



## AGENDA

### AUDIT COMMITTEE

May 23, 2024, 9:30 AM

### ENGINEERING TRADITIONS COMMITTEE ROOM

#### Members

Councillor E. Spencer, Chair  
Councillor R. Pootmans, Vice-Chair  
Councillor C. Walcott  
Councillor J. Wyness  
Public Member K. Kim  
Public Member C. McGillivray  
Public Member J. Naicker  
Mayor J. Gondek, Ex-Officio

#### **SPECIAL NOTES:**

*Public are encouraged to follow Council and Committee Meetings using the live stream: [www.calgary.ca/watchlive](http://www.calgary.ca/watchlive)*

*Members may be participating remotely.*

1. CALL TO ORDER
2. OPENING REMARKS
3. CONFIRMATION OF AGENDA
4. CONFIRMATION OF MINUTES
  - 4.1 Minutes of the Regular Meeting of the Audit Committee, 2024 April 18
5. CONSENT AGENDA
  - 5.1 DEFERRALS AND PROCEDURAL REQUESTS  
None
6. POSTPONED REPORTS  
*(including related/supplemental reports)*  
None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 Financial Reserves Audit, AC2024-0569

7.2 Streetlights Maintenance and Repair Operations Audit, AC2024-0622

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

10.1.1 Endpoint Management Continuous Auditing Project, AC2024-0630

Held confidential pursuant to Section 20 (Disclosure harmful to law enforcement) of the *Freedom of Information and Protection of Privacy Act*.

**Review By: 2039 May 23**

10.1.2 Audit Forum (Verbal), AC2024-0636

Held confidential pursuant to Section 24 (Advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

**Review By: Do Not Release**

10.1.3 External Auditor (Verbal), AC2024-0637

Held confidential pursuant to Section 24 (Advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

**Review By: Do Not Release**

10.1.4 City Auditor (Verbal), AC2024-0638

Held confidential pursuant to Sections 17 (Disclosure harmful to personal privacy) and 24 (Advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

**Review By: Do Not Release**

10.2 URGENT BUSINESS

11. BRIEFINGS

None

12. ADJOURNMENT





**MINUTES  
AUDIT COMMITTEE**

**April 18, 2024, 9:30 AM  
ENGINEERING TRADITIONS COMMITTEE ROOM**

**PRESENT:** Councillor E. Spencer, Chair  
Councillor R. Pootmans, Vice-Chair  
Councillor C. Walcott  
Councillor J. Wyness  
Public Member K. Kim  
Public Member C. McGillivray

**ABSENT:** Public Member J. Naicker

**ALSO PRESENT:** Chief Administrative Officer D. Duckworth  
Chief Financial Officer C. Male  
City Auditor L. Ormsby  
External Auditor H. Gill  
Executive Advisor C. Smillie  
A/City Clerk S. Lancashire  
Legislative Advisor J. Phillips

1. CALL TO ORDER

Councillor Spencer called the meeting to order at 9:30 a.m.

ROLL CALL

Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, Public Member McGillivray, and Councillor Spencer

Absent from Roll Call: Public Member Naicker

2. OPENING REMARKS

Councillor Spencer provided opening remarks and a traditional land acknowledgement.

3. CONFIRMATION OF AGENDA

**Moved by** Councillor Walcott

That the Agenda for the 2024 April 18 Regular Meeting of the Audit Committee be confirmed.

**MOTION CARRIED**

4. CONFIRMATION OF MINUTES

4.1 Minutes of the Regular Meeting of the Audit Committee, 2024 March 14

**Moved by** Public Member Kim

That the Minutes of the 2024 March 14 Regular Meeting of the Audit Committee be confirmed.

**MOTION CARRIED**

5. CONSENT AGENDA

5.1 DEFERRALS AND PROCEDURAL REQUESTS

None

6. POSTPONED REPORTS

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 The City of Calgary 2023 Annual Investment Report, AC2024-0460

**Moved by** Public Member McGillivray

That with respect to Report AC2024-0460, the following be approved:

That the Audit Committee recommends Council approval of The City of Calgary 2023 Annual Investment Report.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

7.2 The City of Calgary 2023 Annual Financial Report, AC2024-0438

By General Consent, Committee agreed to hear Items 7.2 and 7.3 concurrently.

**Moved by** Councillor Wyness

That with respect to Report AC2024-0438, the following be approved:

That the Audit Committee recommend that Council:

1. Consider this report in conjunction with Report AC2024-0479 "External Auditor 2023 Year-End Report"; and
2. Approve of The City of Calgary 2023 Annual Financial Report.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

7.3 External Auditor 2023 Year-End Report, AC2024-0479

**Moved by Councillor Pootmans**

That pursuant to Sections 24 (Advice from officials) and 25 (Disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*, Committee now move into Closed Meeting, at 11:05 a.m. in the Engineering Traditions Committee Room, to discuss confidential matters with respect to Item 7.3 External Auditor 2023 Year-End Report, AC2024-0479.

And further, that the following be authorized to attend the Closed Meeting: Harman Gill, Nicole Torgrimson, Sanjeev Rajani, and Simona Milojevik, External Auditors (Deloitte LLP), and Jordan Melanson, ENMAX Corporation.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

People in attendance during the Part 1 Closed Meeting discussions with respect to Report AC2024-0479:

Clerks: S. Lancashire, J. Booth, and J. Phillips. Chief Administrative Officer: D. Duckworth. Advice: C. Male, L. Tochor, C. Smillie, T. Rathie, N. Hiscock, A. Brown, C. An, D. Smith, and C. Bowen. External: H. Gill, S. Milojevik, S. Rajani, N. Torgrimson, and J. Melanson.

People in attendance during the Part 2 Closed Meeting discussions with respect to Report AC2024-0479:

Clerks: S. Lancashire, J. Booth, and J. Phillips. Advice: C. Smillie. External: H. Gill, S. Milojevik, S. Rajani, and N. Torgrimson.

Committee reconvened in public meeting at 11:44 a.m. with Councillor Spencer in the Chair.

**ROLL CALL**

Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, Public Member McGillivray, and Councillor Spencer

Absent from Roll Call: Public Member Naicker

**Moved by Public Member McGillivray**

That Committee rise and report.

**MOTION CARRIED**

**Moved by Councillor Wyness**

That with respect to Report AC2024-0479, the following be approved:

That the Audit Committee recommend that Council:

1. Receive this report and attachments for the Corporate Record and consider them in conjunction with Report AC2024-0438, The City of Calgary 2023 Annual Financial Report;
2. Recommend that Council receives Report AC2024-0479, External Auditor 2023 Year-End Report, and the attachments, for information and the Corporate Record; and
3. Recommend that Attachment 2 and the Closed Meeting discussions be held confidential pursuant to Sections 24 (Advice from officials) and 25 (Disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*, to be reviewed by 2029 April 18.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

7.4 2023 Whistle-blower Program Internal Benchmark Report, AC2024-0511

By General Consent, Committee modified the lunch recess to begin following the conclusion of Item 7.4.

**Moved by** Councillor Walcott

That with respect to Report AC2024-0511, the following be approved:

That the Audit Committee:

1. Receive this report for the Corporate Record; and
2. Recommend that Council receive this report for the Corporate Record.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

Committee recessed at 12:03 p.m. and reconvened in public meeting at 1:02 p.m. with Councillor Spencer in the Chair.

ROLL CALL

Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, Public Member McGillivray, and Councillor Spencer

Absent from Roll Call: Public Member Naicker

7.5 Safety Management Audit, AC2024-0488

**Moved by** Councillor Walcott

That with respect to Report AC2024-0488, the following be approved:

That the Audit Committee:

1. Receive this report for the Corporate Record; and



2. Recommend that Council receive this report for the Corporate Record.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

7.6 City Auditor's Office 1st Quarter 2024 Report, AC2024-0489

By General Consent, Committee postponed Report AC2024-0439 to be dealt with in Closed Meeting.

