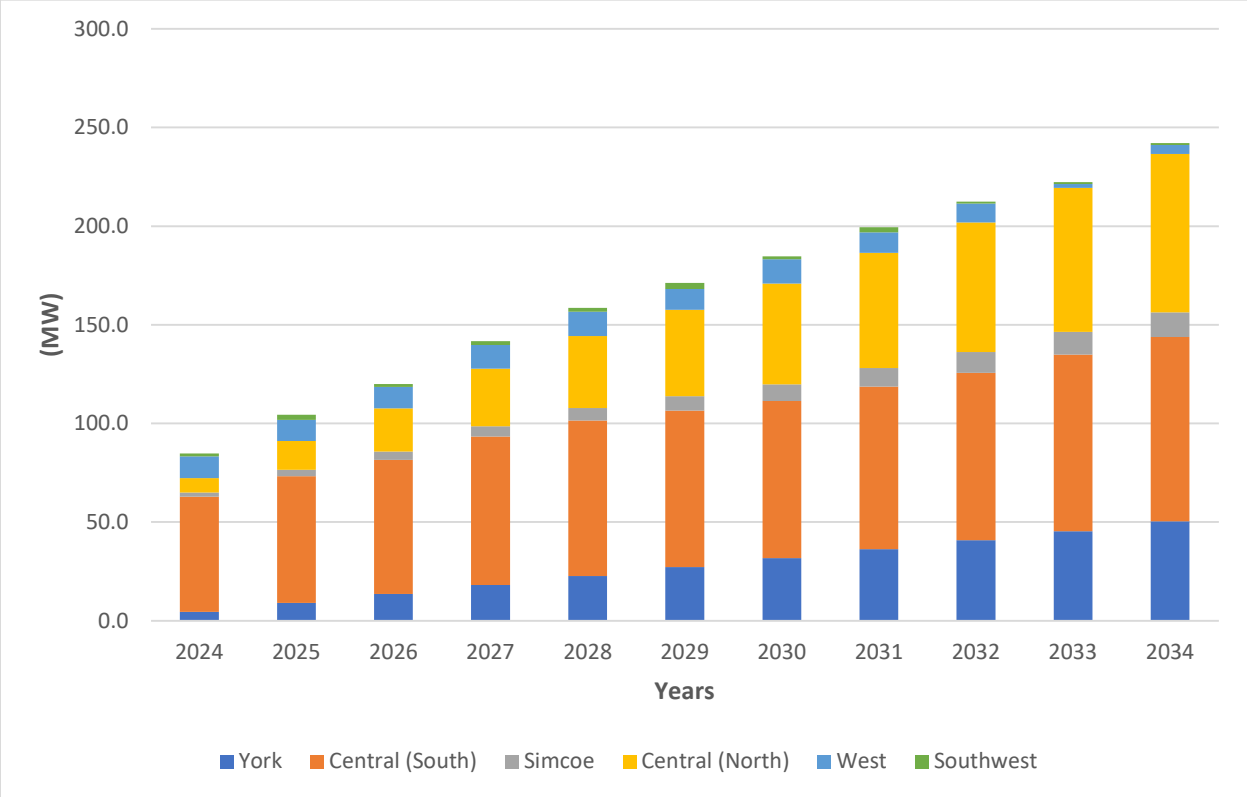


Figure 12. Total CDM Projection 2024-2044 based on IESO IRRP reports

3.5 Future DER (Non-Wires Alternatives) Impact

Non-Wires Alternatives (NWAs) are non-traditional projects that are undertaken to avoid or defer the need for investment in physical wires (i.e.: stations, lines) capacity. NWAs include DER projects such as solar, battery, storage, gas generation, or geothermal projects as well as other activities on the "customer-side", other referred to as demand response.

Alectra Utilities is projected to experience steady growth in DER connections (mainly solar and battery) in its service territory. Figure 13 illustrates the cumulative growth of DERs in Alectra Utilities' service area (e.g.: solar, energy storage, and other sources such as wind, CHP, natural gas, and bioenergy). Non wires alternatives are still maturing and various factors including policy frameworks, incentive, procurements, and technological advancement may enhance their abilities to provide system capacity. However, certain limitations continue to exist; for example that the typical capacity contribution of solar during the system peak is approximately (23%) of the installed capacity.

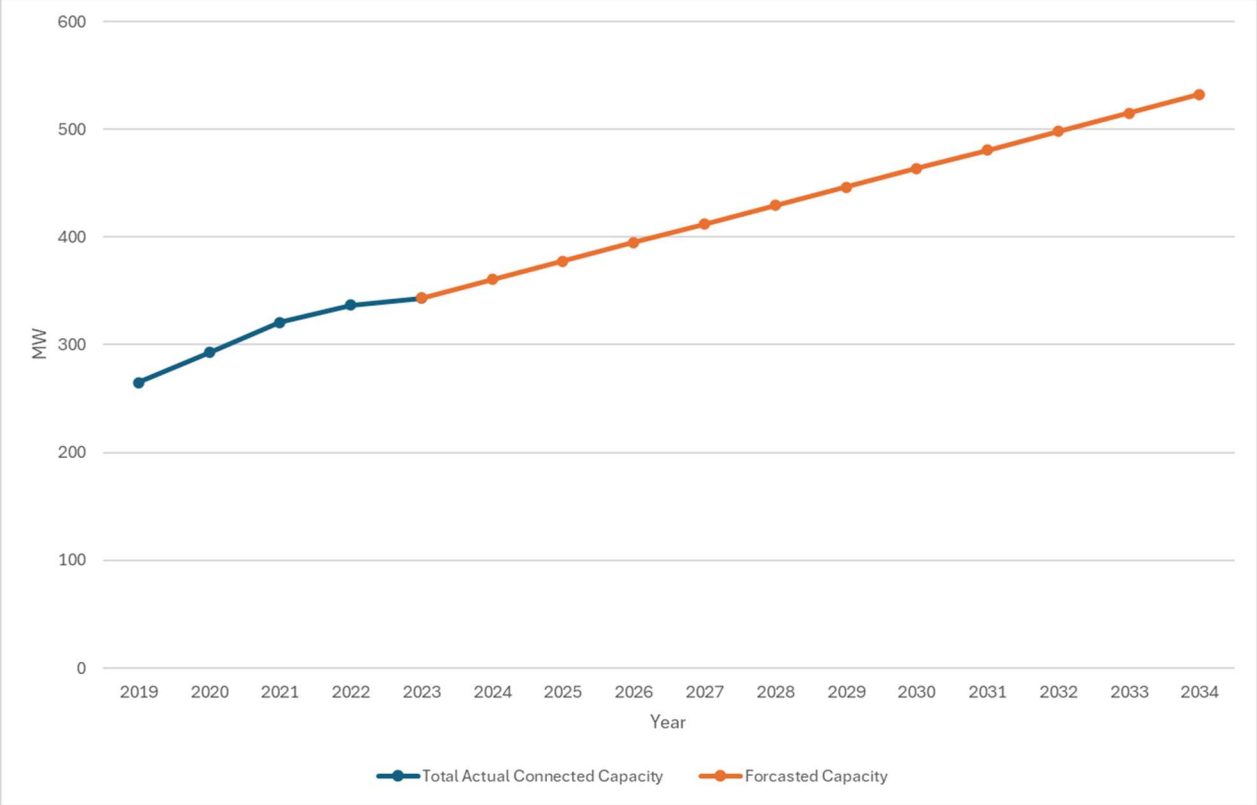


Figure 13. DER Forecast with Historical Actuals, 2019 - 2034

From Figure 13, in 2034, the total forecasted capacity for DER connection is 532MW across Alectra Utilities' entire service area.

3.6 Future Electric Vehicles Impact

The growing popularity of electric vehicles is reshaping energy demands, posing a notable impact on the peak load of distribution systems. As more customers switch to EVs, the demand for electricity to charge these vehicles surges. Of particular interest is the impact during system peak times. This increase puts additional stress on the distribution system, potentially leading to challenges in managing and balancing peak loads.

The EV penetration forecasts were completed by Guidehouse. The EV forecast included the different types of EVs:

- Light Duty Vehicles (LDV)
    - PHEV: Plug-in hybrid-electric vehicles with a typical range 80 KM
    - BEV: Short (161 KM) or a long-range BEV (483K M)
- Medium Duty Vehicles (MDV) and Heavy Duty Vehicles (HDV)
    - Battery-powered MDVs and HDVs which include urban transit, service vehicles, school bus, delivery light, and heavy trucks

Guidehouse uses the following sources and assumptions to arrive at the EV forecast:

- *Ontario LDV EV population until 2030 was from the Guidehouse Insights report*
- *Ontario M/HDV EV population until 2030 was obtained from Guidehouse Insights' North America forecast scaled down according to Ontario LDV EV population divided by North America LDV EV population*
    - *Ontario M/HDV EV population from 2031-2040 was extrapolated from the 2030 projection using the projected CAGR of 2030, which is 22%*

Ontario's total vehicle population in 2020 figures were obtained from StatsCan, projected to 2040 using Ontario's Ministry of Finance's growth projection (StatsCan):

- *Alectra Utilities' total vehicle population in 2020 was obtained from the Ontario vehicle population scaled down according to the population in Alectra Utilities territory divided by the Ontario population*
    - *Projected forward to 2040 using the population forecast from the Hemson Growth Report*

- *Average vehicle retirement rate of ~7%/year is obtained from StatsCan vehicle population data compared to StatsCan vehicle sales data, averaged from 2015-2019 (StatsCan)*
- *LDV-BEV sales in Alectra Utilities' territory from 2021-2024 are 1/3 of Guidehouse's sales forecast for Ontario, adjusted for population growth differences between Alectra Utilities and Ontario*
- *LDV-PHEV sales in Alectra Utilities' territory from 2021-2030 are 1/3 of Guidehouse's sales forecast for Ontario, adjusted for population growth differences between Alectra Utilities and Ontario*
- *LDV-BEV sales in Alectra Utilities' territory from 2025-2035 gradually ramp up from 7% to 100% to reflect the federal ZEV mandate*
- *LDV-PHEV sales in Alectra Utilities' territory from 2031-2035 gradually ramp down from 5% to 0% to reflect the federal ZEV mandate*
- *EV retirement rate is the same as the ICE vehicle retirement rate*
- *Alectra Utilities'* vehicle population is projected by taking the prior year's population, adding new sales, and subtracting retirements from the previous year.

The projected cumulative EV vehicles from 2024 to 2034 years in Alectra Utilities' service area is shown in the Figure 14.

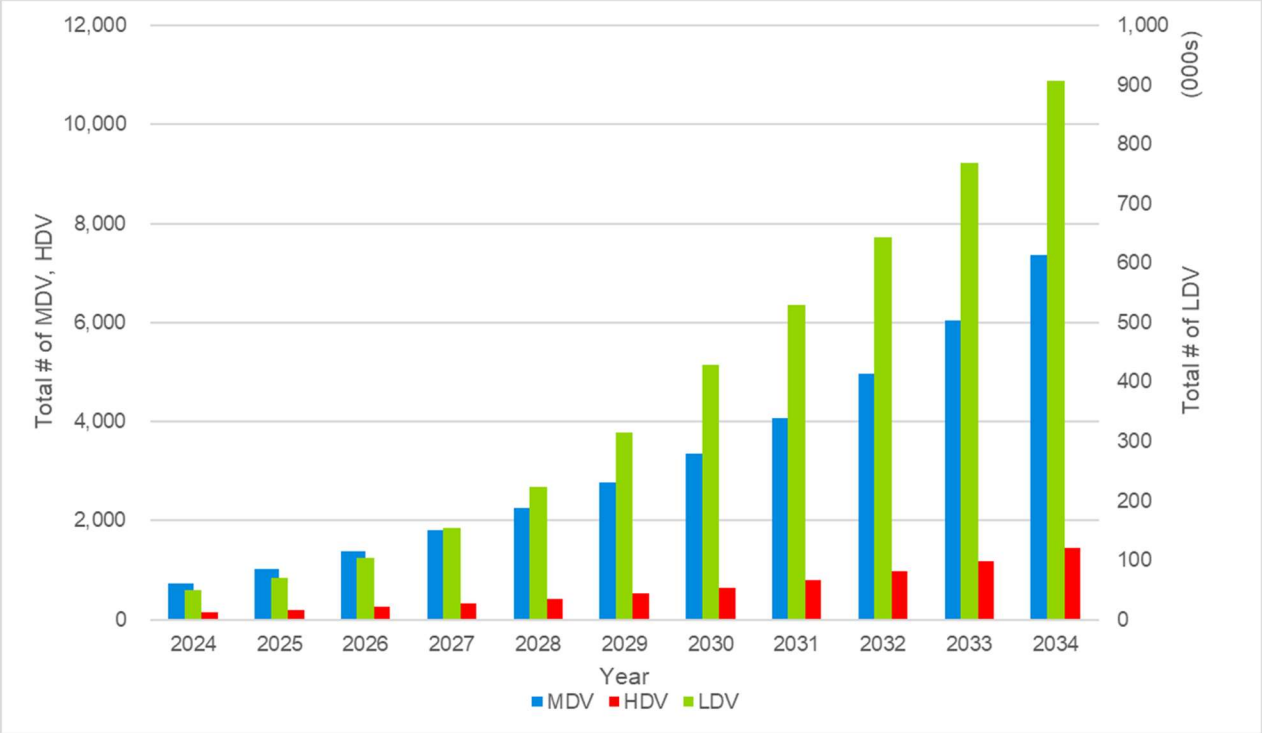


Figure 14. Projected Cumulative EVs in Alectra Utilities' Service Territory

The total number of EV vehicles in Alectra Utilities' service area is expected to reach 914,639 in 2034 as illustrated in Figure 14.

Table 7. Projected Cumulative EV in Alectra Utilities' Service Territory

Vehicle Type	2024	2030	2034
Light Duty Vehicles (LDV)	50,791	429,515	905,808
Might Duty Vehicles (MDV)	729	3,343	7,374
Hight Duty Vehicles (HDV)	143	652	1,457
Total	**51,663**	**433,510**	**914,639**

EVs are charged by three methods which are listed below. Table 8 shows the typical power, approximate range per hour, and typical use cases based on charger type.

Level 1 Charging: It requires a standard 120V outlet. Most exclusively utilized at home and allows vehicles to be charged overnight. No investment is required by the homeowner.

Level 2 Charging: It utilizes a 240V outlet and can be installed in homes, workplaces, hotels, and malls. Home installation requires the house panel to be upgraded to 200A.

Level 3 Charging: Typically referred to as DC Fast Charging (DCFC) and delivers DC power to the battery. Requires three-phase power and AC/DC or DC/DC conversion. Suitable for high-speed charging and MDV and HDV vehicles. They are typically in the range between 50-250 KW.

Table 8. Three Types of EV chargers

Level	Approximate Power Consumption (kW)	Approximate Range per Hour of Charging	Use Cases
1	**1-3 kW**	5-8KM/hr. of Charging	Home, Overnight
2	**3-19 kW**	22- 56 KM/hr. of Charging	Home, workplace, garage, grocery store, hotels, public charging.
	Typically 6.2-7.6 KW		
3	**50 KW- 350 kW**	50 KW- 120 -275KM per hour	Require three-phase power and a dedicated 600V outlet. Highways, travel corridors, and transit facilities. Commercial Fast Charging.
	Typically 50-250 KW		

Figure 15 and Table 9 show the total MW of charging infrastructure installed to support the EV penetration to 2040. Between 2024 to 2034 EV charging infrastructure installed is expected to grow from 306MW to 5,041MW.

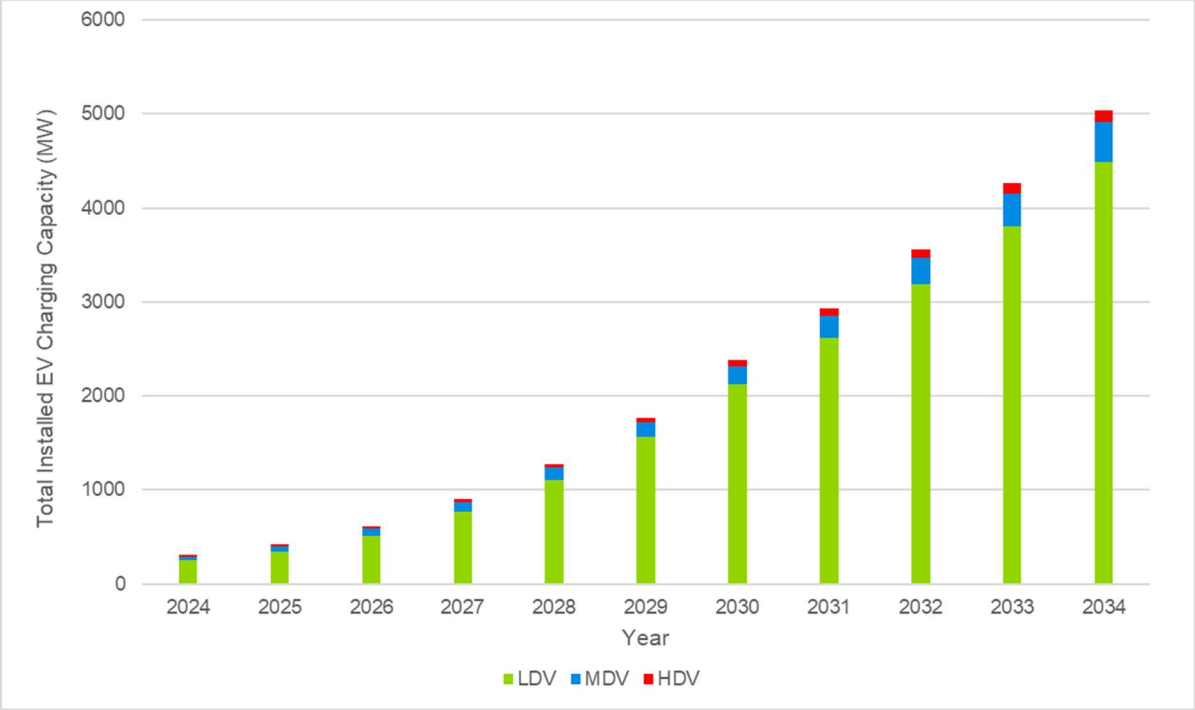


Figure 15. EV Charging Equipment Capacity Forecast in Alectra Utilities' Service Territory, 2024-2034

Table 9. EV Charging Equipment Capacity Forecast in Alectra Utilities' Service Territory, (MW), 2024-2034

Vehicle Type	2024	2030	2034
Light Duty Vehicles (LDV)	251	2,126	4,484
Might Duty Vehicles (MDV)	42	194	426
Hight Duty Vehicles (HDV)	13	59	131
Total	**306**	**2,378**	**5,041**

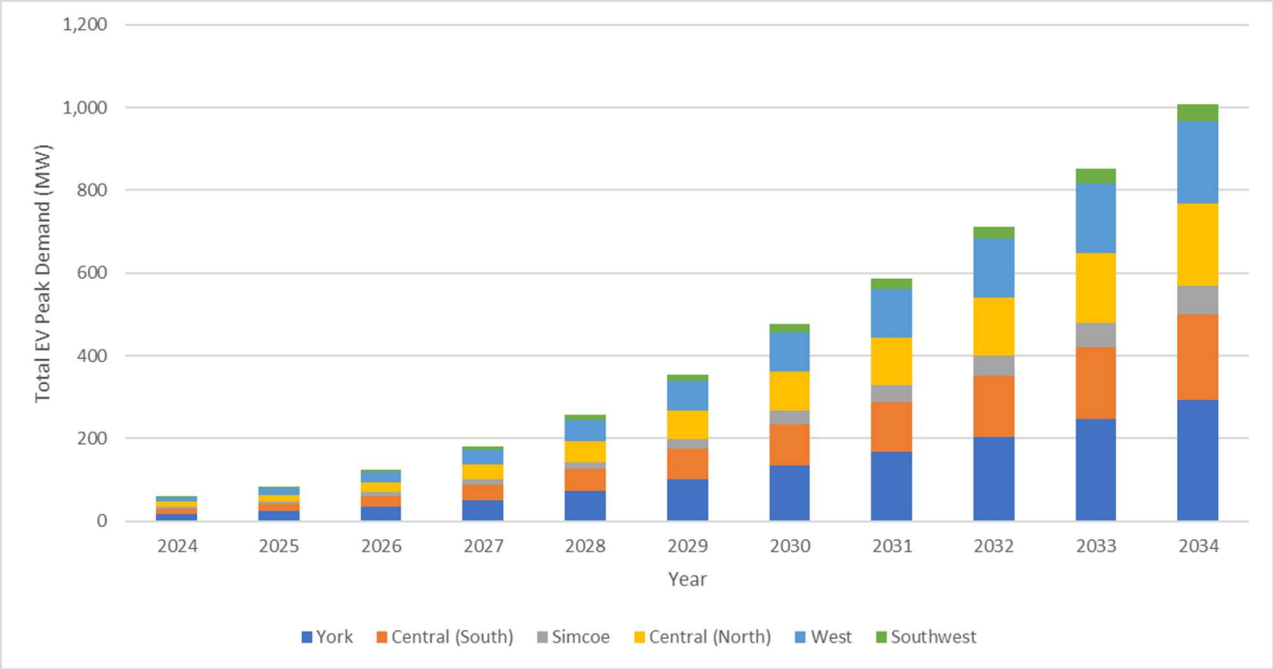


Figure 16. EV Charging Load Peak Demand – Alectra Utilities' Service Area, 2024-2034

Figure 16 indicates that the maximum EV charging load is estimated to be 61MW in 2024 and increase to 1,008MW in 2034 across the entire Alectra Utilities' service territory. Most of the EV charging load is passenger LDV while the MDV and HDV accounts for approximately 15-20% of the total 1,008MW.

It is important to note that the incremental EV load is not concentrated in a single municipality or sub-region. It's distributed across the Alectra Utilities' entire service territory, reflecting the dispersed nature of EV adoption. The highest forecasted EV load is expected to occur in the York Planning Zone, approximately 293MW in 2034.

The non-coincident summer peak demand forecast results of the above scenarios are shown in Figure 17.

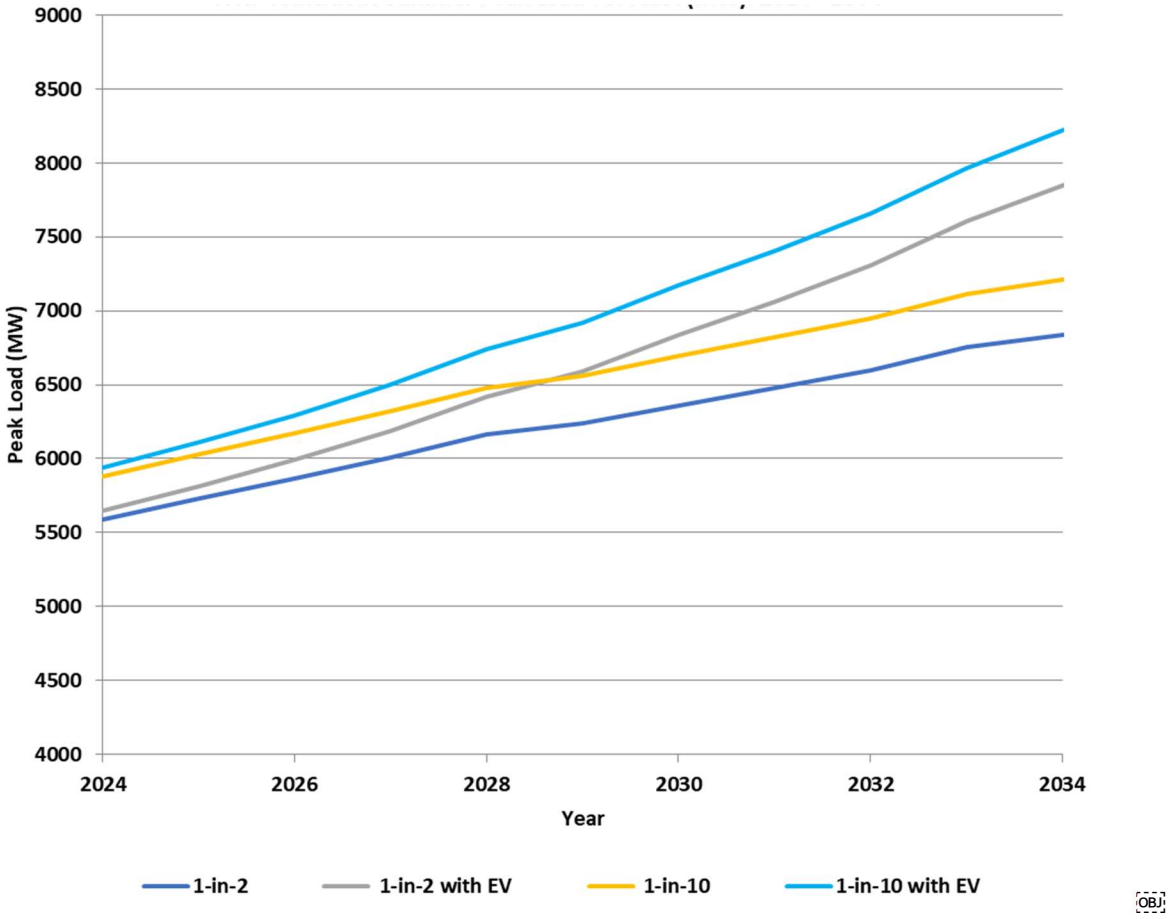


Figure 17. Non-Coincident Summer Peak Load Forecast with EV, 2024-2034

Based on Figure 17, the EV charging load is expected to account for roughly 12% of the total summer peak load.

3.7 Non-Coincident Summer Peak Load Forecast

For the Alectra Utilities' 2024-2034 summer load forecasts, average annual residential and non-residential developments are based on information gathered from multiple Municipal Development Charges Reports [3]-[9], [11] and [13]-[14]. In this section, the non-coincident Alectra Utilities' 2024-2034 summer load forecast will be presented by considering the annual load growth, CDM targets, and DER expansion from 2024-2034.

3.7.1 Non-Coincident Summer Peak Load Forecast with CDM

By considering the load growth, CDM, and DER projections for each region, the non-coincident summer peak load forecast for each region and the total Alectra Utilities' system territory from 2024 to 2034 is shown in Figure 18. In this analysis, two weather scenarios including (1-in-2) and (1-in-10) were modeled. For system capacity adequacy and capital investment planning a (1-in-10) scenario is considered.

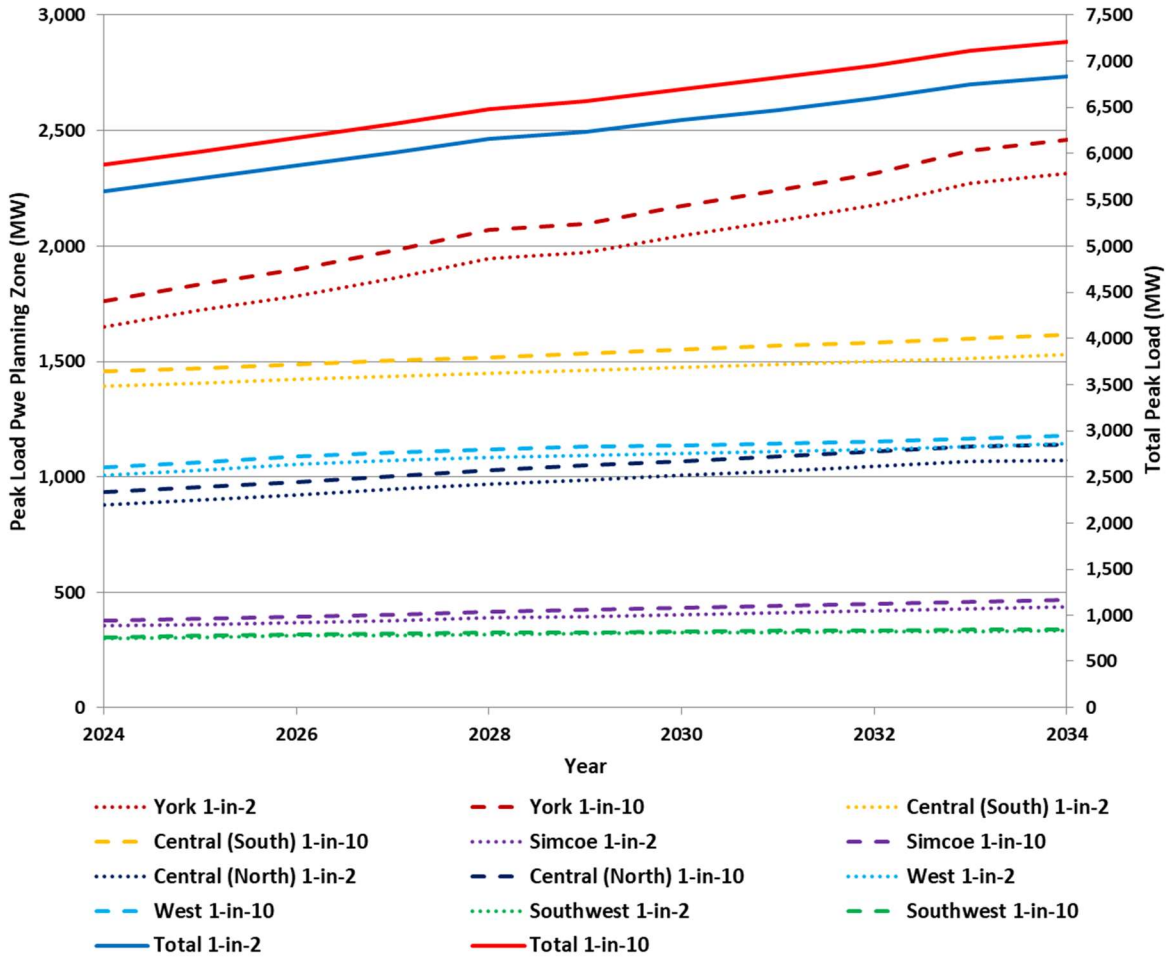


Figure 18. Non-Coincident Summer Peak Load Forecast with CDM, 2024-2034

From Figure 18, the total non-coincident summer peak load will reach 6,837MW and 7,209MW respectively for base 1-in-2 and 1-in-10 scenarios in 2034.

3.7.2 Non-Coincident Summer Peak Load Forecast with CDM and EV

Figure 19 shows the combined impact of EV charging and CDM on the non-coincident summer peak load for each region and the entire Alectra Utilities service territory from 2024 to 2034 for base 1-in-2 and 1-in-10 scenarios.

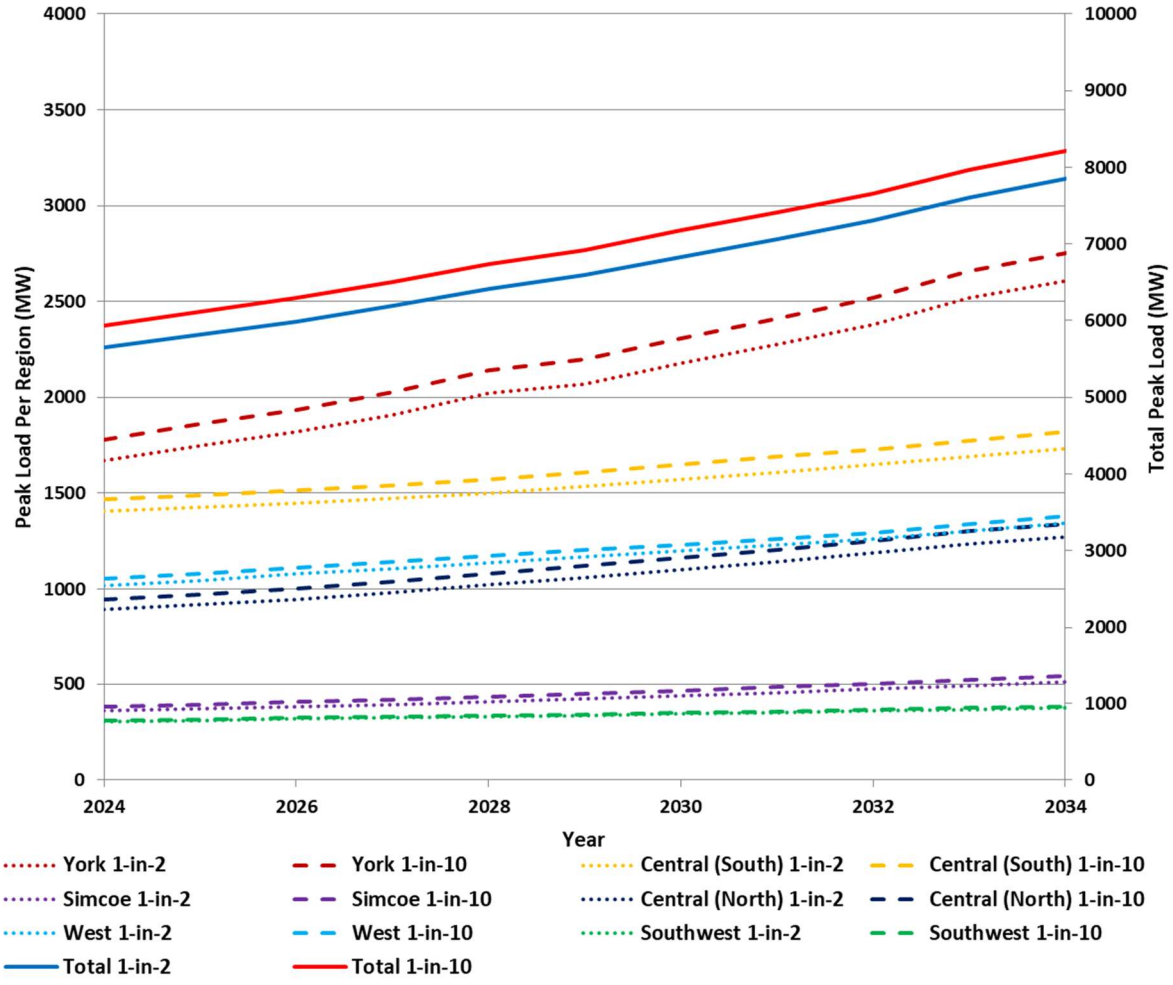


Figure 19. Non-Coincident Summer Peak Load Forecast with CDM and EV, 2024-2034

By considering the EV charging impact, the non-coincident peak load will be expected to increase from 5,650MW in 2024 to 7,845MW in 2034 for the base (1-in-2) scenario. Similarly, for the base (1-in-10) scenario, the non-coincident peak load will be expected to increase from 5,938MW in 2024 to approximately 8,217MW in 2034. A comparison of the base forecast (Figure 18) with the forecast that includes EV impacts (Figure 19) shows how EV adoption raises projected peak demand.

3.8 Non-Coincident Winter Peak Load Forecast

In this section, the non-coincident Alectra Utilities' 2024-2034 winter load forecast will be presented by considering the annual load growth, CDM targets, and EV impact over the next 10 years. In conclusion, the non-coincident winter peak loading with CDM and EV effects was found to be on average 16% lower compared to the non-coincident summer peak with CDM and EV.

3.8.1 Non-Coincident Winter Peak Load Forecast with CDM

Figure 20 illustrates the Alectra Utilities' non-coincident winter peak forecast for the next 10 years. According to Figure 20, the winter peak is expected to increase from 4,080MW in 2024 to around 4,991MW in 2034 for the base (1-in-2) and (1-in-10) scenarios.

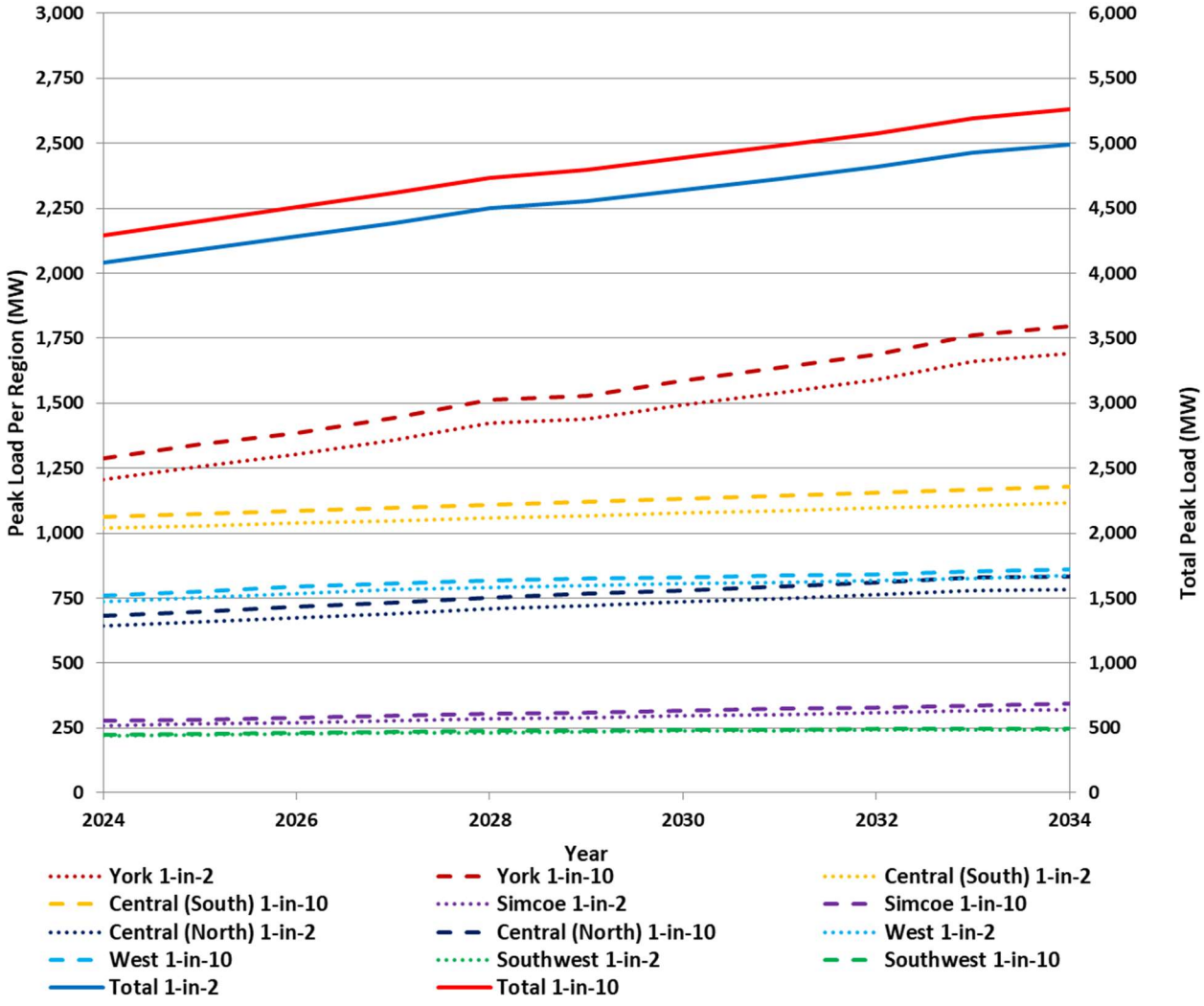


Figure 20. Non-Coincident Winter Peak Load Forecast with CDM, 2024-2034

3.8.2 Non-Coincident Winter Peak Load Forecast with CDM and EV

In this section, the impact of EV charging load on the winter peak will be evaluated. Figure 21 illustrates the Alectra Utilities' non-coincident winter peak forecast by considering CDM and the EV charging load. The forecasted results show that the winter peak load in Alectra Utilities' service territory will reach 5,999MW and 6,270MW for a (1-in-2) and (1-in-10) scenarios respectively in 2034.

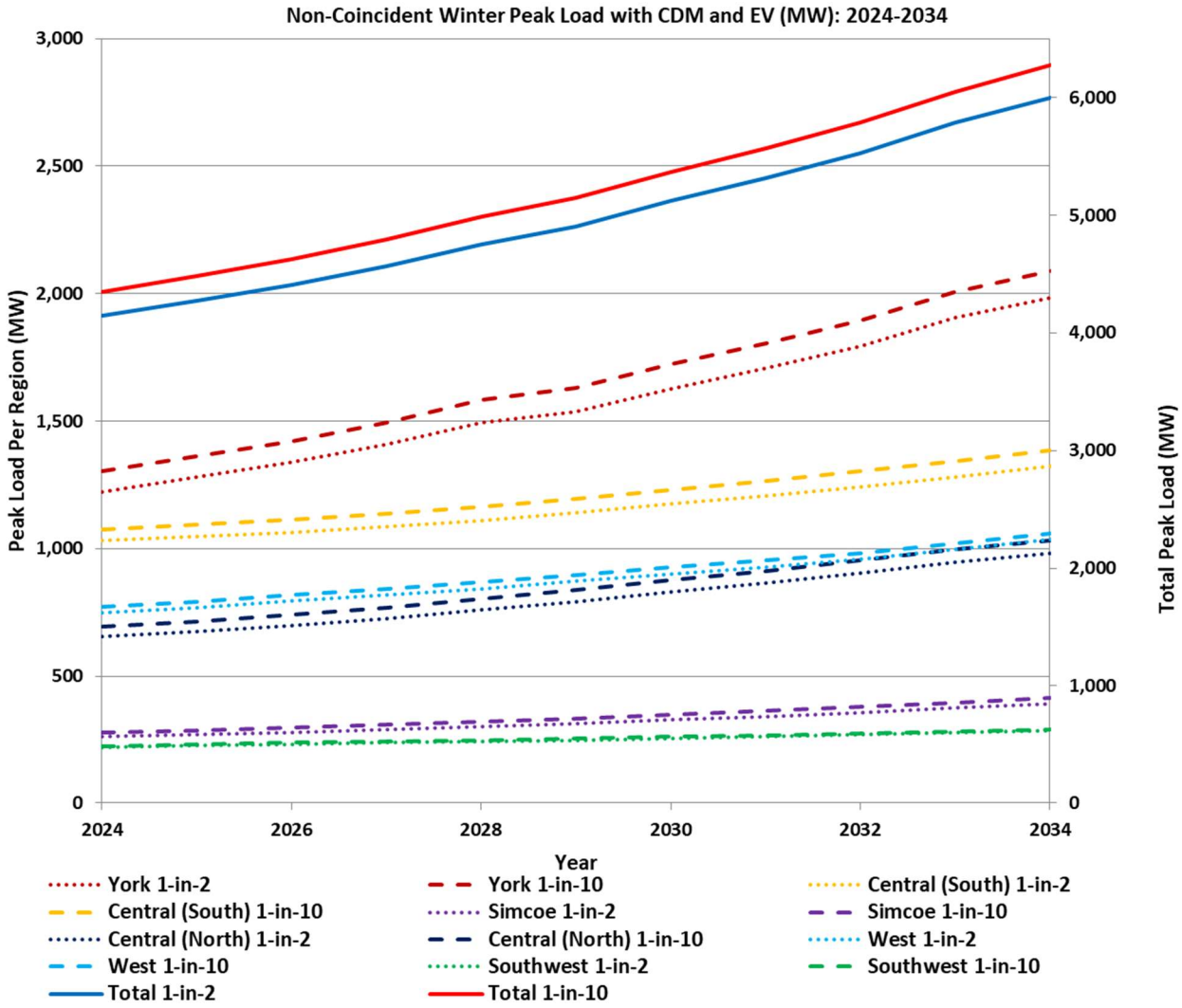


Figure 21. Non-Coincident Winter Peak Load Forecast with CDM and EV, 2024-2034

3.8.3 Non-Coincident Winter Peak Load Forecast with CDM, EV, and Decarbonization

In this section, the impact of existing and new buildings decarbonization on the winter peak load forecast is evaluated. Due to ongoing electrification efforts, it is expected that winter loading will increase and in long –term. Alectra Utilities would become winter peaking utility. Alectra Utilities developed three scenarios: low, medium and high to determine the electrification impact on peak in the medium- to long-term based on municipal energy plans and carbon policies. Three scenarios considered are defined in the table below.

Table 10. Winter Decarbonization Assumptions

Scenarios	Assumptions
Low Scenario	1. **2040** is the date after which all new homes and ICI buildings were considered to be heated by hybrid standard heat pump with a gas furnace backup and Cold climate heat pump with supplementary heat by **2045**.** 2. ***7%** of existing homes and ICI building will be retrofitted with hybrid standard heat pump with a gas furnace backup by **2040**.
Medium Scenario	1. **2035** is the date after which all new homes and ICI buildings were considered to be heated by hybrid standard heat pump with a gas furnace backup and Cold climate heat pump with supplementary heat by **2036.** 2. **15%** of existing homes and ICI building will be retrofitted with hybrid standard heat pump with a gas furnace backup by **2040**.
High Scenario	1. **2035** is the date after which all new homes and ICI buildings were considered to be heated by hybrid standard heat pump with a gas furnace backup. Cold climate heat pump with supplementary heat by **2036**. 2. **30%** of existing homes and ICI building will be retrofitted with a hybrid standard heat pump with a gas furnace back up by **2040**.

**Hybrid Heat Pump is a dual fuel heating system. A dual fuel heat pump is a heating system that combines an electric heat pump and a gas furnace. The system automatically switches between the two units—using the heat pump or the furnace depending on the season and outdoor temperature in order to maximize efficiency when heating or cooling a home.*

Depending on the type and penetration of heat pumps and operational set points, Alectra Utilities evaluated the impact at -10ºC and -25ºC. Based on hybrid standard heat pump operational principles, the electrical peak demand is expected to occur at -10ºC. At temperatures below -

10ºC, the hybrid heating system typically switches over to gas furnace backup, reducing electricity demand despite the higher heating requirements. At -25ºC, the standard hybrid heating pump switches over to fully gas furnace while cold climate heat pump with supplementary heat continue to provide heat.

The following Figure 22 and Figure 23 present the winter system peak demand forecast for the three scenarios outlined in Table 10. The forecast assumes that a standard hybrid heat pump produces its peak demand at –10°C, with additional impacts from EV adoption and CDM measures under both 1-in-2 and 1-in-10 weather scenarios.

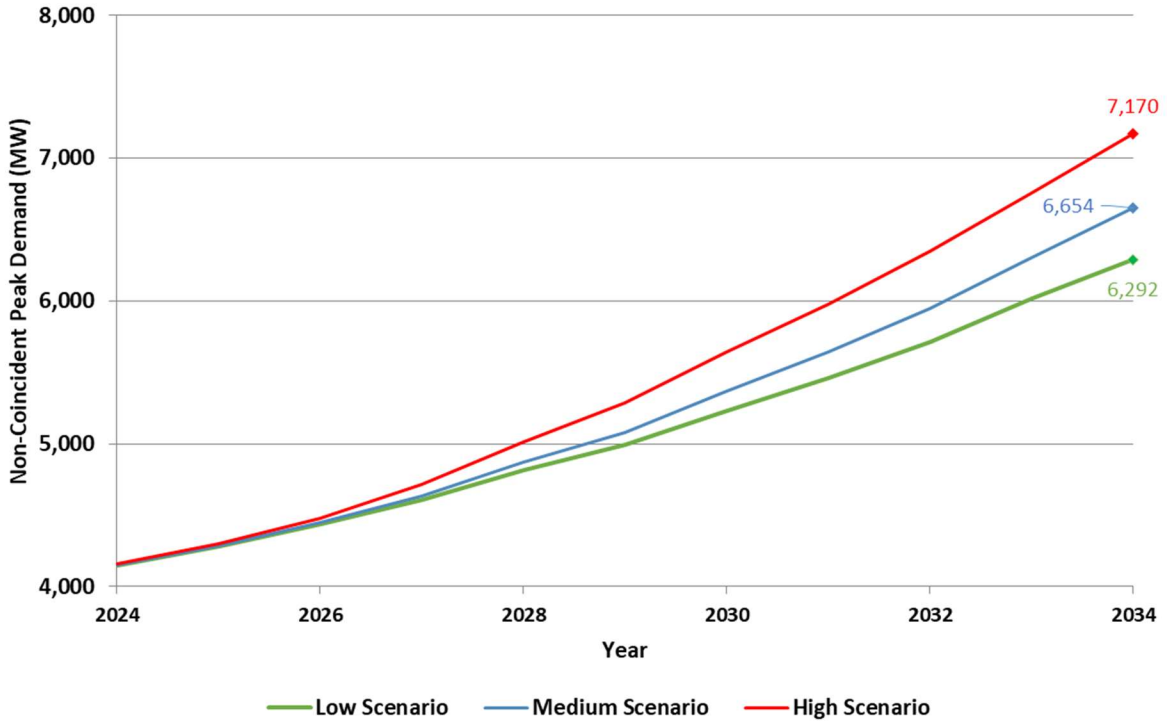


Figure 22. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit (MW), Low, Medium and High Scenario, (1-in-2)

According to Figure 22 under (1-in-2) weather scenario by 2034, the Alectra Utilities Winter peak demand is forecasted to increase to 7,170MW under the High Decarbonization Scenario, 6,654MW under Medium and 6,292MW under Low scenario. In addition to decarbonization/retrofit loads, the scenarios account for the impact of EV and CDM loads on the system.

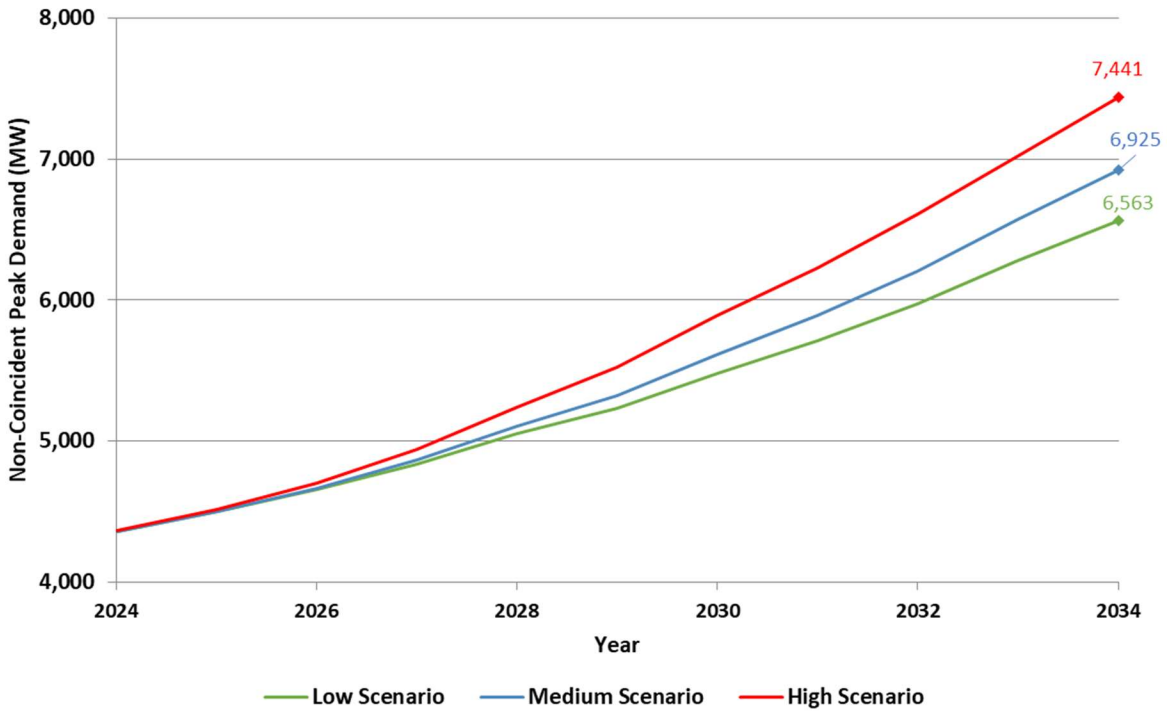


Figure 23. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit (MW), Low, Medium and High Scenario, (1-in-10)

According to Figure 23, under (1-in-10) weather scenario by 2034, the Alectra Utilities' winter peak demand is forecasted to increase to 7,441MW under high decarbonization scenario assumptions, 6,925MW in the medium scenario and 6,563MW under the low scenario. In addition to decarbonization and retrofit loads, the scenarios also consider the impact of EV and CDM loads.

The medium scenario has been selected as the basis for further analysis, providing a balanced outlook between the low- and high-growth scenario. The Figure 24 below illustrates the forecasted impacts of building decarbonization, EV adoption, and CDM measures across each planning zone within the service territory. By presenting results at the planning zone level, the analysis highlights how localized demand patterns may evolve under the medium scenario and identifies areas where electrification and conservation efforts will play a critical role in shaping future system needs.

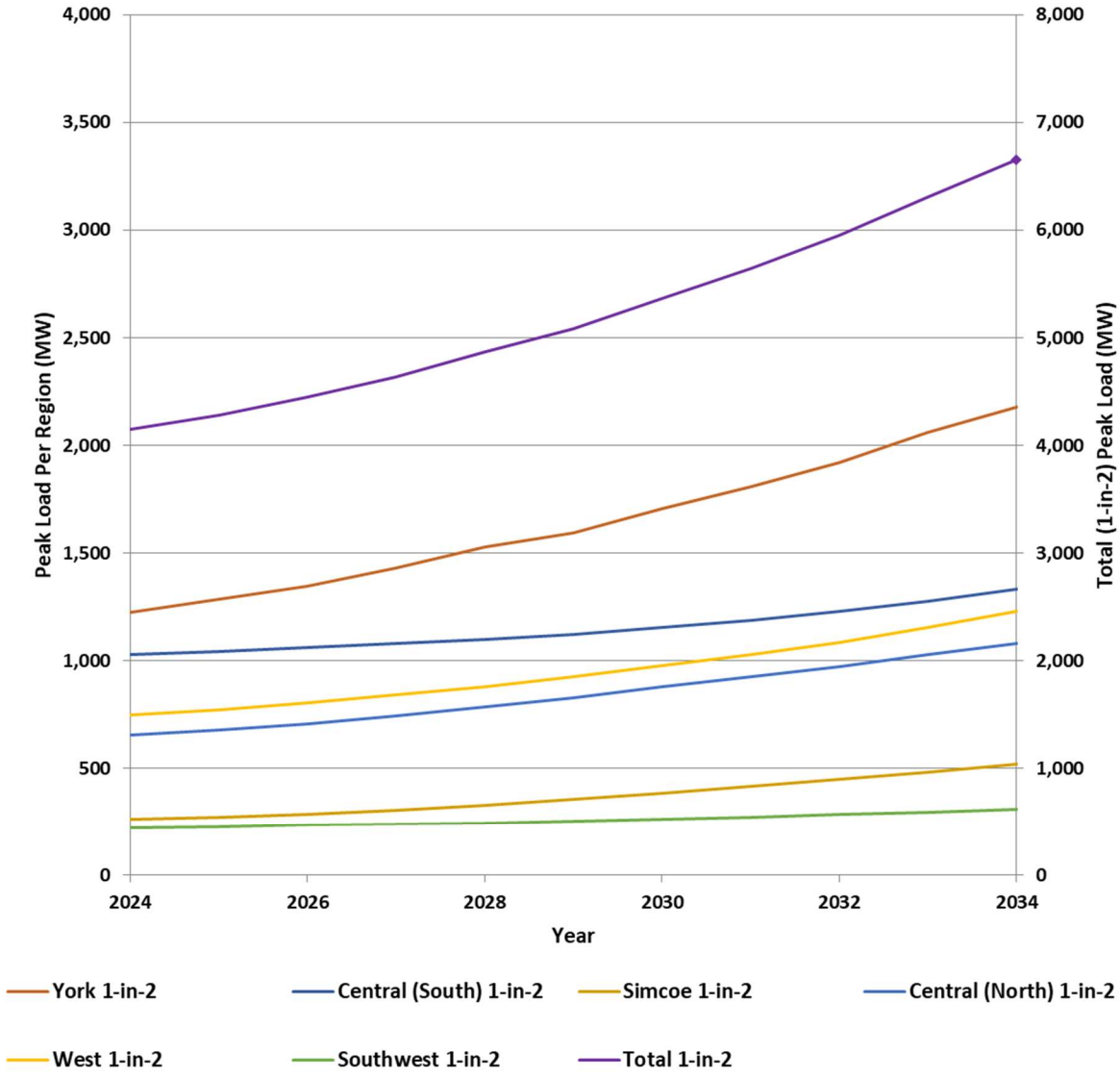


Figure 24. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit, Medium Scenario, (1-in-2)

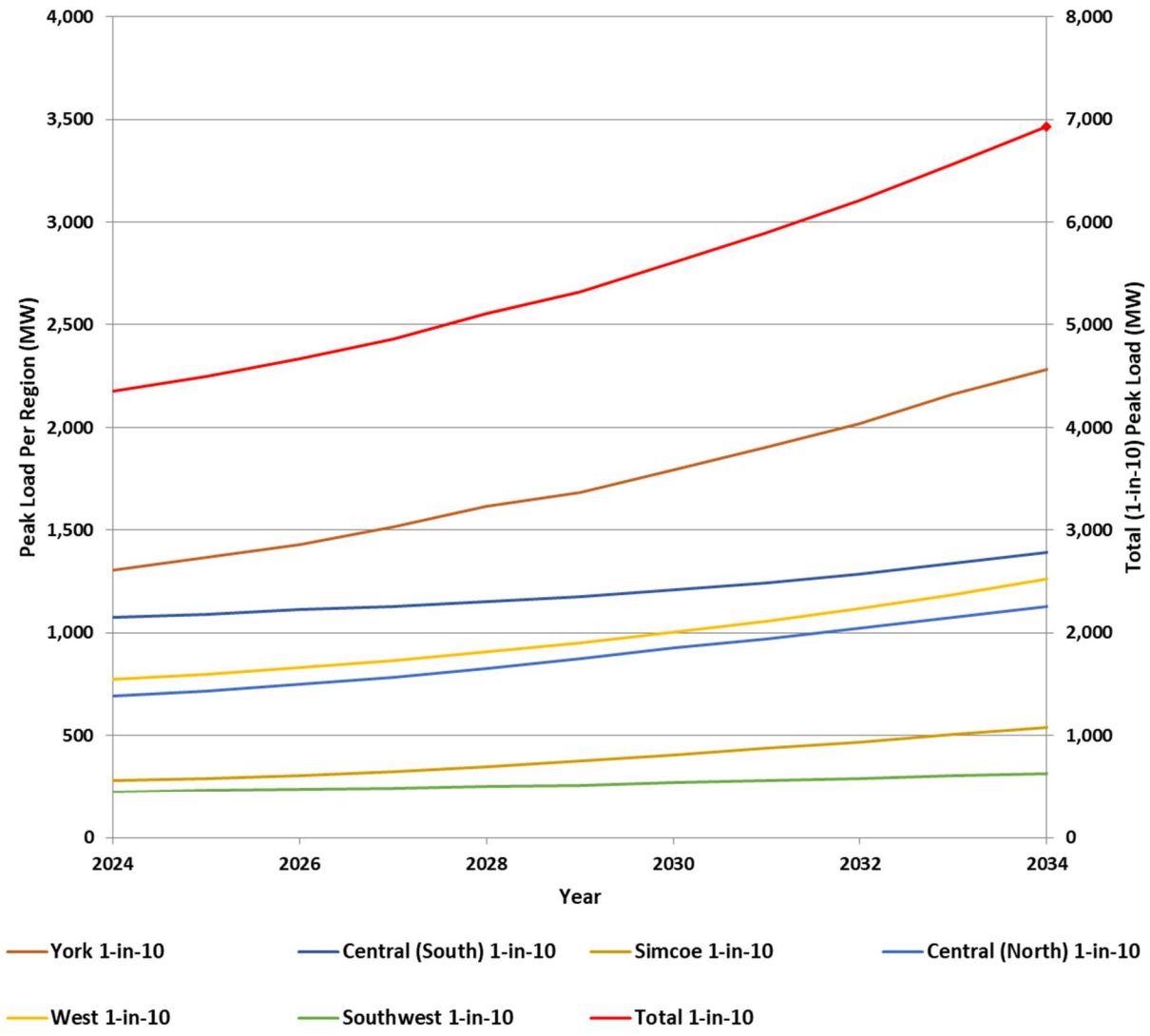


Figure 25. Non-Coincident Winter System Peak Demand with CDM/EV/Decarb/Retrofit (MW), Medium Scenario, (1-in 10)

By considering the impact of EV charging and decarbonization loads for existing and new buildings, the non-coincident winter peak forecast for medium scenario will reach 6,654MW and 6,925MW for normal (1-in-2) and extreme (1-in-10) weather scenarios by 2034.

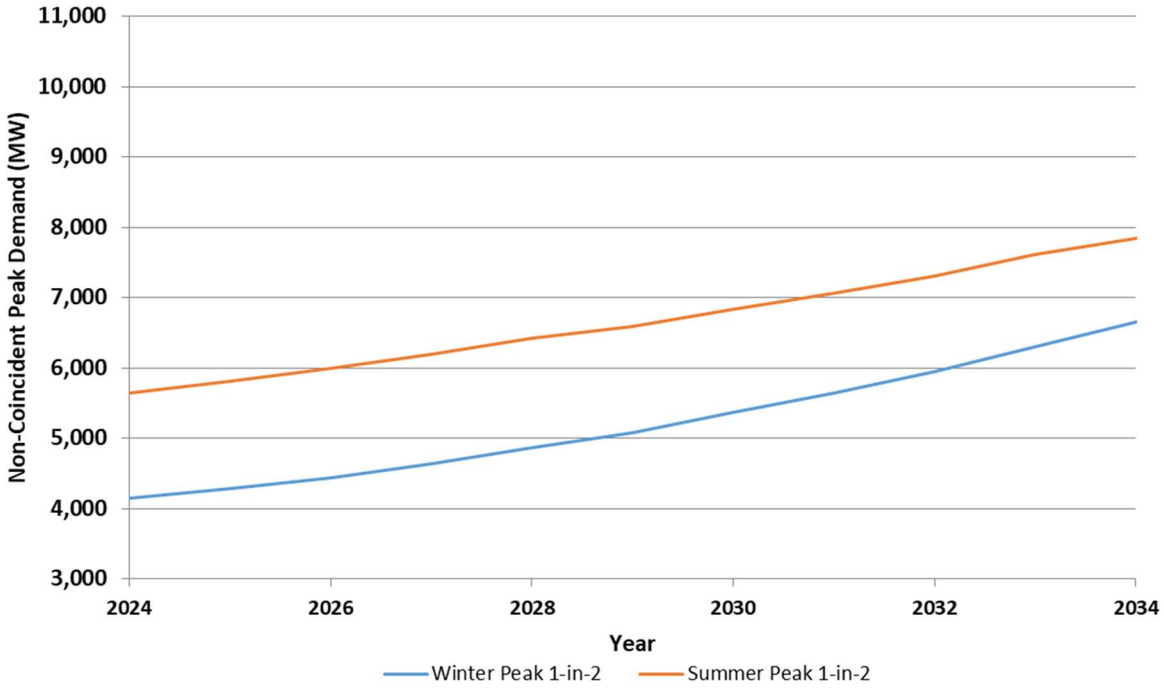


Figure 26. Non-Coincident Winter System Peak vs. Summer Peak, Medium Scenario, (1-in-2)

From Figure 26, the non-coincident winter system peak is projected to reach 6,654MW compared to summer peak of 7,845MW in 2034. The winter peak forecast incorporates the impacts of building decarbonization, and retrofits driven by the adoption of standard hybrid heat pumps operating at –10°C, as well as increased EV adoption and CDM measures.

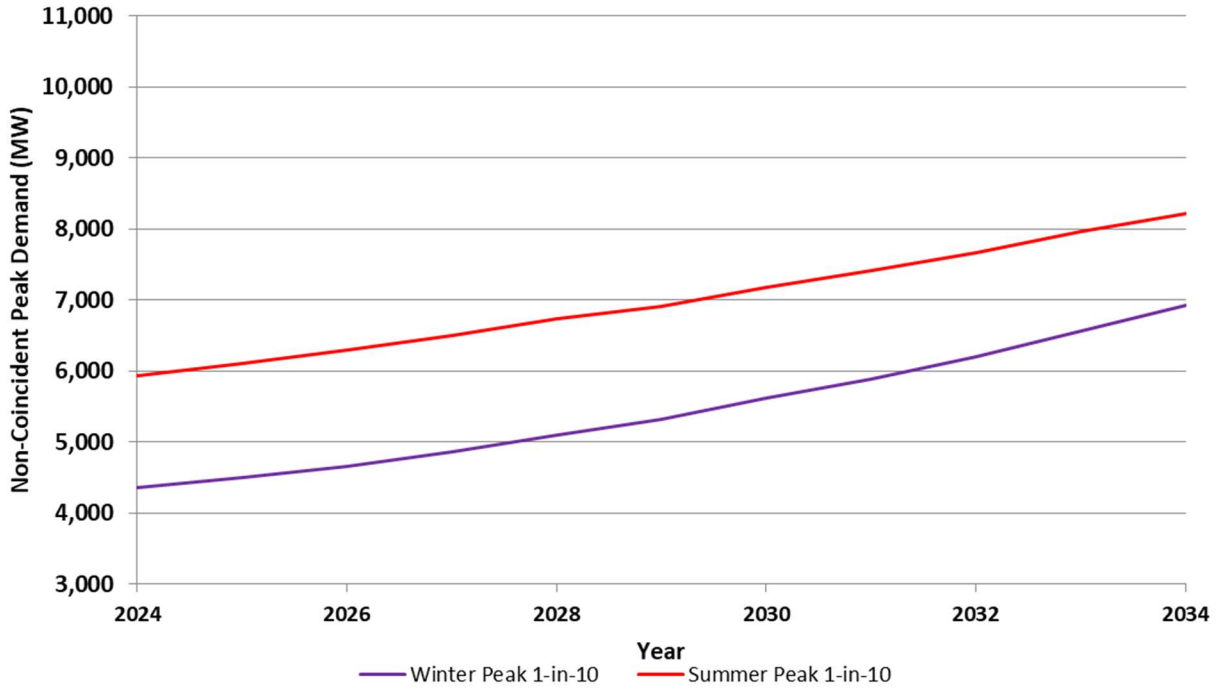


Figure 27. Non-Coincident Winter System Peak vs. Summer Peak Medium Scenario, (1-in-10)

From Figure 27, the non-coincident winter system peak is projected to reach 6,925MW, compared to 8,217MW for the non-coincident summer peak in 2034. The winter peak forecast incorporates the impacts of building decarbonization, and retrofits driven by the adoption of standard hybrid heat pumps operating at –10°C, as well as increased EV penetration and CDM measures. The system demand in the near-term is primarily driven by the summer load.

4. System Capacity Adequacy Assessment

A System Capacity Adequacy Assessment is conducted to determine the sufficiency of existing station infrastructure resources and identify additional capacity requirements. The non-coincident peak demand for each planning zone is used as the basis for assessing capacity adequacy. The non-coincident peak demand projections based on (1-in-10) weather scenario are compared with available station and distribution capacity in Alectra Utilities' service area. Approved planning standards and processes are applied to determine system augmentation required.

The outcomes of the System Capacity Adequacy Assessment are:

- Future new TS and MS requirements by year and by planning zone
- Anticipated TS and MS loadings in the future by year and by planning zone

4.1 York Planning Zone

4.1.1 York

The existing system's summer capacity as of 2023 is 2,088MVA. The peak electricity load growth projections for a 10-year period (2024-2034) were compared to available station and distribution grid capacity in the Alectra's York Planning Zone to determine future capacity requirements.

The City of Markham and the Town of Richmond Hill are primarily supplied by seven Alectra Utilities-owned TSs and one Hydro One TS, in addition, there are ties to other stations in the City of Vaughan. Table 11 shows the forecasted loading at the existing and new TSs in Markham and Richmond Hill area. System capacity adequacy assessments were performed to determine the future TS and MS requirements that are shown below.

Table 11. LTR Capacity with Existing and Forecast Load for Markham and Richmond Hill, 2024-2034

Station	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
VTS1	170	170	170	170	170	170	170	170	170	170	170	170
VTS1E	170	170	170	170	170	170	170	170	170	170	170	170
RH-TS1	170	150	170	170	170	170	170	170	170	170	170	170
RH-TS2	112	110	110	112	112	112	112	112	112	112	112	112
MTS1	90	90	90	90	90	90	90	90	90	90	90	90
MTS2	112	112	112	112	112	112	112	112	112	112	112	112
MTS3	112	100	105	112	112	112	112	112	112	112	112	112
MTS3E	112	100	105	112	112	112	112	112	112	112	112	112
Buttonville	170	160	161	170	170	170	170	170	170	170	170	170
MTS4	170	120	120	125	170	170	170	170	170	170	170	170
Total	**1388**	1282	1313	1343	**1388**	**1388**	**1388**	**1388**	**1388**	**1388**	**1388**	**1388**
New Station (MTS#5)						68	113	170	170	170	170	170
New Station (RHTS#3)								32	101	170	170	170
New Station (MTS#6)												47

The total 10-day Limited Time Rating (LTR) capacity of these stations is 1,388MVA, while the existing station loading is 1,282MVA. There is only 108MVA available in this area. However, there are several large ongoing customer expansions with a total demand of 112MVA.

A large data centre expansion (DC4, DC5, DC6) is at the design stage and is projected to require 72MVA in total demand. The Buttonville Airport redevelopment and other Leslie Street developments are in design stage as well with another 40MVA projected demand. After these customer expansion is completed, there will be no capacity remaining for other developments.

Figure 28 illustrates the projected loading on the existing and new transformer stations in Markham and Richmond Hill area from 2024 to 2034.

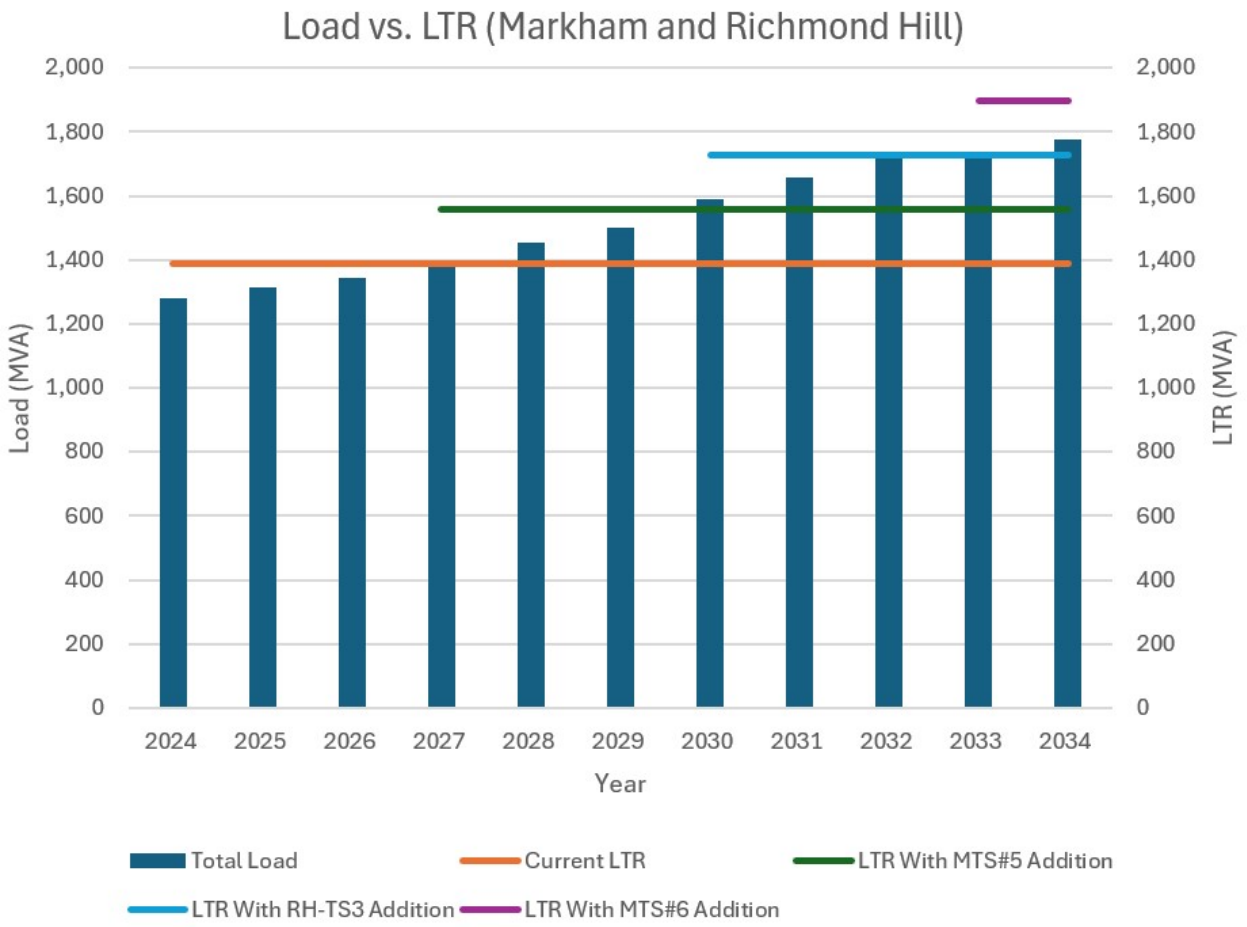


Figure 28. Load vs. LTR for Markham and Richmond Hill (2024-2034)

2027/2028 – TS#5 in Markham (170MVA capacity)

The planned in-service date for the new Markham TS#5 transformer station is 2027/2028. This station is required to meet forecasted load growth and must be operational by then to maintain system reliability.

Markham TS#5 will be located at the existing HONI-owned Buttonville TS site, as it has sufficient space to accommodate a new TS. Alectra Utilities will engage Hydro One to enter in CCRA agreement to build a new 230/27.6kV –170MVA DESN. Alectra Utilities plans to completed the class EA for the new TS in 2025 and then design and construct the station to meet in-service date of 2027/2028.

As of 2024, the area has a population of approximately 575,164 and 15,190 businesses with 259,858 employees.

Between 2024 and 2034, Markham and Richmond Hill are projected to add approximately 47,430 residential units (32,672 unit in Markham and 14,758 units in Richmond Hill) and 3.1 million square meters of commercial/industrial space (2.5 million square meter in Markham and 0.6 million square meters in Richmond Hill). Refer to the forecast in Figure 28.

The major developments in the area that are intended to be supplied by this project include:

Markham Future Urban Area (FUA)

The City of Markham is working on an Official Planning Amendment which expands the Urban Area of the Town of Markham to both sides of Warden Ave to provide opportunities for urban growth to the year 2031. The north Markham Future Urban Area covers approximately 1,288 hectares (3,183 acres) bordered by Major Mackenzie Drive to the south, the Hydro Corridor and Woodbine Avenue to the west, the northerly city limits and Elgin Mills Road to the north, and the Robinson Creek to the east.

Approximately 675 hectares (1,668 acres) of developable lands are designated for future neighborhoods, located primarily between Major Mackenzie Drive and Elgin Mills Road. Approximately 300 hectares (741 acres) located north of Elgin Mills Road are designated for employment uses. In total, the Future Urban Area is intended to accommodate approximately 12,000 residential units with a population of approximately 38,000 persons, and approximately 19,000 jobs. It is expected approximately 60MW of new loads are expected on both sides of Warden Ave north of Major Mackenzie Dr.

The Markham Innovation Exchange (Mix)

The Mix is planned to be Ontario's first innovation area that is located on 1,920 acres directly adjacent to Highway 404. When fully build out the load for entire development will be 120MW. Currently, there are two large (10MW each) developments proposed in the 19th Ave and Woodbine Ave area: one in the southeast corner of 19th Ave and Woodbine Ave, and one on the southwest corner of 19th Ave and Woodbine Ave.

Due to the load growth from these new developments, and other organic growth, the total peak demand in the Markham and Richmond Hill area is expected to increase by approximately 458MW from 2024 to 2033.

The IESO issued a hand-off letter to Alectra Utilities and Hydro One concerning the implementation of a non-wires solution to accommodate the new growth in Markham area. The

recommended scope of the project consists of a new 230/27.6kV 170MVA DESN TS in the City of Markham.

The estimated timeline to build the new Markham TS is 3-5 years, as the new station is planned to be built within the existing HONI-owned Buttonville TS. The site has sufficient space to accommodate a new TS. Alectra Utilities will engage Hydro One to enter in CCRA agreement with Hydro One to build a new 230/27.6kV –170MVA DESN. Alectra Utilities intends that the EA screening assessment for the new TS will be completed by 2026 so that station design can begin in 2026, for an in-service date by 2028

2030 – TS#3 in Richmond Hill (170MVA capacity)

The construction of the new Richmond Hill TS#3 is to meet the load requirements for Metrolinx's Yonge North Subway Extension (YNSE) project, as well as other developments in the Richmond Hill area. The projected in-service date for the new station is 2030, as required to meet anticipated load growth and timelines for the developments listed below.

Yonge North Subway Extension

The Yonge North Subway Extension will extend the TTC's Line 1 subway service approximately 8 kilometers from its existing terminus at Finch Station into the City of Richmond Hill, see Figure 29. The project spans the City of Toronto and York Region, including parts of the Cities of Markham, Vaughan and Richmond Hill. Four traction power substations have been proposed within Alectra Utilities' service territory. The maximum demand for these four stations is 35MVA, and full supply redundancy is required to meet the reliability requirements of the rail system. Four new dedicated 27.6kV feeders are required to supply these stations.



Figure 29. The Yonge North Subway Extension

Richmond Hill Centre

Richmond Hill Centre (RHC) is planned to accommodate a population of approximately 23,000 residents, 16,500 jobs, and 13,000 residential units at full build-out within an Urban Growth Centre boundary of approximately 60 hectares. The anticipated load is 50MVA when fully built out.

Langstaff Gateway Secondary Plan development: Langstaff Gateway Secondary Plan Area projects development of a high-density urban centre with up to 15,000 residential units (or a population of approximately 32,000) and approximately 10,000 jobs. The anticipated load for this area is 45MVA when fully built out.

Yonge Steeles Secondary Plan

City of Vaughan's Yonge Steeles Corridor Secondary Plan area, shown in Figure 30, is located along the west side of Yonge Street between Steeles Avenue West and Thornhill Public School and on the north side of Steeles Avenue West between Yonge Street and Palm Gate Boulevard

in the south plan area; and between the Thornhill Golf and Country Club and Longridge Road in the north plan area projects 25,202 residential units and a population of 45,000. The anticipated load is 88MW when fully built out.

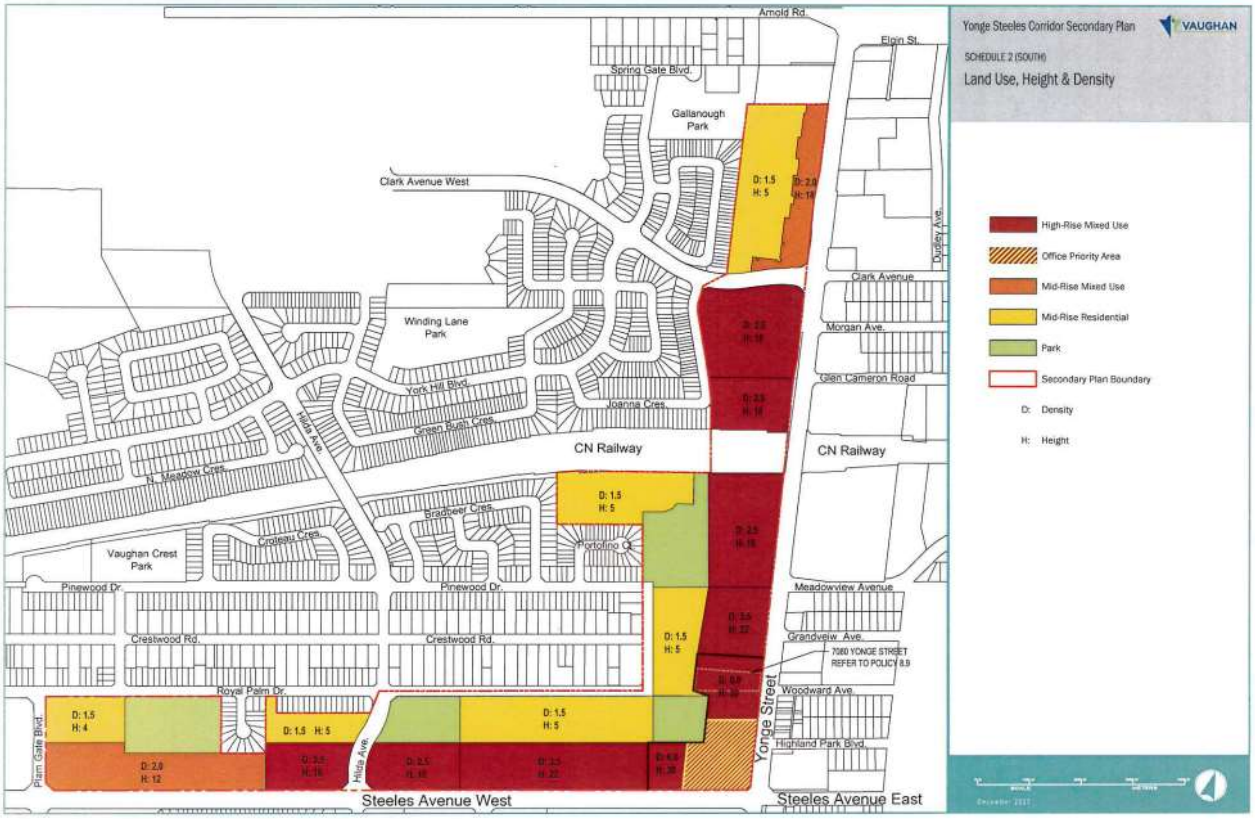


Figure 30. Yonge Steeles Secondary Plan [12]

2034 – TS#6 in the City of Markham (170MVA capacity)

The construction of the new Markham TS#6 is to meet the load requirements in Markham north and Richmond Hill north area. The projected in-service date for the new station is 2034.

Between 2024 and 2034, the City of Markham and the Town of Richmond Hill are projected to add approximately 47,430 residential units (32,672 unit in Markham and 14,758 units in Richmond Hill) and 3.1 million square meters of commercial/industrial space (2.5 million square meters in Markham and 0.6 million square meters in Richmond Hill).

The timeline to build the new station is approximately 5-7 years, including the EA process. Alectra Utilities will need to complete the land purchase, complete class EA as well as the preliminary design of Markham TS#6 for an in-service date of 2034. The exact location of Markham TS#5 will depend on the outcome of the EA, including the associated public consultation process.

City of Vaughan

Vaughan is primarily supplied by five Alectra Utilities owned transformer station. The total capacity of these stations is 850MVA, while the existing station loading is 724MVA. There is only 126MVA available in Vaughan area.

