

Community Services Report to
Regular Meeting of Council
2025 April 29

ISC: UNRESTRICTED
C2025-0162

Bearspaw South Feeder Main Break Response Lessons Learned

PURPOSE

The purpose of this report is to:

- Provide an overview of The City of Calgary's (The City's) coordinated multi-agency response to the Bearspaw South Feeder Main break from 2024 June 5 to September 23.
- Highlight strengths and opportunities for improvement in The City's response efforts, and outline actions to enhance future response strategies and resource allocation.
- Reassure Council and Calgarians that The City is prepared to manage and respond to future large-scale emergencies.

PREVIOUS COUNCIL DIRECTION

Council has received reports, briefings, and verbal updates regarding the Bearspaw South Feeder Main since the original break on 2024 June 5 (Attachment 1). At the Regular Meeting of Council on 2024 December 17 (IP2024-1237), The City committed to providing Council and Calgarians with a response report for the Bearspaw South Feeder Main break.

RECOMMENDATION:

That Council receive this report for the Corporate Record.

CHIEF ADMINISTRATIVE OFFICER/GENERAL MANAGER COMMENTS

General Managers Doug Morgan and Katie Black concur with the contents of this report that highlights an overall effective response with areas of improvement that will help inform future response and recovery strategies and enhance preparedness.

HIGHLIGHTS

- The City is committed to ensuring that all Calgarians and neighbouring communities¹ have access to reliable, available, clean, and safe drinking water, and that we are prepared to respond effectively to emergency events.
- The Bearspaw South Feeder Main break required the largest response in the Water Utility's history, affecting city-wide and neighbouring communities.
- The Emergency Operations Centre (EOC) was opened for 32 days to provide city-wide coordination of resources needed to address the event, ensuring all Agency members were aligned and effectively working together.
- The Water Tactical Operations Centre (H₂OC) operated for 111 days, managing technical and operational challenges to ensure recovery of the water system.
- Through significant coordination and collaboration, The City successfully mobilized the city, community, businesses and region to maintain a safe and adequate water supply for essential needs throughout the response. The rapid mobilization of resources, continued communication, and effective stabilization of the water system demonstrated The City's ability to handle complex emergencies.

¹ Neighbouring communities include the City of Airdrie, the City of Chestermere, Tsuut'ina Nation, and the Town of Strathmore.

Bearspaw South Feeder Main Break Response Lessons Learned

- Despite initial communication challenges due to the scope and nature of the emergency being unknown at first, The City provided clear and consistent messaging as more information became available. This approach built trust and motivated Calgarians to reduce their water use to protect the water supply. A survey conducted in 2024 August on Calgarians' perceptions of mis and disinformation revealed that 88 per cent of Calgarians trusted The City's information.
- The Bearspaw South Feeder Main Break Response Report (Attachment 2) highlights nine strengths and nine opportunities for improvement. Five actions have been initiated—one has been completed and four are underway.
- Lessons learned from the response will be incorporated into emergency management planning, enhancing The City's resilience and response to future emergencies and disasters.

DISCUSSION

The City's coordinated and collaborative response involved over 700 staff from H₂OC, more than 50 Calgary Emergency Management Agency (CEMA) members at EOC, and several engineering and construction contractors and regional partners. Together, they ensured a safe and adequate supply of drinking water for Calgarians and neighbouring communities while maintaining the continuity of The City's essential services.

By having both EOC and H₂OC operational from June 5 to July 6, The City was able to address the broader needs of the emergency as well as the specific technical requirements of the water system. Concurrent with managing this response, the EOC led preparedness efforts for the Calgary Stampede and later reopened to coordinate the response to the Jasper wildfires. On July 6, the EOC closed and the Municipal Emergency Plan (MEP) was deactivated as water system stability had improved sufficiently and no longer required EOC resources. From July 6 to September 23, the H₂OC continued operations to coordinate cross-corporate resources for water system repair and recovery. Attachment 2 outlines key actions taken by The City throughout the response.

Communications and Community Outreach

During the response, extensive marketing and communications campaigns, community and business outreach, and bylaw education and enforcement of water misuse drove successful water conservation efforts. In addition, the Mayor and Council, businesses, industries and neighboring communities all played a role by amplifying messages and reducing water usage in effective and innovative ways. A survey conducted in 2024 October indicated that nearly 70 per cent of Calgarians felt that The City provided clear and timely information on how to address water restrictions during the event. In a separate survey for Bowness residents who were highly impacted by repairs, 85 per cent of respondents expressed satisfaction with communications and community outreach, and 94 per cent of respondents agreed that City staff were friendly, supportive, and informative.

Lessons Learned from The City's Response

The City's response demonstrated dedication, coordination, expertise, and problem-solving. Attachment 2 details lessons learned and actions initiated.

Common themes of strengths are highlighted below.