**Moved by Councillor Pootmans**

That pursuant to Sections 20 (Disclosure harmful to law enforcement), 24 (Advice from officials), and 25 (Disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*, Committee now move into Closed Meeting, at 1:59 p.m. in the Engineering Traditions Committee Room, to discuss confidential matters with respect to the following Items:

- 7.6 City Auditor's Office 1st Quarter 2024 Report, AC2024-0489
- 7.7 ENMAX Corporation 2023 Annual Report, AC2024-0413
- 10.1.1 External Auditor (Verbal), AC2024-048110.1.2 External Auditor (Verbal), AC2024-0284
- 10.1.2 Audit Forum (Verbal), AC2024-0480
- 10.1.3 City Auditor (Verbal), AC2024-0482

And further, that the following be authorized to attend the Closed Meeting with respect to Items 7.6, 7.7, and 10.1.1: Harman Gill, Nicole Torgrimson, Sanjeev Rajani, and Simona Milojevik, External Auditors (Deloitte LLP).

And further, that the following be authorized to attend the Closed Meeting with respect to Item 7.7: Eric Markell, Mark Poweska, Sheri Primrose, Jade Lee, Jennifer Saldana, and Megan Young, ENMAX Corporation.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

Committee reconvened in public meeting at 3:03 p.m. with Councillor Spencer in the Chair.

ROLL CALL

Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, Public Member McGillivray, and Councillor Spencer

Absent from Roll Call: Public Member Naicker

**Moved by Councillor Pootmans**

That Committee rise and report

**MOTION CARRIED**

People in attendance during the Closed Meeting discussions with respect to Report AC2024-0489:

Clerks: S. Lancashire, J. Booth, and J. Phillips. Advice: C. Male, L. Tochor, J. Bradley, L. Ormsby, C. Smillie, R. Visscher, and A. Brown. External: H. Gill, S. Milojevik, S. Rajani, and N. Torgrimson.

**Moved by** Public Member Kim

That with respect to Report AC2024-0489, the following be approved:

That the Audit Committee:

1. Receive this report for the Corporate Record;
2. Recommend that Council receive this report for the Corporate Record; and
3. Recommend that Attachment 2 to Report AC2024-0489 and the Closed Meeting discussions be held confidential pursuant to Sections 20 (Disclosure harmful to law enforcement) and 24 (Advice from officials) of the *Freedom of Information and Protection of Privacy Act*, to be reviewed by 2039 April 18.

For: (6): Councillor Spencer, Councillor Poetmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

7.7 ENMAX Corporation 2023 Annual Report, AC2024-0413

People in attendance during the Closed Meeting discussions with respect to Report AC2024-0413:

Clerks: S. Lancashire, J. Booth, and J. Phillips. Law: L. Bonnett and C. Kendrew. Advice: C. Male, L. Tochor, L. Ormsby, C. Smillie, and A. Brown. External: H. Gill, S. Milojevik, S. Rajani, N. Torgrimson, E. Markell, M. Poweska, S. Primrose, J. Lee, J. Saldana, and M. Young.

**Moved by** Public Member McGillivray

That with respect to Report AC2024-0413, the following be approved:

That Audit Committee:

1. Receive this report and presentation for the Corporate Record; and
2. Direct that Attachments 5, 8, 9, 15, 16, 17 and the Closed Meeting discussions be held confidential pursuant to Sections 24 (Advice from officials) and 25 (Disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*, to be reviewed by 2039 April 18.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

None

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

10.1.1 External Auditor (Verbal), AC2024-0481

No report given.

10.1.2 Audit Forum (Verbal), AC2024-0480

Administration in attendance during the Closed Meeting discussions with respect to Confidential Verbal Report AC2024-0480:

Clerks: S. Lancashire, J. Booth, and J. Phillips. Advice: C. Male, L. Tochor, L. Ormsby, C. Smillie, and A. Brown.

**Moved by Councillor Wyness**

That with respect to Confidential Verbal Report AC2024-0480, the following be approved:

That the Audit Committee direct that the Closed Meeting discussions be held confidential pursuant to Section 24 (Advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

10.1.3 City Auditor (Verbal), AC2024-0482

Administration in attendance during the Closed Meeting discussions with respect to Confidential Verbal Report AC2024-0482:

Clerks: S. Lancashire, J. Booth, and J. Phillips. Advice: L. Ormsby and C. Smillie.

**Moved by Councillor Walcott**

That with respect to Confidential Verbal Report AC2024-0482, the following be approved:

That the Audit Committee direct that the Closed Meeting discussions be held confidential pursuant to Section 24 (Advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

For: (6): Councillor Spencer, Councillor Pootmans, Councillor Walcott, Councillor Wyness, Public Member Kim, and Public Member McGillivray

**MOTION CARRIED**

10.2 URGENT BUSINESS

None

11. BRIEFINGS

None

12. ADJOURNMENT

**Moved by** Public Member Kim

That this meeting adjourn at 3:07 p.m.

**MOTION CARRIED**

The following Items have been forwarded to the 2024 April 30 Regular Meeting of Council:

CONSENT AGENDA

- The City of Calgary 2023 Annual Investment Report, AC2024-0460
- The City of Calgary 2023 Annual Financial Report, AC2024-0438
- External Auditor 2023 Year-End Report, AC2024-0479
- 2023 Whistle-blower Program Internal Benchmark Report, AC2024-0511
- Safety Management Audit, AC2024-0488
- City Auditor's Office 1st Quarter 2024 Report - AC2024-0489

The next Regular Meeting of the Audit Committee is scheduled to be held on 2024 June 13 at 9:30 a.m.

CONFIRMED BY COMMITTEE ON

CHAIR

CITY CLERK

## **Financial Reserves Audit**

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### **PURPOSE**

The purpose of this report is to communicate the outcome of the Financial Reserves Audit, including Administration's response and corrective actions.

### **PREVIOUS COUNCIL DIRECTION**

Bylaw 30M2004 (as amended) established the position of City Auditor and the powers, duties, and functions of the position. In accordance with Bylaw 30M2004 (as amended), the City Auditor reports the outcome of all audits to the Audit Committee (including Administration's response and corrective actions to be taken in regard to specific recommendations). The City Auditor is accountable to Council and subject to the oversight of Audit Committee under Bylaw 33M2020.

### **RECOMMENDATIONS**

That the Audit Committee:

1. Receive this report for the Corporate Record; and
2. Recommend that Council receive this report for the Corporate Record.

### **HIGHLIGHTS**

- What does this mean to Calgarians? The City Auditor's Office provides independent and objective audit assurance services to add value to The City of Calgary and enhance public trust.
- Why does it matter? Reserves are used to accumulate funds over time to replace capital assets, and to provide a measure of financial flexibility to react to budget shortfalls or the financial impact of significant unexpected issues. Effective reserve management and alignment with best practices mitigate the risk reserves are overfunded or underfunded, and reserve transactions are not consistent with reserve purpose, conditions/restrictions, and City of Calgary reserves policies and procedures.

### **RISK**

Recommendations in this audit report support Administration in their on-going mitigation activities related to the Financial Sustainability Principal Corporate Risk.

### **ATTACHMENT**

1. Financial Reserves Audit

**Financial Reserves Audit**

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**DEPARTMENT CIRCULATION**

Name	Title, Department or Business Unit	Approve/Consult/Inform
Liz Ormsby	City Auditor	Approve
David Duckworth	Chief Administrative Officer	Inform
Carla Male	Chief Financial Officer	Inform
Les Tochor	City Treasurer, Deputy Chief Financial Officer	Inform
Aaron Brown	Deputy Director, Corporate Finance	Inform
Todd Rathie	Finance Manager, Corporate Financial Reporting	Inform

Author: Jasdeep Sekhon, Senior Auditor, City Auditor's Office



**Calgary**

City Auditor's Office

# Financial Reserves Audit

April 25, 2024



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## Audit Objective

The objective of this audit was to assess the effectiveness of the management of The City of Calgary's (The City's) financial reserves. The objective was achieved by reviewing the design and operating effectiveness of the processes and controls that mitigate key risks that could impact the achievement of The City's reserve objectives.

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## Why it Matters

Reserves are used to accumulate funds over time to replace capital assets, and to provide a measure of financial flexibility to react to budget shortfalls or the financial impact of significant unexpected issues. The City had 50 reserves totaling \$4 billion on December 31, 2022 (2021: \$3.5 billion).