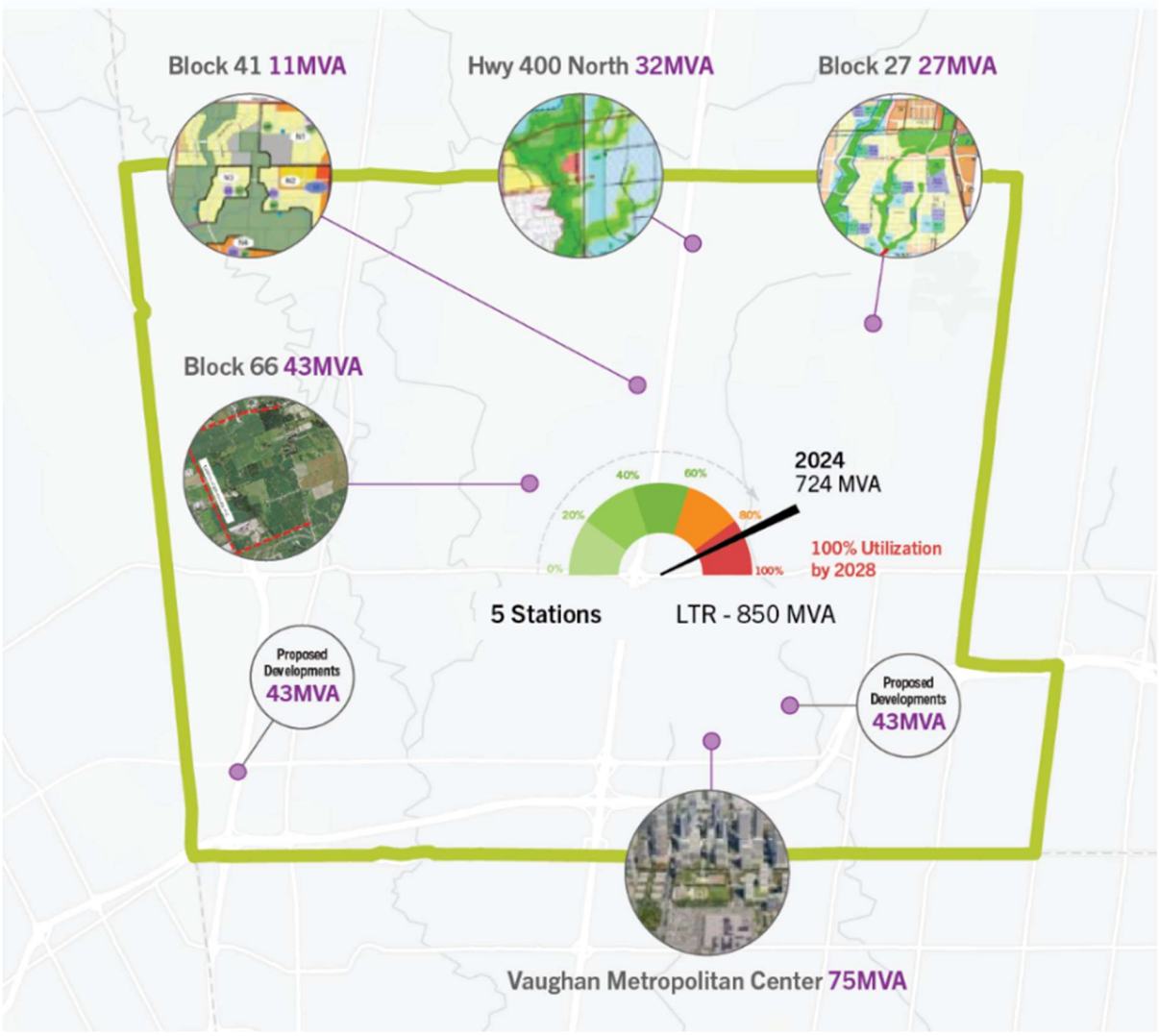


Figure 31. York Region Station - Vaughan, Ongoing Expansions and Growth Expected to 2035

The VMC is in the vicinity of five Alectra Utilities-owned stations. Table 12 illustrates the load forecast for the stations.

Table 12. LTR Capacity with Existing and Forecast Load for the City of Vaughan's TSs, 2024-2034

Station	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
VTS1	170	170	170	170	170	170	170	170	170	170	170	170
VTS1E	170	170	170	170	170	170	170	170	170	170	170	170
VTS2	170	148	160	170	170	170	170	170	170	170	170	170
VTS3	170	140	150	170	170	170	170	170	170	170	170	170
VTS4	170	96	110	112	158	170	170	170	170	170	170	170
Total	**850**	724	760	792	838	850	850	850	850	850	850	850
New Station (VTS#6)	**170**					33	32	54	53	61	83	95
New Station (VTS#5)	**170**										41	117
Total with new Stations	**1190**	724	760	792	838	883	882	904	903	952	974	1062

Based on the ongoing development, all stations are expected to reach their LTR capacity by 2028.

Figure 32 illustrates the projected LTR capacity for Vaughan Transformer Stations from 2024 to 2034.

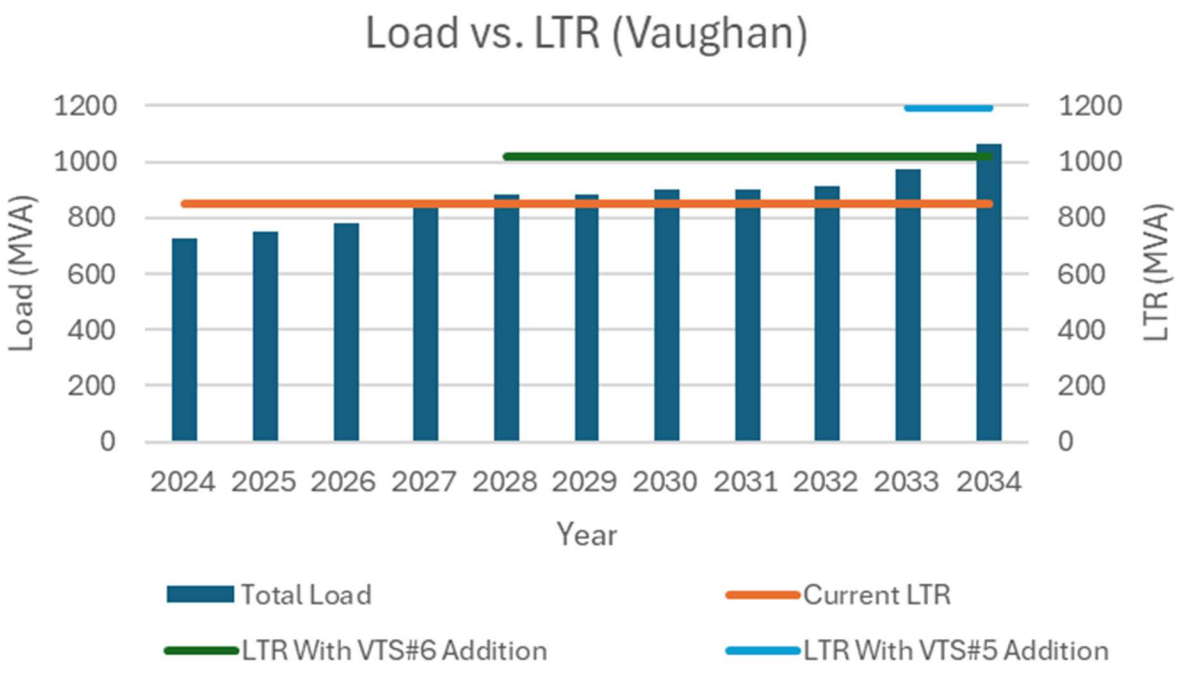


Figure 32. Load vs. LTR for Vaughan (2024-2034)

2027 – TS#6 in Vaughan (170MVA capacity)

An Alectra Utilities customer is building a data centre facility in Vaughan with a maximum demand of 125MVA with a planned operation date of 2027. The customer has requested Alectra Utilities to provide the required capacity supply with 100% redundancy. The area is currently supplied through one Alectra Utilities-owned transformer station (VTS#3) and two HONI-owned transformer stations (i.e.: Woodbridge TS and Kleinburg TS) which provide capacity to HONI and Alectra Utilities customers. These stations do not have the required capacity to meet this data centre customer's needs.

To fulfill the customer's demand, Alectra Utilities is building a new dedicated 230kV / 27.6kV transformer station with 2x75/100/125MVA transformers. The Economic Evaluation policy will be applied to determine cost sharing between the customer and the Alectra Utilities. Alectra Utilities has completed the station EA for the new station, and construction is scheduled to begin in fall 2025. The planned in-service date for the new Vaughn TS#6 transformer station is 2027.

2033 – MTS#5 in Vaughan (170MVA capacity)

The Vaughan Metropolitan Centre (VMC) is bounded by Highway 407 to the south, Highway 400 to the west, Portage Parkway to the north, and Creditstone and Maplecrete roads to the east. The total area of the VMC is 190 hectares, with over 100 hectares being developable.

The average density of projects continues to significantly exceed those planned in the current VMC secondary plan (SP).

Developments and approvals to date are heavily weighted towards residential uses in the form of high-rise condominiums, predominantly consisting of 1-and 2-bedroom units.

Development is proceeding at a greater intensity than anticipated in the 2010 Secondary Plan. Figure 33 shows the development trends. It was planned for 25,000 residents by 2031, however the current trends are to higher numbers. The latest development trajectory projects a total 129,012 residents and approximately 70,000 units when fully developed. The total new load in VMC is expected to be 240MVA. Approximately 126MVA is available from the existing system. The rest will be supplied from VTS#5.

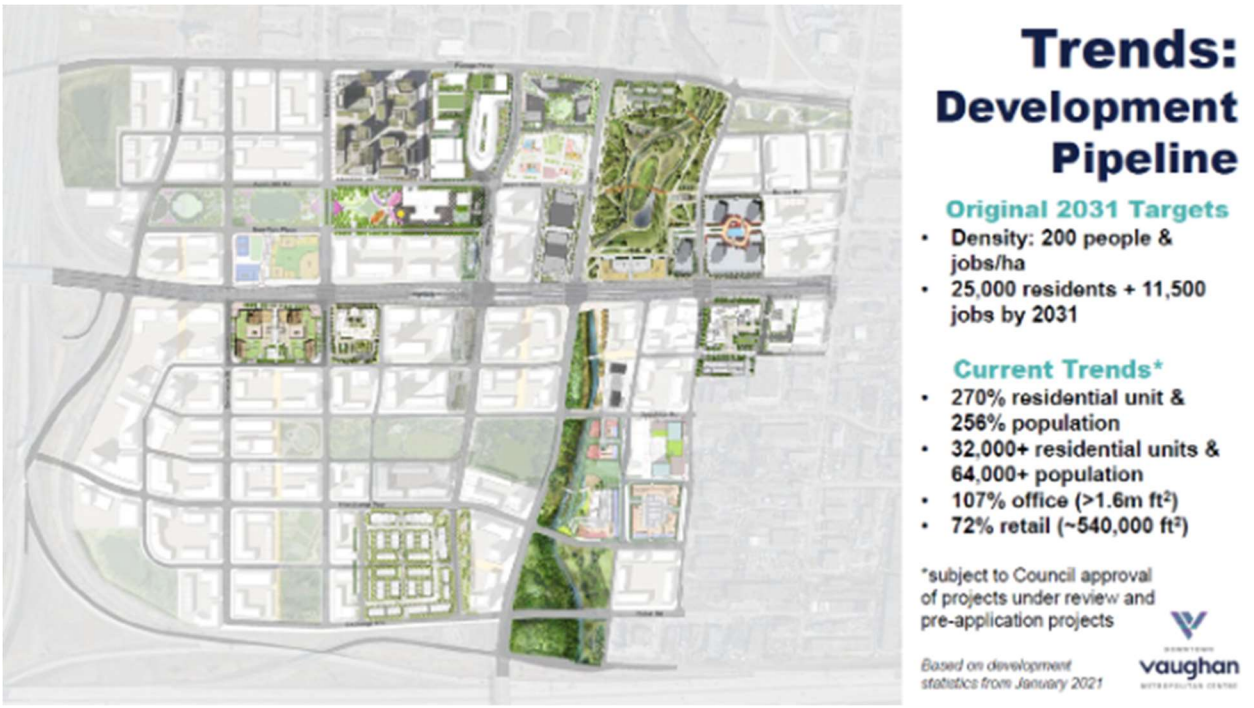


Figure 33. Population & Employment Initial Target vs. Current Trend for VMC

The construction of the new Vaughan MTS#5 is required to meet load growth in VMC. The projected in-service date for the new station is 2033.

4.1.2 Aurora

There are six 44kV/13.8kV MSs in the Town of Aurora and the total installed capacity of station transformers is 182MVA. The total load on these MS was around 76MVA in 2023.

In addition, there are two 44kV/27.6kV MSs (MS#7 & MS#8) in the Town of Aurora with a total capacity of 26MVA.

2029 – Aurora MS#6 Expansion

Aurora MS# 6 has two 10/13/16MVA 44/13.8kV transformers (T1 & T2) operating in parallel. The second transformer acts a backup only one at the current time due to unavailability of breakers. The capacity of the second transformer is not utilized. The peak on MS#6 was 11.5MVA and will exceed its max rating of 16MVA in 2029 as load transfer is not feasible.

MS#6 has only two 13.8kV feeders. Feeder 6F1 had a peak of 206A and 24MVA transformer connected. Feeder 6F2 had a peak of 220A and 20MVA transformers connected. Due to feeder

loading and length, customers have experienced low voltage in the summer. New 13.8kV feeders are required to offload 6F1 and 6F2.

Over 600 new homes are being projected to be constructed in the Town of Aurora each year. That represents approximately 1.6MVA of new load each year. Over 3,000 units have been proposed in Wellington St and Leslie St area. The existing feeders along Wellington St and Leslie St are already well loaded and approaching their capacity limits. Additional 13.8kV feeders will be needed in this area.

Aurora MS#6 Expansion project includes following constructions:

- Add one 13.8kV main breaker for T2
- Add two 13.8kV feeder breakers

This project will increase supply capacity by 16MVA and resolve the summer low voltage issue of existing feeders. It will also provide backup capacity for other stations and feeders.

4.2 Simcoe Planning Zone

4.2.1 New Tecumseth

The Town of New Tecumseth consists of three separate sub-zones: The Towns of Alliston, Beeton, and Tottenham. For distribution planning, the three sub-zones are treated independently since the distances between them are too large to allow interconnection of distribution feeders.

4.2.1.1 Alliston

The Town of Alliston is currently supplied by two 13.8kV stations: MS330 and MS331. MS330 has a 10MVA single-stage fan transformer rated to 10MVA ONAN and 13.3MVA ONAF supplying north-west Alliston. MS331 has two 10MVA transformers each supplying separate parts of Alliston: MS331-T1 feeders supply the east-end of Alliston, and MS331-T2 feeders supply west-end of Alliston. These two transformers have single-stage fans and are rated to 10MVA ONAN and 13.3MVA ONAF.

Another 30 hectares of industrial and commercial development have been approved in the vicinity of Theatre Road and Industrial Parkway. This development includes 12 blocks for industrial purposes and 3 blocks for commercial use. The load of this development is 8MVA.

A total of 3,162 residential units are to be completed in the Alliston area through approved developments and intensification projects. They include Liberty Development (1.5MVA), Value Centers (2MVA), and Smart Centers (1.5MVA). In some developments, Phase 1 construction has been finished, with the rest to be done over the next few years. Moreover, a total of 3,437 residential units have been either registered or proposed for development.

The projected growth in the Town of Alliston is illustrated in Figure 34 as shown in Table 13 the MS331-T2 transformer will exceed its normal 10MVA ONAN rating in 2026 and will exceed its maximum 13.3MVA rating in 2031 during the summer peak. Additionally, the MS331-T1 transformer will exceed its normal 10MVA ONAN rating in 2031 during the summer peak. The table also illustrates that the 13.8kV system in the Town of Alliston will exceed the system contingency capacity across substation transformers in 2025 upon the loss of a transformer at either MS330 or MS331.

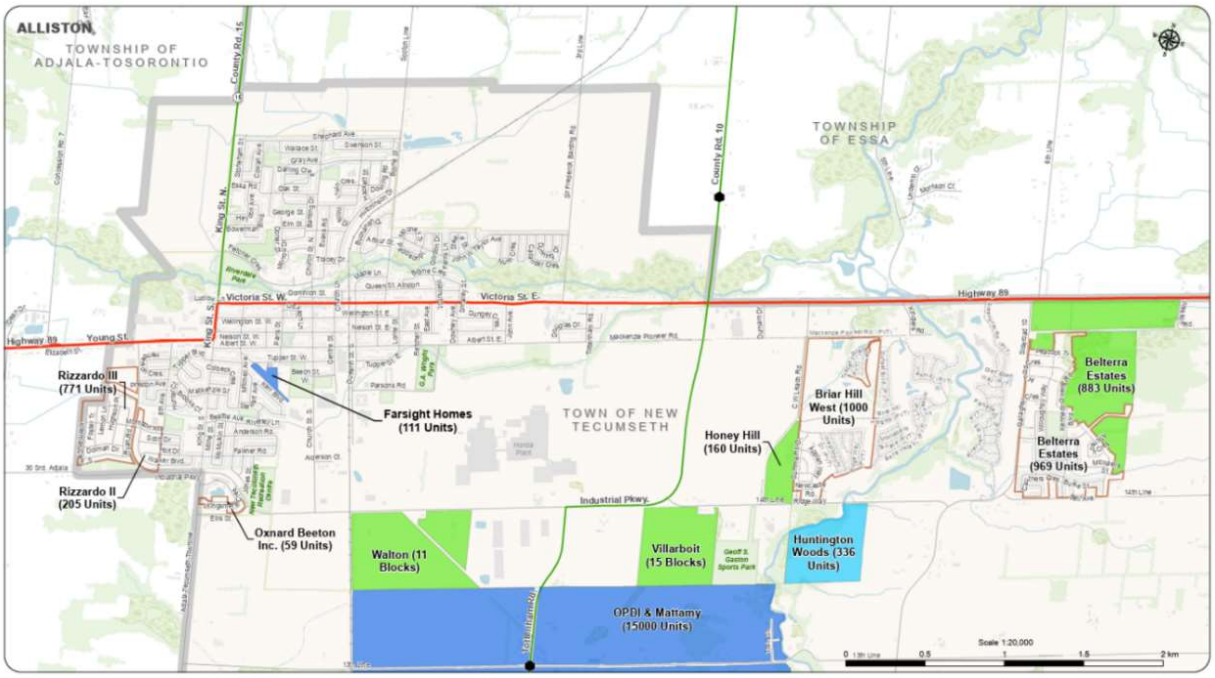


Figure 34. Town of Alliston & Associated Commercial Developments

Table 13. Alliston 10-Year Load Growth Projection 13.8kV MSs, 2024-2034

Station Information				Alliston 10-Year Load Projection										
Station ID	Station	ONAN Rating (MVA)	ONAF Rating (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
MS330	8th Avenue	10	13.3	7.8	8.0	8.1	8.2	8.4	8.5	8.7	8.8	9.0	9.1	9.4
MS331-T1 (13.8 kV)	14th Line	10	13.3	9.3	9.4	9.5	9.6	9.8	9.9	10.0	10.1	10.2	10.4	11
MS331-T2 (13.8 kV)	14th Line	10	13.3	9.3	9.9	10.5	11.1	11.8	12.5	13.2	14.0	14.9	15.8	16.7
13.8kV Normal Capacity (ONAF):			39.9	26.4	27.3	28.1	28.9	30.0	30.9	31.9	32.9	34.1	35.3	37.1
13.8kV N-1 Contingency Capacity (ONAF):			26.6	26.4	27.3	28.1	28.9	30.0	30.9	31.9	32.9	34.1	35.3	37.1

Aliston area's system capacity is 39.9MVA under normal operating conditions, and contingency capacity is 26.6MVA upon a loss of the largest station transformer. The historical loading across all 13.8kV substations in Alliston peaked at 26MVA, leaving only 0.6MVA of contingency headroom. With planned developments, the peak load is projected to reach 27.3MVA in 2025 and 37.1MVA by 2033. These projections are within the system's capacity but exceed N-1

contingency capacity. Alectra Utilities standards require adjacent substations to provide N-1 contingency. Without the new station, Alliston's transformer capacity would not satisfy N-1 requirements, which would prevent Alectra Utilities from shifting load between feeders and restoring power during outages.

The required in-service date for the new Alliston MS is 2026.

The new substation will provide 2x20MVA of 13.8kV capacity for the industrial/commercial and residential developments. The new substation will also provide contingency backup capacity for the Alliston system upon loss of MS331-T1 or MS331-T2, thereby satisfying the planning criteria for N-1 contingencies.

2032 - Alliston MS

Alectra Utilities will be required to build a new Aliston MS 2x20MVA, 44/13.8kV, dual-stage fan, 4-feeder MS to meet the growing demand in this region. Without the planned MS, Alectra Utilities would be unable to satisfy the N-1 contingency standard, meaning that customers in this region would face unacceptably high reliability risks. The projected in-service date for the new Alliston MS station is 2032.

4.2.1.2 Beeton

The Beeton area is currently being supplied by one 13.8kV MS with two energized transformer units MS336-T1 and MS336-T2. The spare 7.5MVA transformer at Patterson MS336 was energized in 2017 to provide transfer capacity under contingency conditions.

No station capacity issues were identified with the MSs in the Beeton area.

4.2.1.3 Tottenham

The Tottenham area is currently being supplied by two 8.32kV MS including Nolan MS and Mill St. MS.

The existing 6MVA transformer at Mill Street MS835 was upgraded in 2018 to a 10MVA transformer unit with ONAN/ONAF/ONAF-ONAF ratings of 10/13.3/16.6MVA to provide contingency transfer capacity upon loss of Nolan MS834 and to supply new residential and commercial load in the Tottenham area. No station capacity issues were identified with MSs in the Tottenham area.

4.2.2 Barrie

The City of Barrie is currently supplied from three Hydro One transformer stations: Barrie TS, Midhurst TS T1/T2, and Midhurst TS T3/T4. Hydro One owns and operates these stations. Each transformer station consists of two transformers operating in parallel. The loading of the transformers are controlled by Hydro One. Under normal operating conditions (i.e.: both transformer banks are in service) the station loading stays below the maximum 10-day LTR. In the event of contingency conditions, the transformer loading must be brought down to within the LTR rating of the remaining bank. Barrie has been allocated a 375MVA from three transformer stations.

Table 1414. Transformer Station Capacity Allocation Chart in the City of Barrie

Station	10- Day LTR (MVA)	Alectra Utilities Allocation (LTR)
Barrie TS	115	107
Midhurst T1/T2	173	102
Midhurst T3/T4	166	166

Table 1414 indicates that the total transformer station capacity available to supply the Barrie area is 375MVA. The IESO's Integrated Regional Resource Planning (IRRP) for the Barrie/Innisfil area was initiated in 2015. The IRRP identified Barrie TS as having reached end-of-life in 2020 and required additional capacity for future growth. Hydro One has upgraded Barrie TS to a 230kV 75/125MVA station and it was placed in-service in 2024. No new capacity has been allocated to Alectra Utilities from the upgrade.

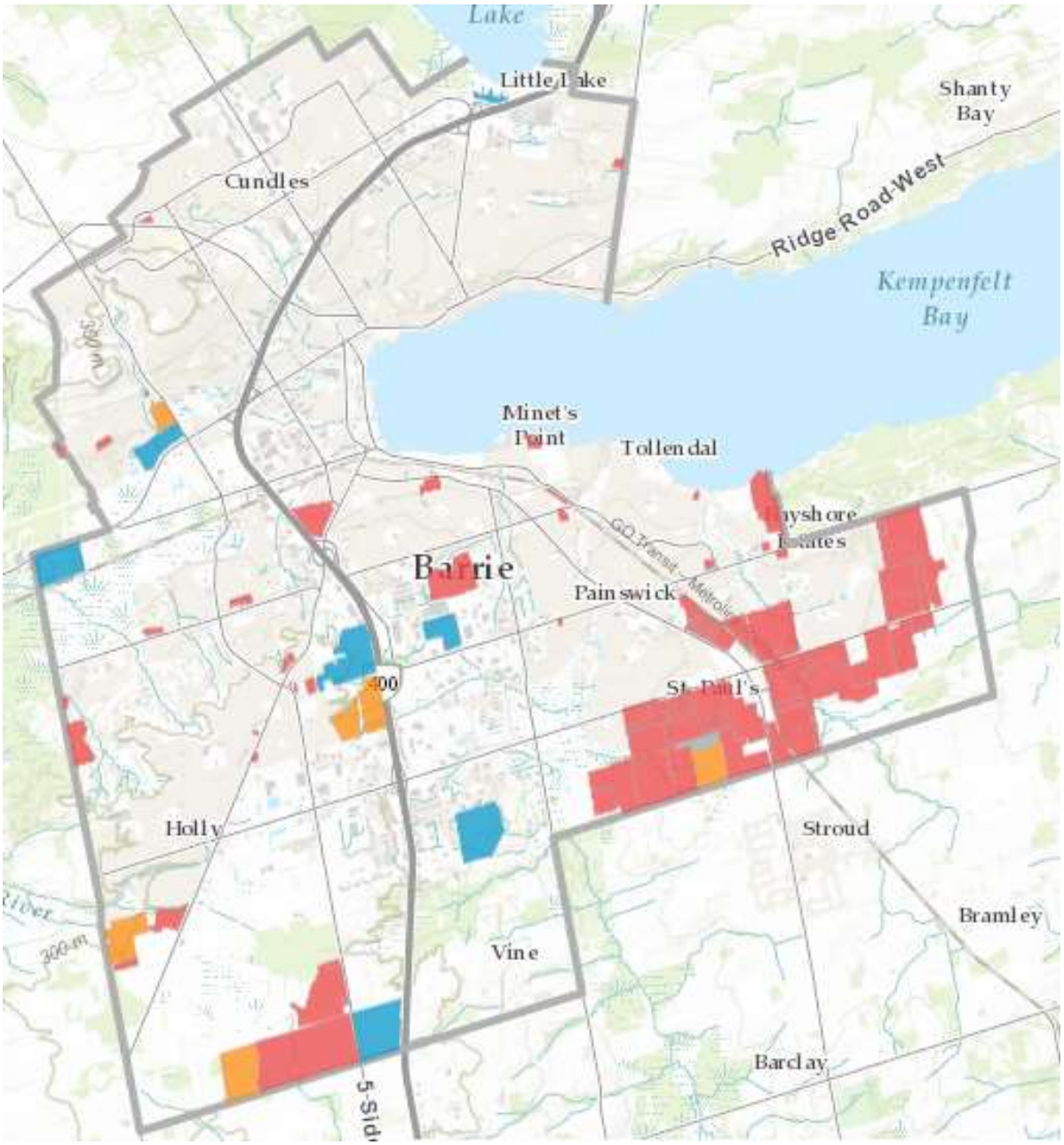


Figure 35. Overview of the City of Barrie's Development Areas

The City of Barrie's growth is concentrated in the South Barrie area. Growth projections provided by the City of Barrie on proposed new residential, commercial and industrial subdivision developments indicate the completion of 2,120 residential units and the potential for 26MVA of industrial and commercial developments along Bryne Drive, Big Bay Point Road, and Mapleview Drive over the next ten years. Growth projections provided by the City of Barrie indicate that 11,522 residential units and approximately 62,300 square meters of non-residential space developments will be completed over the next ten years.

There are twenty-six municipal substations in Barrie; ten 13.8kV MSs and sixteen 4.16kV MSs. South-West Barrie is currently supplied by five 13.8kV Municipal Stations: MS302, MS303, MS305, MS308, and MS307. The first four substations each have a transformer with dual-stage fans with ONAN and ONAF ratings of 26.6MVA and 33. 2MVA respectively. MS307 is a 10MVA substation with dual-stage fans with ONAN and ONAF ratings of 13.3MVA and 16.6MVA, respectively.

Following the completion of these proposed developments, MS305, MS308, and MS303 are projected to exceed ONAN ratings during summer peak in 2026, 2032, and 2028 respectively. The 10-year load growth projection is provided in Table 1515.

Table 1515. Barrie 10-Year Load Growth Projection for 13.8kV Substations

Station Information				Barrie South 10-Year Growth Projection (MVA)										
Station ID	Station	ONAN Rating (MVA)	ONAF Rating (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
MS303 (13.8kV)	Ferndale South	20	33.2	21.0	21.6	22.2	22.8	23.4	24.0	24.7	25.3	26.0	26.7	27.3
MS305 (13.8kV)	Holly	20	33.2	19.2	19.9	20.6	21.4	22.2	23.0	23.8	24.7	25.6	26.6	27.5
MS308 (13.8kV)	Park Place	20	33.2	12.9	13.7	14.5	15.4	16.3	17.3	18.4	19.5	20.7	22.0	23
MS307 (13.8kV)	Huronia	10	16.6	8.4	8.6	8.7	8.9	9.1	9.3	9.5	9.7	9.9	10.1	11.2
MS302 (13.8kV)	Saunders	20	33.3	11.8	12.2	12.6	13.0	13.4	13.8	14.3	14.7	15.2	15.7	16.2
13.8kV Normal Capacity (ONAF):			149.8	73.3	76.0	78.6	81.5	84.4	87.4	90.7	93.9	97.4	101.1	105.2
13.8kV N-1 Contingency Capacity (ONAF):			116.5	73.3	76.0	78.6	81.5	84.4	87.4	90.7	93.9	97.4	101.1	105.2

As shown in **Error! Reference source not found.**15, the MS305 transformer will exceed its normal 20MVA ONAN rating in 2026 and will reach its single-stage ONAF rating of 26.6MVA in 2033 during the summer peak following the completion of the planned developments. MS303 and MS308 will exceed their normal 20MVA ONAN rating in 2028 and 2032. The ability to transfer load from MS303 and MS305 is limited due to there being only one existing feeder interconnection between both substations. Voltage drop issues would also arise in load transfer scenarios, given the long 7.1KM distance between the nearest stations. Voltage drops can cause significant issues for industrial customers since equipment in a facility can trip due to low voltage resulting in outages and lost productivity. To mitigate these conditions, Alectra Utilities could be forced to limit the connection of new load.

Possible load transfers have been carried out from MS305 to MS308. With the continued growth from ongoing residential, industrial, and commercial developments, MS305 will exceed its ONAF single-stage fan rating of 26.6MVA in 2033. Upon loss of either MS305 or MS308, the load cannot be backed up starting from 2026.

Barrie MS (20MVA) - 2032

Alectra Utilities plans to build a new Barrie MS 20MVA to supply the growing demand due to residential, commercial and industrial development The projected in-service date is 2032.

This new substation will enable Alectra Utilities to relieve the load on the existing substations and maintain system reliability requirements in accordance with N-1 contingency standard. Without the planned MS investment, Alectra Utilities would be unable to supply the forecast load growth or maintain the N-1 contingency standard. As the result, the customers in this region would either not be able to connect or would be exposed to increased risk of power outages and service disruptions.

The new Barrie MS 20MVA substation will provide up to 33.2MVA of 13.8kV capacity (dual-stage fan ONAF/ONAF configuration) to supply the industrial and commercial development along Bayview Drive, Harvie Road, and Concert Way over the next ten years, as well as capacity for 723 new residential unit and two 5-storey apartment blocks in that area. The new substation will provide capacity relief to both MS305 and MS308, while providing backup supply to the neighboring substations under contingency conditions. This will ensure compliance with the planning criteria for single contingency (N-1) operations.

A new Barrie MS 20MVA substation would provide up to 33.2MVA of 13.8kV capacity to supply the industrial and commercial development along Bryne Drive, Big Bay Point Road, and

Mapleview Drive over the next 10 years, as well as capacity for 11,522 new residential homes and 62,300 sq. m in Barrie. A new substation would also provide capacity relief to both MS305 and MS308 while providing backup supply capacity to neighboring substations under contingency conditions, such as the loss of MS302.

Downtown Barrie Supply Issues

The City of Barrie's downtown area is supplied by three 4.16kV stations (MS418, MS419 & MS415). The combined transformation capacity is 33.6MVA. The current peak load is 18MVA, therefore no capacity constraints were identified at the station. Although there is capacity on the 4.16kV network supply, issues in downtown mainly result from customer connection requests for transformation beyond the maximum allowable transformation rating of 750 kVA on the 4.16kV system.

The existing system has served Alectra Utilities well until now, as the majority of these customers could be serviced from the 4.16kV network with only a few customers connected to 44kV.

For customer connections exceeding 750kVA, Alectra Utilities has no other option than to connect them to the 44kV sub-transmission voltage.

Connections at 44kV are mostly radial with limited switching options.

The City of Barrie has the only designated Urban Growth Centre (UGC) north of the GTA, encompassing downtown Barrie from Dunlop Street to Burton Avenue, refer to Figure 36. Most of the new growth in Barrie over the course of the next two decades will be through intensification. The City of Barrie anticipates at least 40% of new growth being accommodated within the built-up area of the city primarily in the Urban Growth Centre. As part of the intensification, there are twelve condo developments proposed for downtown Barrie over the planning horizon.

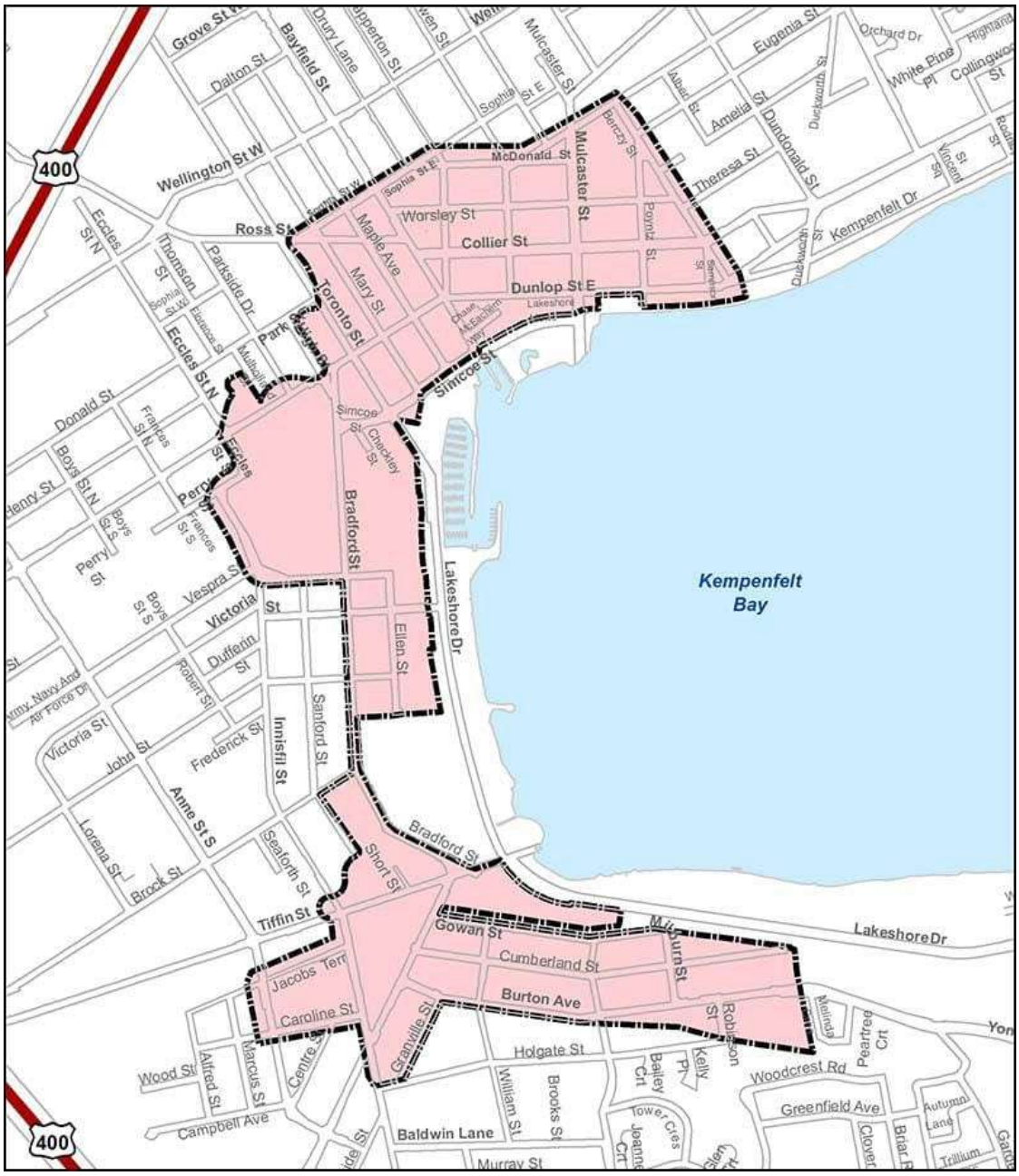


Figure 36. Overview of Barrie Downtown Development Areas

The additional load from the proposed developments will cause three 4.16kV feeders to exceed their respective limits within the planning horizon, though they will remain within their respective thermal limits. In addition, the existing 4.16kV system limits transformation at new developments to 750 kVA.

To support the development of multi-story residential building, Alectra Utilities will be required to upgrade the distribution voltage level to 13.8kV to accommodate transformation larger than 750 kVA.

Option 1:

Convert downtown Barrie area from 4.16kV to 13.8kV by replacing three existing 4.16kV substations (MS415 & MS418 & MS419) with a new 20MVA dual-stage fan 4-feeder substation and replace all downstream overhead conductors (29,917M), underground cables (14,683M), and customer transformers (406 units) with equipment rated for 13.8kV. The high-level cost estimate for the conversion of the downtown area from 4.16kV to 13.8kV is $41MM.

Converting the three 4.16kV stations to a single 20MVA 4-feeder substation will provide adequate supply capacity for the downtown area including the proposed condo developments; however, the single 13.8kV substation would be islanded within the existing 4.16kV network and would not be interconnected with any adjacent 13.8kV stations, thereby having no contingency capacity and not satisfying Alectra Utilities' Triad supply model.

Due to the lack of contingency transfer options and no backup capacity, Option 1 is not recommended.

Option 2:

Convert the entire 4.16kV system in Barrie to 13.8kV; replace sixteen existing 4.16kV substations with four new 20MVA dual-stage fan 4-feeder substations and replace all downstream overhead conductor, underground cable, and customer transformers with equipment rated for 13.8kV. The high-level cost estimate for conversion of Barrie from 4.16kV to 13.8kV is $212 MM

Conversion of all 4.16kV substations in Barrie from 4.16kV to 13.8kV would reduce line losses by 3,250MWh/year, cable losses by 2,660MWh/year, and transformer load losses by 1,260MWh/year, resulting in approximately $212,000 of annual savings from reduced losses.

Converting the entire 4.16kV system in Barrie would provide adequate supply capacity for future developments, reduce O&M costs, and lower line losses; however, with a cost in excess of $200 MM and a timeline commitment beyond 20 years, the overall system benefits it difficult to justify without the introduction of additional load beyond the boundaries of downtown Barrie. For these reasons, Option 2 is not recommended.

Option 3:

Converting the downtown Barrie area from 4.16kV to 13.8kV by replacing three existing 4.16kV substations (MS415 & MS418 & MS419) with a new 13.8kV 20MVA dual-stage fan 4-feeder substation and converting all downstream overhead conductor, underground cable, and customer transformers to a 13.8kV rating will ensure adequate capacity for the proposed developments and future intensification in downtown Barrie.

Removing MS407 & MS408 and converting all downstream sections from 4.16kV to 13.8kV prior to transferring the load to MS301 & MS310 and constructing 1,300 meters of new pole line along Sunnidale Road and 500 metres500meters of new pole line along Coulter Street will provide 13.8kV tie points for contingency transfers to MS301/MS306/MS310 from the new 13.8kV 20MVA dual-stage substation in downtown Barrie.

Alectra Utilities will convert the supply area of the five 4.16kV station to 13.8kV to ensure adequate capacity for proposed developments and future downtown intensifications, and permit the connection of transformers up to 3,000kVA (vault transformers) on voltages below 44k. This will reduce O&M costs, address aging assets, and lower line losses. The high level cost for this option is $70MM.

Option 3 is the recommended solution. The Barrie downtown conversion will be required by late 2030's.

4.2.3 Bradford

Currently, the Town of Bradford is supplied by four 13.8kV MS: MS323 (8th Line), MS322 (Melbourne), MS321 (John) and MS324 (Reagans). Each substation has a 10MVA single-stage fan

transformer with a maximum transformer ONAF/ONAF rating of 13.3MVA.

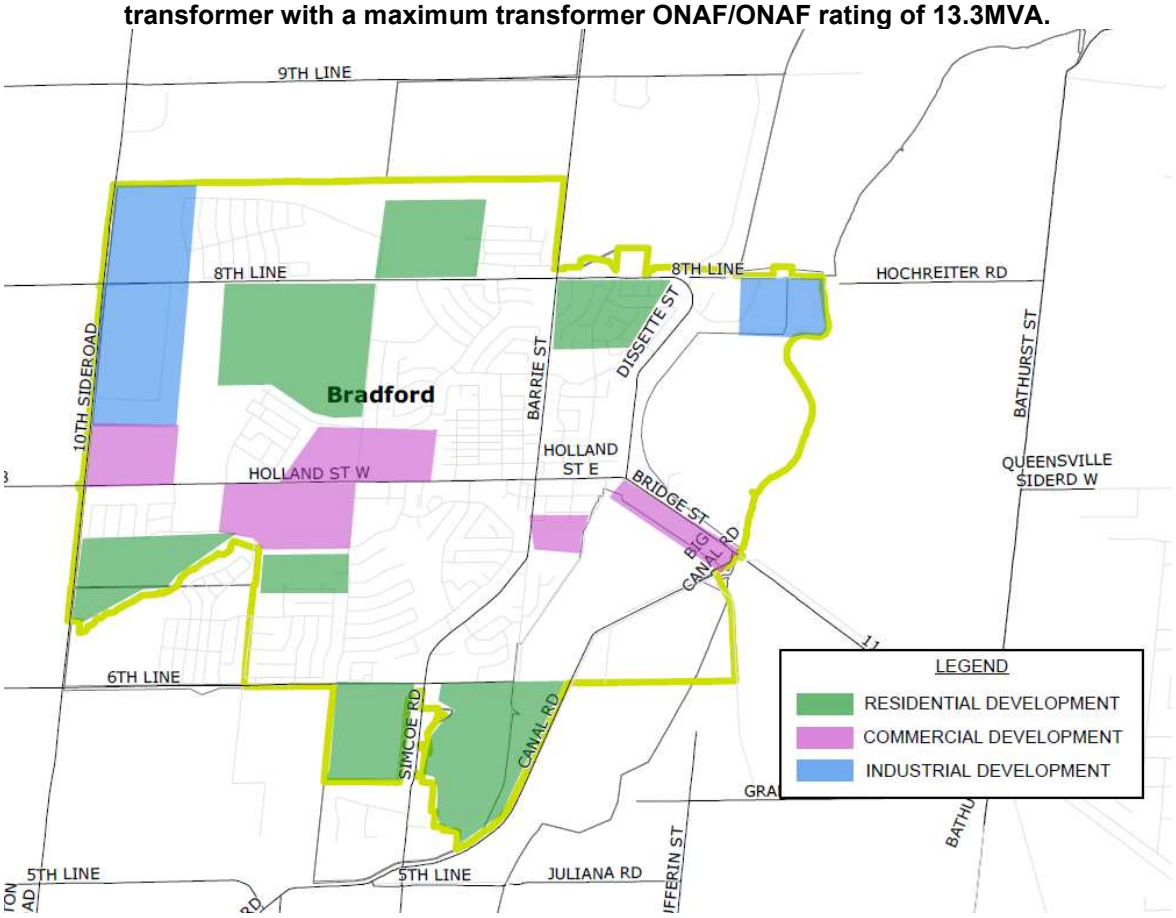


Figure 37 illustrates growth projections from the Town of Bradford, which indicates that 3,440 residential homes will be completed, corresponding to about 7MVA of additional load by 2034. Moreover, there are other industrial and commercial developments along 8th Line, Langford Boulevard, and Professor Day Drive, over the next ten years.

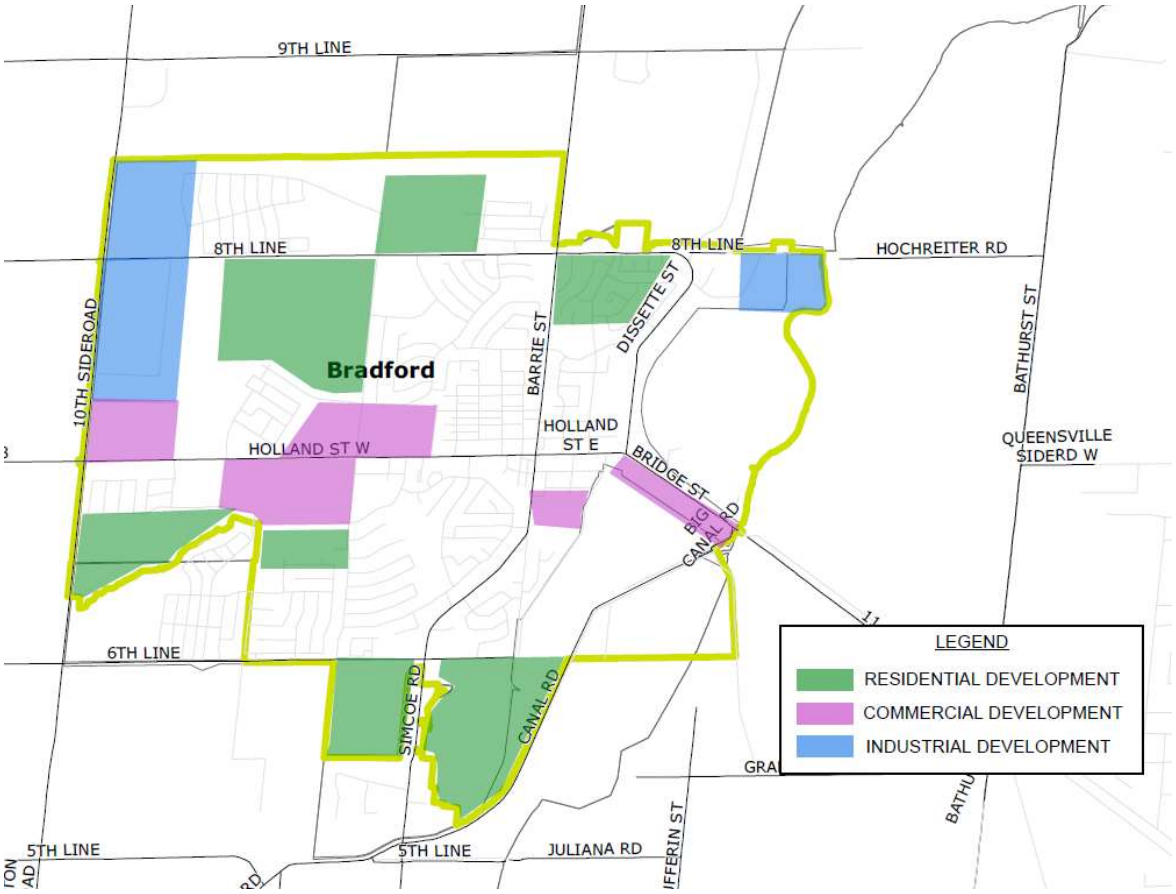


Figure 37. Town of Bradford Proposed Developments

MS324, MS323 and MS3221 exceeded their ONAN ratings during summer peak loading in 2023. Due to the proposed developments, MS324 will exceed its ONAF rating in 2032. The developments will also result in the contingency capacity for the Bradford 13.8kV system being exceeded in 2027 upon loss of a substation transformer.

Alectra Utilities expects that the demand from forecast Residential and Industrial/Commercial developments in Bradford area will exceed the utility's capacity. The 10-year load growth projection for Town of Bradford is illustrated in Table 1616.

.

Table 1616. Bradford 10-Year Load Growth Projection, 2024-2034

Station Information				Bradford 10-Year Load Projection										
Station ID	Station	ONAN Rating (MVA)	ONAF Rating (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
MS321 (13.8kV)	John	10	13.3	10.5	10.7	11.0	11.2	11.5	11.6	11.8	12.0	12.2	12.4	12.7
MS322 (13.8kV)	Melbourne	10	13.3	5.8	5.9	6.1	6.2	6.4	6.5	6.7	6.8	7.0	7.1	7.4
MS323 (13.8kV)	8th Line	10	13.3	11.2	11.5	11.7	12.0	12.2	12.4	12.6	12.8	13.0	13.2	13.6
MS324 (13.8kV)	Reagans	10	13.3	11.1	11.4	11.7	12.0	12.4	12.6	12.9	13.2	13.4	13.7	13.8
13.8kV Normal Capacity (ONAF):			53.2	38.6	39.5	40.5	41.4	42.5	43.1	44.0	44.8	45.6	46.4	47.5
13.8kV N-1 Contingency Capacity (ONAF):			39.9	38.6	39.5	40.5	41.4	42.5	43.1	44.0	44.8	45.6	46.4	47.5

2030 - Melbourne MS322 Expansion

The proposed upgrade of Melbourne MS322 to 2x10MVA substation will provide contingency backup capacity for the Bradford 13.8kV system upon loss of an adjacent substation transformer during summer peak loading, thereby ensuring compliance with the applicable planning criteria for single contingency operations. It will also ensure capacity for the new residential homes in South Bradford, as well as the 13.8kV component of the industrial and commercial developments at 8th Line, Langford Boulevard, and Professor Day Road over the next 10 years. The required in-service date for the MS322 expansion is 2030.

Alectra Utilities purchase owns d the existing property of Melbourne MS322 substation and plans to expand to accommodate a new 2x10MVA substation with 4 feeders.2x10MVA. This project includes replacing existing 10MVA end of life 10MVA substation, at including, the purchase of station equipment, obtain approvals, construct the substation and install the equipment installation as well as commissioning the site.

4.3 Central South (Mississauga)

4.3.1 Mississauga Downtown

The City of Mississauga's intensification plans are focused on several areas including the downtown core. Figure 38 shows the geographical location of Mississauga's Downtown Core.

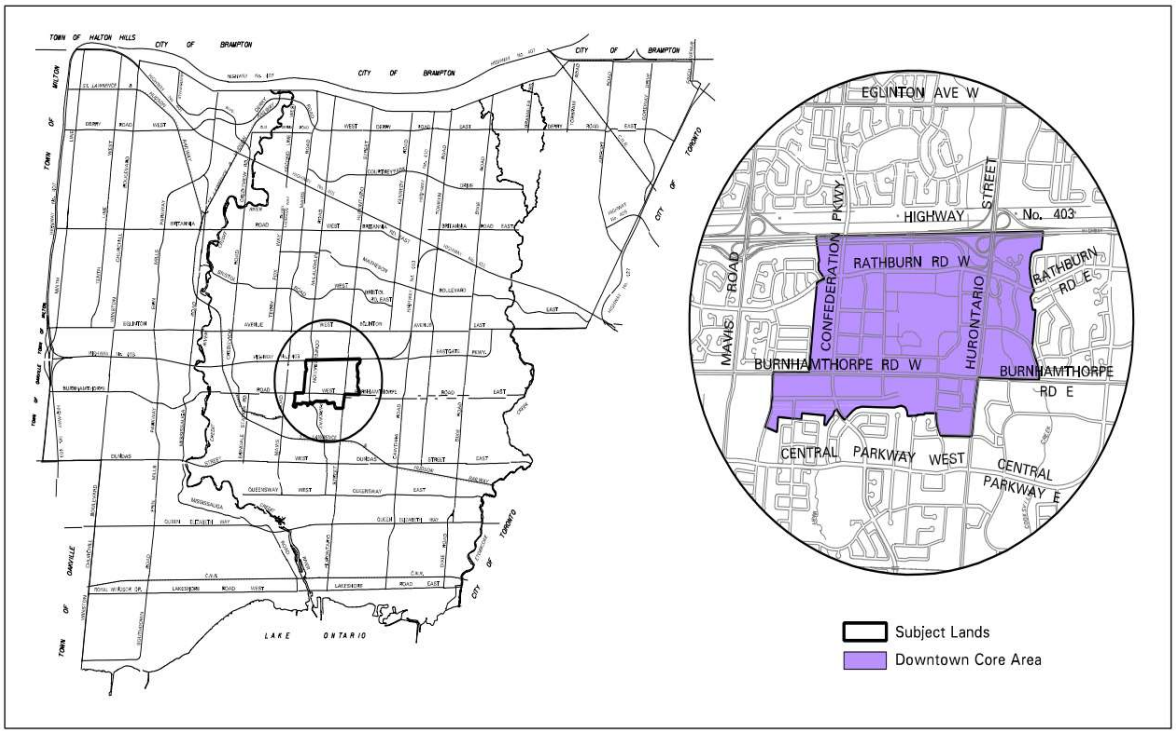


Figure 38. City of Mississauga Downtown Core

Currently, there are approximately 75 buildings in the Downtown Core and three substations including Woods MS, Confederation MS, and City Centre MS. These substations are equipped with either two or three power transformers, and majority of the capacity is dedicated to supplying the Downtown Core. In addition, John MS, located on Hurontario Street near John Street, also provides power to the Downtown core area, especially to Mississauga Valley and Sussex districts. The total connected transformation in the Downtown Core is approximately 130MVA.

The Downtown Core in the City of Mississauga is supplied by both underground (UG) and overhead (OH) distribution systems that provide the power to residential and commercial customers in the area.. The power is supplied through a 13.8kV distribution system being fed from five Municipal Stations.

The distribution system is supplied by more than two dozen underground and overhead feeders that are interconnected with multiple tie connections to provide reliable power with redundancy capability using the loop feed configuration.

The current capacity available for all districts of the Downtown Core is about 160MVA ONAN/266MVA ONAF. Overcapacity allows for short-term growth and N-1 contingency in the Downtown Core. Based on the development projections provided the City of Mississauga, it is estimated that upon completion of its plan dubbed "Downtown 21", the combined required transformation capacity is 300MVA.

Table 1717 shows the downtown station loading up to 2033 and capacity on each of the stations in case of loss of the stations. With the load growth John station will be over 127% of ONAN and in contingency condition there is not enough capacity on the remaining stations based on feeder ties.

Table 1717. Downtown Mississauga Station Loading, 2024-2034

Station Information				Downtown Mississauga 10-Year Load Projection										
Station ID	Station	ONAN Rating (MVA)	ONAF Rating (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
MS39 (13.8kV)	John	20	33.3	13.4	14.4	16.4	18.4	20.4	21.4	22.4	23.4	24.4	25.4	26.9
MS322 (13.8kV)	City Centre N	60	99.9	24.9	26.4	27.9	30.9	33.9	36.9	38.4	39.9	41.4	42.9	44.9
MS323 (13.8kV)	Woods	40	66.6	22.4	23.9	26.9	29.9	32.9	34.4	35.9	37.4	38.9	40.4	41.9
MS324 (13.8kV)	Confed eration	40	66.6	23.2	24.7	27.7	30.7	33.7	35.2	36.7	38.2	39.7	41.2	42.7
13.8kV Normal Capacity (ONAF):			266.4	83.9	89.4	98.9	109.9	120.9	127.9	133.4	138.9	144.4	149.9	156.4
13.8kV N-1 Contingency Capacity (ONAF):			166.5	83.9	89.4	98.9	109.9	120.9	127.9	133.4	138.9	144.4	149.9	156.4

Alectra Utilities will have to expand its infrastructure in the Downtown Core and increase the number of substations to reliably supply power to all the buildings. Figure 39 shows the Downtown 21 concept plan.



Figure 39. Downtown Mississauga Concept Plan

Currently, the new projects are in various stages of construction and energization. The total projected calculated peak demand for 45MVA of connected developments is estimated to be 35MVA. An additional 40 projects are in the site plan application stage which are expected to be energized within 10-year window and has a forecasted peak demand of 72MVA. Based on growth projection and existing infrastructure to connect new buildings one additional MS is required by 2030.

2030 – Webb MS

Webb MS will be built at the intersection of Burnhamthorpe Road and Kariya Drive.

This project consists of adding 2x 20MVA of capacity by the end of 2030. At completion, the new substation will house 2x 20MVA power transformer, two high voltage switchgear, and two low voltage switchgear units, delivering power via ten 13.8kV feeders.

4.3.2 Mississauga (North)

Mississauga has distribution system voltages of 4.16/27.6kV,13.8/44kV, and 27.6kV and the planning zones are divided in 44/13.8kV East and West and 27.6/4.16kV in North and South. Each of the zones is evaluated separately due to difference in voltage level and lack of load transfer capability because of distribution and geographic constraints.

Alectra Utilities load forecast indicates that there will be a capacity shortfall of27.6kV in the North and South zones and will require additional transformation capacity.

The 27.6kV is supplied by the following HONI Transformer Stations: Bramalea TS, Cardiff TS, Erindale TS and Richview TS. Richview TS is a shared station with another LDC, and limited capacity is available to supply Alectra Utilities customers. Table 1818 shows the stations and the projected peak demand up to 2034.

Table 1818. LTR Capacity with Existing and Forecast Load for Mississauga North TSs, 2024-2034

Station	DESN	BUS	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bramalea TS	T1/T2	BY	99	72	74	75	77	80	82	86	92	98	106	106
Cardiff TS	T1/T2	BQ	126	118	120	122	124	126	126	126	126	126	126	126
Erindale TS	T1/T2	EQ	191	165	170	177	181	185	189	191	191	191	191	191
Richview TS	T5/T6*	Q	17	11	13	15	17	17	17	17	17	17	17	17
Richview TS	T7/T8*	BY	33	26	27	29	31	33	33	33	33	33	33	33
Total			466	392	404	418	430	441	447	453	459	465	473	473
New Station (GTAA TS)			**170***										59	70
New Station (Gateway TS)			**170**											20
Total				392	404	418	430	441	447	453	459	465	532	563

*The Richview TS (T5/T6) and (T7/T8) is a shared Hydro One station. The LTR capacity limits for Richview TS is based on the allocated share of the station's capacity to Alectra Utilities.

As illustrated in Table 1818, the combined capacity available from the transformer stations is projected to exceed its 10-day LTR limit between 2024 and 2034. Specifically, Bramalea TS T1/T2 in 2027, Cardiff T1/T2 in 2029, Erindale T1/T2 in 2027, and Richview T7/T8 in 2026.

Erindale TS approached its 10-day LTR in the past years, however the loading was well below the LTR limit during the 2024 summer peak. The transformer station will be the primary source of power to major developments on Eglinton-Hurontario; therefore continuous monitoring of the

station loading will be required to prevent the station overloading. A new Gateway TS station is proposed to be constructed on Hurontario and Highway 407 to address the load growth within the Hurontario corridor by 2034.

The loading on Cardiff TS will be monitored to ensure the capacity will not reach its LTR limit.

Figure 40 displays the total LTR capacity of all the transformer stations in the Mississauga North Zone and provides a basis for evaluating available capacity and future system needs.

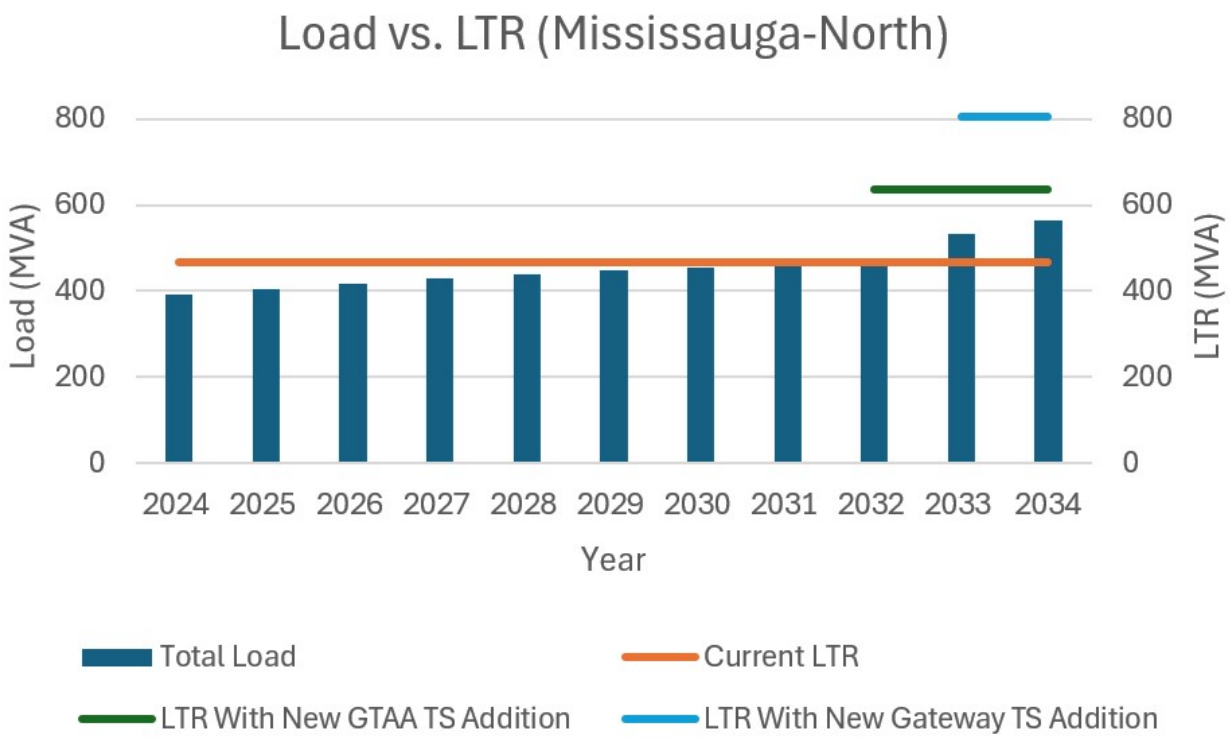


Figure 40. Load vs. LTR for Mississauga-North (2024-2034)

2033 - 27.6kV North Station (GTAA TS) 170MVA

The Toronto Pearson Airport is supplied by feeders from Cardiff TS, Bramalea TS and Richview TS. Greater Toronto Airports Authority (GTAA) has requested Alectra Utilities to provide additional capacity for its near-term and long-term airport expansion plan.. The near-term capacity requirement is approximately 86MVA and long-term needs are additional 83MVA. The near-term needs are split between the 44kV and 27.6kV system. Approximately 54MVA will be provided through the 44kV system and 32MVA through the feeders from Richview and Bramalea TSs. There will be no capacity left on 27.6kV system for any long-term needs.

Alectra Utilities will have to build a new TS to support GTAA long-term growth. The new station will be 170MVA 230/27.6kV. The projected in-service date for the GTAA TS is 2033.

2034 - Gateway TS

The 27.6kV North is expected to be continued through major intensification planned along the Hurontario and Eglinton corridor. The major developments are Hurontario-Eglinton and LRT development.

Hurontario-Eglinton Development

The developments along Hurontario Street including residential high-density condominium buildings and commercial high-density buildings will result in the Mississauga 27.6kV North to exceed capacity. The projected additional peak demand on the 27.6kV system due to the Hurontario and Eglinton developments is approximately 30MVA. The City of Mississauga's Master Plan for the Hurontario and Eglinton consist of 15 high-rise buildings. Figure 41 shows the Hurontario-Eglinton development concept plan.



Figure 41. Hurontario-Eglinton Concept Plan

HuLRT (Hurontario Light Rail Transit)

The HuLRT (Hurontario Light Rail Transit) project is under construction. It will provide 18 km of rapid transit with 19 stops and will link to GO Stations at Port Credit and Cooksville, the Mississauga Transitway, Square One GO Bus Terminal, Brampton Gateway Terminal, and key MiWay and Brampton Transit routes. The HuLRT project is expected to be completed in the fall 2024. Alectra Utilities is committed to providing power to 14 Traction Power Substation (TPSS) and a Maintenance Storage Facility (MSF) of about 26MVA. The 27.6kV North growth is expected to be continued through major intensification planned along the Hurontario and Eglinton corridor.

In addition to the power requirements for the expansion along Hurontario and Eglinton corridor, Alectra Utilities is projecting accelerated growth rate in both the residential and commercial developments. Alectra Utilities will be required to add transformation capacity with Gateway TS for an in-service date of 2034. The station will enable Alectra Utilities to meet the capacity to serve these new developments.

4.3.3 Mississauga (South)

South Mississauga is supplied by four HONI-owned stations.

Table 1919 illustrates the stations and projects peak demand up to 2033. Entire capacity from Lorne Park TS is available to Alectra Utilities, however only partial capacity from Oakville TS. Alectra Oakville supplies from Oakville TS and capacity from Oakville TS

Table 1919. LTR Capacity with Existing and Forecast Load for Mississauga South TSs, 2024 - 2034

Station	DESN	BUS	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cooksville TS	T1/T2	EZ	130	47	50	55	57	60	69	84	126	130	130	130
Cooksville TS	T3/T	JQ	130	39	44	50	55	73	94	125	130	130	130	130
Lorne Park TS	T1/T	BJ	152	89	114	119	125	131	138	147	152	152	152	152
Oakville TS[1]	T5/T	EZ	63	34	34	35	36	36	37	39	42	44	48	48
Total			**412**	175	208	224	237	264	300	356	408	412	412	412
New Station (Lakeview TS)												18	53	70

As illustrated in

[1] Oakville TS has been excluded from the LTR calculation as it supplies large customer with dedicated feeders.

Table 1919, the transformer stations will exceed their 10-day LTR limits in 2024-2034 planning period. Specifically, Cooksville T1/T2 in 2032, Cooksville T3/T4 in 2031 and Lorne Park TS T1/T2 in 2031. A new TS is being proposed in this area to accommodate the steep load growth.

Figure 42 demonstrates the total LTR capacity of TSs in the Mississauga South Zone, providing a basis for evaluating available capacity and future system needs.

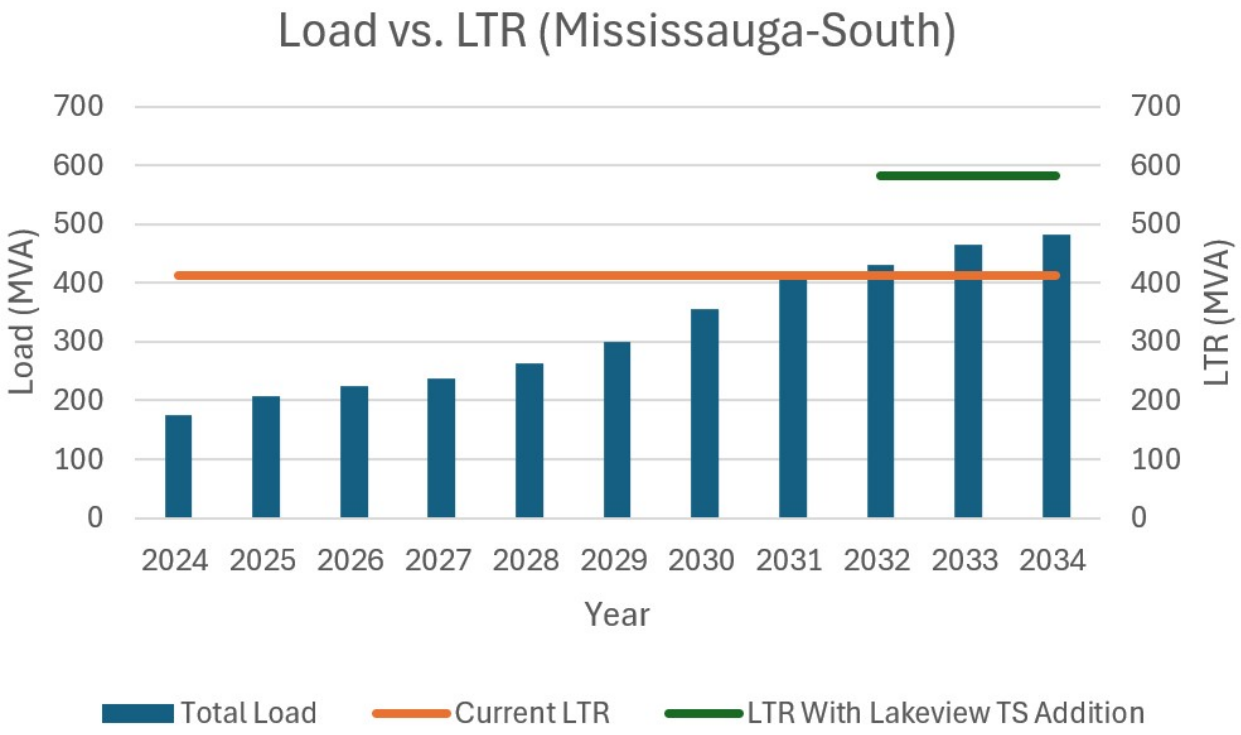


Figure 42. Load vs. LTR for Mississauga-South (2024-2034)

2032 - Lakeview TS

The short- to medium-term capacity has shown the need for a new TS station in Mississauga (South) by the year 2032. The capacity needs in the area are driven by several large developments. The proposed peak demand for the Lakeview Village project is 91MVA. This

project includes a new district energy system with a 30MVA requirement. Figure 43 and Figure 44 show Lakeview Village's design and phasing plan. Alectra Utilities is building two additional feeders to provide 43MVA for the first phase of this development.



Figure 43. Lakeview Village Concept Plan



Figure 44. Lakeview Village Phasing Plan

Rangeview Development

Rangeview Estates, as defined in the Mississauga Official Plan, includes the lands on the south side of Lakeshore Road East, between East Avenue and Hydro Road and south of Rangeview Road. Comprised of 33 parcels of privately owned land with a gross area of approximately 25.7 hectares (~63.5 acres). The projected density for Rangeview is approximately 5,300 residential and mixed use 12,000 square meters of commercial space. The total estimate load for this development is 20MVA by 2036.

Brightwater Development

The Brightwater development located in Port Credit will transform 72 acres of former industrial lands into residential/commercial neighborhoods. The proposed development will include 8 residential towers encompassing approximately 3,000 units and over 28,000 square meters of retail and office space. Alectra Utilities projects the power requirements of approximately 10 M VA for this development by 2031.

Trillium Hospital

At 22 stories, the newly proposed The Peter Gilgan Mississauga Hospital will almost triple the size of the current hospital and will be approximately 260,000 million square meters. The demand for this hospital is 24MVA with a request for full redundancy. Alectra Utilities is in the process of adding new feeders to Cooksville TS. The hospital load is scheduled to be serviced in 2028/2029.

The new Lakeview TS will enable Alectra Utilities to have capacity for these proposed expansions. The Lakeview TS investment includes land purchase, completing a Class Environmental Assessment and design and construction for a new TS to be in service by 2032.

4.4 Central North (Brampton)

Brampton is the 9th largest city in Canada, 4th largest in Ontario and 3rd largest within the Greater Toronto Area. According to Statistics Canada's 2021 Census data, Brampton had the highest growth rate among Canada’s 25 largest cities. The Central (North) Planning Zone growth is driven by Greenfield Growth in Northeast, West and Intensification in the Central areas of City of Brampton as illustrated in Figure 45.

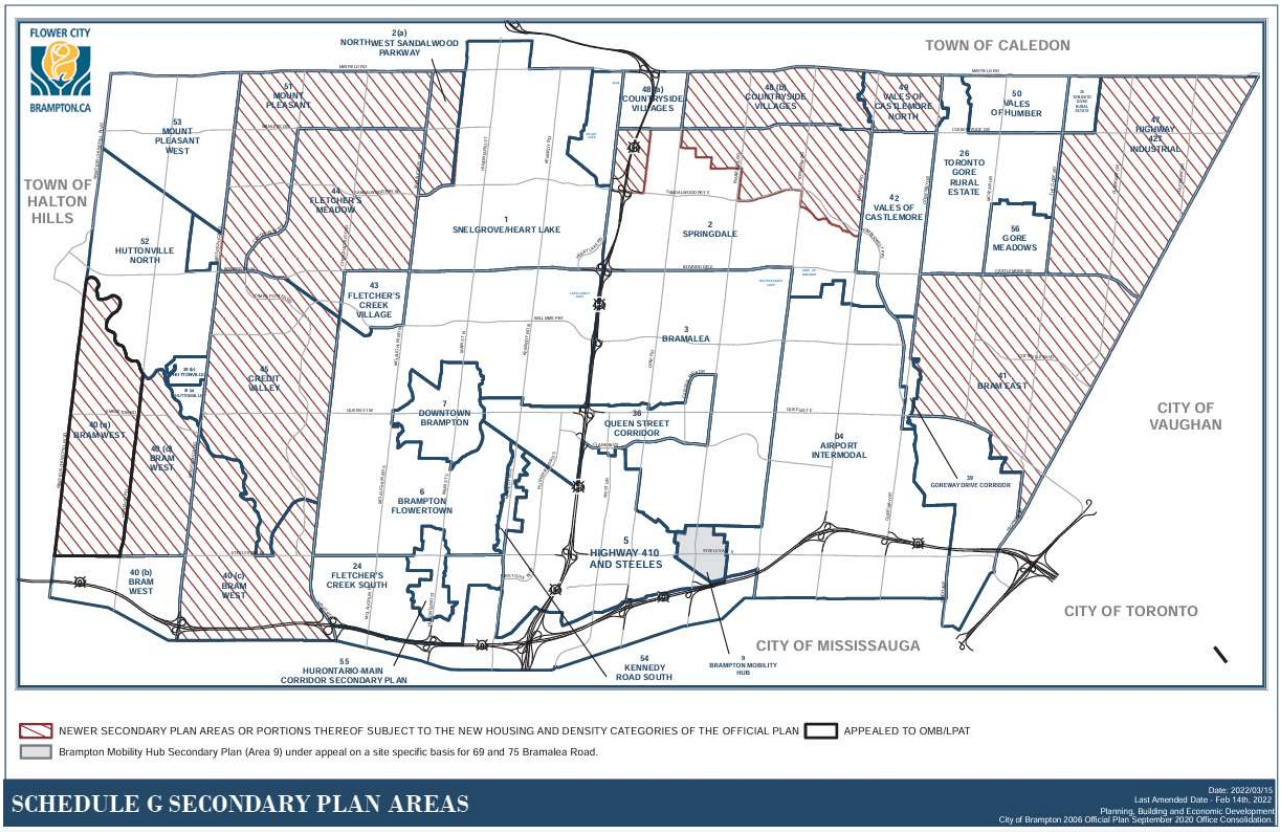


Figure 45. Brampton Secondary Plan Area

Most of the population growth is occurring on the edge of the existing built-up areas in secondary planning areas such as Sandringham-Wellington, Credit Valley and the Vales of Castlemore. Emerging new growing communities include BramEast, BramWest, and Heritage Heights.

In addition, high density development applications are increasing along the Queen Street Corridor and other parts of Downtown Brampton, contributing to the city's vision for a vital downtown with a mix of residential, employment and civic uses.



Figure 46. Brampton 2040 Vision Plan

Following are the details of developments in the City of Brampton which are outlined in the Brampton 2040 Vision Plan [16]:

Downtown Brampton

The downtown Brampton plan will add 18,000 residential and 550,000 square meters of industrial and commercial space which is estimated to require total capacity of 70MVA by 2040.

Uptown Brampton

The uptown Brampton is projected to add 30,000 residential and 560,000 square meters of commercial space which will require a total of 96MVA by 2035.

Bramalea New town is projected to add 10,000 residential and 465,000 square meters of industrial and commercial space which will require a total capacity of 48MVA by 2035.

BramWEST Development

This is an emerging area of Brampton with potential for residential and commercial development. By 2031, BramWEST development could bring approximately 15,132 dwelling units with capacity of 38MVA.

Figure 47 shows Brampton stations and the growth expected to 2035.

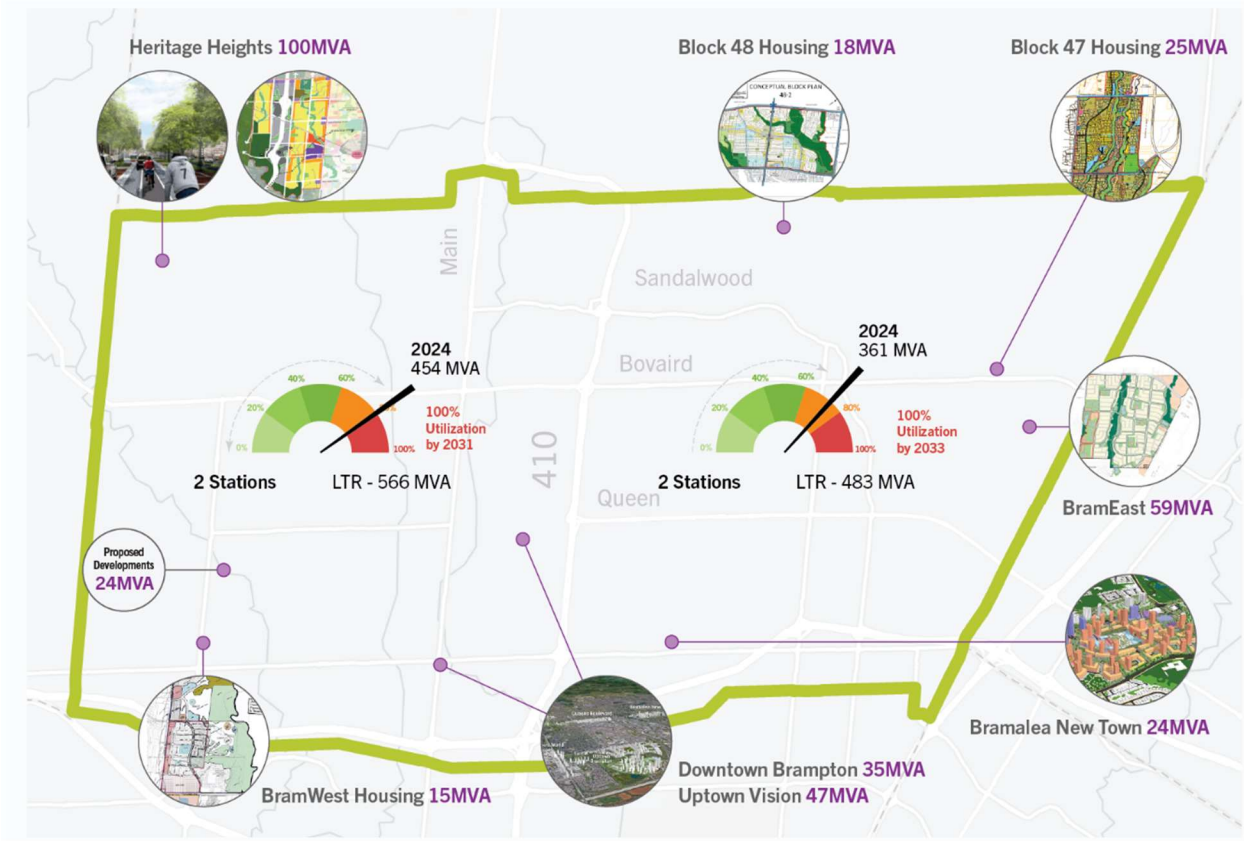


Figure 47. Brampton Region Stations, Ongoing Expansions and Growth Expected to 2035

Transformer Station Adequacy assessment for Brampton is performed to determine the need for new stations. Brampton is divided into East and West sections for the purpose of transformer stations assessment. East Brampton is predominantly supplied by Goreway TS and Bramalea TS and West Brampton is supplied by Pleasant TS and Jim Yarrow TS.

4.4.1 Brampton (East)

Brampton East is supplied by three 27.6kV stations there is 180MVA capacity left on 27.6kV system. Addition of new developments will add total of approximately 224MVA load by 2033 when the stations are expected to reach the total load of 487MVA, exceeding the LTR of three stations. The short and medium-term stations assessment has shown a need capacity need for the 27.6kV capacity Brampton East. Table 2020 illustrates the station capacity and the load forecast to 2033.

Table 2020. LTR Capacity with Existing and Forecast Load for Brampton East TSs, 2024 - 2034

TS Name	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bramalea TS	120	87	92	98	104	110	116	122	129	135	142	154
Goreway TS T1/T2_JQ & T5/T6_BY	384	274	284	296	308	321	332	345	358	371	385	385
Total	483	361	376	394	412	431	448	467	487	506	527	539
New Station (New Goreway TS)										23	44	58

Figure 48 shows the total LTR capacity of TSs in Brampton area.

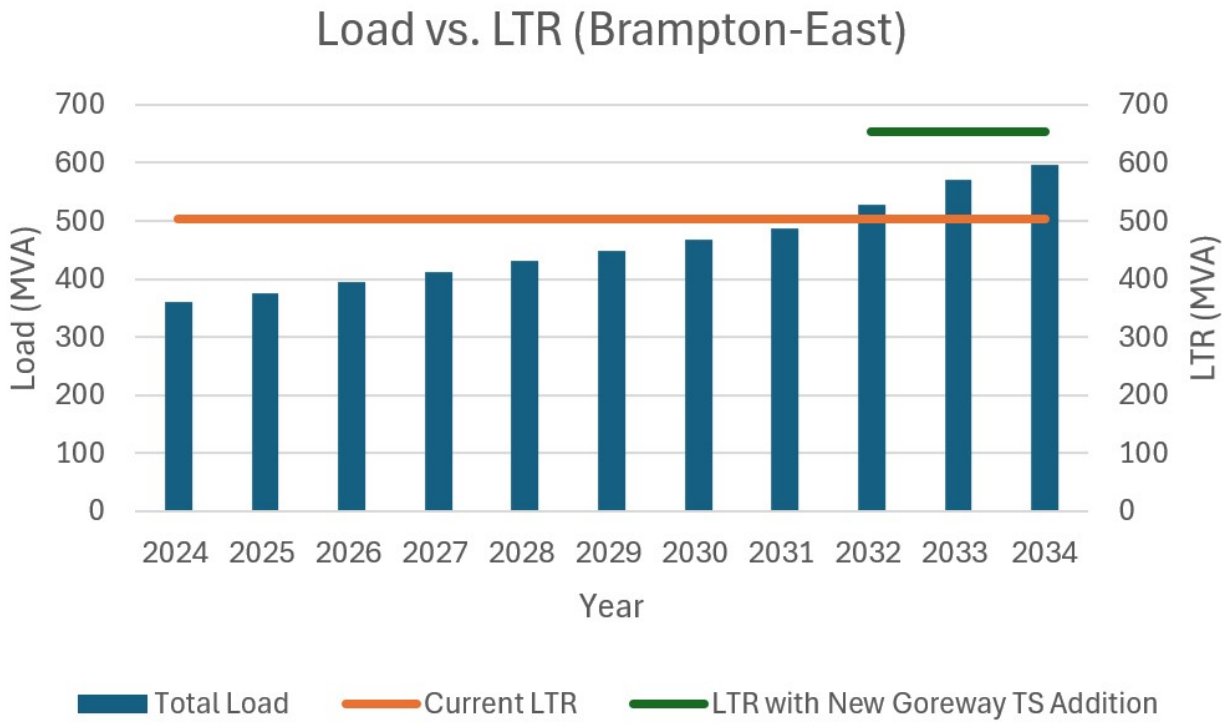


Figure 48. Load vs. LTR for Brampton-East (2024-2034)

The major development are as follows:

BramEAST Development

The subject lands comprise an area of approximately 1,519 hectares (3,754 acres) and are situated between Goreway Drive and Highway 50, south of Castlemore Road and north of the Claireville Conservation Area.

There is ongoing expansion of 60MVA to supply the ICI growth along the Highway 50 and Countryside drive. Brampton Transit has plans to electrify their fleet and indicated to Alectra Utilities a requirement of additional 18MVA with full redundancy for their facility by 2028/2029.

Queen Gore Development

The Gore Road and Queen Street East development is an expansive parcel surrounded by a diverse mix of land uses: to the north, low-rise residential developments which are under construction, Alectra Utilities is currently expanding the system to provide 20MVA for developments. Spanning 7.56 acres, there is a large vacant lot on the east side of The Gore Road and north of Queen Street East. An application for the Official Plan and Zoning By-law Amendments calls for four buildings with seven high-rise towers encircling the site, with outdoor amenities in the centre. Ranging from 23 to 43 stories in height, they would collectively add 2,461 residential units to the area, alongside office and retail spaces. The development is planned across four phases, starting with the 25- and 33-storey towers at the southwest corner. This development will add an additional 10MVA load to the distribution system.

Countryside Villages Development

Countryside Villages Land Area (refer to Figure 49), also known as Block Plan 48-2, is approximately 323.76ha (800ac) of the total approximately 645ha (1,600ac) that comprise the Countryside Villages Community, located in north-central Brampton. The site boundaries are Bramalea Road to the west, Airport Road to the east, Mayfield Road to the north and Countryside Drive to the south. The Town of Caledon boundary is to the north, adjacent to Mayfield Road, consisting of primarily agricultural land. Alectra Utilities received a capacity request of 9MVA for the first phase of the new development which includes 4,668 residential and commercial units.