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Bears paw South Feeder Main Break Response Lessons Learned

The City's Overall Response	<ul style="list-style-type: none"> • Strong teamwork and coordination in the EOC and H₂OC with support from all responding parties. • Multi-channel messaging and expert insights clarified public confusion in the initial hours of the emergency and influenced public behaviour for water conservation. • Effective internal communication ensured timely updates and enhanced strategic coordination among response teams.
Emergency Operations Centre (EOC)	<ul style="list-style-type: none"> • The EOC's structured processes and training established clear roles and responsibilities and efficient information flow among Agency members. • Constructive feedback, consistent leadership, detailed briefings, and strong collaboration ensured successful operations. • Early recovery planning, experienced staff support, and standardized templates facilitated the transition from response to recovery.
Water Tactical Operations Centre (H ₂ OC)	<ul style="list-style-type: none"> • Staff demonstrated technical competency and commitment working extended schedules over 111 days. • Significant outreach and engagement with regional partners and large commercial and industrial water users effectively kept them informed on the response, addressed concerns, and influenced water conservation. • The expertise of subject matter experts enabled strategic adjustments to water transmission to ensure continued access to safe drinking water.

Common themes of opportunities for improvement are highlighted below.

The City's Overall Response	<ul style="list-style-type: none"> • Further define responsibilities between the emergency and tactical operations centres and supporting functions to reduce cross or duplication of efforts. • Communicate the uncertainty and share the technically complex nature of the situation with Calgarians and neighbouring communities to build public trust. • Implement staffing strategies, including resource allocation and staff wellness, to sustain operational effectiveness in prolonged events.
Emergency Operations Centre (EOC)	<ul style="list-style-type: none"> • Enhance engagement with certain responding parties to ensure effective support during future emergencies. • Refine operational processes to improve efficiency for future openings. • Streamline communication channels and information sharing processes to advance timely updates among diverse groups at the EOC.
Water Tactical Operations Centre (H ₂ OC)	<ul style="list-style-type: none"> • Review the Incident Command System and leverage planning functions. • Expand the pool of trained staff across City departments to improve The City's resource availability for future large-scale water emergencies. • Simplify connection points to ensure key personnel can focus on critical tasks.

Bears paw South Feeder Main Break Response Lessons Learned

Actions

Completed	<ul style="list-style-type: none"> The Water Utility Bylaw amendment was completed in 2025 March.
Underway	<ul style="list-style-type: none"> Update and refine operational processes within the EOC and H₂OC to address identified opportunities for improvement. MEP update to clarify roles and responsibilities of various positions and Agency members, and to align with the corporate realignment. Clarify roles and improve coordination between EOC and H₂OC communications and customer care teams and expand the Crisis Communications team. Conduct a comprehensive review of staff safety and wellness practices to continuously improve future emergency responses.

Over the coming months, The City will take the necessary steps to address all identified opportunities for improvement, ensuring an even more effective response to future emergencies.

EXTERNAL ENGAGEMENT AND COMMUNICATION

- | | |
|--|---|
| <input type="checkbox"/> Public engagement was undertaken | <input type="checkbox"/> Dialogue with interested parties was undertaken |
| <input type="checkbox"/> Public/interested parties were informed | <input checked="" type="checkbox"/> Public communication or engagement was not required |

IMPLICATIONS

Social

The City's response prioritized public health and safety to ensure a safe and adequate supply of drinking water for essential needs of Calgarians and neighbouring communities. This aligns with all provincial and federal health regulations and with Calgary's Social Wellbeing Policy. The boil water advisory in Bowness community ensured that the public was informed and protected from potential health risks. Public communication and community outreach efforts, along with The City's engagement with industry customers, played a crucial role in driving water conservation efforts and changing public behaviour.

Environmental

Water conservation measures reduced strain on the compromised water system by changing citizen behaviour and encouraging innovative business adaptations. Protection of the environment and river was monitored during each stage of operations. The use of non-drinking water for construction and maintenance reduced environmental impact and the demand for treated water.

Economic

The water restrictions and construction activities led to financial losses for businesses and The City. While essential water services were maintained to minimize disruptions, the response underscored the need to apply lessons learned to mitigate economic impacts during potential future events.

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Service and Financial Implications

Other:

There are no operating and capital costs associated with the specific response recommendation in this report. The implementation of lessons learned may require integration into future service plans and budgets.

RISK

The Bearspaw South Feeder Main break highlighted significant reputational and service delivery risks due to vulnerabilities in The City's infrastructure. These challenges are compounded by increasing costs, inflation, labour shortages, and rapid population growth. To address these two risks resulting from this emergency, The City can enhance public communication by providing timely updates, clear and consistent messaging, as well as engagement with communities, businesses, and industry customers. Publishing the Response Report increases transparency and helps build public trust. Additionally, The City is undertaking Water System Planning (IP2025-0150) to ensure long-term water service reliability.

ATTACHMENTS

1. Background and Previous Council Direction - C2025-0162
2. Bearspaw South Feeder Main Break Response Report - C2025-0162
3. Presentation - C2025-0162

Department Circulation

General Manager/Director	Department	Approve/Consult/Inform
Katie Black	General Manager, Community Services	Approve
Doug Morgan	General Manager, Operational Services	Approve
Iain Bushell	Director, Emergency Management & Community Safety	Consult
Nancy Mackay	Director, Water Services	Consult

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