Effective reserve management and alignment with best practices mitigate the risk:

- Reserve balances are not adequate (underfunded) to respond to shortfalls and unanticipated/uncontrollable events.
- The City collects tax revenues in excess of service delivery costs while reserve balances are not used (overfunded).
- Reserve transactions are not consistent with reserve purpose, conditions, and City policies.

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## What We Concluded

Key processes and controls established to manage financial reserves are designed and operating effectively.

Finance has established a framework of governance structures, processes, and controls to support effective management of reserves. The Triennial Reserve Review (TRR) conducts a review of every active reserve at least once every three years, to ensure their proper management, ascertain if reserve activities align with terms and conditions, and determine if reserves are still necessary in their current configuration. Furthermore, the Administrative Review Committee (ARC) offers oversight by questioning appropriateness of reserve target balances, proposing the closure of reserves no longer needed in their current state, and presenting recommendations from the TRR report to the Executive Committee and Council.

We reviewed a sample of five reserves to assess the effectiveness of key processes and a sub sample of reserve transactions to assess adherence to authorizing documents. Testing results indicated key processes were designed and operating effectively, and sampled reserve transactions complied with reserve purposes, conditions/restrictions, and City reserves policies and procedures.

We raised two recommendations to better align City reserves policies and processes to best practice guidance from the Government Finance Officers Association (GFOA), which will help mitigate the risk of overfunded/underfunded reserve balances, and one recommendation to better define reserve type to support consistent practice.

Finance has agreed with our recommendations with plans to implement by December 31, 2027.

## Background

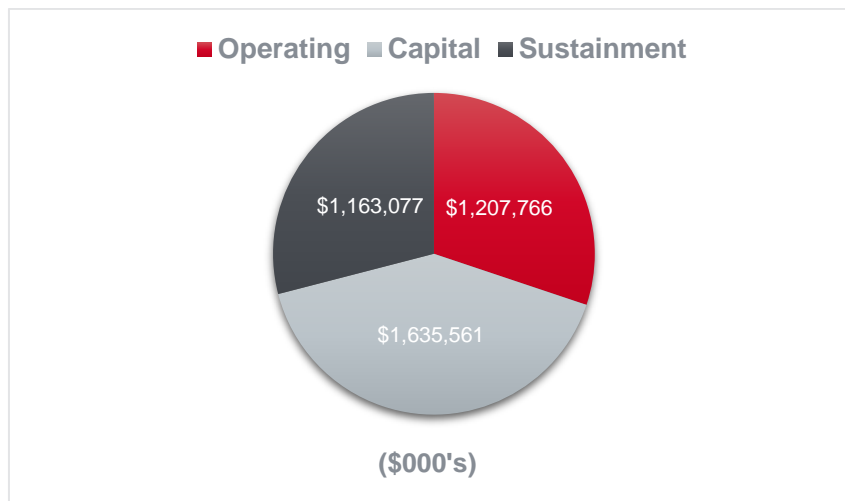
There is a comprehensive framework to manage The City's reserves, including Council Reserves Policy (CFO013) (Reserves Policy), which includes the creation, amendment and closure of all reserves. Administration Policy on Financial Reserves FA-050 (B) (Financial Reserves Policy) establishes further guidelines and criteria for financial reserves and defines the roles and responsibilities of all parties associated with administering financial reserves, which includes Procedures for Financial Reserves.

Finance presents an Annual Reserves Report to the Executive Committee containing detailed financial information on each reserve, including reserve terms and financial details. The Corporate Financial Reporting group within Finance is responsible for ensuring the reserve balances are accurately reported in The City's Annual Reserves Report.

Council mandated a triennial review process for every active reserve. The purpose of the triennial reserve review (TRR) is to ensure reserves are managed in accordance with each reserve's purpose, conditions and/or restrictions and assess if the reserve is still required in its current form.

The Administrative Review Committee (ARC) oversees the TRR and provides an annual report on the results of the TRR to the Executive Committee along with any recommendations derived from the review to Council for approval.

The City's reserves totalled \$4 billion and consisted of operating<sup>1</sup>, capital<sup>2</sup>, and sustainment<sup>3</sup> reserves on December 31, 2022. The following illustration provides a breakdown of each reserve category based on dollar amounts.



<sup>1</sup> Operating reserves fund operating expenditures for one-time projects, pilot programs, to stabilize operating budgets for unanticipated fluctuations in revenues or expenditures, to comply with a contractual agreement, or for contingency funds for operational emergencies.

<sup>2</sup> Capital reserves fund approved capital programs, projects and expenditures.

<sup>3</sup> Sustainment reserves fund both operating and capital expenditures for self-sustaining activities.

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## Scope & Approach

The scope of the audit included financial reserve activities from January 1, 2022, to December 31, 2022. The City's investment program, Council's Investment & Governance Policy and the Service Plans and Budgets process<sup>4</sup> were out of scope.

Our audit approach included interviewing Financial Leads and Finance Managers/Reserve Owners and examining reserve policies and procedures, and supporting documentation, including reserve binders (e.g. authorizing documents, templates and forecasts). We reviewed a sample of reserves and their associated reserve activities to assess compliance with reserves policies and procedures and reserve purpose conditions/restrictions and assessed the design and operating effectiveness of the following processes to manage reserves:

- Key processes outlined in Procedures for Financial Reserves;
- Identifying and monitoring committed balances;
- Developing forecasts/long range plans;
- Establishing minimum/maximum and target balances;
- Developing action plans to return over/under funded reserves back to compliance;
- TRR follow-up; and
- ARC oversight.

We reviewed the GFOA<sup>5</sup> guidance against The City's financial reserve management practices/policies to identify opportunities to better manage risk and get the best value from reserve strategies.

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## Results

To assess the design and operating effectiveness of financial reserve management processes and controls outlined under the audit objective, we selected a sample of five reserves from the 2022 Annual Reserve Report totaling \$2.2 billion (55% of total reserve balance):

- Fiscal Stability and Operating Budget Savings Account Merged (FSR/BSA): \$1.1 billion, Operating;
- Community Investment: \$130 million, Capital;
- Reserve For Future Capital and Lifecycle Maintenance and Upgrade Merged (RFC/LMUR): \$792 million, Capital;
- Business License Sustainment: \$10 million, Sustainment; and
- Utility Sustainment Reserve: \$200 million, Sustainment.

Results of our audit work are presented in the sections below.

## Key Processes

We determined key processes outlined in Procedures for Financial Reserves were designed and operating effectively. We reviewed the following and noted no exceptions:

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<sup>4</sup> The City is refining The Service Plans and Budgets process, which could impact contributions to reserves (e.g. tax supported operating surplus is contributed to the Fiscal Stability and Operating Budget Savings Account Reserve Merged).

<sup>5</sup> Financial Policies and Reserve Policy Template and paper: "Should we Rethink Reserves?"

- 
- 2022 Year End Reserves Checklists and Reserve Templates to verify they were completed and signed by Operational and Financial Leads;
  - Year-end reconciliations and corresponding supporting documentation to verify they were prepared, and amounts reconciled to the Annual Reserve Report Template; and
  - Annual Reserve Report Templates to verify they were signed by Operational and Financial Leads and reconciled to the 2022 Annual Reserve Report.

We selected a sample of reserve transactions to evaluate compliance with authorizing documents, reserve purposes/restrictions, and City reserves policies. We leveraged testing conducted during the 2023 TRR for the FSR/BSA sample to avoid duplication of effort. Overall, the reserve transactions were in accordance with reserve authorizing documents/reserve terms and conditions and policies.

During our review of the year-end reconciliation for the LMUR, we noted annual transfers to the Public Arts reserve met conditions/terms of the reserve. However there was no formal approval obtained from the Executive Leadership Team (ELT). The exception was also identified in the 2023 TRR Report with a recommendation to ensure proper approvals for the annual reserve funding moving forward.

The Financial Leads are responsible for preparing and managing reserve binders, which house crucial reserve documents including authorization, checklists, reconciliations, and more. We observed that certain reserve binders were a mix of paper and electronic formats, complicating document retrieval. The issue was identified in the 2022 TRR with a recommendation to transition reserve binders to electronic format by the end of 2024.

## Commitments

The City's committed reserve balance was \$2.35 billion as of December 31, 2022. These commitments encompass various types such as Council approved budgeted reserve inflows/outflows for the 2023-2026 budget cycle, capital projects, balance conditions and restrictions (e.g. FSR restricted minimum of 5% of The City's tax-supported gross expenditures net of recoveries) and external commitments.