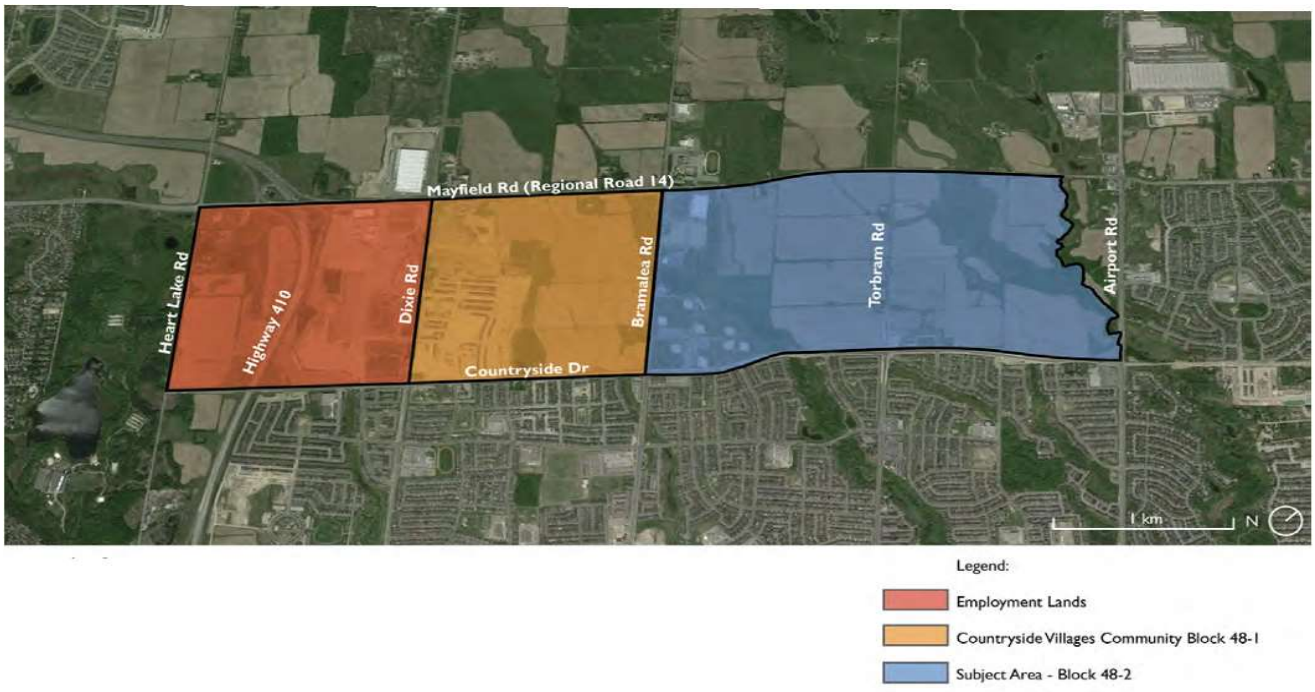


Figure 49. Countryside Villages Development

Block 47-The Gore Road Development:

A new residential community plan, Block 47 in the city of Brampton, is located east of The Gore Road between Castlemore Road and Mayfield Road. The community will encompass about 10,360 residential units with an estimated 25MVA capacity. The servicing of the new development is projected to start in 2025.

With the ongoing expansion and new capacity requests, the remaining capacity on the 27.6kV system will be utilized by 2031. Alectra Utilities needs a new station to be in-service by 2032 to support the growth.

2032 - New Goreway TS

Alectra Utilities intends to complete the land purchase for this TS by 2026 and environmental assessment in 2028/2029 for an in-service date of 2032. Alectra Utilities has determined that the optimal site for the TS would be in the vicinity of the existing Goreway TS. The existing Goreway TS is supplied by an underground 230kV line. Expansion of the 230kV system will be required to feed the new station.

Service reliability will increase once the new station is in service. It will allow for more feeder ties and backup options. System Capacity will increase an additional 170MVA. This will ensure additional load growth and customers can be served.

4.4.2 Brampton (West)

The Western Region of the City is supplied from Pleasant TS and Jim Yarrow 27.6kV system while some large industrial customers are supplied with 44kV system. Both stations have a total of remaining capacity of 171MVA. Jim Yarrow TS has 42MVA capacity available as of 2023. There is an ongoing expansion of 25MVA supplied from Jim Yarrow TS for a data centre that is projected to be in-service in 2025. Additionally, other small developments will add approximately 20MVA by 2029 which will reach the LTR of the station (refer to Table 2121).

Table 2121. LTR Capacity with Existing and Forecast Load for Brampton West TSs, 2024-2034

TS Name Bus	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Jim Yarrow T1/T2_AB	169	145	150	155	161	167	172	172	172	172	172	172
Pleasant TS T5/T6_BY/EZ & T7/T8_FV	397	309	320	332	345	359	372	378	388	395	405	405
Total	566	454	470	487	506	526	544	550	560	567	577	577
New Station (Heritage TS)												20

The total LTR capacity of TSs will exceed the LTR in 2031 Brampton West area.

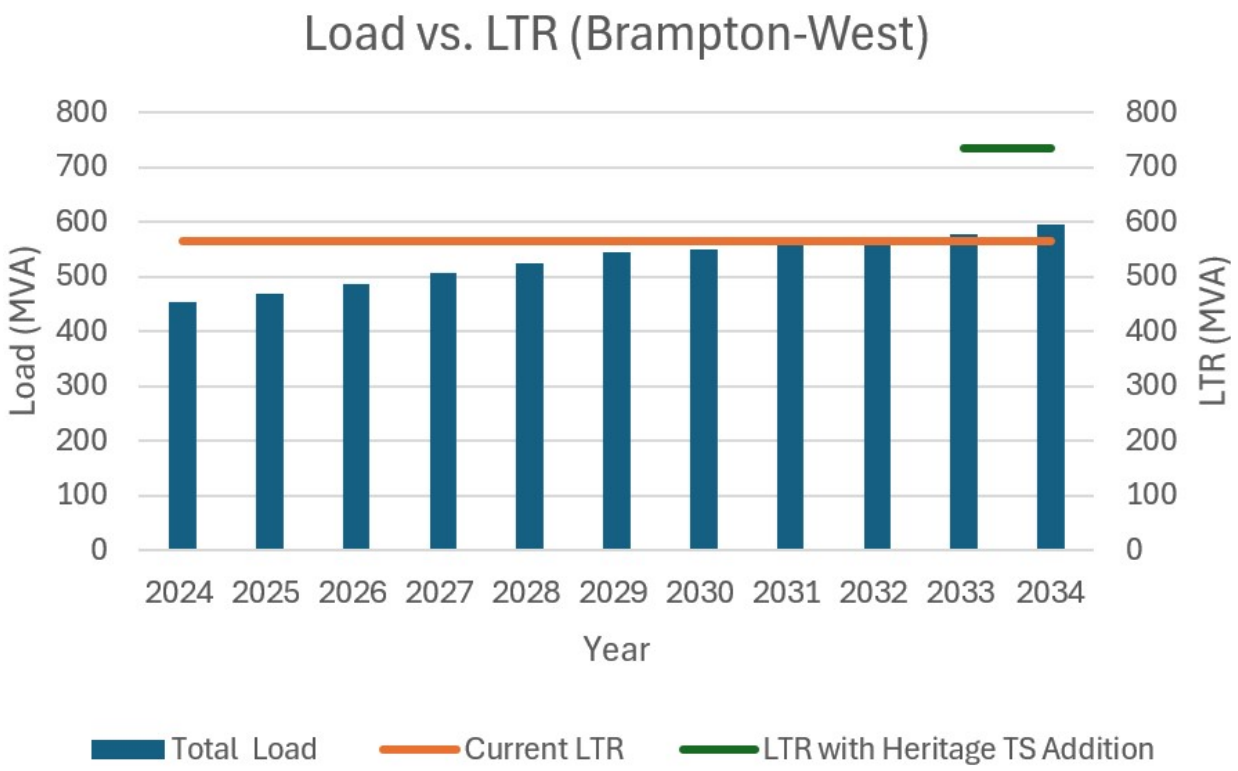


Figure 50. Load vs. LTR for Brampton-West (2024-2034)

There is 129MVA of transformation capacity available on Pleasant TS as of 2023. Alectra Utilities is in the process of designing four new feeders from the Pleasant TS to supply the 80MVA for Heritage development for Block 52-1 and 52-2 which will utilize all the available feeder positions at Pleasant TS.

In addition, there are other developments that will add a total load of 51MVA to Pleasant TS. The incremental load will result in the station exceeding its LTR limit by 2032.

The major developments in Brampton West area are listed below:

Heritage Heights

The subject area encompasses approximately 987 gross hectares (2,439 gross acres) of land located within a large future urban growth area in the City of Brampton. The lands are bounded by Mayfield West Road to the north, Winston Churchill Road to the west, the Credit River to the south and Mississauga Road to the east. Heritage Heights represents that largest undeveloped

greenfield area in the City of Brampton. The land will also be the home for new provincial Highway 413 (refer to Figure 51).

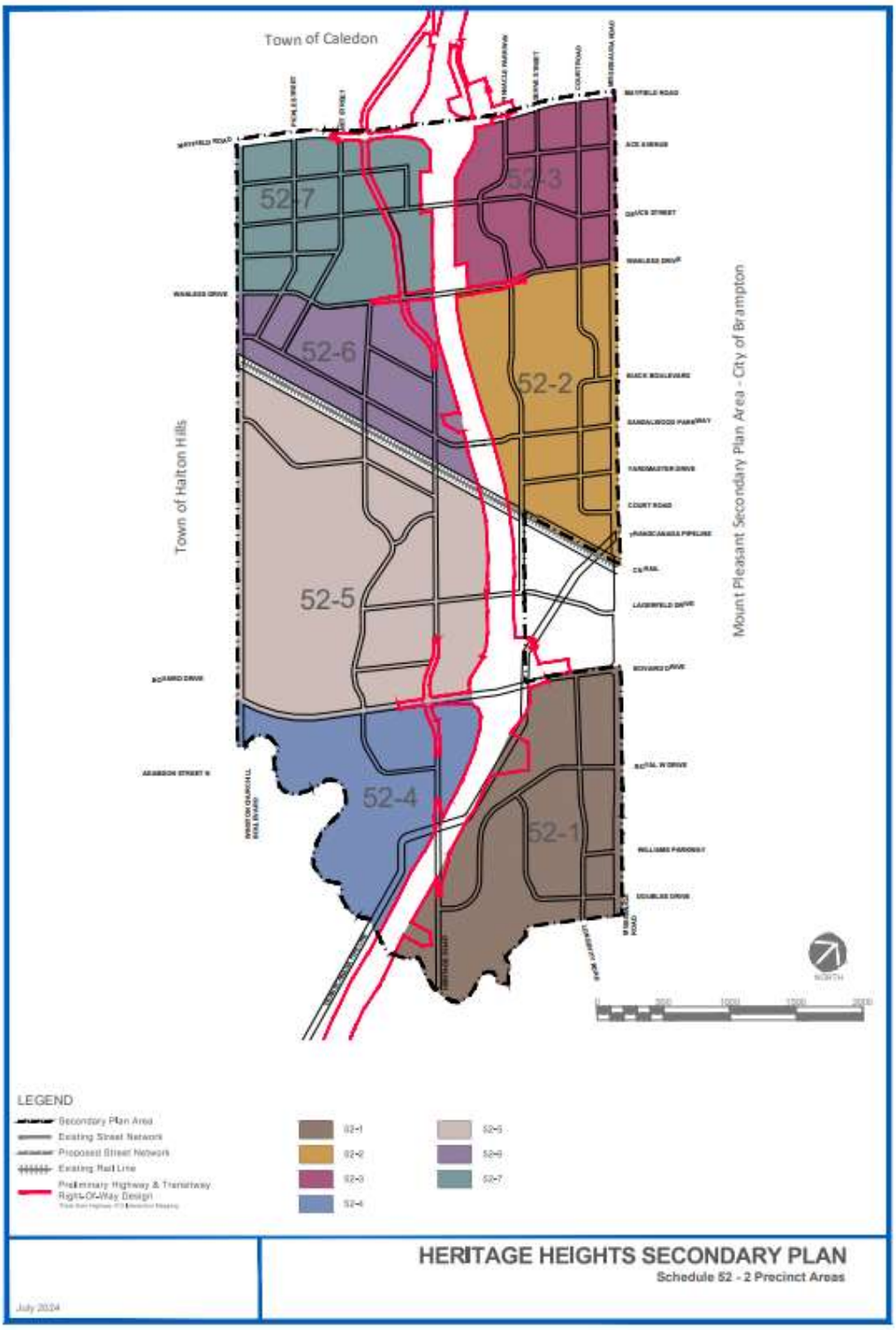


Figure 51. Heritage Heights Development Plan

By 2040, the Heritage Heights development will be comprised of 13,655 Low Density, 11,225 Medium Density and 10,975 High Density dwelling units as well as mixed use commercial space of 1.4 million square meters. The total demand for Heritage Heights is estimated at 180MVA. Currently, Alectra Utilities is in process of constructing four new feeders to supply the first two blocks 52-1 and 52-2.

With the ongoing expansion and new capacity requests, the remaining capacity on the 27.6kV system will be utilized by 2033. Alectra Utilities needs a new station to be in-service by 2034 to support the growth.

2034 - Heritage TS

Alectra Utilities has determined that the optimal site for the TS would be near the Heritage and Bovaird intersection. This will be within the corridor for new Highway 413, providing easy access for the maintenance and operations.

A new 230kV Transmission connection will be required from the existing H29/H30 Transmission Line at Pleasant TS, which is approximately 7KM west to the station site. Currently, there is a capacity constraint on the Pleasant TS transmission line which will reconductored by 2029.

The connection of this station to the 230kV transmission system would require expansion of the transmission system. The time to build the new transmission infrastructure is approximately 5-7 years which includes the EA process. Alectra Utilities intends to start the process for new line and station in 2029 for an in-service date of 2034.

Brampton Municipal Substations

The City of Brampton is currently supplied by nine substations: three 4.16kV MS (MS2, MS8, and MS12), and six 13.8kV MS (MS10, MS14, MS19, MS20, MS21, and MS22). The substation ratings, as well as respective existing and projected loading.

None of the municipal substation transformers exceeded their respective ONAN ratings during the 2023 summer peak. MS19 and MS20 would have exceeded the transformer ONAN rating upon loss of a single transformer during the summer peak; however, given that they are interconnected with adjacent 44kV/13.8kV substations there is adequate capacity for contingency transfers to remain below the ONAF rating.

Alectra Utilities plans to decommission the remaining 4.16kV municipal substations in Brampton (i.e.: MS2, MS8, and MS12). All existing downstream municipal substation loads will be converted to 27.6kV supply.

4.5 West sub-planning zone (Hamilton)

Hamilton is the 10th largest city in Canada, and the 5th largest in Ontario. The population of Hamilton is expected to increase to 692,500 by 2036, up by 19% from the 2021 population. The city of Hamilton consists of two distribution voltages: 13.8kV supplies the centre urban areas and 27.6kV supplies in the rural areas. The escarpment divides the city into upper and lower sections with an elevation change of 100 metres at multiple locations. The vertical drop creates limited ability to transfer electrical capacity between the upper and lower sections. New growth and expansion are occurring both North and South of the escarpment.

The Hamilton secondary plan is shown in Figure 52, the escarpment indicated by a green line.

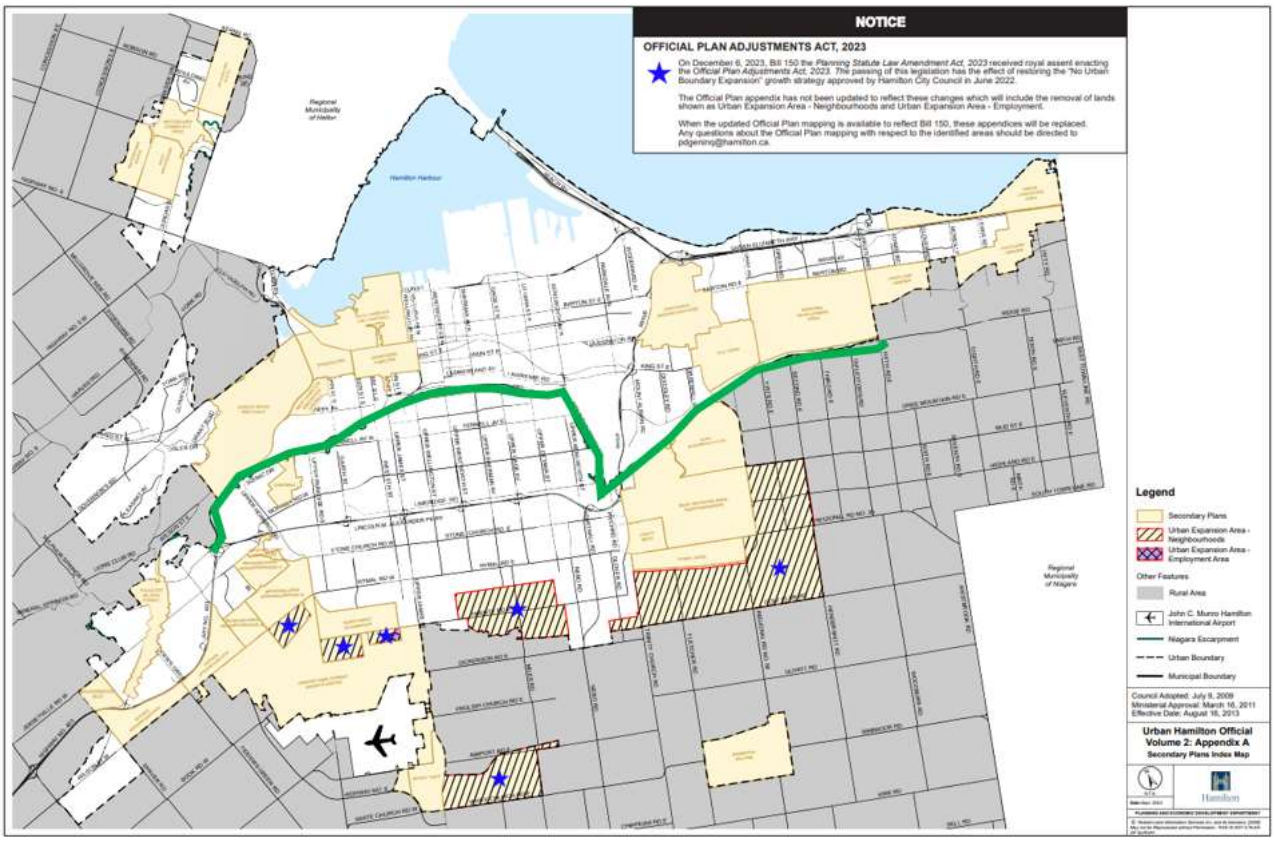


Figure 52. Hamilton Secondary Plan

The major developments in the City of Hamilton are listed below.

Steelport Area

A large industrial and commercial development in the lands formally occupied by major steel manufacturer will be under redevelopment with a total requirement of 200MVA.

South Mountain Area

Upper James St - Upper James St is a mountain access road that connects to the Hamilton Airport. It is a commercial/residential area forecast to intensify electrical needs.

Glover Rd and Pritchard Rd Corridor - The greenfield area of Glover Rd and Pritchard Rd running South/North of Rymal Rd has had large requests for increased loading. The total forecast load growth for this area is estimated to be 40MVA.

Elfrida Development - The Neighborhood of Elfrida is in the South-East side of Upper Hamilton. Greenfield development of 1136.9 hectares of land is jointly owned by Alectra Utilities 437.12Ha (38%) and HONI 699.78Ha (62%). The projection of 30,000 Units 60/20/20 Single/Town/Apartment is expected to have loading of exceeding 84MVA with Alectra Utilities supplying 32MVA of load.

Hamilton Light Rail Transit (LRT) OMSF

Hamilton LRT will connect key areas, destinations and institutions along Main Street, King Street and Queenston Road and lead to additional growth through intensification along the corridor. The Operations Maintenance Storage Facility (OMSF) will require 7.2MVA of capacity.

McMaster Growth

McMaster Innovation and Research facility fosters innovation and entrepreneurship. McMaster Innovation Park (MIP) has indicated the current loading requirement of 15MVA and additional 6MVA in the future.

Frid Street Developments

Alectra Utilities has been approached to provide additional 22MVA for developments on Frid street. Locations further south off Frid St have also requested additional capacity of over 20MVA. These developments will be supplied from Newton TS.

Figure 53 shows the stations, ongoing expansions and the growth expected to 2035.

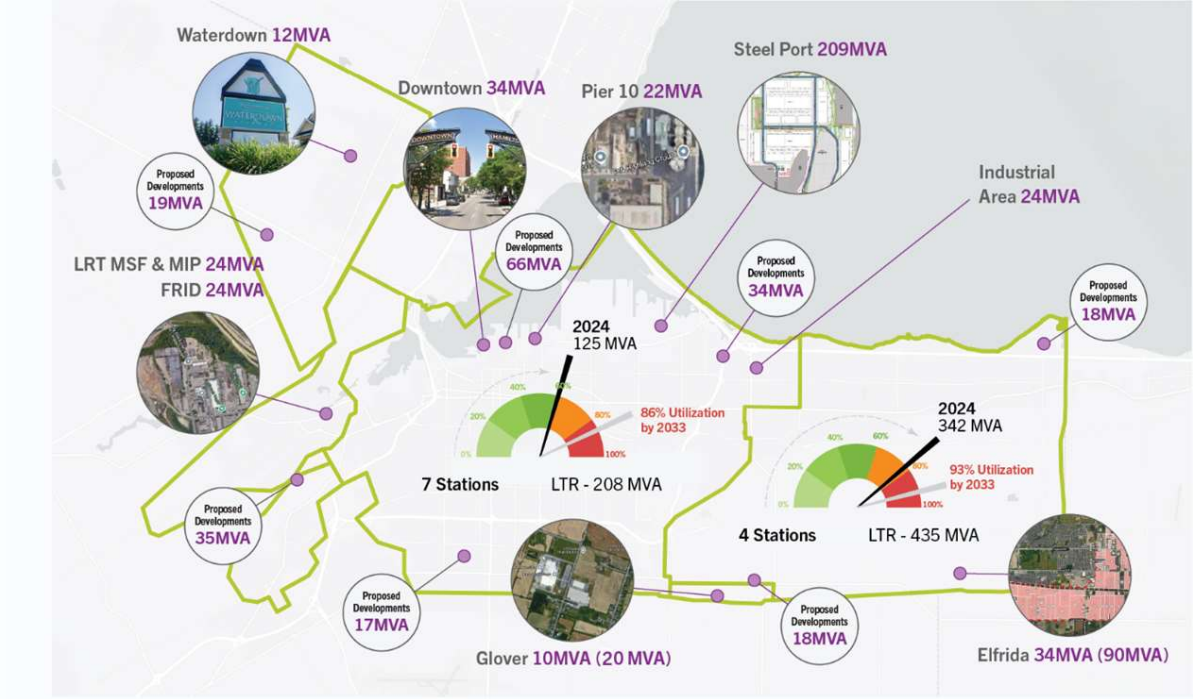


Figure 53. Hamilton Region Stations, Ongoing Expansions and Growth Expected to 2035

South-West Hamilton is supplied by three 13.8kV Transformer stations, Horning TS, Mohawk TS and Nebo TS. Horning TS has a limited ability to supply load and therefore was excluded from the analysis. Nebo is a dual voltage station with 13.8kV and 27.6kV.

Based on the long-term load forecast for the South-West Hamilton region that is shown in Table 2222 new capacity is required. Figure -54 illustrates LTR and the load growth to 2024.

Table 2222. LTR Capacity with Existing and Forecast Load for South – East Hamilton TSs, 2024-2034

Station	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Mohawk B1B2 (13.8kV)	55	37	38	39	40	41	42	43	44	47	50	53
Mohawk Y1Y2 (13.8kV)	55	46	47	48	49	51	52	53	54	55	55	55
Nebo QJ (13.8kV)	56	56	56	56	56	56	56	56	56	56	56	56
New Station (SouthWest TS) (13.8kV)					2	3	6	7	9	11	13	16
Total South (13.8kV)	166	139	141	143	147	151	156	159	163	169	174	180
Nebo BY (27.6kV)	68	50	51	52	54	56	57	59	60	61	63	66

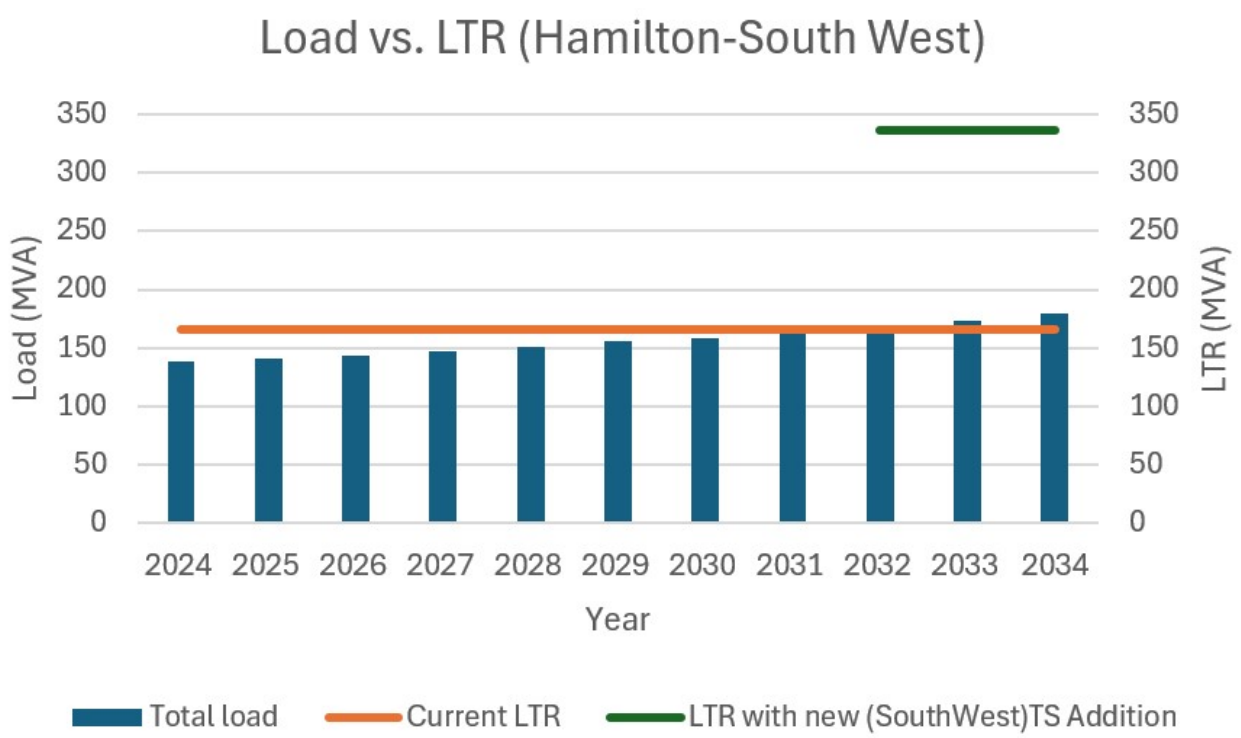


Figure 54 Load vs. LTR for Hamilton-South West (2024-2034)

Nebo QJ has already reached its LTR limit, and Newton B/Y will reach LTR in 2028. Mohawk Y1Y2 will reach LTR in 2031 with Nebo BY following in 2030. Based on the forecasted data, capacity expansion is required in two areas which are being served by Newton TS and Nebo TS area. A single station cannot service both locations due to geographic constraint.

The combined limit of Nebo 13.8kV and Mohawk TS will exceed the LTR in 2030. There are limited options for balancing load between the stations with 7MVA expected load transfer ability from Nebo to Horning TS and Mohawk TS, 3MVA and 4MVA respectively. Growth over LTR on Nebo QJ will result in reaching LTR in 2026, after using load transfer capability.

Nebo 27.6kV will reach LTR after 2033; however, less than 20MVA capacity currently remains, and a large customer request can consume this capacity quickly. Large individual load requests at Glover Rd (10MVA) and Elfrida (32MVA) will be accommodated on the new station, in addition to smaller organic growth.

The North-West area of Hamilton is supplied by Newtown TS. The long-term load forecast for this station is shown below in Table 2323.

Table 2323. LTR Capacity with Existing and Forecasted Load for Newtwon TS in Hamilton North-West, 2024-2033

Station	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Newton B (13.8kV)	36	27	29	32	34	36	36	36	36	36	36	36
Newton Y (13.8kV)	36	27	29	32	36	36	36	36	36	36	36	36
Total	72	54	58	64	70	72	72	72	72	72	72	72
Additional load on Upgraded (Newton TS)					3	4	7	9	12	15	20	23

Figure 55 illustrates the projected load, LTR capactiy for Newtown TS.

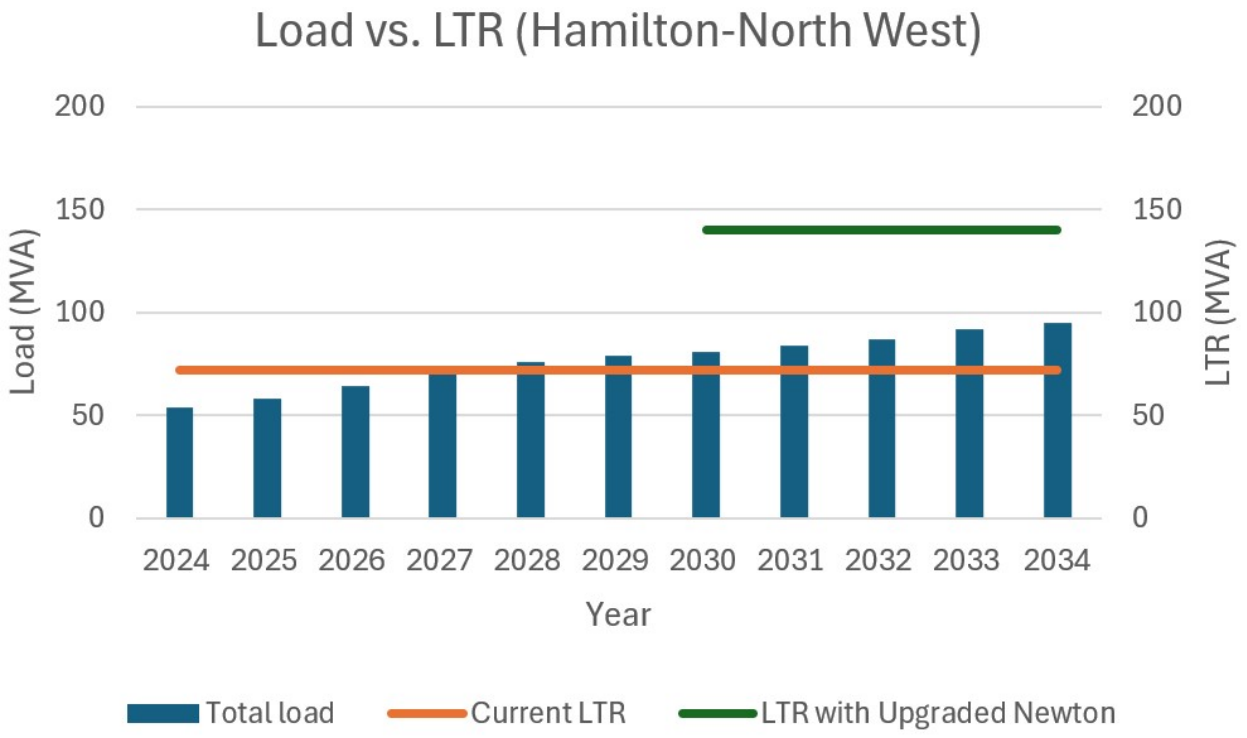


Figure 55. Load vs. LTR for Hamilton-North West (2024-2034)

The existing Newton TS will reach it capacity in 2027.

2033 – New Hamilton South-West TS

The short and medium-term stations assessment has identified a need of a new 230/27.6kV 170MVA DESN TS. Alectra Utilities plans to invest in a new Transformer Station to meet the load growth.

The timeline to build the new station is approximately 5-7 years, including the land purchase and EA process. Alectra Utilities intends to complete the new TS land purchase in 2027 so EA and station design EA can begin in 2028, for an in-service date of 2033.

Alectra Utilities has determined that the optimal site for the TS would be south of Rymal Road along the 230kV Right of Way. Service reliability will improve with the new station and will enable Alectra Utilities to build more feeder ties.

2030 - Newton TS Upgrade

Newton TS supplies the Westdale and Ainsle Wood areas within the City of Hamilton. This area contains McMaster University along with residential, commercial, and industrial customers. Limited options exist for connecting to other station feeders due to Highway 403 crossing on East, the Hamilton Escarpment on South, Conservation lands on the West, and Lake Ontario to the North (refer to Figure 56).

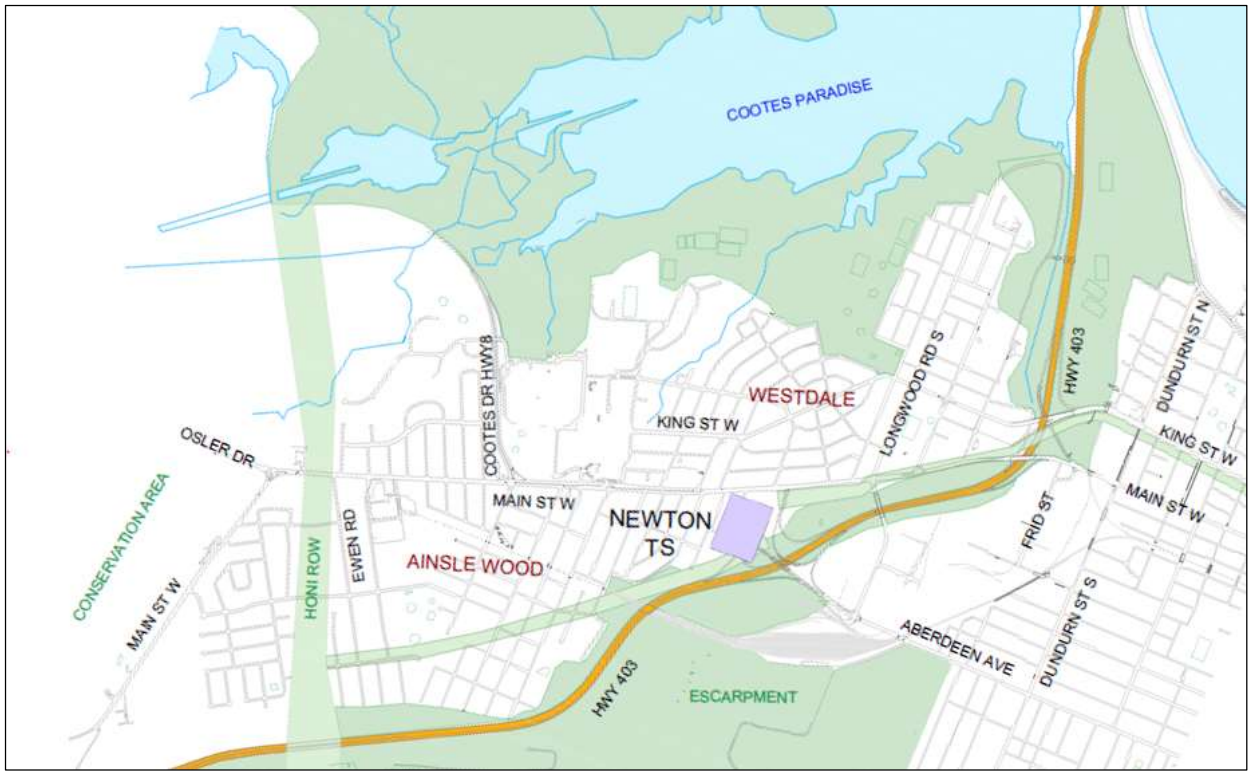


Figure 56. Hamilton Newton TS Area

Newton and Elgin Stations serve the developments in Northwest Hamilton; however, connections between the 2 stations are limited due to challenges in crossing Highway 403. Expected load transfer ability from Newton TS to Elgin TS is 6MVA. Ties between Newton TS and Elgin TS will be used to transfer load to Elgin TS, and the excess load will need to come from Newton TS.

The medium-term stations assessment has shown a need of additional capacity at Newton TS. Newton TS is a HONI owned transformer station with a summer LTR rating of 72MVA. By 2028, the existing Newton TS will not have the capacity to supply additional load due to new residential, commercial, and industrial developments.

Alectra Utilities will need to engage HONI to upgrade the existing transformer station to have Summer LTR of 140MVA. The timeline to upgrade the new transformers is approximately 3 years. Alectra Utilities will need to initiate the upgrade in 2028 for an in-service date of 2030.

4.6 Southwest sub-planning zone (Guelph)

According to the 2021 census Guelph is the 38th largest city in Canada, and 17th largest in Ontario. The population of Guelph is expected to increase to 177,000 by 2036, up by 20% from 2021. Population growth is occurring in the greenfield areas with intensification forecasted in the Downtown core. As illustrated in Figure 57 shows the downtown secondary plan.

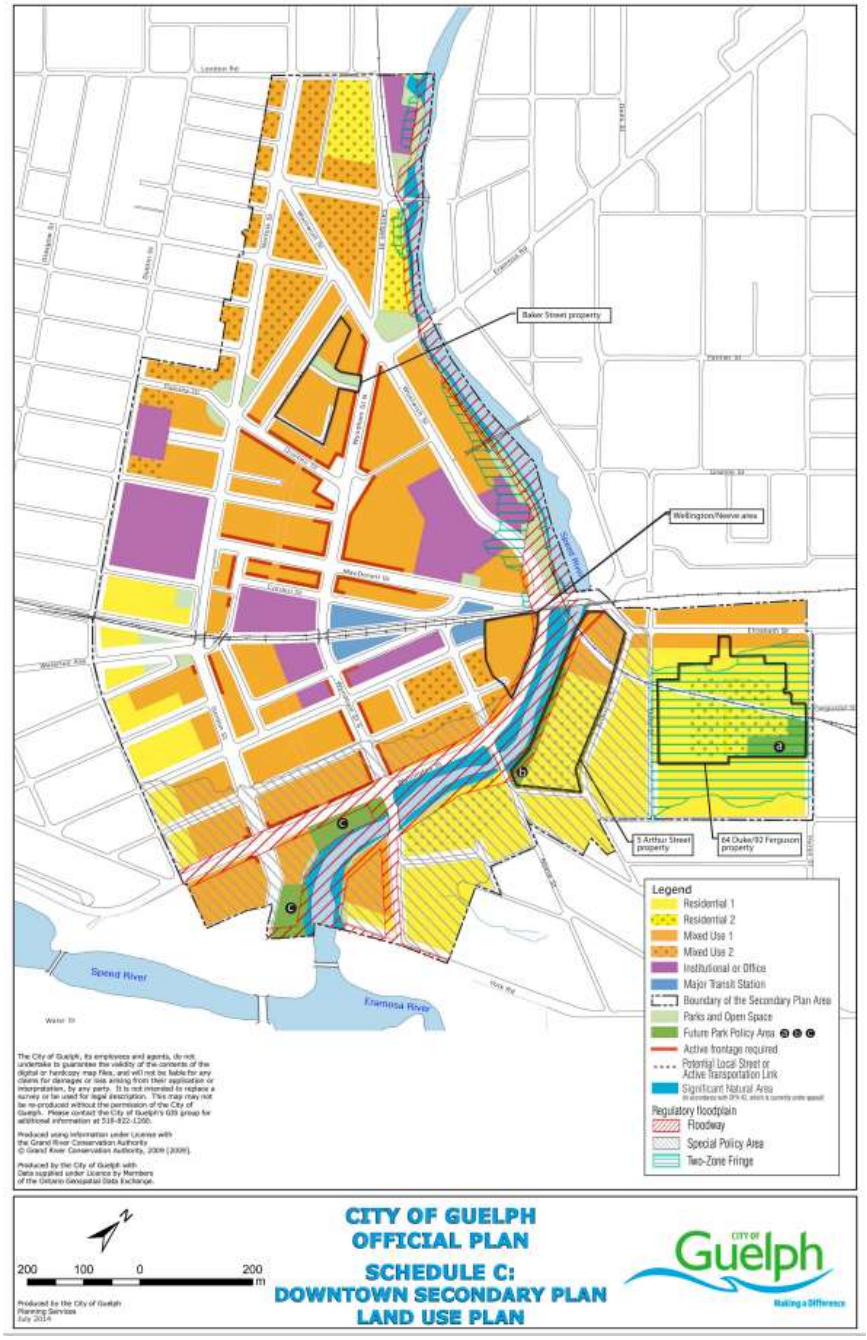


Figure 57 Guelph Downtown Secondary Plan [17]

North-West Side Developments

The North-West side of the City of Guelph is highly commercial and industrial, with growth occurring near Speedvale Avenue West and Woodlawn Road West. Greenfield areas in the south such as Laird Road are seeing growth and intensification at Southgate Drive, Stone Road, St Clair to Maltby, and Watson Road.

A large amount of ongoing expansion is occurring in the north side of Guelph, and potential future load from new electric initiatives in transportation and decarbonized heating is expected.

Electric Transit & Decarbonized Heating

The City of Guelph is focused on supporting the use of zero and low-emission vehicles. The city is planning the conversion of the city bus system to electric, requiring charging infrastructure. Additional load growth of 17MVA has been 17MVA identified by The City of Guelph. This growth will be connected to Cedar TS.

Figure 57 shows the Guelph stations, ongoing expansions and growth expected to 2034.

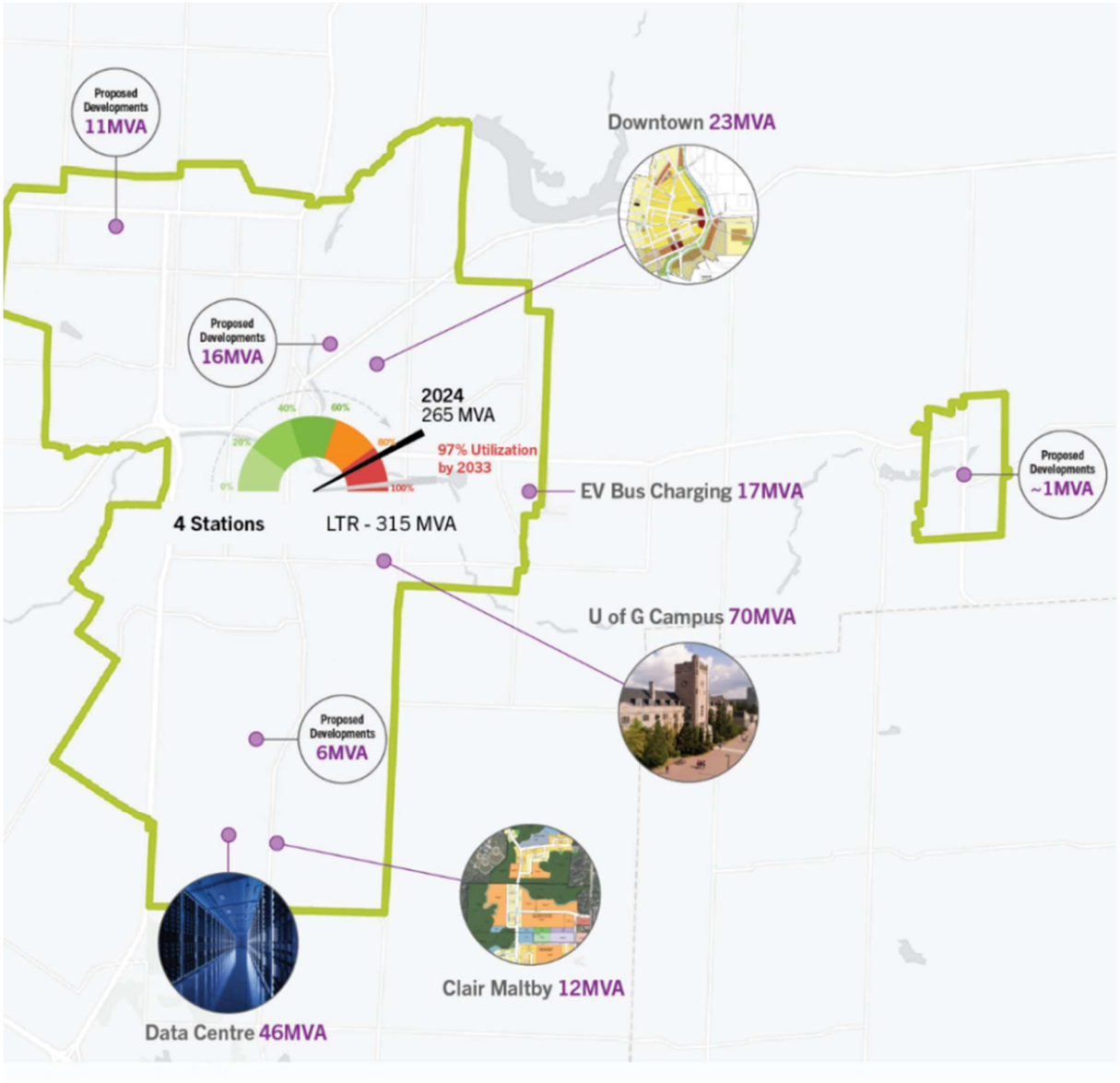


Figure 58. Guelph Region Stations, Ongoing Expansions and Growth Expected to 2034

The north side of the City of Guelph is supplied by two HONI-owned transformer stations (i.e., Campbell TS, and Cedar TS). Each station is a two DESNs station. The North-West area contains a large portion of the industrial and commercial load, and the Campbell JQ/BY TS has exceeded its capacity limit. The proposed downtown intensification and greenfield growth in the North-West area will create load growth on both Campbell and Cedar TSs.

Alectra Utilities has previously constructed additional ties between Campbell TS and Cedar TS for load transferring and has also considered 6MVA of load to be transferred in the analysis.

However, due to topographical constraints, it is not possible to effectively balance the load between these 2 stations. The combined Campbell/ and Cedar TSs will reach LTR in 2034 due to new residential, commercial, and industrial developments, electrification and decarbonization.

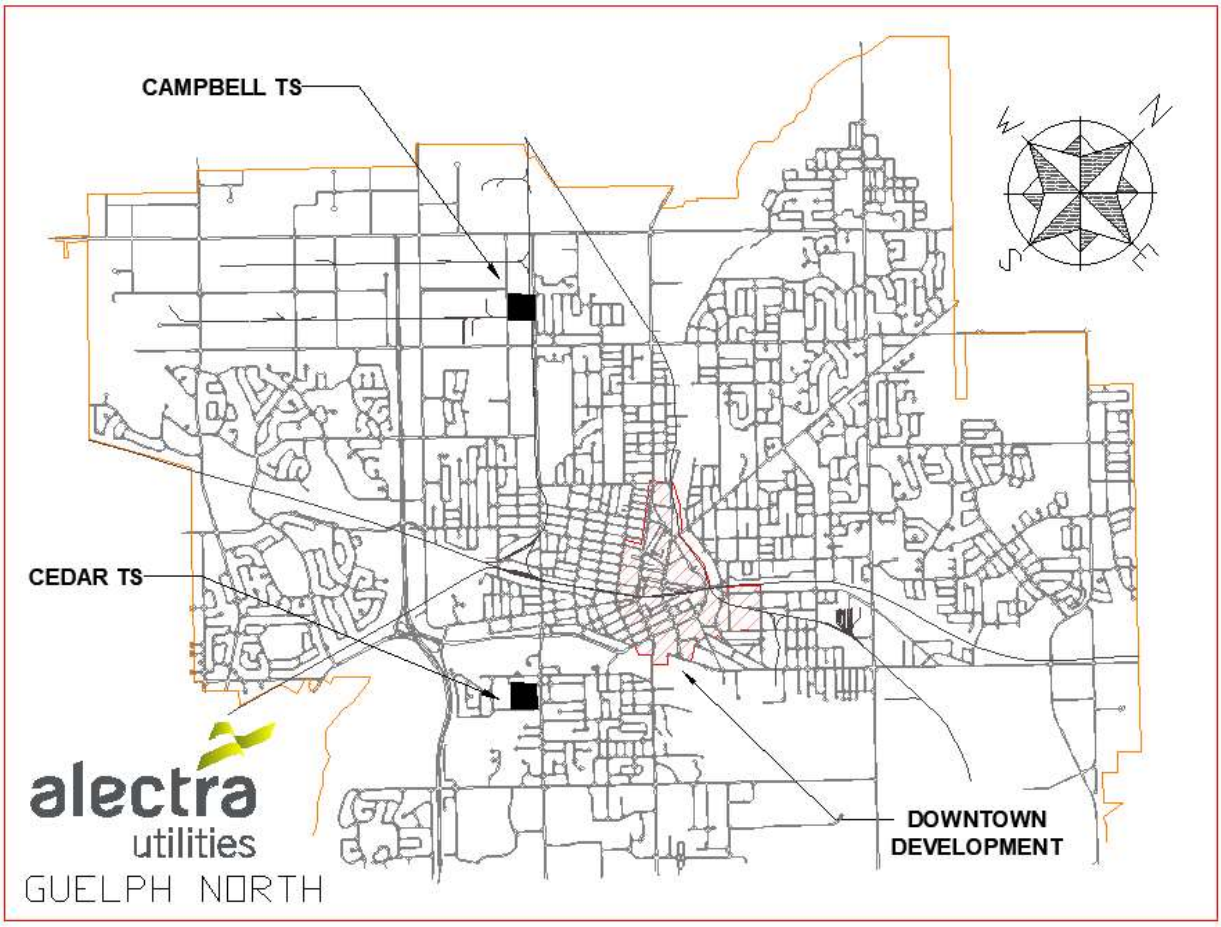


Figure 59. Campbell and Cedar Stations Guelph North

The Cedar TS (T7/T8) will reach LTR capacity in 2030 and Campbell TS (T1/T2) will reach its limit in 2031.

Table 2424. LTR and Existing Capacity and Load Forecast Load for Guelph TSs, 2024-2034

Station	LTR (MVA)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cedar TS (T1/T2)	111	86	88	90	91	98	100	109	111	111	111	111
Cedar TS (T7/T8)	43	35	37	39	40	41	42	43	43	43	43	43
Campbell TS (T1/T2)	101	92	93	94	95	98	100	101	101	101	101	101
Campbell TS (T3/T4)	60	53	54	55	56	57	58	59	60	60	60	60
Total	315	266	272	278	282	294	300	312	315	315	315	315
Upgraded (Campbell TS)	221								10	25	40	60

From Table 2424, Cedar TS T7/T8 will exceed LTR in 2030 and Campbell TS T1/T2 will exceed LTR in 2031.

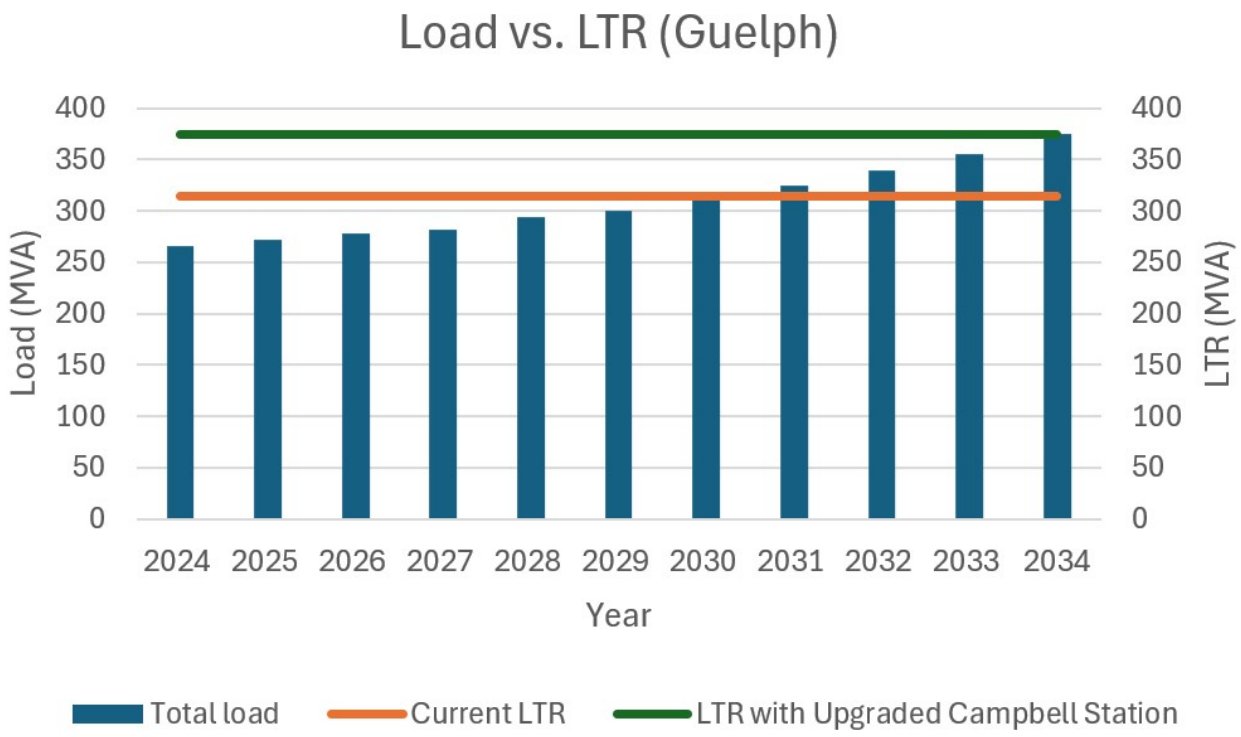


Figure 60. Load vs. LTR for Guelph (2024-2034)

2031 - Campbell TS Capacity Expansion

Alectra Utilities plans to engage HONI to upgrade the Campbell TS with additional capacity to serve North Guelph area. The station upgrade plan is to increase the capacity of T1/T2 and T3/T4

through two upgrades. Campbell T1/T2 transformers were upgraded to 140MVA; however, the existing bus maximum limits the rating to 96MVA. With the JQ bus upgrade, the LTR would increase to 118MVA. Campbell T3/T4 with existing 60MVA and 56MW LTR is to be upgraded to 103MVA (96MW) using the spare transformer winding at T3/T4.

The timeline to upgrade the existing Campbell TS is approximately three years.

Following the expansion of the Campbell TS, Alectra Utilities forecasts continued load growth in the Guelph area. It is expected that station capacity will be exceeded in 2034. It is recommended land and siting options be developed for new capacity to buy land in 2029 that can be used for either wires or non-wires infrastructure for new capacity by 2034.

References

[1] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_b_300905.pdf

[2] https://www.ieso.ca/en/Sector-Participants/Settlements/Global-Adjustment-Class-A-Eligibility

[3] https://www.aurora.ca/en/business-and-development/resources/Development-charges/Town-of-Aurora-Updated-DC-Study-Bylaw-2021.pdf

[4] https://www.richmondhill.ca/en/shared-content/resources/documents/Development-Charges/2021-City-wide-DC-Update-Study.pdf

[5] https://www.markham.ca/wps/wcm/connect/markham/8bac5098-bcfa-410e-91e8-275e4fa6550f/2022HEMSON_Markham_DC_Study_May_2022.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_2QD4H901OGV160QC8BLCRJ1001-8bac5098-bcfa-410e-91e8-275e4fa6550f-o3of8pg

[6] https://pub-vaughan.escribemeetings.com/filestream.ashx?DocumentId=110777

[7] https://www.mississauga.ca/wp-content/uploads/2022/03/04100851/Development-Charges-Background-Study.pdf

[8] https://www.brampton.ca/EN/Business/planning-development/development_charges/Documents/2019%20Development%20Charges%20Study%20FINAL.pdf

[9] https://simcoe.ca/wp-content/uploads/2024/01/Development-Charges-Background-Study-2022.pdf

[10] https://simcoecountygreenbelt.ca/wp-content/uploads/2022/07/SC-LNA-CO-2022-117-Schedule-1.pdf

[11] https://www.stcatharines.ca/en/planning-and-development/resources/Development-Charges-DCs/2021-Development-Charges-Background-Study.pdf

[12] https://www.vaughan.ca/sites/default/files/CW1201_15_14.pdf?file-verison=1757273399858

[13] https://guelph.ca/wp-content/uploads/Guelph2023DCReport-Final.pdf

[14] https://www.hamilton.ca/sites/default/files/2024-02/planning-2024-Development-Charges-Report-Final.pdf

[15] https://oeb.ca/sites/default/files/Load-Forecast-Guidance-Document-RPPAG-20221013.pdf

[16] https://www.brampton.ca/EN/City-Hall/Brampton-2040-Vision/Documents/Civitas%20-%20Brampton%202040%20Vision%20Plans%20Overview.pdf

[17] https://guelph.ca/wp-content/uploads/Attachment1OPA43.pdf

[18] VMC Secondary Plan Update

Appendix A – Population, Housing, and Employment Growth

Table A-1 Population & Household Growth Forecast – 2021-2041

		East		Central		West		Southwest
Year	Measure	York	Simcoe County	Brampton	Mississauga	Hamilton	St. Catharines	Guelph
2021	Population	973,024	255,310	691,382	763,300	584,000	137,886	147,000
	Households	311,657	88,140	247,826	249,514	222,540	59,549	57,500
2026	Population	1,078,997	295,700	751,542	792,340	618,000	142,993	157,500
	Households	351,392	104,750	264,478	262,450	240,320	62,274	62,850
2031	Population	1,207,649	337,990	807,875	818,100	652,000	148,099	168,000
	Households	394,004	120,790	280,723	279,850	258,100	64,999	68,200
2036	Population	1,257,655	375,780	848,897	849,680	692,500	155,982	177,000
	Households	436,481	137,260	295,336	298,940	276,635	68,734	72,950
2041	Population	1,333,680	412,790	889,920	883,290	733,000	163,865	186,000
	Households	478,958	153,770	309,950	317,840	295,170	72,469	77,700
% Increase Population		37.07%	61.68%	28.72%	15.72%	25.51%	18.84%	26.53%
% Increase Households		53.68%	74.46%	25.07%	27.38%	32.64%	21.70%	35.13%

NOTES:

1	York population and housing data (2021-2041):
	Markham:
	2021-2031: “2022 Development Charges Study, City of Markham, March 2022, Hemson Report”
	2031-2041: “2022 YORK REGION OFFICIAL PLAN Office Consolidation	June 2023, York Region Report”
	Richmond Hill:
	2021-2031: “Development Charges Background Study, Town of Richmond Hill, March 26, 2019, Watson Report”
	2031-2041: “Development Charges Background Study, City of Richmond Hill, December 22, 2023, Watson Report”
	Vaughan:
	2021-2031: “Development Charges Background Study, City of Vaughan, June 21, 2022, Hemson Report”
	2031-2041: “2022 York Region Official Plan Office Consolidation	June 2023, York Region Report”
	Aurora:
	2021-2031: “Development Charges Background Study, Town of Aurora, January 24, 2019, Watson Report”
	2031-2041: “2022 York Region Official Plan Office Consolidation	June 2023, York Region Report”
2	Simcoe County population and housing data (2021-2041):
	Barrie:

	"Greater Golden Horseshoe: Growth Forecasts to 2051, August 26, 2020, Hemson Report"
	Penetanguishene, Bradford, and New Tecumseth:
	"Growth Forecasts and Land Needs Assessment, March 31, 2022, Hemson Report"
3	Brampton Population and Housing Data (2021-2041): "Development Charges Background Study, Region of Peel, Watson Report September 18 2020"
4	Mississauga Population and Housing Data (2021-2041): "Development Charges Background Study, March 4, 2022, Hemson Report"
5	Hamilton Population and Housing Data (2021-2041): "City of Hamilton Land Needs Assessment to 2051, December 2020, Lorius Report"
6.	St. Catharines Population and Housing Data (2021-2041):
	"Development Charges Background Study, City of St. Catharines, June 2, 2021, Watson Report"
7	Guelph Population and Housing Data (2021-2041): "Greater Golden Horseshoe: Growth Forecasts to 2051, August 26, 2020, Hemson Report"
	York Region- Numbers indicated are for the Alectra Utilities service territory, including Markham, Vaughan, Richmond Hill, and Aurora.
	Simcoe County –Numbers indicated are for the Alectra Utilities service territory, including Barrie, Bradford, New Tecumseth, and Penetanguishene.

Table A-2 Population & Household Growth Forecast for York Region – 2021-2041

Region		2021	2026	2031	2036	2041
Markham	Population	354,589	397,079	444,660	456500	496700
	Households	114,233	129,632	146,905	164,178	181,451
Richmond Hill	Population	213,929	234,909	262,500	263,423	278,180
	Households	71,625	79764	87391	95379	102,375
Vaughan	Population	342,742	379,400	427,900	438900	479200
	Households	104,570	118,552	134,293	150,034	165,775
Aurora	Population	61,764	67,609	72,589	75,750	79,600
	Households	21,229	23,444	25,415	27,386	29,357
Total (York Region)	**Population**	**973,024**	**1,078,997**	**1,207,649**	**1,234,573**	**1,333,680**
	Households	**311,657**	**351,392**	**394,004**	**436,977**	**478,958**

Table A-3 Population & Household Growth Forecast for Simcoe County Region – 2021-2041

Region		2021	2026	2031	2036	2041
Barrie	Population	155,000	183,000	211,000	234,500	258,000
	Households	54,900	64,700	74,500	84,600	94,700
Bradford	Population	44,490	51,140	58,340	65,490	72,240
	Households	13,420	16,540	19,380	2,2290	25,190
New Tecumseth	Population	45,480	50,720	57,050	63,440	69,570
	Households	15,850	19,110	22,100	25,170	28,300
Penetanguishene	Population	10,340	10,840	11,600	12,350	12,980
	Households	3,970	4400	4810	5,200	5,580
Total (Simcoe County)	**Population**	**255,310**	**295,700**	**337,990**	**375,780**	**412,790**
	Households	**88,140**	**104,750**	**120,790**	**137,260**	**153,770**

Table A-4 Employment Forecast for Alectra Utilities Service Area – 2021-2041

Region	2021	2026	2031	2036	2041
Brampton	199,516	226,036	252,555	275,166	295,170
Mississauga	465,650	496,180	507,740	518,910	531,030
Hamilton	238,000	254,500	271,000	290,500	310,000
St. Catharine's	64762	68155.5	71549	75894.5	80240
York	509,306	565,826	625,915	678,391	722,600
Guelph	81,000	88,000	95,000	100,000	105,000
Simcoe County	112,490	134,300	155,840	171,490	187,160
Total (Alectra Utilities)	**1,670,724**	**1,832,998**	**1,979,599**	**2,110,352**	**2,231,200**

Table A-5 Employment Forecast for Simcoe County – 2021-2041

Region	2021	2026	2031	2036	2041
Barrie	75,000	92,500	110,000	121,000	132,000
Bradford	11,910	14270	16,520	19230	22,010
New Tecumseth	20,750	22,470	24,050	25,820	27,570
Penetanguishene	4,830	5,060	5,270	5,440	5,580
Total (Simcoe County)	**112,490**	**134,300**	**155,840**	**171,490**	**187,160**

Table A-6 Employment Forecast for York Region – 2021-2041

Region	2021	2026	2031	2036	2041
Markham	160,039	185,473	215,800	239,900	258,600
Richmond Hill	87,214	95,169	102,578	104,091	109,900
Vaughan	231,293	250,964	270,537	298,200	315,800
Aurora	30,760	34,220	37,000	36,200	38,300
Total (York Region)	**509,306**	**565,826**	**625,915**	**678,391**	**722,600**

Appendix K

Load Forecast Review Report

Project Report

October 3, 2025

Alectra Utilities Corp. - Load Forecast Study Review

Load Forecast Study Review Report

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

Table of Contents

Disclaimer **3**

Executive Summary **5**

1. Introduction **5**

1.1 Background 5
1.2 Scope of Work 5
1.3 Context for this Review 6
1.4 Conclusions 6

2. Review Comments **7**

2.1 System Peak Load Forecast Approach 7
2.2 Load Growth 8
2.2.1 Base Load 8
2.2.2 Electric Vehicles 8
2.3 Decarbonization Sensitivity Analysis 9
2.3.1 Residential Decarbonization of Heating 9
2.3.2 ICI Decarbonization 10
2.4 Weather Correction 10
2.4.1 Seasonal Load Forecasts 11
2.5 Forecasting Individual Regions 13
2.6 Data Sources 13
2.7 Energy Load Forecast 13

3. References **13**

List of Figures

Figure 2-1: Non-Coincident Peak Load Forecast for 2026-2040 – with CDM and EV [18] 12
Figure 2-2: Alectra service territory summer and winter peak load projections 12

List of Tables

Table 2-1: Scenario assumptions regarding new and existing buildings for low, medium, and high scenarios [1] 9

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

Disclaimer

This report (the “Review”) was prepared by Hatch Ltd. (“Hatch”), for the sole and exclusive benefit of Torys LLP (“Torys”, or “Client”) and Alectra Utilities (“Alectra”) for the purpose of Alectra’s application to the Ontario Board of Energy (“OEB”) for the 2027-2031 period. The findings, opinions and conclusions reached in this report are strictly privileged and confidential and shall not be disclosed to any other person or party without prior written consent of Torys or Alectra.

Any use of this report by the Client and/or Alectra is subject to the terms and conditions of the Agreement for the Purchase (469977 OS) of Services between Hatch and the Client and/or Alectra dated December 02, 2024, and the Retainer Letter Agreement between the Client and Hatch dated August 14, 2024, including the limitation on liability set out therein.

This report includes information provided by the Client and/or Alectra. In preparing the Report, Hatch has relied upon the accuracy and quality of this information to perform this assessment. Unless specifically stated otherwise, Hatch has not verified the accuracy or completeness of such information and disclaims any responsibility or liability in connection with such information.

The material in this Report reflects Hatch’s professional judgment based upon information available at the time of its preparation. The accuracy of our findings and professional opinions depends on the background data assumptions and quality of data collected.

This report is meant to be read as a whole, and sections should not be read or relied upon out of context. The opinions in this Report are based on conditions existing at the time of the report and do not consider any subsequent changes. The quality of the information, conclusions, and recommendations contained herein is consistent with the intended level of accuracy as set out in this report, as well as the circumstances and constraints under which this report was prepared. Therefore, while the work, results, and recommendations herein may be considered to be generally indicative of the nature of the review, they are not definitive. No representations or predictions are intended as to the results of future work, nor can there be any promises that the estimates and projections in this report will be sustained in the future.

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

List of Acronyms

CDM	Conservation and Demand Management
DER	Distributed Energy Resource
EV	Electric Vehicle
GHG	Greenhouse Gas
ICI	Industrial, Commercial and Institutional
IESO	Independent Electricity System Operator
OEB	Ontario Energy Board
P2D	Pathways To Decarbonization
SME	Subject Matter Expert

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

Executive Summary

1. Introduction

1.1 Background

Alectra is responsible for the delivery of power to its customers when they need it. Their electrical distribution network must be able to meet the peak demand required in the individual service areas. Thus, forecasting peak demand is critical to ensuring that their equipment and distribution network can meet their customers' future needs.

Hatch's primary role in this engagement was to review Alectra's approach for peak demand forecasting, and its resulting forecasts, as outlined in its the Load Forecast and System Capacity Adequacy Assessment Report 10-Year Outlook (2024-2034) [1]. This document provides the basis of Alectra's demand forecast for the medium term (0-10 years) for Alectra's six planning zones. Alectra's peak demand load forecast was determined by estimating the consumption of its end users and includes adjustment for weather correction. It is referred to as "non-coincident" as its planning areas are not electrically connected and thus the peak demand for Alectra's service territory as a whole is taken as the arithmetic sum of the peaks forecast for each planning area. Alectra's analysis considered the electricity requirement of residential customers as well as industrial, commercial and institutional (ICI) customers. The forecast considers changing electrical load resulting from population growth, energy efficiency improvements, decarbonization activities, and electrification of transportation in its service territory.

In addition to the internally generated peak load forecast, an energy forecast model was prepared by Alectra's contractor, Itron, dated September 2, 2025 [22]. While Itron is the author of the energy forecast, the Alectra team worked closely with Itron to provide input data and review key forecasting assumptions. The Alectra teams working on demand and energy forecasts worked in close coordination to ensure that the overarching assumptions for each forecast are consistent. The Itron forecast uses a variety of energy models to project energy sales (as measured in GWh) over the period 2025 to 2031. As per the agreed scope of work (see below) the Hatch review focused on the internally generated peak load forecast. The Alectra "load forecast" comprises its peak load forecast combined with the energy forecast.

1.2 Scope of Work

As stated in Schedule "A" to the engagement retainer agreement between Torys and Hatch, our scope of work for Phase 1 is summarized as follows:

"The Consultant will assess the three electrification scenarios defined by Alectra (i.e., low, medium, and high-uptake scenarios) along with the underlying assumptions and data inputs pertaining to Alectra's internally prepared load forecast and system adequacy assessment (the "Alectra Internal Report"). Comments and recommendations will be provided in light of known policy, development, and industry trends ". Note the "system adequacy assessment" is not part of Phase 1 and not covered in this report.

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

In addition, Hatch was tasked with reviewing Alectra's energy load forecast to cross-reference the main assumptions and methodologies with the peak demand forecast for consistency.

1.3 Context for this Review

Hatch understands that the long-term load forecast is a component of Alectra's submission to the Ontario Energy Board (OEB) for its distribution rate application for the period 2027-2031. Thus, the review of the long-term peak load forecast focuses on those for the period from 2025 to 2031. However, the value, types and locations of investments that Alectra will make in its distribution systems through to 2031 will be influenced to some extent by the expectations for loads it will need to supply in subsequent years. Thus, the review also includes considerations of the forecasts for the years beyond 2031.

Traditionally load forecasting has been based on the trends in customer requirements over previous years modified by expectations on demographic and economic variables for the forecast period. However, the energy transition that is currently underway in Canada, and around the world, creates unprecedented complexities in forecasting the future requirements for each type of energy. This is particularly true for the electricity sector. Decarbonization of transportation, space/water heating and industrial processes could have significant impacts on the future requirements for electric power. In some jurisdictions, including Ontario, this could include a shift from summer peak to winter peak as electrical heating gains in popularity. At the same time, the prospect of much wider use of distributed energy resources (DERs) creates uncertainties for electric utilities. The situation is further clouded by the rapid development of new technologies that could affect how decarbonization impacts a utility such as Alectra. These uncertainties increase in significance in the longer term, i.e., the years after 2031.

1.4 Conclusions

Hatch considers that Alectra used a best practice approach in the preparation of the load forecast. This overall conclusion is reached due to:

- Several forecasting techniques were considered, and Alectra selected its approach from these based on the characteristics of its system. Alectra's approach is described in its Load Forecast Methodology [21] document. Alectra used end use analysis to forecast its peak demand. Trend analysis and econometric analysis are also commonly used peak load forecasting options. However, based on the data available and market conditions, end use analysis was selected as it was expected to provide the best results.
- Alectra's approach incorporates several aspects of load forecasting recommended in the Load Forecast Guideline for Ontario [20]. One of these is the approach used for including incremental loads (these are sometimes referred to as "step loads") in the forecast. These include known electricity intensive projects identified in direct contact with customers and service applications by new customers. Alectra has identified several of these large projects and included them in the peak load forecast. Alectra also included load growth estimates to account for the increase in population and growth in ICI customers in each region. Lastly, the increase in EVs and the need to charge them, is considered, as this will have a significant impact on future electrical loads.

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

- The Load Forecast Guideline for Ontario [20] recommends a sensitivity analysis be conducted for key load drivers to demonstrate the potential impacts of uncertainty and variability. Alectra used a scenarios-based approach to estimate the potential impacts of a significant and uncertain load driver – decarbonization. Low, medium and high scenarios were prepared and the specific assumptions behind each scenario are identified.
- The Load Forecast Guideline [20] also recommends that weather correction be considered when developing a forecast. Peak demand in southern Ontario typically occurs in the summer months as it has historically been driven by the increase in electricity consumption from air conditioner use. This could change in the future as decarbonization may result in a switch from natural gas to electricity for space and water heating. To account for the variability in weather, Alectra used 40 years of weather data and established normalization techniques to develop its peak demand forecast for each planning area. This is aligned with forecasting practices of other utilities.
- Alectra's service territory is divided into six planning areas which are not electrically connected, which makes it necessary to forecast the peak load for each individually. The load characteristics of individual service areas were considered rather than assuming that all parts of the service territory would experience the same rate of growth.
- Generally accepted approaches to load forecasting and the Load Forecast Guideline [20] recommend using a wide range of reputable data sources as inputs in the preparation of a load forecast. Hatch has confirmed that this was the case in the preparation of Alectra's peak load forecast. As a distribution utility, the development plans of the municipalities making up its service area are key inputs. Alectra collected and used the most recent available plans of all the major municipalities that it serves.
- The methodology and assumptions used to develop the peak load forecast are well aligned with those used in the preparation of the energy forecast, which is used to model future revenue.

Our analysis concludes that Hatch is in overall agreement with the forecasts prepared by Alectra. The remainder of this report summarizes our review and indicates areas where Hatch has provided comments on some of the details. Nevertheless, Hatch is in agreement with the overall results.

2. Review Comments

2.1 System Peak Load Forecast Approach

Alectra considered several different approaches to load forecasting many of which were previously used by the individual utilities that merged to create Alectra. The trend analysis approach would predict the future base load using historic consumption data. The econometric analysis approach would forecast electricity load using mathematical equations to determine the relationship between usage and influencing factors to estimate the load forecast. Neither of these methods were used for the system peak load forecast.

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

Ultimately, Alectra used end use analysis to prepare the system peak load forecast which looks at the end users of electricity as the basis for projecting electrical load. This approach is the most robust for peak load forecasting as it identifies and accounts for the impacts of influencing factors such as housing growth, choice of energy sources and energy conservation on various customer groups by location.

2.2 Load Growth

2.2.1 Base Load

As noted in the Load Forecast Guideline [20], it is recommended that the forecast account for several key inputs that would increase the electrical load for the corresponding service area. The guideline notes that the key inputs may include new loads committed to connect to the LDC and input from energy plans published by municipalities or communities.

The base system peak load growth accounts for population increases as well as institutional, commercial and industrial (ICI) growth and reductions resulting from future conservation demand management (CDM) programs. The base load growth for each planning area from 2024 to 2044 was determined by different means depending on the available data from reports which forecast population and/or housing growth ([7] – [15]). Alectra made use of the most recent development reports prepared for each of the main municipalities in its planning areas.

In some instances, population growth rates for individual cities and towns were used for each year to forecast the base load growth. For other planning areas, more granular data was available, and Alectra was able to use data for individual supply buses and transformer stations. In another instance, the load for the rate zone was based on a report which estimated the peak demand growth by 2041 based on housing growth, which was divided evenly for each year in between and extrapolated to 2044 (assumed a linear growth rate).

Large new ICI projects, which are in active development and expected to have a significant enough load to influence feeder loading, were also included in the load forecast. This was done based on Alectra's ongoing program of contacting its largest customers in an effort to learn of plans that would require significant increases or decreases in electricity supply. Of specific note, the load forecast includes allowances for such step loads for the Yonge Subway extension and for two data centers in York Region [16].

2.2.2 Electric Vehicles

Alectra used information prepared by Guidehouse [17] to forecast the EV population in its service territory taking into consideration the EV population in 2020 adjusted for projected EV sales and EV retirements for each year until 2040. The EV population and vehicle type were used to model the charging infrastructure required to service the EVs. Alectra's calculations assumed that a portion of the installed capacity of charging infrastructure will contribute to the overall load on the grid at the time of peak load. The total load on Alectra's grid was further broken down by region, based on population. Hatch considers that the assumptions used by Alectra to model the EV component of its forecast load are reasonable.

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

2.3 Decarbonization Sensitivity Analysis

The Canadian Net-Zero Emissions Accountability Act of 2021 mandates the Net-Zero Advisory Body to engage Canadians and provide advice to the Minister of Environment and Climate Change on achieving Canada's target of net-zero emissions by 2050. There is significant uncertainty on whether this target will be achieved and even greater uncertainty on the rate with which changes in emissions will be achieved over the years to 2050. This translates into significant uncertainty on the impacts these targets will have on the amounts of electricity that Alectra's customers will require in future years, particularly in the years after 2031. For load drivers with high uncertainty and variability, the Load Forecast Guideline [20] for Ontario recommends that sensitivity analysis be conducted.

2.3.1 Residential Decarbonization of Heating

Today, most residents in Ontario use natural gas to heat their homes and operate their hot water heaters. In an effort to decarbonize the heating sector to reduce GHG emissions, an increasing number of new homes are being designed to include electrically powered heating systems. This will increase the load on the electricity distribution network. Alectra has accounted for this in the load forecast model using housing growth information from the service areas. Alectra's model includes different scenarios based on how quickly heating electrification would be adopted as the standard for new housing, and for the rate of conversion of heating systems in existing homes.

The assumptions on the use of electricity for home space and water heating, as opposed to the current use of primarily natural gas for these services, is a large source of uncertainty in the peak demand and energy forecasts. Of particular significance is that under Alectra's medium scenario, it is projected that its system would shift from summer peaking to winter peaking as early as 2038. For this reason, Hatch has shown below in Table 2-1 the detailed assumptions from the Alectra demand forecast.

Table 2-1: Scenario assumptions regarding new and existing buildings for low, medium, and high scenarios [1]

Scenarios	Assumptions
Low Scenario	1. **2040** is the date after which all new homes and ICI buildings were considered to be heated by hybrid standard heat pump with a gas furnace backup and cold climate heat pump with supplementary heat by **2045.** 2. **7%** of existing homes and ICI building will be retrofitted with hybrid standard heat pump with a gas furnace backup by **2040.**
Medium Scenario	1. **2035** is the date after which all new homes and ICI buildings were considered to be heated by hybrid standard heat pump with a gas furnace backup and cold climate heat pump with supplementary heat by **2036.**

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

Scenarios	Assumptions
	2. **15%** of existing homes and ICI building will be retrofitted with hybrid standard heat pump with a gas furnace backup by **2040**.
High Scenario	1. **2035** is the date after which all new homes and ICI buildings were considered to be heated by hybrid standard heat pump with a gas furnace backup. cold climate heat pump with supplementary heat by **2036**. 2. **30%** of existing homes and ICI building will be retrofitted with a hybrid standard heat pump with a gas furnace back up by **2040**.
Same in three scenarios	1. The model does not include electrification of homes prior to 2023

The scenarios vary only by the timing as to when all new buildings will have primarily electric heating and the timing when a certain percentage of existing buildings will be converted to electric heating.

With regard to the timing, there are a wide range of municipal, provincial, and federal government requirements and programs as well as regulatory factors that could be applicable in the future that would either delay or accelerate the electrification dates assumed by Alectra in the three scenarios. However, the assumptions lying behind the scenarios primarily relate to the rate of growth of heating decarbonization load after 2031 and thus are likely to have minimal direct impact on the load forecast for the period covered by the current distribution rate application.

2.3.2 ICI Decarbonization

Similar to residential decarbonization, some business facilities are being designed to have electrically driven heating systems for space heating and hot water heating. Alectra's system peak load forecast model uses employment growth data to estimate the additional physical area for such establishments. The same scenario definitions (high, medium and low) for the rate of uptake of electrically driven heating systems were used as for residential facilities.

The load forecast does not specifically include any conversions of natural gas-based process heat to electric boilers, or other electrical equipment within connected industrial facilities. Alectra stated that they could not collect information that would allow them to forecast this reliably and that the expectation was that conversions of existing industrial facilities would be limited. Hatch considers that this approach is justifiable because the alternative of including such conversions would not have a material impact on the accuracy of the peak demand forecast.

2.4 Weather Correction

The Load Forecast Guideline [20] recommends adjustments for weather impacts when developing load forecasts. As a starting point, Alectra used historical data from 2023 to develop a linear regression for each service area to correlate the outdoor air temperature with

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

the peak demand. All of Alectra's planning areas currently experience their peak demand in the summer driven primarily by air conditioning loads. Due to the summer peaking focus, Alectra's model only considered data from May to September for the weather correlation.

For each service area, a formula for the regression line was determined to estimate the peak demand based on the outdoor temperature ([2] – [5]).

Alectra then used 40 years of historic, weighted, 3-day average outdoor temperature data from Pearson Airport to determine the 1-in-2 and 1-in 10 temperature scenarios that the region experienced. Based on this information, the highest temperature that could be expected once every two years, and once every ten years, was determined. These temperatures were then applied to the regression line formulas, for each planning zone, to estimate the normalized electrical peak load for 2023. The 1-in-10 weather scenario is used to demonstrate the extreme conditions that would put a strain on Alectra's electricity network. The normalized electrical peak loads for 2023 for the 1-in-2 and 1-in-10 weather scenarios, served as the base for the system peak load forecast.

2.4.1 Seasonal Load Forecasts

Figure 2-1 provides Alectra's peak load growth forecast for Alectra's service territory through to 2040. Figure 2-2 (prepared by Hatch using Alectra's forecast data) shows the summer and winter peak projections under the medium scenarios and predicts that Alectra will convert from summer to winter peak in 2038. The model suggests that the winter peak will be 7% greater than the summer peak by 2040 and is expected to continue to grow in the years that follow. While this will be after the period that is of specific interest for the current distribution rate application, this projection is notable as it could indicate a requirement for significant new investment in the years after 2031.

In this regard, it is noted that in 2022 the IESO issued a report titled Pathways to Decarbonization (P2D) in which it modelled an electricity demand scenario based on assumptions that could potentially achieve net zero GHG emissions for Ontario's electricity sector by 2050 [19]. Similar to Alectra's medium decarbonization forecast, this scenario indicates a winter peaking electricity system in Ontario, however the P2D predicts that the switch will happen sooner; in the early 2030s. The Annual Planning Outlook reports issued by IESO after 2022 show lower electricity demand forecasts than the scenario depicted in the P2D report. However, such forecasts do not show projections by LDC service area (other than the City of Toronto) and the deviations from the P2D scenario are significant only in the years after 2031.

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

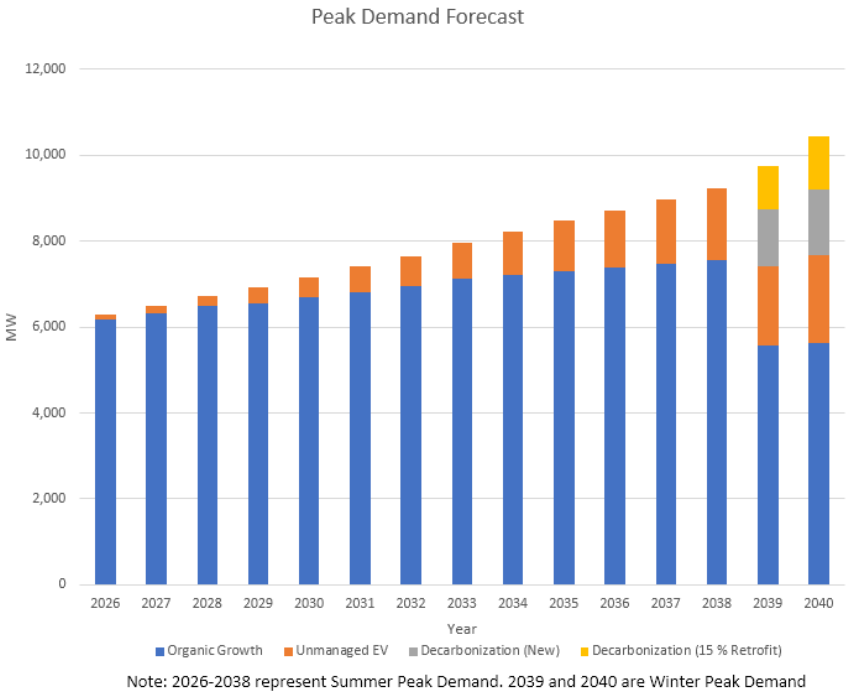


Figure 2-1: Non-Coincident Peak Load Forecast for 2026-2040 – with CDM and EV [18]

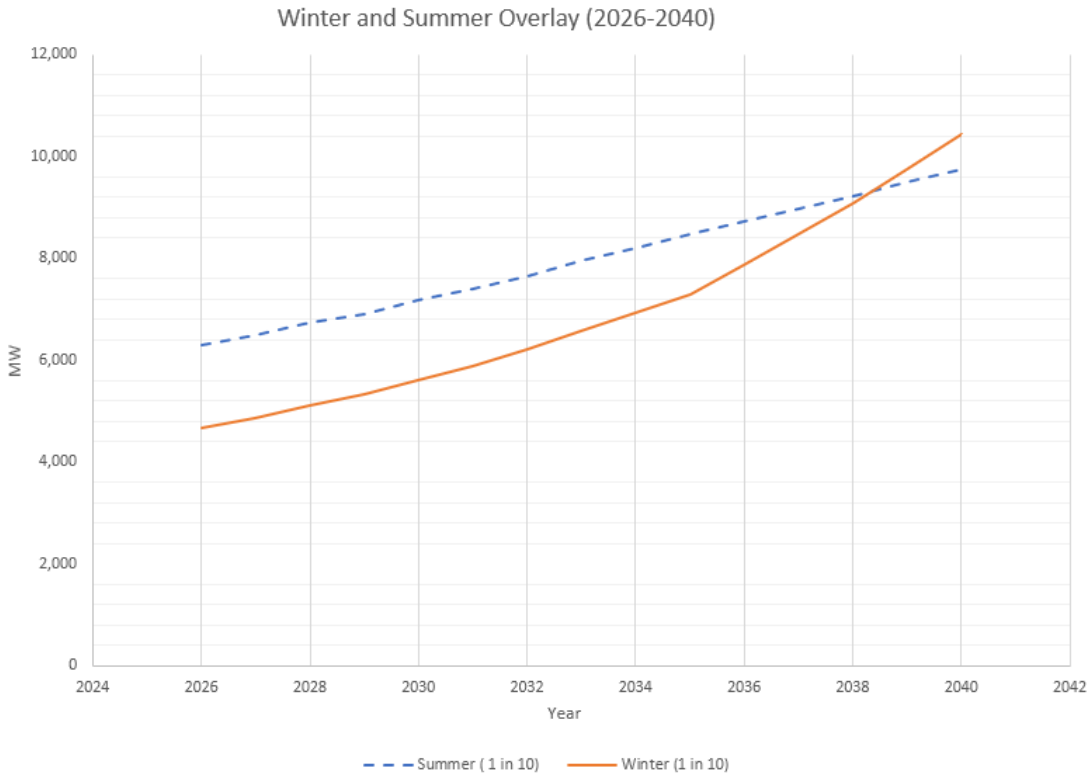


Figure 2-2: Alectra service territory summer and winter peak load projections

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

2.5 Forecasting Individual Regions

Alectra's service territory is divided into six planning zones which are not electrically integrated. There is limited connection between adjacent operating regions and other regions are separated geographically across a large area. This makes it necessary to prepare a peak load forecast for each planning zone individually. The load characteristics and growth of each individual zone were considered rather than assuming that all parts of Alectra's service territory would be affected in the same manner.

2.6 Data Sources

The Load Forecast Guideline [20] recommends using reputable data sources as a basis for the load forecast. Input data was collected from pertinent reputable organizations and utilized as considered appropriate. Some examples of such data sources include weather data from Environment Canada, Development Charge studies prepared by Hemson Consulting Ltd. and Watson & Associates Economists Ltd. for several cities and towns and the EV forecast prepared by Guidehouse. One of the challenges with load forecasting is to balance the accuracy of the forecast with the cost and time of acquiring good data. Hence, much of the data used by Alectra in their model is from publicly available sources. Hatch is of the opinion that the data used by Alectra is reasonable for the system peak load forecast.

2.7 Energy Load Forecast

Hatch also reviewed the assumptions used to develop Alectra's energy load forecast model [22] against the assumptions used in the system peak load forecast model.

The energy load forecast model was prepared by Alectra's consultant, Itron. The energy load forecast serves a different purpose than the peak load forecast. The end result of the energy load forecast is an estimate of the energy consumption in kilowatt-hours for each rate zone, by month and by customer type. It is understood that the energy load forecast model is developed to support estimates of sales revenue and inform rate setting.

Itron's model used proprietary software to generate a forecast of the future baseload. Because of this, Hatch was only able to perform a limited review the baseload forecast. The energy usage growth anticipated to result from electrification, decarbonization and EVs was modelled separately using spreadsheet software. Hatch's review of Itron's energy usage growth model found that the assumptions used aligned well with those used for the peak load forecast model. Both models include sensitivity analysis and model similar high, medium, and low scenarios.

3. References

[1] Alectra Utilities, Load Forecast & System Adequacy Assessment Report 10-Year Outlook (2024-2034)

[2] Brampton.xls

[3] Simcoe County.xlsx

[4] West and Guelph.xls

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

[5] York Region.xls

[6] Weighted 3-Day Moving Average High Temperatures-Pearson Airport.xlsx

[7] Watson & Associates Economists Ltd., “Development Charges Update Study, Town of Aurora”, 22 April 2021, [Online]. Available : https://www.aurora.ca/en/business-and-development/resources/Development-charges/Town-of-Aurora-Updated-DC-Study-Bylaw-2021.pdf.

[8] Watson & Associates Economists Ltd., “Development Charges Update Study, City of Richmond Hill”, 9 April 2021, [Online]. Available : https://www.richmondhill.ca/en/shared-content/resources/documents/Development-Charges/2021-City-wide-DC-Update-Study.pdf

[9] Hemson Consulting Ltd., “Final Report Prepared by Hemson for the City of Markham, 2022 Development Charges Study”, May 2022 [online]. Available : https://www.markham.ca/sites/default/files/economic-development-business/Development%20Charges/2022HEMSON_Markham_DC_Study_May_2022.pdf

[10] Hemson Consulting Ltd., “Staff Consolidated Study Prepared by Hemson for the city of Vaughan, Development Charges Background Study”, 21 June 2022, [Online]. Available: https://pub-vaughan.escribemeetings.com/filestream.ashx?DocumentId=110777

[11] Hemson Consulting Ltd., “Report for Public Meeting Prepared by Hemson for the City of Mississauga, Development Charges Background Study”, 4 March 2022, [Online]. Available : https://www.mississauga.ca/wp-content/uploads/2022/03/04100851/Development-Charges-Background-Study.pdf

[12] Hemson Consulting Ltd., “Development Charges Background Study, City of Brampton Consolidated Study”, 1 August 2019, [Online]. Available : https://www.brampton.ca/EN/Business/planning-development/Development-Charges/Documents/2019%20Development%20Charges%20Study%20FINAL.pdf

[13] Hemson Consulting Ltd., “Report Prepared by Hemson for the County of Simcoe, Growth Forecasts and Land Needs Assessment”, 31 March 2022

[14] Hemson Consulting Ltd., “Technical Report Prepared by Hemson Consulting Ltd. for the Ministry of Municipal Affairs and Housing, Greater Golden Horseshoe: Growth Forecasts to 2051” 26 August 2020, [Online]. Available : https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf

[15] Watson & Associates Economists Ltd., “Development Charges Background Study City of St. Catharines”, 2 June 2021, [Online]. Available : https://www.stcatharines.ca/en/planning-and-development/resources/Development-Charges-DCs/2021-Development-Charges-Background-Study.pdf

[16] Base load per municipality – Rev2.xlsx

[17] Guidehouse Alectra MDV HDV Forecast 2022-02-01.xlsx

[18] Load Forecast Data 2025 – V4 – New Decarbonization.xlsx

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

[19] IESO, Pathways to Decarbonization Report, 15 December 2022

[20] Load Forecast Guideline for Ontario, Guidance for the Development of Regional Planning Demand Forecasts, Regional Planning Process Advisory Group, 13 October 2022.

[21] Alectra Utilities, System Planning, Alectra Utilities Peak Demand Forecast Methodology Rev. 02, January 2021.

[22] ElectrificationFcst_20250902.xlsx

© Hatch 2025 All rights reserved, including all rights relating to the use of this document or its contents.

Appendix L

Historical Reliability Data

Appendix L – Historical Reliability Data

In this appendix, Alectra Utilities summarizes historical reliability performance data, covering SAIDI, SAIFI, and the main causes impacting reliability.

A SAIDI Excluding Major Event Days

SAIDI (System Average Interruption Duration Index) is a measure in hours of the total duration of interruptions for the average customer served in a given year. SAIDI represents the quotient obtained by dividing the total customer hours of interruption for sustained outages greater than or equal to one minute by the number of customers served.

Equation L - 1 System Average Interruption Duration Index

$$\text{SAIDI} = \frac{\sum \text{Customer Hours of Interruption}}{\text{Total Number of Customers Served}}$$

A Major Event Day (MED) is a day in which the daily SAIDI exceeds a MED threshold value (TMED). In calculating the daily SAIDI, interruption durations that extend into subsequent days accrue to the day on which the interruption originates. Alectra Utilities applies the 2.5 Beta method to identify MEDs as per Institute of Electrical and Electronic Engineers (IEEE) Standard 1366. Alectra Utilities' application of the IEEE Standard 1366 for MED monitoring meets the OEB's Electricity Reporting and Record Keeping Requirements (RRR) dated November 2018. Alectra Utilities utilizes the MED Threshold value to identify events that are significantly beyond its typical system performance indicators. The company further examines such major events to understand the contributing factors, distribution system vulnerabilities, as well as system maintenance and sustainment needs, to mitigate the impacts of such events in the future. Details for all MEDs can be found in *Appendix M - Major Event Days (2020 – 2024)*.

A Loss of Supply (LOS) as defined by the OEB in the RRR is an interruption due to problems associated with the distribution system owned and/or operated by another distributor, and/or in the transmission system. This includes interruptions caused by the transmitter or host distributor scheduled interruptions. While outages caused by LOS are beyond the Distributor's control, Alectra Utilities acknowledges that these events negatively impact customers.

Alectra Utilities works closely with the transmitter to manage LOS but also considers local solutions that may be effective. Examples of such solutions include distribution automation or feeder capacity investments, which ensure quicker restoration of power to customers from alternate sources. Although Alectra Utilities has set practices and plans to mitigate the impacts of LOS outages over the DSP planning period, there are specific force majeure or catastrophic outage events to which Alectra Utilities cannot reasonably mitigate. Such catastrophic days are measured using the industry standard Major Event Day methodology.

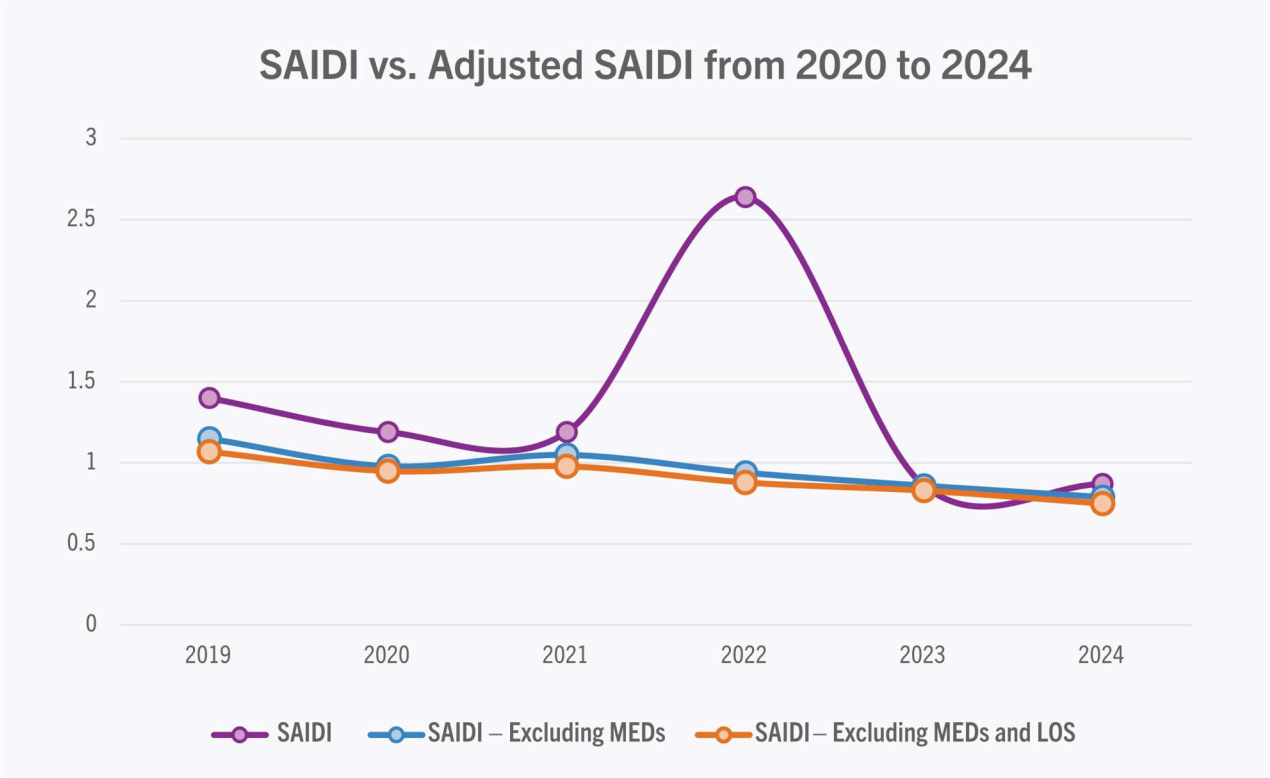


Figure L - 1 SAIDI vs. Adjusted SAIDI from 2019 to 2024

Table L - 1 Alectra Utilities' SAIDI, SAIDI Excluding MEDs, MEDs & LOS from 2019 to 2024

Metric (Hours)	2019	2020	2021	2022	2023	2024
SAIDI	1.40	1.19	1.19	2.64	0.86	0.87
SAIDI - Excluding MEDs	1.15	0.98	1.05	0.94	0.86	0.79
SAIDI - Excluding MEDs and LOS	1.07	0.95	0.98	0.88	0.83	0.75

Figure L - 1 and Table L - 1 depict a decreasing system average interruption duration index trend. As mentioned, this is a direct result of targeted asset renewal investments and an increased focus on automation. While effective, automation is a limited solution as it does not remove deteriorated assets or prevent outages. At best with more advanced protection schemes, automation could turn sustained outages into momentary outages. These outages are still impactful. For example, residential customers would see impacts including loss of internet to their home or the resetting of various appliances. For commercial customers, some processes like plastics require consistent heat and even a momentary interruption means a loss of the batch currently in production. It is important that Alectra Utilities invest in renewal activities to mitigate the risk of outages, including pressures on reactive repairs which is inefficient. Alectra Utilities is seeing increased expenditures in reactive spending as illustrated in Table L - 2, as expenditures have increased from $22MM in 2020 to over $38MM in 2024.

Table L - 2 Alectra Utilities Reactive Capital Expenditure 2020-2024

	2020	2021	2022	2023	2024
Reactive Capital ($MM)	22.5	26.8	34.3	34.2	38.9

The increasing reactive needs, combined with concerning trends in asset condition as discussed in *Chapter 5.3.1 Planning Process*, lead Alectra Utilities to conclude that without investment, reliability will deteriorate. The planned system renewal investments will enable Alectra Utilities to manage reliability and other risks, something it has done successfully in recent years. Without the investments planned, customers will experience deterioration in reliability. Customer Engagement Phase 2 concluded that customers do not want reliability to deteriorate.

Overall, system averages show that increased automation and renewal investments are having a direct impact on duration. However, there are many pockets where customers experience significantly poorer reliability in comparison to averages.

B SAIFI Excluding Major Event Days

SAIFI (System Average Interruption Frequency Index) is a measure of the frequency of sustained interruptions experienced by the average customer served in a given year. SAIFI represents the

quotient obtained by dividing the total number of customer interruptions for outage longer than one minute by the number of customers served.

Equation L - 2 System Average Interruption Frequency Index

$$SAIFI = \frac{\sum \text{Total Number of Customers Interrupted}}{\text{Total Number of Customers Served}}$$

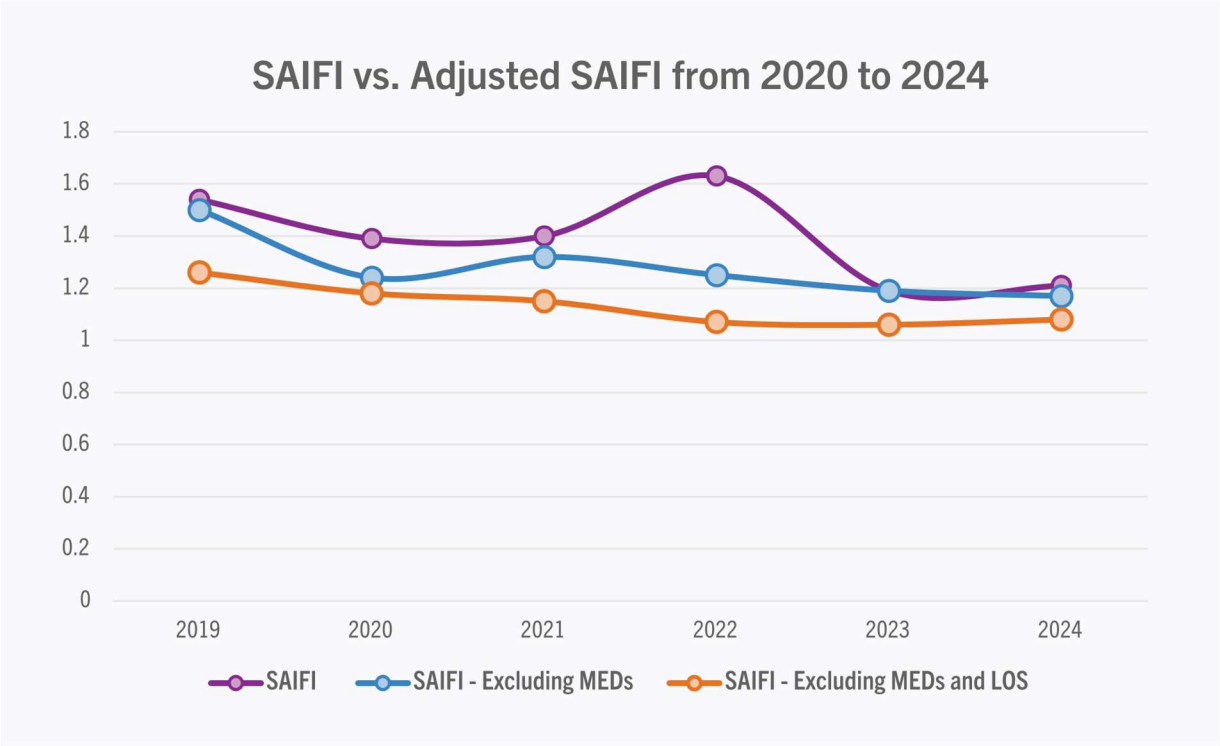


Figure L - 2 SAIFI vs. Adjusted SAIFI from 2020 to 2024

Table L - 3 Alectra Utilities' SAIFI, SAIFI Excluding MEDs, LOS results from 2020 to 2024

Metric (Number of Outages)	2019	2020	2021	2022	2023	2024
SAIFI	1.54	1.39	1.40	1.63	1.19	1.21
SAIFI - Excluding MEDs	1.50	1.24	1.32	1.25	1.19	1.17
SAIFI - Excluding MEDs and LOS	1.26	1.18	1.15	1.07	1.06	1.08

Figure L - 2 and Table L - 3 depict that average frequency is flat. Over the period as Alectra Utilities has been targeting poorly performing areas, the increasing number of deteriorated assets

have led to more failures. Specifically, the total number of outages and those caused by 'Equipment Failure' have increased.

As noted above under SAIDI, failures will increase without additional investment in System Renewal due to the growing backlog of deteriorated assets. Alectra Utilities must invest in asset renewal to prevent outages from occurring. Reducing outages has a direct impact on SAIFI. Unlike SAIDI where automation may be used to reduce customer impact, options for managing SAIFI are more limited and focus on the renewal of deteriorated assets to prevent failures and outages. Additionally, renewal of assets like poles has the benefit of storm resilience as the system can better withstand inclement weather (especially during MEDs). In totality, Alectra Utilities proposed expenditures on System Renewal will help manage the backlog of deteriorated assets, leading to reduced SAIFI (outages).

C Failed Equipment Trend

This section provides details on reliability performance broken down by cause code. This section places particular emphasis on failed equipment as it is the single greatest contributor to both SAIDI and SAFI.

Figure L - 3, illustrates the causes behind the number of sustained outages (or individual outage events) experienced by customers.

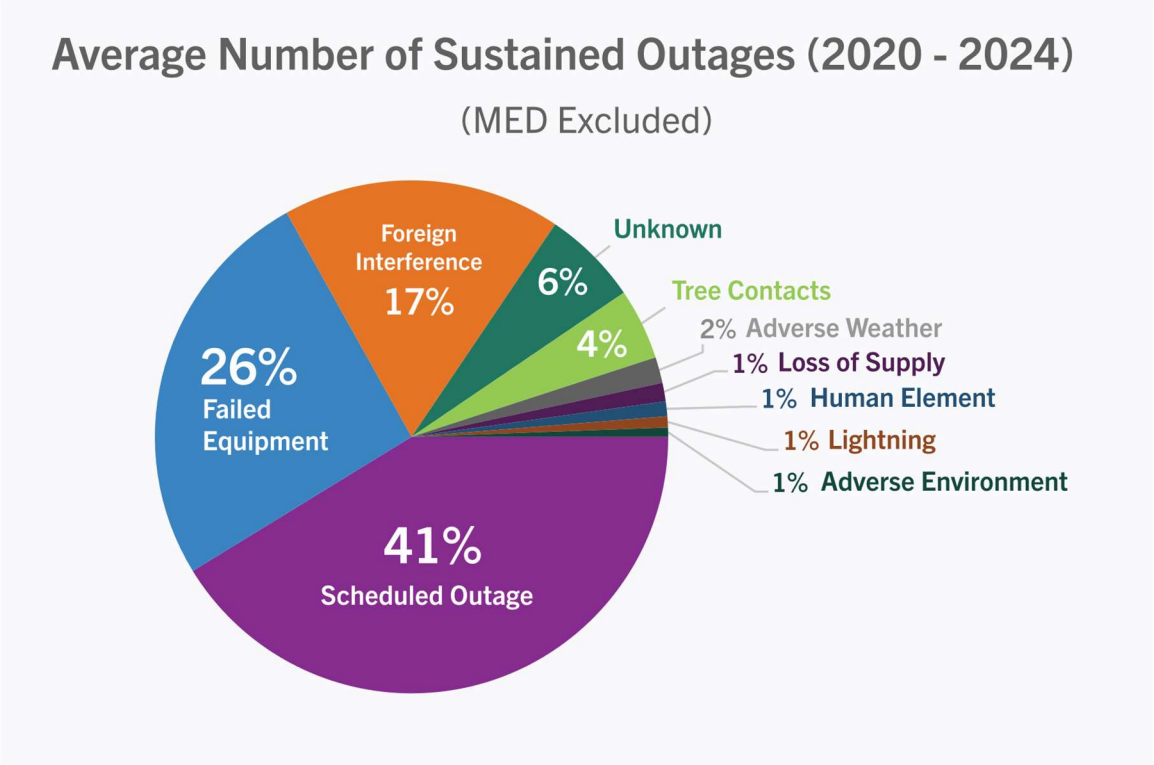


Figure L - 3 5-Year (2020-2024) Average Number of Sustained Events by Cause Code

The largest number of events are scheduled outages. Alectra Utilities plans these outages, notifying and, in certain causes, setting dates and times that are preferable to customers. Setting aside Scheduled Outages Failed Equipment is the greatest contributor. It contributes 44% of unplanned outages, which is followed by the next most significant cause foreign interference (30%) as illustrated in Figure L - 4.

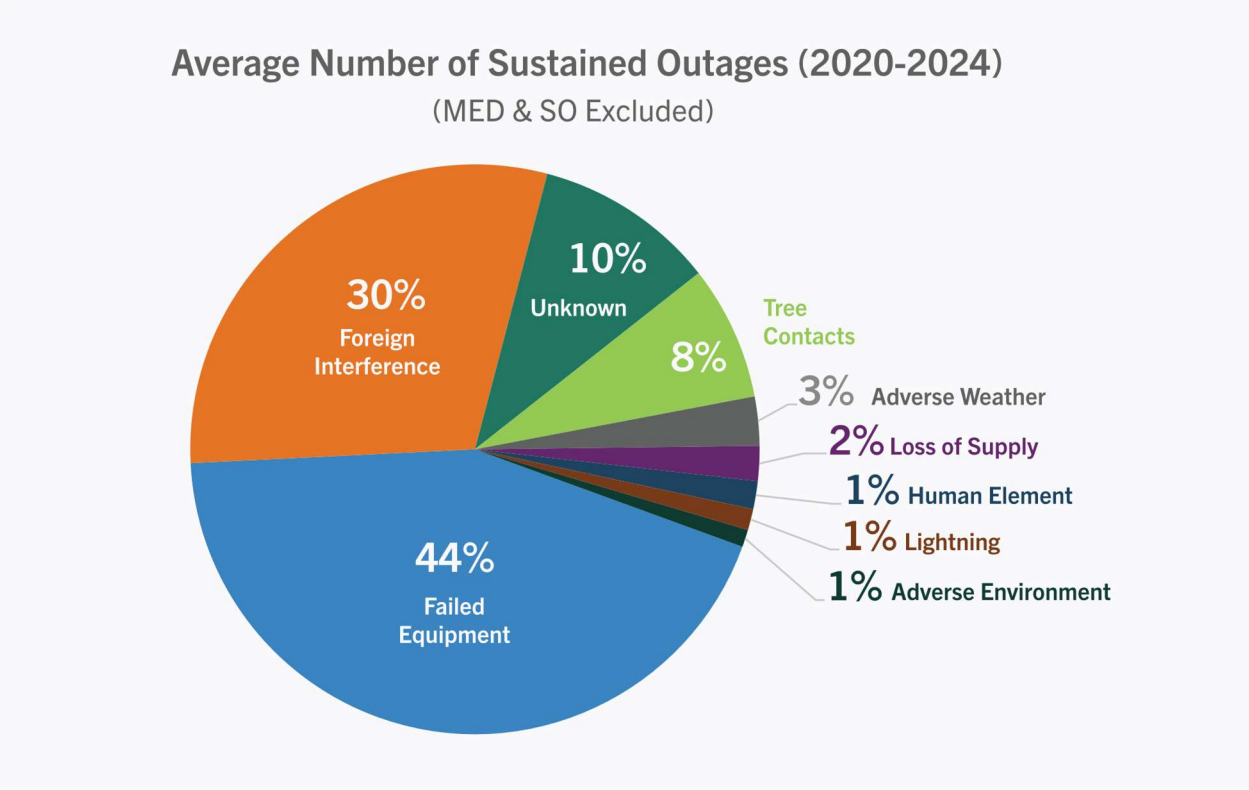


Figure L - 4 5-Year (2020-2024) Average Number of Sustained Events (Scheduled Outages Excluded) by Cause Code

Moving over to the number of customer hours of interruption Figure L - 5 and Figure L - 6 provides the causes and their contributions over the most recent 5-year period.

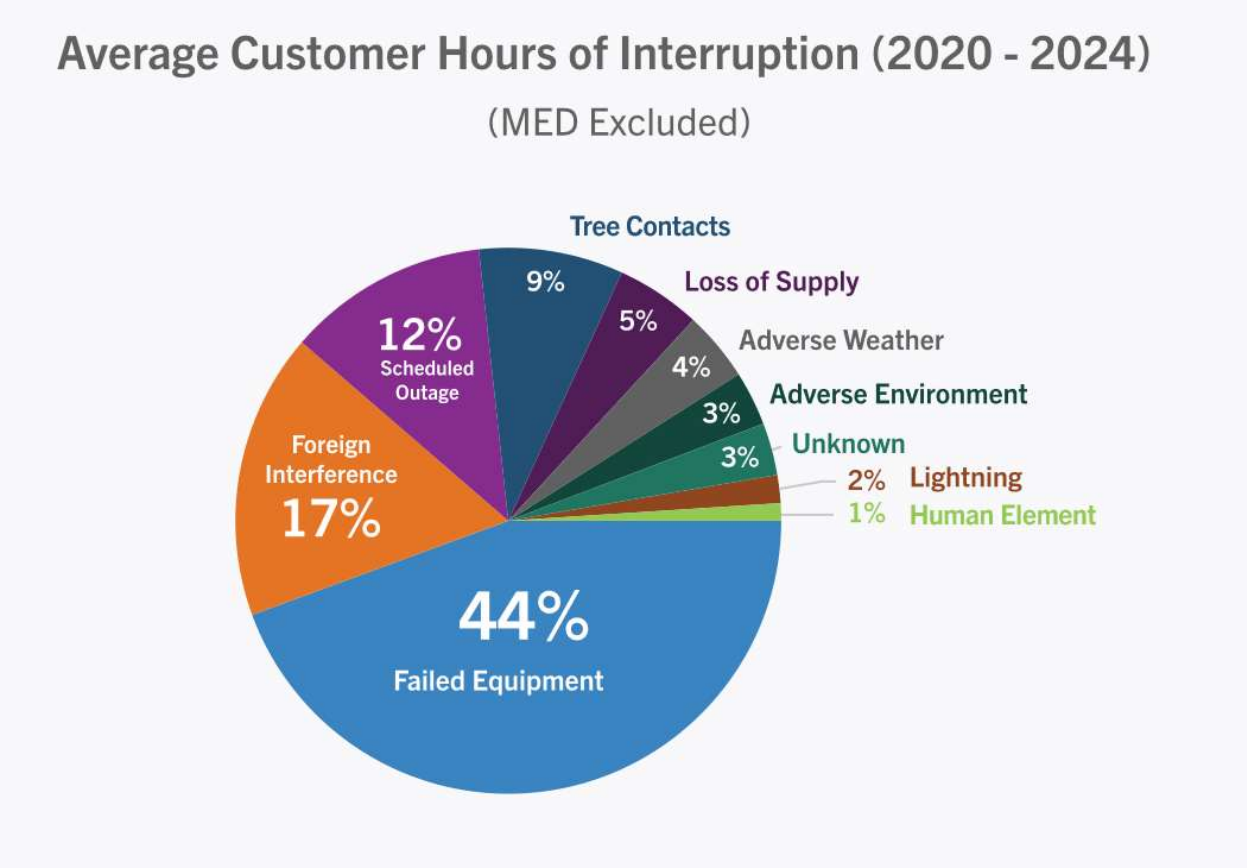


Figure L - 5 5-Year (2020-2024) Average Customer Hours of Interruption by Cause Code

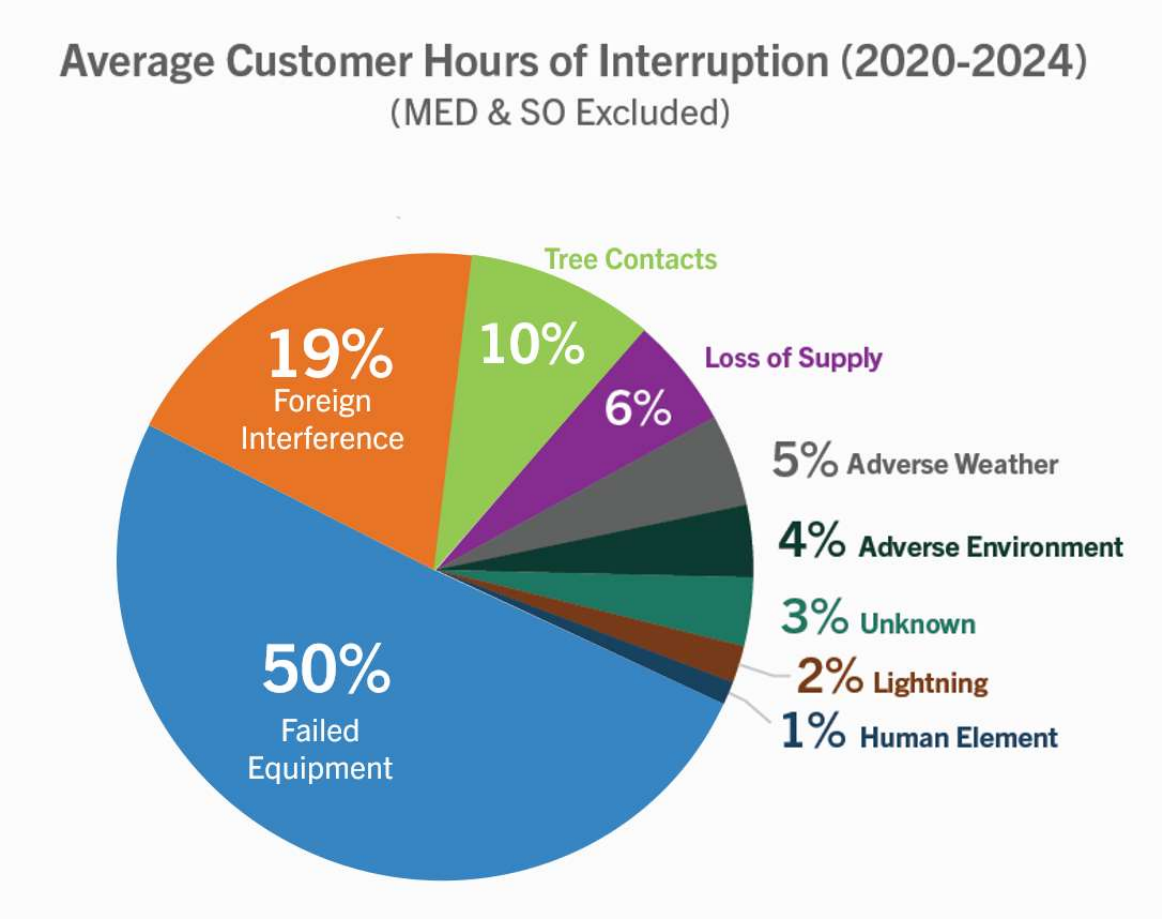


Figure L - 6 5-Year (2020-2024) Average Customer Hours of Interruption (Scheduled Outages Excluded) by Cause Code

The top contributors to system unreliability at Alectra Utilities are Failed Equipment, Foreign Interference, and Tree Contact.

From 2020-2024, Failed Equipment (formerly called Defective Equipment) contributed 44% of the sustained outages, and 50% of customer hours of interruption (when Scheduled Outages are omitted).

As shown in Figure L - 7 and Figure L - 8, Alectra Utilities is facing a significant backlog of deteriorated assets (i.e. assets in poor and very poor condition) and this is having a direct impact on Failed Equipment.

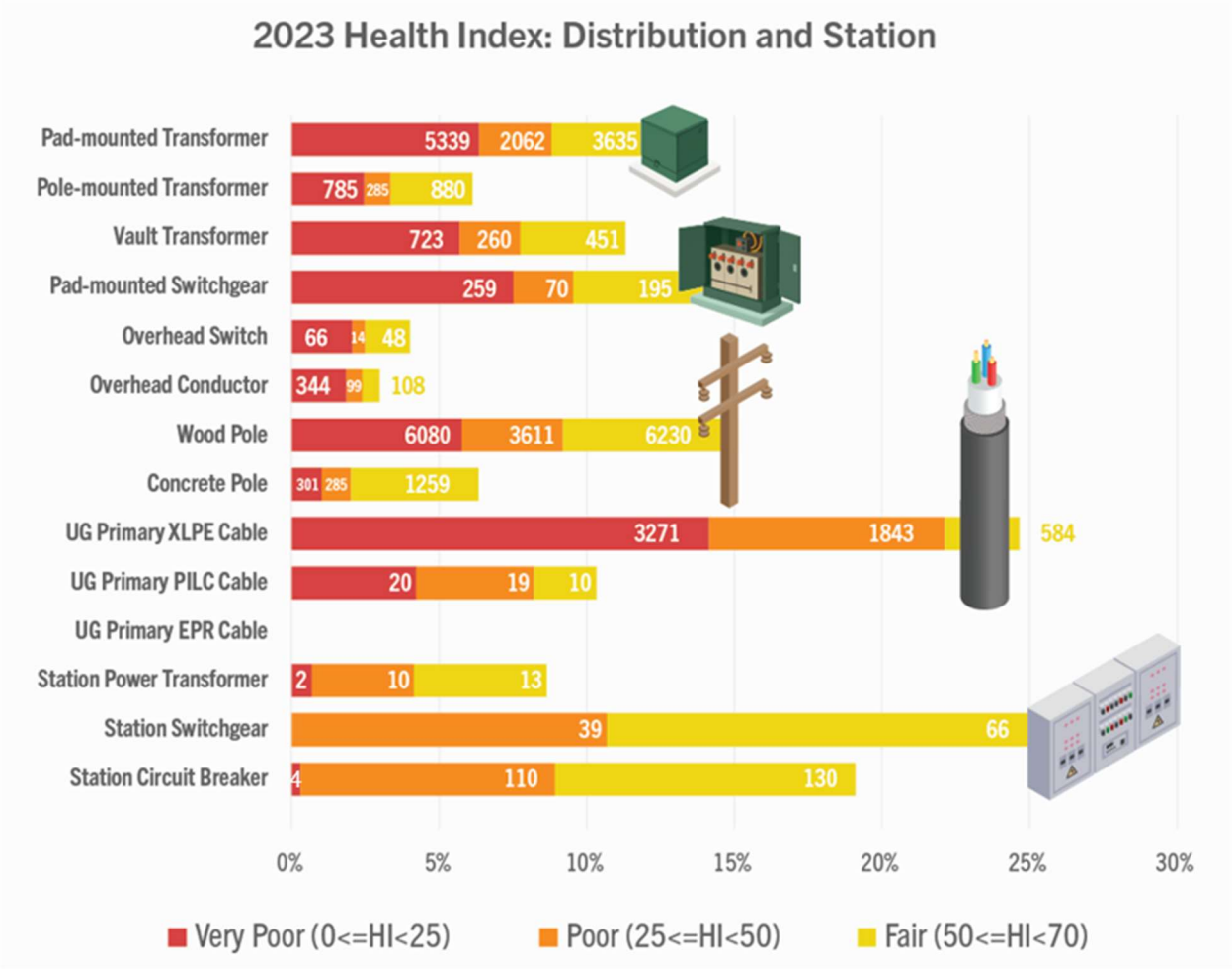


Figure L - 7 Health Index by Asset Class

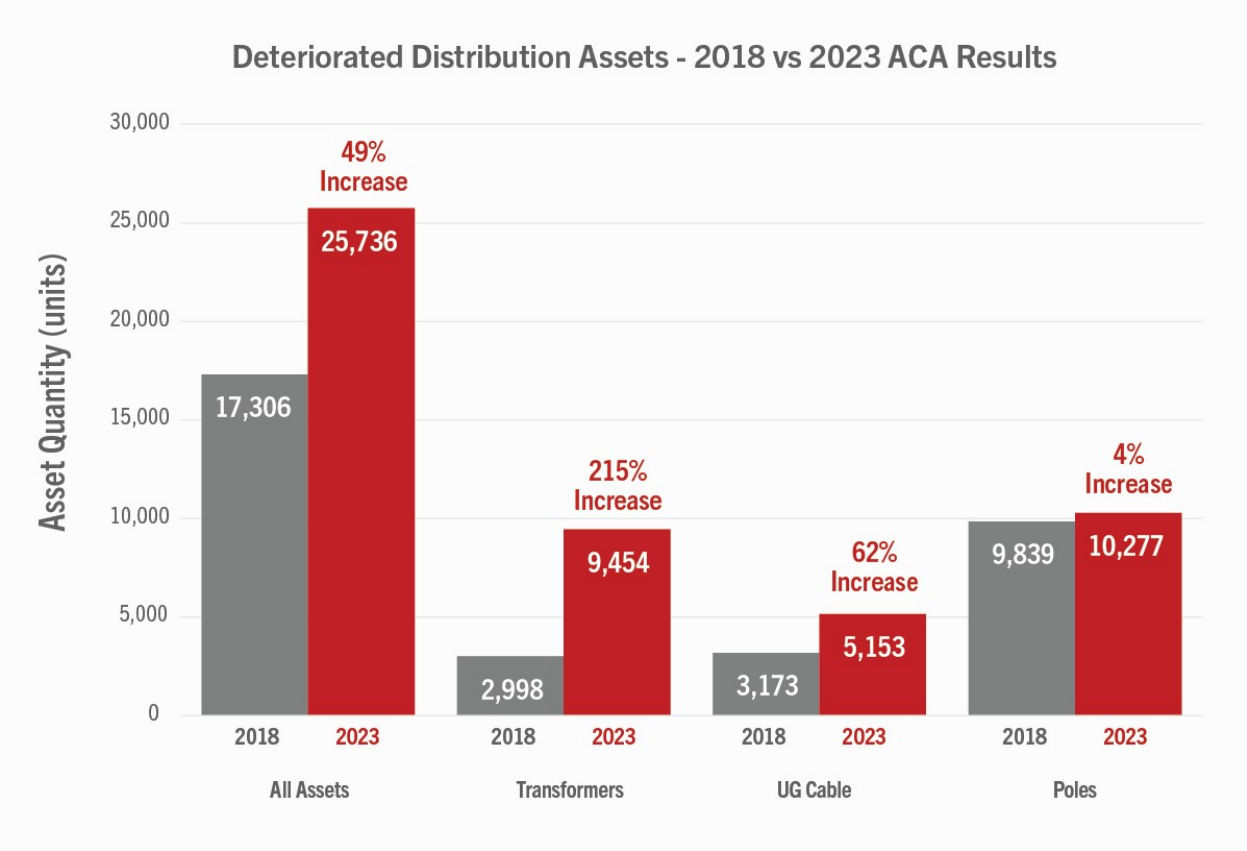


Figure L - 8 Deteriorated Distribution Assets (2018 vs. 2023)

As shown in Figure L - 9, Alectra Utilities has analyzed both the average number of events and customer hours of interruption from 2020-2024. Cable and Cable Accessories has continued to be the leading cause of outages (and impact). Transformer outages and OH Line Hardware outages are also high.

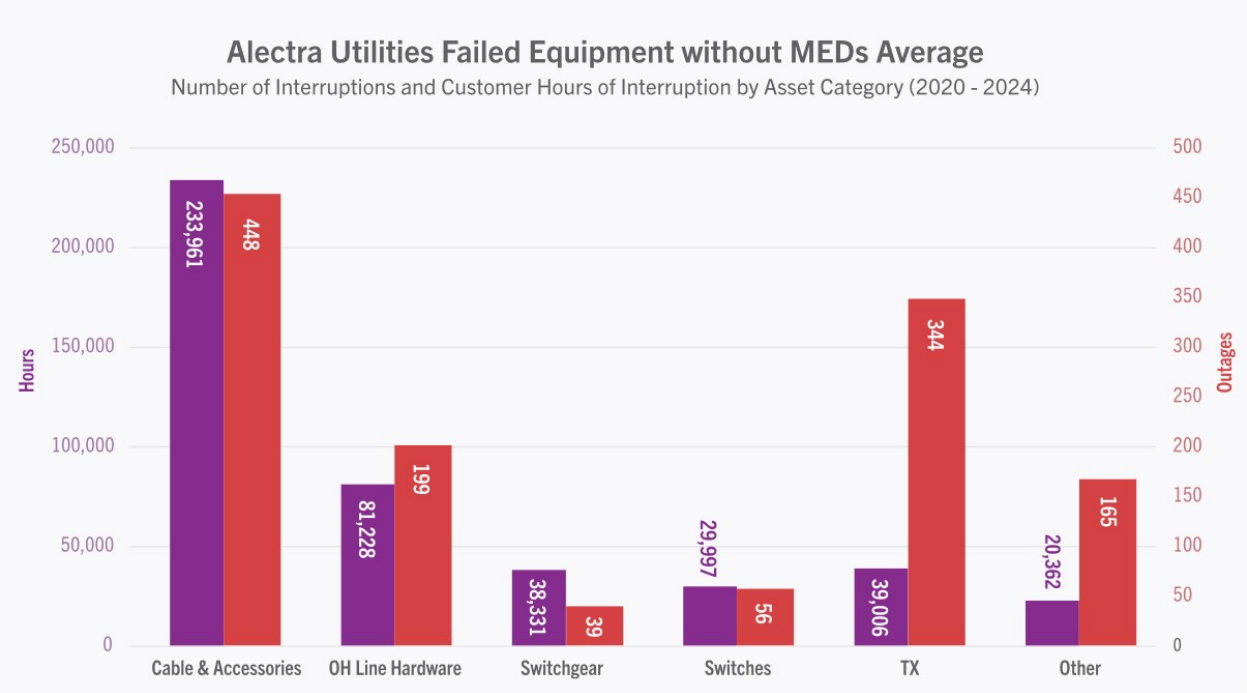


Figure L - 9 Failed Equipment without MEDs Average (2020-2024) Number of Interruptions and Customer Hours of Interruption by Asset Category

Details on reliability data by OEB cause code is provided in Table L - 4 (Number of Interruptions), Table L - 5 (Customer Interruptions), and Table L - 6 (Customer Hours of Interruptions) below.

Table L - 4 Number of Interruption Events by Outage Cause Code

Cause Code	2020	2021	2022	2023	2024
0-Unknown/Other	333	273	324	263	286
1-Scheduled Outage	2,050	2,045	1,948	1,860	2,162
2-Loss of Supply	51	72	70	50	60
3-Tree Contacts	254	241	363	203	255
4-Lightning	58	36	10	34	39
5-Defective Equipment	1,492	1,257	1,295	1,096	1,163
6-Adverse Weather	146	97	262	85	67
7-Adverse Environment	40	38	25	26	14
8-Human Element	55	59	38	40	36
9-Foreign Interference	971	858	875	892	689
Total	**5,450**	**4,976**	**5,210**	**4,549**	**4,771**

Table L - 5 Customer Interruptions by Outage Cause Code

Cause Code	2020	2021	2022	2023	2024
0-Unknown/Other	264,792	204,589	254,932	226,405	262,037
1-Scheduled Outage	43,298	60,280	43,534	52,224	51,361
2-Loss of Supply	111,405	194,429	196,760	132,982	98,820
3-Tree Contacts	109,758	152,280	198,171	94,075	135,064
4-Lightning	62,821	26,696	6,261	15,197	22,864
5-Defective Equipment	480,179	446,593	447,516	354,266	363,237
6-Adverse Weather	87,837	74,996	301,166	60,811	61,323
7-Adverse Environment	24,821	38,845	6,066	21,461	11,794
8-Human Element	9,777	33,886	17,098	27,869	30,162
9-Foreign Interference	281,083	274,342	290,749	304,124	286,709
Total	**1,475,771**	**1,506,936**	**1,762,253**	**1,289,414**	**1,323,371**

Table L - 6 Customer Hours of Interruption by Outage Cause Code

Cause Code	2020	2021	2022	2023	2024
0-Unknown/Other	36,898	22,786	44,856	20,864	28,835
1-Scheduled Outage	118,477	94,522	108,470	144,318	132,499
2-Loss of Supply	106,728	70,881	135,306	31,377	47,468
3-Tree Contacts	126,495	152,631	840,014	82,102	110,896
4-Lightning	34,855	28,641	19,026	10,683	7,777
5-Defective Equipment	486,090	523,367	492,597	362,804	394,743
6-Adverse Weather	135,556	142,971	967,907	51,078	74,129
7-Adverse Environment	56,023	63,811	7,789	25,986	8,356
8-Human Element	3,446	9,669	2,192	28,230	8,013
9-Foreign Interference	162,779	171,156	237,837	177,931	139,346
Total	**1,267,347**	**1,280,434**	**2,855,995**	**935,373**	**952,063**

Reliability and Power Quality Review: Reliability Performance Benchmarking

Based on the communication from the OEB dated January 28, 2025, Alectra Utilities along with Toronto Hydro and Ottawa Hydro are part of the same peer reliability benchmark group (Very Large with High Undergrounding). The OEBs benchmark is based on SAIDI and SAIFI without MEDs and LOS. This contrasts with the Alectra Utilities target which includes LOS as provided in *Chapter 5.2.3 Performance Measurement for Continuous Improvement*.

Based on the information currently available, Table L - 7 provides a comparison of customer hours of interruption by Outage Cause Code for Alectra Utilities and comparable utilities. Alectra Utilities has a decreasing SAIDI and SAIFI trend. None of the first set of adjustment factors are applicable. Regarding the second set of adjustment factors, for both SAIDI and SAIFI, Alectra Utilities is above the group average but within 1 standard deviation, therefore a 0.25% adjustment factor is required.

Table L - 7 Comparison of Customer Hours of Interruption by Outage Cause Code

Baseline	SAIDI	SAIFI
Toronto Hydro (2019-2023)	0.842	1.320
Hydro Ottawa (2019-2023)	0.896	0.682
Alectra Utilities (Avg. 2020-2024)	0.879	1.109
Group Average	0.872	1.037
1 Standard Deviation above the mean	0.900	1.362
% Adjustment	0.25%	0.25%
Alectra Utilities Corporation Target	0.876	1.106

As the Alectra Utilities target and the OEB target are based on different metrics, they are not directly comparable.

Appendix M

Major Event Days (2020-2024)

Appendix M – Major Event Day Report

Alectra Utilities examines major events to understand the outage contributors, distribution system vulnerabilities, as well as system maintenance and sustainment needs to mitigate the impacts of such events in the future. This section provides a summary of MED events experienced from 2020 to 2024. Table M - 1 highlights the MED Threshold (TMED) values and the Number of MEDs experienced between 2020 to 2024.

Table M - 1 Overview of TMED and Number of MEDs (2020-2024)

Year	Number of MEDs	Customer Interruptions	Customer hours of Interruption
2020	2	159,634	225,523.32
2021	1	86,128	153,942.93
2022	4	410,740	1,835,521.31
2023	0	0	0
2024	2	47,158	86,168.64

Alectra Utilities reports major event day (MED) in which the daily SAIDI exceeds a MED threshold value (T_{MED}) in accordance with the OEB Electricity Reporting and Record Keeping Requirements dated March 14, 2025. Alectra Utilities applies the Institute of Electrical and Electronic Engineers (IEEE) Standard 1366, 2.5 Beta method for determination of MED.

M.1 Major Event Days – 2024

The Major Event Day threshold (T_{MED}) of 2.228 minutes was exceeded by the daily SAIDI on August 17 and February 28, 2024. The daily SAIDI on August 17, 2024, was calculated to be 2.771 minutes, based on customer hours of interruption of 50,502.39 and July 2024 customer count of 1,093,500. The daily SAIDI on February 28, 2024, was calculated to be 2.509 minutes, based on customer hours of interruption of 45,664.35 and February 2024 customer count of 1,091,885.

August 17, 2024

A severe thunderstorm and flooding affected the GTA causing road closures and widespread outages from 10:27AM. City News reported, there was 128.3mm of rainfall on August 17, which is more than one month rainfall in a day, as the accumulated rainfall in a typical August from 1991 to 2020 was 68.5mm[1]. The following Alectra Utilities service territories were impacted: Mississauga, Brampton, Guelph, Vaughan, Markham, Richmond Hill and Alliston. A total of 39,923 customers experienced sustained outages, this represents 3.65% of customers served by Alectra Utilities. Supply to 90% of the affected customers was restored by 6:36PM, approximately 8 hours after outages began occurring. Table M - 2 highlights the summary of the interruption details for the MED experienced on August 17, 2024.

Table M - 2 MED Summary – August 17, 2024

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
Central South	4	Lightning	1	12	0.20	0.00%
	6	Adverse Weather	3	2,612	5,506.33	11.41%
Central North	6	Adverse Weather	4	13,693	18,209.56	37.72%
East	4	Lightning	2	44	183.40	0.38%
	6	Adverse Weather	6	21,465	24,307.53	50.35%
Southwest	4	Lightning	1	2,097	69.90	0.14%
		Total	**17**	**39,923**	**48,276.91**	**100%**

February 28, 2024

A customer owned tree fell on the 44kV feeder at the rear of Eastern Avenue. At the time of the outage, Tottenham was experiencing approximately 70 km per hour wind gusts. A high amount of precipitation on February 27 and 28, 16 mm in total, was a contributing factor to the uprooted (customer owned) tree coupled with strong winds. As a result, the supply to 5,240 customers from the towns of Beeton and Tottenham was interrupted due to a permanent fault on the Everett TS

[1] https://toronto.citynews.ca/2024/08/17/tornado-warning-cambridge-severe-thunderstorm-watch-toronto/

138M8 44kV feeder. Patterson Rd MS336, Nolan Rd MS834 and Mill St MS835 are all supplied from the Everett TS 138M8 44kV feeder. Alectra Utilities required 12 hours and 58 minutes to restore supply to 90% of the customers that lost power. This event resulted in 37,891.72 CHI which represent 83% of the total daily CHI on February 28, 2024. Table M - 3 highlights the summary of the interruption details for the MED experienced on February 28, 2024.

Table M - 3 MED Summary – February 28, 2024

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
East	3	Tree Contacts	1	7,235	37,891.72	100%

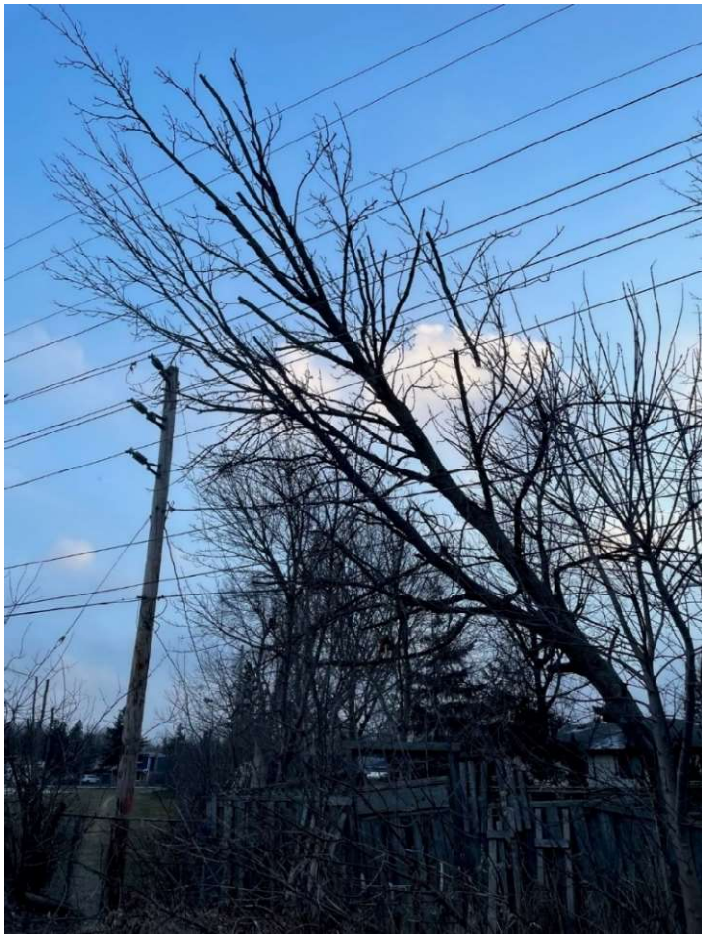


Figure M - 1 Uprooted Customer Owned Tree at the rear of Eastern Avenue, February 28, 2024

M.2 Major Event Days – 2022

The Major Event Day threshold (T_{MED}) of 2.549 minutes was exceeded by the daily SAIDI on December 23, September 17, May 21 and April 15, 2022. The daily SAIDI on December 23, 2022, was calculated to be 10.566 minutes, based on customer hours of interruption of 194,298.68 and December 2022 customer count of 1,084,463. The daily SAIDI on September 17, 2022, was calculated to be 3.186 minutes, based on customer hours of interruption of 57,464.33 and September 2022 customer count of 1,082,317. The daily SAIDI on May 21, 2022, was calculated to be 73.043 minutes, based on customer hours of interruption of 1,515,746.90 and May 2022 average customer count of 1,080,449. The daily SAIDI on April 15, 2022, was calculated to be 3.779 minutes, based on customer hours of interruption of 68,011.39 and April 2022 average customer count of 1,079,893.

December 23, 2022

There was a major winter storm with wind gusts up to 110 km per hour, rain, snow, and flash freezing which resulted in long duration outages across Alectra Utilities' service territory. Also, there were fallen trees and broken conductors which required repair. Supply to 58,206 customers were interrupted during the Major Event, which is 5% of Alectra Utilities' customer base. 90% of the affected customers were restored in 15.5 hours. Table M - 4 highlights the summary of the interruption details for the MED experienced on December 23, 2022.

Table M - 4 MED Summary – December 23, 2022

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
Central South	5	Defective Equipment	3	400	349.27	0.18%
	6	Adverse Weather	4	4,242	1,558.27	0.80%
Central North	3	Tree Contacts	1	47	128.23	0.07%
West	3	Tree Contacts	12	2,509	12,492.88	6.43%
	6	Adverse Weather	29	23,246	135,152.95	69.56%
East	3	Tree Contacts	9	16,424	34,204.67	17.60%

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
	5	Defective Equipment	3	496	1,531.72	0.79%
	6	Adverse Weather	7	9,552	7,516.20	3.87%
Southwest	6	Adverse Weather	1	1,290	1,364.50	0.70%
		Total	**69**	**58,206**	**194,298.68**	**100%**

September 17, 2022

Hydro One Networks Inc. (HONI) reported a tractor trailer contacted a communication wire at Highway 12 and Rumney Road. As a result, a 65-foot pole located off-road near the incident was broken along with several spans of damaged conductor. This pole supports HONI 44kV feeders 98M3 and 98M7, out of Waubaushene T.S., and are the only feeders supplying the Town of Penetanguishene. The two 44kV feeders are in parallel on the same structures for 21.3 km from the Waubaushene T.S. to Penetanguishene. In total, the outage impacted 3,923 Alectra Utilities customers for 14.67 hours and resulted in 3,402,800 CMI. Table M - 5 highlights the summary of the interruption details for the MED experienced on September 17, 2022.

Table M - 5 MED Summary – September 17, 2022

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
East	2	Loss of Supply	1	3,923	56,713.33	98.69%
	5	Defective Equipment	1	2	2.78	0.00%
West	0	Unknown	1	261	4.35	0.01%
Southwest	5	Defective Equipment	3	3,814	743.87	1.29%
		Total	**6**	**8,000**	**57,464.33**	**100%**

May 21, 2022

Strong winds and rain caused damage to the overhead infrastructure throughout Alectra Utilities' service territory. In the Central and East regions, broken poles were caused by strong winds and fallen trees and branches. The West and Southwest regions were also impacted by outages due to tree contacts and adverse weather. Tree contacts due to high winds accounted for 44% and adverse weather accounted for 51% of the total customer-hours of interruption (1,515,746.90) associated with the MED. 297,650 customers were interrupted during the Major Event, which is 28% of Alectra Utilities' customer base. 90% of the affected customers were restored in 12.5 hours. Table M - 6 highlights the summary of the interruption details for the MED experienced on May 21, 2022.

Table M - 6 MED Summary – May 21, 2022

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
Central South	0	Unknown	1	697	23.23	0.00%
	3	Tree Contacts	7	2,522	6,433.62	0.42%
	5	Defective Equipment	3	18,855	25,922.25	1.71%
	6	Adverse Weather	23	29,953	62,769.67	4.14%
Central North	0	Unknown	1	1	0.50	0.00%
	1	Scheduled Outage	1	4	11.08	0.00%
	3	Tree Contacts	8	11,576	62,720.70	4.14%
	6	Adverse Weather	14	26,154	66,651.94	4.40%
West	1	Scheduled Outage	1	1	4.70	0.00%
	2	Loss of Supply	1	207	6,686.10	0.44%
	3	Tree Contacts	13	8,139	17492.73	1.15%
	5	Defective Equipment	1	1	3.58	0.00%
	6	Adverse Weather	12	14,943	11,547.77	0.76%
East	1	Scheduled Outage	2	376	2,555.00	0.17%

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
	3	Tree Contacts	98	45,526	557,047.23	36.75%
	4	Lightning	1	638	17,821.47	1.18%
	5	Defective Equipment	1	14	246.73	0.02%
	6	Adverse Weather	55	127,281	619,512.12	40.87%
	9	Foreign Interference	3	2,142	36,042.08	2.38%
Southwest	3	Tree Contacts	1	3,457	15,811.45	1.04%
	6	Adverse Weather	3	5,163	6,442.95	0.43%
		Total	**250**	**297,650**	**1,515,746.90**	**100%**

April 15, 2022

High winds and rain caused trees to fall on primary circuits and caused broken poles in Alectra Utilities' West service territory. Alectra Utilities was required to clear fallen trees and branches and repair damaged overhead infrastructure, which resulted in long duration outages in the area. 46,884 customers were interrupted during the Major Event, which is 4% of Alectra Utilities' customer base. 90% of the affected customers were restored in 10.5 hours. Table M - 7 highlights the summary of the interruption details for the MED experienced on April 15, 2022.

Table M - 7 MED Summary – April 15, 2022

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
Central North	1	Scheduled Outage	1	3	20.03	0.03%
West	2	Loss of Supply	1	219	310.25	0.46%
	3	Tree Contacts	13	10,382	35,925.20	52.82%
	5	Defective Equipment	1	19	348.33	0.51%
	6	Adverse Weather	15	23,491	22,721.98	33.41%
East	3	Tree Contacts	1	11	48.55	0.07%

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
	5	Defective Equipment	1	229	927.77	1.36%
	6	Adverse Weather	1	87	115.15	0.17%
	9	Foreign Interference	2	10,893	7,446.47	10.95%
Southwest	3	Tree Contacts	1	1,486	49.53	0.07%
	5	Defective Equipment	1	64	98.13	0.14%
		Total	**38**	**46,884**	**68,011.39**	**100%**

M.3 Major Event Days – 2021

The Major Event Day threshold (T_{MED}) of 2.949 minutes was exceeded by the daily SAIDI on December 21, 2021. The daily SAIDI on December 11, 2021, was calculated to be 8.566 minutes, based on customer hours of interruption of 153,942.93 and December 2021 customer count of 1,078,320.

December 11, 2021

High winds and rain caused trees to fall on primary circuits across multiple sites of Alectra Utilities' service area. Alectra Utilities was required to clear fallen trees and branches and repair damaged overhead infrastructure, which resulted in long duration outages in the area. Supply to 86,128 customers was interrupted during the Major Event, which is 8% of Alectra Utilities' customer base. 90% of the affected customers were restored in 7 hours. Table N – 8 highlights the summary of the interruption details for the MED experienced on December 11, 2021.

Table M - 8 MED Summary – December 11, 2021

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
Central South	1	Scheduled Outage	1	1	29.35	0.02%
	3	Tree Contacts	5	2,294	6,410.98	4.16%
	5	Defective Equipment	7	588	1,830.40	1.19%
	6	Adverse Weather	7	18,446	29,125.77	18.92%
Central North	0	Unknown	1	685	42.42	0.03%
	1	Scheduled Outage	1	8	38.85	0.03%
	3	Tree Contacts	3	55	260.71	0.17%
	7	Adverse Environment	1	3	3.58	0.00%
West	3	Tree Contacts	11	11,613	25,524.77	16.58%
	5	Defective Equipment	6	3,084	2,152.17	1.40%
	6	Adverse Weather	7	5,675	1,789.35	1.16%
East	0	Unknown	1	23	0.50	0.00%
	1	Scheduled Outage	2	41	130.68	0.08%
	2	Loss of Supply	3	7,824	836.02	0.54%
	3	Tree Contacts	9	5,525	20,152.68	13.09%
	5	Defective Equipment	2	1,935	1,885.30	1.22%
	6	Adverse Weather	20	27,325	63,586.78	41.31%
	9	Foreign Interference	1	13	21.58	0.01%
Southwest	2	Loss of Supply	1	965	68.62	0.04%
	3	Tree Contacts	3	15	17.90	0.01%
	6	Adverse Weather	2	10	34.53	0.02%
		Total	**94**	**86,128**	**153,942.93**	**100%**

M.4 Major Event Days – 2020

The daily SAIDI exceeded the T_{MED} on November 15 and September 14, 2020.

November 15, 2020

High winds and rain caused trees outside of the right of way to fall on primary circuits across multiple sites of Alectra Utilities' service area. Alectra Utilities was required to clear fallen trees and branches and repair damaged overhead infrastructure, which resulted in long duration outages in the area. Supply to 103,486 customers was interrupted during the Major Event, which is 10% of Alectra Utilities' customer base. 90% of the affected customers were restored in approximately 11 hours. Table N – 9 highlights the summary of the interruption details for the MED experienced on November 15, 2020.

Table M - 9 MED Summary – November 15, 2020

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
Central South	3	Tree Contacts	6	42,274	24,413.53	14.71%
	5	Defective Equipment	3	63	108.98	0.07%
	6	Adverse Weather	6	1,742	1,484.92	0.89%
	9	Foreign Interference	1	4	0.60	0.00%
Central North	5	Defective Equipment	1	28	0.55	0.00%
	6	Adverse Weather	5	80	59.13	0.04%
	9	Foreign Interference	1	5	1.75	0.00%
West	1	Scheduled Outage	1	14	54.60	0.03%
	2	Loss of Supply	2	10,188	1,670.53	1.01%

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
	3	Tree Contacts	3	1,602	9,652.47	5.82%
	5	Defective Equipment	8	480	4,516.67	2.72%
	6	Adverse Weather	24	29,143	57,551.43	34.68%
East	1	Scheduled Outage	3	47	68.77	0.04%
	2	Loss of Supply	1	487	1,322.33	0.80%
	3	Tree Contacts	16	9,109	18,438.73	11.11%
	5	Defective Equipment	2	1,919	749.75	0.45%
	6	Adverse Weather	10	14,718	28,380.32	17.10%
	7	Adverse Environment	1	285	941.32	0.57%
	8	Human Element	1	1	1.32	0.00%
Southwest	2	Loss of Supply	2	3,165	13,816.48	8.33%
	3	Tree Contacts	2	16	24.00	0.01%
	5	Defective Equipment	2	7,582	2,675.77	1.61%
		Total	**101**	**122,952**	**165,933.95**	**100%**

September 14, 2020

The outage was caused by an event at Newton TS, a Hydro One-owned Transformer Station (TS). A squirrel contact at the station on the “Y Bus” tripped both the “B3” and “B4” high voltage transmission circuits affecting other Hydro One-owned stations: Dundas TS, Newton TS and Mohawk TS. These stations are servicing Alectra Utilities customers in the City of Hamilton. Alectra Utilities customers that are connected to Dundas TS and Mohawk TS were out of power

until HONI transmission circuits were restored. Some of the Newton TS loads were transferred to alternate feeders from other stations, however, further restoration by Hydro One within Newton TS was required in order to restore power to the remaining Alectra Utilities customers. Power to these remaining customers was restored by 11:36AM DST. Supply was interrupted to 41,271 customers during the Major Event, which is 4% of Alectra Utilities' customer base. 90 % of the affected customers were restored in 3 hours and 23 minutes. Table M - 10 highlights the summary of the interruption details for the MED experienced on September 14, 2020.

Table M - 10 MED Summary – September 14, 2020

Zone	Cause Code	Causes	Number of Interruptions	Number of Customer Interruptions	Customer Hours of Interruption	%
West	2	Loss of Supply	8	36,682	59,589.37	100%

Appendix N

Baseline Property Condition Assessment



FINAL

Baseline Property Condition Assessment

55 John Street North, Hamilton, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West
Mississauga, ON L5N 7A6

March 26, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 26, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Natalie Kwist
Project Coordinator
289.339.8190
nkwist@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Team Leader
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, etc. The municipal address for the property is 55 John Street North, Hamilton, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 29, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is a rectangular-shaped property approximately 0.98 acres in area. The Site is occupied by a six storey office portion as well as a three storey annexed office area connected via a single storey office/parking garage (the Site Building).

The Site Building is reported to have been constructed in circa 1930s (six storey office and single storey garage) with an addition to the west portion in circa 1950s (three storey annex portion) with a footprint area of approximately 40,250 Square Feet (SF) and total building area of reportedly 159,987 SF. The Site Building possesses a single level Underground Parking Garage (UPG) with parking provisions for approximately 28 vehicles and grade level parking within the garage for approximately 8 vehicles.

The Site Building is constructed with a UPG structure below the southeast portion of the building. The remainder of the Site Building is constructed with basement level storage/mechanical areas. The basement/UPG level is constructed with cast-in-place concrete perimeter walls, cast-in-place concrete columns and capitals supporting suspended concrete floor slabs. The superstructure of the Site Building is comprised of a combination of loadbearing masonry walls, supplemental steel beams and columns, and reinforced concrete structure (i.e., beams, columns and slabs) supporting concrete roof decks.

The exterior walls of the Site Building are clad with stone masonry at the east and north elevations, with brick masonry at the north, west and south elevations. Brick masonry was also noted at the elevator/mechanical penthouses.

The Site Building appears to be in satisfactory condition, commensurate with its ages, and in comparable standing to other similar commercial properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

© 2024 Pinchin Ltd.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

An immediate cost of $10,000 has been identified for replacement of the metal access stairwell as well as the metal guardrail serving the third floor level BUR system at the southwest portion of the Site Building. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $312,000 have been identified. As noted during the Site visit, deficiencies relating to the roof systems, wall systems, structural elements, underground parking garage, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for repairs to the concrete elements of the Underground Parking Garage (UPG);
- Allowance for repair/modernization of the out-of-service elevator system;
- Allowances for replacement of five Heating, Ventilation, and Air Conditioning (HVAC) units;
- Allowances for replacement of five condenser units;
- Allowances for replacement of five radiant tube heater units; and
- Allowance for a mid-life overhaul of the emergency generators.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, underground parking garage, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 3
3.2 Roof Systems 6
3.3 Wall Systems 10
3.4 Balcony Systems 17
3.5 Structural Elements 17
3.6 Underground Parking Garage 19
3.7 Elevator Systems 22
3.8 Interior Finishes 27
3.9 Site Features 31
3.10 Mechanical Systems 33
3.10.1 Major Service Providers 33
3.10.2 Heating, Ventilation and Air Conditioning (HVAC) 33
3.10.3 Domestic Hot Water 35
3.10.4 Plumbing 35
3.10.5 Fire Protection 35
3.11 Electrical Systems 40
3.11.1 Electrical Power 40
3.11.2 Fire Alarm System and Life Safety 40
4.0 KNOWN VIOLATIONS OF CODE 44
5.0 CONCLUSIONS AND RECOMMENDATIONS 44
6.0 TERMS AND LIMITATIONS 45

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 – Site Information 4
Table 3.2 – Roof Systems 7
Table 3.3 – Wall Systems 11
Table 3.4 – Balcony Systems 17
Table 3.5 – Structural Elements 17
Table 3.6 – Underground Parking Garage 19
Table 3.7 – Elevator Systems 24
Table 3.8 – Interior Finishes 27
Table 3.9 – Site Features 31
Table 3.10 – Mechanical Systems (including HVAC, DHW, Plumbing, Laundry and Fire Protection) 36
Table 3.11 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 41

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, etc. The municipal address for the property is 55 John Street North, Hamilton, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 29, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Client has advised Pinchin that no previous BPCAs or other building reports have been prepared for the Site.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms and Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The underground parking garage;
- The elevator systems;
- The interior finishes of the common areas and a selection of individual tenant suites;
- The Site features;

© 2024 Pinchin Ltd.

- The mechanical systems (i.e., heating boilers, domestic hot water, etc.); and
- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

© 2024 Pinchin Ltd.

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS

3.1 Site Information



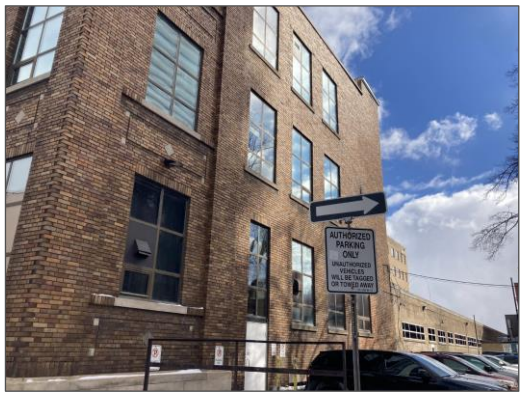
General view of the north elevation of the Site Building.



General view of the east elevation of the Site Building.



General view of the west elevation of the Site Building.



Partial view of the south elevation of the Site Building.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Site Address	**55 John Street North, Hamilton, Ontario**		
Existing Land Use Type	Commercial	*Primary On-Site Activity*	Office Building
Multi-Tenant/Single Occupant	Single-Tenant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 0.98 acres
Number of Buildings	One	*Building Footprint Area(s)*	~ 40,250 SF
Number of Stories (Excluding Basement)	Six storey office tower Three storey office annex Single storey office/garage	*Total Rentable Building Area(s)*	~ 159,987 SF

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Date Building(s) Constructed	~ 1930s at the three storey annex portion with the six storey office and single storey garage addition circa 1950s.	*Area of Tenant Spaces*	~ 159,987 SF
Date Building(s) Renovated	2015: Interior renovations, window replacements 2016: Roof replacements 2019: 4th and 6th floor interior renovations 2020: Cafeteria interior renovations	*Basement and/or U/G Parking*	N/A
Type of Roof System(s)	Built-Up asphalt Roof (BUR)	*Number of Levels U/G*	One
Type of Wall Cladding	Brick masonry Stone masonry	*Area of Roof System(s)*	~ 40,250 SF
Type of Doors	Single Glazed (SG) units within aluminum frames Insulated Glass (IG) units within aluminum frames Solid wood doors within metal frames Hollow metal doors within metal frames Sectional metal overhead doors	*Types of Windows*	Fixed Insulated Glass (IG) units within aluminum frames
Above Grade Parking Area	Interior grade level garage ~ 8 spaces	*Electrical Source*	Alectra

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Surface Type	Asphalt/Concrete/Grass	*Type of Heating/Cooling*	Hydronic system which is fed through the “HCE Energy Inc.” program Natural gas-fired rooftop mounted Heating, Ventilation and Air Conditioning (HVAC) units Natural gas-fired radiant tube heaters Natural gas-fired Make Up Air (MUA) unit Air Handling Units (AHU) Electrically-powered condenser units Electrically-powered baseboard heaters

3.2 Roof Systems

The roof systems of the Site Building consist of conventionally designed, “near-flat” Built-Up asphalt Roof (BUR) systems installed atop a layer of rigid insulation, atop concrete roof decks. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing.

Drainage of the roof systems is provided by internal roof drains which presumably drain to the municipal sewer system. The roof systems consist of four main roof systems; one atop the sixth-floor office area at the northeast portion of the Site Building, one atop the ground floor at the southcentral portion of the Site Building, one atop the third floor southwest portion of the Site Building, and one atop the single-storey northwest annex portion of the Site Building. Additional secondary BUR systems are located atop the three elevator penthouses, as well as a lower roof section at the west portion of the building. The Site Representative reported that the BUR systems were replaced in 2016 (i.e., ~ 8 years old).

Penetrations through the roof systems consist of plumbing vents, roof drains, skylights, HVAC curbing and pitch pockets serving conduits. The total area of the BUR systems is similar to the footprint area of the Site Building at approximately 40,250 SF. No active leaking within the roof systems was reported during the assessment.

© 2024 Pinchin Ltd.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

It should be noted that due to snow and ice covered conditions a thorough assessment of the roof systems was not possible at the time of the Site visit.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Corrosion and broken elements were noted at the metal access stairwell as well as the metal guardrail serving the third floor level BUR system at the southwest portion of the Site Building.	• Pinchin has carried immediate repair allowances to replace the metal guardrail as well as the access stairwell as these are potential safety concerns.
Minor Deficiencies/Findings	
• Sealants at roof penetrations were noted to be deteriorated at various locations.	• Replacement of deteriorated sealants is recommended.



Aerial view of the roof systems.

Via Google Earth 2018.



General view of the BUR system serving the ground floor south-central portions of the Site Building.

© 2024 Pinchin Ltd.



General view of the lower level secondary BUR system at the west portion of the Site Building.



General view of the BUR system serving the northwest annex portion of the Site Building.



General view of the BUR system serving the southwest third floor level of the Site Building.

© 2024 Pinchin Ltd.



General view of the BUR system serving the sixth floor level at the northeast portion of the Site Building.



View of corrosion noted at the metal guardrail atop the third floor level southwest portion of the Site Building.



View of a broken handrail noted at the access staircase serving the third floor level southwest portion of the Ste Building.

© 2024 Pinchin Ltd.



View of a failed sealant serving a roof exhaust at the ground floor level system.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a BUR system typically ranges between 20 to 25 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained.

It should be noted that due to snow and ice covered conditions a thorough assessment of the roof systems was not possible at the time of the Site visit.

The visible portions of the roof systems atop the Site Building were noted to be in satisfactory condition with the exception of the above-noted deficiencies. Pinchin has carried an immediate repair allowance for installation of new metal guardrails and access stairwell at the third floor roof system due to potential safety concerns with corroded and broken elements. Pinchin recommends that regular annual maintenance be performed on the roof systems throughout the term of the analysis.

Annual walk-on inspections are recommended to ensure any deficiencies or issues are discovered and attended to in a timely manner in order to preserve the integrity and longevity of the roof systems.

3.3 Wall Systems

The exterior walls of the Site Building are clad with stone masonry at the east and north elevations, with brick masonry at the north, west and south elevations. Brick masonry was also noted at the elevator/mechanical penthouses. The back-up system was not visible within the areas accessed.

The window systems of the Site Building consist of fixed Insulated Glass (IG) units within aluminum frames set into punched openings and strip configurations. As reported by the Site Representative, the window units throughout the Site Building were replaced in 2016. Date stamps observed within the window assemblies indicate 2016 as the year of manufacture of the windows (i.e., ~ 8 years old) where randomly observed.

The door systems of the Site Building consist of Single Glazed (SG) and IG doors complete with SG and IG sidelites within prefinished aluminum frames which serve the main and secondary entrances and

© 2024 Pinchin Ltd.

vestibule areas. Metal doors, some of which possess GWG inserts within hollow metal frames serve the emergency exits and stairwells. SG doors, some of which possess SG sidelites within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors, which possess IG inserts within hollow metal frames serve the drive-in bay areas on the north and east elevations.

It should be noted that due to the fact that the scope of work did not include any intrusive/destructive testing the presence or condition of brick ties behind the masonry walls could not be visually inspected.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Staining was noted below the strip window configurations on the north and east elevations of the six storey portion of the building.	• Clean the areas of staining.
• An area of cracking was noted within the brick masonry at the south elevation.	• Repair the areas of cracking and monitor further.
• Efflorescence staining was noted at the south elevation.	• Clean the areas of efflorescence.
• Areas of deteriorated mortar were noted at the stone masonry at various elevations.	• Repoint the areas of deteriorated mortar.
• Cracked stone masonry was noted at the north and west elevations.	• Repair the areas of cracking.
• Corroded secondary doors were noted noted a the west and north elevations.	• Replace the corroded secondary doors.
• Multiple areas of staining were noted at the stone cornices on the north and west elevations.	• Clean areas of staining.
• Areas of delamination were noted at the base of the stone masonry wall on the west elevation.	• Repair the areas of delamination.
• Corrosion was noted at the metal frame serving an overhead door on the north elevation.	• Refinish the areas of corroded frame.

© 2024 Pinchin Ltd.

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
• Failed selants noted at a window unit on the north elevation.	• Replace the failed sealant.
• Cracking was noted within parging cement of the foundation wall on the north elevation.	• Repair the affected areas.



General view of the stone and brick masonry wall systems serving the Site Building.



View of staining below the strip window configurations on the north elevation of the six-storey portion of the building.



View of cracking within the brick masonry at the south elevation.

© 2024 Pinchin Ltd.



View of efflorescence staining at the south elevation.



View of deteriorated mortar at the stone masonry on the west elevation.



View of cracked stone masonry at the west elevation.

© 2024 Pinchin Ltd.



View of corroded secondary doors noted at the west elevation.



View of staining noted at the stone cornice on the west elevation.



View of delamination noted at the base of the stone masonry wall on the west elevation.

© 2024 Pinchin Ltd.



View of corrosion noted at the metal frame serving an overhead door on the north elevation.



View of failed selants noted at a window unit on the north elevation.



View of deteriorated mortar noted at the brick masonry on the north elevation.

© 2024 Pinchin Ltd.



View of cracking noted within parging cement of the foundation wall on the north elevation.



View of delaminated stone masonry noted at the north elevation.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the exception of the above noted deficiencies. Pinchin recommends and has included allowances for repairs to the above noted deficiencies within the term of analysis.

Typical buildings of this age may contain PCBs in mastics, caulking and window putties. Testing for the presence of PCBs in these materials is beyond the scope of this BPCA report. The potential presence of PCBs in these materials could give rise to additional costs in future if extensive renovation requiring removal of these materials or demolition activities are undertaken at the Site. The extent of such potential issues could not be assessed as part of this BPCA report.

Assuming the above mentioned deficiencies are addressed and that regular annual maintenance is performed, the walls, windows and door systems of the Site Building should continue to perform satisfactorily throughout the term of analysis.

© 2024 Pinchin Ltd.

3.4 Balcony Systems

The Site Building does not possess balcony systems.

Table 3.4 outlines the findings of the Balcony Systems:

Table 3.4 – Balcony Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• N/A	• N/A
Minor Deficiencies/Findings	
• N/A	• N/A

3.5 Structural Elements

As outlined in the scope of work, a visual assessment of the condition of the structural elements was carried out on the elements which were visible at the time of the inspection. The Site Building is constructed with a UPG structure below the southeast portion of the building. The remainder of the Site Building is constructed with basement level storage/mechanical areas. The basement/UPG level is constructed with cast-in-place concrete perimeter walls, cast-in-place concrete columns and capitals supporting suspended concrete floor slabs. The superstructure of the Site Building is comprised of a combination of loadbearing masonry walls, supplemental steel beams and columns, and reinforced concrete structure (i.e., beams, columns and slabs) supporting concrete roof decks.

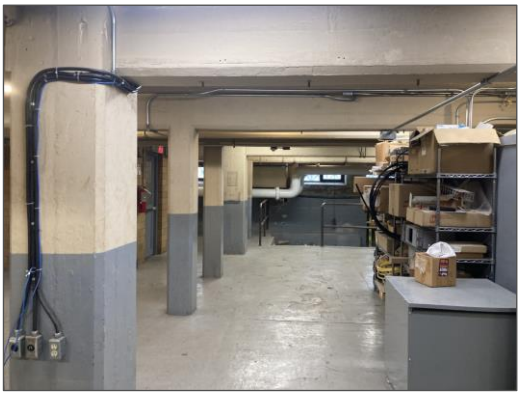
No structural drawings were available to Pinchin for review.

Table 3.5 outlines the findings of the inspection of the structural elements:

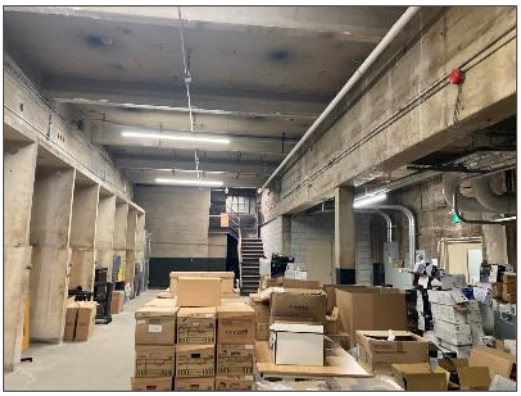
Table 3.5 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Cracking was noted within the cast-in-place concrete floor slab as viewed from the basement level on the northwest portion of the building.	• Repair the areas of cracking under supervision of a Structural Engineer.

© 2024 Pinchin Ltd.



General view of the cast-in-place concrete structure serving the basement at the southwest portion of the Site Building.