Based on our sample of five reserves and review of supporting documentation, the process to monitor and report on commitments is designed and operating effectively. Financial Leads tracked commitment activity and performed reconciliations, which agreed to balances in the Annual Reserve Report.

We also selected a sub-sample of commitments from reconciliations and confirmed they were approved by Council, where applicable, and consistent with authorizing documents.

## Forecasts/Plans

The GFOA advocates for local governments to engage in long-term forecasting to ensure alignment of financial resources with strategic goals and to anticipate future financial challenges. Similarly, the Procedures for Financial Reserves emphasize the importance of preparing long-range plans for reserve contributions and expenditures.

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Upon reviewing the long-range planning for the five samples selected, all five reserves sampled had completed long-range plans. However, the long-range plan for the FSR/BSA reserve was included in the Year-end Checklist under Related Budget Activity with an explanation rather than under the long-range plan section. We shared an opportunity to align the terminology in reserves policies and procedures with checklists and templates.

**Over/Underfunded**

According to Administration's Procedures for Financial Reserves, the Chief Financial Officer is provided with an annual exception report listing all reserves that are non-compliant with their approved minimum and maximum balances, including action plans to bring the reserves to compliance. The Chief Financial Officer and the Chief Administrative Officer review the action plans, which are reported to the Executive Committee and Council as part of the Annual Reserves Report. The 2022 exception report did not contain any non-compliant reserves related to minimum and maximum balances. There were no instances of reserves not complying with their maximum/minimum reserve balances in the 2022 Annual Reserve Report.

Of the five reserves sampled, one had a minimum and target balance (FSR/BSA), and two had target balances only (RFC portion of RFC/LMUR and Utility Sustainment). We reviewed the calculations over minimum and target balances and noted target and minimum balances complied with their respective reserve authorizing documents/conditions and the FSR/BSA reserve was above minimum target.

**Targets (Min./Max.)**

In addition to our sample testing for over/underfunded reserves, we reviewed the 2022 Annual Reserve Report with a focus on cash flow and contingency reserves and noted a mix of reserve practices when it came to establishing reserve minimum and maximum targets. The Reserves Policy does not require minimum and maximum reserve target balances. Section 1.1 of the Reserves Policy indicates the report to request a new reserve should include minimum and maximum target balances for the reserve (if applicable). The Reserves Policy does not state if/when a reserve should have minimum and maximum target balances.

The GFOA recommends developing a comprehensive reserve policy that addresses reserve balances and includes minimum and maximum targets. Setting a minimum target will allow The City to respond effectively to shortfalls and unanticipated events, while establishing a maximum target ensures that excess reserve balances can be used to positively impact service delivery by being transferred to some other purpose. Since the appropriate target range for a reserve can vary depending on specific reserve purposes, conditions, and risks, the GFOA recommends performing a detailed analysis of potential risks and impact on reserves to establish target reserve levels. Where possible, the risk assessment should include quantifying the risks and forecasts of future reserve contributions and expenditures. GFAO best practice suggests reserve policies should include developing a plan to bring reserve balances to the desired amount where minimum targets are not maintained, and provisions to spend excess reserves where maximum targets are exceeded.

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We recommended an update to the Reserves and Financial Reserves Policies and a risk-based analysis of current reserves (recommendations 1 and 2), which will provide an opportunity to better manage risk and get the best value from reserve strategies as outlined in GFAO Best Practices. These recommendations can be incorporated into current reviews underway such as the strategic review of the FSR/BSA and the RFC/LMUR reserves, and TRR follow-up recommendations to analyze targets for several reserves (e.g. Planning & Development Sustainment, Snow and Ice Control and 911 Communications Centre Capital Financing).

### **Reserve Classification**

Reserve types are categorized in the Annual Reserve Report as Contingency, Cashflow, Endowment and Legislative/Contractual Requirement reserves, with the majority of reserves classified as Contingency, and Cashflow. The Reserves Policy does not define or provide guidance on determining the type of reserve (recommendation 3). Clearly defining reserve types by distinguishing between Cashflow and Contingency in the Reserves and Financial Reserves Policies, supports consistency when creating and amending reserves and will facilitate the risk-based approach to developing target reserve ranges and strategic decision making related to specific reserve types.

### **TRR Follow-up**

Every active reserve is reviewed at least once every three years through the TRR. The ARC may make a recommendation to follow-up on reserves in a future TRR where Reserve Owners require additional time to assess potential revisions.

The 2022 TRR included a list of reserves to be followed up in subsequent years due to ongoing strategic analysis. We determined the follow up process was designed effectively. However, we could not assess operating effectiveness as there were no follow-ups in 2022 due to the suspension of the TRR in 2020 and 2021.

### **ARC Oversight**

The ARC oversees the TRR and provides a report to the Executive Committee and Council. The report includes a summary of findings, any applicable recommendations, and follow-up of the previous year's review recommendations. The ARC is comprised of the Chief Financial Officer, two Finance Managers, one General Manager and one Business Unit Director.

We confirmed the ARC met eight times in 2022 and meetings were minuted. We reviewed a sample of two meeting minutes to assess if action was taken based on the findings presented at the meeting from the TRR finance group. Based on our review, we determined the ARC was fulfilling its governance role by:

- Approving the reserves to be included in 2023 TRR;
- Discussing and evaluating reserves stated purposes and relevance to ensure alignment with current organizational goals and needs;
- Questioning the appropriateness of reserve target balances, which is crucial for financial health and strategic alignment;
- Recommending closing a reserve that was no longer required in its current form; and

- Bringing forward meeting recommendations to Executive Committee and Council in the TRR Report, including the 2023 TRR reserves and follow-ups.

Guidance on the ARC in the Reserve Policies and the Financial Reserve Procedures was designed effectively. However, we noted the reserves policies did not define term limits for committee members. We shared an opportunity with Finance to consider setting minimum/maximum term limits for General Managers and Directors. When reviewing term limits consideration should be given to terms that allow for both continuity and renewal within the committee.

**Observations & Recommendations**

#1: Minimum and maximum target balances	
<b>OBSERVATION</b>	<b>RECOMMENDATION</b>
<p>The Reserves Policy and the Financial Reserves Policy do not require minimum and maximum reserve target balances. In Section 1.1, the Reserves Policy indicates the report to request a new reserve should include minimum and maximum target balances for the reserve (if applicable). The Reserves Policy does not state if/when a reserve should have minimum and maximum target balances.</p> <p>The Reserves Policy provides guidance in Subsection 1.3.4 on over and underfunding and developing an action plan when a reserve does not maintain its minimum target balance or exceeds its maximum target balance. However, there is no guidance indicating over and underfunding is based on uncommitted balances.</p> <p>We noted inconsistent reserve practices when it came to establishing reserve minimum and maximum targets. Of the five reserves sampled, only one (FSR/BSA) had a minimum target, which we verified was maintained. None of the reserves sampled had a maximum target. Three reserves had target balances in authorizing documents, which were not described as maximum targets. We noted there was no action plan developed for the Utility Sustainment Reserve or the RFC/LMUR when the target balances were exceeded since the targets were not maximum targets. Inquiry with Reserve Owners indicated they were unclear on expectations to establish reserve minimum and maximum targets.</p> <p>In addition, based on a review of the 2022 Annual Reserve Report (AC2023-0830 ATTACHMENT 1) focused on Cash Flow and Contingency Reserves<sup>6</sup>, there is a mix of practices across the 40 reserves categorized as Operating, Capital, and Sustainment:</p> <ul style="list-style-type: none"> <li>• Two reserves had a minimum and maximum target balance<sup>7</sup>;</li> <li>• One had only a minimum target;</li> <li>• Six had only a maximum target;</li> <li>• Five had a target; and</li> <li>• The remaining 26 had no minimum or maximum target and no target.</li> </ul>	<p>1. The Chief Financial Officer update the Reserves and Financial Reserves Policies and supporting procedures to include:</p> <ul style="list-style-type: none"> <li>• Using a risk-based approach to determine target reserve ranges with minimum and maximum targets where required;</li> <li>• Documenting rationale if a reserve does not require a minimum and maximum target; and</li> <li>• Clarifying calculation of over and underfunding based on uncommitted balances.</li> </ul> <p><b>MANAGEMENT RESPONSE</b>  Agreed.</p> <p><b>ACTION PLAN</b>  Reserves are part of the long-term fiscal strategy at The City and are used for a variety of purposes: to accumulate funds over time to replace capital assets, to provide a measure of financial flexibility to react to budget shortfalls and to manage the financial impact of significant unexpected issues in a timely manner. The City has a balanced approach to the planning and use of reserves and has an established policy framework in place for guiding the responsible stewardship of reserves.</p> <p>The Reserves and Financial Reserves Policies will be updated to include details around minimum, maximum and target balance for certain reserves where required, and calculations of over and underfunding based on uncommitted balances as a part of continuous improvement to ensure that policy aligns with best practices.</p>

<sup>6</sup> Endowment and Legislated reserves are not expected to maintain specific minimum and maximum target balances.