General view of the cast-in-place concrete structure serving the basement at the northwest portion of the Site Building.



View of cracking noted within the cast-in-place concrete floor slab as viewed from the basement level on the northwest portion of the building.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work.

Similarly the identification and assessment of any Post-Tension reinforcing is not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure.

Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no other major deterioration existed within the visibly accessible components of the Site

© 2024 Pinchin Ltd.

Building. Repairs to the above noted deficiency should be completed under supervision of a Structural Engineer.

3.6 Underground Parking Garage

The Site Building is equipped with a single level Underground Parking Garage (UPG) located below the southeast portion of the Site Building. The UPG is accessed via a grade level garage located above the UPG. The UPG is constructed with a reinforced cast-in-place concrete construction (i.e., columns, capitals, beams and slabs) with cast-in-place concrete perimeter foundation walls. Access to and egress from the UPG is gained via two insulated metal sectional overhead doors located on the east portion of the Site Building which provides access into the grade level garage, and the UPG ramp at the southwest portion. The access ramp serving the UPG is located within the building footprint and is constructed of concrete. Heating within the UPG is provided by fan forced radiant unit heaters which are connected to the building boiler systems. Supplemental heating within the grade level portion of the UPG is provided by radiant tube heaters. Fire protection within the UPG is provided by a fire hose cabinet complete with stand alone chemical fire extinguishers. Ventilation within the UPG is provided by ventilation fans. A Carbon Monoxide (CO) detection system is present within the UPG which operates the ventilation system and is reportedly connected to the fire alarm system. It should be noted that due to the concealed nature of the waterproofing membrane atop the UPG, Pinchin is unable to comment on its condition as destructive testing was outside the scope of work. No major areas of moisture infiltration were noted on the soffit of the UPG which would indicate failing areas of waterproofing membrane.

Parking for approximately 28 vehicles is provided within the UPG, with additional internal grade level parking within the garage for approximately 8 vehicles.

Table 3.6 outlines the findings of the inspection of the underground parking garage:

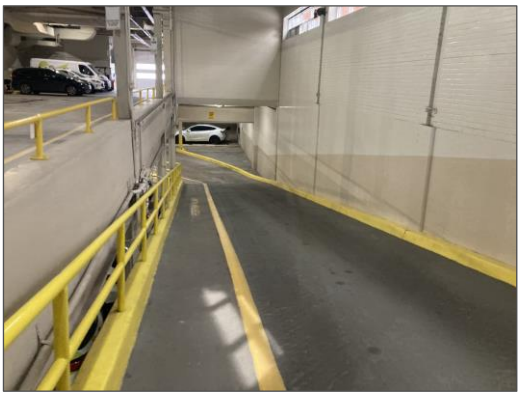
Table 3.6 – Underground Parking Garage

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
Pitting was noted within the concrete access ramp of the UPG.	• Replace the deteriorated concrete.
• Moisture damage with efflorescence and peeling paint was noted at the southwest corned of the UPG.	• Repair the affected area.

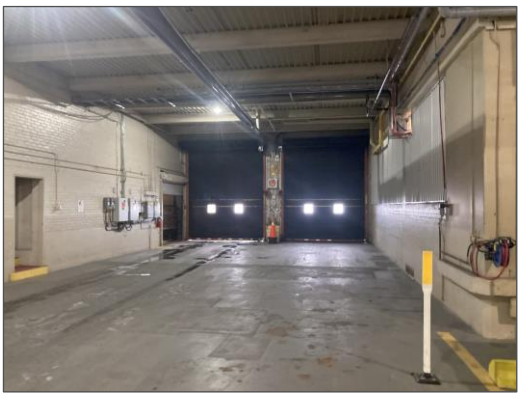
© 2024 Pinchin Ltd.



General view of the finishes within the UPG.

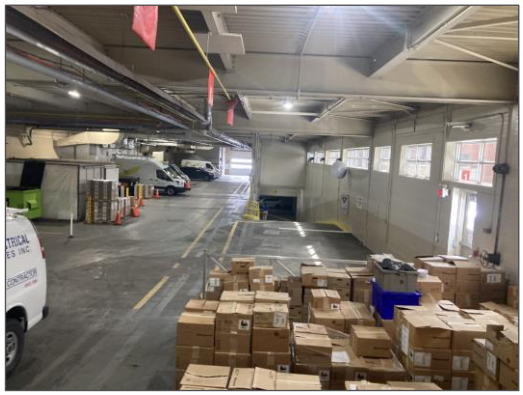


General view of the ramp serving the garage and UPG.



General view of the overhead doors providing access into the grade level parking garage.

© 2024 Pinchin Ltd.



General view of the finishes within the grade level garage (above the UPG)

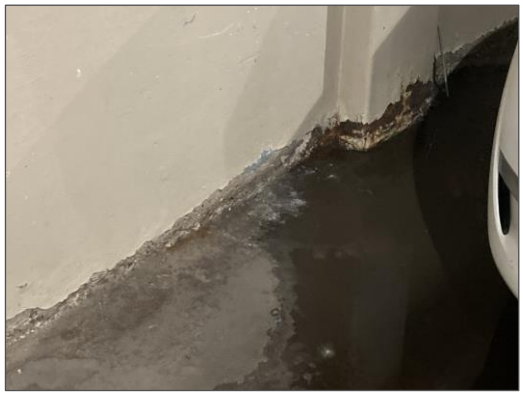


View of pitting within the concrete access ramp of the UPG.



View of moisture damage noted at the southeast corner of the UPG.

© 2024 Pinchin Ltd.



View of moisture damage within the southwest corner of the UPG.

The UPG was noted to be in satisfactory condition at the time of the assessment with the above noted deficiencies. Pinchin has provided an allowance for concrete and waterproofing repairs within the parking garage based on visual observations made during the Site visit. In addition, Pinchin recommends that tender documents (i.e., specifications and drawings) be prepared prior to the repair work in order to better define the extent of concrete repair, condition of waterproofing and options/methods of repairs required. Assuming that the tender documents are prepared and the require work is completed and regular annual maintenance is performed, the parking garage should continue to perform in a satisfactory manner throughout the term of the analysis.

3.7 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1	Elevator #2	Elevator #3	Elevator #4
Manufacturer:	Otis	Otis	Otis	Lincoln
Drive System:	Cable	Cable	Cable	Cable
Floors Served	B-6	B-6	B-6	B-2
Date installed:	~ 1950 with modernization in 2015	~ 1950 with modernization in 2015	~ 1950 with modernization in 2015	~ 1930 with modernization in 2015
Capacity:	1134 kg or 16 persons	1134 kg or 16 persons	10,000 LBS	5,000 LBS
Function:	Passenger	Passenger	Freight	Freight
Alarm:	Yes	Yes	Yes	Yes
Emergency Stop:	Yes	Yes	Yes	Yes
Emergency Phone:	Yes	Yes	Yes	No

© 2024 Pinchin Ltd.

	Elevator #1	Elevator #2	Elevator #3	Elevator #4
Emergency Power:	Yes	Yes	Yes	Yes
	Elevator #5	**Lift # 1**	**Lift # 2**	
Manufacturer:	Unknown*	Savaria	Savaria	
Drive System:	Hydraulic	Hydraulic Lift	Hydraulic Lift	
Floors Served	B-3	G-2	G-2	
Date installed:	unknown	~ 2015	~ 2015	
Capacity:	952 kg or 13 persons	250 lb or 1 person and wheelchair	250 lb or 1 person and wheelchair	
Function:	Passenger	Wheelchair lift	Wheelchair lift	
Alarm:	Unknown*	Yes	Yes	
Emergency Stop:	Unknown*	Yes	Yes	
Emergency Phone:	Unknown*	No	No	
Emergency Power:	Yes	Yes	Yes	

*It should be noted that at the time of the Site visit Elevator # 5 was out of service. Access was not provided within the mechanical room or the elevator cab.

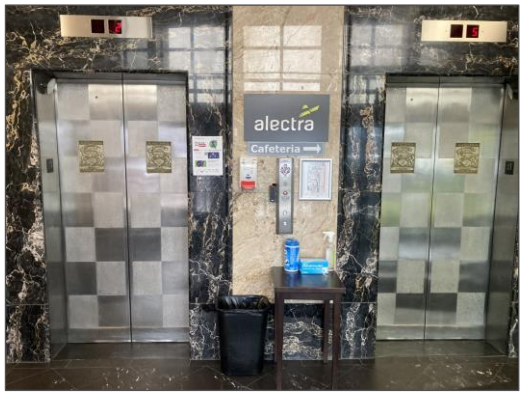
The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by “Otis” on a monthly basis.

© 2024 Pinchin Ltd.

Table 3.7 outlines the findings of the inspection of the elevator systems:

Table 3.7 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Elevator # 5 was noted to be out of service at the time of the Site visit as it has reportedly been malfunctioning. The Site Representative was not aware of the age or modernizations of the elevator system. As such, Pinchin recommends repairs/modernization to the out of service elevator within the early portion of the term.	• Modernization/repairs of the elevator system is recommended within the early portion of term of the analysis to get the elevator back in service.
Minor Deficiencies/Findings	
• Elevator machine guarding was not present at the two passenger elevators serving the six storey portion of the building.	• Install elevator machine guarding.

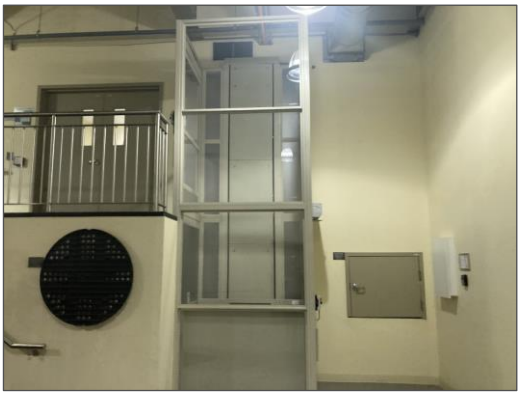


View of the passenger elevators serving the six-storey portion of the Site Building.



View of a freight elevator serving the Site Building.

© 2024 Pinchin Ltd.



View of a hydraulic lift serving the Site Building.



View of a hydraulic lift serving the Site Building.



View of the elevator machinery serving a freight elevator.

© 2024 Pinchin Ltd.



View of the elevator machinery serving a freight elevator.



View of the elevator machinery serving the two passenger elevators.

Note: No machine guarding.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

Based on Pinchin's experience, minor components may require modernization, due in part to obsolescence, which are not covered under a "full maintenance" contract. Additionally, service personnel capable of performing the numerous adjustments necessary to keep this equipment operating properly will become increasingly difficult to find as newer equipment designs become more predominant. Thus, the Owner may be faced with significant modernization costs in order to maintain reasonable service. At the time of the Site visit, Elevator # 5 (serving floors B to 3) was noted to be out of service. The Site Representative was not aware of the age or modernizations of the elevator system. Access was not provided within the elevator cab or machine room due to safety concerns. Modernization/repairs of the elevator system is recommended within the early portion of term of the analysis to get the elevator back in service. In addition, installation of elevator machine guarding is recommended at the six storey passenger elevators serving the Site Building within the early portion of the term, which is anticipated to fall below the reporting threshold.

© 2024 Pinchin Ltd.

Pinchin has carried a preliminary allowance for modernization of the out of service elevator, however Pinchin also recommends that the client have a review completed on the elevator systems by a qualified elevator consultant to better understand the condition and potential necessary remedial work associated with the elevator systems.

3.8 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment.

The floor finishes within the main entrance as well as washrooms consist of ceramic tiles with areas of carpeting. Floor finishes within the corridors consist of carpeting while stairwell treads consist of a combination of finished concrete and ceramic floor tiles. The floor finishes within the mechanical and electrical rooms as well as the basement level consist of exposed concrete floor slabs. The wall finishes within the Site Building generally consist of painted gypsum wall board, with marble wall tiles noted at the main entrance areas. Ceramic wall tiles were noted within select washroom and kitchen areas. Wall finishes within the mechanical and electrical rooms as well as basement levels consist of a combination of exposed cast-in-place concrete, brick masonry, and stone masonry. Ceiling finishes throughout the Site Building consist primarily of painted gypsum wall board finishes, with areas of suspended ceiling assemblies complete with lay-in-tiles and exposed concrete structure.

Table 3.8 outlines the findings of the inspection of the interior finishes:

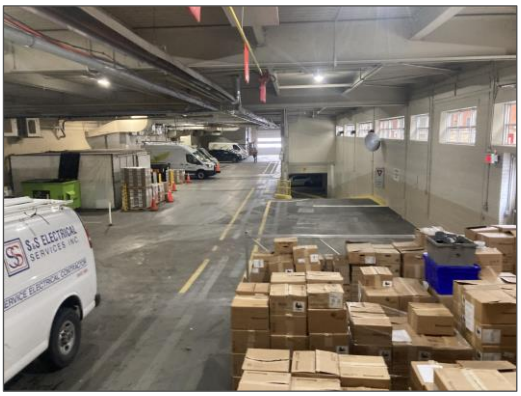
Table 3.8 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Minor cracking within ceramic wall tile was noted at the “annex” portion of the Site Building.	• Repair the damaged ceramic tile.
• Spalled brick masonry was noted within the generator room of the Site Building.	• Repair the areas of spalled masonry and refinish.
• Spalled/deteriorated concrete with efflorescence was noted within the southwest basement area of the Site Building.	• Repair the deteriorated concrete and clean areas of efflorescence. Monitor further.

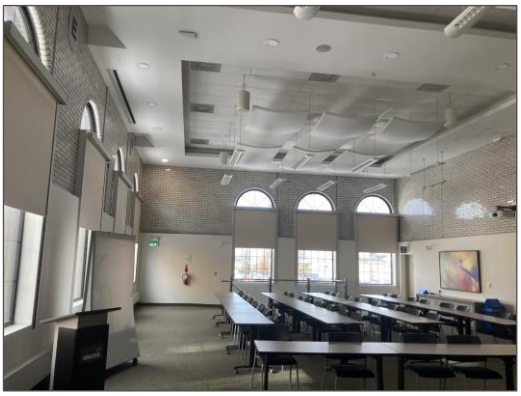
© 2024 Pinchin Ltd.



View of the finishes within the office spaces of the Site Building.

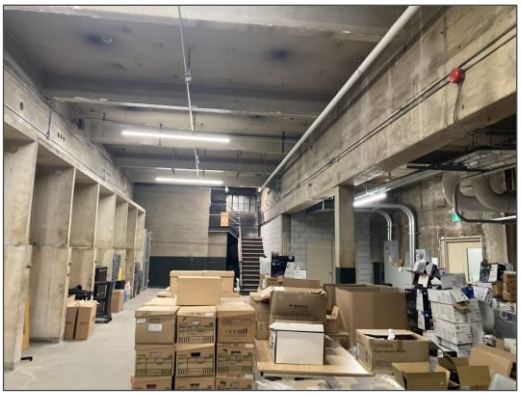


View of the finishes within the grade level garage of the Site Building.

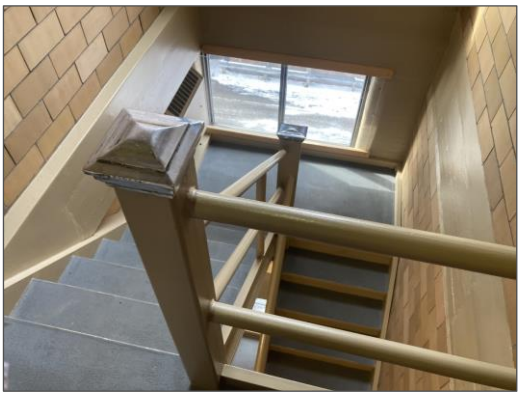


View of the finishes within the interior office “annex” spaces of the Site Building.

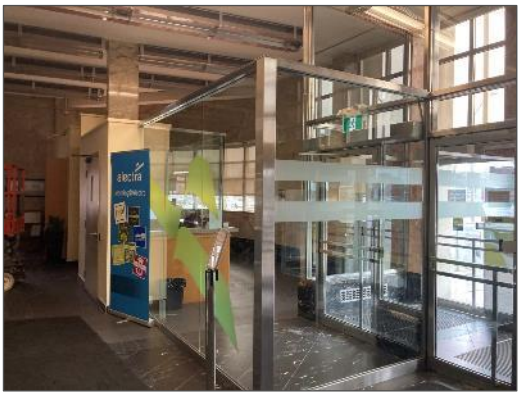
© 2024 Pinchin Ltd.



View of the finishes within the basement of the Site Building.



View of the finishes within a stairwell of the Site Building.



View of the finishes within the main entrance lobby of the Site Building.

© 2024 Pinchin Ltd.



View of minor cracking within ceramic wall tile at the “annex” portion of the Site Building.



View of spalled brick masonry noted within the generator room of the Site Building.



View of spalled concrete with efflorescence noted within the southwest basement area of the Site Building.

The interior finishes within the Site Building were generally observed to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends that the above referenced deficiencies be addressed and that regular annual maintenance of the interior finishes be performed throughout the term of the analysis.

© 2024 Pinchin Ltd.

3.9 Site Features

The Site Building occupies approximately 94% of the 0.98 acre Site. The remainder of the Site is surfaced with cast-in-place concrete pads providing access to the drive-in bays on the north portion of the Site. Exterior grade level parking is not provided on Site.

Drainage of the Site pavements is provided by natural run-off which presumably drains to off-site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site. No issues were reported with the Site's drainage ability.

Cast-in-place concrete walkways were noted adjacent to the north, east and west perimeters of the Site, which are reportedly owned and maintained by the City of Hamilton. Cast-in-place concrete pads serve the drive-in bay on the north elevation. Concrete bollards were noted serving the drive-in bays. Steel staircases provide access to secondary entrances on the north elevation. Access to the parking garage of the Site is provided by an entrance from John Street North located on the east portion of the Site, as well as an entrance to the parking garage from Rebecca Street located on the north portion of the Site.

Table 3.9 outlines the findings of the inspection of the Site features:

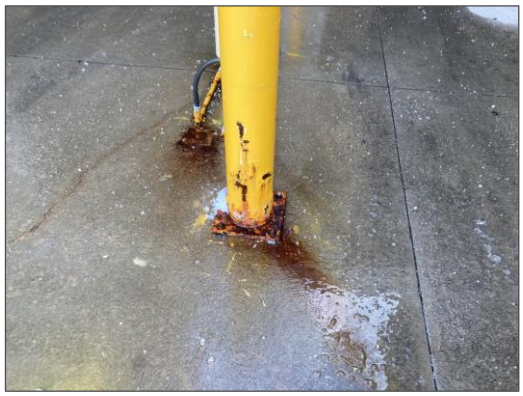
Table 3.9 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Corrosion was noted at bollards serving the drive-in bays on the north portion of the Site.	• Refinish corroded bollards.
• Cracking was noted within the cast-in-place concrete pad serving the drive-in bays on the north elevation.	• Repair the area of cracking and monitor further.

© 2024 Pinchin Ltd.



View of the cast-in-place concrete pad serving the drive-in bays on the north elevation.



View of corrosion noted at bollards on the north elevation.



View of cracking within the cast-in-place concrete noted at the drive-in bays on the north elevation.

© 2024 Pinchin Ltd.



View of the reportedly city-owned cast-in-place concrete walkways at the perimeters of the Site Building.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin anticipates repairs to the above noted deficiencies to fall below the reporting threshold, therefore no costs have been carried. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of the analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

3.10 Mechanical Systems

3.10.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Hamilton
Electric	-	Alectra Utilities
Sewer	-	City of Hamilton
Natural Gas	-	Enbridge
Police	-	Ontario Provincial Police
Fire	-	City of Hamilton Fire & Emergency Services

3.10.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating and cooling throughout the Site Building is primarily provided via a hydronic system which is fed through the “HCE Energy Inc.” program. As reported by the Site Representative, the program produces tempered water at a central plant located off-site. The water is piped underground to the building for the heating, cooling, and DHW systems. The program provides on-site heat exchangers located within the basement level. There are two heat exchangers located on-site, one reportedly for cooling and one for heating. The heat exchangers are reportedly owned and maintained by the “HCE Energy Inc.” program. Three Air Handler Units (AHU)s distribute air throughout the Site Building and are reportedly also owned and maintained by the program.

© 2024 Pinchin Ltd.

Back-up heating for the hydronic system is reportedly provided by the four original on-site boiler units located within the mechanical penthouse. The boilers were noted to be manufactured by “Lochinvar” in 1996 (i.e., ~ 28 years old) and possess an input heating capacity of 990,000 BTUH each. The boiler equipment is reportedly also owned and maintained by “HCE Energy Inc.”.

Supplemental heating and cooling throughout the Site Building is provided by a combination of rooftop mounted HVAC units, rooftop mounted Make-Up-Air (MUA) units, rooftop mounted condenser units, as well as natural gas-fired radiant tube heaters and split A/C units within the parking garage.

The HVAC systems are summarized in the following table:

Type of Unit	# of Units	Manufacturer’s Name	Manufacturing Date (Age)	Heating Capacity in British Thermal Units per Hour (BTUH)	Cooling Capacity (Tonnage)
AHU - HCE	3	Trane	1996 (28)	n/a	n/a
HVAC	4	York	2015 (9)	125,000	5
	1	Lennox	2012 (12)	150,000	4
	1	Carrier	2019 (5)	150,000	4
Condensers	4	Carrier	2010 (14)	n/a	5
	1	Mitsubishi	Unknown*	n/a	Unknown*
Split A/C	4	Unknown*	Unknown* (~5)	n/a	Unknown*
Radiant Tube heaters	5	Unknown*	Unknown*	Unknown*	n/a
MUA	1	CaptiveAire	2019 (5)	212,672	n/a

* Due to height restrictions, the information could not be confirmed.

In addition, two redundant split A/C units and one HVAC unit were noted atop the roof and have been disconnected.

The inspection of the interior ductwork or associated components was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin’s experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

© 2024 Pinchin Ltd.

3.10.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is primarily provided from the above noted “HCE Energy Inc.” program. The Site Building possesses a DHW heat exchanger located within the basement of the Site Building consisting of an “Alfa Laval” unit manufactured in 2017 (i.e., ~ 7 years old).

Supplemental DHW within the Site Building is provided by a combination of one natural gas-fired self-contained unit, and two electrically powered, self contained units. The electrically powered unit located within the basement was noted to be manufactured by “Bradford White” in 2011 (i.e., ~ 13 years old) and possesses a storage capacity of 177.9 Litres. The second electrically powered unit is a small unit hung from the ceiling of the grade level parking garage and could not be accessed. It is reportedly ~ 5 years old. The natural gas-fired unit located within the basement was noted to be manufactured by “Rheem Rudd” in 2017 (i.e., ~ 7 years old) and possesses a storage capacity of 451 Litres.

There is reportedly no shortage of DHW within the Site Building.

3.10.4 Plumbing

Drainage piping within the Site Building consists of Acrylonitrile Butadiene Styrene (ABS) and cast-iron as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems, the condition of the systems could not be verified.

The main water lines are located in the basement mechanical room of the Site Building. A 4” backflow prevention device manufactured by “Watts” was observed with recent inspection completed by “Plumbway” in August 2023.

3.10.5 Fire Protection

Fire protection within the Site Building is provided by fire hose cabinets on each floor level which are complete with dry chemical fire extinguishers. The fire protection systems are reportedly serviced annually by “Johnson Controls Fire & Security” and were last inspected in November 2023. Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted within strategic locations.

Fire protection within the server and telephone equipment rooms at the third and fifth floor levels of the Site Building is provided by chemical suppression systems. The chemical suppression systems are activated manually by pull stations and automatically by fusible links. The chemical suppression systems are reportedly monitored by “Fire Monitoring Canada”, an independent contractor. The fire suppression systems were noted to possess up-to-date annual inspection tags indicating the most recent inspection in

© 2024 Pinchin Ltd.

November 2023 by “Johnson Controls Fire & Security”. The inspection gauges on the fire suppression systems were noted to be charged to sufficient levels.

Table 3.10 outlines the findings of the inspection of the mechanical systems:

Table 3.10 – Mechanical Systems (including HVAC, DHW, Plumbing, Laundry and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Four HVAC units were noted to be ~ 9 years old and are anticipated to reach their EUL within the mid to latter portion of the term of analysis.	• Pinchin has carried allowances for replacement of four HVAC units within the latter portion of the term of analysis.
• One HVAC unit was noted to be ~ 12 years old and is anticipated to reach the end of its EUL within the mid to latter portion of the term of analysis.	• Pinchin has carried an allowance for replacement of the HVAC unit within the mid to latter portion of the term of analysis.
• Five condenser units were noted to be 14 years and older, and are anticipated to reach their EUL within the early to mid portion of the term of analysis.	• Pinchin has carried allowances for replacement of five condenser units within the mid portion of the term of analysis.
• The age of five radiant tube heaters serving the garage are unknown, however reportedly are approaching their EUL.	• Pinchin has carried allowances for replacement of five radiant tube heater units within the mid portion of the term of analysis.
Minor Deficiencies/Findings	
• Two DHW units are ~ 13 and ~ 7 years old and will reach their EUL within the term.	• Pinchin anticipates replacement to fall below the reporting threshold.



View of the incoming water lines for the “HCE Energy Inc.” program located within the basement at the west portion of the Site Building.

© 2024 Pinchin Ltd.



View of a typical rooftop mounted HVAC unit serving the Site Building.



View of the rooftop mounted MUA unit serving the Site Building.



View of a rooftop mounted condenser unit serving the Site Building.

© 2024 Pinchin Ltd.



View of the “heating” heat exchanger located within the basement level.



View of the “cooling” heat exchanger located within the basement level.



View of the “DHW” heat exchanger located within the basement level.

© 2024 Pinchin Ltd.



View of the electric DHW unit located within the basement level.



View of a typical fire hose cabinet complete with chemical fire extinguisher.



View of the domestic incoming water line located within the basement level.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Due to the current age of the heating and cooling equipment serving the building, Pinchin has included allowances for the replacement of select units as noted above. Assuming that the above noted deficiencies are addressed and regular annual maintenance is performed, the mechanical systems should continue to perform satisfactorily throughout the term of analysis.

© 2024 Pinchin Ltd.

It should be noted that as reported by the Site Representative, various equipment is owned and maintained through the HCE program. As such, allowances for repair/replacements of this equipment has not been carried.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.11 Electrical Systems

3.11.1 Electrical Power

The electrical power for the Site Building is supplied from an on-Site hydro vault located within the basement level and feeds the electrical room in the basement level. The electrical service for the Site Building includes an “Eaton” main disconnect switch with a maximum rating of 600 Amperes, 347/600 Volt service based on-site labeling.

Based on Pinchin’s observations and as reported by the Site Representative, the Site Building does not contain aluminum wiring.

The Site Building possesses two, 375 kW “Caterpillar” natural gas-fired emergency powered generators located at the third floor level generator room on the west portion of the Site Building. The generators were noted to be manufactured in 2007 (i.e., ~ 17 years old). It was reported to Pinchin that the maintenance and replacement of the generators is an owner responsibility. Power to the Site Building is automatically transferred via an automatic transfer switch. The automatic transfer switch was noted to be manufactured by “ASCO” in 2012 (i.e., ~ 12 years old) and is located within the basement electrical room. It was reported that the emergency generators are test-run for 30 minutes on a weekly basis. Inspections and servicing of the emergency generators is reportedly performed by “Toromont Power Systems” an independent contractor. It was reported that the emergency generators supply power to the entire Site Building including heating and cooling systems, fire suppression systems, elevators, fire alarm panel and associated systems (i.e., pull stations and heat detectors), the emergency lighting and emergency exit signs.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.11.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and two stage system complete with a “Simplex 4100” fire alarm panel and sub-panel. The main fire alarm panel is located within the basement level corridor, while a sub-panel is located at the fifth floor level corridor and serves the IT

© 2024 Pinchin Ltd.

rooms on the third and fifth floor levels. The fire alarm system monitors flow control switches/sensors within the sprinkler systems, the sub fire alarm control panels located within the server and telephone equipment rooms, as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. The systems are reportedly monitored by “Fire Monitoring Canada” an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “Fire Monitoring Canada” an independent contractor. The last date of inspection for the fire alarm panel and associated systems took place in January 2024.

As reported by the Site Representative, the fire alarm panels were replaced during the interior renovations between 2018 and 2020 (i.e., ~ 4 to 6 years old).

Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by a combination of internal battery packs and the emergency generators.

Table 3.11 outlines the findings of the inspection of the electrical systems:

Table 3.11 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The backup generators are approximately 17 years old and have reached their mid-life.	• Allowances have been carried to overhaul the power generators.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



View of the basement level hydro vault serving the Site Building.

© 2024 Pinchin Ltd.



View of the main electrical disconnect located within the basement level.



View of the natural gas-fired emergency generators serving the Site Building.



View of the emergency generator transfer switch located within the basement level.

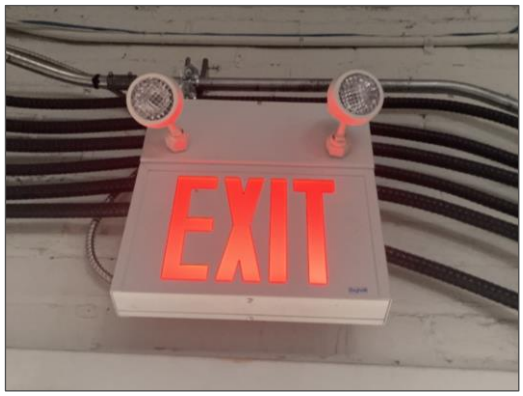
© 2024 Pinchin Ltd.



View of the main fire alarm panel located within the basement level.



View of the sub-panel noted at the fifth floor level serving the IT rooms.



View of typical emergency lighting and illuminated exit signage serving the Site Building.

Upon inspection the electrical and life safety systems were noted to be in satisfactory condition with the above deficiency noted.

As mentioned previously, the backup generators are approximately 17 years old and have reached mid-life. An allowance has been carried to overhaul the power generators within the early portion of the term.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted

© 2024 Pinchin Ltd.

on-site labeling. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required.

Due to the age of the Site Building, there may be aluminum wiring present throughout the Site Building, as a result the Owner should retain the services of a licensed electrician to review the wiring and connections throughout to ensure there are no loose connections throughout the Site Building.

No other major expenditures should be incurred relating to the electrical and life safety systems assuming the above noted deficiency is addressed and regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 29, 2024 the Site Building appears to be in satisfactory condition, commensurate with its ages, and in comparable standing to other similar commercial properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

An immediate cost of $10,000 has been identified for replacement of the metal access stairwell as well as the metal guardrail serving the third floor level BUR system at the southwest portion of the Site Building. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $312,000 have been identified. As noted during the Site visit, deficiencies relating to the roof systems, wall systems, structural elements, underground parking garage, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for repairs to the concrete elements of the Underground Parking Garage (UPG);
- Allowance for repair/modernization of the out-of-service elevator system;
- Allowances for replacement of five Heating, Ventilation, and Air Conditioning (HVAC) units;

© 2024 Pinchin Ltd.

- Allowances for replacement of five condenser units;
- Allowances for replacement of five radiant tube heater units; and
- Allowance for a mid-life overhaul of the emergency generator.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, underground parking garage, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 – 15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process*.

© 2024 Pinchin Ltd.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator, mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

It should be noted that due to partial snow and ice covered conditions a thorough assessment of the roof systems and Site features was not possible at the time of the Site visit.

© 2024 Pinchin Ltd.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

© 2024 Pinchin Ltd.

APPENDIX I

Table 1 – Summary of Anticipated Expenditures

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (Immediate Repair Allowance)	N/A	N/A	N/A	1	LS	$10,000		$10,000											
Roof Structures and Roofing (Repairs/Maintenance) Below Threshold																			
Wall Systems																			
Exterior Walls (Repairs) Below Threshold																			
Exterior Windows and Doors (Repairs) Below Threshold																			
Structural Elements																			
Foundations																			
Superstructure (Repairs) Below Threshold																			
Underground Parking Garage																			
Concrete Repairs (Repairs)	Varies	Varies	Varies	1	LS	$30,000	$30,000			$30,000									$30,000
Waterproofing																			
Vertical Transportation Systems																			
Elevator Systems (Modernization/Repair)	25	unknown	unknown	1	EA	$120,000	$120,000		$120,000										$120,000
Elevator Systems (Installationo of Machine Guarding) Below Threshold																			
Elevator Systems (Specialist Review) Below Threshold																			
Interior Finishes																			
Interior Finishes (Repairs) Below Threshold																			
Site Features																			
Parking and Paving																			
Concrete Walkway and Curbing (Repairs) Below Threshold																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling (HVAC Replacement Allowances)	15-20	9	6-11	4	EA	$15,000	$60,000										$60,000		$60,000
Building Heating and Cooling (HVAC Replacement Allowances)	15-20	12	3-8	1	EA	$12,000	$12,000									$12,000			$12,000
Building Heating and Cooling (Condenser Replacement Allowances)	15-20	14	1-6	5	EA	$3,500	$17,500							$17,500					$17,500
Building Heating and Cooling (Radiant Tube Heater Replacement Allowances)	20-25	unknown	unknown	5	EA	$2,500	$12,500					$12,500							$12,500
Plumbing																			
Hot Water (DHW Replacements) Below Threshold																			
Fire Protection																			
Electrical Systems																			
Electrical Systems (Emergency Generator Overhaul)	25-30	17	8-13	2	EA	$30,000	$60,000				$60,000								$60,000
Fire and Life Safety Systems																			
							TOTALS (UNINFLATED)	**$10,000**	**$120,000**	**$30,000**	**$60,000**	**$12,500**	**$0**	**$17,500**	**$0**	**$12,000**	**$0**	**$60,000**	**$312,000**
Term of Analysis	**10**						**INFLATION FACTOR**	**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
Cost Threshold	**$5,000**						**TOTALS (INFLATED)**		**$120,000**	**$30,900**	**$63,600**	**$13,625**	**$0**	**$20,125**	**$0**	**$14,520**	**$0**	**$76,200**	**$338,970**

Total SF within the Site Building(s)	**159,987**
Average Cost per SF per Year (Uninflated)	**$0.20**
Average Cost per SF per Year (Inflated)	**$0.21**

LS - Lump Sum
SF - Square Foot
EA - Each (per unit component)
LF - Linear Foot



FINAL

Baseline Property Condition Assessment

55 Patterson Road, Barrie, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West,
Mississauga, ON L5N 7A6

March 22, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 22, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Brandon Lane
Senior Project Technologist
289.776.9756
blane@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Senior Project Manager
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 55 Patterson Road, Barrie, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is an irregular-shaped property approximately 15.75 acres in area. The Site is occupied by a single storey light industrial building complete with a two-storey office portion and a mezzanine level (the Site Building).

The Site Building is reported to have been constructed in approximately 1990 with a footprint area of approximately 76,850 Square Feet (SF) and total building area of approximately 84,150 SF. The Site Building possesses asphalt surfaced parking areas adjacent to the north, west and south elevations of the Site Building with parking for approximately 195 vehicles.

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a steel-framed support structure (i.e., beams, columns and open web steel joists) supporting pre-cast concrete floor slabs and corrugated steel roof decks. The exterior walls of the Site Building consist of smooth finished precast concrete wall panels on all elevations. In addition, prefinished metal panels serving the canopies were noted adjacent to the west and south elevations of the Site Building.

The Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar light industrial/office properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $2,760,000 have been identified. As noted during the Site visit, deficiencies relating to the roof systems, wall systems, elevator systems, interior finishes, Site features

© 2024 Pinchin Ltd.

and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the Built-Up asphalt Roof (BUR) systems within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the windows serving the Site Building within the term of analysis;
- An allowance for modernization of the elevator has been included within the term of analysis;
- Consideration should be given to completing a specialist review of the heating and cooling within the rooms below and at the mechanical mezzanine to ensure that a consistent temperature is attained year-round;
- Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis;
- An allowance has been included for the replacement of the loading bay concrete ramp adjacent to the south elevation of the Site Building in the latter portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the “McQuay” chiller within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the cooling tower within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the 30 Fan-Coil Units (FCUs) within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the three “KDH Industries Ltd.” Air Handling Units (AHUs) within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the four suspended radiant tube heaters within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the Domestic Hot Water (DHW) boiler and storage tank within the term of analysis;
- Based on their age, Pinchin has carried allowances for on-going replacement of the older circulation pumps throughout the term of analysis;
- Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis; and

© 2024 Pinchin Ltd.

- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 3
3.2 Roof Systems 6
3.3 Wall Systems 10
3.4 Structural Elements 12
3.5 Elevator Systems 13
3.6 Interior Finishes 16
3.7 Site Features 21
3.8 Mechanical Systems 24
3.8.1 Major Service Providers 24
3.8.2 Heating, Ventilation and Air Conditioning (HVAC) 25
3.8.3 Domestic Hot Water 27
3.8.4 Plumbing 27
3.8.5 Fire Protection 27
3.9 Electrical Systems 32
3.9.1 Electrical Power 32
3.9.2 Fire Alarm System and Life Safety 32
4.0 KNOWN VIOLATIONS OF CODE 35
5.0 CONCLUSIONS AND RECOMMENDATIONS 35
6.0 TERMS AND LIMITATIONS 37

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 - Site Information 4
Table 3.2 – Roof Systems 7
Table 3.3 – Wall Systems 10
Table 3.4 – Structural Elements 13
Table 3.5 – Elevator Systems 14
Table 3.6 – Interior Finishes 17
Table 3.7 – Site Features 21
Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection) 28
Table 3.9 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 33

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 55 Patterson Road, Barrie, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Client has advised Pinchin that the following documents are available for review:

- "*Baseline Property Condition Report – 55 Patterson Road, Barrie, Ontario*", prepared by Pinchin Ltd., prepared for Alectra Utilities and dated June 5, 2018.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms and Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The elevator systems;
- The interior finishes of the common areas and a selection of the individual premises;
- The Site features;

© 2024 Pinchin Ltd.

- The mechanical systems (i.e., HVAC, domestic hot water, plumbing, etc.); and
- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

© 2024 Pinchin Ltd.

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS

3.1 Site Information



Partial view of the south elevation of the Site Building.



General view of the east elevation of the Site Building.

© 2024 Pinchin Ltd.



Partial view of the west elevation of the Site Building.



Partial view of the north elevation of the Site Building.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Site Address	**55 Patterson Road, Barrie, Ontario**		
Existing Land Use Type	Commercial	*Primary On-Site Activity*	Light Industrial/ Office Building
Multi-Tenant/Single Occupant	Multi-tenant	*Number of Units*	Two
Date First Developed	Unknown	*Site Area*	~ 15.75 acres
Number of Buildings	One	*Building Footprint Area(s)*	~ 76,850 SF
Number of Stories (Excluding Basement)	Single (Partial second storey office at west portion)	*Total Rentable Building Area(s)*	~ 84,150 SF
Date Building(s) Constructed	~ 1990	*Area of Tenant Spaces*	~ 84,150 SF
Date Building(s) Renovated	Ongoing	*Basement and/or U/G Parking*	N/A

© 2024 Pinchin Ltd.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Type of Roof System(s)	Built-Up asphalt Roof (BUR)	*Number of Levels U/G*	N/A
Type of Wall Cladding	Smooth finished precast concrete wall panels Prefinished metal panels	*Area of Roof System(s)*	~ 77,450 SF
Type of Doors	Single Glazed (SG) and Insulated Glass (IG) units within aluminum frames Solid wood doors within metal frames Hollow metal doors within metal frames some complete with Georgian Wired Glass (GWG) Sectional metal overhead doors complete with IG inserts	*Types of Windows*	Fixed IG units within aluminum frames Operable (i.e., awning) IG units within aluminum frames
Number of Above Grade Parking Spaces	195	*Electrical Source*	Alectra Utilities

© 2024 Pinchin Ltd.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Surface Type	Asphalt paved parking areas and driveways Cast-in-place concrete walkways Interlocking concrete paver walkways and patio Gravel surfaced driveways Soft landscaping (i.e., grassed areas with trees)	*Type of Heating/Cooling*	Natural gas-fired heating boilers and water-cooled chillers which feed Fan Coil Units (FCUs), some of which are complete with Variable Air Volume (VAV) terminal units and hydronic suspended unit heaters Cooling tower Plate heat exchangers Electrically-powered Air Handling Units (AHUs) Natural gas-fired overhead infrared radiant tube heaters Electrically powered split-system heat pump units

3.2 Roof Systems

The roof systems of the Site Building consist of conventionally designed, “near-flat” Built-Up asphalt Roof (BUR) systems installed atop a layer of rigid insulation, atop metal roof decks. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing.

Drainage of the roof systems is provided by internal roof drains which presumably drain to the municipal sewer system. The roof systems consist of three main roof systems, one atop the second-floor office portion at the west portion of the Site Building, one section atop the ground floor at the central portion of the Site Building and one atop the garage/warehouse portion at the east portion of the Site Building. An additional secondary BUR system is located atop the canopy at the main entrance at the west portion of the Site Building. The Site Representative reported that the BUR systems are original to the construction of the Site Building; however, following a review of historical aerial imagery of the Site, Pinchin estimates that the west and east main roof sections were replaced between 2002 and 2006 (i.e., ~ 18 to 22 years old.).

© 2024 Pinchin Ltd.

Penetrations through the roof systems consist of plumbing vents, roof drains, skylights, HVAC curbing and pitch pockets serving conduits. The total area of the BUR systems is larger than the footprint area of the Site Building at approximately 77,450 SF due to the decorative canopy at the main entrance. No active leaking within the roof systems was reported during the assessment.

Solar photovoltaic energy systems were noted to have been installed on the upper roof system of the Site Building which reportedly produce electricity for “Alectra Utilities”. As reported to Pinchin by the Site Representatives, the solar photovoltaic energy systems are owned by “Alectra Utilities”.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

Additionally, it should be noted that due to presence of solar panels atop the upper roofs, a thorough assessment of the concealed portions of the roof systems at the east and west portions of the Site Building was not possible at the time of the Site visit; therefore, the visual condition of the covered areas could not be verified.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The BUR systems are estimated to vary in age between 16 to 34 years old and are anticipated to reach the end of their Expected Useful Life (EUL) within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the BUR systems within the term of analysis.
Minor Deficiencies/Findings	
• Areas of asphalt bleed through noted atop the BUR systems.	• Monitor for further deterioration until replacement of the BUR systems is completed.
• Debris accumulation and areas of organic growth noted atop the BUR systems.	• Clear debris and organic growth from the surface of the roof systems as part of ongoing general maintenance.
• Several roof drains were noted to be partially obstructed.	• Ensure all roof drains are unobstructed as part of ongoing general maintenance.
• Perimeter sealants at the skylights were noted to be deteriorated (i.e., aged, de-bonded, etc.).	• Replacement of deteriorated sealants is recommended.

© 2024 Pinchin Ltd.



General view of the BUR system atop the east portion of the Site Building.



General view of the BUR system atop the central portion of the Site Building.



General view of the BUR system atop the west portion of the Site Building.

© 2024 Pinchin Ltd.



View of debris accumulation and organic growth noted atop the BUR system at the east portion of the Site Building.



View of a partial obstructed roof drain.



General view of the BUR canopy above the main entrance.

Note: Location of deteriorated perimeter sealants.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a BUR system typically ranges between 20 to 25 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained. The Site Representative reported that the BUR systems are original to the construction of the Site Building; however, following a review of historical aerial imagery of the Site, Pinchin estimates that the west and east main roof sections were replaced between 2002 and 2006 (i.e., ~ 18 to 22 years old.). Pinchin recommends and has included allowances for the replacement of the BUR systems within the term of analysis. Pinchin also

© 2024 Pinchin Ltd.

recommends that regular annual maintenance be performed on the roof systems throughout the term of the analysis.

3.3 Wall Systems

The exterior walls of the Site Building consist of smooth finished precast concrete wall panels on all elevations. In addition, prefinished metal panels serving the canopies were noted adjacent to the west and south elevations of the Site Building.

The window systems of the Site Building consist of fixed Low-Emissivity (Low-E) Insulated Glass (IG) units, some of which possess operable (i.e., awning) within prefinished aluminum frames set into punched openings and strip configurations. Date stamps observed within the window assemblies indicate 1989 as the year of manufacture of the windows (i.e., ~ 35 years old) where randomly observed.

The door systems of the Site Building consist of Single Glazed (SG) and IG doors complete with SG and IG sidelites within prefinished aluminum frames which serve the main and secondary entrances and vestibule areas. Metal doors, some of which possess GWG inserts within hollow metal frames serve the emergency exits and stairwells. SG doors, some of which possess SG sidelites within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors, which possess IG inserts within hollow metal frames serve the loading dock and drive-in bay areas.

It should be noted that the as-built condition of the fasteners, which secure the precast concrete wall panels to the building structural frame, could not be determined at the time of the Site visit as these components are concealed or inaccessible and could not be observed through a visual inspection.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The windows serving the Site Building are approximately 34 years old and are anticipated to reach the end of their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the windows serving the Site Building within the term of analysis.
Minor Deficiencies/Findings	
• Delaminated cement parging observed at the exposed portions of the concrete foundation walls.	• Re-parge the affected areas with parging cement.

© 2024 Pinchin Ltd.

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
• Minor corrosion noted at the bases of metal door frames and at the sectional overhead metal door frames.	• Clean corrosion from the affected metal door frames and apply a corrosion inhibitive coating.
• Minor staining noted in several locations at the pre-cast concrete wall panels.	• Clean staining from the pre-cast concrete wall panels as part of ongoing general maintenance.



View of an area of delaminated cement parging at the exposed portion of the foundation wall.

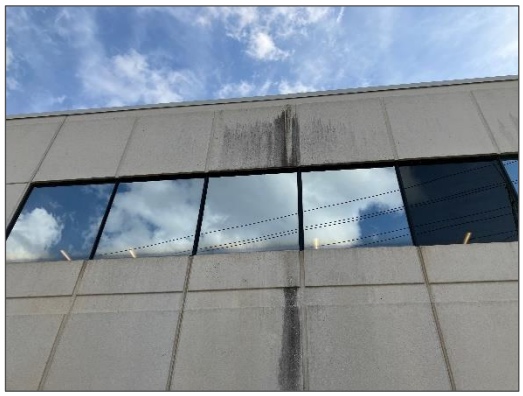


View of minor corrosion at the metal frame of a sectional overhead door.

© 2024 Pinchin Ltd.



View of corrosion noted at the metal door of the Quonset hut.



View of minor staining at pre-case concrete wall panels.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the exception of the above noted deficiencies. Pinchin recommends and has included allowances for the replacement of the windows serving the Site Building within the term of analysis. As long as the above mentioned deficiencies are addressed and that regular annual maintenance is performed, the walls, windows and door systems of the Site Building should continue to perform satisfactorily throughout the term of analysis.

3.4 Structural Elements

As outlined in the scope of work, a visual assessment of the condition of the structural elements was carried out on the elements which were visible at the time of the inspection. The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a steel-framed support structure (i.e., beams, columns and open web steel joists) supporting pre-cast concrete floor slabs and corrugated steel roof decks. No structural drawings were available to Pinchin for review.

© 2024 Pinchin Ltd.

Table 3.4 outlines the findings of the inspection of the structural elements:

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



View of typical structural steel framing within the Site Building.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work. Similarly, the identification and assessment of any post-tension reinforcing is not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure. Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no major deterioration existed within the visibly accessible components of the Site Building.

3.5 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1
Manufacturer:	Otis Elevator Company
Drive System:	Hydraulic
Floors Served	1-2
Date installed:	~ 1989

© 2024 Pinchin Ltd.

Capacity:	907 kg or 12 persons
Function:	Passenger
Alarm:	Yes
Emergency Stop:	Yes
Emergency Phone:	Yes
Emergency Power:	Yes

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by “Otis Elevator Company” on a monthly basis.

Table 3.5 outlines the findings of the inspection of the Elevator Systems:

Table 3.5 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The elevator system serving the Site Building was noted to be approximately 35 years old with no reported major upgrades or modernization on the primary components completed since the date of installation.	• Modernization of the original components of the elevator systems is recommended within the term of analysis. A specialist review of the elevator system is recommended prior to modernization to better understand the condition of the elevator systems and verify the need, timing and cost of modernization. • Note: An allowance for modernization of the elevator has been included within the term of analysis.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.

© 2024 Pinchin Ltd.



View of the hydraulic reservoir.



View of the controls within the elevator cab.



View of interior finishes within the elevator cab.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

Based on Pinchin's experience, minor components may require modernization, due in part to obsolescence, which are not covered under a "full maintenance" contract. Additionally, service personnel capable of performing the numerous adjustments necessary to keep this equipment operating properly

© 2024 Pinchin Ltd.

will become increasingly difficult to find as newer equipment designs become more predominant. Thus, the Owner may be faced with significant modernization costs in order to maintain reasonable service. The elevator system is original to the date of construction of the Site Building in 1989 (i.e., ~ 35 years old) with no reported upgrade or modernization since the date of the installation.

The elevator systems of the Site Building are reportedly performing in a satisfactory manner, however due to the age of the elevator systems, Pinchin recommends that a modernization of the elevator systems be considered within the term of analysis. Pinchin has included an allowance for the modernization of the elevator systems within the term of analysis.

Pinchin also recommends that the client have a review completed on the elevator systems by a qualified elevator consultant to better understand the condition and potential necessary remedial work associated with the elevator systems.

3.6 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment.

The floor finishes within the Site Building consist of vinyl floor tiles and laminated wood floors within the office areas, corridors, lunchroom and elevator machine room, while ceramic floor tiles were noted within the vestibule areas and public washrooms. The floor finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed concrete floor slabs.

The wall finishes within the office areas of the Site Building consist of painted gypsum board finishes throughout, while a combination of ceramic wall tiles and painted gypsum wall boards were noted within the public washrooms. The wall finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed precast concrete wall panels and concrete block masonry walls.

The ceiling finishes within the office areas of the Site Building consist of suspended ceiling assemblies complete with lay-in-tiles and painted gypsum ceiling boards throughout. The ceiling finishes within the warehouse and vehicle service/repair areas consist of exposed steel structural elements (i.e., beams, trusses, OWSJs and steel roof decking), while the ceiling finishes within the storage areas consist of painted concrete ceilings.

© 2024 Pinchin Ltd.

Table 3.6 outlines the findings of the inspection of the interior finishes:

Table 3.6 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Peeling paint, consistent with that seen in environments of varying humidity was noted in the various rooms below the mezzanine.	• Consideration should be given to completing a specialist review of the heating and cooling within the rooms below and at the mechanical mezzanine to ensure that a consistent temperature is attained year-round. • Strip the existing paint and repaint the affected areas.
• The concrete floor slab coating at the mechanical mezzanine was noted to be peeling/deteriorated.	• Pinchin recommends replacing the concrete slab coating at the mechanical mezzanine in the early portion of the term of analysis.
• Several stained ceiling tiles noted within the Site Building.	• Remove the affected ceiling tiles, identify and repair any source of moisture and replace the ceiling tiles.
• Damaged vinyl floor tiles observed in a janitorial closet.	• Replace the damaged vinyl floor tiles.
• Minor step cracking observed in a concrete block masonry wall at the east portion of the Site Building.	• Repoint the mortar in the affected area.
• Masonry joint sealants between concrete block walls and adjacent steel columns noted to be deteriorated (i.e., aged, de-bonded, etc.) at the garage/warehouse areas.	• Replace the deteriorated sealants.
• Minor corrosion noted at the steel staircase at the garage area.	• Clean corrosion from the staircase and apply a corrosion inhibitive coating.

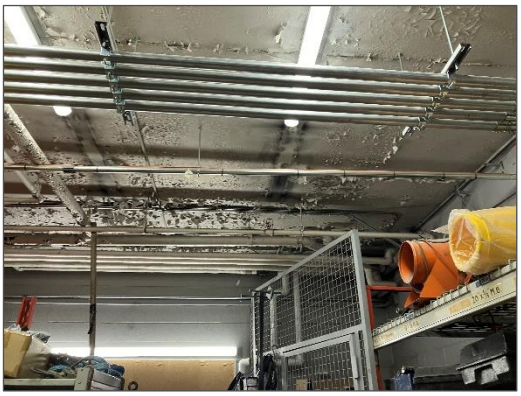
© 2024 Pinchin Ltd.



View of typical interior finishes within the office areas.



View of typical interior finishes within the garage.



View of peeling paint at a room below the mechanical mezzanine.

© 2024 Pinchin Ltd.



View of peeling surface coating at the concrete floor slab at the mechanical mezzanine.

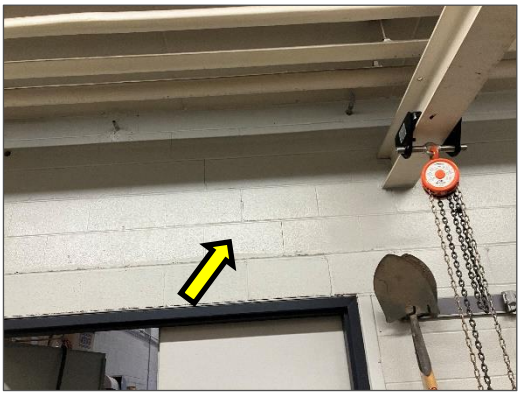


View of a stained ceiling tile.

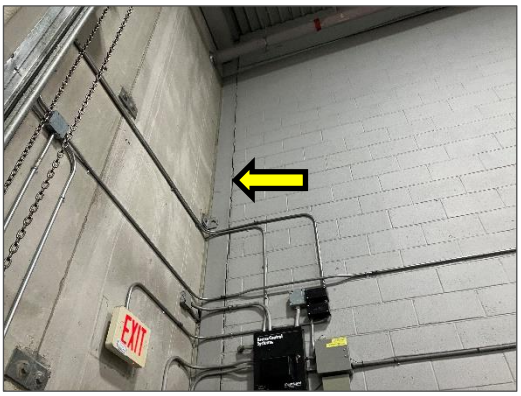


View of damaged vinyl floor tiles within a janitorial closet.

© 2024 Pinchin Ltd.



View of the location of step cracking at a masonry wall.



View of the location of a deteriorated masonry joint sealant.



View of corrosion noted at a steel staircase.

The interior finishes within the Site Building were generally observed to be in satisfactory condition with the exception of the above referenced minor deficiencies. Consideration should be given to completing a specialist review of the heating and cooling within the rooms below the mechanical mezzanine to ensure that a consistent temperature is attained year-round. Pinchin recommends that the above referenced minor deficiencies be addressed and that regular annual maintenance of the interior finishes be performed throughout the term of analysis.

© 2024 Pinchin Ltd.

3.7 Site Features

The Site Building occupies approximately 11% of the 15.75 acre Site. The remainder of the Site is surfaced with soft landscaping (i.e., grassed areas with trees) and parking areas surfaced with asphalt pavement. The asphalt paved parking areas are located on the north, west and south portions of the Site with parking provisions for approximately 195 vehicles. The asphalt paved parking areas were noted to be bordered by cast-in-place concrete curbs, walkways and soft landscaping.

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

Gravel-surfaced driveways are located on the central and south portions of the Site. Areas of soft landscaping (i.e., grass, trees, shrubs, etc.) are located at the perimeters of the Site as well as adjacent to the south elevation of the Site Building. Interlocking concrete unit paver walkways serve the main and secondary entrance areas located adjacent to the north, west and south elevations of the Site Building. Cast-in-place concrete aprons complete with cast-in-place concrete retaining walls and metal guardrails serve the loading dock areas located adjacent to the south elevation of the Site Building. A cast-in-place concrete pad is located on the central portion of the Site and is used for the storage of electrical equipment, primarily transformers. Concrete block masonry retaining walls are located on the east portion of the Site. Chain link fences are located on the perimeters of the Site. Automatically sliding and metal chain link gates complete with chain linked fences are located on the north and south portions of the Site. Additionally, a wood framed Quonset hut complete with a fabric roof is located on the central portion of the Site.

Vehicular access to the Site is provided by two entranceways from Patterson Road located on the northwest portion of the Site and an entranceway from Morrow Road located on the south portion of the Site.

Table 3.7 outlines the findings of the inspection of the Site features:

Table 3.7 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Areas of alligator cracking noted in several locations throughout the asphalt paved surfaces of the Site.	• Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis.

© 2024 Pinchin Ltd.

Table 3.7 – Site Features

Findings	Remarks/Recommendations
Minor Deficiencies/Findings	
• Corrosion noted at the base of impact bollards adjacent to the south elevation of the Site Building. • Corrosion observed at the metal railings at the loading bay staircase adjacent to the south elevation of the Site Building.	• Clean corrosion from the affected surfaces and apply a corrosion inhibitive coating.
• Scaling concrete and linear cracking observed at the concrete loading bay ramp adjacent to the south elevation of the Site Building.	• Rout and seal cracking in the concrete ramp. An allowance has been included for the replacement of the concrete ramp in the latter portion of the term of analysis.
• Scaling concrete noted at the low rising concrete retaining walls at the soft landscaping elements adjacent to the south and west elevations of the Site Buildings.	• Replacement of the affected low rising concrete retaining walls is recommended.



General view of the asphalt paved surface on the central portion of the Site.



View of the interior of the Quonset hut.

© 2024 Pinchin Ltd.



View of an area of alligator cracking noted at an asphalt paved surface of the Site.



View of corrosion noted at the base of impact bollards adjacent to the south elevation of the Site Building.



View of corrosion noted at metal railings at the loading ramp adjacent to the south elevation of the Site Building.

© 2024 Pinchin Ltd.



View of scaling concrete and a linear crack at the loading bay ramp adjacent to the south elevation of the Site Building.



View of scaling concrete noted at a low rising concrete retaining wall adjacent to the west elevation of the Site Building.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis. An allowance has been included for the replacement of the concrete ramp at the loading bay adjacent to the south elevation of the Site Building in the latter portion of the term of analysis. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

3.8 Mechanical Systems

3.8.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Barrie
Electric	-	Alectra Utilities
Sewer	-	City of Barrie
Natural Gas	-	Enbridge

© 2024 Pinchin Ltd.

Police	-	Barrie Police Service
Fire	-	Barrie Fire Department

3.8.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating, ventilation and cooling within the Site Building are provided by HVAC equipment described as follows:

- Heating within the Site Building is provided by a closed-circuit hydronic heating loop generated by three “RBI” natural gas-fired heating boilers which are located within the mezzanine boiler room. Based on review of data plates, the heating boilers were manufactured in 2020, 2021 and 2023 (i.e., approximately 1, 3 and 4 years old) and possess maximum input heating capacities of 1,250,000 British Thermal Units per Hour (BTUH) each. Heating within the office areas of the Site Building is delivered by heating coils within electrically powered Fan Coil Units (FCUs), some of which are complete with Variable Air Volume (VAV) terminal units located within the ceiling spaces. In addition, heating within the warehouse and storage areas is delivered by hydronic suspended unit heaters;
- Cooling within the Site Building is provided by two “Daikin” and “McQuay” water-cooled chillers which feeds the cooling coils within the FCUs. The chillers reject heat to a rooftop “Primus” cooling tower. There are condense water and chilled water circulation pumps located within the mezzanine mechanical room, which circulates water between the chiller and cooling tower. Based on review of the chiller data plates, the chillers were manufactured in 2003 and 2014 (i.e., approximately 10 and 21 years old) and possess a nominal cooling capacity of 40 tons, each. The chillers possess R22 and R10A refrigerants. Based on review of the cooling tower data plate, the cooling tower was manufactured in 2003 (i.e., approximately 21 years old) and possesses a nominal cooling capacity of 128 tons. The cooling tower is installed with a filtration system and a chemical treatment system;
- There are reportedly 30 “Snyder General” electrically powered FCUs and five VAV terminal units located within the ceiling space of the Site Building. The “Snyder General” FCUs were reportedly manufactured in 1989 (i.e., approximately 35 years old);

© 2024 Pinchin Ltd.

- Free cooling within the shoulder seasons and cold weather is achieved via one “Alfa-Laval”, one “Armstrong” and one “Schmidt” plate heat exchangers, which maintain the loop temperature. Based on review of data plates, the heat exchangers were manufactured in 2003, 2004 and 2020 (i.e., approximately 4, 20 and 21 years old respectively);
- Additional heating, cooling and fresh air delivery within the office areas and boot drying room of the Site Building is provided by one “Engineered Air” and one “Haakon Industries” electrically powered Air Handling Units (AHUs) located within the 2nd floor mechanical room and boot drying room. Based on review of the “Haakon Industries” data plate, the AHU was manufactured in 2014 (i.e., approximately 4 years old), while based on information provided by the Site Representative regarding the “Engineered Air” unit, the AHU is reportedly less than 5 years old;
- Additional heating and fresh air delivery within the vehicle service/repair and warehouse areas of the Site Building is provided by three “KDH Industries Ltd.” electrically powered AHUs located within the 2nd floor mechanical room, mounted to the roof and suspended from the ceiling within the garage. Based on information provided by the Site Representative, the AHUs are original to the time of construction of the Site Building in 1990 (i.e., approximately 34 years old);
- Additional heating within the warehouse area of the Site Building is provided four “Gasmac” natural gas-fired overheard infrared radiant tube heaters. Due to limited access to the data plates, the ages and heating capacities could not be determined; however, as reported to Pinchin by the Site Representatives, the radiant tube heaters are original to the construction of the Site Building in 1990 (i.e., approximately 34 years old);
- Additional cooling within selective rooms of the Site Building is provided by five “Daikin”, “Comfort Aire” and “Mitsubishi Electric” electrically powered split system heat pump units. Based on review of the “Daikin” data plates, the “Daikin” heat pump units were manufactured in 2016 and 2017 (i.e., ~ 7 and 8 years old) and possess nominal cooling capacities of 2 and 4 tons. The ages of the remaining ductless AC units could not be determined; however, one ductless AC unit is estimated to be between 10 and 15 years old and two ductless AC units are estimated to be between 15 and 20 years old;
- Supplementary heating within the Site Building is provided by electrically powered suspended space heaters; and
- An electrically powered wall mounted humidifier was reportedly installed in approximately 2021 to serve the office areas of the Site Building.

© 2024 Pinchin Ltd.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.8.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by one "A.O. Smith" electrically powered self-contained DHW boiler which also supplies hot water to one "Viessmann" DHW storage tank located within the 2nd floor mechanical room. Based on review of the DHW boiler data plate, the DHW boiler was manufactured in 1989 (i.e., approximately 35 years old) and possesses a maximum input heating capacity of 81,912 BTUH and a storage capacity of 52 U.S. gallons. Based on review of the DHW storage tank data plate, the DHW storage tank was manufactured in 2007 (i.e., approximately 17 years old) and possesses a storage capacity of 79 U.S. gallons. There was no shortage of hot water noted or reported to Pinchin at the time of the Site visit.

3.8.4 Plumbing

Drainage piping within the Site Building consists of Acrylonitrile Butadiene Styrene (ABS) and cast-iron as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems, the condition of the systems could not be verified.

The main water lines are located in the main sprinkler room of the Site Building. A 2" backflow prevention device manufactured by "Watts" was observed with recent inspection completed by "Full Moon Plumbing Inc." in September 2023.

3.8.5 Fire Protection

Fire protection within the Site Building is provided by sprinkler systems which provide protection throughout all accessed areas of the building. A cabinet containing an extra supply of sprinkler heads and an installation tool was noted within the sprinkler room. The main sprinkler piping appears to be equipped with a "Watts" backflow prevention device and was noted to possess an up-to-date annual inspection tag completed by "Full Moon Plumbing Inc." in September 2023.The sprinklers are reportedly equipped with electronic flow alarms which are tied to the fire alarm panel and monitored by "Convergint", an independent contractor. The fire protection systems are reportedly serviced annually by "OFS Fire

© 2024 Pinchin Ltd.

Prevention" and were last inspected in March 2023. Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted within strategic locations and by fire hoses which are located in the warehouse area.

Fire protection within the server and telephone equipment rooms of the Site Building is provided by chemical suppression systems. The chemical suppression systems are activated manually by pull stations and automatically by fusible links. The chemical suppression systems are reportedly monitored by "Convergint", an independent contractor. The fire suppression systems were noted to possess up-to-date annual inspection tags indicating the most recent inspection in September 2023 by "OFS Fire Prevention". The inspection gauges on the fire suppression systems were noted to be charged to sufficient levels.

Table 3.8 outlines the findings of the inspection of the mechanical systems:

Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The "McQuay" chiller is approximately 21 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the "McQuay" chiller within the term of analysis.
• The cooling tower is approximately 21 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the cooling tower within the term of analysis.
• The 30 FCUs are reportedly 35 years old and are anticipated to have surpassed their EUL.	• Pinchin recommends and has included allowances for the replacement of the FCUs within the term of analysis.
• The three "KDH Industries Ltd." AHUs are approximately 34 years old and are anticipated to have surpassed their EUL.	• Pinchin recommends and has included allowances for the replacement of the three "KDH Industries Ltd." AHUs within the term of analysis.
• The four "Gasmac" suspended radiant tube heaters are reportedly 34 years old and are anticipated to have surpassed their EUL.	• Pinchin recommends and has included allowances for the replacement of the four suspended radiant tube heaters within the term of analysis.
• The DHW boiler and storage tank are anticipated to reach the end of their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the DHW boiler and storage tank within the term of analysis.

© 2024 Pinchin Ltd.

Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection)

Findings	Remarks/Recommendations
• A leaking drainage pipe was observed in the garage area at the east portion of the Site Building.	• Repair the leaking drainage pipe and monitor for further deterioration throughout the term of analysis.
• It was reported to Pinchin that several of the circulation pumps serving the heating and cooling hydronic loop leak periodically. Given the observed condition of several of the pumps, Pinchin estimates that these units are original to the construction of the Site Building (i.e., ~ 34 years old).	• Based on their age, Pinchin has carried allowances for on-going replacement of the older circulation pumps throughout the term of analysis.



View of the heating boilers.



View of the chillers serving the Site Building.

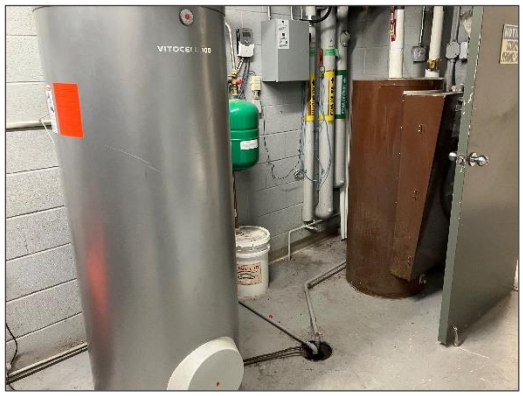
© 2024 Pinchin Ltd.



View of the cooling tower.



View of an AHU within the second floor mechanical room.



View of the DHW boiler and storage tank.

© 2024 Pinchin Ltd.



View of the main incoming domestic water line and backflow prevention device.



View of the main sprinkler piping.



View of a leaking drainage pipe within the garage area at the east portion of the Site Building.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Due to the current age of the heating and cooling equipment serving the building, Pinchin has included allowances for the replacement of select units as noted above. Pinchin has also included allowances for the replacement of the DHW boiler and storage tank. Assuming that regular annual maintenance is performed, the mechanical systems should continue to perform satisfactorily throughout the term of analysis.

© 2024 Pinchin Ltd.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.9 Electrical Systems

3.9.1 Electrical Power

The electrical power for the Site Building is supplied from a pad-mounted transformer adjacent to the south elevation of the Site Building which feeds the main electrical room via underground wires. The electrical service for the Site Building includes a “Siemens” main switchgear with a maximum rating of 1,600 Amperes based on the attached data plate.

The Site Building within the Site Building possesses a 375 kW “Generac” natural gas-fired emergency power generator was noted adjacent to the south elevation. It was reported to Pinchin that the maintenance and replacement of the generator is an owner responsibility. Power to the Site Building is automatically transferred via an automatic transfer switch. The automatic transfer switch was also noted to be manufactured by “Generac”. It was reported that the generator set and automatic transfer switch are approximately 19 years old. Inspections and servicing of the emergency generator is reportedly performed by “Total Power” an independent contractor on a quarterly basis. It was reported that the emergency generator can supply power to the entire building.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.9.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Notifier” fire alarm panel. The main fire alarm panel is located within the secondary entrance vestibule. The fire alarm system monitors flow control switches/sensors within the sprinkler systems, the sub fire alarm control panels located within the server and telephone equipment rooms as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. Based on a review of the data plate, the fire alarm panel was manufactured in 2007 (i.e., ~ 17 years old). The systems are reportedly monitored by an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “OFS Fire Prevention” an independent contractor with the last date of inspection for the fire alarm panel and associated systems taking place in March 2023. Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by the emergency generator in the event of a power outage.

© 2024 Pinchin Ltd.

Table 3.9 outlines the findings of the inspection of the electrical systems:

Table 3.9 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The fire alarm panel is approximately 17 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc.
• Pinchin noted two exit signs that were not illuminated.	• Ensure all exit signs are properly illuminated throughout the Site Building.
• The emergency generator is approximately 19 years old and is approximately at its mid-life.	• Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.



View of the main switchgear unit serving the Site Building.

© 2024 Pinchin Ltd.



View of the emergency generator.



View of the emergency generator automatic transfer switch.



View of the fire alarm panel.

© 2024 Pinchin Ltd.



View of emergency lighting and exit sign.

Note: this unit was not illuminated at the time of the Site assessment.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner at the time of the Site assessment.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted attached date plates. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required. Given the age of the fire alarm panel, Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc. Pinchin also recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

The electrical and life safety systems should continue to perform satisfactorily throughout the term of analysis assuming regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 27, 2024 the Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar light industrial/ office properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

© 2024 Pinchin Ltd.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

As noted during the Site visit, deficiencies relating to the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the BUR systems within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the windows serving the Site Building within the term of analysis;
- An allowance for modernization of the elevator has been included within the term of analysis;
- Consideration should be given to completing a specialist review of the heating and cooling within the rooms below and at the mechanical mezzanine to ensure that a consistent temperature is attained year-round;
- Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis;
- An allowance has been included for the replacement of the loading bay concrete ramp adjacent to the south elevation of the Site Building in the latter portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the “McQuay” chiller within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the cooling tower within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the 30 FCUs within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the three “KDH Industries Ltd.” AHUs within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the four suspended radiant tube heaters within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the DHW boiler and storage tank within the term of analysis;

© 2024 Pinchin Ltd.

- Based on their age, Pinchin has carried allowances for on-going replacement of the older circulation pumps throughout the term of analysis;
- Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis; and
- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly, the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 –*

© 2024 Pinchin Ltd.

15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator, mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

© 2024 Pinchin Ltd.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

© 2024 Pinchin Ltd.

APPENDIX I
Table 1 – Summary of Anticipated Expenditures

Baseline Property Condition Assessment
55 Patterson Road
Barrie, Ontario

Table 1: Summary of Anticipated Expenditures

Confidential

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (BUR systems replacement allowance)	~20-25	~18-34	~0-7	77,450	SF	$20	$1,549,000		$188,000				$1,361,000						$1,549,000
Roof Structures and Roofing (General Maintenance) Below Threshold																			
Wall Systems																			
Exterior Walls (General Maintenance) Below Threshold																			
Exterior Windows and Doors (Window Replacement Allowance)	~35-40	~34	~1-6	1	LS	$240,000	$240,000			$40,000		$40,000		$80,000		$80,000			$240,000
Structural Elements																			
Foundations																			
Superstructure																			
Vertical Transportation Systems																			
Elevator Systems (Modernization Allowance)	~25	~34	0	1	LS	$120,000	$120,000			$120,000									$120,000
Elevator Systems																			
Interior Finishes																			
Interior Finishes (General Maintenance) Below Threshold																			
Site Features																			
Parking and Paving (Asphalt Repair/Replacement Allowance)	Varies	Varies	Varies	1	LS	$240,000	$240,000				$80,000				$80,000			$80,000	$240,000
Concrete Ramp - Loading Bay (Replacement Allowance)	Varies	Varies	Varies	1	LS	$20,000	$20,000									$20,000			$20,000
Fencing																			
Mechanical Systems																			
Building Heating and Cooling ("McQuay" Chiller Replacement Allowance)	~25	~21	~4	1	EA	$100,000	$100,000					$100,000							$100,000
Building Heating and Cooling (Cooling Tower Replacement Allowance)	~20	~21	0	1	EA	$60,000	$60,000				$60,000								$60,000
Building Heating and Cooling (30 FCUs Replacement Allowance)	~20	~35	0	30	EA	$4,000	$120,000		$24,000		$24,000		$24,000		$24,000		$24,000		$120,000
Building Heating and Cooling ("KDH Industries Ltd." AHUs Replacement Allowance - 3 Units)	~20	~34	0	1	LS	$200,000	$200,000				$100,000			$100,000					$200,000
Building Heating and Cooling (Suspended Radiant Tube Heaters Replacement Allowance - 4 Units)	~20	~34	0	1	LS	$16,000	$16,000			$8,000	$8,000								$16,000
Building Heating and Cooling (Circulation Pumps Replacement Allowance)	~30	~34	0	1	LS	$30,000	$30,000		$10,000				$10,000				$10,000		$30,000
Hot Water (DHW Boiler and Storage Tank Replacement Allowance)	~15-20	~17-35	~0-3	1	LS	$15,000	$15,000		$15,000										$15,000
Fire Protection																			
Electrical Systems																			
Electrical Systems (Emergency Generator Mechanical Overhaul)	~30-35	~19	~11-16	1	LS	$20,000	$20,000			$20,000									$20,000
Fire and Life Safety Systems (Fire Alarm Panel Replacement Preliminary Allowance)	~20	~17	~3	1	LS	$30,000	$30,000				$30,000								$30,000
							TOTALS (UNINFLATED)	**$0**	**$237,000**	**$188,000**	**$302,000**	**$140,000**	**$1,395,000**	**$180,000**	**$104,000**	**$100,000**	**$34,000**	**$80,000**	**$2,760,000**
							INFLATION FACTOR	**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
							TOTALS (INFLATED)		**$237,000**	**$193,640**	**$320,120**	**$152,600**	**$1,562,400**	**$207,000**	**$122,720**	**$121,000**	**$42,160**	**$101,600**	**$3,060,240**

Term of Analysis	**10**
Cost Threshold	**$5,000**

Total SF within the Site Building(s)	**84,150**
Average Cost per SF per Year (Uninflated)	**$3.28**
Average Cost per SF per Year (Inflated)	**$3.64**

LS - Lump Sum

SF - Square Foot

EA - Each (per unit component)

LF - Linear Foot



FINAL

Baseline Property Condition Assessment

80 Addiscott Court, Markham, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West
Mississauga, ON L5N 7A6

March 25, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 25, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Moe Kheil, Dipl. T (Civil), BEng
Senior Project Technologist
226.688.8621
mkheil@pinchin.com

Assessor:
Brandon Lane
Senior Project Technologist
289.776.9756
blane@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Team Leader
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 80 Addiscott Court, Markham, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 29, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is an irregular-shaped property approximately 16.9 acres in area. The Site is occupied by a single-storey light industrial building complete with a two-storey office portion and a mezzanine level (the Site Building).

The Site Building is reported to have been constructed in approximately 2009 with an approximate footprint area of 96,500 Square Feet (SF) and total building area of 107,000 SF (excluding the mezzanine level). It is noted that in addition to the Site Building, a detached 3,000 SF transformer building is located on the east portion of the Site and a security booth is located adjacent to the north elevation of the Site Building. Grade level parking and driveways surround the Site Building with parking for approximately 263 vehicles.

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) with cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a steel frame support structure (i.e., columns, beams, and Open Web Steel Joists (OWSJs)) supporting composite floor slabs (i.e., concrete poured over steel decking) and corrugated steel roof decking. The substructure of the transformer building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and cast-in-place concrete foundation walls. Based on our visual observations, the superstructure of the transformer station building is presumed to be constructed with a steel frame support structure (i.e., columns, beams and OWSJs) supporting corrugated steel roof decking.

The exterior walls of the Site Building consist of smooth finished and vertical ribbed precast concrete wall panels on all elevations, while glass and aluminum curtain wall systems are located on the north elevation. In addition, the exterior walls of the transformer station building consist of architectural concrete block masonry with portions of concrete block masonry on all elevations.

The Site Building appears to be in satisfactory condition, and in comparable standing to other similar light industrial/ office properties in the area.

© 2024 Pinchin Ltd.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $2,545,500 have been identified. As noted during the Site visit, deficiencies relating to the minor repair to the roof systems, wall systems, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the Thermoplastic Polyolefin (TPO) membrane system serving the Site Building within the term of analysis;
- Pinchin recommends and has included a contingency allowance, as Pinchin was unable to visually assess the Ethylene Propylene Diene Monomer (EPDM) membrane, for the replacement of the EPDM membrane system at the transformer station building within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the pre-cast concrete wall panel joint sealants;
- Allowances for the repair/replacement of areas of deteriorated asphalt pavement;
- Allowances for phased-in replacement of twelve Heating, Ventilation, and Air Conditioning (HVAC) units;
- Allowances for phased-in replacement of one Make-Up Air (MUA) unit;
- Allowances for replacement of the Air Conditioning (AC) units;
- Allowances for phased-in replacement of five Energy Recovery Ventilator (ERV) units;
- Allowance for replacement of the Heat Recovery Ventilator (HRV) unit;
- Allowances for phased-in replacement of six radiant tube heaters;
- Allowances for phased-in replacement of the ductless AC; and
- Allowance for a mid-life mechanical overhaul of the emergency generator.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

© 2024 Pinchin Ltd.

Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 4
3.2 Roof Systems 7
3.3 Wall System 10
3.4 Structural Elements 14
3.5 Underground Parking Garage 15
3.6 Elevator Systems 16
3.7 Interior Finishes 18
3.8 Site Features 21
3.9 Mechanical Systems 24
3.9.1 Major Service Providers 24
3.9.2 Heating, Ventilation and Air Conditioning (HVAC) 24
3.9.3 Domestic Hot Water 25
3.9.4 Plumbing 26
3.9.5 Fire Protection 26
3.10 Electrical Systems 32
3.10.1 Electrical Power 32
3.10.2 Fire Alarm System and Life Safety 32
4.0 KNOWN VIOLATIONS OF CODE 35
5.0 CONCLUSIONS AND RECOMMENDATIONS 35
6.0 TERMS AND LIMITATIONS 37

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 – Site Information 4
Table 3.2 – Roof Systems 8
Table 3.3 – Wall Systems 11
Table 3.4 – Structural Elements 15
Table 3.5 – Underground Parking Garage 15
Table 3.6 – Elevator Systems 16
Table 3.7 – Interior Finishes 18
Table 3.8 – Site Features 22
Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection) 27
Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 33

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 80 Addiscott Court, Markham, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 29, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies in relation to the due diligence of the Site.

The Client has advised Pinchin that the following documents are available for review:

- "*Baseline Property Condition Assessment – 80 Addiscott Court, Markham, Ontario*", prepared by Pinchin Ltd., prepared for Alectra Utilities and dated May 24, 2018.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms & Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The elevator systems;
- The interior finishes of the common areas and a selection of individual tenant premises;
- The Site features;

© 2024 Pinchin Ltd.

- The mechanical systems (i.e., HVAC, domestic hot water, etc.); and
- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

© 2024 Pinchin Ltd.

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS



General view of the east elevation of the Site Building.



General view of the north elevation of the Site Building.

© 2024 Pinchin Ltd.



General view of the south elevation of the Site Building.



General view of the west elevation of the Site Building.



General view of the transformer station building serving the Site.

3.1 Site Information

Table 3.1 – Site Information

Site Occupant/Name	Alectra Utilities
Site Address	80 Addiscott Court, Markham, Ontario

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Existing Land Use Type	Commercial/Light Industrial	*Primary On-Site Activity*	Offices Warehouses Vehicle service/repair
Multi-Tenant/Single Occupant	Single-Occupant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 16.9 acres
Number of Buildings	One with a transformer station building	*Building Footprint Area(s)*	Site Building: ~ 96,500 SF Transformer station building: ~ 3,000 SF
Number of Stories above grade	Single-storey complete with a two-storey office portion and a mezzanine level	*Total Rentable Building Area(s)*	Site Building: ~ 107,000 SF (excluding the mezzanine level) Transformer station building: ~ 3,000 SF
Date Building(s) Constructed	~ 2009	*Area of Tenant Spaces*	Site Building: ~ 107,000 SF (excluding the mezzanine level) Transformer station building: ~ 3,000 SF
Date Building(s) Renovated	Ongoing interior fit-ups	*Basement and/or U/G Parking*	N/A
Type of Roof System(s)	Thermoplastic Polyolefin (TPO) membrane roof system Fully-adhered Ethylene Propylene Diene Monomer (EPDM) roof system	*Number of Levels U/G*	N/A

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Type of Wall Cladding	Curtain wall glazing Pre-cast concrete panels Architectural concrete block masonry Concrete block masonry	*Area of Roof System(s)*	TPO roof system: ~ 96,500 SF EPDM roof system: ~ 3,000 SF
Type of Doors	Insulated Glass (IG) units within aluminum frames Single Glazed (SG) units within aluminum, wood and metal frames Hollow metal doors within metal frames some are complete with Georgian Wired Glass (GWG) Insulated sectional metal overhead doors	*Types of Windows*	Fixed IG units within aluminum frames curtain wall configuration
Above Grade Parking Area	Asphalt surfaced ~ 263 spaces	*Electrical Source*	Alectra Utilities
Surface Type	Asphalt paved parking areas and driveways Gravel surfaced storage areas and driveways Soft landscaping (i.e., grassed areas with trees) Cast-in-place concrete walkways	*Type of Heating/Cooling*	Natural gas-fired heating and electrically-powered cooling rooftop packaged Heating, Ventilation and Air Conditioning (HVAC) units Natural gas-fired rooftop Make-Up Air (MUA) units Electrically-powered rooftop air-cooled condensing units Electrically-powered rooftop Energy Recovery Ventilator (ERV) units

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	Alectra Utilities		
			Electrically-powered suspended Heat Recovery Ventilator (HRV) unit Natural gas-fired overheard infrared radiant tube heaters Electrically-powered ductless rooftop and wall-mounted Air Conditioning (AC) units complete with wall-mounted units Electrically-powered grade-mounted AC units Electrically-powered forced-air wall-mounted heaters

3.2 Roof Systems

The roof systems of the Site Building consist of a conventionally-designed, “near-flat”, Thermoplastic Polyolefin (TPO) membrane roof system, installed atop a layer of rigid thermal insulation atop corrugated steel roof decking. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing.

In addition, the roof system atop the transformer station building consists of a fully-adhered Ethylene Propylene Diene Monomer (EPDM) roof system roof system, installed atop rigid thermal insulation atop roof decking. Neither the presence of a vapour barrier, nor the type or thickness of the insulation could be verified during the inspection of the roof systems, as the scope of the work did not include destructive testing.

© 2024 Pinchin Ltd.

Drainage of the roof systems is provided by a combination of internal roof drains which presumably drain to the municipal sewer system and perimeter roof scuppers complete with eavestroughs which discharge at grade level. The roof systems at the Site Building consist of an upper roof and two lower roofs: the upper roof is situated atop the east portion, while the lower roofs are situated atop the west portion and the garbage/recycling disposal room. As reported to Pinchin by the Site Representative, the TPO roof systems atop the Site Building and the EPDM roof system atop the transformer station building are original to the date of their construction in 2009 (i.e., ~ 15 years old).

Penetrations through the roof system consist of roof hatch, pitch pockets/cones, exhausts fans, plumbing and combustion vents, HVAC curbs and screen panel posts. The total area of the TPO and EPDM membrane roof systems is similar to the building footprint areas at approximately 96,500 SF for the Site Building and approximately 3,000 SF for the transformer station building.

The upper roof was accessed via a roof hatch complete with a metal ladder located within the roof access room on the 2nd floor level of the Site Building. No active or previous roof leaks within the roof system were noted or reported to Pinchin at the time of the Site visit.

It should be noted that due to limited access to the roof system atop the garbage/recycling disposal room of the Site Building, a thorough assessment of the roof system atop the garbage/recycling disposal room was not possible at the time of the Site visit; however, it is estimated that the type and condition of the roof system atop the garbage/recycling disposal room is similar to the remaining portions of the roof system of the Site Building.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The TPO membrane systems serving the Site Building are reportedly 15 years old and are anticipated to reach the end of their Expected Useful Life (EUL) within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the TPO membrane systems serving the Site Building within the term of analysis.
• The EPDM membrane system atop the transformer station building is reportedly approximately 15 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included a contingency allowance, as Pinchin was unable to visually assess the EPDM membrane, for the replacement of the EPDM membrane systema at the transformer station building within the term of analysis.

© 2024 Pinchin Ltd.

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Minor Deficiencies/Findings	
• Areas of water ponding were noted at various locations atop the TPO roof system.	• Monitor areas of ponding water atop the roof systems for further deterioration throughout the term of analysis and ensure the roof drains are unobstructed as part of regular general maintenance of the roof systems.
• Broken concrete unit pavers were noted atop the TPO roof system.	• Replace the broken concrete unit pavers.
• Debris (i.e., soil) was noted at various locations atop the TPO roof system.	• Remove/clean the debris as part of regular general maintenance of the roof systems.



General view of the TPO roof system atop the Site Building.



View of typical water ponding and staining noted on the TPO system atop the Site Building.

© 2024 Pinchin Ltd.



General view of a broken concrete unit paver noted atop the lower TPO roof system.



View of typical staining and debris noted on the TPO system atop the Site Building.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a TPO roof system and an EPDM membrane ranges between 17 to 20 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained.

The roof systems atop the Site Building were noted to be in satisfactory condition with the exception of the above-noted deficiencies. The roof systems atop the Site Building and transformer building are reportedly approximately 15 years old. As such, Pinchin has carried allowances for the replacement of the TPO and EPDM systems within the term of analysis. Pinchin also recommends that regular annual maintenance be performed on the roof systems throughout the term of the analysis.

3.3 Wall System

The exterior walls of the Site Building are clad with smooth finished and vertical ribbed precast concrete wall panels on all elevations, while glass and aluminum curtain wall systems are located on the north elevation. In addition, the exterior walls of the transformer station building consist of architectural concrete block masonry with portions of concrete block masonry on all elevations. The back-up system was not visible within the areas accessed.

The window systems of the Site Building consist of glass and aluminum curtain wall system configurations consisting of fixed Insulated Glass (IG) vision units and non-vision spandrel panels within aluminum

© 2024 Pinchin Ltd.

frames on the north elevation. Fixed IG units, some of which are above spandrel panels within prefinished aluminum frames set into punched and strip configurations are located on the north, east and south elevations of the Site Building. Based on the date stamped on the examined window spacers, the IG units were manufactured in 2009 (i.e. ~ 15 years old).

The door systems of the Site Building consist of IG doors complete with IG sidelites and transom units within prefinished aluminum frames which serve the main entrance area. A Single Glazed (SG) door within prefinished aluminum frames serves the vestibule area. Metal doors, some of which possess Georgian Wired Glass (GWG) inserts and IG sidelites and transom units, within hollow metal frames serve the emergency exits and stairwells as well as the entrances to the transformer building. SG doors some of which possess SG sidelites within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors within hollow metal frames serve the loading dock and drive-in bay areas.

Solar photovoltaic energy systems were noted to have been installed on the south elevation of the Site Building which reportedly produces electricity for “Alectra Utilities”. As reported to Pinchin by the Site Representative, the solar photovoltaic energy systems are owned by “Alectra Utilities” and are original to the construction of the Site Building in 2009 (i.e., ~ 15 years old).

It should be noted that the as-built condition of the fasteners which secure the precast concrete wall panels and curtain wall system framing to the building structural frame and floor slabs could not be determined at the time of the Site visit, as these components are concealed and could not be observed through a visual inspection.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Localized areas of deteriorated wall joint sealants between the precast concrete wall panels were noted at various elevations of the Site Building.	• Replace the deteriorated wall joint sealants.
• Tearing at the fabric of a dock seal noted on the north elevation of the Site Building.	• Patch the tearing in the damaged loading dock seal.
• A localized area of cracking in the precast concrete wall panel was noted on the east elevation of the Site Building.	• Repair/patch the cracking in the precast concrete wall panel.

© 2024 Pinchin Ltd.

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
• Corrosion on the metal door frames and loading dock levellers were noted at various elevations of the Site Building.	• Remove/sand the corrosion on the metal door frames and loading dock levellers and repaint with corrosion inhibitive coating.



General view of the exterior cladding of the Site Building.



General view of the exterior cladding of the transformer station building.



General view of the solar photovoltaic energy systems installed on the south elevation of the Site Building.

© 2024 Pinchin Ltd.



View of wall joint sealants between the precast concrete wall panels.



View of tearing fabric at a loading dock seal and corrosion on the loading dock leveller noted on the north elevation of the Site Building.



View of typical cracking in the precast concrete wall panel serving the Site Building.

© 2024 Pinchin Ltd.



View of typical corrosion on the metal door frames noted on the east elevation of the Site Building.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the above noted deficiencies. The Site Representative did not report any issues (i.e., moisture infiltration, precast concrete panel displacement, masonry bowing, etc.) within the wall systems.

Pinchin has carried allowances for current and anticipated repairs to the exterior wall systems (i.e., localized replacement of the wall joint sealants) throughout the term of analysis.

Assuming the above mentioned deficiencies are addressed and that regular annual maintenance is performed there should be no other major expenditures required relating to the walls, windows and door systems of the Site Building throughout the term of the analysis.

3.4 Structural Elements

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) with cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a steel frame support structure (i.e., columns, beams, cross-bracings and Open Web Steel Joists (OWSJs)) supporting composite floor slabs (i.e., concrete poured over steel decking) and corrugated steel roof decks. The substructure of the transformer station building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and cast-in-place concrete foundation walls. Based on our visual observations, the superstructure of the transformer building appears to be constructed with a steel frame support structure (i.e., columns, beams and OWSJs) supporting corrugated steel roof decking.

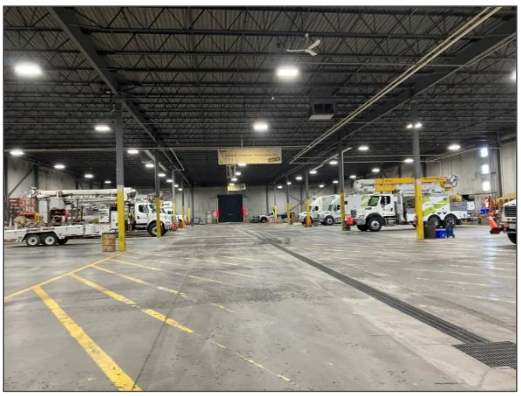
The Site Representative did not report any significant issues relating to structural deficiencies at the time of the Site visit. No structural drawings were available to Pinchin for review.

© 2024 Pinchin Ltd.

Table 3.4 outlines the findings of the inspection of the structural elements:

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



General view of the steel frame support structure (i.e., columns, beams and OWSJs) supporting the steel roof decking.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work.

Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure.

Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no major deterioration existed within the visibly accessible components of the Site Building.

3.5 Underground Parking Garage

The Site Building does not possess an Underground Parking Garage.

Table 3.5 – Underground Parking Garage

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• N/A.	• N/A.
Minor Deficiencies/Findings	
• N/A.	• N/A.

© 2024 Pinchin Ltd.

3.6 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1
Manufacturer:	Delta Elevator
Drive System:	Hydraulic system
Floors Served	1st floor to 2nd Floor
Date installed:	2009 (i.e., ~ 15 years old)
Capacity:	1,136 kg or 15 persons
Function:	Passenger
Alarm:	Yes
Emergency Stop:	No
Emergency Phone:	Yes
Emergency Power:	Yes

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by “Delta Elevator” on a monthly basis.

Table 3.6 outlines the findings of the inspection of the Elevator Systems:

Table 3.6 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The elevator serving the Site Building is approximately manufactured in 2009 (i.e., ~ 15 years old) and is anticipated to reach its EUL shortly following the term of analysis.	• Pinchin recommends a specialist review of the elevator system be completed at the end of the term of analysis to determine the scope of modernization.

© 2024 Pinchin Ltd.



General view of the elevator hydraulic reservoir serving the Site Building.



General view of the interior finishes within the elevator cabin.



General view of the main control panel within the elevator cab.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

It was reported to Pinchin that the elevator is maintained and serviced by “Delta Elevators”.

Based on Pinchin’s experience, minor components may require modernization, due in part to obsolescence, which are not covered under a “full maintenance” contract. Additionally, service personnel capable of performing the numerous adjustments necessary to keep this equipment operating properly will become increasingly difficult to find as newer equipment designs become more predominant. Thus,

© 2024 Pinchin Ltd.

the Owner may be faced with significant modernization costs in order to maintain reasonable service. As reported to Pinchin by the Site Representative, the elevator systems are original to the date of construction of the Site Building in 2009 (i.e., ~ 15 years old) with no upgrade or modernization since the date of the installation.

The elevator systems of the Site Building are reportedly performing in a satisfactory manner, however due to the age of the elevator systems, Pinchin recommends that the Client have a review completed on the elevator system at the end of the term of analysis by a qualified elevator consultant to better understand the condition and potential necessary remedial work associated with the elevator systems.

3.7 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment. The floor finishes within the Site Building consist of carpeting and vinyl floor tiles within the office areas, corridors, lunchroom and elevator machine room, while ceramic floor tiles were noted within the vestibule area and washrooms. The floor finishes within the warehouse areas of the Site Building consist of exposed concrete floor slabs. The wall finishes within the office areas of the Site Building consist of painted gypsum board finishes throughout, while a combination of ceramic wall tiles and painted gypsum wall boards were noted within the washrooms. The wall finishes within the warehouse areas consist of exposed precast concrete wall panels and concrete block masonry walls. The ceiling finishes within the office areas of the Site Building consist of suspended ceiling assemblies complete with lay-in-tiles and painted gypsum board ceiling boards throughout. The ceiling finishes within the warehouse areas consist of exposed steel structural elements (i.e., beams, OWSJs and steel roof decking). It should noted that access was not provided to the transformer station building at the time of the Site visit.

Table 3.7 outlines the findings of the inspection of the interior finishes:

Table 3.7 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Stained ceiling tiles, reportedly due to pipe condensation were noted within the 1st floor office area of the Site Building.	• Remove the affected ceiling tiles, identify and repair any source of moisture and replace the ceiling tiles.
• Areas of minor scaling concrete noted at the concrete floor slabs within the main garage area at the west portion of the Site Building.	• Repair the areas of scaling and monitor for further deterioration throughout the term of analysis.

© 2024 Pinchin Ltd.

Table 3.7 – Interior Finishes

Findings	Remarks/Recommendations
• Damaged and stained gypsum board noted at the window sills of several windows at an isolated area on the south elevation of the Site Building.	• Typical damage like this can be indicative of moisture infiltration around the perimeter of the window frame and opening. • Pinchin recommends the perimeter sealants be replaced at the affected windows. • The affected gypsum board should be removed to identify the source of moisture and the gypsum board should be replaced. Monitor the affected area for further deterioration throughout the term of analysis.

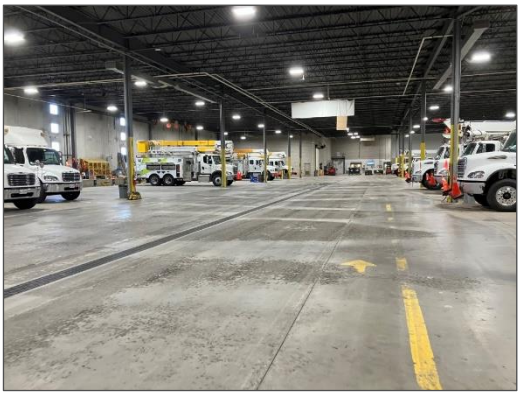


General view of the interior finishes within the corridors of the Site Building.



General view of the interior finishes within the lunchroom of the Site Building.

© 2024 Pinchin Ltd.



General view of the interior finishes within the warehouse area of the Site Building.



View of typical stained ceiling tiles within the Site Building.



View of typical minor scaling noted within the warehouse areas.

© 2024 Pinchin Ltd.



View of moisture damaged gypsum board noted around the windows at the south elevation of the Site Building.

The interior finishes within the Site Building were observed to be in satisfactory condition at the time of the Site assessment. Assuming that regular annual maintenance is performed, the interior finishes should continue to perform in a satisfactory manner throughout the term of analysis.

3.8 Site Features

The Site Building occupies approximately 13% of the 16.9 acre Site. The remainder of the Site is occupied by asphalt surfaced parking areas and areas of soft landscaping (i.e., grassed area with trees) located on the Site perimeters. The asphalt surfaced parking areas surround the Site Building with parking for approximately 263 vehicles. Gravel-surfaced driveways are located on the east and west portions of the Site

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

Soft landscaping was noted adjacent to the south elevation of the buildings as well as all the perimeters of the Site. Cast-in-place concrete walkways serve the main entrance area located adjacent to the south elevation of the Site Building. Cast-in-place concrete aprons complete with cast-in-place concrete retaining walls and metal guardrails serve the loading dock areas located adjacent to the north elevation of the Site Building.

Metal stair structures complete with metal handrails serve selective emergency exits located adjacent to the north elevation of the Site Building. Chain link fencing is located on the perimeters of the Site. Metal and automatically-sliding chain link gates complete with chain linked fencing is located on the north, east and west portions of the Site. In addition, Cast-in-place concrete stair structures complete with metal

© 2024 Pinchin Ltd.

handrails serve the main and secondary entrance areas of the transformer station building. Access to the Site is provided by an entrance from Addiscott Court located on the north portion of the Site.

Table 3.8 outlines the findings of the inspection of the Site features:

Table 3.8 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Localized areas of alligator cracking in the asphalt pavements were noted at various locations of the Site.	• Pinchin has carried allowances for the repair/replacement of the selected areas of asphalt pavements.
• Localized areas of deterioration in the concrete curbs were noted at various locations of the Site.	• Repair/patch the deteriorated areas in the concrete curbs.
• Corrosion on the metal bollards were noted throughout the Site Building.	• Remove/sand the corrosion on the metal bollards and repaint with corrosion inhibiting coating.



General view of the asphalt paved laneways and parking areas serving the Site.



General view of the gavel surfaced storage area on the west portion of the Site.

© 2024 Pinchin Ltd.



View of typical alligator cracking noted in the asphalt pavements serving the Site.



View of typical deterioration noted in the concrete curbs serving the Site.



View of typical corrosion noted on the steel impact bollards serving the Site.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin has carried allowances for repairs and replacement of the deteriorated asphalt pavements throughout the term of analysis. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

© 2024 Pinchin Ltd.

3.9 Mechanical Systems

3.9.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Markham
Electric	-	Alectra Utilities
Sewer	-	City of Markham
Natural Gas	-	Enbridge
Police	-	York Regional Police Services
Fire	-	Markham Fire and Emergency Services

3.9.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating, ventilation and cooling within the Site Building are provided by Heating, Ventilation and Air Conditioning (HVAC) equipment described as follows:

- Heating and cooling within the office area of the Site Building are provided by fourteen “Lennox” natural gas-fired heating and electrically-powered cooling rooftop packaged HVAC units. Based on review of data plates, twelve HVAC units were manufactured in 2009 (i.e., ~ 15 years old), one HVAC unit was manufactured in 2013 (i.e., ~ 11 years old), one HVAC unit was manufactured in 2020 (i.e., ~ 4 years old) and one HVAC unit was manufactured in 2021 (I.e., ~ 3 years old) and possess maximum input heating capacities of ranging between 65,000 and 180,000 British Thermal Units per Hour (BTUH) and nominal cooling capacities ranging between 2 and 8.5 tons;
- Heating and fresh air delivery within the Site Building is provided by three “Engineered Air” natural gas-fired rooftop Make-Up Air (MUA) units. Based on review of data plates, the MUA units were manufactured in 2009 (i.e., ~ 15 years old) and possess maximum input heating capacities ranging between 341,000 and 3,610,000 BTUH and fresh air supply rates ranging between 2,900 and 33,000 Cubic Feet per Minute (CFM);
- Cooling within the computer/data room and UPS room is provided by two “Liebert” electrically-powered rooftop air-cooled condensing units. Based on review of data plates, the condensing units were manufactured in 2010 and 2015 (i.e., ~ 9 and 14 years old). The cooling capacities could not be determined;
- Fresh air into the Site Building (while exhausting the same amount of stale air outside) is provided by five “Lennox” electrically-powered rooftop Energy Recovery Ventilator (ERV) units. Based on review of data plates, the ERV units were manufactured in 2009 (i.e., ~ 15 years old) and possess fresh air supply rates ranging between 1,500 and 3,000 CFM;

© 2024 Pinchin Ltd.

- The stale air being exhausted to the fresh incoming air from outside is heated by one “Lennox” electrically-powered suspended Heat Recovery Ventilator (HRV) unit before being distributed within the Site Building. Based on review of the data plate, the HRV unit was manufactured in 2009 (i.e., ~ 15 years old) and possesses a fresh air supply rate of 700 CFM;
- Heating within the warehouse areas of the Site Building is provided by thirteen “Schwank” natural gas-fired overheard infrared radiant tube heaters. Due to limited access to the data plates, the ages and heating capacities could not be determined; however, as reported to Pinchin by the Site Representative, the radiant tube heaters are original to the construction of the Site Building in 2009 (i.e., ~ 15 years old); with the exception of one unit which was replaced less than 5 years ago.
- Additional cooling within selective rooms of the Site Building is provided by two “Daikin” and “Mitsubishi” electrically-powered ductless rooftop and wall-mounted AC units complete with wall-mounted units. Based on review of the “Mitsubishi” data plate, the ductless AC unit possesses a nominal cooling capacity of 3 tons. The ages of the ductless AC units could not be determined; however, the ductless AC units are estimated to be original to the construction of the Site Building in 2009 (i.e., ~ 15 years old);
- Supplementary heating within the Site Building is provided by electrically-powered forced-air wall-mounted heaters; and
- Cooling within the transformer station building is provided by two “Trane” electrically-powered grade-mounted AC units. Based on review of data plates, the AC units were manufactured in 2009 (i.e., ~ 15 years old) and possess a nominal cooling capacity of 7.5 tons, each.

The inspection of the interior ductwork or associated components was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin’s experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.9.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by one “Polaris” natural gas-fired self-contained DHW heater and several electrically powered, self contained DHW heaters reportedly located

© 2024 Pinchin Ltd.

in various locations and above ceilings. Based on review of the “Polaris” data plate, the DHW heater was manufactured in approximately 2018 (i.e., ~ 6 years old) and possesses a maximum input heating capacity of 130,000 BTUH and a storage capacity of 189 Litres (L). Due to limited access to the electrically-powered DHW heaters, the ages, heating and storage capacities could not be determined. There was no shortage of hot water noted or reported to Pinchin at the time of the Site visit.

3.9.4 Plumbing

Drainage piping within the Site Building consists of ABS as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems the condition of the systems could not be verified.

The Site possesses an in-ground cistern located adjacent to the north elevation of the Site Building. The cistern reportedly collects rainwater drained from the roof system of the Site Building and is used for non-potable water purposes. The Site Representative did not report any active leaks or issues regarding the cistern.

The main water lines are located on the north portion within the warehouse area of the Site Building. A 2” backflow prevention device manufactured by “Watts” was observed with recent inspection completed by “Black & McDonald” in October 2023.

It was reported to Pinchin that an additional backflow prevention device will be installed in April 2024 labelled “Domestic Water”.

3.9.5 Fire Protection

Fire protection within the Site Building is provided by a wet sprinkler system. A cabinet containing an extra supply of sprinkler heads and an installation tool were noted. The sprinklers and standpipes are reportedly equipped with electronic flow alarms which are monitored by “Convergint” an independent contractor. The fire protection systems are reportedly serviced annually by “Onyx Fire Protection Services Inc.” and were last inspected in July 2023.

Fire protection within the computer/data room and UPS room of the Site Building is provided by a “pre-action” sprinkler system. The main shutoff valve and riser for the sprinkler system are located on the southeast corner within the warehouse area of the Site Building. The sprinkler system is activated manually by a pull station and automatically by smoke and heat detectors. The sprinkler system is reportedly monitored by “Convergint”, an independent contractor. The fire suppression systems are reportedly serviced annually by “Onyx Fire Protection Services Inc.” and were last inspected in July 2023.

Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted located strategically throughout.

© 2024 Pinchin Ltd.

Table 3.9 outlines the findings of the inspection of the mechanical systems:

Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Twelve HVAC units were noted to be ~ 15 years old and are anticipated to approach the end of their Expected Useful Life (EUL) within the term of analysis.	• Pinchin has carried allowances for phased-in replacement of twelve HVAC units within the mid to latter portion of the term of analysis.
• One HVAC unit was noted to be ~ 11 years old and is anticipated to approach the end of its Expected Useful Life (EUL) within the term of analysis.	• Pinchin has carried allowances for replacement of the one HVAC unit within the latter portion of the term of analysis.
• Three MUA units were noted to be ~ 15 years old and are anticipated to approach the end of their Expected Useful Life (EUL) within the term of analysis.	• Pinchin has carried allowances for phased-in replacement of one MUA unit within the latter portion of the term of analysis. • Note: Pinchin recommends continuing phased replacement of the remaining units after the term of analysis.
• Two ductless AC units are estimated to be ~ 15 years old and are anticipated to approach the end of their EUL within the term of analysis.	• Pinchin has carried allowances for replacement of the AC units within the mid portion of the term of analysis.
• Five ERV units were noted to be ~ 15 years old and are anticipated to approach the end of their EUL within the term of analysis.	• Pinchin has carried allowances for phased-in replacement of five ERV units within the mid to latter portion of the term of analysis.
• One HRV unit was noted to be ~ 15 years old and is anticipated to approach the end of its EUL within the term of analysis.	• Pinchin has carried an allowance for replacement of the HRV unit within the mid portion of the term of analysis.
• Twelve radiant tube heaters were noted to be approximately ~ 15 years old and are anticipated to approach the end of their EUL within the term of analysis.	• Pinchin has carried allowances for phased-in replacement of six radiant tube heaters within the latter portion of the term of analysis. • Note: Pinchin recommends continuing phased replacement of the remaining units after the term of analysis.
• Two AC units are to be ~ 15 years old and anticipated to approach the end of their EUL within the term of analysis	• Pinchin has carried allowances for phased-in replacement of the ductless AC units within the mid portion of the term of analysis.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.

© 2024 Pinchin Ltd.



View of a typical “Lennox” rooftop HVAC unit serving the Site Building.

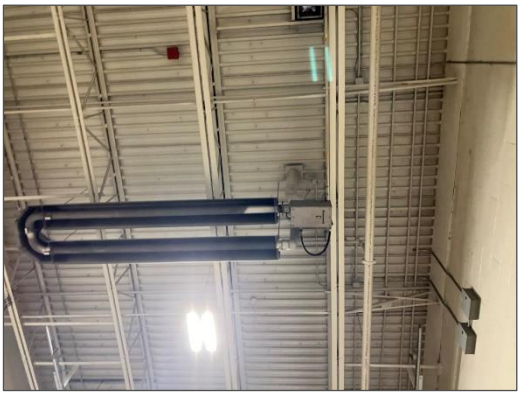


View of a typical “Engineered Air” rooftop MUA unit serving the Site Building.



View of a typical “Lennox” rooftop ERV unit serving the Site Building.

© 2024 Pinchin Ltd.



View of a typical “Schwank” overhead radiant tube heater serving the warehouse areas.



View of a typical “Trane” grade-mounted AC unit serving the transformer room.



View of typical rooftop mounted AC unit serving the Site Building.

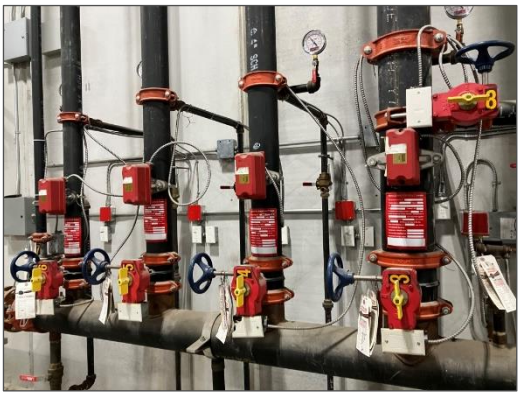
© 2024 Pinchin Ltd.



General view of the natural gas-fired DHW heater serving the Site Building.



General view of the backflow prevention device serving the “portable-water” system.



General view of the sprinkler main shut-off valves and risers serving the Site Building.

© 2024 Pinchin Ltd.



General view of the “pre-action” sprinkler main shut-off valve and risers serving the computer/data room.



View of a typical dry chemical fire extinguisher serving the Site Building.

In summary, the mechanical systems within the Site Building are currently in serviceable condition with the exception of the above-referenced deficiencies. It has been Pinchin’s experience that the EUL of a radiant tube heater and a MUA unit typically ranges between 20 and 25 years, the EUL of an HVAC unit, a condensing unit, an ERV unit, an HRV unit, a ductless condensing unit and an AC unit typically ranges between 15 and 20 years and the EUL of a DHW heater typically ranges between 10 and 15 years, depending on the quality of the units and the level to which the units have been maintained.

As previously mentioned, two AC units, one HRV unit, two ductless AC units are anticipated to approach the end of their EUL within the term of analysis. As such, Pinchin has carried allowances for replacement of the aforementioned mechanical units within the term of analysis.

In addition, twelve HVAC units, three MUA units, five ERV units and twelve radiant tube heaters are anticipated to approach the end of their EUL within the term of analysis. As such, Pinchin has carried allowances for phased-in replacement of the above noted equipment. Pinchin recommends continuing phased replacement of the remaining units after the term of analysis.

Regular maintenance of the mechanical equipment is required to achieve or extend the expected design life of the component (i.e. replacement of the filters, cleaning of the units, and preventative maintenance).

© 2024 Pinchin Ltd.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.10 Electrical Systems

3.10.1 Electrical Power

The electrical power for the Site Building is supplied from a pad-mounted transformer located adjacent to the north elevation of the Site Building and feeds the electrical room on the main floor via underground wires. The electrical service for the Site Building includes a “Square D” main disconnect switch with a maximum rating of 800 Amperes based on the attached data plate.

The Site Building possesses a 500 kW “Generac” diesel fired emergency power generator noted adjacent to the north elevation of the Site Building. It was reported to Pinchin that the maintenance and replacement of the generator is an owner responsibility. Power to the Site Building is automatically transferred via an automatic transfer switch. The automatic transfer switch was noted to be manufactured by “Moeller” and it was reported that the generator set and automatic transfer switch are approximately 14 years old. Inspections and servicing of the emergency generator is reportedly performed by “Total Power” an independent contractor. It was reported that the emergency generator supplies power to the fire alarm panel and associated systems (i.e., pull stations and heat detectors), the emergency lighting and emergency exit signs.

Emergency power for the computer/data room is provided by an “Eaton” Uninterruptible Power Supply (UPS) located in the UPS room. The UPS ensures uninterrupted emergency electrical power to the computer systems until the primary backup generator is activated.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.10.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Edwards Systems Technology (EST)” fire alarm panel. The main fire alarm panel is located within the maintenance office. The fire alarm control panel is backed up by batteries which are capable of operating the system for 24 hours. A remote annunciator panel is located at the main entrance vestibule area. As reported to Pinchin by the Site Representative, the fire alarm main control panel was installed between 2015 and 2016 (i.e., ~ between 8 and 9 years old). The fire alarm system monitors flow control switches/sensors within the sprinkler system, the sub fire alarm control panel located within the vicinity of

© 2024 Pinchin Ltd.

the pre-action sprinkler system as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. In addition, fire alarm notification appliances (i.e., fire alarm bells, fire signals and strobe lights) are located at various locations within the Site Building. The systems are reportedly monitored by “Convergint” an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “Onyx Fire Protection Services Inc.” an independent contractor. The last date of inspection for the fire alarm panel and associated systems took place in April 2023.

Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by a combination of internal battery packs and the emergency generator.

Table 3.10 outlines the findings of the inspection of the electrical systems:

Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The emergency generator was noted to be ~ 14 years old and is approaching the mid-portion of its EUL.	• Pinchin has carried an allowance for a mid-life overhaul of the emergency generator within the term of analysis.



General view of the pad-mounted transformer serving the Site.

© 2024 Pinchin Ltd.



General view of the “Square D” main electrical disconnect.



General view of the “Generac” diesel-fired emergency backup generator.



General view of the “Moeller” automatic transfer switch.

© 2024 Pinchin Ltd.



General view of the main fire alarm panel serving the Site Building.



View of a typical illuminated exit signage and emergency lights.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner at the time of the Site assessment. As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted equipment data plate. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required. Pinchin has carried an allowance for a mid-life overhaul of the emergency generator within the term of analysis. The electrical and life safety systems should continue to perform satisfactorily over the term of analysis assuming regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 29, 2024 the Site Building appears to be in satisfactory condition, and in comparable standing to other similar commercial residential properties

© 2024 Pinchin Ltd.

in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

As noted during the Site visit, deficiencies relating to the minor repair to the roof systems, wall systems, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the TPO membrane systems serving the Site Building within the term of analysis;
- Pinchin recommends and has included a contingency allowance, as Pinchin was unable to visually assess the EPDM membrane, for the replacement of the EPDM membrane systema at the transformer station building within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the pre-cast concrete wall panel joint sealants;
- Allowances for the repair/replacement of areas of deteriorated asphalt pavement;
- Allowances for phased-in replacement of twelve Heating, Ventilation, and Air Conditioning (HVAC) units;
- Allowances for phased-in replacement of one Make-Up Air (MUA) unit;
- Allowances for replacement of the Air Conditioning (AC) units;
- Allowances for phased-in replacement of five Energy Recovery Ventilator (ERV) units;
- Allowance for replacement of the Heat Recovery Ventilator (HRV) unit;
- Allowances for phased-in replacement of six radiant tube heaters;
- Allowances for phased-in replacement of the ductless AC; and
- Allowance for a mid-life mechanical overhaul of the emergency generator.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

© 2024 Pinchin Ltd.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 – 15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process*.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead

© 2024 Pinchin Ltd.

to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin’s experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

© 2024 Pinchin Ltd.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

\\PIN-HAM-FS02\job\335000s\0335512.000 AlectraUtil,8Sites,ON,BCAs\Deliverables\80 Addiscott Crt Markham\335512 BPCA 80 Addiscott Crt, Markham Alectra March 2024.docx

Template: Master Report for Office Building Baseline Condition Assessment, PCA, September 5, 2023

© 2024 Pinchin Ltd.

APPENDIX I

Table 1 – Summary of Anticipated Expenditures

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (TPO membrane replacement allowance)	`17-20	~15	~2-5	96,500	SF	$18	$1,737,000						$868,500	$868,500					$1,737,000
Roof Structures and Roofing (EPDM membrane system replacement contingency allowance)	~17-20	~15	~2-5	3,000	SF	$18	$54,000						$54,000						$54,000
Wall Systems																			
Exterior Walls - Repairs & replacement of the deteriorated wall joint sealants	Varies	Varies	Varies	1	LS	$40,000	$40,000			$10,000		$10,000		$10,000		$10,000			$40,000
Exterior Walls - Repairs (i.e., loading dock seal, cracking concrete panel, dock leveller) Below Threshold																			
Exterior Windows and Doors - Repairs (i.e., corroded door frames) Below Threshold																			
Structural Elements																			
Foundations																			
Superstructure																			
Underground Parking Garage																			
Concrete Repairs																			
Waterproofing																			
Vertical Transportation Systems																			
Elevator Systems - Speacialist review Below Threshold																			
Interior Finishes																			
Interior Finishes - Repairs (i.e., stained ceiling tiles, scaling) Below Threshold																			
Site Features																			
Parking and Paving - Repairs/replacement of selected areas of asphalt pavement	Varies	Varies	Varies	1	LS	$120,000	$120,000		$24,000		$24,000		$24,000		$24,000		$24,000		$120,000
Concrete Walkway and Curbing - Repairs (i.e., concrete curbs and metal bollards) Below Threshold																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling - Replacement of 12 rooftop packaged HVAC units	15 - 20	11 - 15	5 - 9	1	LS	$226,500	$226,500						$220,500				$6,000		$226,500
Building Heating and Cooling - Replacement of 1 MUA	20 - 25	15	5 - 10	1	LS	$155,000	$155,000											$155,000	$155,000
Building Heating and Cooling - Replacement of 2 ductless AC units	15 - 20	15	0 - 5	1	LS	$18,000	$18,000						$18,000						$18,000
Building Heating and Cooling - Replacement of 5 ERV units	15 - 20	15	0 - 5	1	LS	$50,000	$50,000						$25,000	$25,000					$50,000
Building Heating and Cooling - Replacement of 1 HRV unit	15 - 20	15	0 - 5	1	LS	$10,000	$10,000						$10,000						$10,000
Building Heating and Cooling - Replacement of 12 radiant tube heaters	~20	~15	~5	1	LS	$60,000	$60,000								$60,000				$60,000
Building Heating and Cooling - Replacement of 2 "Trane" AC units	15 - 20	15	0 - 5	1	LS	$45,000	$45,000						$45,000						$45,000
Plumbing																			
Hot Water																			
Fire Protection																			
Electrical Systems																			
Electrical Systems																			
Emergency Generator - Mid-life overhaul	25 - 30	14	11 - 16	1	LS	$30,000	$30,000			$30,000									$30,000
Fire and Life Safety Systems																			
							TOTALS (UNINFLATED)	**$0**	**$24,000**	**$40,000**	**$24,000**	**$10,000**	**$1,265,000**	**$903,500**	**$84,000**	**$10,000**	**$30,000**	**$155,000**	**$2,545,500**
Term of Analysis	**10**						**INFLATION FACTOR**	**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
Cost Threshold	**$5,000**						**TOTALS (INFLATED)**		**$24,000**	**$41,200**	**$25,440**	**$10,900**	**$1,416,800**	**$1,039,025**	**$99,120**	**$12,100**	**$37,200**	**$196,850**	**$2,902,635**

Total SF within the Site Building(s)	**107,000**
Average Cost per SF per Year (Uninflated)	**$2.38**
Average Cost per SF per Year (Inflated)	**$2.71**

LS - Lump Sum
SF - Square Foot
EA - Each (per unit component)
LF - Linear Foot



FINAL

Baseline Property Condition Assessment

161 Cityview Boulevard, Vaughan, Ontario

Prepared for:

Alectra Utilities Corporation

2185 Derry Road West,
Mississauga, ON L5N 7A6

March 25, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corporation**
Issued on:	**March 25, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Moe Kheil, Dipl. T (Civil), BEng
Senior Project Technologist
226.688.8621
mkheil@pinchin.com

Assessor:
Brandon Lane
Senior Project Technologist
289.776.9756
blane@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Team Leader
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corporation (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, etc. The municipal address for the property is 161 Cityview Boulevard, Vaughan, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of Alectra Utilities (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies in relation to the due diligence of the Site.

The Site is a near rectangular-shaped property approximately 4.7 acres in area. The Site is developed with a three-storey office building complete with a two-level underground area and a mechanical penthouse (Site Building), occupied by “Alectra Utilities”. The two-level underground area of the Site Building is occupied by an Underground Parking Garage (UPG) in which is located directly under the Site Building in the first level and a storage basement in the second level. Asphalt paved parking areas and driveways are located throughout the Site with parking provisions for approximately 220 vehicles, while the UPG level reportedly provides parking for 66 vehicles.

The Site Building was reportedly constructed in 2008 and possesses a footprint area of approximately 32,000 Square Feet (SF) and a total building area of approximately 92,000 SF. It should be noted that the Site Building is a LEED Gold Certified Building.

The Site Building is constructed atop a two-level Underground Parking Garage (UPG) basement structure which consists of a cast-in-place concrete slab on grade, columns with capitals, perimeter walls and suspended slabs. The superstructure of the Site Building is comprised of a steel framed support structure (i.e., beams, columns and open web joists, etc.) which support composite (i.e., concrete poured over steel decking) floor slabs and steel roof decks. The exterior walls of the Site Building consist of a combination of precast concrete wall panels and curtain wall systems on all elevations. The exterior walls of the mechanical penthouse consist of vertical metal cladding.

The Site Building appears to be in satisfactory condition, and in comparable standing to other similar commercial office properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

© 2024 Pinchin Ltd.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $1,388,500 have been identified. As noted during the Site visit, deficiencies relating to the minor repair to the roof systems, wall systems, elevator systems, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the Thermoplastic Polyolefin (TPO) membrane roof systems within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the rooftop packaged Heating, Ventilation and Air Conditioning (HVAC) units within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the condensing units serving the server room;
- Pinchin recommends and has included allowances for the replacement of the Make-Up Air (MUA) units within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the heating boilers within the term of analysis;
- Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis; and
- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, underground parking garage, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their

© 2024 Pinchin Ltd.

associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 4
3.2 Roof Systems 6
3.3 Wall System 9
3.4 Structural Elements 11
3.5 Underground Parking Garage 12
3.6 Elevator Systems 15
3.7 Interior Finishes 17
3.8 Site Features 19
3.9 Mechanical Systems 22
3.9.1 Major Service Providers 22
3.9.2 Heating, Ventilation and Air Conditioning (HVAC) 22
3.9.3 Domestic Hot Water 23
3.9.4 Plumbing 24
3.9.5 Fire Protection 24
3.10 Electrical Systems 29
3.10.1 Electrical Power 29
3.10.2 Fire Alarm System and Life Safety 29
4.0 KNOWN VIOLATIONS OF CODE 32
5.0 CONCLUSIONS AND RECOMMENDATIONS 32
6.0 TERMS AND LIMITATIONS 34

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 – Site Information 4
Table 3.2 – Roof Systems 6
Table 3.3 – Wall Systems 9
Table 3.4 – Structural Elements 11
Table 3.5 – Underground Parking Garage 12
Table 3.6 – Elevator Systems 16
Table 3.7 – Interior Finishes 18
Table 3.8 – Site Features 20
Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection) 25
Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 30

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corporation (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, etc. The municipal address for the property is 161 Cityview Boulevard, Vaughan, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of Alectra Utilities (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies in relation to the due diligence of the Site.

The Client has advised Pinchin that the following documents are available for review:

- "*Baseline Property Condition Assessment – 161 Cityview Boulevard, Vaughn, Ontario*", prepared by Pinchin Ltd., prepared for Alectra Utilities and dated June 6, 2018.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms & Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The underground parking garage;
- The elevator systems;
- The interior finishes of the common areas and a selection of individual tenant premises;

© 2024 Pinchin Ltd.

- The Site features;
- The mechanical systems (i.e., HVAC, domestic hot water, etc.); and
- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

© 2024 Pinchin Ltd.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS



General view of the south elevation of the Site Building.



General view of the east elevation of the Site Building.

© 2024 Pinchin Ltd.



General view of the north elevation of the Site Building.



General view of the west elevation of the Site Building.

3.1 Site Information

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Site Address	161 Cityview Boulevard, Vaughan, Ontario		
Existing Land Use Type	Commercial	*Primary On-Site Activity*	Office
Multi-Tenant/Single Occupant	Single-Occupant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 4.7 acres
Number of Buildings	One	*Building Footprint Area(s)*	~ 32,000 SF
Number of Stories above grade	Three-storey	*Total Rentable Building Area(s)*	~ 92,000 SF
Date Building(s) Constructed	~ 2008	*Area of Tenant Spaces*	~ 92,000 SF

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Date Building(s) Renovated	Ongoing interior fit-ups	*Basement and/or U/G Parking*	Two-levels: 1st level underground parking garage 2nd level storage basement
Type of Roof System(s)	Thermoplastic Polyolefin (TPO) membrane	*Number of Levels U/G*	Two
Type of Wall Cladding	Curtain wall glazing Pre-cast concrete panels Vertical metal cladding	*Area of Roof System(s)*	~ 32,000 SF
Type of Doors	Insulated Glass (IG) and Single Glazed (SG) units within aluminum frames Hollow metal and wood doors within metal and wood frames Insulated sectional metal overhead doors	*Types of Windows*	Glass and aluminum curtain wall systems (consisting of fixed IG vision panels and spandrel panels)
Above Grade Parking Area	~ 220 vehicles	*Electrical Source*	Alectra Utilities
Surface Type	Asphalt paved parking areas and driveways Cast-in-place concrete walkways Interlocking concrete paver walkways Soft landscaping (i.e., grassed areas with trees)	*Type of Heating/Cooling*	Natural gas-fired heating and electrically-powered cooling rooftop packaged Heating, Ventilation and Air Conditioning (HVAC) units Natural gas-fired boilers which feed hydronic radiators Natural gas-fired Make Up Air (MUA) units Electrically powered condensing units

© 2024 Pinchin Ltd.

3.2 Roof Systems

The roof systems of the Site Building consist of “near-flat” Thermoplastic Polyolefin (TPO) membrane systems installed atop a layer of rigid insulation, atop steel roof decks. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing. In addition to the main roof system, TPO membrane canopy roof systems are located above the entrances on the east and west elevations of the Site Building.

The roof area atop the Site Building consists of a main roof area atop the 3rd floor, a secondary roof area atop the mechanical penthouse and four lower roof areas atop portions of the 2nd floor. It is noted that the 2nd floor roof areas possess wood decking atop the roof system and serve as terraces for the 3rd floor occupants. It is noted that the condition of the roof system below the wood deck was not visible at the time of the assessment. As reported to Pinchin by the Site Representative, the roof system is original to the construction date of the Site Building in 2008 (i.e., ~ 16 years old).

Drainage of the roof systems is provided by internal roof drains which presumably drain to the municipal sewer system, as well as perimeter scuppers complete with downspouts that discharge onto the main roof system.

Penetrations through the roof system consist of plumbing vents, gas-line and conduit pitch pockets, HVAC curbing and exhaust fans. The total area of the roof systems is similar to the footprint area of the Site Building at approximately 32,000 SF (excluding canopy roofs). No active leaking within the roof system was reported during the assessment.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The TPO membrane system atop the Site Building is approximately 16 years old and is anticipated to reach the end of its Expected Useful Life (EUL) within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the TPO membrane systems within the term of analysis.
Minor Deficiencies/Findings	
• Areas of debris were noted on the TPO system atop the Site Building.	• Clear all debris off the TPO system as part of ongoing general maintenance of the roof systems.
• Areas of staining noted on the TPO system atop the Site Building.	• Clean staining off the TPO system as part of ongoing general maintenance of the roof systems.

© 2024 Pinchin Ltd.

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
• Areas of moss growth were noted on the canopy systems.	• Remove all moss and vegetation of the canopy systems as part of ongoing general maintenance of the roof systems.



General view of the TPO system atop the Site Building.



General view of the TPO system atop the Site Building.



View of typical debris noted on the TPO system atop the Site Building.

© 2024 Pinchin Ltd.



View of typical staining noted on the TPO membrane atop the Site Building.



View of the typical rooftop terrace serving the 3rd floor.



View of the typical canopy roof system atop the entrances of the Site Building.

Note: view of typical moss growth on the canopy systems.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a TPO membrane ranges between 17 to 20 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained. The roof systems atop the Site Building are reportedly approximately 16 years old and are anticipated to reach the end of their EUL within the term of analysis. Pinchin recommends and has included allowances for the replacement of the TPO membrane systems within the term of analysis. Pinchin also recommends that maintenance and repairs be conducted on the roof system until its anticipated replacement.

© 2024 Pinchin Ltd.

Assuming that the roof system is replaced, and regular annual maintenance is performed, the roof system of the Site Building should continue to perform in a satisfactory manner throughout the term of analysis. Annual walk-on inspections are recommended to ensure the integrity of the roof systems and identify/address the required repairs to extend the service life.

3.3 Wall System

The exterior walls of the Site Building are clad with a combination of precast concrete wall panels and curtain wall glazing systems on all elevations. Vertical metal cladding is located on the mechanical penthouse. The back-up system was not visible within the areas accessed.

The window systems of the Site Building consist of curtain wall systems consisting of fixed Insulated Glass (IG) vision panels and spandrel panels (non-vision glass with galvanized metal back pans) within aluminum frames located on all elevations. It is noted that the glazing possesses Ultraviolet (UV) protection film. It was reported to Pinchin by the Site Representative that repairs were completed on exterior seals serving the curtain wall system in 2016, to address leaks caused by driving wind during rain events.

The exterior doors serving the Site Building consist of IG and Single Glazed (SG) doors within aluminum frames, a SG revolving door serving the west elevation main entrance, wood and metal doors within metal frames serving the interior spaces, metal doors within metal frames serving the secondary/emergency exits, stairwells and utility rooms, and two insulated sectional metal overhead doors serving the underground parking garage and the shipping/receiving area.

It should be noted that the as-built condition of the fasteners which secure the precast concrete wall panels and curtain wall system framing to the building structural frame and floor slabs could not be determined at the time of the Site visit, as these components are concealed and could not be observed through a visual inspection.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• An isolated location of missing pre-cast concrete panel joint sealant was observed at the north elevation.	• Replace the missing joint sealant.

© 2024 Pinchin Ltd.



View of the typical wall systems serving the Site Building.



General view of the interior of the curtain wall system serving the Site Building.



General view of a missing pre-cast concrete panel joint sealant noted at the north elevation.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the above noted deficiencies. The Site Representative did not report any current or active issues (i.e., moisture infiltration, precast concrete panel displacement, etc.) within the wall systems.

Assuming the above mentioned deficiencies are addressed and that regular annual maintenance is performed there should be no other major expenditures required relating to the walls, windows and door systems of the Site Building throughout the term of the analysis.

© 2024 Pinchin Ltd.

3.4 Structural Elements

As outlined in the scope of work, a visual assessment of the condition of the structural elements was carried out on the elements which were visible at the time of the inspection. The Site Building is constructed atop a two-level Underground Parking Garage (UPG) basement structure which consists of a cast-in-place concrete slab on grade, columns with capitals, perimeter walls and suspended slabs. The superstructure of the Site Building is comprised of a steel framed support structure (i.e., beams, columns and open web joists, etc.) which support composite (i.e., concrete poured over steel decking) floor slabs and steel roof decks. No structural drawings were available to Pinchin for review.

Table 3.4 outlines the findings of the inspection of the structural elements:

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



General view of the structural steel elements serving the Site Building.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work. Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure. Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no major deterioration existed within the visibly accessible components of the Site Building.

© 2024 Pinchin Ltd.

3.5 Underground Parking Garage

The Site Building is equipped with a single level Underground Parking Garage (UPG) located directly under the Site Building (in the first level of the two-level underground area). The UPG is constructed with a reinforced cast-in-place concrete construction (i.e., columns, capitals, beams and slabs) with cast-in-place concrete perimeter foundation walls. The surface of the suspended parking floor slab is covered by a mastic asphalt traffic wear-course. Neither the presence nor the type or condition of waterproofing membrane on the foundation walls could be verified as the scope of work did not include any destructive testing. Access to and egress from the UPG is gained via an insulated metal sectional overhead door located on the south portion of the garage. The access ramp serving the UPG is constructed of concrete and heating within the ramp is provided by an embedded glycol loop which is heated via a heat exchanger. Ventilation within the UPG is provided by one electric motor-driven exhaust fan which is automatically activated by wall mounted Carbon Monoxide (CO) detectors. The UPG is reportedly equipped with six CO detectors. Fresh air within the UPG is provided by an “Eng A” Make-Up Air (MUA) unit located in the west portion of the UPG. Based on a review of the data plate, the MUA was manufactured in 2007 (i.e., ~ 17 years old) with a supply air capacity of 18,000 cubic feet per minute (CFM).

It is noted that the UPG does not possess a primary heating system; supplementary heating is provided by suspended hydronic unit heaters complete with closed glycol loop and plate heat exchanger. Fire protection within the UPG is provided by an automatic “dry” pipe sprinkler system. The main fire protection shut-off valves and risers are located in the west portion of the UPG. The sprinklers are reportedly equipped with electronic flow alarms which are inspected and serviced by “Onyx Fire Protection Services” and are monitored by “Convergint”.

Drainage of the UPG is provided by internal floor drains) which presumably drain to the municipal sewer system. It was reported to Pinchin that there are no current problems or concerns with the catch basins and their ability to drain the UPG. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work.

Table 3.5 outlines the findings of the inspection of the underground parking garage:

Table 3.5 – Underground Parking Garage

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	

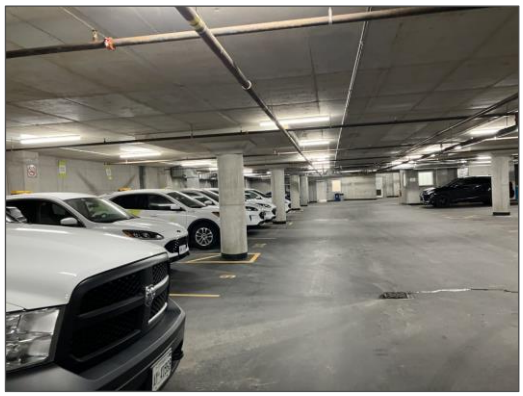
© 2024 Pinchin Ltd.

Table 3.5 – Underground Parking Garage

Findings	Remarks/Recommendations
• Localized cracking was noted on the concrete ramp to the UPG.	• Rout and seal cracking within the concrete ramp and monitor for further deterioration throughout the term of analysis.
• The snow melting system serving the ramp to the UPG is ~ 16 years old and is anticipated to reach the end of its EUL within the term of analysis.	• An allowance has been carried to replace the snow melting system within the term of analysis.



General view of the UPG serving the Site Building.



General view of the UPG serving the Site Building.

© 2024 Pinchin Ltd.



General view of the ramp and overhead entrance door to the UPG.



General view of the vehicle charging stations and carbon monoxide detector.



General view of the heat exchanger serving the closed glycol loop associated with the UPG.

© 2024 Pinchin Ltd.



view of cracking noted on the concrete ramp serving the UPG.

The UPG was noted to be in satisfactory condition at the time of the assessment with the exception of the above referenced deficiencies. Assuming the above referenced deficiencies are addressed, and necessary repairs made and that regular annual maintenance is performed, the UPG should continue to perform satisfactorily throughout the term of analysis.

3.6 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1	Elevator #2
Manufacturer:	Delta Elevator	Delta Elevator
Drive System:	Hydraulic system	Hydraulic system
Floors Served	2nd Level Basement to 3rd Floor	P1 to 3rd Floor
Date installed:	~ 2008	~ 2008
Capacity:	1,587 kg or 21 persons	1,587 kg or 21 persons
Function:	Passenger	Passenger
Alarm:	No	No
Emergency Stop:	No	No
Emergency Phone:	Yes	Yes
Emergency Power:	Yes	Yes

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by “Delta Elevator” on a monthly basis.

© 2024 Pinchin Ltd.

Table 3.6 outlines the findings of the inspection of the Elevator Systems:

Table 3.6 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The elevators serving the Site Building are approximately manufactured in 2008 (i.e., ~ 16 years old) and is anticipated to reach the end of its EUL shortly following the term of analysis.	• Pinchin recommends a specialist review of the elevator system be completed at the end of the term of analysis to determine the scope of modernization.



General view of the elevator #2 lobby serving the Site Building.



General view of the cab controls serving elevator # 2.

© 2024 Pinchin Ltd.



General view of the hydraulic reservoir serving elevator #2.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

It was reported to Pinchin that the elevators are maintained and serviced by “Delta Elevator”. Assuming the full elevator maintenance contract is fulfilled and the elevator components are modernized no other major expenditures should be required within the term of the analysis.

Based on Pinchin’s experience, minor components may require modernization, due in part to obsolescence, which are not covered under a “full maintenance” contract. Additionally, service personnel capable of performing the numerous adjustments necessary to keep this equipment operating properly will become increasingly difficult to find as newer equipment designs become more predominant. Thus, the Owner may be faced with significant modernization costs in order to maintain reasonable service. As reported to Pinchin by the Site Representative, the elevator systems are original to the date of construction of the Site Building in 2008 (i.e., ~ 16 years old) with no upgrade or modernization since the date of the installation.

The elevator systems of the Site Building are reportedly performing in a satisfactory manner, however due to the age of the elevator systems, Pinchin recommends that the Client have a review completed on the elevator systems at the end of the term of analysis by a qualified elevator consultant to better determine the scope of modernization requirements associated with the elevator systems.

3.7 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment. The floor finishes of the Site Building consist primarily of carpeting, ceramic floor tiles and wood flooring located throughout the office areas, corridors, lunchroom/lounge and kitchen/kitchenette. Exposed concrete floor slabs and localized areas of vinyl tiles were noted in the mechanical penthouse, 2nd level basement and service rooms (i.e., meter/sprinkler, mechanical, electrical and elevator machine rooms) and stairwells.

© 2024 Pinchin Ltd.

The wall finishes of the Site Building consist of painted gypsum wall board with localized areas of ceramic wall tiles, while block masonry, cast-in-place concrete walls, interior metal liner and unfinished gypsum wall board were noted in the mechanical penthouse and utility/service rooms.

The ceiling finishes of the Site Building consist of painted gypsum board ceiling/bulkheads and suspended ceiling assemblies complete with lay-in-tiles. Exposed structural steel elements were noted in the mechanical penthouse.

Table 3.7 outlines the findings of the inspection of the interior finishes:

Table 3.7 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.

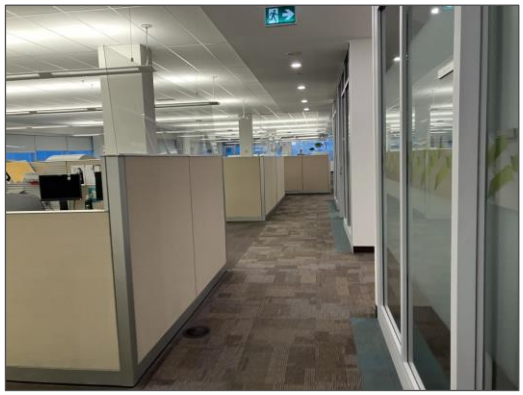


General view of the interior finishes within the lobby.



General view of the interior finishes within the cafeteria.

© 2024 Pinchin Ltd.



General view of the interior finishes within the office areas.

The interior finishes within the Site Building were observed to be in satisfactory condition with no major deficiencies. Assuming that regular annual maintenance is performed, the interior finishes should continue to perform in a satisfactory manner throughout the term of analysis.

3.8 Site Features

The Site Building occupies approximately 15% of the 4.7 acre Site. The remainder of the Site is occupied by asphalt surfaced parking areas and areas of soft landscaping (i.e., grassed area with trees) located along the elevations of the Site Building and on the Site perimeters. The asphalt surfaced parking areas are located throughout the Site with parking provisions for approximately 220 vehicles, while the single-level underground parking garage reportedly provides parking for 66 vehicles.

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

Soft landscaping was noted to surround the buildings on all elevations as well as the perimeters of the Site. It is noted that a storm water retention pond is located south adjacent to the Site. Cast-in-place concrete steps, ramps, walkways and pavers were noted to serve the main and secondary entrances and emergency exits located on all elevations of the Site Building as well as the parking lots. Three gazebos are located along the south property line. Metal fencing and armour stone retaining wall border the gazebos and storm water retention pond, while chain link fencing is located on the east perimeter of the Site. Access to the Site is provided by two entrances from Cityview Boulevard located on the west portion of the Site.

© 2024 Pinchin Ltd.

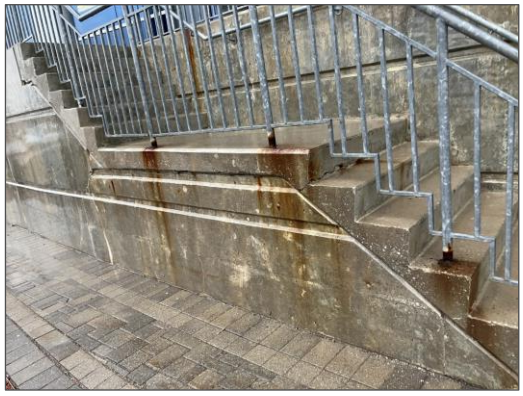
Table 3.8 outlines the findings of the inspection of the Site features:

Table 3.8 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Corrosion noted at the base of the metal railings located adjacent to the Site Building.	• Clean corrosion from the metal railings and apply a corrosion inhibitive coating.
• Minor corrosion noted at the steel framed gazebos.	• Clean corrosion from the gazebos and apply a corrosion inhibitive coating.
• Localized areas of spalled concrete ledges, steps, curbs and pavers were noted at the Site.	• Perform concrete repairs to help prevent further deterioration.



General view of the asphalt paved parking areas and driveways serving the Site.



View of typical corrosion noted on the metal railing.

© 2024 Pinchin Ltd.



View of minor corrosion at a steel framed gazebo.



View of typical deterioration noted in the concrete curbs serving the Site.



View of typical deterioration noted in the pavers serving the Site.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends and has included allowances to repair and replace the cracked and deteriorated areas of the asphalt pavement. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of the analysis. Assuming that the above-referenced deficiencies are addressed and regular annual maintenance is performed, the Site features should continue to perform in a satisfactory manner throughout the term of the analysis. Assessment of or

© 2024 Pinchin Ltd.

comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

3.9 Mechanical Systems

3.9.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Vaughan
Electric	-	Alectra Utilities
Sewer	-	City of Vaughan
Natural Gas	-	Enbridge
Police	-	York Regional Police Services
Fire	-	City of Vaughan Fire and Emergency Services

3.9.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating, ventilation and cooling within the Site Building are provided by HVAC equipment described as the follows; it is noted that the HVAC equipment is controlled by a central Building Automation System (BAS). The BAS monitors time and regulates the programmable temperatures of each zone within the building:

- Eleven natural gas-fired heating and electrically-powered cooling rooftop-mounted HVAC units provide primary heating and cooling within the Site Building. Based on the review of the data plates, the HVAC units were manufactured in 2007 (i.e., ~ 17 years old) with heating capacities ranging between 130,000 and 260,000 BTUH, as well as cooling capacities ranging between 6 and 25 tons. Refer to the chart below for details of the units:

# of Units	Manufacturer	Heating Capacity (BTUH)	Cooling Capacity	Age (Years)
1	Lennox	260,000	25 tons	2007 (i.e., ~ 17 years old)
4	Lennox	260,000	20 tons	2007 (i.e., ~ 17 years old)
1	Lennox	260,000	13 tons	2007 (i.e., ~ 17 years old)
1	Lennox	240,000	20 tons	2007 (i.e., ~ 17 years old)
3	Lennox	130,000	7.5 tons	2007 (i.e., ~ 17 years old)

© 2024 Pinchin Ltd.

- Additional heating within the Site Building is provided by hydronic baseboard radiators and suspended unit heaters which are supplied with hot water via two “Viessmann” natural gas-fired boilers. Based on a review of the data plates, the boilers were manufactured in 2006 (i.e., ~ 18 years old) with input heating capacity of 1,030,000 BTUH each. The boilers are located within the mechanical penthouse. It is noted that the boiler system is equipped with two circulation pumps rated at 5 horsepower (hp) each;
- Supplementary ventilation and heating within the Site Building is provided by two “Engineered Air” natural gas-fired Make-Up Air (MUA) units. One MUA is located in the UPG, while the second unit is rooftop-mounted. The units were manufactured in 2007 (i.e., ~ 17 years old). Refer to the chart below for details of the individual units:

Location	Manufacturer	Heating Capacity (BTUH)	Air Supply Capacity (CFM)	Age (Years)
UPG	Eng. A	1,784,160	18,000	2007 (i.e., ~ 17 years old)
Rooftop	Eng. A	Unknown	20,000	2007 (i.e., ~ 17 years old)

- Additional cooling within the server room is provided by three “Liebert” rooftop-mounted condensing units. Based on a review of the data plates, the units were manufactured in 2007 (i.e., ~ 17 years old).

The inspection of the interior ductwork or associated components was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin’s experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.9.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by three natural gas-fired self-contained DHW heaters located in the mechanical penthouse. Based on review of the data plates, the three “Rheem/Ruud” DHW heaters were manufactured in 2007, 2021 and 2022 (i.e., ~ 17, 3 and 2 years old) and possesses a maximum input heating capacity of 199,000 BTUH and a volumetric storage capacity of 100 to 120 gallons, each. There was no shortage of hot water noted or reported to Pinchin at the time of the Site visit.

© 2024 Pinchin Ltd.

3.9.4 Plumbing

Drainage piping within the Site Building consists of Polyvinyl Chloride (PVC) as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems the condition of the systems could not be verified.

The main water lines are located in the main sprinkler room of the Site Building. A 2" backflow prevention device manufactured by "Watts" was observed with recent inspection completed by "V.A. Reid & Sons Ltd." in April 2023.

The Site Building possesses a sump pit equipped with two sump pumps located within the 2nd level basement. Due to the concealed nature of the plumbing system, the condition of the equipment could not be verified. The Site Representative did not report any active or previous pipe leaks or issues with the sump pits/pumps within the Site Building. There were no major problems reported or observed.

The Site possess a water fountain located in the central portion of the west parking lot. The water fountain possesses a circulation pump rated at 7.5 hp.

Inspection of the storm and sanitary lines using video scoping may be considered every 5 – 8 years after an initial 25 year period to determine the condition of the lines and any potential problems such as collapsed piping or tree roots. Scoping of the lines is considered to be operating expenditure.

3.9.5 Fire Protection

Fire protection within the Site Building is provided by wet and dry sprinkler systems; it is noted that the dry sprinkler system is dedicated to the UPG. The main shutoff valve and riser for the sprinkler system are located in the UPG. A cabinet containing an extra supply of sprinkler heads and an installation tool were noted within the main sprinkler room. The sprinklers and standpipes are reportedly equipped with electronic flow alarms which are monitored by "Convergint" an independent contractor. The fire protection systems are reportedly serviced annually by "Onyx Fire Protection Services Inc." and were last inspected in March 2023. The fire department connections serving the sprinkler system are located on the south elevation of the Site Building. The Site possess two fire hydrants; one located on the south perimeter of the Site and one located adjacent to the north elevation of the Site Building. Supplementary fire protection within the Site Building is provided by dry chemical fire extinguishers located throughout the building (i.e., corridors, utility rooms and entrances/exits, etc.).

Additional fire protection within the Computer Room located on the 2nd floor and Systems Control Room located on the 3rd floor is provided by a "Pre-action FM 200" sprinkler system. The system requires both the sprinkler unit and heat detector to be activated before releasing water into the two rooms.

© 2024 Pinchin Ltd.

A chemical commercial fire suppression system protects the cooking surface area of the ground floor kitchen serving the cafeteria. This system is activated manually by a pull station located adjacent to the cooking area or automatically via a fusible link. The suppression systems are also reportedly serviced by "Onyx Fire Protection Services Inc." and were last inspected in November 2023.

Table 3.9 outlines the findings of the inspection of the mechanical systems:

Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The ten rooftop-mounted HVAC units are approximately 17 years old and will reach their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the rooftop packaged HVAC units within the term of analysis.
• The condensing units serving the server room are approximately 17 years old and will surpass its EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the condensing units serving the server room.
• The MUA units are approximately 17 years old and are anticipated to reach their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the MUA units within the term of analysis.
• The heating boilers are approximately 18 years old and are anticipated to reach the end of their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the heating boilers within the term of analysis.
Minor Deficiencies/Findings	
• One DHW heater is approximately 17 years old and has surpassed the end of its EUL.	• Replacement of the older DHW heater is recommended and can be completed at a below threshold cost.



View of a typical rooftop-mounted HVAC unit serving the Site Building.

© 2024 Pinchin Ltd.



General view of the heating boilers serving the Site Building.

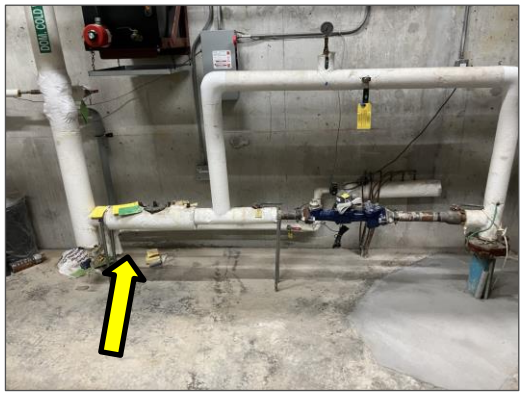


View of a typical hydronic suspended unit heater associated with the heating boiler.



View of the rooftop-mounted MUA serving the Site Building.

© 2024 Pinchin Ltd.



General view of the main incoming domestic waterline and meter.

Note: Backflow preventer installed.



View of the DHW heaters serving the Site Building.



General view of pump equipment serving the outdoor water fountain.

© 2024 Pinchin Ltd.



View of the main sprinkler risers.



View of the fire department connection located on the south elevation of the Site Building.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Based on the age of the existing mechanical equipment, the following items are recommended to be addressed during the term of the analysis and replacement allowances have been carried:

- Initiate the phased-in replacement of the rooftop-mounted HVAC units within the early portion of the term of analysis;
- Replacement of the three rooftop-mounted condensing units; and
- Replacement of the MUA units.

One DHW heater was noted to be approximately 17 years old, Pinchin recommends replacement of the DHW heater within the early portion of the term of analysis, replacement can be achieved below the capital threshold value.

Assuming that the above-referenced deficiencies are addressed and regular maintenance is performed, the mechanical systems of the Site Building should continue to perform in a satisfactory manner throughout the term of analysis.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical components was not

© 2024 Pinchin Ltd.

included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.10 Electrical Systems

3.10.1 Electrical Power

The electrical power for the Site Building is supplied from a pad-mounted transformer located on the northwest portion of the Site and feeds the main electrical room via underground wires. The electrical service for the Site Building includes a “Cutler-Hammer” main disconnect switch with a maximum rating of 1,200 Amperes based on the equipment data plate.

The Site Building possesses a 400 kW “Generac” diesel fired emergency power generator noted on the northwest portion of the Site. Power to the Site Building is automatically transferred via an automatic transfer switch which was noted to be manufactured by “Asco”. It was reported that the generator set and automatic transfer switch are approximately 17 years old. Inspections and servicing of the emergency generator is reportedly performed by “Total Power” an independent contractor. It was reported that the emergency generator supplies power the fire alarm systems, emergency lighting and exit signs and an elevator. In the event of a power outage power to the computer systems and servers is provided by a 60 kVA Uninterruptible Power Supply (UPS) which is located in the server/UPS room.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.10.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Mircom FX-2000” fire alarm panel. The main fire alarm panel is located within the electrical room within the UPG while the annunciator panel was noted within the UPG entrance door. The fire alarm main control panel is original to the time of construction of the Site Building in approximately 2008 (i.e., approximately 16 years old). The fire alarm system monitors flow control switches/sensors within the sprinkler system as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. The systems are reportedly monitored by “Convergint” an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “Onyx Fire Protection Services Inc.” an independent contractor. The last date of inspection for the fire alarm panel and associated systems took place in March 2023.

Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by the emergency generator.

© 2024 Pinchin Ltd.

Table 3.10 outlines the findings of the inspection of the electrical systems:

Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The fire alarm panel is approximately 16 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc.
Minor Deficiencies/Findings	
• The emergency generator is approximately 17 years old and is anticipated to reach its mid-life within the term of analysis.	• Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the generator within the term of analysis.



General view of the pad-mounted transformer serving the Site.



General view of the main electrical switch serving the Site Building.

© 2024 Pinchin Ltd.



General view of the diesel-fired emergency backup generator serving the Site Building.



General view of the main fire alarm panel serving the Site Building.



General view of the annunciator fire alarm panel serving the Site Building.

© 2024 Pinchin Ltd.



View of the typical illuminated exit signage serving the Site Building.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner. Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc. Additionally, Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the generator within the term of analysis.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted on equipment data plate. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required.

The electrical and life safety systems should continue to perform satisfactorily over the term of analysis assuming regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 27, 2024 the Site Building appears to be in satisfactory condition, and in comparable standing to other similar commercial residential properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

© 2024 Pinchin Ltd.

As noted during the Site visit, deficiencies relating to the minor repair to the roof systems, wall systems, elevator systems, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the TPO membrane roof systems within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the rooftop packaged HVAC units within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the condensing units serving the server room;
- Pinchin recommends and has included allowances for the replacement of the MUA units within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the heating boilers within the term of analysis;
- Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis; and
- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the generator within the term of analysis.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, balcony systems, structural elements, underground parking garage, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

© 2024 Pinchin Ltd.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 – 15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process*.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive

© 2024 Pinchin Ltd.

inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

© 2024 Pinchin Ltd.

APPENDIX I

Table 1 – Summary of Anticipated Expenditures

Baseline Property Condition Assessment
161 Cityview Boulevard
Vaughan, Ontario

Table 1: Summary of Anticipated Expenditures

Confidential

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing - Replacement of the TPO membrane systems	17 - 20	16	1 - 4	32,000	SF	$18	$576,000					$576,000							$576,000
Roof Structures and Roofing (General Maintenance) Below Threshold																			
Wall Systems																			
Exterior Walls (General Maintenance) Below Threshold																			
Exterior Windows and Doors																			
Structural Elements																			
Foundations																			
Superstructure																			
Underground Parking Garage																			
Concrete Repairs - Repairs (i.e., Concrete Ramp) Below Threshold																			
Concrete Repairs - Replacement of the ramp snow melting system	~20	~17	~3	1	LS	$15,000	$15,000					$15,000							$15,000
Waterproofing																			
Vertical Transportation Systems																			
Elevator Systems - Speacialist Review Below Threshold																			
Interior Finishes																			
Interior Finishes																			
Site Features																			
Parking and Paving																			
Concrete Walkway and Curbing - Repairs (i.e., Curbs, Steps, Walkways, Pavers) Below Threshold																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling - Replacement of the eleven HVAC units	~20	17	~3	1	LS	$481,500	$481,500				$166,500	$315,000							$481,500
Building Heating and Cooling - Replacement of the condensing units	~20	17	~3	1	LS	$24,000	$24,000				$24,000								$24,000
Building Heating and Cooling - Replacement of the MUA units	20 - 25	17	3 - 8	1	LS	$122,000	$122,000									$122,000			$122,000
Building Heating and Cooling (Heating boilers replacement allowance)	~25	~18	~7	2	EA	$60,000	$120,000								$120,000				$120,000
Hot Water - Replacement of the aging DHW heater Below Threshold																			
Fire Protection																			
Electrical Systems																			
Electrical Systems (Emergency Generator Mid-Life Overhaul)	~30	~17	~13	1	LS	$20,000	$20,000			$20,000									$20,000
Fire and Life Safety Systems (Fire alarm panel replacement - Preliminary Allowance)	~20	~17	~3	1	LS	$30,000	$30,000					$30,000							$30,000
							TOTALS (UNINFLATED)	**$0**	**$0**	**$20,000**	**$190,500**	**$936,000**	**$0**	**$0**	**$120,000**	**$122,000**	**$0**	**$0**	**$1,388,500**
Term of Analysis	**10**						**INFLATION FACTOR**	**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
Cost Threshold	**$5,000**						**TOTALS (INFLATED)**		**$0**	**$20,600**	**$201,930**	**$1,020,240**	**$0**	**$0**	**$141,600**	**$147,620**	**$0**	**$0**	**$1,531,990**

Total SF within the Site Building(s)	**92,000**
Average Cost per SF per Year (Uninflated)	**$1.51**
Average Cost per SF per Year (Inflated)	**$1.67**

LS - Lump Sum
SF - Square Foot
EA - Each (per unit component)
LF - Linear Foot



FINAL

Baseline Property Condition Assessment

340 Vansickle Road, St. Catharines, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West,
Mississauga, ON L5N 7A6

March 28, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 28, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Natalie Kwist
Project Coordinator
289.339.8190
nkwist@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Senior Project Manager
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 340 Vansickle Road, St. Catharines, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is an irregular-shaped property approximately 10.1 acres in area. The Site is occupied by a two-storey office building complete with a single-storey warehouse and fleet repair and parking garage (the Site Building).

The Site Building is reported to have been constructed in approximately 1978 with an addition to the south elevation in approximately 2002. The Site Building possesses a footprint area of approximately 55,800 Square Feet (SF) and total building area of approximately 63,367 SF. The Site Building possesses asphalt surfaced parking areas adjacent to all elevations of the Site Building with parking for approximately 190 vehicles.

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and concrete block masonry foundation walls. The superstructure of the Site Building is comprised of a steel-framed support structure (i.e., beams, columns and open web steel joists) supporting cast-in-place concrete floor slabs and corrugated steel roof decks. The exterior walls of the Site Building consist of concrete block masonry at all elevations.

The Site Building appears to be in satisfactory condition, commensurate with its ages and in comparable standing to other similar light industrial/office properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $2,140,500 have been identified. As noted during the Site visit, deficiencies relating to the roof systems, wall systems, interior finishes, Site features and

© 2024 Pinchin Ltd.

mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included an allowance for the replacement of the Built-Up asphalt Roof (BUR) systems that have surpassed their Expected Useful Life (EUL) within the early portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the modified bitumen roof systems serving the west portion of the building which will reach their EUL within the early to mid-portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the modified bitumen roof systems serving the south portion of the building will reach their EUL within the early portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the aged windows serving the Site Building within the term of analysis;
- Pinchin recommends and has included allowances for the repairs to the wall systems serving the Site Building within the term of analysis;
- Pinchin recommends and has included allowances for phased asphalt replacements throughout the term of analysis;
- Allowances for replacement of six rooftop Heating, Ventilation and Air Conditioning (HVAC) units that will reach or have reached their EUL within the term;
- Allowances for replacement two condenser units that will reach or have reached their EUL within the term;
- Allowances for replacement two split system heat pump units that will reach or have reached their EUL within the term;
- Allowances for replacement of one Air Handling Unit (AHU) that will reach its EUL within the term;
- Allowances for replacement of three heat pump units that will reach their EUL within the term;
- Pinchin recommends and has included allowances for the replacement of the five suspended radiant tube heaters within the term of analysis;
- Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis; and

© 2024 Pinchin Ltd.

- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevators, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 3
3.2 Roof Systems 6
3.3 Wall Systems 11
3.4 Structural Elements 16
3.5 Elevator Systems 18
3.6 Interior Finishes 20
3.7 Site Features 24
3.8 Mechanical Systems 29
3.8.1 Major Service Providers 29
3.8.2 Heating, Ventilation and Air Conditioning (HVAC) 29
3.8.3 Domestic Hot Water 31
3.8.4 Plumbing 31
3.8.5 Fire Protection 31
3.9 Electrical Systems 35
3.9.1 Electrical Power 35
3.9.2 Fire Alarm System and Life Safety 36
4.0 KNOWN VIOLATIONS OF CODE 39
5.0 CONCLUSIONS AND RECOMMENDATIONS 39
6.0 TERMS AND LIMITATIONS 40

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 - Site Information 4
Table 3.2 – Roof Systems 7
Table 3.3 – Wall Systems 11
Table 3.4 – Structural Elements 16
Table 3.5 – Elevator Systems 19
Table 3.6 – Interior Finishes 21
Table 3.7 – Site Features 25
Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection) 32
Table 3.9 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 36

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 340 Vansickle Road, St. Catharines, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Client has advised Pinchin that no previous BPCAs or other building reports have been prepared for the Site.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms and Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The elevator systems;
- The interior finishes of the common areas and a selection of the individual premises;
- The Site features;
- The mechanical systems (i.e., HVAC, domestic hot water, plumbing, etc.); and

© 2024 Pinchin Ltd.

- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

© 2024 Pinchin Ltd.

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS

3.1 Site Information



General view of the north elevation of the Site Building.



General view of the east elevation of the Site Building.

© 2024 Pinchin Ltd.



General view of the south elevation of the Site Building.



Partial view of the west elevation of the Site Building.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Site Address	**340 Vansickle Road, St. Catharines, Ontario**		
Existing Land Use Type	Commercial	*Primary On-Site Activity*	Light Industrial/ Office Building/ Mechanic Shop
Multi-Tenant/Single Occupant	Single-tenant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 10.1 acres
Number of Buildings	One	*Building Footprint Area(s)*	~ 55,800 SF
Number of Stories (Excluding Basement)	Two storey office Single storey warehouse/garage	*Total Rentable Building Area(s)*	~ 63,367 SF
Date Building(s) Constructed	~ 1978 with an addition to the south in ~ 2002	*Area of Tenant Spaces*	~ 63,367 SF

© 2024 Pinchin Ltd.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Date Building(s) Renovated	Ongoing	*Basement and/or U/G Parking*	N/A
Type of Roof System(s)	Built-Up asphalt Roof (BUR) Modified bitumen	*Number of Levels U/G*	N/A
Type of Wall Cladding	Concrete block masonry	*Area of Roof System(s)*	West Modified Bitumen: ~ 15,000 SF South Modified Bitumen: ~ 8,000 SF East BUR: ~ 32,800 SF
Type of Doors	Single Glazed (SG) and Insulated Glass (IG) units within aluminum frames Solid wood doors within metal frames Hollow metal doors within metal frames some complete with Georgian Wired Glass (GWG) Sectional metal overhead doors complete with IG inserts	*Types of Windows*	Fixed IG units within aluminum frames
Number of Above Grade Parking Spaces	190	*Electrical Source*	Alectra Utilities

© 2024 Pinchin Ltd.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Surface Type	Asphalt paved parking areas and driveways Cast-in-place concrete walkways Interlocking concrete paver walkways and patio Gravel surfaced driveways Soft landscaping (i.e., grassed areas with trees)	*Type of Heating/Cooling*	Natural gas-fired heating and electrically powered cooling rooftop mounted Heating, Ventilation and Air Conditioning (HVAC) units Electrically powered condenser units Electrically powered split A/C units Electrically powered heat pump and split heat pump units Natural gas-fired radiant tube heaters Electrically powered baseboard heaters and forced air units Air Handling Units (AHU)s

3.2 Roof Systems

The roof systems of the Site Building consist of a combination of conventionally designed, “near-flat” Built-Up asphalt Roof (BUR) systems and modified bitumen roof systems installed atop a layer of rigid insulation, atop metal roof decks. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing.

Drainage of the roof systems is provided by internal roof drains which presumably drain to the municipal sewer system. The roof systems consist of three main roof systems, one atop the second-floor office portion at the west portion of the Site Building, one section atop the garage/warehouse at the east portion of the Site Building, and one atop the south addition of the Site Building. The Site Representative reported that the BUR systems are over 25 years, the modified bitumen system serving the north office portion was replaced between 2000 and 2005 (i.e., ~ 19-24 years old), and the modified bitumen serving the south addition is original to construction in 2002 (i.e., ~ 22 years old).

Penetrations through the roof systems consist of plumbing vents, roof drains, HVAC curbs, skylights, HVAC curbing and pitch pockets serving conduits. The total area of the roof systems is similar to the

© 2024 Pinchin Ltd.

footprint area of the Site Building with approximately 15,000 SF at the west modified bitumen system, approximately 8,000 SF at the south modified bitumen system, and approximately 32,800 of BUR system. No active leaking within the roof systems was reported during the assessment.

Solar photovoltaic energy systems were noted to have been installed on the upper roof system of the Site Building which reportedly produce electricity for “Alectra Utilities”. As reported to Pinchin by the Site Representatives, the solar photovoltaic energy systems are owned by “Alectra Utilities”.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

Additionally, it should be noted that due to presence of solar panels atop the upper roofs, a thorough assessment of the concealed portions of the roof systems of the Site Building was not possible at the time of the Site visit; therefore, the visual condition of the covered areas could not be verified.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The BUR systems are reported to be over 25 years old and have reached their Expected Useful Life (EUL).	• Pinchin recommends and has included an allowance for replacement of the BUR systems within the early portion of the term of analysis.
• The modified bitumen system serving the south addition of the Site Building is reportedly original to construction in 2002 (i.e., ~ 22 years old) and will reach their EUL within the early portion of the term.	• Pinchin recommends and has included an allowance for replacement of the modified bitumen roof system at the south portion of the building within the early portion of the term of analysis.
• The modified bitumen systems serving the west portion of the Site Building are estimated to be between 19 to 24 years old and will reach their EUL within the term of analysis.	• Pinchin recommends and has included an allowance for replacement of the modified bitumen roof system at the west portion of the building within the early to mid-portion of the term of analysis.
• Granule loss and staining was noted atop the modified bitumen roof systems.	• Replace the modified bitumen roof systems.
Minor Deficiencies/Findings	
• Areas of asphalt bleed through noted atop the BUR systems.	• Monitor for further deterioration until replacement of the BUR systems is completed.
• Debris accumulation and areas of organic growth was noted atop the BUR systems.	• Clear debris and organic growth from the surface of the roof systems as part of ongoing general maintenance.

© 2024 Pinchin Ltd.

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
• Perimeter sealants were noted to be deteriorated (i.e., aged, de-bonded, etc.).	• Replacement of deteriorated sealants is recommended.



General view of the BUR system atop the east portion of the Site Building.



General view of the BUR system atop the central portion of the Site Building.



General view of the BUR system atop the west portion of the Site Building.

© 2024 Pinchin Ltd.



View of the solar panels atop the Site Building.



View of granule loss atop the west modified bitumen system.



View of granule loss and staining noted atop the south modified bitumen system.

© 2024 Pinchin Ltd.



View of asphalt bleed through noted atop the BUR systems.



View of a typical failed sealant noted atop the roof systems.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a BUR system typically ranges between 20 to 25 years, and the EUL of a modified bitumen system ranges between 23 to 25 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained. It has been Pinchin's experience that the Expected Useful Life (EUL) of a BUR system typically ranges between 20 to 25 years, and the EUL of a modified bitumen system ranges between 23 to 25 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained.

As noted above, the BUR systems are reportedly over 25 years old, while the modified bitumen system serving the south addition is original to its construction date in 2002 (i.e., ~ 19 years old), and the modified bitumen system serving the west office area ranges between 19 and 24 years old. As such, Pinchin has carried an allowance for replacement of the aged BUR and modified bitumen roof systems within the early to mid portion of the term of analysis.

Assuming the above-mentioned deficiencies are addressed and that regular annual maintenance is performed, the roof systems serving the Site Building should perform in a satisfactory manner throughout the term of the analysis. Minor repairs to the roof system throughout the term can be completed below the cost threshold of reporting.

© 2024 Pinchin Ltd.

Annual walk-on inspections are recommended to ensure any deficiencies or issues are discovered and attended to in a timely manner in order to preserve the integrity and longevity of the roof system.

3.3 Wall Systems

The exterior walls of the Site Building consist of concrete block masonry at all elevations.

The window systems of the Site Building consist of fixed Insulated Glass (IG) units, some of which possess operable (i.e., casement) units within prefinished aluminum frames set into punched openings and strip configurations. The window units were noted to be complete with 2002 (i.e., ~ 22 year old) date stamps at the south addition of the building, and 1978 (i.e., ~ 46 year old) date stamps serving the original building. Select window units were noted to have been replaced in 2013.

The door systems of the Site Building consist of Single Glazed (SG) and IG doors complete with SG and IG sidelites within prefinished aluminum frames which serve the main and secondary entrances and vestibule areas. Metal doors, some of which possess GWG inserts within hollow metal frames serve the emergency exits and stairwells. SG doors, some of which possess SG sidelites within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors, which possess IG inserts within hollow metal frames serve the drive-in bay areas on the north and east elevations.

It should be noted that the as-built condition of the fasteners, which secure the precast concrete wall panels to the building structural frame, could not be determined at the time of the Site visit as these components are concealed or inaccessible and could not be observed through a visual inspection.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The windows serving the original portion of the Site Building are approximately 46 years old and have reached their EUL.	• Pinchin recommends and has included allowances for the replacement of the windows serving the Site Building within the early portion of the term of analysis.
• Peeling paint and efflorescence was noted at multiple locations of the block masonry walls serving the Site Building with areas of delamination and cracking.	• Pinchin has carried a contingency allowance for repairs to the masonry walls within the early portion of the term of analysis.