<sup>7</sup> One of these was a combined Cash Flow and Legislated reserve.



In their paper “Should We Rethink Reserves” the GFOA provides opportunities for local governments to better manage risk and get the best value from reserve strategies. The GFOA recommends developing a comprehensive reserve policy that addresses reserve balances and includes minimum and maximum targets. Setting a minimum target will allow the City to respond effectively to shortfalls and unanticipated events, while establishing a maximum target ensures that excess reserve balances can be used to positively impact service delivery by being transferred to some other purpose. Since the appropriate target range for a reserve can vary depending on specific reserve purposes, conditions, and risks, the GFOA recommends performing a detailed analysis of potential risks and impact on reserves to establish target reserve levels. Where possible, the risk assessment should include quantifying the risks.

The Reserves and Financial Reserves Policies are currently being reviewed and updated and will include these updates.

**LEAD**

Chief Financial Officer

**SUPPORTED BY**

Director of Finance/Deputy Chief Financial Officer, Deputy Director Corporate Finance, and Manager, Corporate Financial Reporting.

**COMMITMENT DATE**

December 31, 2024

2. The Chief Financial Officer conduct a risk-based reserve analysis of current reserves to determine whether a target range with minimum and maximum targets for each reserve is required that aligns to GFOA guidance.

**MANAGEMENT RESPONSE**

Agreed.

**ACTION PLAN**

Setting risk-based minimum and maximum target ranges for reserves aligns with the GFOA guidance and allows The City to be agile when responding to dynamic operating and capital needs. The GFOA guidance does not take into consideration all types of reserves, therefore there are some reserves for which a target range would not be applicable such as a legislated reserve, causing challenges to align all reserves with the GFOA guidance.

Administration will analyze the current reserves to determine which reserves are in scope for the recommendation. Operational Leads with support from the Financial Leads will perform an analysis of their business and the associated reserve to determine an appropriate minimum and maximum target range (Phase 1). These proposed changes will be reviewed by the Administrative Review Committee through the Triennial Reserve Review Process with all reserve changes requiring council approval (Phase 2).

	<p><b>LEAD</b> Chief Financial Officer</p> <p><b>SUPPORTED BY</b> Director of Finance/Deputy Chief Financial Officer, Deputy Director Corporate Finance, Manager, Corporate Financial Reporting, and all reserve operational and financial leads.</p> <p><b>COMMITMENT DATES</b> June 30, 2025 (Phase 1), December 31, 2027 (Phase 2).</p>
<p><b>#2: Defining Reserve Types</b></p>	
<p><b>OBSERVATION</b></p> <p>Reserve types are categorized in the Annual Reserve Report as Contingency, Cashflow, Endowment and Legislative/Contractual Requirement reserves, with the majority of reserves classified as Contingency<sup>8</sup>, and Cashflow<sup>9</sup>. The Reserves Policy does not define or provide guidance on determining the type of reserve.</p> <p>We reviewed the Utility Sustainment Reserve in our sample testing and noted the reserve was categorized as a Cashflow/Contingency reserve. The authorizing documents indicated the purpose was to provide cash flow to fund minor fluctuations in both operating and capital expenditures to mitigate the risk of revenue shortfalls, which is consistent with the definition of a cash flow reserve in the Annual Reserve Report. However, the terms cashflow and contingency were both used to describe minor fluctuations. For example, the purpose was also described as providing a contingency fund to weather minor revenue fluctuations.</p> <p>We noted the authorizing documents for the FSR indicated it was a contingency reserve to handle unexpected events (e.g. natural disaster) or circumstances (e.g. drop investment income) with significant financial impacts. The definition in the Annual Reserve Report does not address the impact of the unexpected event (e.g. significant/minor).</p> <p>Clearly defining reserve types by distinguishing between Cashflow and Contingency in the Reserve Policy supports consistency, which will facilitate the risk-based approach to</p>	<p><b>RECOMMENDATION</b></p> <p>3. The Chief Financial Officer update the Reserves and Financial Reserves Policies to define the reserve types.</p> <p><b>MANAGEMENT RESPONSE</b> Agreed.</p> <p><b>ACTION PLAN</b> Enhancements to the 2018 Reserves and Long-term Liabilities report were made at the request of the previous Priorities and Finance Committee (now Executive Committee) to provide additional clarity and transparency in the presentation of the report. These enhancements included defined terms which will be reflected in the Reserves and Financial Reserves Policies and supporting procedures.</p> <p>The Reserves and Financial Reserves Policies and the supporting procedures are currently being reviewed and updated and will include updates to definitions.</p> <p><b>LEAD</b> Chief Financial Officer</p> <p><b>SUPPORTED BY</b></p>

<sup>8</sup> C- Contingency Reserve: A reserve to fund approved actions during an unexpected event. Reserve is not expected to have a budget but will generally have conditions as to adequacy of balances.

<sup>9</sup> CF- Cashflow Reserve: A reserve to fund planned future actions with the purpose of smoothing cash demands. These reserves will generally have a budget for expenditures.

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developing target reserve ranges and strategic decision making related to specific reserve types. For example, developing strategies to centralize contingency reserves into the FSR/BSA reserve, which is the largest contingency reserve with an uncommitted balance exceeding \$1B as of 2022.	Director of Finance/Deputy Chief Financial Officer, Deputy Director Corporate Finance, and Manager, Corporate Financial Reporting.  <b>COMMITMENT DATE</b> December 31, 2024
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**Acknowledgements**

The City Auditor's Office conducts projects, including this audit, in conformance with the International Standards for the Professional Practice of Internal Auditing.

The City Auditor's Office would like to thank staff from Finance for their cooperation and support during this audit.



## **Streetlights Maintenance and Repair Operations Audit**

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### **PURPOSE**

The purpose of this report is to communicate the outcome of the Streetlights Maintenance and Repair Operations Audit, including Administration's response and corrective actions.

### **PREVIOUS COUNCIL DIRECTION**

Bylaw 30M2004 (as amended) established the position of City Auditor and the powers, duties, and functions of the position. In accordance with Bylaw 30M2004 (as amended), the City Auditor reports the outcome of all audits to the Audit Committee (including Administration's response and corrective actions to be taken in regard to specific recommendations). The City Auditor is accountable to Council and subject to the oversight of Audit Committee under Bylaw 33M2020.

### **RECOMMENDATIONS**

That the Audit Committee:

1. Receive this report for the Corporate Record; and
2. Recommend that Council receive this report for the Corporate Record.

### **HIGHLIGHTS**

- What does this mean to Calgarians? The City Auditor's Office provides independent and objective audit assurance services to add value to The City of Calgary and enhance public trust.
- Why does it matter? Given the significance of streetlighting for appropriate levels of lighting to support mobility, crime prevention, and safety, an effective and efficient operation of streetlight maintenance and repair services is essential to meet objectives and manage risks effectively. The City of Calgary has 105,288 streetlight luminaires, with a replacement value of about \$1.9 billion as of March 2024.

### **RISK**

Recommendations in this audit report support Administration in their on-going mitigation activities related to the reputation, service delivery, and financial sustainability Principal Corporate Risks.