© 2024 Pinchin Ltd.

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Minor Deficiencies/Findings	
• Exterior sealants (i.e., windows, doors, joints, penetrations, etc.) were noted to be deteriorated throughout.	• Comprehensive sealant replacements are recommended during wall repairs and window replacements.
• Vertical cracking was present at the northeast, southeast and south portion of the Site Building.	• Repairs should be completed under supervision of a Structural Engineer as noted in section 3.4 Structural Systems of this report.



General view of the wall systems serving the Site Building.



View of typical efflorescence and peeling paint noted at the masonry walls on the south elevation.

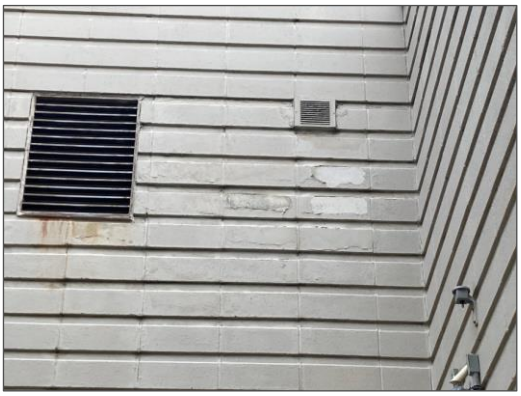
© 2024 Pinchin Ltd.



View of typical efflorescence, cracking and peeling paint with areas of vertical cracking noted at the masonry walls on the south elevation.



View of typical efflorescence and peeling paint noted at the masonry walls on the south elevation.



View of typical efflorescence and peeling paint noted at the masonry walls on the south elevation.

© 2024 Pinchin Ltd.



View of staining noted within the concrete block masonry walls on the west elevation.



View of typical failed sealants at window units of the Site Building.



View of failed control joint sealants serving the Site Building.

© 2024 Pinchin Ltd.



View of failed sealants noted at wall penetrations on the east elevation.



View of typical efflorescence and peeling paint noted at the masonry walls on the north elevation.



View of spalled block masonry noted at the north elevation.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the exception of the above noted deficiencies. Pinchin recommends and has included allowances for the replacement of the windows serving the Site Building within the term of analysis as well as wall repairs. Assuming the above mentioned deficiencies are addressed and that regular annual maintenance is performed, the walls, windows and door systems of the Site Building should continue to perform satisfactorily throughout the term of analysis.

© 2024 Pinchin Ltd.

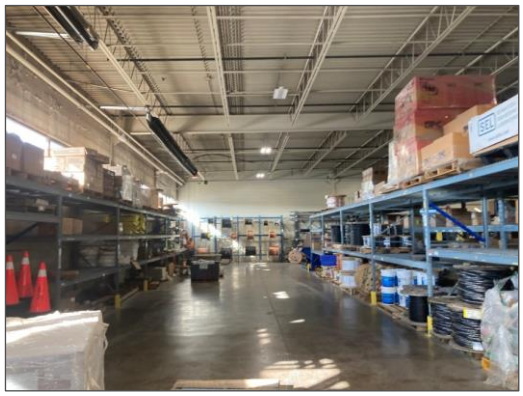
3.4 Structural Elements

As outlined in the scope of work, a visual assessment of the condition of the structural elements was carried out on the elements which were visible at the time of the inspection. The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and concrete block masonry foundation walls. The superstructure of the Site Building is comprised of a steel-framed support structure (i.e., beams, columns and open web steel joists) supporting cast-in-place concrete floor slabs and corrugated steel roof decks. No structural drawings were available to Pinchin for review.

Table 3.4 outlines the findings of the inspection of the structural elements:

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Areas of vertical cracking are present at the block masonry walls on the northeast and southeast corners of the Site Building.	• Pinchin recommends and has included a preliminary allowance for the repair of the affected areas of deteriorated block masonry walls. Pinchin recommends that the masonry walls be assessed by a structural engineer prior to repair work being completed. Final repair costs can not be determined prior to review by a Structural Engineer.
• Locations of gapping between the exterior masonry wall and concrete slab-on-grade were noted at the south portion of the Site Building.	• Pinchin recommends that the masonry walls be assessed by a structural engineer.



View of typical structural steel framing within the Site Building.

© 2024 Pinchin Ltd.



View of cracking noted within the block masonry wall at the southeast corner of the Site Building.



View of cracking noted within the block masonry wall at the northeast corner of the Site Building.



View of gapping between the exterior masonry wall and concrete slab-on-grade at the south portion of the Site Building.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work. Similarly, the identification and assessment of any post-tension reinforcing is not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure.

Pinchin recommends a Structural Engineer be retained to further investigate the above noted deficiencies at the Site Building within the early portion of the term prior to any repair work. Depending on the extent of

© 2024 Pinchin Ltd.

the deficiencies, repair costs may be significant. Pinchin has attempted to identify and quantify the deficiencies associated with the structural systems, however an investigation of the components should be completed by a Structural Engineer prior to the repair work and to ensure the extent of deterioration is fully understood. Precise cost estimates would require more detailed investigation to define the scope of work. Superficial or visual signs of structural deterioration may indicate the need for extensive repairs which can only be estimated by performing a detailed investigation of the structure and the structural design.

Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no other major deterioration existed within the visibly accessible components of the Site Buildings.

3.5 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1	Elevator #1
Manufacturer:	Savaria	Savaria
Drive System:	Hydraulic	Hydraulic
Floors Served	1-2	1-2
Date installed:	1978 with modernization in 2012	Reportedly within the last 5 years
Capacity:	1400 lbs or 8 persons	341 kg or 1 person and wheelchair
Function:	Passenger	Lift
Alarm:	Yes	Yes
Emergency Stop:	No	Yes
Emergency Phone:	Yes	Yes
Emergency Power:	Yes	Yes

The typical elevator "full maintenance" contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a "full maintenance" contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to "Acts of God" (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by "Otis Elevator Company" on a monthly basis.

© 2024 Pinchin Ltd.

Table 3.5 outlines the findings of the inspection of the Elevator Systems:

Table 3.5 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



View of the elevator cab.



View of the controls within the elevator cab.

© 2024 Pinchin Ltd.



View of the elevator hydraulic reservoir.



View of the hydraulic lift.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

The elevator systems of the Site Building are reportedly performing in a satisfactory manner. It was reported to Pinchin that the elevators are maintained and serviced by “Otis Elevator Company”. Assuming the full elevator maintenance contract is fulfilled and the elevator components are modernized no other major expenditures should be required within the term of the analysis.

3.6 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment.

The floor finishes within the Site Building consist of vinyl flooring, ceramic floor tiles and carpeting within the office areas, corridors, and lunchrooms, while ceramic floor tiles were noted within the vestibule areas and public washrooms. The floor finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed concrete floor slabs.

© 2024 Pinchin Ltd.

The wall finishes within the office areas of the Site Building consist of painted gypsum board finishes throughout, while a combination of ceramic wall tiles and painted gypsum wall boards were noted within the public washrooms. The wall finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed concrete block masonry walls.

The ceiling finishes within the office areas of the Site Building consist of suspended ceiling assemblies complete with lay-in-tiles and painted gypsum ceiling boards throughout. The ceiling finishes within the warehouse and vehicle service/repair areas consist of exposed steel structural elements (i.e., beams, trusses, OWSJs and steel roof decking).

Table 3.6 outlines the findings of the inspection of the interior finishes:

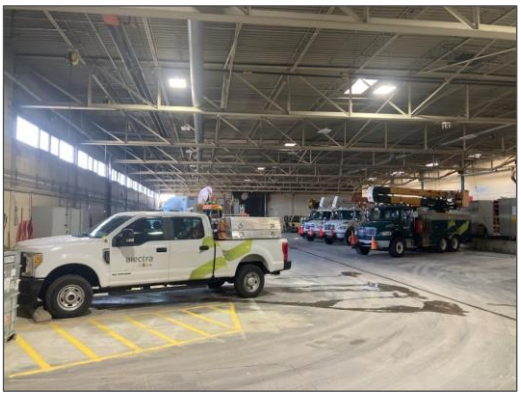
Table 3.6 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Stained ceiling tiles were noted within the office space of the Site Building.	• Remove the affected ceiling tiles, identify and repair any source of moisture and replace the ceiling tiles.
• Peeling paint with efflorescence is present throughout the interior walls of the Site Building within the garage/warehouse spaces as well as within the outbuilding.	• Consideration should be given to completing a specialist review of the wall systems. • Strip the existing paint and repaint the affected areas.
• Cracking was noted within the floor slabs within the garage/warehouse areas.	• Route and seal the areas of cracking.
• Masonry joint sealants between concrete block walls and adjacent steel columns noted to be deteriorated (i.e., aged, de-bonded, etc.) at the garage/warehouse areas.	• Replace the deteriorated sealants.

© 2024 Pinchin Ltd.



View of typical interior finishes within the office areas.



View of typical interior finishes within the garage areas.



View of stained ceiling tiles noted within the office spaces.

© 2024 Pinchin Ltd.



View of peeling paint and efflorescence noted within the masonry walls of the garage/warehouse spaces.



View of peeling paint and efflorescence noted within the masonry walls of the garage/warehouse spaces.

Note: Failed/debonded sealants at masonry walls.



View of cracking noted within the cast-in-place concrete floor slabs of the garage/warehouse spaces.

© 2024 Pinchin Ltd.



View of of peeling paint noted at the interior masonry wall of the outbuilding.

The interior finishes within the Site Building were generally observed to be in satisfactory condition with the exception of the above referenced minor deficiencies. Consideration should be given to completing a specialist review of the wall systems. Pinchin recommends that the above referenced deficiencies be addressed and that regular annual maintenance of the interior finishes be performed throughout the term of analysis.

3.7 Site Features

The Site Building occupies approximately 13% of the 10.1 acre Site. The remainder of the Site is surfaced with soft landscaping (i.e., grassed areas with trees) parking areas and drive aisles surfaced with asphalt pavement, and gravel surfaced storage areas. The asphalt paved parking areas are located on all elevations of the building possess parking provisions for approximately 190 vehicles. The asphalt paved parking areas were noted to be bordered by modular curbs, cast-in-place concrete curbs, walkways and soft landscaping.

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

Soft landscaping was noted adjacent to the south and west elevations of the building as well as the perimeters of the Site. Cast-in-place concrete walkways serve the main entrance areas located adjacent to the west elevation of the Site Building. Cast-in-place concrete aprons serve the drive-in bays located at the north and east elevations.

Gravel-surfaced storage areas are present at the north and east portions of the Site and are enclosed with chain link fencing and automatic chain link gates. Chain link fences are present enclosing the yard

© 2024 Pinchin Ltd.

areas and staff parking areas with automatic sliding chain link gates at the west and east portions of the Site.

A steel framed storage building (i.e., steel columns set into cast-in-place concrete footings with steel beams supporting sloped metal roof systems) is located at the north portion of the Site. The storage building was reportedly constructed in approximately 2013 (i.e., ~ 11 years old). Drainage of the sloped metal roof is provided via eavestroughs and downspouts which discharge at grade level. The storage building was noted to be clad with vertical metal cladding. There is no heating/cooling or water supply to the storage building.

In addition, an outbuilding constructed with a cast-in-place concrete slab-on-grade with concrete block masonry walls supporting low sloped steel roof systems is present at the east portion of the Site. The age of the building was unknown by the Site Representative. Drainage of the sloped metal roof is provided via eavestroughs and downspouts which discharge at grade level. The storage building is clad with painted concrete block masonry walls at all elevations. The storage building is heated via an electrically powered suspended unit heater. The main electrical service is fed from the main Site Building and consists of a 100 Ampere “Square D” main disconnect.

An additional small steel framed shelter is located at adjacent to the metal storage building and is reportedly used as the designated smoking area.

Vehicular access to the Site is provided by three entrances from Vansickle Road located on the west portion of the Site, and one entrance from Ridley Road located on the south portion of the Site.

Table 3.7 outlines the findings of the inspection of the Site features:

Table 3.7 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Areas of deterioration were noted within the asphalt pavements throughout the Site.	• Pinchin has carried allowances for the repair/replacement of the asphalt pavements.
Minor Deficiencies/Findings	
• Corrosion noted at the base of impact bollards throughout the Site.	• Clean corrosion from the affected surfaces and apply a corrosion inhibitive coating.
• Faded/peeling paint finishes were noted at the overhead doors and man doors serving the outbuilding.	• Refinish the affected overhead doors and man doors.

© 2024 Pinchin Ltd.



General view of the asphalt paved parking areas on the west portion of the Site.



General view of the asphalt paved parking areas on the south portion of the Site.



View of the asphalt paved drive aisles and gravel surfaced storage areas on the northeast portion of the Site.

© 2024 Pinchin Ltd.



General view of the steel storage structure on the west portion of the Site.



General view of the outbuilding structure on the east portion of the Site.



General view of the steel structure on the north portion of the Site.

© 2024 Pinchin Ltd.



View of typical linear cracking noted throughout the asphalt pavements on the west portion of the Site.



View of typical potholes and deterioration noted within the asphalt pavements on the south portion of the Site.



View of typical alligator cracking noted within the asphalt pavements on the north portion of the Site.



View of corrosion noted at the impact bollards serving the Site.

© 2024 Pinchin Ltd.



View of faded paint finishes noted at the overhead doors of the outbuilding.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis. Repairs to the remaining minor deficiencies are anticipated to fall below the reporting threshold. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

3.8 Mechanical Systems

3.8.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Barrie
Electric	-	Alectra Utilities
Sewer	-	City of Barrie
Natural Gas	-	Enbridge
Police	-	Barrie Police Service
Fire	-	Barrie Fire Department

3.8.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating and cooling within the Site Building is supplied by a combination of rooftop mounted Heating, Ventilation and Air Conditioning (HVAC) units, rooftop mounted condenser units and split A/C units, electrically powered heat pump units, Air Handling Units (AHUs), and natural gas-fired radiant tube heaters. Supplemental heating is provided by electrically powered forced air suspended unit heaters and electrically powered baseboard heaters.

The systems are summarized in the following table:

© 2024 Pinchin Ltd.

Type of Unit	Number of Units	Manufacturer's Name	Manufacturing Date (Age)	BTUH	Cooling Capacity (Tonnage)
HVAC	1	York	2012 (12)	400,000	25
	1	York	2012 (12)	400,000	15
	1	York	2013 (11)	400,000	25
	1	American Standard	2002 (22)	48,000	Unknown*
	1	York	2019 (5)	125,000	5
	2	Trane	2002 (22)	Unknown*	Unknown*
	1	York	2019 (5)	125,000	5
Condenser	1	York	2023 (1)	n/a	10
	1	York	2013 (11)	n/a	10
	1	York	2010 (24)	n/a	4
	1	York	2022 (2)	n/a	1.5
	1	Carrier	2022 (2)	n/a	4
	1	York	2014 (10)	n/a	4
Split A/C	2	Unknown*	Unknown*	Unknown*	Unknown*
	1	Carrier	2012 (12)	n/a	1.5
Split system heat-pumps	1	Mitsubishi	2011 (13)	n/a	4
	1	Mitsubishi	1996 (28)	n/a	Unknown*
AHU	1	York	2013 (11)	n/a	n/a
Heat Pump	1	York	2014 (10)	n/a	n/a
	1	York	2013 (11)	n/a	n/a
	1	York	2010 (14)	n/a	n/a
	1	York	2023 (1)	n/a	n/a
Radiant Tube Heaters	5	Unknown*	Unknown*	Unknown*	n/a
	1	Unknown*	Reportedly 2023	Unknown*	n/a

* Due to height restrictions, the information could not be confirmed.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal

© 2024 Pinchin Ltd.

of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.8.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by three self-contained DHW Units.

The systems are summarized in the following table:

Number of Units	Manufacturer's Name	Manufacturing Date (Age)	Gas/Electric	Capacity	BTUH
2	Pheonix	2013 (11)	Gas	303 Litres	160,000
1	Bradford White	2008 (16)	Electric	189Litres	n/a

There was no shortage of hot water noted or reported to Pinchin at the time of the Site visit.

3.8.4 Plumbing

Drainage piping within the Site Building consists of cast-iron as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems, the condition of the systems could not be verified.

The main water lines are located in the main sprinkler room of the Site Building. A 2" backflow prevention device manufactured by "Watts" was observed with recent inspection completed by "Plumbway." in November 2023.

3.8.5 Fire Protection

Fire protection within the Site Building is provided by a wet sprinkler system which provides protection throughout all accessed areas of the building. A cabinet containing an extra supply of sprinkler heads and an installation tool was noted within the sprinkler room. The sprinklers are reportedly equipped with electronic flow alarms which are tied to the fire alarm panel and monitored by "FMC", an independent contractor. The fire protection systems are reportedly serviced annually by "Johnson Controls" and were last inspected in November 2023. Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted within strategic locations throughout the building.

Fire protection within the server and telephone equipment rooms of the Site Building is provided by pre-action suppression systems. The suppression systems are activated manually by pull stations and automatically by fusible links. The suppression systems are reportedly monitored by "FMC", an independent contractor. The fire suppression systems were noted to possess up-to-date annual

© 2024 Pinchin Ltd.

inspection tags indicating the most recent inspection in September 2023 by “Johnson Controls”. The inspection gauges on the fire suppression systems were noted to be charged to sufficient levels.

Table 3.8 outlines the findings of the inspection of the mechanical systems:

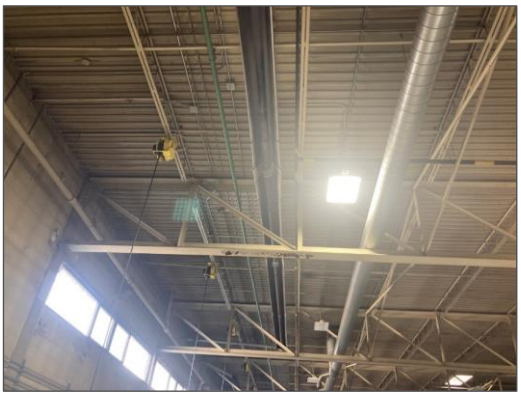
Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Six rooftop HVAC units range from 11 to 22 years old and have reached or will their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of six rooftop HVAC units within the term of analysis.
• Two rooftop condenser units range from 11 to 24 years old and have reached or will their EUL their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of two rooftop condenser units within the term of analysis.
• Two split system heat pump units range from 13 to 28 years old and have reached or will their EUL their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of two split system heat pump units within the term of analysis.
• One interior AHU is approximately 11 years old and is anticipated to reach its EUL within the latter portion of the term.	• Pinchin has carried an allowance for replacement of the AHU within the latter portion of the term.
• Three interior heat pump units are approximately 10 to 14 years old and will reach their EUL within the mid to latter portion of the term.	• Pinchin has carried an allowance for replacement of the heat pumps within the term.
• Five natural gas-fired radiant tube heaters are reportedly likely over 20 years old and will reach their EUL within the term.	• Pinchin has carried allowances for replacement of the radiant tube heaters within the term.
Minor Deficiencies/Findings	
• Two rooftop mounted split A/C units are anticipated to reach their EUL within the term.	• Pinchin anticipates replacements to be required within the term of analysis, which can be achieved below the reporting threshold.
• The DHW units are anticipated to reach the end of their EUL within the term of analysis.	• Pinchin anticipates replacements to be required within the term of analysis, which can be achieved below the reporting threshold.
• The fire department connection does not possess adequate signage.	• Install fire department connection signage.

© 2024 Pinchin Ltd.



View of the typical HVAC units serving the Site Building.



View of a typical radiant tube heater serving the Site Building.



View of interior AHUs serving the Site Building.

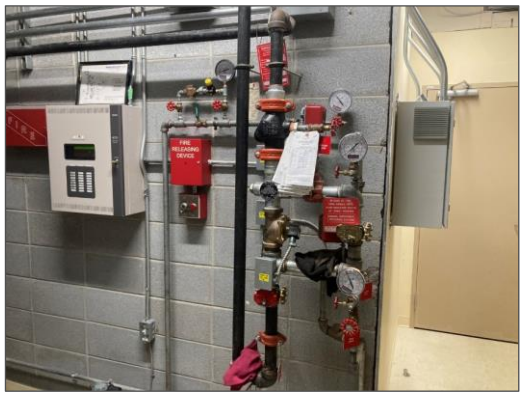
© 2024 Pinchin Ltd.



View of two DHW units serving the Site Building.



View of the sprinkler system and main incoming water line serving the Site Building.



View of the pre action system serving the IT rooms of the Site Building.

© 2024 Pinchin Ltd.



View of typical stand alone chemical fire extinguishers throughout the Site Building.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Due to the current age of the heating and cooling equipment serving the building, Pinchin has included allowances for the replacement of select units as noted above. Assuming that the above noted deficiencies are addressed and regular annual maintenance is performed, the mechanical systems should continue to perform satisfactorily throughout the term of analysis.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.9 Electrical Systems

3.9.1 Electrical Power

The electrical power for the Site Building is supplied from a pad-mounted transformer adjacent to the south elevation of the Site Building which feeds the main electrical room via underground wires. The electrical service for the Site Building includes a “Federal Pioneer” main switchgear with a maximum rating of 1,000 Amperes, 347/600 Volt, 3 Phase, 4 Wire service based on the attached data plate.

The Site Building possesses a 469 kW “Caterpillar” natural gas-fired emergency power generator located within the generator room at the south elevation. It was reported to Pinchin that the maintenance and replacement of the generator is an owner responsibility. Power to the Site Building is automatically transferred via an automatic transfer switch. It was reported that the generator set and automatic transfer switch were manufactured in 2007 (i.e., ~ 17 years old). Inspections and servicing of the emergency generator is reportedly performed by “Total Power” an independent contractor on a quarterly basis. It was reported that the emergency generator can supply power to the entire building.

© 2024 Pinchin Ltd.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.9.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Simplex 4010” fire alarm panel. The main fire alarm panel is located within a main entrance vestibule, while the annunciator panel is located within the south addition of the Site Building. A sub-fire alarm panel is also present The fire alarm system monitors flow control switches/sensors within the sprinkler systems, while the sub fire alarm control panel is located within the server and telephone equipment rooms as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. As reported by the Site Representative, the sub-fire alarm and annunciator panel is over 15 years old, while the main fire alarm panel was replaced in the last 3 years. The systems are reportedly monitored by “Fire Monitoring Canada” an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by an independent contractor, however no inspection tags were present at the time of the Site visit. Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by the emergency generator in the event of a power outage.

Table 3.9 outlines the findings of the inspection of the electrical systems:

Table 3.9 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The sub-fire alarm and annunciator panel is reportedly over 15 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc.
• The emergency generator is approximately 17 years old and is approximately at its mid-life.	• Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

© 2024 Pinchin Ltd.



View of the main switchgear unit serving the Site Building.



View of the emergency generator.



View of the main fire panel.

© 2024 Pinchin Ltd.



View of the annunciator panel.



View of the secondary fire panel.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner at the time of the Site assessment.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted attached date plates. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required. Given the age of the sub-fire alarm panel and annunciator panel, Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc. Pinchin also recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

The electrical and life safety systems should continue to perform satisfactorily throughout the term of analysis assuming the above noted deficiencies are addressed and regular annual maintenance is provided.

© 2024 Pinchin Ltd.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 27, 2024 the Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar light industrial/ office properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $2,140,500 have been identified. As noted during the Site visit, deficiencies relating to the roof systems, wall systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included an allowance for the replacement of the Built-Up asphalt Roof (BUR) systems that have surpassed their Expected Useful Life (EUL) within the early portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the modified bitumen roof systems serving the west portion of the building which will reach their EUL within the early to mid-portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the modified bitumen roof systems serving the south portion of the building will reach their EUL within the early portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the aged windows serving the Site Building within the term of analysis;
- Pinchin recommends and has included allowances for the repairs to the wall systems serving the Site Building within the term of analysis;
- Pinchin recommends and has included allowances for phased asphalt replacements throughout the term of analysis;

© 2024 Pinchin Ltd.

- Allowances for replacement of six rooftop Heating, Ventilation and Air Conditioning (HVAC) units that will reach or have reached their EUL within the term;
- Allowances for replacement two condenser units that will reach or have reached their EUL within the term;
- Allowances for replacement two split system heat pump units that will reach or have reached their EUL within the term;
- Allowances for replacement of one Air Handling Unit (AHU) that will reach its EUL within the term;
- Allowances for replacement of three heat pump units that will reach their EUL within the term;
- Pinchin recommends and has included allowances for the replacement of the five suspended radiant tube heaters within the term of analysis;
- Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis; and
- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

© 2024 Pinchin Ltd.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly, the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 – 15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process*.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator, mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

© 2024 Pinchin Ltd.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

© 2024 Pinchin Ltd.

APPENDIX I
Table 1 – Summary of Anticipated Expenditures

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (BUR Replacement)	20-25	25	0	32,800	SF	$20	$656,000		$656,000										$656,000
Roof Structures and Roofing (West Modified Bitumen Replacement)	23-25	19-22	0-6	15,000	SF	$20	$300,000						$300,000						$300,000
Roof Structures and Roofing (South Modified Bitumen Replacement)	23-25	22	1-3	8,000	SF	$20	$160,000				$160,000								$160,000
Roof Structures and Roofing (General Repairs) Below Threshold																			
Wall Systems																			
Exterior Walls (Repairs/Maintenance)	Varies	Varies	Varies	1	LS	$50,000	$50,000			$50,000									$50,000
Exterior Windows and Doors (Window Replacement Contingency Allowance)	35	46	0	1	LS	$80,000	$80,000				$80,000								$80,000
Structural Elements																			
Foundations																			
Superstructure (Review by Structural Engineer) Below Threshold																			
Vertical Transportation Systems																			
Elevator Systems																			
Interior Finishes																			
Interior Finishes (General Maintenance) Below Threshold																			
Site Features																			
Parking and Paving (Asphalt Repair/Replacement Allowance)	Varies	Varies	Varies	1	LS	$500,000	$500,000			$140,000		$202,500		$157,500					$500,000
Concrete Walkway and Curbing (Repairs) Below Threshold																			
Outbuilding (Door Repairs) Below Threshold																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling (HVAC Replacements)	15-20	11-12	3-9	2	EA	$75,000	$150,000				$75,000		$75,000						$150,000
Building Heating and Cooling (HVAC Replacements)	15-20	12	3-8	1	EA	$30,000	$30,000					$30,000							$30,000
Building Heating and Cooling (HVAC Replacements)	15-20	22	0	3	EA	$20,000	$60,000		$60,000										$60,000
Building Heating and Cooling (Condenser Replacements)	15-20	11	4-9	1	EA	$30,000	$30,000							$30,000					$30,000
Building Heating and Cooling (Condenser Replacements)	15-20	24	0	1	EA	$12,000	$12,000		$12,000										$12,000
Building Heating and Cooling (Split A/C Replacements) Below Threshold																			
Building Heating and Cooling (Split Sysetm Heat Pump Replacements)	15-20	13-28	0-7	2	EA	$5,000	$10,000						$10,000						$10,000
Building Heating and Cooling (AHU Replacements)	15-20	11	4-9	1	EA	$15,000	$15,000									$15,000			$15,000
Building Heating and Cooling (Heat Pump Replacements)	15-20	10-14	1-10	3	EA	$5,000	$15,000								$15,000				$15,000
Building Heating and Cooling (Radiant Tube Heater Replacements)	20-25	unknown	unknown	5	EA	$2,500	$12,500			$5,000		$7,500							$12,500
Hot Water (DHW Replacements) Below Threshold																			
Fire Protection																			
Electrical Systems																			
Electrical Systems (Emergency Generator Mechanical Overhaul)	25-30	17	8-13	1	EA	$30,000	$30,000				$30,000								$30,000
Fire and Life Safety Systems (Fire Alarm Panel Inspection) Below Threshold																			
Fire and Life Safety Systems (Fire Alarm Panel Replacement Preliminary Allowances)	20	15+	0-5	1	LS	$30,000	$30,000			$30,000									$30,000
							TOTALS (UNINFLATED)	**$0**	**$728,000**	**$225,000**	**$345,000**	**$240,000**	**$385,000**	**$187,500**	**$15,000**	**$15,000**	**$0**	**$0**	**$2,140,500**
Term of Analysis	**10**						**INFLATION FACTOR**	**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
Cost Threshold	**$5,000**						**TOTALS (INFLATED)**		**$728,000**	**$231,750**	**$365,700**	**$261,600**	**$431,200**	**$215,625**	**$17,700**	**$18,150**	**$0**	**$0**	**$2,269,725**

Total SF within the Site Building(s)	**63,367**
Average Cost per SF per Year (Uninflated)	**$3.38**
Average Cost per SF per Year (Inflated)	**$3.58**

LS - Lump Sum

SF - Square Foot

EA - Each (per unit component)

LF - Linear Foot



FINAL

Baseline Property Condition Assessment

395 Southgate Drive, Guelph, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West,
Mississauga, ON L5N 7A6

March 27, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 27, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Natalie Kwist
Project Coordinator
289.339.8190
nkwist@pinchin.com

Reviewer:
Majid MilaniNia, P.Eng.
Senior Project Engineer
613.212.5775
mmilaninia@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 395 Southgate Drive, Guelph, Ontario (the Site). Pinchin conducted a visual assessment of the Site on March 1, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is an irregular-shaped property approximately 14.80 acres in area. The Site is occupied by a two storey office building complete with a single storey warehouse and fleet repair garage (the Site Building).

The Site Building is reported to have been constructed in approximately 1995 with an addition to the south in approximately 2005. The Site Building possesses a footprint area of approximately 75,799 Square Feet (SF) and total building area of approximately 103,882 SF. The Site Building possesses asphalt surfaced parking areas adjacent to the northeast, southeast and southwest elevations of the Site Building with parking for approximately 195 vehicles including fleet vehicle exterior parking.

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a steel-framed support structure (i.e., beams, columns and open web steel joists) supporting cast-in-place concrete floor slabs and corrugated steel roof decks.

The exterior walls of the Site Building are comprised of tubular finished precast concrete wall panels at the northeast, northwest and southwest elevations, with smooth finished precast concrete wall panels and Insulated Glass (IG) curtain wall glazing on the southeast and southwest elevations. Parging cement was noted at the foundation walls.

The Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar light industrial/office properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

© 2024 Pinchin Ltd.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $2,419,340 have been identified. As noted during the Site visit, deficiencies relating to the roof systems, wall systems, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the TPO roof system serving the addition of the Site Building that is approximately 19 years old and will reach its Expected Useful Life (EUL) within the early portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the failed exterior sealants of the Stie Building within the early portion of the term;
- Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis;
- Pinchin recommends and has included allowances for the replacement of approximately 80 heat pump units that have reached or are anticipated to reach their EUL within the term;
- Allowances for replacement of five Air Handling Units (AHU)s that have reached or are anticipated to reach their EUL within the term;
- Replacement allowances of two ground supply/return pumps that will approach their EUL within the term;
- Replacement allowances for four additional pumps serving the AHUs and snowmelt systems that will likely reach their EUL within the term;
- Pinchin recommends and has included an allowance for replacement of the original natural-gas fired emergency generator within the term of analysis; and
- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the diesel fired emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

© 2024 Pinchin Ltd.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 3
3.2 Roof Systems 5
3.3 Wall Systems 9
3.4 Structural Elements 12
3.5 Elevator Systems 13
3.6 Interior Finishes 16
3.7 Site Features 19
3.8 Mechanical Systems 23
3.8.1 Major Service Providers 23
3.8.2 Heating, Ventilation and Air Conditioning (HVAC) 23
3.8.3 Domestic Hot Water 24
3.8.4 Plumbing 25
3.8.5 Fire Protection 25
3.9 Electrical Systems 29
3.9.1 Electrical Power 29
3.9.2 Fire Alarm System and Life Safety 30
4.0 KNOWN VIOLATIONS OF CODE 33
5.0 CONCLUSIONS AND RECOMMENDATIONS 33
6.0 TERMS AND LIMITATIONS 35

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 - Site Information 4
Table 3.2 – Roof Systems 6
Table 3.3 – Wall Systems 10
Table 3.4 – Structural Elements 12
Table 3.5 – Elevator Systems 14
Table 3.6 – Interior Finishes 16
Table 3.7 – Site Features 20
Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection) 26
Table 3.9 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 30

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 395 Southgate Drive, Guelph, Ontario (the Site). Pinchin conducted a visual assessment of the Site on March 1, 2024, at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Client has advised Pinchin that no previous BPCAs or other building reports have been prepared for the Site.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms and Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The elevator systems;
- The interior finishes of the common areas and a selection of the individual premises;
- The Site features;
- The mechanical systems (i.e., HVAC, domestic hot water, plumbing, etc.); and

© 2024 Pinchin Ltd.

- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

© 2024 Pinchin Ltd.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS

3.1 Site Information



General view of the northwest elevation of the Site Building.



General view of the northeast elevation of the Site Building.



General view of the southeast elevation of the Site Building.

© 2024 Pinchin Ltd.



General view of the southwest elevation of the Site Building.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Site Address	**395 Southgate Drive, Guelph, Ontario**		
Existing Land Use Type	Commercial	*Primary On-Site Activity*	Light Industrial/ Office Building
Multi-Tenant/Single Occupant	Single-occupant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 14.80 acres
Number of Buildings	One	*Building Footprint Area(s)*	~ 75,799 SF
Number of Stories (Excluding Basement)	Two storey office Single storey warehouse/garage	*Total Rentable Building Area(s)*	~ 103,882 SF
Date Building(s) Constructed	~ 1995 with addition to the south ~ 2005	*Area of Tenant Spaces*	~ 103,882 SF
Date Building(s) Renovated	Ongoing	*Basement and/or U/G Parking*	N/A
Type of Roof System(s)	TPO (thermoplastic polyolefin)	*Number of Levels U/G*	N/A
Type of Wall Cladding	Smooth finished precast concrete wall panels Tubular finish precast concrete wall panels Curtain wall system Parging cement	*Area of Roof System(s)*	~ 75,799 SF
Type of Doors	Single Glazed (SG) and Insulated Glass (IG) units within aluminum frames	*Types of Windows*	Fixed IG units within aluminum frames set within curtain wall configurations

© 2024 Pinchin Ltd.

Table 3.1 - Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
	Solid wood doors within metal frames Hollow metal doors within metal frames some complete with Georgian Wired Glass (GWG) Sectional metal overhead doors complete with IG inserts		and punched openings
Number of Above Grade Parking Spaces	195	*Electrical Source*	Alectra Utilities
Surface Type	Asphalt paved parking areas and driveways Cast-in-place concrete walkways Gravel surfaced driveways and storage yard Soft landscaping (i.e., grassed areas with trees)	*Type of Heating/Cooling*	Geothermal system supplying heat pump units and Air Handling Units (AHUs) Electrically powered condenser units

3.2 Roof Systems

The roof systems of the Site Building consists of conventionally designed, “near-flat” Thermoplastic Polyolefin (TPO) membrane systems installed atop a layer of rigid insulation, atop metal roof decks. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing.

© 2024 Pinchin Ltd.

Drainage of the roof systems is provided by internal roof drains which presumably drain to the municipal sewer system. The roof systems consist of various roof levels which are accessed from the mechanics bay via a walk-out stairwell. The remaining roof levels are accessed via fixed access ladders. The Site Representative reported that the TPO roof systems serving the original portion of the building were replaced in approximately 2016 (i.e., ~ 8 years old), while the TPO system serving the 2005 addition is original to the construction date (i.e., ~ 19 years old).

Penetrations through the roof systems consist of plumbing vents, roof drains, skylights, HVAC curbing and pitch pockets serving conduits. The total area of the TPO systems is slightly larger than the footprint area of the Site Building due to the canopies at approximately 79,560 SF. No active leaking within the roof systems was reported during the assessment.

A 100kW Solar photovoltaic (PV) energy systems were noted to have been installed on the roof system of the Site Building which reportedly produce electricity for “Alectra Utilities”. The system was reportedly installed in 2010. As reported to Pinchin by the Site Representative, the solar photovoltaic energy systems are owned by “Alectra Utilities”.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

Additionally, it should be noted that due to presence of solar panels atop the upper roofs, a thorough assessment of the concealed portions of the roof systems was not possible at the time of the Site visit; therefore, the visual condition of the covered areas could not be verified.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The TPO roof system serving the addition of the Site Building is reportedly original to the date of construction in 2005 (i.e., ~ 19 years old) and will reach its EUL within the early portion of the term.	• Pinchin recommends and has included an allowance for the replacement of the TPO system within the early portion of the term of analysis.
Minor Deficiencies/Findings	
• Typical staining and organic debris were noted atop the TPO roof systems.	• Clean the TPO roof system as part of regular maintenance.
• Perimeter sealants were noted to be deteriorated at roof penetrations and skylights (i.e., aged, de-bonded, etc.).	• Replacement of deteriorated sealants is recommended.
• Broken precast concrete paver walkways	• Remove and replace the broken paver

© 2024 Pinchin Ltd.

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
were noted atop the roof systems.	walkways to prevent membrane damage.
• Deteriorated precast concrete deck supports were noted atop the roof systems.	• Remove deteriorated concrete supports to prevent membrane damage and replace.



General view of the TPO roof systems atop the original portion of the Site Building.



General view of the BUR system atop the west portion of the Site Building.

Note: Debris.



General view of the TPO roof system atop the south addition of the Site Building.

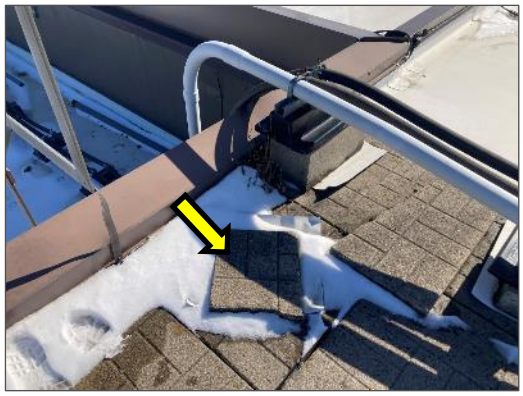
© 2024 Pinchin Ltd.



Partial view of the solar panels noted atop the roof system of the Site Building.



View of typical deteriorated sealants noted at a roof penetration.



View of broken paver walkways atop the roof systems.

© 2024 Pinchin Ltd.



View of deteriorated precast concrete deck supports atop the roof systems.

It has been Pinchin's experience that the Expected Useful Life (EUL) of TPO membrane ranges between 17 to 20 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained.

As noted above, the roof systems atop the south addition of the Site Building are reportedly original to their date of construction in 2005 (i.e., ~ 19 years old) and will reach their EUL within the early portion of the term. As such, Pinchin has carried an allowance for replacement of the aged TPO roof systems within the early portion of the term of analysis.

The TPO roof systems serving the remainder of the Site Building were reportedly replaced in 2016 (i.e., ~ 8 years old) and are performing in a satisfactory manner. Pinchin recommends that a higher degree of maintenance be performed on these roof system near the end of the term of the analysis as the roof system will be approaching its EUL. Roof replacement is anticipated shortly following the end of the term of the analysis based on the current age of the roof systems.

Assuming the above-mentioned deficiencies are addressed and that regular annual maintenance is performed, the roof systems serving the Site Building should perform in a satisfactory manner throughout the term of the analysis. Minor repairs to the roof system throughout the term can be completed below the cost threshold of reporting.

Annual walk-on inspections are recommended to ensure any deficiencies or issues are discovered and attended to in a timely manner in order to preserve the integrity and longevity of the roof system.

3.3 Wall Systems

The exterior walls of the Site Building are comprised of tubular finished precast concrete wall panels at the northeast, northwest and southwest elevations, with smooth finished precast concrete wall panels and Insulated Glass (IG) curtain wall glazing on the southeast and southwest elevations. Parging cement was noted at the foundation walls.

© 2024 Pinchin Ltd.

The window systems of the Site Building consist of fixed IG units within prefinished aluminum frames set into curtain wall configurations and punched openings. Date stamps observed within the window assemblies indicate 2005 as the year of manufacture of the windows serving the addition (i.e., ~ 19 years old) where randomly observed. The age of the windows in the original portion of the Site Building are reportedly original to construction in 1995 (i.e., ~ 29 years old).

The door systems of the Site Building consist of IG doors complete with IG sidelites within prefinished aluminum frames complete with Single Glazed (SG) vestibule doors which serve the main entrance at the southeast elevation. Metal doors, some of which possess Georgian Wired Glass (GWG) inserts within hollow metal frames serve the emergency exits and stairwells. SG doors, some of which possess SG sidelites within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors, which possess IG inserts within hollow metal frames serve the loading dock and drive-in bay areas at the northeast and southeast elevations.

It should be noted that the as-built condition of the fasteners which secure the precast concrete wall panels and curtain wall system framing to the building structural frame and floor slabs could not be determined at the time of the Site visit, as these components are concealed and could not be observed through a visual inspection.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Exterior sealants (i.e., windows, doors, joints, penetrations, etc.) were noted to be deteriorated throughout the building.	• Pinchin recommends and has carried an allowance for comprehensive sealant replacement within the term.
Minor Deficiencies/Findings	
• Cracking was noted within the parging cement at exposed foundation walls.	• Re-parge the affected areas with parging cement and monitor further.
• Peeling paint was noted at the steel pergolas on the southwest elevation.	• Clean peeling paint at the affected pergolas.

© 2024 Pinchin Ltd.



View of cracking noted within parging cement at the exposed foundation wall on the north elevation.



View of a typical failed sealant noted at the precast concrete wall panels.



View of a typical failed sealant noted at a window unit.



View of a tyical failed sealant noted at precast concrete wall panels.

© 2024 Pinchin Ltd.



View of peeling paint noted at the steel pergolas on the southwest elevation.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the exception of the above noted deficiencies. Pinchin recommends and has included allowances for comprehensive sealant replacement throughout the Site Building within the early portion of the term of analysis.

The window units serving the original portion of the building will be approaching their EUL within the latter portion of the term. Phased replacements are anticipated to begin shortly following the term of analysis. Assuming the above mentioned deficiencies are addressed and that regular annual maintenance is performed, the walls, windows and door systems of the Site Building should continue to perform satisfactorily throughout the term of analysis.

3.4 Structural Elements

As outlined in the scope of work, a visual assessment of the condition of the structural elements was carried out on the elements which were visible at the time of the inspection. The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) and cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a steel-framed support structure (i.e., beams, columns and open web steel joists) supporting cast-in-place concrete floor slabs and corrugated steel roof decks.

No structural drawings were available to Pinchin for review.

Table 3.4 outlines the findings of the inspection of the structural elements:

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	

© 2024 Pinchin Ltd.

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
• None observed/reported.	• None required.



View of typical structural steel framing within the Site Building.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work. Similarly, the identification and assessment of any post-tension reinforcing is not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure. Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no major deterioration existed within the visibly accessible components of the Site Building.

3.5 Elevator Systems

The following is a brief description of the elevator system present at the subject building:

	Elevator #1	Elevator # 2
Manufacturer:	Otis	Otis
Drive System:	Hydraulic	Hydraulic
Floors Served	1-2	1-2
Date installed:	~ 2005	~ 2017
Capacity:	953kg or 12 persons	953kg or 12 persons
Function:	Passenger	Passenger
Alarm:	Yes	Yes
Emergency Stop:	No	No
Emergency Phone:	Yes	Yes

© 2024 Pinchin Ltd.

Emergency Power: Yes Yes

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevators are maintained on an all-inclusive contract by “Otis Elevator Company” on a monthly basis.

Table 3.5 outlines the findings of the inspection of the Elevator Systems:

Table 3.5 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



View of the hydraulic reservoir serving elevator # 1.

© 2024 Pinchin Ltd.



View of the hydraulic reservoir serving elevator # 2.



View of interior finishes within an elevator cab.



View of typical elevator controls.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

It was reported to Pinchin that the elevators are maintained and serviced by “Otis Elevator Company”. Assuming the full elevator maintenance contract is fulfilled and the elevator components are modernized no major expenditures should be required within the term of the analysis.

© 2024 Pinchin Ltd.

3.6 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment.

The floor finishes within the Site Building consist of a combination of ceramic floor tiles, laminate flooring and carpeting within the office areas, washroom, corridors, and lunchrooms. The floor finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed concrete floor slabs.

The wall finishes within the office areas of the Site Building consist of painted gypsum board finishes throughout, while a combination of ceramic wall tiles and painted gypsum wall boards were noted within the washrooms. The wall finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed precast concrete wall panels and painted concrete block masonry walls.

The ceiling finishes within the office areas of the Site Building consist of suspended ceiling assemblies complete with lay-in-tiles and painted gypsum ceiling boards throughout. The ceiling finishes within the warehouse and vehicle service/repair areas consist of exposed steel structural elements (i.e., beams, trusses, OWSJs and steel roof decking).

Table 3.6 outlines the findings of the inspection of the interior finishes:

Table 3.6 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Stained ceiling tiles were noted within the office spaces.	• Remove the affected ceiling tiles, identify and repair any source of moisture and replace the ceiling tiles.
• A localized area of cracking was noted within a block masonry wall serving a corridor.	• The Site Representative reported the area of cracking has been present for many years. Repair the area of cracking and monitor further.

© 2024 Pinchin Ltd.



View of typical interior finishes within the main lobby.



View of typical interior finishes within the corridors.



View of typical interior finishes within the warehouse spaces.

© 2024 Pinchin Ltd.



View of typical interior finishes within the office spaces.



View of typical interior finishes within the garage areas.



View of typical interior finishes within the office spaces.

© 2024 Pinchin Ltd.



View of stained ceiling tiles noted within the office spaces.



View of an area of cracking noted within a block masonry wall serving a corridor.

The interior finishes within the Site Building were generally observed to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends that the above referenced minor deficiencies be addressed and that regular annual maintenance of the interior finishes be performed throughout the term of analysis.

3.7 Site Features

The Site Building occupies approximately 12% of the 14.80 acre Site. The remainder of the Site is surfaced with soft landscaping (i.e., grassed areas with trees), parking areas surfaced with asphalt pavement, and gravel surfaced storage areas. The asphalt paved parking areas are located adjacent to the northeast, southeast and southwest elevations of the Site Building with parking provisions for approximately 195 vehicles including fleet vehicle exterior parking. The asphalt paved parking areas were noted to be bordered by cast-in-place concrete curbs, walkways and soft landscaping.

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of

© 2024 Pinchin Ltd.

underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

A gravel-surfaced storage yard is located on the north portion of the Site. The storage yard is enclosed with chain link fencing. Soft landscaping (i.e., grass, trees, shrubs, etc.) are located adjacent to the southwest elevation of the building and the perimeters of the Site. Cast-in-place concrete walkways are located adjacent to the main entrances at the southeast and southwest elevations of the Site Building. Cast-in-place concrete aprons serve the drive-in bay areas located at the northwest and northeast elevations of the Site Building. Cast-in-place concrete pads are located within the gravel storage yard, as well as adjacent to the northeast elevation. Concrete block masonry retaining walls are located on the northwest perimeter of the Site and are topped with metal guardrails. Chain link fences are located on the northeast and northwest perimeters and enclose the storage areas as well as the garage areas of the Site. Automatically sliding and metal chain link gates complete with chain linked fences are present. Additionally, multiple outbuildings are present at the east central portion of the Site however they are reportedly not owned by the Site. The buildings and equipment were reportedly abandoned over a year ago.

Vehicular access to the Site is provided by two entranceways from Southgate Drive located on the east portions of the Site.

Portions of the Site possess in-ground heating for “snowmelt”. The systems are fed from a dedicated geothermal heat pump unit and two associated “Armstrong” pumps. The equipment is located within the mezzanine space within the garage. The equipment is noted within section 3.9 Mechanical Systems.

Table 3.7 outlines the findings of the inspection of the Site features:

Table 3.7 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Areas of alligator cracking and linear cracking were noted in several locations throughout the asphalt paved surfaces of the Site.	• Pinchin recommends and has included allowances for phased asphalt repair/replacement throughout the term of analysis.
Minor Deficiencies/Findings	
• Cracking was noted within select concrete pads.	• Repair areas of cracking.

© 2024 Pinchin Ltd.



General view of the asphalt paved parking areas at the southeast portion of the Site.



General view of the asphalt paved laneways and gravel surfaced storage yard on the northeast portion of the Site.



View of the retaining wall noted at the northwest perimeters of the Site.

© 2024 Pinchin Ltd.



View of typical alligator cracking noted at the north portion of the Site.



View of typical alligator cracking noted at the southwest portion of the Site.



View of cracking noted within a cast-in-place concrete ramp serving the loading docks.

© 2024 Pinchin Ltd.



View of soft landscaping serving the Site.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends and has included phased allowances for asphalt repair/replacement throughout the term of analysis. Repairs to the remaining deficiencies are anticipated to fall below the reporting threshold. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

3.8 Mechanical Systems

3.8.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Guelph
Electric	-	Alectra Utilities
Sewer	-	City of Guelph
Natural Gas	-	Enbridge
Police	-	City of Guelph Police Service
Fire	-	City of Guelph Fire Department

3.8.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating and cooling within the Site Building is supplied by a geothermal, closed-loop glycol system. A closed loop geothermal system utilizes the ground as a heat exchanger to either absorb heat energy to be used in the building or reject heat energy from the building. Loops of vertical piping are reportedly 300 ft underground and possess 53,000 litres of water which circulates through the loop.

The system includes various water-to-air and water-to-water heat pumps for forced air heating and cooling throughout various zones of the building. In addition, five Air Handler Units (AHU)s are located

© 2024 Pinchin Ltd.

throughout the building and atop the roof. Supplemental cooling within the computer/data rooms are provided by various electrically powered condenser units.

The systems are summarized in the following table:

Type of Unit	Number of Units	Manufacturer's Name	Manufacturing Date (Age)	Data
Snowmelt Pumps	2	Armstrong	Unknown*	Unknown*
Ground Supply and Return Pumps	2	Armstrong	1994 (30)	100 HP
AHU Pumps	2	Armstrong	2006 (18)	2 HP
AHUs	4	Unknown	1994 (30)	3559 -8000 CFM
	1	Engineered Air	2005 (19)	8200 CFM
Heat Pumps	~29	Climatemaster	1994-1995 (29-30)	n/a
	1	Climatemaster	2011 (13)	n/a
	1	Geosmart	2019 (5)	n/a
	4	Compax	2005 (19)	n/a
	44	Waterfurnace	2005 (19)	n/a
	1	Waterfurnace	2011 (13)	n/a
	2	Waterfurnace	2006 (18)	n/a
	1	Waterfurnace	2001 (23)	n/a
Condensers	1	Mitsubishi	2017 (7)	2 ton
	2	Liebert	Unknown*	unknown

*Due to inaccessible/faded data tags, the information could not be confirmed.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.8.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by five self-contained DHW Units.

The systems are summarized in the following table:

© 2024 Pinchin Ltd.

Number of Units	Manufacturer's Name	Manufacturing Date (Age)	Gas/Electric	Capacity
1	John Wood	2022 (2)	Electric	182 Litres
1	John Wood	2022 (2)	Gas	40,000 BTUH and 189 Litres
1	John Wood	2016 (8)	Electric	182 Litres
1	John Wood	2017 (7)	Electric	182 Litres
1	John Wood	2013 (11)	Electric	178Litres

There was no shortage of hot water noted or reported to Pinchin at the time of the Site visit.

3.8.4 Plumbing

Drainage piping within the Site Building consists of Acrylonitrile Butadiene Styrene (ABS) where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems, the condition of the systems could not be verified.

The main water lines are located in the main sprinkler room of the Site Building. A 2" backflow prevention device manufactured by "Apollo" was observed with recent inspection completed by "Naylor Building Partnerships" in June 2023.

3.8.5 Fire Protection

Fire protection within the Site Building is provided by a wet sprinkler system which provides protection throughout all accessed areas of the building. A dry sprinkler system is also present and serves the canopy at the northeast elevation. A cabinet containing an extra supply of sprinkler heads and an installation tool were noted adjacent to the risers. The sprinklers are reportedly equipped with electronic flow alarms which are tied to the fire alarm panel and monitored by "FMC", an independent contractor. The fire protection systems are reportedly serviced annually by "Classic Fire & Life Safety" and were last inspected in April 2023. Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted within strategic locations and fire hoses within the warehouse/garage areas.

Fire protection within the server and telephone equipment rooms of the Site Building is provided by chemical suppression systems. The chemical suppression systems are activated manually by pull stations and automatically by fusible links. The chemical suppression systems are reportedly monitored by "FMC" an independent contractor. The fire suppression systems were noted to possess up-to-date annual inspection tags indicating the most recent inspection in March 2023 by "Classic Fire & Life Safety". The inspection gauges on the fire suppression systems were noted to be charged to sufficient levels.

© 2024 Pinchin Ltd.

Table 3.8 outlines the findings of the inspection of the mechanical systems:

Table 3.8 – Mechanical Systems (including HVAC, DHW, Plumbing, and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Approximately 80 heat pump units throughout the Site Building will reach or have reached their EUL within the term.	• Pinchin has carried allowances for replacement of 80 heat pump units throughout the term.
• Five AHUs have reached or will reach their EUL within the term.	• Pinchin has carried allowances for replacement of five AHUs within the term.
• The “Armstrong” pumps serving the supply/return of the geothermal system are reportedly original and have reached their EUL.	• Pinchin has carried allowances for replacement of the pumps within the term.
• Two “Armstrong” pumps serving the snow melt system are of an unknown age, but reportedly anticipated to reach their EUL within the term.	• Pinchin has carried allowances for replacement of the pumps within the term.
• Two “Armstrong” pumps serving the AHUs are 18 years old and are anticipated to reach their EUL within the term.	• Pinchin has carried allowances for replacement of the pumps within the term.
Minor Deficiencies/Findings	
• Three DHW units range from 8 to 11 years old and will attain their EUL within the term.	• Pinchin recommends replacement of the DHW unit within the early to mid-portion of the term, which is anticipated to fall below the reporting threshold.



View of the geothermal system.

© 2024 Pinchin Ltd.



View of a rooftop mounted AHU.



View of an interior AHU.



View of typical stackable heat pumps throughout the Site Building.



View of typical suspended heat pumps throughout the Site Building.

© 2024 Pinchin Ltd.



View of a typical DHW unit.



View of the main sprinkler piping.



View of the main incoming water lines.



View of a fire hose within the garage area

© 2024 Pinchin Ltd.



View of a typical stand-alone chemical fire extinguisher.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Due to the current age of the heating and cooling equipment serving the building, Pinchin has included allowances for the replacement of select units as noted above. Assuming that the above noted deficiencies are addressed and regular annual maintenance is performed, the mechanical systems should continue to perform satisfactorily throughout the term of analysis.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.9 Electrical Systems

3.9.1 Electrical Power

The electrical power for the Site Building is supplied from a pad-mounted transformer located adjacent to the northeast elevation of the Site Building which feeds the main electrical room via underground wires. The electrical service for the Site Building includes a “Westinghouse” main switchgear with a maximum rating of 1,600 Amperes, 347/600 Volt, 3 Phase, 4 Wire service with date code of December 1994, based on the attached data plate.

The Site Building possesses two emergency generators. The diesel generator is used for quick response time while the natural gas generator ramps up. The “Caterpillar” diesel powered generator was noted to be manufactured in 2006 (i.e., ~ 18 years old) and possess a capacity of 395 kW. The diesel fired generator is equipped with an exterior pad mounted double-walled storage tank noted to be manufactured in 2021 (i.e., ~ 3 years old) and possess a storage capacity of 1350 Litres. The “Kohler” natural gas-fired generator was reportedly original to construction in 1995 (i.e., ~ 29 years old) and possess a capacity of 100 kW. It was reported to Pinchin that the maintenance and replacement of the generator is an owner

© 2024 Pinchin Ltd.

responsibility. Power to the Site Building is automatically transferred via an automatic transfer switch. Inspections and servicing of the emergency generator is reportedly performed by “GenCare” an independent contractor on a quarterly basis. It was reported that the emergency generator can supply power to the entire building.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.9.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Edwards” fire alarm panel. The main fire alarm panel is located within the main electrical room, while two annunciator panels are present; one within the main entrance vestibule and one at a secondary vestibule. The fire alarm system monitors flow control switches/sensors within the sprinkler systems, the sub fire alarm control panels located within the server and telephone equipment rooms as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. The systems are reportedly monitored by an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “Classic Fire & Life Safety”, an independent contractor with the last date of inspection for the fire alarm panel and associated systems taking place in January 2024. Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by internal battery packs and the emergency generators in the event of a power outage.

As reported by the Site Representative, the fire alarm panels were installed in 2023.

Table 3.9 outlines the findings of the inspection of the electrical systems:

Table 3.9 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The natural gas-fired emergency generator is reportedly 29 years old and will reach its EUL.	• Pinchin recommends and has included allowances for replacement of the emergency generator.
Minor Deficiencies/Findings	
• The diesel fired emergency generator is approximately 18 years old and is mid-life.	• Pinchin recommends and has included allowances for a mid-life mechanical overhaul of the diesel powered emergency generator within the term of analysis.

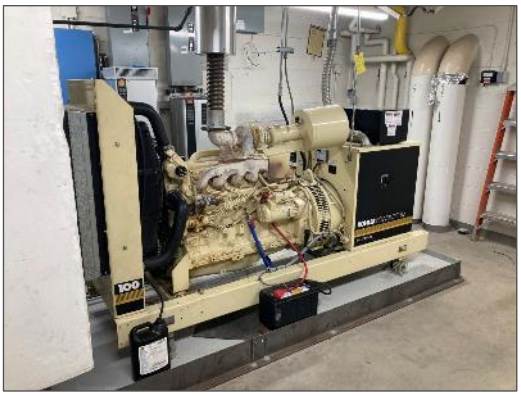
© 2024 Pinchin Ltd.



View of the main switchgear unit serving the Site Building.



View of the diesel emergency generator.



View of the natural-gas emergency generator.

© 2024 Pinchin Ltd.



View of the emergency generator automatic transfer switch.



View of the main fire alarm panel.



View of the annunciator panel at the main entrance vesitbule.

© 2024 Pinchin Ltd.



View of the annunciator panel at a secondary entrance vesitbule.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner at the time of the Site assessment.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted attached date plates. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required.

Pinchin recommends and has included allowances for a mid-life mechanical overhaul of the diesel powered emergency generator within the term of analysis, and replacement of the natural gas-fired emergency generator.

The electrical and life safety systems should continue to perform satisfactorily throughout the term of analysis assuming the above noted deficiencies are addressed and regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on March 1, 2024 the Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar light industrial/ office properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

© 2024 Pinchin Ltd.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

As noted during the Site visit, deficiencies relating to the roof systems, wall systems, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the TPO roof system serving the addition of the Site Building that is approximately 19 years old and will reach its Expected Useful Life (EUL) within the early portion of the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the failed exterior sealants of the Stie Building within the early portion of the term;
- Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis;
- Pinchin recommends and has included allowances for the replacement of approximately 80 heat pump units that have reached or are anticipated to reach their EUL within the term;
- Allowances for replacement of five Air Handling Units (AHU)s that have reached or are anticipated to reach their EUL within the term;
- Replacement allowances of two ground supply/return pumps that will approach their EUL within the term;
- Replacement allowances for four additional pumps serving the AHUs and snowmelt systems that will likely reach their EUL within the term;
- Pinchin recommends and has included an allowance for replacement of the original natural-gas fired emergency generator within the term of analysis; and
- Pinchin recommends and has included an allowance for a mid-life mechanical overhaul of the diesel fired emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and repairs of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the

© 2024 Pinchin Ltd.

EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly, the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 – 15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process*.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator, mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of

© 2024 Pinchin Ltd.

magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin’s experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

© 2024 Pinchin Ltd.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

\\PIN-HAM-FS02\job\335000s\0335512.000 AlectraUtil,8Sites,ON,BCAs\Deliverables\395 Southgate Dr Guelph\335512 BPCA 395 Southgate Drive, Guelph Alectra March 2024.docx

Template: Master Report for Single Storey Retail Building, PCA. September 5, 2023

© 2024 Pinchin Ltd.

APPENDIX I
Table 1 – Summary of Anticipated Expenditures

Baseline Property Condition Assessment
395 Southgate Drive
Guelph, Ontario

Table 1: Summary of Anticipated Expenditures

Confidential

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (TPO Replacement)	17-20	19	0-1	18,217	SF	$20	$364,340			$364,340									$364,340
Roof Structures and Roofing (General Maintenance) Below Threshold																			
Wall Systems																			
Exterior Walls (Sealant Replacements)	Varies	Varies	Varies	1	LS	$75,000	$75,000		$75,000										$75,000
Exterior Walls (General Maintenance) Below Threshold																			
Exterior Windows and Doors																			
Structural Elements																			
Foundations																			
Superstructure																			
Vertical Transportation Systems																			
Elevator Systems																			
Interior Finishes																			
Interior Finishes (General Maintenance) Below Threshold																			
Site Features																			
Parking and Paving (Asphalt Repair/Replacement Allowance)	Varies	Varies	Varies	190,000	SF	$4	$760,000			$160,000		$248,000		$176,000		$176,000			$760,000
Concrete Elements (Repairs) Below Threshold																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling (Heat Pump Replacement Allowance)	20-25	29-30	0	29	EA	$10,000	$290,000		$290,000										$290,000
Building Heating and Cooling (Heat Pump Replacement Allowance)	20-25	18-23	0-7	51	EA	$10,000	$510,000			$250,000	$260,000								$510,000
Building Heating and Cooling (AHU Replacement Allowances)	20-25	30	0	4	EA	$25,000	$100,000		$100,000										$100,000
Building Heating and Cooling (AHU Replacement Allowance)	20-25	19	1-6	1	EA	$25,000	$25,000						$25,000						$25,000
Building Heating and Cooling (Supply/Return Ground Pump Replacement Allowance)	Varies	30	Varies	2	EA	$60,000	$120,000										$60,000	$60,000	$120,000
Building Heating and Cooling (Snowmelt Pump Replacement Allowance)	Varies	unknown	unknown	2	EA	$5,000	$10,000								$10,000				$10,000
Building Heating and Cooling (AHU Pump Replacement Allowance)	Varies	18	Varies	2	EA	$5,000	$10,000								$10,000				$10,000
Hot Water (DHW Replacements) Below Threshold																			
Fire Protection																			
Electrical Systems																			
Electrical Systems (Diesel Emergency Generator Mechanical Overhaul)	30-35	18	12-17	1	LS	$30,000	$30,000			$30,000									$30,000
Electrical Systems (Natural-Gas Emergency Generator Replacement)	30-35	29	1-6	1	EA	$125,000	$125,000						$125,000						$125,000
Fire and Life Safety Systems																			
TOTALS (UNINFLATED)								**$0**	**$465,000**	**$804,340**	**$260,000**	**$248,000**	**$150,000**	**$176,000**	**$20,000**	**$176,000**	**$60,000**	**$60,000**	**$2,419,340**
INFLATION FACTOR								**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
TOTALS (INFLATED)									**$465,000**	**$828,470**	**$275,600**	**$270,320**	**$168,000**	**$202,400**	**$23,600**	**$212,960**	**$74,400**	**$76,200**	**$2,596,950**

Term of Analysis	**10**
Cost Threshold	**$5,000**

Total SF within the Site Building(s)	**103,882**
Average Cost per SF per Year (Uninflated)	**$2.33**
Average Cost per SF per Year (Inflated)	**$2.50**

LS - Lump Sum

SF - Square Foot

EA - Each (per unit component)

LF - Linear Foot



FINAL

Baseline Property Condition Assessment

450 Nebo Road, Hamilton, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West
Mississauga, ON L5N 7A6

March 26, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 26, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Natalie Kwist
Project Coordinator
289.339.8190
nkwist@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Team Leader
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 450 Nebo Road, Hamilton, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is an irregular-shaped property approximately 8.7 acres in area. The Site is occupied by a single-storey light industrial building complete with a two-storey office portion and a mezzanine level (the Site Building).

The Site Building is reported to have been constructed in 1982 with the addition of the main entrance canopy and external stairwells on the south elevation in approximately 2015. The Site Building possesses an approximate footprint area of 75,700 Square Feet (SF) and total building area of approximately 93,550 SF excluding the mezzanine spaces. Grade level parking is located on the south and west portions of the Site with parking provisions for approximately 160 vehicles.

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) with cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a rigid steel frame structure (i.e., girts, purlins, tapered beams and columns) supporting sloped metal roof systems. The mezzanine and second floor offices are reportedly constructed with steel beams and columns supporting cast-in-place concrete floor slabs. The exterior walls of the Site Building are comprised of vertical metal cladding at all elevations. Areas of stone veneer masonry and composite cladding were noted at the south elevation.

The Site Building appears to be in satisfactory condition, commensurate with its ages, and in comparable standing to other similar light industrial properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

© 2024 Pinchin Ltd.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $2,814,500 have been identified. As noted during the Site visit, deficiencies relating to the repair to the roof systems, wall systems, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin has carried phased allowances for replacement of the sloped metal roof system that has reached its Expected Useful Life (EUL) within the early portion of the term of analysis;
- Allowances for modernization of the two freight elevators that have reached their EUL within the early portion of the term of analysis;
- Allowances for the repair/replacement of the selected areas of deteriorated asphalt pavements;
- Allowances for phased-in replacement of five Heating, Ventilation, and Air Conditioning (HVAC) units;
- Allowances for phased-in replacement of five condenser units;
- Allowances for phased-in replacement of eight radiant tube heaters; and
- Allowance for replacement of the fire alarm panel.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 4
3.2 Roof Systems 6
3.3 Wall System 9
3.4 Structural Elements 11
3.5 Underground Parking Garage 12
3.6 Elevator Systems 13
3.7 Interior Finishes 15
3.8 Site Features 17
3.9 Mechanical Systems 22
3.9.1 Major Service Providers 22
3.9.2 Heating, Ventilation and Air Conditioning (HVAC) 22
3.9.3 Domestic Hot Water 23
3.9.4 Plumbing 23
3.9.5 Fire Protection 24
3.10 Electrical Systems 28
3.10.1 Electrical Power 28
3.10.2 Fire Alarm System and Life Safety 28
4.0 KNOWN VIOLATIONS OF CODE 31
5.0 CONCLUSIONS AND RECOMMENDATIONS 31
6.0 TERMS AND LIMITATIONS 32

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 – Site Information 4
Table 3.2 – Roof Systems 7
Table 3.3 – Wall Systems 9
Table 3.4 – Structural Elements 11
Table 3.5 – Underground Parking Garage 12
Table 3.6 – Elevator Systems 13
Table 3.7 – Interior Finishes 16
Table 3.8 – Site Features 18
Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection) 24
Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 29

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, etc. The municipal address for the property is 450 Nebo Road, Hamilton, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 27, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies in relation to the due diligence of the Site.

The Client has advised Pinchin that no previous BPCAs or other building reports have been prepared for the Site.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms & Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The elevator systems;
- The interior finishes of the common areas and a selection of individual tenant premises;
- The Site features;
- The mechanical systems (i.e., HVAC, domestic hot water, etc.); and

© 2024 Pinchin Ltd.

- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

© 2024 Pinchin Ltd.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS



General view of the east elevation of the Site Building.



Partial view of the north elevation of the Site Building.



General view of the south elevation of the Site Building.

© 2024 Pinchin Ltd.



General view of the west elevation of the Site Building.

3.1 Site Information

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Site Address	450 Nebo Road, Hamilton, Ontario		
Existing Land Use Type	Commercial/Light Industrial	*Primary On-Site Activity*	Offices Warehouses Garage
Multi-Tenant/Single Occupant	Single-Occupant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 8.7 acres
Number of Buildings	One	*Building Footprint Area(s)*	~75,700
Number of Stories above grade	Single-storey complete with a two-storey office portion and a mezzanine level	*Total Rentable Building Area(s)*	~93,550
Date Building(s) Constructed	~ 1982 with the south main entrance canopy and external stairwells constructed in approximately 2015	*Area of Tenant Spaces*	~ 93,550
Date Building(s) Renovated	Ongoing interior fit-ups	*Basement and/or U/G Parking*	N/A
Type of Roof System(s)	Sloped metal Ethylene Propylene Diene Monomer (EPDM) roof system Modified bitumen	*Number of Levels U/G*	N/A

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Type of Wall Cladding	Vertical metal cladding Stone veneer masonry Composite cladding	*Area of Roof System(s)*	Sloped metal ~ 57,200 SF EPDM ~17,915 SF Modified bitumen ~ 1,000 SF
Type of Doors	Insulated Glass (IG) units within aluminum frames Single Glazed (SG) units within aluminum, wood and metal frames Hollow metal doors within metal frames some are complete with Georgian Wired Glass (GWG) Insulated sectional metal overhead doors	*Types of Windows*	Fixed IG units within aluminum and vinyl frames set within punched openings
Above Grade Parking Area	Asphalt surfaced ~ 160 spaces	*Electrical Source*	Alectra Utilities

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities**		
Surface Type	Asphalt Gravel Grass Concrete	*Type of Heating/Cooling*	Natural gas-fired heating and electrically-powered cooling Heating, Ventilation and Air Conditioning (HVAC) units Natural gas-fired radiant tube heaters Natural gas-fired suspended unit heater Electrically powered heat pump units Electrically-powered grade-mounted AC units Electrically-powered forced-air wall-mounted heaters

3.2 Roof Systems

The main roof system of the Site Building consists of a conventionally designed; low sloped metal roof system fastened to steel purlins. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing.

In addition, the south portion of the building above the office spaces possesses an Ethylene Propylene Diene Monomer (EPDM) roof system, installed atop rigid thermal insulation atop presumably wood roof decking, atop the original metal roof system. A modified bitumen roof system was also noted at the main entrance canopy as well as at the south external stairwells. Neither the presence of a vapour barrier, nor the type or thickness of the insulation could be verified during the inspection of the roof systems, as the scope of the work did not include destructive testing.

© 2024 Pinchin Ltd.

Drainage of the roof systems is provided by perimeter eavestroughs complete with downspouts which discharge to the municipal sewer system, as well as internal roof drains at the entrance canopies which discharge at grade level. The roof systems at the Site Building consist of the main low sloped metal roof system, the secondary EPDM office roof system atop the original metal roof system, and three lower roof levels. The lower roof levels consist of two systems serving the external stairwells, and the main entrance canopies at the south elevation. As reported to Pinchin by the Site Representative, the sloped metal roof system is original to the date of construction in 1982 (i.e., ~ 42 years old), while the EPDM system atop the metal roof was installed in 2020 (i.e., ~ 4 years old), and the stairwell and canopy modified bitumen roofs were installed in 2015 (i.e., ~ 9 years old).

Penetrations through the roof systems consist of a roof hatch, pitch pockets/cones, exhausts fans, plumbing and combustion vents and HVAC curbs. The total area of the roof systems is slightly larger than the footprint area of the building due to the sloped nature at approximately 57,200 SF of sloped metal, 12,915 SF of EPDM, and ~ 1,000 SF of modified bitumen.

The main roof system was accessed via a roof hatch complete with a metal ladder located within the roof access room on the 2nd floor level of the Site Building. Previous roof leaks were reported within the office areas of the Site Building, which was the reasoning for the installation of the EPDM system atop the metal roof system. No other areas of active roof leaks were reported at the time of the Site visit.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The sloped metal roof system serving the Site Building is reportedly original to construction of the Site Building in 1982 (i.e., ~ 42 years old) old and will reach its Expected Useful Life (EUL) within the term of analysis. Reported roof leaks above the office area caused installation of the EPDM system.	• Pinchin recommends and has included allowances for the replacement of the metal roof system (including the area of EPDM membrane) within the term of analysis.
Minor Deficiencies/Findings	
• Patch repairs were noted atop the metal roof system.	• Monitor areas for further deterioration throughout the term of analysis.

© 2024 Pinchin Ltd.



General view of the sloped metal roof system atop the Site Building.



General view of the EPDM retrofit roof system atop the south portion of the Site Building.



General view of patch repairs atop the metal roof system.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a metal roof system ranges from 25 to 35 years and beyond, the EUL of a modified bitumen system ranges between 23 to 25 years, and the EUL of a EPDM system ranges between 17 to 20 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained.

The roof systems atop the Site Building were noted to be in satisfactory condition with the exception of the above-noted deficiencies. As previously noted, the sloped metal roof system serving the Stie Building is original to construction in 1982 (i.e., ~ 42 years old) and has reached its EUL. A retrofit EPDM system

© 2024 Pinchin Ltd.

was installed at the south portion of the building due to ongoing roof leaks in 2020 (i.e., ~ 4 years old), while the modified bitumen systems serving the canopies were installed in 2015 (i.e.,, ~ 9 years old). As such, Pinchin has carried an allowance for replacement of the sloped metal roof system that has had leak issues, including the EPDM retrofit, within the term of analysis. Minor repairs to the roof systems throughout the term can be completed below the cost threshold of reporting.

Annual walk-on inspections are recommended to ensure any deficiencies or issues are discovered and attended to in a timely manner in order to preserve the integrity and longevity of the roof systems.

3.3 Wall System

The exterior walls of the Site Building are comprised of vertical metal cladding at all elevations. Areas of stone veneer masonry and composite cladding were noted at the south elevation. The back-up system was not visible within the areas accessed.

The window systems of the Site Building consist of fixed Insulated Glass (IG) units set into aluminum and vinyl frames set into punched openings at the east, south and west elevations. As reported by the Site Representative, the window units were replaced at the time of the interior office renovations approximately 10 years ago. Date stamps were not visible.

The door systems of the Site Building consist of IG units complete with IG sidelites and transom units within prefinished aluminum frames which serve the main entrance area. Single Glazed (SG) doors within prefinished aluminum frames serve the vestibule area. Metal doors, some of which possess Georgian Wired Glass (GWG) inserts within hollow metal frames serve the emergency exits and stairwells. SG doors some of which possess SG sidelites within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors within hollow metal frames serve the loading dock and drive-in bay areas on the east and west elevations.

It should be noted that due to the fact that the scope of work did not include any intrusive/destructive testing the presence or condition of brick ties behind the masonry walls could not be visually inspected.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Areas of impact damaged metal cladding were noted at the west and south elevations.	• Replace the damaged metal wall panels.

© 2024 Pinchin Ltd.

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
• Corroded metal cladding was noted at the base of the wall systems primarily on the south and west elevations.	• Replace the areas of corroded metal cladding.
• Exterior sealants (i.e., windows, doors, joints, penetrations, etc) were noted to be deteriorated throughout the Site Building.	• Comprehensive sealant replacement is recommended within the early portion of the term.



General view of the exterior cladding of the Site Building.



View of impact damaged metal cladding at the west elevation.



View of corroded metal cladding at the base of the wall systems.

© 2024 Pinchin Ltd.



View of typical failed perimeter sealants.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the above noted deficiencies. The Site Representative did not report any issues (i.e., moisture infiltration, masonry bowing, etc.) within the wall systems.

Pinchin recommends ongoing repairs to the exterior wall systems (i.e., localized repairs to the metal cladding and replacement of the sealants) throughout the term of analysis which are anticipated to fall below the reporting threshold.

Assuming the above mentioned deficiencies are addressed and that regular annual maintenance is performed there should be no major expenditures required relating to the walls, windows and door systems of the Site Building throughout the term of the analysis.

3.4 Structural Elements

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) with cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a rigid steel frame structure (i.e., girts, purlins, tapered beams and columns) supporting sloped metal roofing systems. The mezzanine and second flor offices are reportedly constructed with steel beams and columns supporting cast-in-place concrete floor slabs.

The Site Representative did not report any significant issues relating to structural deficiencies at the time of the Site visit. No structural drawings were available to Pinchin for review.

Table 3.4 outlines the findings of the inspection of the structural elements:

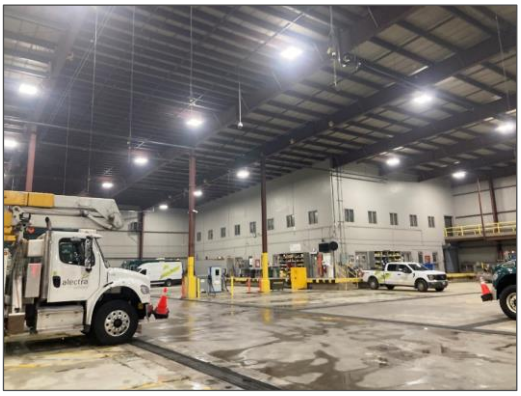
Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.

© 2024 Pinchin Ltd.

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



General view of the rigid steel frame support structure.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work.

Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure.

Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no major deterioration existed within the visibly accessible components of the Site Building.

3.5 Underground Parking Garage

The Site Building does not possess an Underground Parking Garage.

Table 3.5 outlines the findings of the inspection of the underground parking garage:

Table 3.5 – Underground Parking Garage

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• N/A.	• N/A.
Minor Deficiencies/Findings	
• N/A.	• N/A.

© 2024 Pinchin Ltd.

3.6 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1	Elevator #2	Elevator #3
Manufacturer:	Otis	Dover	Otis
Drive System:	Hydraulic system	Hydraulic system	Hydraulic system
Floors Served	G-2	G-M	G-M
Date installed:	2010 with modernization in 2021	1982	1990 with minor modernizations in 2016 and 2019
Capacity:	1,200 kg or 16 persons	1,200 kg or 16 persons	4,600 kg
Function:	Passenger	Freight	Freight
Alarm:	Yes	Yes	Yes
Emergency Stop:	Yes	Yes	Yes
Emergency Phone:	Yes	Yes	Yes
Emergency Power:	Yes	Yes	Yes

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by “Otis Elevator Company” on a monthly basis.

Table 3.6 outlines the findings of the inspection of the Elevator Systems:

Table 3.6 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The freight elevator systems serving the Site Building were noted to be approximately 34 and 42 years old with no reported major upgrades or modernization on the primary components completed since the date of installation.	• Modernization of the original components of the elevator systems is recommended within the term of analysis. A specialist review of the elevator system is recommended prior to modernization to better understand the condition of the elevator systems and verify the need, timing and cost of modernization. • Note: An allowance for modernization of the two freight elevators has been included within the term of analysis.

© 2024 Pinchin Ltd.

Table 3.6 – Elevator Systems

Findings	Remarks/Recommendations
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



General view of the hydraulic reservoir serving the passenger elevator of the Site Building.



General view of the interior finishes within the elevator cabin of the passenger elevator.



General view of a freight elevator cab serving the Site Building.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

© 2024 Pinchin Ltd.

Based on Pinchin's experience, minor components may require modernization, due in part to obsolescence, which are not covered under a "full maintenance" contract. Additionally, service personnel capable of performing the numerous adjustments necessary to keep this equipment operating properly will become increasingly difficult to find as newer equipment designs become more predominant. Thus, the Owner may be faced with significant modernization costs in order to maintain reasonable service. The freight elevator systems are reportedly original to their installation dates and range from 34 to 42 years old with minor modernizations.

The elevator systems of the Site Building are reportedly performing in a satisfactory manner, however due to the age of the two freight elevator systems, Pinchin recommends that a modernization of the elevator systems be considered within the term of analysis. Pinchin has included an allowance for the modernization of the two freight elevator systems within the term of analysis.

Pinchin also recommends that the client have a review completed on the elevator systems by a qualified elevator consultant to better understand the condition and potential necessary remedial work associated with the elevator systems.

3.7 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment.

The floor finishes within the Site Building consist of a combination of ceramic floor tiles, carpeting with areas of vinyl floor tiles within the office areas, corridors, lunchroom and elevator machine room. The floor finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed concrete floor slabs.

The wall finishes within the office areas of the Site Building consist of painted gypsum board finishes throughout, while a combination of ceramic wall tiles and painted gypsum wall boards were noted within the washrooms. The wall finishes within the warehouse and vehicle service/repair areas and storage areas consist of exposed metal cladding and concrete block masonry walls.

The ceiling finishes within the office areas of the Site Building consist of suspended ceiling assemblies complete with lay-in-tiles and painted gypsum ceiling boards throughout. The ceiling finishes within the warehouse and vehicle service/repair areas consist of exposed steel structural elements (i.e., beams, purlins) and fibreglass backed insulation with areas of exposed cast-in-place concrete at mezzanine spaces.

Table 3.7 outlines the findings of the inspection of the interior finishes:

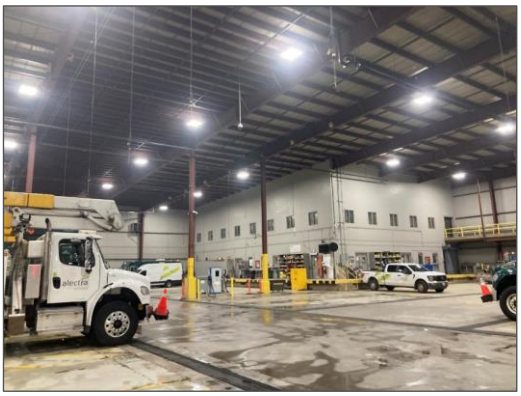
© 2024 Pinchin Ltd.

Table 3.7 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Areas of minor peeling paint were noted at concrete block masonry walls serving the garage area.	• Refinish the affected areas and monitor further.



View of typical interior finishes within the office areas.



View of typical interior finishes within the garage.

© 2024 Pinchin Ltd.



View of peeling paint at a masonry wall serving the garage area.

The interior finishes within the Site Building were observed to be in satisfactory condition with no major deficiencies. Assuming that regular annual maintenance is performed, the interior finishes should continue to perform in a satisfactory manner throughout the term of the analysis.

3.8 Site Features

The Site Building occupies approximately 20% of the 8.7 acre Site. The remainder of the Site is surfaced with soft landscaping (i.e., grassed areas with trees) parking areas and drive aisles surfaced with asphalt pavement, and gravel surfaced storage areas. The asphalt paved parking areas are located on the south and west portions of the Site with parking provisions for approximately 160 vehicles. The asphalt paved parking areas were noted to be bordered by modular curbs, cast-in-place concrete curbs, walkways and soft landscaping.

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

Soft landscaping was noted adjacent to the north and east elevations of the building as well as the perimeters of the Site. Cast-in-place concrete walkways serve the main entrance areas located adjacent to the south elevation of the Site Building. Cast-in-place concrete aprons, some complete with cast-in-place concrete retaining walls and metal guardrails serve the loading dock areas located at the west elevation of the Site Building and drive in bays at the east and south elevations.

Gravel-surfaced storage areas are present at the west portion of the Site and are enclosed with chain link fencing and rolling chain link gate. Concrete block masonry retaining walls are located on the south portion of the Site serving the lower and upper parking areas. Chain link fences are present enclosing the asphalt paved parking areas and drive aisles of the Site, complete with automatic sliding chain link gates at the north and east portions of the Site. Cast-in-place concrete steps complete with metal handrails

© 2024 Pinchin Ltd.

provide pedestrian access to the gravel storage area on the west portion of the Site, while a cast-in-place concrete ramp provides vehicular access from the parking areas.

Additionally, a steel framed storage building (i.e., steel columns set into cast-in-place concrete footings with steel beams supporting sloped metal roof systems) is located at the central/west portion of the Site. The storage building was constructed in approximately 2013 (i.e., ~ 11 years old). Drainage of the sloped metal roof is provided via eavestroughs and downspouts which discharge at grade level. The storage building was noted to be clad with vertical metal cladding. There is no heating/cooling or water supply to the storage building.

Vehicular access to the Site is provided by three entrances from Nebo Road located on the east portions of the Site, and two entranceways from Killbride Road located on the north portions of the Site.

Table 3.8 outlines the findings of the inspection of the Site features:

Table 3.8 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Areas of deterioration were noted within the asphalt pavements at the west and south central portions of the Site.	• Pinchin has carried allowances for the repair/replacement of the selected areas of asphalt pavements.
Minor Deficiencies/Findings	
• Corrosion was noted at the base of select bollards adjacent to the west elevation of the Site Building. • Corrosion observed at the metal railings at the staircase adjacent to the west elevation of the Site Building.	• Clean corrosion from the affected surfaces and apply a corrosion inhibitive coating.
• Localized areas of deterioration in the concrete curbs and walkways were noted at various locations of the Site.	• Repair/patch the deteriorated areas in the concrete curbs.
• Efflorescence staining is present at the concrete block retaining walls serving the parking area on the south portion of the Site.	• Remove areas of efflorescence and monitor further.

© 2024 Pinchin Ltd.



General view of the asphalt paved parking areas at the south portion of the Site.



General view of the asphalt pavements and gravel surfaces at the west portion of the Site.



General view of the steel storage structure on the west portion of the Site.



View of the asphalt paved parking areas and chain link fencing at the south portion of the Site.

© 2024 Pinchin Ltd.

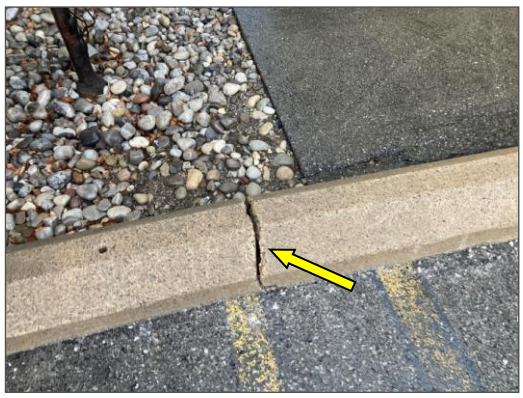


View of the concrete retaining wall and chain link fencing at the south portion of the Site.

Note: Effloresence.



View of typical deteriorated asphalt pavement at the west/central portions of the Site.



View of cracking within a modular concrete curb.

© 2024 Pinchin Ltd.



View of cracking noted within a cast-in-place concrete walkway at the main entrance to the Site Building.



View of typical deteriorated asphalt pavement at the west portion of the Site.



View of typical corrosion noted at the metal staircase and base of the bollards on the west portion of the Site.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends and has included allowances for asphalt repair/replacement throughout the term of analysis. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

© 2024 Pinchin Ltd.

3.9 Mechanical Systems

3.9.1 Major Service Providers

The following providers serve the subject property:

Water	-	City of Hamilton
Electric	-	Alectra Utilities
Sewer	-	City of Hamilton
Natural Gas	-	Enbridge
Police	-	Ontario Provincial Police
Fire	-	City of Hamilton Fire & Emergency Services

3.9.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating throughout the Site Building is provided by a combination of natural gas-fired heating and electrically powered cooling rooftop mounted and grade mounted HVAC units, natural gas-fired suspended unit heaters and radiant tube heaters within the garage areas. Supplementary heating and cooling within the Site Building is reportedly provided by electrically powered heat pump units and electrically-powered forced-air wall-mounted heaters.

The HVAC systems are summarized in the following table:

Type of Unit		Manufacturer's Name	Manufacturing Date (Age)	Heating Capacity in British Thermal Units per Hour (BTUH)	Cooling Capacity (Tonnage)
HVAC	1	York	2014 (10)	240,000	10
	1	York	2014 (10)	375,000	15
	2	York	2014 (10)	125,000	5
	1	York	2014 (10)	400,000	25
	1	Carrier	2020 (4)	60,000	2.5
	1	Carrier	2018 (6)	60,000	2
Condensers	4	York	2014 (10)	n/a	5
	1	Lennox	2013 (11)	n/a	2.5
Radiant Tube Heaters	8	Varies*	Unknown*	Unknown*	n/a
Suspended unit Heater	1	Unknown*	Unknown*	Unknown*	n/a

© 2024 Pinchin Ltd.

Type of Unit		Manufacturer's Name	Manufacturing Date (Age)	Heating Capacity in British Thermal Units per Hour (BTUH)	Cooling Capacity (Tonnage)
Heat Pumps	3*	Rheem*	2021* (3)	Unknown*	Unknown*

* Due to height restrictions, the information could not be confirmed.

In addition, a rooftop mounted electrically powered condenser unit was noted, however it is reportedly redundant.

The inspection of the interior ductwork or associated components was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.9.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by three "Rheem Rudd" DHW units, one natural gas-fired unit and two electrically powered units. Based on review of the data plate, the natural gas-fired unit was manufactured in approximately 2019 (i.e., ~ 5 years old) and possesses a maximum input heating capacity of 199,000 BTUH and a storage capacity of 451 Litres (L). The electrically powered units were manufactured in approximately 2019 and 2020 (i.e., ~ 5 and 4 years old) and possess a storage capacity of 178 L each. There was no shortage of hot water noted or reported to Pinchin at the time of the Site visit.

3.9.4 Plumbing

Drainage piping within the Site Building consists of Acrylonitrile Butadiene Styrene (ABS) and cast-iron as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consists of copper piping. Due to the concealed nature of the plumbing systems, the condition of the systems could not be verified.

The main water lines are located in the main sprinkler room of the Site Building. A 2" backflow prevention device manufactured by "Watts" was observed with recent inspection completed by "Plumbway" in July 2023.

© 2024 Pinchin Ltd.

3.9.5 Fire Protection

Fire protection within the Site Building is provided by a wet sprinkler system which provides protection throughout the office areas only. In addition, fire hose cabinets complete with stand alone chemical fire extinguisher are located within the office areas. A cabinet containing an extra supply of sprinkler heads and an installation tool were noted adjacent to the sprinkler risers. The main sprinkler piping appears to be equipped with a 4" backflow prevention device manufactured by "Wilkins" was observed with recent inspection completed by "Plumbway" in July 2023. The sprinklers , firehoses and standpipes are reportedly equipped with electronic flow alarms which are tied to the fire alarm panel and monitored by "Johnson Controls" an independent contractor. The fire protection systems are reportedly serviced annually by "Johnson Controls" and were last inspected in February 2024.

Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted within strategic locations throughout the building and were noted to be charged to sufficient levels where randomly reviewed.

Table 3.9 outlines the findings of the inspection of the mechanical systems:

Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Five HVAC units were noted to be ~ 10 years old and are anticipated to reach the end of their EUL within the mid to latter portion of the term of analysis.	• Pinchin has carried allowances for replacement of five HVAC units within the mid to latter portion of the term of analysis.
• Five condenser units were noted to be ~ 10 to 11 years old and are anticipated to reach the end of their EUL within the mid to latter portion of the term of analysis.	• Pinchin has carried allowances for replacement of five condenser units within the mid to latter portion of the term of analysis.
• Eight radiant tube heaters are of unknown age and may reach their EUL within the term of analysis.	• Pinchin has carried allowances for phased-in replacement of eight (8) radiant tube heaters within the early portion of the term of analysis.
Minor Deficiencies/Findings	
• Two DHW units are ~ 5 years old and are anticipated to reach their EUL within the mid to latter portion of the term.	• Pinchin anticipates replacement to fall below the reporting threshold.

© 2024 Pinchin Ltd.



View of a typical rooftop HVAC unit serving the Site Building.



View of a typical radiant tube heater serving the garage areas.



View of a typical grade-mounted HVAC unit serving the Site Building.



View of a typical grade-mounted condenser unit serving the Site Building.

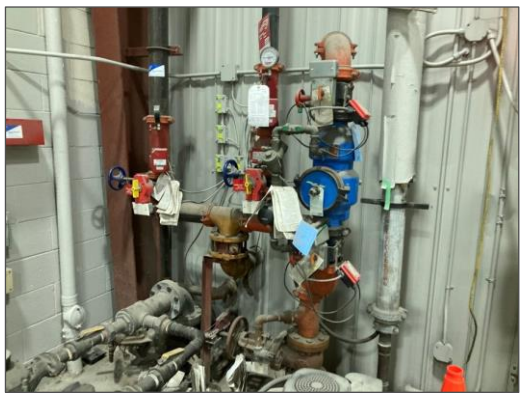
© 2024 Pinchin Ltd.



General view of the natural gas-fired DHW heater serving the Site Building.



View of the main incoming domestic water line and backflow prevention device.



View of the main sprinkler piping.

© 2024 Pinchin Ltd.



General view of a typical fire hose cabinet serving the office spaces of the Site Building.



View of a typical dry chemical fire extinguisher serving the Site Building.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Due to the current age of the heating and cooling equipment serving the building, Pinchin has included allowances for the replacement of select units as noted above. Assuming that the above noted units are replaced and regular annual maintenance is performed, the mechanical systems should continue to perform satisfactorily throughout the term of analysis.

Regular maintenance of the mechanical equipment is required to achieve or extend the expected design life of the component (i.e. replacement of the filters, cleaning of the units, and preventative maintenance).

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

© 2024 Pinchin Ltd.

3.10 Electrical Systems

3.10.1 Electrical Power

The electrical power for the Site Building is supplied from a hydro vault located on the south elevation of the Site Building and feeds the electrical room at the mezzanine level at the south portion of the building. The electrical service for the Site Building includes a “General Electric” main disconnect switch with a maximum rating of 1,200 Amperes, 347/600 Volt, 3 Phase, 4 Wire service based on the attached data plate.

The Site Building possesses a 400 kW “Generac” diesel fired emergency power generator adjacent to the south elevation of the Site Building. It was reported to Pinchin that the maintenance and replacement of the generator is an owner responsibility. Power to the Site Building is automatically transferred via an automatic transfer switch. The automatic transfer switch was noted to be manufactured by “ASCO”. Based on review of the data tag, the generator was installed in 2015 (i.e., ~ 9 years old). Inspections and servicing of the emergency generator is reportedly performed by “Total Power” an independent contractor. It was reported that the emergency generator supplies power to the entire building.

No problems were observed or reported relating to the electrical systems of the Site Building.

3.10.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Simplex 4010” fire alarm panel. The main fire alarm panel is located within the main lobby. As reported to Pinchin by the Site Representative, the fire alarm main control panel was installed at the time of the office renovations (i.e., ~ 10 years old). The fire alarm system monitors flow control switches/sensors within the sprinkler system as well as heat detectors, smoke detectors and manual pull stations located at strategic locations in the Site Building. In addition, fire alarm notification appliances (i.e., fire alarm bells, fire signals and strobe lights) are located at various locations within the Site Building. The systems are reportedly monitored by “Johnson Controls” an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “Fire Monitoring Canada” an independent contractor. The last date of inspection for the fire alarm panel and associated systems was not posted at the time of the Site visit.

Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by a combination of internal battery packs and the emergency generator.

© 2024 Pinchin Ltd.

Table 3.10 outlines the findings of the inspection of the electrical systems:

Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The fire alarm panel is approximately 10 years old and is anticipated to reach the end of its EUL within the latter portion of the term of analysis.	• Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc.
• Updated inspection tags were not present at the fire alarm system at the time of the Site visit.	• Annual inspections are required.



General view of the hydro vault on the south portion of the building.



General view of the “General Electric” main electrical disconnect.

© 2024 Pinchin Ltd.



General view of the “Generac” diesel-fired emergency backup generator.



General view of the “ASCO” automatic transfer switch.



General view of the main fire alarm panel serving the Site Building.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner at the time of the Site assessment.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted attached date plates. The Client should contact the electrical service provider to verify the incoming

© 2024 Pinchin Ltd.

electrical supply capacities, if required. Given the reported age of the fire alarm panel, Pinchin recommends and has included a preliminary allowance for the replacement of the fire alarm panel within the latter portion of the term of analysis. It is recommended that a specialist review of the fire alarm systems be completed prior to replacement to determine replacement requirements for concealed components of the fire alarm system including wiring, annunciators, etc.

The electrical and life safety systems should continue to perform satisfactorily throughout the term of analysis assuming the above noted deficiencies are addressed and regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 27, 2024 the Site Building appears to be in satisfactory condition, and in comparable standing to other similar commercial residential properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the times of construction.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

As noted during the Site visit, deficiencies relating to the repair to the roof systems, wall systems, elevator systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin has carried phased allowances for replacement of the sloped metal roof system that has reached its Expected Useful Life (EUL) within the early portion of the term of analysis;
- Allowances for modernization of the two freight elevators that have reached their EUL within the early portion of the term of analysis;
- Allowances for the repair/replacement of the selected areas of deteriorated asphalt pavements;
- Allowances for phased-in replacement of five Heating, Ventilation, and Air Conditioning (HVAC) units;

© 2024 Pinchin Ltd.

- Allowances for phased-in replacement of five condenser units;
- Allowances for phased-in replacement of eight radiant tube heaters; and
- Allowance for replacement of the fire alarm panel.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 –*

© 2024 Pinchin Ltd.

15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevator mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the

© 2024 Pinchin Ltd.

presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

© 2024 Pinchin Ltd.

APPENDIX I

Table 1 – Summary of Anticipated Expenditures

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (Sloped metal roof replacement allowance)	25-35+	42	0	57,200	SF	$35	$2,002,000		$1,001,000		$1,001,000								$2,002,000
Roof Structures and Roofing (General Maintenance) Below Threshold																			
Wall Systems																			
Exterior Walls (General Maintenance) Below Threshold																			
Exterior Windows and Doors (Repairs) Below Threshold																			
Structural Elements																			
Foundations																			
Superstructure																			
Vertical Transportation Systems																			
Elevator Systems (Modernization Allowance)	25	34-42	0	2	EA	$120,000	$240,000		$240,000										$240,000
Interior Finishes																			
Interior Finishes (General Maintenance) Below Threshold																			
Site Features																			
Parking and Paving (Asphalt Repair/Replacement Allowance)	Varies	Varies	Varies	1	LS	$275,000	$275,000				$275,000								$275,000
Concrete (Repairs) Below Threshold																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling (HVAC Replacement Allowances)	15-20	10	5-10	1	EA	$30,000	$30,000											$30,000	$30,000
Building Heating and Cooling (HVAC Replacement Allowances)	15-20	10	5-10	1	EA	$45,000	$45,000											$45,000	$45,000
Building Heating and Cooling (HVAC Replacement Allowances)	15-20	10	5-10	2	EA	$15,000	$30,000										$30,000		$30,000
Building Heating and Cooling (HVAC Replacement Allowances)	15-20	10	5-10	1	EA	$75,000	$75,000										$75,000		$75,000
Building Heating and Cooling (Condenser Replacement Allowances)	15-20	10	5-10	4	EA	$15,000	$60,000									$60,000			$60,000
Building Heating and Cooling (Condenser Replacement Allowances)	15-20	11	4-9	1	EA	$7,500	$7,500									$7,500			$7,500
Building Heating and Cooling (Suspended Radiant Tube Heaters Replacement Allowance)	20-25	unknown	unknown	8	EA	$2,500	$20,000			$10,000		$10,000							$20,000
Hot Water (DHW Replacements) Below Threshold																			
Fire Protection																			
Electrical Systems																			
Electrical Systems																			
Fire and Life Safety Systems (Updated Inspection) Below Threshold																			
Fire and Life Safety Systems (Fire Alarm Panel Replacement Preliminary Allowance)	20	10	0-10	1	LS	$30,000	$30,000											$30,000	$30,000
							TOTALS (UNINFLATED)	**$0**	**$1,241,000**	**$10,000**	**$1,276,000**	**$10,000**	**$0**	**$0**	**$0**	**$67,500**	**$105,000**	**$105,000**	**$2,814,500**
Term of Analysis	**10**						**INFLATION FACTOR**	**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
Cost Threshold	**$5,000**						**TOTALS (INFLATED)**		**$1,241,000**	**$10,300**	**$1,352,560**	**$10,900**	**$0**	**$0**	**$0**	**$81,675**	**$130,200**	**$133,350**	**$2,959,985**

Total SF within the Site Building(s)	**93,550**
Average Cost per SF per Year (Uninflated)	**$3.01**
Average Cost per SF per Year (Inflated)	**$3.16**

LS - Lump Sum

SF - Square Foot

EA - Each (per unit component)

LF - Linear Foot



FINAL

Baseline Property Condition Assessment

2185 Derry Road West, Mississauga, Ontario

Prepared for:

Alectra Utilities Corp.
2185 Derry Road West,
Mississauga, ON L5N 7A6

March 25, 2024

Pinchin File: 335512

© 2024 Pinchin Ltd.

Issued to:	**Alectra Utilities Corp.**
Issued on:	**March 25, 2024**
Pinchin File:	**335512**
Issuing Office:	**Hamilton, ON**

Author:
Brandon Lane
Senior Project Technologist
289.776.9756
blane@pinchin.com

Reviewer:
Robert McAdam, C.E.T.
Team Leader
613.212.9699
rmcadam@pinchin.com

© 2024 Pinchin Ltd.

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 2185 Derry Road West, Mississauga, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 29, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Site is an irregular-shaped property approximately 6.0 acres in area. The Site is occupied by a three-storey office building (the Site Building).

The Site Building is reported to have been constructed in approximately 1994 with an approximate footprint area of 30,000 Square Feet (SF) and total building area of 80,000 SF. Grade level parking is located adjacent to the west and north elevations of the Site Building with parking for 339 vehicles.

The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) with cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a reinforced concrete structure (i.e., beams, columns and slabs) supporting concrete floor decks and concrete roof deck. The superstructure of the portions of the ground floor which extend out on the north and south portions of the Site Building were noted to consist of steel framed support structures (i.e., beams, columns, joists, etc.) which support steel roof decks. The exterior walls of the Site Building consist of precast concrete wall panels and glass and aluminum curtain wall systems on all elevations.

The Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar commercial office properties in the area.

Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

The assessment did not reveal any visual evidence of major structural failures, soil erosion or differential settlement.

No immediate repair requirements were noted. Repair requirements (under replacement reserves) over the term of the analysis (i.e., 10 years) of $1,477,000 have been identified. As noted during the Site visit, deficiencies relating to the minor repair to the roof systems, wall systems, interior finishes, Site features

© 2024 Pinchin Ltd.

and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

- Pinchin recommends and has included allowances for the replacement of the skylight systems at the main roof systems of the Site Building within the term of analysis;
- Pinchin recommends and has included a contingency allowance for the phased replacement of the windows serving the Site Building throughout the term of analysis;
- Pinchin recommends and has included allowances for the repair/replacement of deteriorated asphalt throughout the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the seven "Nortec" humidifiers within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the "Luxeaire" rooftop packaged Heating, Ventilation and Air Conditioning (HVAC) unit within the term of analysis; and
- Pinchin recommends and has included a preliminary allowance for the replacement of the emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the Client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures.

Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the Expected Useful Life (EUL) of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

© 2024 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SCOPE AND METHODOLOGY 1
3.0 OBSERVATIONS AND COMMENTS 3
3.1 Site Information 4
3.2 Roof Systems 6
3.3 Wall System 10
3.4 Structural Elements 13
3.5 Underground Parking Garage 14
3.6 Elevator Systems 14
3.7 Interior Finishes 16
3.8 Site Features 18
3.9 Mechanical Systems 20
3.9.1 Major Service Providers 20
3.9.2 Heating, Ventilation and Air Conditioning (HVAC) 20
3.9.3 Domestic Hot Water 22
3.9.4 Plumbing 22
3.9.5 Fire Protection 23
3.10 Electrical Systems 26
3.10.1 Electrical Power 26
3.10.2 Fire Alarm System and Life Safety 27
4.0 KNOWN VIOLATIONS OF CODE 29
5.0 CONCLUSIONS AND RECOMMENDATIONS 29
6.0 TERMS AND LIMITATIONS 30

© 2024 Pinchin Ltd.

APPENDICES

APPENDIX I Table 1 – Summary of Anticipated Expenditures

LIST OF TABLES

Table 3.1 – Site Information 4
Table 3.2 – Roof Systems 6
Table 3.3 – Wall Systems 11
Table 3.4 – Structural Elements 13
Table 3.5 – Underground Parking Garage 14
Table 3.6 – Elevator Systems 15
Table 3.7 – Interior Finishes 17
Table 3.8 – Site Features 18
Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection) 23
Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety) 27

© 2024 Pinchin Ltd.

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Alectra Utilities Corp. (Client) to conduct a Baseline Property Condition Assessment (BPCA), subject to the limitations outlined in Section 6.0 of this report. As discussed with the Client this service did not include any specialist review of items such as mechanical/electrical systems, structural components, elevators, fire and life safety systems, etc. The municipal address for the property is 2185 Derry Road West, Mississauga, Ontario (the Site). Pinchin conducted a visual assessment of the Site on February 29, 2024 at which time Pinchin interviewed and was accompanied by the Building Operator of the Site (hereafter referred to as the Site Representative).

Pinchin was advised by the Client that the purpose of the BPCA was to assess visible deficiencies as part of their due diligence requirements for budgeting of the Site.

The Client has advised Pinchin that the following documents are available for review:

- "*Baseline Property Condition Assessment -2185 Derry Road West, Mississauga, Ontario*", prepared by Pinchin Ltd., prepared for Alectra Utilities Corp. and dated May 22, 2018.

It was reported to Pinchin that the costs associated with ongoing general maintenance of the major components of the Site Building are carried as part of the annual operating budget for the Site. At the direction of the Client a threshold of $5,000 per system, per year has been utilized in determining anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are reported to be carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures. The term of analysis requested by the Client was 10 years.

The results of the BPCA are presented in the following report. This report is subject to the Terms & Limitations discussed in Section 6.0.

2.0 SCOPE AND METHODOLOGY

The scope of the BPCA included a visual examination (without any intrusive testing or demolition of finishes to observe hidden areas) of the following:

- The building envelope, comprised of the exterior walls, windows, exterior doors and roof systems;
- The structural elements (i.e., slabs, beams, columns and walls);
- The elevator systems;
- The interior finishes of the common areas and a selection of individual tenant premises;

© 2024 Pinchin Ltd.

- The Site features;
- The mechanical systems (i.e., HVAC, domestic hot water, etc.); and
- The electrical systems.

The object of the BPCA included the following:

- A visual examination of the property in order to assess the condition of the major elements;
- Review of general documentation on the repair/maintenance history of the elements, if available;
- Cursory review of previous reports pertaining to the Site Building, if made available by the Site Representative;
- Interviews and discussions with on-Site personnel regarding the repair/maintenance conducted on the Site Building;
- Documentation of observed existing deficiencies observed within the various elements;
- Photographic documentation of various components and observed deficiencies; and
- Compilation of Pinchin's findings in a formal written report including observed deficiencies, together with a list of recommendations for repair/replacement with associated estimated costs for both short and long term.

The report provides:

- A basic description of each of the various major components of the Site Building;
- A list of deficiencies noted with respect to the components examined; and
- Recommendations and cost estimates for the corrections recommended.

Cost estimates provided in this report are preliminary Class "D" and provided only as an indication of the order of magnitude of the remedial work. These values have been arrived at by determining a representative quantity from the visual observations made at the time of our Site visit and by applying current market value unit costs to such quantities and or a reasonable lump sum allowance for the work. More precise cost estimates would require more detailed investigation to define the scope of work. They are not intended to warrant that the final costs will not exceed these amounts or that all costs are covered. The estimates assume the work is performed at one time and do not include costs for potential de-mobilization and re-mobilization if repairs/replacement are spread out over the term of analysis.

© 2024 Pinchin Ltd.

All costs are identified in 2024 Canadian Dollars, and do not include consulting fees or applicable taxes. (For consulting fees, Pinchin typically recommends a budget allowance of 10% to 15% of the costs identified).

All cost estimates assume that regular annual maintenance and repairs will be performed to all building elements at the facility. No cost allowance is carried for this regular maintenance.

The cost estimates provided in this report are based on costs of past repairs at similar buildings, recent costing data such as “RS Means Repair and Remodelling Cost Data – Commercial/Residential” and “Hanscomb’s Yardsticks for Costing”, or Pinchin’s professional judgment.

Unless otherwise stated, the replacement costs identified for an element reflects the cost to remove and replace the existing element with the same type of element.

3.0 OBSERVATIONS AND COMMENTS



General view of the north elevation of the Site Building.



General view of the east elevation of the Site Building.

© 2024 Pinchin Ltd.



General view of the south elevation of the Site Building.



General view of the west elevation of the Site Building.

3.1 Site Information

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Site Address	2185 Derry Road West, Mississauga, Ontario		
Existing Land Use Type	Commercial	*Primary On-Site Activity*	Office
Multi-Tenant/Single Occupant	Single Occupant	*Number of Units*	One
Date First Developed	Unknown	*Site Area*	~ 6.0 acres
Number of Buildings	One	*Building Footprint Area(s)*	~ 30,000 SF
Number of Stories above grade	Three	*Total Rentable Building Area(s)*	~ 80,000 SF
Date Building(s) Constructed	~ 1994	*Area of Tenant Spaces*	~ 80,000 SF
Date Building(s) Renovated	Ongoing interior fit-ups	*Basement and/or U/G Parking*	N/A

© 2024 Pinchin Ltd.

Table 3.1 – Site Information

Site Occupant/Name	**Alectra Utilities Corp.**		
Type of Roof System(s)	Built-Up asphalt Roof systems	*Number of Levels U/G*	N/A
Type of Wall Cladding	Curtain wall glazing Pre-cast concrete panels	*Area of Roof System(s)*	~ 35,000 SF
Type of Doors	Insulated Glass (IG) units within aluminum frames Hollow metal doors within metal frames Insulated sectional metal overhead doors	*Types of Windows*	Fixed IG units within a curtain wall configuration
Above Grade Parking Area	Asphalt surfaced ~ 339 spaces	*Electrical Source*	Alectra Utilities
Surface Type	Asphalt paved parking areas and driveways Cast-in-place concrete walkways Soft landscaping (i.e., grassed areas with trees)	*Type of Heating/Cooling*	Natural gas-fired heating and electrically-powered cooling rooftop packaged Heating, Ventilation and Air Conditioning (HVAC) units, which distribute conditioned (i.e., hot and cool) air through the Variable Air Volume (VAV) terminal units and perimeter Fan Powered Boxes (FBPs) Electric wall mounted air conditioning units complete with rooftop air-cooled condensing units Natural gas-fired space heaters Electric baseboard heaters

© 2024 Pinchin Ltd.

3.2 Roof Systems

The roof systems of the Site Building consist of conventionally designed “near-flat” Built-Up asphalt Roof (BUR) systems installed atop a layer of rigid insulation, atop metal and concrete roof decks. Neither the presence of a vapour barrier, nor the type or the thickness of the insulation could be verified, as the scope of the work did not include destructive testing. In addition, a glass and steel canopy roof structure is located at the secondary entrance on the north elevation of the Site Building.

Drainage of the roof systems is provided by internal roof drains which presumably drain to the municipal sewer system. The roof systems consist of one main roof system atop the third floor at the central portion of the Site Building and two secondary roof systems atop the ground floor at the north and south portions of the Site Building. Visual review of the lower roof area atop the south portion of the Site Building was conducted from the main roof area, due to lack of built-in access. The three secondary roof systems were not accessed at the time of the Site visit due to a lack of built-in access. The Site Representative reported that the roof systems were replaced in approximately 2013 (i.e., ~ 11 years old).

Penetrations through the roof systems consist of plumbing vents, roof drains, skylights, HVAC curbing and pitch pockets serving conduits. The total roof area of the main and lower-level BUR systems is larger than the building footprint area at approximately 35,000 SF, due to the extension of the lower level BUR systems at the main and secondary entrances. No active leaking within the roof systems was reported during the assessment.

Due to the fact that the scope of the work did not include for destructive testing, Pinchin could not ascertain whether Phenolic insulation was present within the roof systems at the time of the Site visit.

Table 3.2 outlines the findings of the inspection of the roof systems:

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Several prior leaks were reported at the skylights serving the Site Building. • It was reported to Pinchin that the glazing units at the skylights are original to the construction of the Site Building (i.e., ~ 30 years old) and are anticipated to reach the end of their Expected Useful Life (EUL) within the term of analysis. • Perimeter sealants at the skylight glazing systems were noted to be deteriorated (i.e., splitting, aged, de-bonded, etc.).	• Pinchin recommends and has included allowances for the replacement of the skylight systems at the BUR systems of the Site Building within the term of analysis.

© 2024 Pinchin Ltd.

Table 3.2 – Roof Systems

Findings	Remarks/Recommendations
• Condensation observed within the window assembly of an Insulated Glass (IG) unit of one of the skylights.	
Minor Deficiencies/Findings	
• Minor corrosion noted at the steel beam supports of the HVAC equipment.	• Clean corrosion from the steel beam supports and apply a corrosion inhibitive coating. Monitor for further deterioration throughout the term of analysis.
• Metal perimeter flashing sealants were noted to be deteriorated (i.e., splitting, aged, etc.).	• Replacement of the deteriorated sealants is recommended.
• Areas of asphalt bleed-through noted atop the BUR systems.	• Monitor for further deterioration throughout the term of analysis.
• Areas of organic growth noted atop the BUR systems.	• Clear organic growth from the surface of the BUR systems as part of ongoing general maintenance.



General view of the main BUR system at the central portion of the Site Building.



General view of the BUR system atop the north portion of the Site Building.

© 2024 Pinchin Ltd.



View of a typical skylight system serving the Site Building.



View of a typical deteriorated skylight perimeter sealant.



View of evidence of a prior leak at a skylight.

© 2024 Pinchin Ltd.



View of minor corrosion at structural steel supports of an HVAC unit.



View of a typical deteriorated metal perimeter flashing sealant.



View of an area of minor asphalt bleed-through.

© 2024 Pinchin Ltd.



View of an area of organic growth noted atop the main BUR system.

It has been Pinchin's experience that the Expected Useful Life (EUL) of a BUR system typically ranges between 20 to 25 years, depending on the quality of building materials used, the quality of workmanship during installation and the level to which the roof system has been maintained. The Site Representative reported that the roof systems were replaced in approximately 2013 (i.e., ~ 11 years old). Pinchin recommends and has included allowances for the replacement of the skylight systems at the BUR systems of the Site Building within the term of analysis. Pinchin also recommends that regular annual maintenance be performed on the roof systems throughout the term of the analysis.

3.3 Wall System

The exterior walls of the Site Building consist of precast concrete wall panels and glass and aluminum curtain wall systems on all elevations.

The window systems of the Site Building consist of glass and aluminum curtain wall systems (consisting of fixed Insulated Glass (IG) vision panels, metal panels and pronounced prefinished aluminum frames) located on all elevations. Based on review of selected dates stamped on the window spacers, the IG units were manufactured in 1994 (i.e. approximately 30 years old).

The door systems of the Site Building consist of IG doors within prefinished aluminum frames at the main and secondary entrances and Single-Glazed (SG) doors within prefinished aluminum frames at the vestibules. Metal doors, some of which possess Georgian Wired Glass (GWG) inserts, within hollow metal frames were noted to serve the maintenance room, utility rooms, stairwells and emergency exits. SG doors within prefinished aluminum frames and wood doors within wood and metal frames were noted to serve the interior spaces. Insulated sectional metal overhead doors complete with SG inserts were noted to serve the loading docks on the west elevation of the Site Building.

It should be noted that due to the fact that the scope of work did not include any intrusive/destructive testing, the condition of the anchoring system/fasteners securing the precast concrete wall panels and

© 2024 Pinchin Ltd.

curtain wall systems to the building structural frame and floor slabs could not be determined at the time of the Site visit as these components are concealed and could not be visually inspected.

Table 3.3 outlines the findings of the inspection of the wall systems:

Table 3.3 – Wall Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The windows are approximately 30 years old and are anticipated to reach the end of their EUL within the term of analysis.	• Pinchin recommends and has included a contingency allowance for the phased replacement of the windows serving the Site Building throughout the term of analysis.
Minor Deficiencies/Findings	
• Peeling paint noted on the soffit of the overhang at the roof on the north and south portions of the Site Building.	• Repaint the affected areas.
• De-bonded pre-cast concrete panel joint sealants noted in several locations.	• Replacement of the deteriorated sealants is recommended as part of ongoing general maintenance.
• Minor cracking observed in isolated pre-cast concrete wall panels.	• Rout and seal minor cracks in the pre-cast concrete panels and monitor for further deterioration throughout the term of analysis.



View of typical pre-cast concrete panel and curtain wall glazing present at the Site Building.

© 2024 Pinchin Ltd.



View of minor peeling paint on the roof overhang at the north portion of the Site Building.



View of a splitting pre-cast concrete panel joint sealant.



View of a minor crack in a pre-cast concrete panel.

The wall, window and door systems of the Site Building were generally noted to be in satisfactory condition at the time of the Site visit with the exception of the above noted deficiencies. Pinchin recommends and has included a contingency allowance for the phased replacement of the windows serving the Site Building throughout the term of analysis.

As long as the above-mentioned deficiencies are addressed and that regular annual maintenance is performed the walls, windows and door systems of the Site Building should continue to perform satisfactorily throughout the term of analysis.

© 2024 Pinchin Ltd.

3.4 Structural Elements

As outlined in the scope of work, a visual assessment of the condition of the structural elements was carried out on the elements which were visible at the time of the Site assessment. The Site Building is constructed with a cast-in-place concrete slab-on-grade (i.e., no basement level) with cast-in-place concrete foundation walls. The superstructure of the Site Building is comprised of a reinforced concrete structure (i.e., beams, columns and slabs) supporting concrete floor decks and concrete roof deck. The superstructure of the portions of the ground floor which extend out on the north and south portions of the Site Building were noted to consist of steel framed support structures (i.e., beams, columns, joists, etc.) which support steel roof decks. No structural drawings were available to Pinchin for review.

Table 3.4 outlines the findings of the inspection of the structural elements:

Table 3.4 – Structural Elements

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.

Assessment of the original or existing building design, compliance with prior or current Building Code or detection or comment upon concealed structural deficiencies are outside the scope of work. Similarly, the identification and assessment of any post-tension reinforcing is not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment has been made based on a walk-through visual inspection of accessible areas of the structure. Pinchin's visual review of the structural elements and information provided by the Site Representative indicated that no major deterioration existed within the visibly accessible components of the Site Building.

© 2024 Pinchin Ltd.

3.5 Underground Parking Garage

The Site Building does not possess an underground parking garage.

Table 3.5 – Underground Parking Garage

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• N/A	• N/A
Minor Deficiencies/Findings	
• N/A	• N/A

3.6 Elevator Systems

The following is a brief description of the elevator systems present at the subject building:

	Elevator #1	Elevator #2
Manufacturer:	Otis	Otis
Drive System:	Hydraulic	Hydraulic
Floors Served	G-3	G-3
Date installed:	~ 1994 (modernization reportedly completed by Otis in 2020)	~ 1994 (modernization reportedly completed by Otis in 2020)
Capacity:	1,588 kg or 21 persons	1,588 kg or 21 persons
Function:	Passenger	Passenger
Alarm:	Yes	Yes
Emergency Stop:	Yes	Yes
Emergency Phone:	Yes	Yes
Emergency Power:	Yes	Yes

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustments and preventive maintenance work. Entrances and cab finishes are normally excluded. As long as a “full maintenance” contract is purchased, the only additional costs to the Owner, during the first 15-25 years of use, should be for malicious damage and repairs to the elevator cabs and entrances. It is assumed that repairs required due to “Acts of God” (i.e., flood, fires, etc.) are covered by insurance. It was reported to Pinchin that the elevator is maintained on an all-inclusive contract by “Otis Elevator Company” on a monthly basis.

© 2024 Pinchin Ltd.

Table 3.6 outlines the findings of the inspection of the Elevator Systems:

Table 3.6 – Elevator Systems

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.



View of the elevator hydraulic oil reservoirs.



View of the typical interior finishes within an elevator cab.

© 2024 Pinchin Ltd.



View of the elevator controls within an elevator cab.

As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information is solely based on the information and documentation provided as well as the visual appearance of the elevator cabs, etc.

It was reported to Pinchin that the elevator is maintained and serviced by “Otis Elevator Company”. Assuming the full elevator maintenance contract is fulfilled, the elevator systems should continue to perform satisfactorily throughout the term of analysis.

3.7 Interior Finishes

As outlined in the scope of work, the interior finishes of the Site Building were reviewed during the Site assessment.

The floor finishes within the Site Building consist of granite tiles and ceramic tiles in the ground floor corridor, vestibules, lobbies, washrooms and coffee lounges. The floor finishes within the office areas and elevator lobbies consist of carpeting and ceramic tiles. The floor finishes within the shipping/receiving area and utility rooms consist of painted and unpainted concrete floor slabs.

The wall finishes within the Site Building consist of painted gypsum board finishes throughout. The wall finishes within the washrooms consist of ceramic tiles. The wall finishes within the shipping/receiving area, stairwells and utility rooms consist of painted and unpainted concrete block masonry.

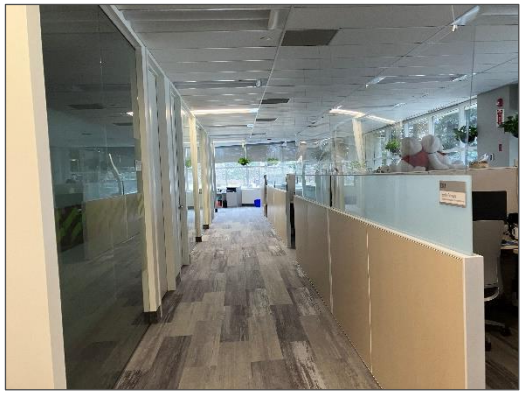
The ceiling finishes within the Site Building consist of suspended ceiling assemblies complete with lay-in-tiles throughout. Painted gypsum board ceiling finishes were noted in the ground floor corridor and elevator lobbies. The ceiling finishes within the computer/data room and various utility rooms consist of painted and unpainted concrete ceilings and exposed steel frame structures (i.e., beams and steel roof decking). The ceiling finishes within the shipping/receiving area and various utility rooms consist of exposed steel frame structures (i.e., beams and steel roof decking).

© 2024 Pinchin Ltd.

Table 3.7 outlines the findings of the inspection of the interior finishes:

Table 3.7 – Interior Finishes

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• Several stained ceiling tiles noted within the Site Building.	• Remove the affected ceiling tiles, identify and repair any source of moisture and replace the ceiling tiles.



View of typical interior finishes within the Site Building.



View of stained ceiling tiles.

The interior finishes within the Site Building were observed to be in satisfactory condition with no major deficiencies. Assuming that regular annual maintenance is performed, the interior finishes should continue to perform in a satisfactory manner throughout the term of analysis.

© 2024 Pinchin Ltd.

3.8 Site Features

The Site Building occupies approximately 11% of the 6.0 acre Site. The remainder of the Site is occupied by asphalt surfaced parking areas and areas of soft landscaping (i.e., grassed area with trees). The asphalt surfaced parking areas are located on the west and north portions of the Site with parking for approximately 339 vehicles.

Drainage of the Site pavements is provided by on-Site catch basins which presumably drain the water to the municipal sewer system. Since the inspection was limited to visible areas no examination of the catch basins was performed and no review of the initial compliance with code was performed. The inspection of underground or concealed components is outside the scope of work. No issues were reported with the catch basins or their ability to drain the Site.

Soft landscaping was noted on the south portion of the Site and along the east perimeter of the Site. Cast-in-place concrete walkways were noted adjacent to the south, west and north elevations of the Site Building while an interlocking concrete paver patio area is located adjacent to the north elevation of the Site Building. Low rising concrete block retaining walls are located at the landscaped areas adjacent to the west elevation of the Site Building. A steel framed support structure supporting solar panels is located adjacent to the north elevation of the Site Building. Access to the Site is provided by an entrance from Syntex Drive located on the south portion of the Site and from the adjacent property to the north.

Table 3.8 outlines the findings of the inspection of the Site features:

Table 3.8 – Site Features

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• Areas of linear cracking noted throughout the asphalt paved surfaces of the Site.	• Pinchin recommends and has included allowances for the repair/replacement of deteriorated asphalt throughout the term of analysis.
Minor Deficiencies/Findings	
• Minor corrosion noted at railings at a concrete staircase adjacent to the west elevation of the Site Building.	• Clean corrosion from the metal railings and apply a corrosion inhibitive coating.
• Minor damage to concrete curbs noted at the asphalt parking areas and driveways.	• Repair the affected concrete curbs as part of ongoing general maintenance.

© 2024 Pinchin Ltd.



General view of the parking area on the north portion of the Site.



View of typical linear cracking noted in the asphalt paved surface around a catch basin.



View of minor corrosion noted at steel railings adjacent to the west elevation of the Site Building.

© 2024 Pinchin Ltd.



View of minor damage at a concrete curb.

The Site features appear to be in satisfactory condition with the exception of the above referenced deficiencies. Pinchin recommends and has included allowances for the repair/replacement of deteriorated asphalt throughout the term of analysis. Pinchin also recommends that regular annual maintenance of the Site features be performed throughout the term of analysis. Assessment of or comment upon concealed deficiencies and any buried/concealed utilities or components are outside the scope of work.

3.9 Mechanical Systems

3.9.1 Major Service Providers

The following providers serve the subject property:

Water	-	Region of Peel
Electric	-	Alectra Utilities
Sewer	-	City of Mississauga
Natural Gas	-	Enbridge
Police	-	Peel Regional Police Service
Fire	-	Mississauga Fire Department

3.9.2 Heating, Ventilation and Air Conditioning (HVAC)

Heating and cooling within the Site Building is provided by four natural gas-fired heating and electrically-powered cooling rooftop multi-zone Heating, Ventilation and Air Conditioning (HVAC) units. The multi-zone HVAC units distribute conditioned air (i.e., hot and cool) through Variable Air Volume (VAV) terminal units and perimeter Fan Powered Boxes (FPBs) located in the ceiling space. Based on review of data plates, the multi-zone HVAC units were manufactured by “Engineered Air” (FWE Series) in 2016 and

© 2024 Pinchin Ltd.

2017 (i.e., approximately 7 and 8 years old) and possess maximum input heating capacities of 250,000 and 400,000 British Thermal Units per Hour (BTUH).

Based on the information provided by the Site Representative, there are 32 VAV terminal units distributing conditioned hot and cool air to the central portions and 43 FPBs (complete with electric heating) distributing hot air to the perimeters of the Site Building. In addition, seven re-heat duct heaters provide heating within the cafeteria of the Site Building. The VAV terminal units, FPBs and re-heat duct heaters are reportedly replaced on an as needed basis and maintained through regular ongoing maintenance.

There are seven “Nortec” humidifiers installed within the ductwork for countering dry air during the winter months. Based on review of available data plates, the humidifiers were manufactured in 2013 (i.e., approximately 11 years old).

Additional heating and cooling within the Site Building is provided by one “Luxaire” and four “York” natural gas-fired heating and electrically powered cooling rooftop packaged HVAC units. Based on review of data plates, the “Luxaire” HVAC unit was manufactured in 2012 (i.e., approximately 12 years old) and possesses a maximum input heating capacity of 125,000 BTUH. The four “York” HVAC units were manufactured in 2017 and 2018 (i.e., ~ 6 to 7 years old) and possess maximum input heating capacities of 125,000, 220,000 and 400,000 BTUH. It is noted that two “York” HVAC units (manufactured in 2018) are currently not activated and have reportedly been scheduled to be in operation subsequent to the Site visit.

The HVAC equipment, VAV terminal units, FPBs and re-heat duct heaters are reportedly controlled by a central Building Automation System (BAS).

Heating within the shipping/receiving area is provided by two “Lennox” and “Trane” natural gas-fired suspended unit heaters. Based on review of data plates, the “Lennox” unit heater was manufactured in 2018 (i.e., ~6 years old) and the “Trane” unit heater was manufactured in 2008 (i.e., ~ 16 years old). Additional heating within the shipping/receiving area is provided an electric suspended space heater.

Cooling within the computer/data room and UPS room is provided by two “Mitsubishi” electrically-powered split-system air conditioning units complete with rooftop air-cooled condensing units. Based on review of data plates, the air conditioning units were manufactured in 2011 (i.e., ~ 13 years old) and possess cooling capacities of 2.5 and 4 tons.

The cafeteria area at the north portion of the Site Building is equipped with a rooftop mounted, natural gas-fired Make-Up-Air (MUA) unit which was noted to have been manufactured by “CaptiveAire” in 2018 (i.e., ~ 6 years old). The MUA unit possesses an approximate input heating capacity of 600,000 BTUH.

Supplementary heating within the Site Building is provided by electric baseboard heaters.

© 2024 Pinchin Ltd.

The inspection of the interior ductwork or associated components was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

3.9.3 Domestic Hot Water

Domestic Hot Water (DHW) within the Site Building is provided by electrically powered, self-contained units which are located in various janitorial closets and above the ceilings. A summary of the observed units is listed below:

- Two electrically powered self-contained units manufactured by "Giant" in 2018 (i.e., ~ 6 years old. The units possess approximate storage capacities of 40 gallons each;
- One electrically powered self-contained unit manufactured by "Rheem Ruud" in 2014. The unit possesses an approximate storage capacity of 50 U.S. gallons;
- One natural gas-fired self-contained unit manufactured by "A.O. Smith" in 2018 (i.e., ~ 6 years old). The unit possesses an approximate input heating capacity of 150,000 BTUH and an approximate storage capacity of 100 U.S. gallons;

The remaining units are reportedly located above the ceilings in various locations. Pinchin is unable to comment on the condition and number of these units as they were not readily visible and accessible at the time of the Site assessment. There was no reported shortage of hot water within the Site Building.

3.9.4 Plumbing

Drainage piping within the Site Building consists of Acrylonitrile Butadiene Styrene (ABS) and cast-iron as observed where visible. It was noted, where visible, that the plumbing for the domestic cold and hot water consisted of copper piping. Due to the concealed nature of the plumbing systems, the condition of the systems could not be verified.

The main water lines are located in the main water supply room at the north portion of the Site Building. A 3" backflow prevention device manufactured by "Watts" was observed with the most recent inspection completed by "Black & McDonald" in February 2023. Based on the affixed tag and on information provided to Pinchin by the Site Representative, the main incoming domestic water line was equipped with the backflow prevention device in 2020 (i.e., ~ 4 years old).

© 2024 Pinchin Ltd.

3.9.5 Fire Protection

Fire protection within the Site Building is provided by a “wet” sprinkler system which provides protection throughout all accessed areas of the building. A cabinet containing an extra supply of sprinkler heads and an installation tool were noted within the main water supply room. The sprinklers are reportedly equipped with electronic flow alarms which are monitored by “Convergint” an independent contractor. The fire protection systems are reportedly serviced annually by “Com-Plex Systems Ltd.” and were last inspected in July 2023. Supplemental fire protection within the Site Building is provided by stand-alone chemical fire extinguishers which were noted in various strategic locations. Additionally, a chemical suppression system provides protection at the cooking range in the kitchen of the cafeteria.

Table 3.9 outlines the findings of the inspection of the mechanical systems:

Table 3.9 – Mechanical Systems (including HVAC, DHW, Plumbing and Fire Protection)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• None observed/reported.	• None required.
Minor Deficiencies/Findings	
• The “Nortec” humidifiers are approximately 11 years old and are anticipated to reach the end of their EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the seven “Nortec” humidifiers within the term of analysis.
• The “Luxeaire” rooftop packaged HVAC unit is approximately 12 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included allowances for the replacement of the “Luxeaire” rooftop packaged HVAC unit within the term of analysis.
• The “Trane” suspended unit heater is approximately 16 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Replacement of the “Trane” suspended unit heater is recommended within the term of analysis and can be completed at a below threshold cost.
• The two split-system air conditioning units are approximately 13 years old and are anticipated to reach the end of their EUL within the term of analysis.	• Replacement of the two split-system air conditioning units is recommended within the term of analysis and can be completed at a below threshold cost.
• The inspection tag at the backflow prevention device on the main incoming domestic water line was noted to be out-of-date.	• Annual testing and inspection of the backflow prevention device is recommended.

© 2024 Pinchin Ltd.



View of a typical “Engineered Air” natural gas-fired heating and electrically-powered cooling rooftop multi-zone HVAC unit.



View of a typical rooftop packaged HVAC unit.



View of two of the “Nortec” humidifiers.

© 2024 Pinchin Ltd.



View of a typical split system air conditioning unit.



View of the two “Giant” DHW heaters.



View of the backflow prevention device at the main incoming domestic water line.

© 2024 Pinchin Ltd.



View of the main sprinkler risers.

In summary, the mechanical systems within the Site Building are currently performing in a satisfactory manner. Due to the current age of the humidifiers and one Rooftop packaged HVAC unit, Pinchin recommends and has included for the replacement of select units as indicated above. Assuming that regular annual maintenance is performed, the mechanical systems should continue to perform satisfactorily throughout the term of analysis.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the major components of the building. Similarly, the inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical components was not included in the scope of work. Accordingly, the findings are limited to the extent that the assessment was made visually from the exterior of the systems.

3.10 Electrical Systems

3.10.1 Electrical Power

The electrical power for the Site Building is supplied from a pad-mounted transformer located on the southwest portion of the Site which feeds the main electrical room on the main floor via underground wires. The electrical service for the Site Building includes a “Siemens” main disconnect switch with a maximum rating of 1,200 Amperes based on the attached data plate.

The Site Building possesses a 500 kilowatt (kW) “Simpson Power Products Ltd.” diesel fired emergency power generator which is located adjacent to the north elevation. Power to the Site Building is automatically transferred via an automatic transfer switch which was noted to be manufactured by “Cutler-Hammer”. It was reported that the generator set and automatic transfer switch were manufactured in 1999 (i.e., ~ 24 years old). Inspections and servicing of the emergency generator is reportedly performed by “Toromont Power Systems” an independent contractor. It was reported that the emergency generator reportedly provides power to HVAC equipment, the elevators, fire alarm systems, UPS and central battery station.

© 2024 Pinchin Ltd.

Emergency power for the computer/data room is provided by an “Emerson Liebert APM” Uninterruptible Power Supply (UPS) located in the UPS room.

Emergency power for the exit signs and select light fixtures for emergency lighting is provided by a central battery system. Based on review of the data plate, the central battery system was manufactured by “Thomas & Betts” in 2013 (i.e., approximately 11 years old).

No problems were observed or reported relating to the electrical systems of the Site Building.

3.10.2 Fire Alarm System and Life Safety

The fire alarm system serving the Site Building consists of a multi-zone and single stage system complete with a “Notifier” fire alarm panel. The main fire alarm panel is located within a secondary electrical room on the first floor while the annunciator panel was noted within the main entrance vestibule. The fire alarm monitors hardwired pull stations, electric flow alarm sensors within the sprinkler piping and heat detectors which are located throughout the building. The systems are reportedly monitored by “Convergint” an independent contractor. Inspections and servicing of the fire alarm system is reportedly performed by “Com-Plex Systems Ltd.” an independent contractor. The last date of inspection for the fire alarm panel and associated systems took place in July 2023. The Site Representative was not aware of the exact age of the fire alarm panel; however, It was noted based on information provided in the previous Pinchin BPCA that the fire alarm panel is approximately equal to or less than 6 years old.

Emergency lighting and illuminated exit signs are located throughout the Site Building which are powered by a combination of internal battery packs and the emergency generator.

Table 3.10 outlines the findings of the inspection of the electrical systems:

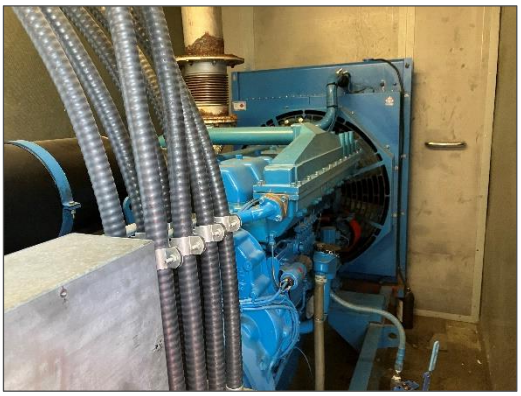
Table 3.10 – Electrical Systems (including Electrical Power and Fire Alarm and Life Safety)

Findings	Remarks/Recommendations
Major Deficiencies/Findings	
• The emergency generator is approximately 25 years old and is anticipated to reach the end of its EUL within the term of analysis.	• Pinchin recommends and has included a preliminary allowance for the replacement of the emergency generator within the term of analysis.
Minor Deficiencies/Findings	
• None observed/reported.	• None required.

© 2024 Pinchin Ltd.



General view of the main electrical equipment serving the Site Building.

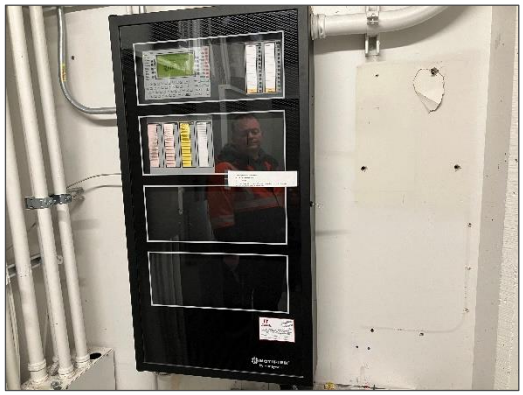


View of the emergency generator.



View of the automatic transfer switch.

© 2024 Pinchin Ltd.



View of the fire alarm panel serving the Site Building.

Upon inspection the electrical and life safety systems were noted to be performing in a satisfactory manner. As the current assessment was performed as a Baseline Property Condition Assessment without Specialist review, our information of the electrical systems is solely based on review of the above-noted attached data plates. The Client should contact the electrical service provider to verify the incoming electrical supply capacities, if required. Pinchin recommends and has included a preliminary allowance for the replacement of the emergency generator within the term of analysis. The electrical and life safety systems should continue to perform satisfactorily over the term of analysis assuming regular annual maintenance is provided.

4.0 KNOWN VIOLATIONS OF CODE

It was reported to Pinchin by the Site Representative that no outstanding violations from the Building Department existed pertaining to the property. Compliance with the National Building Code (NBC) and National Fire Code (NFC) was not reviewed as it was beyond the scope of this survey.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Pinchin's review of the property, conducted on February 29, 2024 the Site Building appears to be in satisfactory condition, commensurate with its age and in comparable standing to other similar commercial properties in the area. Based on our visual assessment the Site Building appears to have been constructed in general accordance with standard building practices in place at the time of construction.

The assessment did not reveal any evidence of major structural failures, soil erosion or differential settlement.

As noted during the Site visit, deficiencies relating to the roof systems, wall systems, interior finishes, Site features and mechanical/electrical systems were noted. Of particular note, recommendations, repairs and replacements for the following items are included throughout the term of the analysis:

© 2024 Pinchin Ltd.

- Pinchin recommends and has included allowances for the replacement of the skylight systems at the BUR systems of the Site Building within the term of analysis;
- Pinchin recommends and has included a contingency allowance for the phased replacement of the windows serving the Site Building throughout the term of analysis;
- Pinchin recommends and has included allowances for the repair/replacement of deteriorated asphalt throughout the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the seven “Nortec” humidifiers within the term of analysis;
- Pinchin recommends and has included allowances for the replacement of the “Luxeaire” rooftop packaged HVAC unit within the term of analysis; and
- Pinchin recommends and has included a preliminary allowance for the replacement of the emergency generator within the term of analysis.

Consideration has been given regarding required ongoing maintenance and repairs of the major elements and at the direction of the client, Pinchin has utilized a threshold of $5,000 per system, per year as a limit in determining and carrying anticipated expenditures. Anticipated expenditures associated with maintenance and reparation of the major components below the threshold are carried within the annual operating budget and excluded from the Summary of Anticipated Expenditures.

Regular maintenance should be conducted on the roof systems, wall systems, structural elements, elevator systems, interior finishes, Site features and the mechanical/electrical systems to ensure that the EUL of the major components is realized. Repair costs for the aforementioned items have been included over the term of the analysis (i.e., 10 years) included within Appendix I. The specific deficiencies identified during the BPCA and their associated recommendations for repair are described in the main body of the report. These deficiencies should be corrected as part of routine maintenance unless otherwise stated within the report. Costs associated with desired upgrades have not been carried.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

© 2024 Pinchin Ltd.

In accordance with the proposed scope of work, no physical or destructive testing or design calculations were conducted on any of the components of the buildings. Assessment of the original or existing building design, or detection or comment upon concealed structural deficiencies and any buried/concealed utilities or components are outside the scope of work. Similarly the assessment of any Post Tension reinforcing is not included in the scope of work. Determination of compliance with any Codes is beyond the scope of this Work. The Report has been completed in general conformance with the ASTM Designation: *E 2018 – 15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process*.

It should be noted that Pinchin has attempted to identify all the deficiencies required by this Standard associated with this project. Pinchin does not accept any liability for deficiencies that were not within the scope of the investigation.

As indicated above the personnel conducting the building assessment, where applicable, have performed a non-specialist review of the building and all associated finishes and related systems including the elevators, mechanical and electrical (including fire alarm and life safety) systems, Site features, etc. The personnel conducting the assessment are knowledgeable of building systems and construction, but not technical specialists in each of these fields. The intent of Pinchin's comments on these systems are for the sole purpose of identifying areas where Pinchin has observed a noteworthy condition which will lead to a likely significant expenditure during the term of the assignment and/or where Pinchin would recommend that the Client consider a further, more detailed investigation. The budget costs for remedial work for each specific item has been provided to the best of our ability and will provide an order of magnitude cost for the individual item and the overall possible remedial work. Our experience has shown that the costs that Pinchin have provided are appropriate and of reasonable accuracy for the purpose intended. It should be noted that the budget cost or reserve costs for any specific item may vary significantly based on the fact that the schedule or phasing of the future remedial work is unknown at this time, the impact on building operations of this remedial work is unknown at this time and that no intrusive inspection or detailed design work is included in the BPCA. If a more accurate, detailed or documented reserve cost is required at this time the Client should request Pinchin to provide the additional proposal to provide a more accurate cost estimate.

It should be noted that recommendations and estimates outlined in this report do not include allowances for future upgrading of components pertaining to Client or tenant fit-up that may be necessary or required by Authorities Having Jurisdiction (AHJ).

The assessment is based, in part, on information provided by others. Unless specifically noted, Pinchin has assumed that this information was correct and has relied on it in developing the conclusions.

© 2024 Pinchin Ltd.

It is possible that unexpected conditions may be encountered at the Site that have not been explored within the scope of this report. Should such an event occur, Pinchin should be notified in order to determine if we would recommend that modifications to the conclusions are necessary and to provide a cost estimate to update the report.

The inspection of the interior of boilers, pressure vessels, equipment, fan coils, ductwork or associated mechanical, etc., was beyond the scope of work. It should be noted that the heating and cooling duct work within the Site Building may contain interior insulation. The Site Representative was unaware of the presence of insulation within the duct work within the Site Building. It is Pinchin's experience that interior insulation within duct work is prone to deterioration or development of mould which may require removal of the insulation. In the case where interior insulation is present within the duct work, Pinchin recommends that the duct work insulation be inspected for the presence of mould.

Due to the concealed nature of the plumbing system the condition of the risers could not be verified.

Environmental Audits or the identification of designated substances, hazardous materials, PCBs, insect/rodent infestation, concealed mould and indoor air quality are excluded from this BPCA report.

Further to the aforementioned, determination of the presence of asbestos containing material within the building such as drywall joint compound or the lead content within the older paint finishes was beyond the scope of work.

This report presents an overview on issues of the building condition, reflecting Pinchin's best judgment using information reasonably available at the time of Pinchin's review and Site assessment. Pinchin has prepared this report using information understood to be factual and correct and Pinchin is not responsible for conditions arising from information or facts that were concealed or not fully disclosed to Pinchin at the time of the Site assessment.

\\PIN-HAM-FS02\job\335000s\0335512.000 AlectraUtil,8Sites,ON,BCAs\Deliverables\2185 Derry Rd Mississauga\335512 BPCA 2185 Derry Rd W, Mississauga Alectra March 2024.docx

Template: Master Report for Office Building Baseline Condition Assessment, PCA, September 5, 2023

© 2024 Pinchin Ltd.

APPENDIX I

Table 1 – Summary of Anticipated Expenditures

Baseline Property Condition Assessment
2185 Derry Road West
Mississauga, Ontario

Table 1: Summary of Anticipated Expenditures

Confidential

ITEM	Calculation Summary							Immediate Costs	Replacement Reserve Costs										
	Expected Useful Life (Years)	Effective Age (Years)	Remaining Useful Life (Years)	Quantity	Unit	Unit Rate	System Total		2024 Year 1	2025 Year 2	2026 Year 3	2027 Year 4	2028 Year 5	2029 Year 6	2030 Year 7	2031 Year 8	2032 Year 9	2033 Year 10	Total Cost Years 1 - 10
Roof Systems																			
Roof Structures and Roofing (Skylights Replacement Allowance)	~35	~30	~5	1	LS	$90,000	$90,000		$90,000										$90,000
Roof Structures and Roofing (General Repairs) Below Threshold																			
Wall Systems																			
Exterior Walls (Pre-cast concrete panel joint sealant replacement)	Varies	Varies	Varies	1	LS	$30,000	$30,000				$10,000			$10,000				$10,000	$30,000
Exterior Windows and Doors (Window Replacement Contingency Allowance)	~35	~30	~5	1	LS	$875,000	$875,000					$218,750		$218,750		$218,750		$218,750	$875,000
Structural Elements																			
Foundations																			
Superstructure																			
Vertical Transportation Systems																			
Elevator Systems																			
Interior Finishes																			
Interior Finishes (General Maintenance) Below Threshold																			
Site Features																			
Parking and Paving (Asphalt Repair/Replacement Allowance)	Varies	Varies	Varies	1	LS	$200,000	$200,000			$50,000			$50,000			$50,000		$50,000	$200,000
Concrete Walkway and Curbing																			
Fencing																			
Mechanical Systems																			
Building Heating and Cooling (Humidifiers Replacement Allowance - 7 Units)	~15-20	~11	~4-9	7	EA	$2,000	$14,000									$14,000			$14,000
Building Heating and Cooling (Rooftop Packaged HVAC unit Replacement Allowance - 1 Unit)	~20	~12	~8	1	EA	$18,000	$18,000										$18,000		$18,000
Hot Water																			
Fire Protection																			
Electrical Systems																			
Electrical Systems (Emergency Generator Preliminary Allowance)	~35	~30	~5	1	LS	$250,000	$250,000							$250,000					$250,000
Fire and Life Safety Systems																			
TOTALS (UNINFLATED)								**$0**	**$90,000**	**$50,000**	**$10,000**	**$218,750**	**$50,000**	**$478,750**	**$0**	**$282,750**	**$18,000**	**$278,750**	**$1,477,000**
INFLATION FACTOR								**3.0%**	**1.00**	**1.030**	**1.060**	**1.090**	**1.120**	**1.150**	**1.180**	**1.210**	**1.240**	**1.270**	
TOTALS (INFLATED)									**$90,000**	**$51,500**	**$10,600**	**$238,438**	**$56,000**	**$550,563**	**$0**	**$342,128**	**$22,320**	**$354,013**	**$1,715,560**

Term of Analysis	**10**
Cost Threshold	**$5,000**

Total SF within the Site Building(s)	**80,000**
Average Cost per SF per Year (Uninflated)	**$1.85**
Average Cost per SF per Year (Inflated)	**$2.14**

LS - Lump Sum

SF - Square Foot

EA - Each (per unit component)

LF - Linear Foot

Appendix O

Electrical Services & Generator Capacities and Current Demand

S&S ELECTRICAL SERVICES INC

February 29th, 2024

Alectra Utilities Inc
161 Cityview Boulevard
Vaughan, Ontario
L4H 0A9

Attn: Peter Del Nero, Manager, Facilities Operation

Re: Report for Electrical Services and Generator Capacities and current Demand

Hi Peter,

We have completed our report for the Electrical Service and emergency capabilities and the current electrical demand at the following facilities:

80 Addiscott Court, Markham
55 Patterson Road, Barrie
161 Cityview Boulevard, Vaughan
2185 Derry Road West, Mississauga
395 Southgate Drive, Guelph
450 Nebo Road, Hamilton
340 Vansickle Rd, St. Catharines
55 John Street North, Hamilton

Our report is based on:

- The highest demand recorded on the facilities hydro bill in the previous 12 months.
- The current electrical service capacity and condition.
- The current emergency back up capacity and condition.
- New load not currently utilized.

If you have any questions following reviewing this report, please don't hesitate to contact me.

Regards,

Steven Jones

Table of Contents

Description	Page
80 Addiscott Court, Markham	3
55 Patterson Road, Barrie	4
161 Cityview Boulevard, Vaughan	5
2185 Derry Road West, Mississauga	6
395 Southgate Drive, Guelph	7
450 Nebo Road, Hamilton	8
340 Vansickle Rd, St. Catharines	9
55 John Street North, Hamilton	10
Charger Specifications Level 2 FLO	11
Charger Specifications Level 4 FLO	12
Charger Specifications Level 3/4 IN-CHARGE	13
Charger Specifications Level 4 IN-CHARGE	14

80 Addiscott Court, Markham

Electrical Service Capacity	800 amp / 600/347 volt, 3 phase, 4 wire	Max at 80% = 640 amp
Emergency Back Up Capacity	600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80% = 480 amp

The main service is 800 amp. It is backed up by a 600 amp generator. When there is a power outage, an automatic transfer switches the power supply from the generator. The generator powers the entire building.

Highest Demand in 12 months 448.00 kW - October 2023

Additional Loads

(1) ICE 120 120.00 kW
(1) ICE 80 19.20 kW
(1) Flo 100 kW truck charger 108.00 kW
(10) Level 2 car chargers @ 7.2 kW = 72.00 kW

Total additional load	319.20 kW @ 90% per ESA Demand Load Calculations = 287.28 kW
Electrical Service Demand	448.00 kW
Total Demand.	735.28 kW = 715 amps

Conclusions:

[redacted]

If you overload the generator, the generator will not work. There is no way to split future loads off the generator without major revamping of service.

The main service has no capacity for future loads.

Replacement of main service and generator is required for future expansion.

55 Patterson Road, Barrie

Electrical Service Capacity	1200 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 960 amp
Emergency Back Up Capacity	600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 480 amp

The main service is 1200 amp. It is backed up by a 600 amp generator. When there is a power outage, an automatic transfer switches the power supply from the generator. The generator powers the entire building.

Highest Demand in 12 months 185.00 kW - October 2023

Additional Loads:

(7) Level 2 car chargers @ 7.2 kW = 50.40 kW

Total additional load	50.40 kW @ 90% per ESA Demand Load Calculations = 45.36 kW
Electrical Service Demand	185.00 kW
Total Demand	230.36 kW = 224.00 amps

Conclusions:

736 amps (756.00 kW) of electrical service available for future growth however this is limited by the generator as it feeds the entire building. There are 256 (263.00 kW) amps of emergency power available.

While the main service has capacity for future loads, it is maxed out as far as space to add fusible disconnect and is out of date.

Replacement of main service is recommended for future expansion.

161 Cityview Blvd, Vaughan

Electrical Service Capacity	1200 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 960 amp
Emergency Back Up Capacity	480 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 384 amp

The main service is 1200 amp. It is backed up by a 480 amp generator.
When there is a power outage, an automatic transfer switches the power supply from the generator.
The generator only powers the emergency loads in the building, which is 88 amps.

Highest Demand in 12 months 448.00 kW - October 2023

Additional Loads:

(1) ICE 60 kW truck charger	60.00 kW
(1) Flo 50 kW truck charger	54.00 kW
(13) Level 2 car chargers @ 7.2 kW =	93.60 kW

All car chargers are currently on the non-emergency power supply.

Total additional load	207.60 kW @ 90% per ESA Demand Load Calculations = 186.84 kW
Electrical Service Demand	448.00 kW
Total Demand	632.84 KW = 616.20 amps

Conclusions:

344 amps of electrical service available for future growth (353.00 kW).
296 amps of emergency power is available (304.00 kW).

2185 Derry Road West, Mississauga

Electrical Service Capacity	1200 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 960 amp
Emergency Back Up Capacity	600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 480 amp

The main service is 1200 amp. It is backed up by a 600 amp generator. When there is a power outage, an automatic transfer switches the power supply from the generator. The generator powers the entire building.

Highest Demand in 12 months 465.00 kW - January 2024

Additional Loads:

(1) Flo 50 kW truck charger		54.00 kW
(2) Level 2 car chargers @ 7.2 kW	=	14.20 kW
(8) Level 2 car chargers @ 6.5 kW	=	52.00 kW

Total additional load	120.20 kW @ 90% per ESA Demand Load Calculations = 108.18 kW
Electrical Service Demand	465.00 kW
Total Demand	508.18 kW = 494.00 amps

Conclusions:

[redacted]

If you overload the generator, the generator will not work. There is no way to split future loads off the generator without major revamping of service.

The main service has capacity for future loads.

Replacement of main generator is required for future expansion.

As an alternate to replacing the generator, an emergency panel and system could be installed to remove the non-essential items off the generator.

395 Southgate Drive, Guelph

Electrical Service Capacity	1600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80% = 1280 amp
Emergency Back Up Capacity	600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80% = 480 amp

The main service is 1600 amp. It is backed up by a 600 amp generator. When there is a power outage, an automatic transfer switches the power supply from the generator. The generator powers the entire building.

Highest Demand in 12 months 534.00 kW Jan 2024

Additional Loads:

(1) ICE 60 kW truck charger	60.00 kW
(1) FLO 50 kW truck charger	54.00 kW
(6) Level 2 car chargers @ 7.2 kW =	43.20 kW

Total additional load	157.20 kW @ 90% per ESA Demand Load Calculations = 125.76 kW
Electrical Service Demand	500.60 kW
Total Demand	626.36 kW = 610 amps

Conclusions:

[redacted]

If you overload the generator, the generator will not work. There is no way to split future loads off the generator without major revamping of service.

The main service has capacity for future loads and is in good condition.

Replacement of main generator is required for future expansion.

As an alternate to replacing the generator, an emergency panel and system could be installed to remove the non-essential items off the generator.

450 Nebo Road, Hamilton

Electrical Service Capacity	1200 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 960 amp
Emergency Back Up Capacity	600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 480 amp

The main service is 1200 amp. It is backed up by a 600 amp generator. When there is a power outage, an automatic transfer switches the power supply from the generator. The generator powers the entire building.

Highest Demand in 12 months 229.00 kW - Jan 2024

Additional Loads:

(1) ICE 120 KW truck charger	120.00 kW
(1) ICE 80 truck charger	19.20 kW
(11) Level 2 car chargers @ 7.2 kW =	79.20 kW

Total additional load	218.40 kW @ 90% per ESA Demand Load Calculations = 196.56 kW
Electrical Service Demand	229.00 kW
Total Demand	447.74 kW = 435 amps

Conclusions:

535 amps (550.00 kW) of electrical service available for future growth however since the generator feeds the entire building, there is **limited future available power available.**

If you overload the generator, the generator will not work. There is no way to split future loads off the generator without major revamping of service.

While the main service has capacity for future loads, it is maxed out as far as space to add fusible disconnect and is out of date. Parts are not available, and replacement of entire switchboard should be considered.

Replacement of main service equipment and generator is required for future expansion.

As an alternate to replacing the generator, an emergency panel and system could be installed to remove the non-essential items off the generator.

340 Vansickle Road, St. Catharines

Electrical Service Capacity	1000 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 800 amp
Emergency Back Up Capacity	450 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 360 amp

The main service is 1000 amp. It is backed up by a 600 amp generator. When there is a power outage, an automatic transfer switches the power supply to the generator. The generator powers the entire building.

Highest Demand in 12 months 200.60 kW - May 2023

Additional Loads:

(9) Level 2 car chargers @ 7.2 kW = 64.80 kW

Total additional load	64.80 kW @ 90% per ESA Demand Load Calculations = 58.32 kW
Electrical Service Demand	200.60 kW
Total Demand	258.92 kW = 252.11 amps

Conclusions:

548 amps (563.00 kW) of electrical service available for future growth however since the generator feeds the entire building, there is only 108 amps available future growth.

If you overload the generator, the generator will not work. There is no way to split future loads off the generator without major revamping of service.

While the main service has capacity for future loads, it is maxed out as far as space to add fusible disconnect and is out of date. Parts are not available, and replacement of entire switchboard should be considered.

There is available power from the main electrical service however the equipment should be replaced and there are approximately 110 amps from the generator for future expansion.

As an alternate to replacing the generator an emergency panel and system could be installed to remove the non-essential items off the generator.

55 John Street North, Hamilton

Electrical Service Capacity	600 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 480 amp
Emergency Back Up Capacity	900 amp / 600/347 volt, 3 phase, 4 wire	Max at 80 % = 720 amp

The main service is 600 amp. It is backed up by a 900 amp generator. When there is a power outage, an automatic transfer switches the power supply from the generator. The generator powers the entire building.

Highest Demand in 12 months 388.00 kW - Jan 2024

Additional Loads:

(6) Level 2 car chargers @ 7.2 kW = 43.20 kW

Total additional load	43.20 kW @ 90% per ESA Demand Load Calculations = 38.88 kW
Electrical Service Demand	388.00 kW
Total Demand	426.88 kW = 415 amps

Conclusions:

65 amps (67.00 kW) of electrical service available for future growth in electrical service. The generator feeds the entire building. There are 305 amps (312.00 kW) available for future growth.

Upgrading of main service is required for future expansion of large truck chargers.

Car and Truck Charger Specifications of existing Chargers already in use

Level 2 Chargers FLO - 19.2 Amps at 208 volt or 7.20 kW

CoRe+™

Technical specifications

Aluminum casing	NEMA 4X
Charging connector	SAE J1772
Cable	21' (optional 25')
Electrical load	Standard: 30 A @ 208 VAC or 240 VAC for each charging station
Charging power	1.2 kW to 7.2 kW (maximum configurable by software)
Output current	6 A to 30 A (maximum configurable by software)
Integrated GFCI	20 mA, auto reset (3 attempts at 15-minute intervals)
Frequency	60 Hz
Operating and storage temperature	-40 °F to 122 °F
Weight	Charging station: 21 lb Pedestal: 32 lb
Humidity	Up to 95% (non-condensing)
Card reader	ISO 14443 A/B, ISO 15693, NFC
Communication interface	ZigBee - IEEE 802.15.4 meshed network
Networking	Cellular – 3G/LTE (gateway is installed separately for optimal performances)
Certifications	CSA certified for Canada and United States Complies with UL 2594, UL 2231-1, UL 2231-2
EMC compliance	USA - FCC 47 CFR 15, class A CAN - ICES-3 (A) / NMB-3 (A)

flo

Learn more
info@flo.com
1 855 543-8356
flo.com

Designed and manufactured by AddÉnergie

Level 4 FLO Car and Truck Chargers 50-100 - 65 Amp / 54 kW. 130 Amp / 108 kW

SmartDC™

Technical specifications

	50 kW	100 kW
Casing	Aluminum Type 3R enclosure– Resistant to harsh weather and vandalism	
Charging connectors	SAE Combo (CCS1) and CHAdeMO	
Cable length	20' (6.1 m) CMS included as an option	12' (3.7 m)
Supply voltage	Nominal three-phase 480 Y/277 VAC (neutral requtred), 60 Hz nominal (408 to 528 VAC, 55 to 65 Hz)	
Maximum input current	65 A @ 480 VAC	130 A @ 480 VAC
Maximum input power	54 kW	108 kW
Power factor	98% or better	
Efficiency (at max. output power)	93% or better	
Output power measurement accuracy	+/-1%	
Output voltage range	50 to 500 VDC	
Output current range	0.5 to 125 ADC	0.5 to 200 ADC
Dimensions (H x W x D)	79.7" x 49.25" x 32.8" (2,024 mm x 1,251 mm x 833 mm) **Height with top sign installed** 105.28" (2,674 mm)	
Weight	560 lbs (255 kg) **With cable management system** 675 lbs (300 kg)	675 lbs (300 kg)
Operating temperature	-40 °F to 122 °F (-40 °C to 50 °C)	
Storage temperature	-40°F to 158°F (-40°C to +70°C)	
Humidity	Up to 95% (non-condensing)	
Credit card reader	Optional. Payment by credit card (tap, insert, swipe) And NFC (Google Pay, Apple Pay)	
RFID card reader	Fitted standard. Supports ISO 14443 A/B, ISO 15693.	
Certifications	cULus: UL 2202, UL 2231-1, UL 2231-2, CSA C22.2 No. 107.1 CSA C22.2 No. 281.1, CSA C22.2 No. 281.2 FCC part 15 Class A ICES-3 (A)	
Networking	Cellular – 4G (LTE), HSPA+	
Model #	DCCH502AN1FLP03	DCCH502AO1FLP03

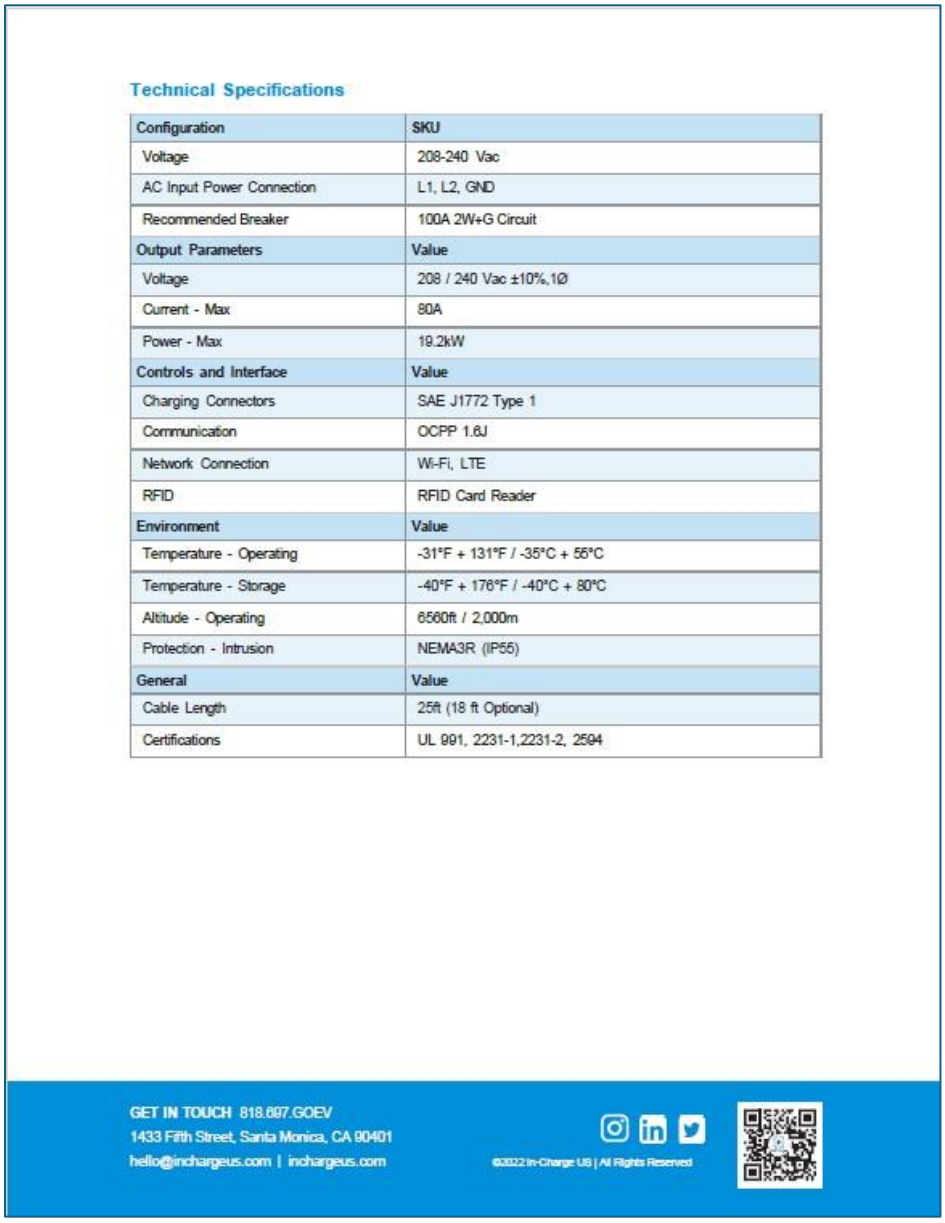
Learn more
info@flo.com
1 855 543-8356
flo.com

Designed and manufactured by
AddÉnergie Technologies Inc.

Document ID: FLO_ADD_SmartDC_Spec Sheet_V 2.0.0_2022-02-18_US_EN
© 2022 FLO Services USA Inc. All rights reserved. FLO, the FLO logo, LEAD THE WAY, and TRACOZ (A VOIE are trademarks of Services FLO Inc. used under license by FLO Services USA Inc. ADDÉNERGIE is a trademark of AddÉnergie Technologies Inc. used under license by FLO Services USA Inc.

This document is provided as a general information guide. All pictures shown are for illustration purposes only. Actual visitors may vary. In view of ongoing product enhancements, which may require additional steps, may be required. AddÉnergie Technologies Inc. and its subsidiaries ("AddÉnergie") reserve the right to alter this document and any product offerings and specifications at any time without notice and AddÉnergie does not guarantee that this version of the document is current. It is our responsibility to comply with all applicable laws, including those related to accessibility, zoning, and to ensure we obtain permits from conducting an installation or using this product. Careless installation or use may result in injury or product damage. To the fullest extent permitted by applicable laws, AddÉnergie disclaims any liability for personal injury or property damage resulting from the installation or use of this product.

Level 3 Car and Truck Charger - 80 amps / 208 volts 19.2 kW



Technical Specifications

Configuration	SKU
Voltage	208-240 Vac
AC Input Power Connection	L1, L2, GND
Recommended Breaker	100A 2W+G Circuit
Output Parameters	**Value**
Voltage	208 / 240 Vac ±10%,1Ø
Current - Max	80A
Power - Max	19.2kW
Controls and Interface	**Value**
Charging Connectors	SAE J1772 Type 1
Communication	OCPP 1.6J
Network Connection	Wi-Fi, LTE
RFID	RFID Card Reader
Environment	**Value**
Temperature - Operating	-31°F + 131°F / -35°C + 55°C
Temperature - Storage	-40°F + 176°F / -40°C + 80°C
Altitude - Operating	6560ft / 2,000m
Protection - Intrusion	NEMA3R (IP55)
General	**Value**
Cable Length	25ft (18 ft Optional)
Certifications	UL 991, 2231-1,2231-2, 2594

GET IN TOUCH 818.697.GOEV
1433 Fifth Street, Santa Monica, CA 90401
hello@inchargeus.com | inchargeus.com

©2022 In-Charge US | All Rights Reserved

Level 4 Car and Truck Chargers 77 amp / 60 kW 154 amp / 120 kW

InCharge

Technical Data		Description	Remarks
Nominal Input	Phases/Lines	3 phases + PE	
	Voltage	480Vac (+/-10%)	
	Frequency	45 – 60 Hz	
	Current	60:115A ;120:153A; 180: 288A	
	Power	60: 60kW ; 120: 120kW; 180: 180kW	
	Power factor	≥0.99	
	System Efficiency	≥ 94.5% (Full load)	
DC Output CCS1	Voltage	150~1000Vdc	
	Current	60: 60A @ 1000V; 120: 120A @ 1000V; 180: 180A @ 1000V	
	Nominal Power	180kW	
DC Output CHAdeMO	Voltage	200~500Vdc	
	Current	125A	
	Nominal Power	62.5kW	
Cabinet	Dimensions(W*D*H)	700*750*1750（mm）	
	Weight	60: 380lbs / 172kg;120: 472lbs / 214kg; 180: 564lbs / 256kg	
	Protection Degree	IP55, IK10	
HMI and Command Unit	Local Interface	TFT Color touch display 7"	
	Communication	Router 4G/5G (GSM or LTE)	
	Protocol	OCPP1.6	
Environment conditions	Operating temperature[1]	-40°F ~ 167°F (-40°C ~ +75°C), Derating After 131°F (55°C)	
	Transportation/ Storage temperature	-40°F ~ 167°F (-40°C ~ +75°C)	
	Humidity	5%RH~95%RH	
	Place of Installation	Indoor / Outdoor	
	Altitude	2000m (6561 ft)	
	Sound Noise	≤55dB (nominal input/output power, the environment temperature is 77°F (25°C).)	
	Atmospheric pressure	80KPa~110KPa	
	Overvoltage category	II	
	Protection class	Class I	
Note 1: —40°C～+75°C, derating from 55°C			