### **ATTACHMENT**

1. Streetlight Maintenance and Repair Operations Audit

**Streetlights Maintenance and Repair Operations Audit**

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**DEPARTMENT CIRCULATION**

Name	Title, Department or Business Unit	Approve/Consult/Inform
Liz Ormsby	City Auditor	Approve
David Duckworth	Chief Administrative Officer	Inform
Stuart Dalgleish	Chief Operating Officer	Inform
Carla Male	Chief Financial Officer	Inform
Doug Morgan	General Manager, Operational Services	Inform
Troy McLeod	Director, Mobility	Inform
Ravi Seera	Manager, Mobility Operations	Inform
Michael A. Gray	Streetlight Design Leader, Mobility	Inform

Author: Shaista Ishaq, Senior Auditor, City Auditor's Office



**Calgary**

City Auditor's Office

# Streetlight Maintenance & Repair Operations Audit

May 14, 2024



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### Audit Objective

The objective of this audit was to assess the efficiency and effectiveness of streetlight maintenance and repair operations.

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### Why it Matters

Given the significance of streetlighting for appropriate levels of lighting to support mobility, crime prevention, and safety, an effective and efficient operation of streetlight maintenance and repair services is essential to meet objectives and manage risks effectively.

The City of Calgary (The City) has 105,288 streetlight luminaires with asset replacement value of approximately \$1.9B (March 2024).

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### What We Concluded

The streetlight maintenance and repair processes are partially effective to mitigate key risks and support service delivery.

The City awarded a service contract to a new vendor effective November 2022, and underlying structures to support effective contract management such as contract obligations and key performance indicators (KPIs) have been established. Performance obligations are defined in the Service Level Agreement (SLA) and monitored by the Street Light team. Monitoring and control processes established for preventive maintenance are generally effective, for example, as-built design reviews by the Street Light team. The Street Light team has engaged in benchmarking and other related industry connections to support on-going service delivery improvement.

However, our audit identified changes that are required to better support contract management, particularly timely corrective maintenance and monitoring of associated variable costs. During the audit period, actual response times for corrective maintenance exceeded contractual KPIs by over 400%, which impacts risk mitigation and service delivery. We identified the need for a dedicated contract compliance monitoring process to best support on-going contract management. The current service delivery prioritization and escalation processes do not support timely repairs of the most urgent outages and require review. We additionally identified that the Work Management System (WMS) does not contain sufficient data to support effective repair operations and contract management. Enhancing the completeness of available data and implementing a data review process will better support efficient and effective service delivery and variable costs management by providing The City with enhanced data analytical capabilities and the opportunity for data driven insights.

The Street Light team agrees with the recommendations and has developed action plans to implement process changes by December 1, 2025.

## Background

The Street Light team within the Mobility Operations service area of the Mobility Business Unit manages streetlight maintenance and repair operations. Mobility Operations is responsible for designing and operating all traffic control devices including street lighting, while Traffic Operations is responsible for their installation and ongoing maintenance. The team responsible for streetlight repairs and maintenance is known as the Street Light team.

Streetlight maintenance and repair operations include preventive and corrective maintenance of streetlights, lifecycle upgrades, and asset management, including signage and streetlighting coordination. The operating budget for these operations is approximately \$23 million, with maintenance and repair costs representing around 35% of the budget. The performance goals for streetlight maintenance and repair operations are as follows:

- Deliver provision of appropriate levels of lighting within Calgary’s public spaces between dusk and dawn to support crime prevention, vehicle collision reduction and enhance security for pedestrians and communities.
- Maintain an overall infrastructure status of “Good”; with 50% of assets in “Good or Very Good” condition.

As of February 2024, The City has around 105,288 streetlight luminaires with asset replacement value of around \$1.9B. The table below sets out the key performance indicator (KPI) results for 2023:

S#	Description	Results
1	Up Time	99.65%
2	Annual Work Requests	8,686
3	Maintenance Response Time (Average days to repair)	61 days
4	Work Request Escalations	2,508

The City awarded a service contract to a new vendor effective November 2022. The Street Light team indicated that the average response time has improved during the contract, and shared with us that the average response time was 44.5 days in July 2022 (start of the audit period), 61 days in June 2023 (end of the audit period) and 10.3 days by mid-April 2024.

## Scope & Approach

The audit focused on the streetlight maintenance and repair operations during the period July 2022 – June 2023.

The audit approach included the assessment of the design and operation of the controls to address risks including:

- Reputational risks arising from non-compliance with contractual obligations and issues in timely service delivery.
- Financial risk due to an increase in variable repair and maintenance costs.
- Governance risk due to inefficiencies in preventive and corrective monitoring and control activities.

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This audit did not include a technical assessment i.e., an assessment of physical conditions of streetlight poles or electrical components, design, technology, materials choices etc. or assess the technical quality of repairs and maintenance conducted.

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## Results

The results of the audit assessment for the efficiency and effectiveness of streetlight repair and maintenance operations and relevant risks-mitigating controls are summarized in the following key areas:

- Contractual Obligations
- Corrective Maintenance
  - Timely Service Delivery
  - Variable Costs
- Preventive Maintenance
- Benchmarking

### Contractual Obligations

We assessed the processes in operation to support compliance with contractual obligations related to safety, quality, and reputation. Overall, the contractor adhered to relevant contract terms such as insurance coverage, hazard assessment reports, project site operational health and safety inspections, and progress meetings.

However, non-compliance with contract obligations were noted in project scheduling, mitigation, recovery planning, and notice-to-proceed requirements. These gaps originate from the absence of dedicated compliance monitoring processes (Recommendation 2).

### Corrective Maintenance

The monitoring and control activities for corrective maintenance are partially effective in supporting timely service delivery and managing variable costs. Performance obligations are defined in the SLA and monitored by the Street Light team using weekly and monthly reports, progress meetings, random inspections, and as-built design review during payment processing. However, information collected in WMS on repairs is limited, and contract management and monitoring processes also need enhancements to more fully support effective and efficient corrective maintenance.

### Timely Service Delivery

We assessed the design and operating effectiveness of processes to ensure timely service delivery.

For the design effectiveness, we reviewed the supplier contract and identified existence of KPIs related to response times for different issue categories, urgency levels, and penalties including performance bond and deductions for deficiencies and delays.

For the operating effectiveness, we reviewed the effectiveness and compliance of KPIs monitoring and control processes. The actual response times exceeded contractual KPIs by over 400%, and penalties were not enforced due to monitoring and accountability challenges. For example, actual average repair time for urgent pedestrian-related (many streetlights out) was 77 days versus a service level agreement of 14 days, exceeding the agreement by 450%.

The Street Light team primarily relies on weekly and monthly reports to track average response time for various categories and issues.

We noted inconsistencies between the service contract and the KPI monitoring reports, such as the absence of percentage response time achievement and differences between repair and response times (Recommendation 2).

We reviewed the current practices for work order prioritization considering the risk factors relevant to the performance goal for provision of appropriate lighting. We noted that the work order scheduling follows a first-in, first-out (FIFO) and geographical approach, with escalations advised by the Street Light team. We observed that the field crew does not differentiate initial escalations from routine work due to high volume of escalations (averaging 37% of work requests from Q4 2022 to Q3 2023). Given the potential negative impact of significant service delays in customer satisfaction, we reviewed the current practices for customer satisfaction concerns and escalation management. The escalation process for delayed work orders could be initiated through 311, the web portal, and internal team communication. However, there are inconsistencies in the available escalation choices. We recommended defining the work order prioritization criteria using customer-centered considerations; and reviewing the escalation and management response processes across all channels. (Recommendation 1)

We identified and verbally communicated with the Street Light team opportunities to review the repair time in service level agreement for possible efficiencies and cost effectiveness (i.e., reduce energy costs by reviewing the agreed repair time for streetlights on during daytime), and to differentiate response time reported in the monitoring reports for routine work and outliers (i.e., customized lights requiring special materials and resourcing).

## Variable Costs

As the repair operations are primarily incident-driven due to the nature of services, nearly all the operating costs are variable (i.e., hourly contract rates, materials, equipment, and supplies). We assessed the effectiveness of managing the variable costs by reviewing the processes for operating budget monitoring, variance analysis, contractor invoice review and approval, and trend analysis for repair and maintenance-related key variable cost factors.

We noted that the operating budget monitoring practices are effective. The Calgary Management Accounting Reporting Tool is used to monitor the expenses using activity codes for both operating and capital budgets. A year-on-year financial update including budget, actuals, variance, and explanation is prepared at the Business Unit level.

We noted that the contractor invoices are processed based on their face value, supported by documents and summaries provided by the contractor. The invoices are only reviewed and approved at the transaction level considering historical averages. There is no separate evaluation or periodic audit of the contractor invoice information.

There are various and complex cost drivers for repair and maintenance-related variable costs. For example, repair time rate, type of materials, nature and urgency of repairs, weather conditions. Therefore, effective resource utilization, monitoring,

and control require detailed analysis-driven decision-making. For that, we reviewed the effectiveness of practices to record and utilize periodic trend analysis information by selecting a sample of five monthly costs.

We noted that the details of relevant work orders are inconsistently captured, limiting the capability to analyze cost and time per work order or the nature of the work order. Only 1.68% of work orders have complication note entries, increasing to 4.42% for escalated statuses. Crew notes, intended for City use, are frequently lacking only 269 out of 1314 work requests had crew note entries. Insufficient information complicates effective cost analysis and resource management. (Recommendations 3 and 4)

We reviewed five data entry scenarios involving the 311 team, citizens, the Street Light team, and the contractor. While each scenario has different data entry methods and requirements, data entry guidelines are available for relevant user groups. There is an opportunity to use autofill, standardized drop-down lists, and preventive checks to ensure data completeness to enable detailed analysis (drilldowns), work order classifications (standard and customized), and customer-centered considerations (safety and escalations). These measures can improve analytic capabilities and inform resource allocations by the contractor. (Recommendations 3 and 4)

## **Preventive Maintenance**

Monitoring and control processes for preventive maintenance are generally effective.

The design process and guidelines for streetlights are available online. Designs are reviewed for compliance, and any necessary corrective actions are directed through the workflow and Standard Operating Procedures (SOPs). Quadrant inspectors conduct site visits for design-related information. The findings from these inspections are discussed in monthly safety meetings. The contractor also conducts site inspections. The SLA with the contractor includes reporting updates on asset status and physical conditions.

Pole lifecycles vary based on materials and vendors. Information on pole lifespan, including condition at retirement, is available in the WMS. Preventive maintenance is managed through the Capital Program, utilizing system-based insights and data-driven inspections, outsourced to a third party. The streetlight inspection procedures manual guides these inspections.

Budget constraints currently limit critical pole replacements. Management aims to increase the reinvestment ratio to mitigate safety and reputational risks associated with fallen poles. A project plan/asset report card has been prepared by management, outlining the status, budget requirements, and associated risks in pole management. In 2023, no critical poles fell. The City recorded an average of five fallen poles annually. The following diagram shows the Streetlight poles owned by the Mobility Business Unit (formerly named Roads) ageing across The City.

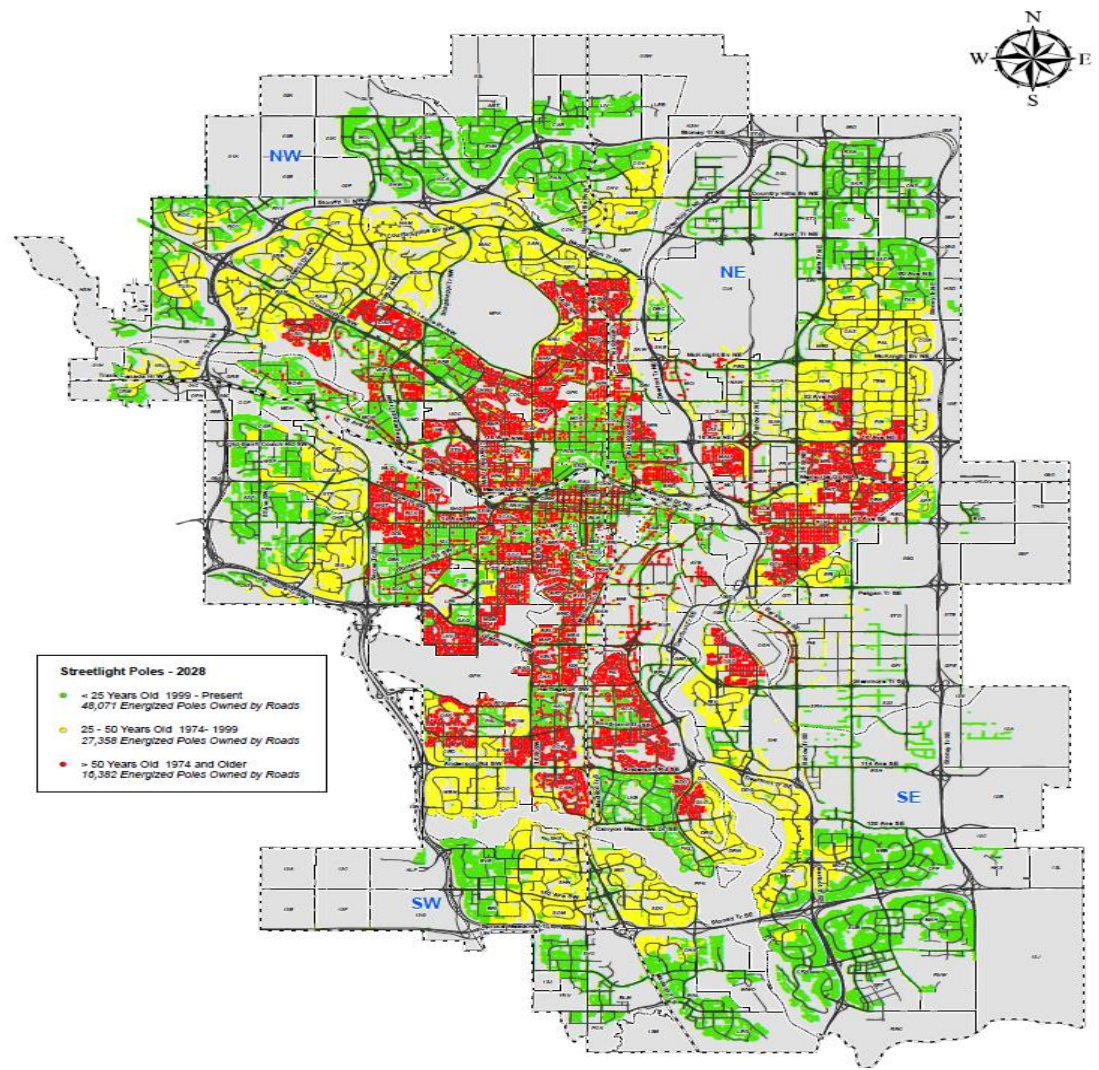


Diagram 1: Streetlight Poles Ageing – 2028

## Benchmarking

We evaluated how the Street Light team utilized benchmarking to support risk mitigation and service excellence. The Street Light team effectively engages in benchmarking activities, although obtaining the required information can be challenging. Examples include maintaining a qualified team with membership in the Association of Professional Engineers and Geoscientists of Alberta (APEGA), participating in annual conferences, and collaborating on roadway lighting standards through the Transportation Association of Canada. Also, the City of Calgary is part of the Illuminating Engineering Society (IES). The City's Street Light team evaluates and applies the IES's recommended standards.

**Observations & Recommendations**

<b>#1: Work Order Prioritization, Resource Optimization and Escalation Process</b>																				
<b>OBSERVATION</b>	<b>RECOMMENDATION</b>																			
<p>The current service delivery prioritization and escalation processes do not support timely repairs of the most urgent outages. Actual repair times significantly exceed the SLA timelines across all types of repairs based on our audit sample:</p> <table border="1"> <thead> <tr> <th><b>Description (Work Order)</b></th> <th><b>SLA Standard Time (Days)</b></th> <th><b>Actual Average Time (Days)</b></th> </tr> </thead> <tbody> <tr> <td>Medium Many Out - Minor Roads</td> <td>21</td> <td>88</td> </tr> <tr> <td>High Many Out - Major Roads</td> <td>14</td> <td>110</td> </tr> <tr> <td>Urgent Many Out - Pedestrian Related</td> <td>14</td> <td>77</td> </tr> <tr> <td>Normal Single Out</td> <td>30</td> <td>83</td> </tr> <tr> <td>High Single Out – Pedestrian Related</td> <td>14</td> <td>76</td> </tr> </tbody> </table> <p>Source: Standard Vs. Actual Average Repair Time – 5 months 2023 (Audit Sample)</p> <p>The contractor relies on a first-in-first-out (FIFO) and geography-based approach to prioritize work order scheduling. The Work Management System (WMS) has work order prioritization capabilities, but defined prioritization criteria have not been developed, instead case by case prioritization is completed by the Street Light team leading to inconsistencies and omissions.</p> <p>Inconsistencies in the escalation process also impact timely issue resolution. The escalation choices across the service request initiation channels varies, i.e., there are three levels of escalations with automated email notification to different levels of management through 311; however, there is only first level of escalation through web portal which only updates the work order status to "Escalated" and does not trigger any additional notifications for attention of the Street Light team. First-level escalations are not generally prioritized, while escalations beyond the first level are handled on a case-by-case basis. From Q4-2022 to Q3-2023, an average of 37% of work requests were escalated or deemed complicated (highest 79% in Q4-2022).</p>	<b>Description (Work Order)</b>	<b>SLA Standard Time (Days)</b>	<b>Actual Average Time (Days)</b>	Medium Many Out - Minor Roads	21	88	High Many Out - Major Roads	14	110	Urgent Many Out - Pedestrian Related	14	77	Normal Single Out	30	83	High Single Out – Pedestrian Related	14	76	<p>1a) The Streetlight Design Leader define the work order prioritization criteria using customer-centered considerations; and</p> <p>1b) Review the escalation and management response processes across all channels.</p> <p><b>MANAGEMENT RESPONSE</b></p> <p>Agreed.</p> <p>a) The work order descriptions will be monitored by management to determine where resources should be allocated, and this will be developed into a Standard of Practice. The contractor should have clear direction and work where efficient to avoid unnecessary travel time between sites. A Standard of Practice will be developed for monitoring developer choice projects to push these projects to repair streetlights in a timely manner on job sites where the Street Light team is not the prime contractor. Additionally, a review of the internal organizational structure of the Street Light team will be conducted by the Mobility Operations Manager to identify the resource requirements needed to meet the increasing demands.</p> <p><b>LEAD</b>  Streetlight Design Leader, Supervisor, Street Light Operations</p> <p><b>SUPPORT:</b>  Manager, Mobility Operations</p> <p><b>COMMITMENT DATE</b>  September 1, 2024</p> <p>b) A revised prioritization, scheduling, and escalation management strategy will be developed. This escalation management strategy will incorporate the type of roadway, adjacent land use, pedestrian levels, and special events.</p> <p><b>LEAD</b>  Streetlight Design Leader, Supervisor, Street Light Operations</p>	
<b>Description (Work Order)</b>	<b>SLA Standard Time (Days)</b>	<b>Actual Average Time (Days)</b>																		
Medium Many Out - Minor Roads	21	88																		
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Normal Single Out	30	83																		
High Single Out – Pedestrian Related	14	76																		

<p>Prioritization and escalation aligned to SLAs better support timely repairs, which in turn support the relevant performance goals of crime prevention, vehicle collision reduction, and security enhancement.</p>	<p><b>SUPPORT:</b>          Manager, Mobility Operations</p> <p><b>COMMITMENT DATE</b>          September 1, 2024</p>
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<p><b>#2: Contract Compliance Monitoring</b></p>	
<p><b>OBSERVATION</b></p>	<p><b>RECOMMENDATION</b></p>
<p>Contract monitoring controls do not fully align to the requirements of the contract.</p> <p>Contractual obligations regarding response time achievement percentages are not included in monitoring reports, which limits the ability of the Street Light team to assess whether response times are being met.</p> <p>Our sample review of contractual obligations identified that the contract requires the contractor to submit a project schedule to support monitoring of substantial performance. However, as the work completed is operational in nature, the Street Light team are instead monitoring the number of work orders completed and holding informal progress meetings (which are not formally documented) with the contractor.</p> <p>Our sample review of contractual obligations also identified that the contract states that should The City determine inadequate progress by the contractor in meeting key milestones or completing the work within specified time limits, The City can demand a detailed recovery and mitigation plan outlining how the contractor will address delays and comply with the schedule. Due to the operational nature of the work, this is not being implemented.</p> <p>Informal monitoring of contractual obligations may lead to slower identification and remediation of delays in delivery, or other contract quality requirements, impacting the effectiveness of the service.</p>	<p>2. The Streetlight Design Leader design and implement a contract monitoring process to identify applicable compliance requirements, implement results monitoring, and timely reporting and escalation processes.</p> <p><b>MANAGEMENT RESPONSE</b>          Agreed.</p> <p>Contractual obligations will be reviewed by the Leader, Administration to identify compliance requirements, implement results monitoring and its timely reporting and escalation processes to ensure compliance with SLA requirements and mitigate the reputational risk.</p> <p><b>LEAD</b>          Streetlight Design Leader, Supervisor, Leader, Administration</p> <p><b>SUPPORT:</b>          Manager, Mobility Operations, Director, Mobility</p> <p><b>COMMITMENT DATE</b>          June 1, 2024</p>



#3. Work Management System Data	
<b>OBSERVATION</b>	<b>RECOMMENDATION</b>
<p>The WMS does not contain sufficient accurate data to support effective repair operations and contract management.</p> <p>WMS data accuracy and completeness is limited due to:</p> <ul style="list-style-type: none"> <li>Lack of integration of data: 311 Service Request numbers and dates are not recorded in the WMS. WMS dates therefore may not reflect when the Service Request was raised, impacting the accuracy of the repair time information.</li> <li>Inconsistent utilization of data fields where data is entered directly into WMS e.g., work order details.</li> <li>Unavailable information: information is not routinely collected in WMS on repair time rates, recurring work orders, and the nature and urgency of repair and maintenance activities. Corrective maintenance for damage related service requests is not managed through WMS.</li> <li>A lack of review of data: citizen entries directly populate the outage map without the Street Light team review, and the entries made by the Street Light team are not reviewed for accuracy.</li> </ul> <p>Inaccurate/incomplete information limits the ability to analyze costs, repair time rates, or prioritize maintenance activities, and can limit analytic capabilities that support informed decision making.</p>	<p>3. The Streetlight Design Leader to identify and implement opportunities to enhance WMS data completeness and accuracy including:</p> <ul style="list-style-type: none"> <li>Identifying key data sets and relevant sources of data that are required to support effective operations and contract management;</li> <li>Reviewing the integration between the 311 system and WMS;</li> <li>Evaluating the implementation of data validation and verification mechanisms to ensure consistency and completeness of key data; and</li> <li>WMS reporting functionality may facilitate analysis of time spent per work order and applicable rates, and standard materials at authorized rates to support supplier invoices and track cost per work request.</li> </ul> <p><b>MANAGEMENT RESPONSE</b></p> <p>Agreed.</p> <p>Actions taken will be:</p> <ol style="list-style-type: none"> <li>Defining the scope of work for WMS enhancements and development.</li> <li>Project charter signoff.</li> <li>Implementation of system features identified in the scope.</li> </ol> <p><b>LEAD</b>    Streetlight Design Leader, Street Light Engineer</p> <p><b>SUPPORT:</b>    Manager, Mobility Operations</p> <p><b>COMMITMENT DATE</b></p> <ol style="list-style-type: none"> <li>November 1, 2024</li> <li>December 1, 2024</li> <li>December 1, 2025</li> </ol> <p>4. The Streetlight Design Leader to establish a WMS data review process to support data accuracy of key data sets.</p> <p><b>MANAGEMENT RESPONSE</b></p> <p>Agreed.</p>

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	<p>We will utilize the WMS data validation and verification mechanisms identified and implemented as part of Recommendation 3 to act as a data review process.</p> <p><b>LEAD</b> Streetlight Design Leader, Street Light Engineer</p> <p><b>SUPPORT:</b> Manager, Mobility Operations</p> <p><b>COMMITMENT DATE</b> December 1, 2025</p>
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**Acknowledgments**

The City Auditor’s Office conducts projects, including this audit, in conformance with the International Standards for the Professional Practice of Internal Auditing. The City Auditor’s Office would like to thank the Street Light Team for their cooperation and support during this audit.