



Green Line Board **Report**

Item 8. 1
GLB2023-0121

Green Line Board December 2022 Progress Report

1 Executive Summary

1.1 December Highlights

The agreement with the Delivery Partner was signed and onboarding of key individuals began. The Delivery Partner will bring their extensive technical and commercial expertise in complex megaprojects to supplement the project team across a range of project functions, including commercial management, technical support, project controls, and construction management.

Utility relocation work in the Beltline and Downtown slowed down during the month of December 2022 due to cold weather and the holiday break. The following utility relocation work continued during the month of December 2022:

Beltline:

- Installation of deep utilities in addition to backfilling and roadway works on 12 Avenue SE between 5 Street SE and 6 Street SE
- Enmax vault and manhole installation on 5 Street SE between 11 Ave SE and 12 Ave SE

Downtown:

- Telus duct bank relocation work on 4 Avenue SW between 1 Street and 2 Street SW
- Enmax duct bank relocation work at
 - 7 Avenue SW between 2 Street and 1 Street SW and
 - 1 Street SW between 7 Avenue and 2 Avenue SW
- Telus vault installation on 3 Avenue SW west of 2 Street SW.

The pictures below provide a snapshot of the ongoing third-party utility installation work in the Beltline and Downtown.



Enmax vault installation in Beltline East



Telus duct bank installation along 4 Ave SW

Next Month Look Ahead

BDURP construction will resume in both the Beltline and Downtown for both deep and shallow utility work. The deep utility installation work will continue on the north pass of 12 Avenue SE between 5 Street and 6 Street SE in Beltline East with new manhole installation work beginning at the intersection of 12 Avenue SE and 6 Street SE. In the Downtown, critical deep utility relocation work will start in January to avoid conflicts with future third part utility relocation work.















Shallow utility relocations will continue to ramp up in the Downtown. Enmax will continue with the construction of the duct bank relocation work at 7 Avenue SW and 1 Street SW. New construction in the intersection of 2 Street SW and 5 Avenue SW will start in January as vault installation work begins.

Outside of construction, Green Line team members will be heavily focused on supporting the Phase 1 RFP procurement process and continue to review requests for information and participate in meetings with the two pre-qualified proponent teams.

1.2 Program Status Dashboard

The table below provides the program status dashboard update for December 2022 including the overall program status and a comparison to the previous month.

Functional Area	Overall Program Status	Last Month's Status	Comments
Health & Safety			<ul style="list-style-type: none">There were no safety incidents in December 2022.Green Line has had no Lost Time Incidents (LTI) or First Aid (FA) incidents in the past year with one Medical Aid (MA) incident in November 2022.
Environmental			<ul style="list-style-type: none">As part of the land acquisition process, identified properties require site-specific limited Environmental Site Assessment (ESA).
Stakeholder Relations			<ul style="list-style-type: none">Connected with more than 65 businesses and key stakeholders in December 2022 (over 700 businesses and key stakeholders throughout 2022).Indigenous Consultation underway in support of application process for the Elbow River and south Bow River crossings.
Schedule			<ul style="list-style-type: none">Phase 1 DBF-DP RFP activities are on schedule.BDURP construction is on schedule.
Cost			<ul style="list-style-type: none">Green Line continues to proactively monitor program costs.Appropriate mitigation measures for key risks continue to be established, reviewed, and implemented.
Quality			<ul style="list-style-type: none">Program Quality Management Plan implementation continued with ongoing oversight of design quality management, BDURP construction works, and LRV Supply project quality compliance.

**Definition of legend for the dashboard in Appendix 1*



1.3 Financial Summary as of December 31, 2022

Category	Committed Cost	Cost to Date	Cost Year to Date
Owner's Cost	\$80,416,386	\$79,936,759	\$14,660,674
Design & Engineering	\$285,463,824	\$268,411,186	\$31,959,920
Construction, Land & Other Assets	\$541,599,930	\$455,829,163	\$53,309,033
Bus Rapid Transit	\$4,596,206	\$4,596,206	\$1,302,299
Grand Total	\$912,076,346	\$808,773,314	\$101,231,925

**Costs for December are preliminary.*

***Details on specific inclusions in Appendix 1.*

1.4 Milestone Schedule

As work progresses for Green Line, near term milestones and achievements for the program include:

- Q1 2023 – Completion of LRV Preliminary Design Review (PDR) Submissions
- Q1 2023 – Phase 1 DBF-DP Development Phase to begin

1.5 Risk Management

Risk is continually monitored by Green Line. Below are some of the key risk items for December 2022 that are being addressed by the team:

- Green Line continues to monitor financial market changes due to the current economic climate.
 - Regular external due diligence is ongoing to identify, evaluate and validate information and assumptions.
- The market is unwilling to accept certain risks that have been transferred to the private sector in similar projects.
 - Green Line is proceeding with a strategy to utilize a DBF with Development Phase to best allocate, mitigate, and manage risks. This strategy takes into consideration successful market precedents.
 - Utility relocation works that are currently underway provide higher confidence to the prospective applicants in minimizing risks and encourage active participation through the procurement process.
- Utility relocation works in Beltline and Downtown are ongoing in tight working areas, which can potentially impact travelling public and pedestrians.
 - Green Line continues to proactively engage and notify stakeholders of potential construction related impacts (e.g., road closures).

1.6 Stakeholder Relations

Much of the BDURP construction activity wound down for the holidays. Direct outreach to adjacent businesses and landowners was focused on communicating construction status and information on what to expect when construction activity resumes in 2023.

On December 7, Green Line team members attended a virtual Cultural + Entertainment District Community Partners Meeting hosted by Calgary Municipal Land Corporation, to share project updates that included upcoming utility construction planned for 2023.

In addition to the construction notices sent to more than 113 stakeholders in Beltline and Downtown, the direct stakeholder outreach for December 2022 is summarized below.



Stakeholder Activity	Activity (December)	Total Activity (2022)
Business outreach*	34	500
Residential/property outreach*	7	101
Email/social/311 requests	15	113
Key stakeholder/partner meetings	31	218
Information sessions/events	1	11

* Outreach includes calls, meetings, and on-site visits.

In December, video profiles of three businesses along the alignment were developed, released, and promoted across all Green Line social media channels with a story feature on the Green Line website. In total, 12 local business video profiles were released in 2022. This effort will continue in 2023.

2 Health and Safety

2.1 Overall Program

Green Line continues to provide oversight to ensure safety compliance by Green Line staff, consultants, and contractors at construction sites.

There were no safety incidents on Green Line in December 2022.

Overall Program Metrics

The following tables contain the recorded incidents and non-compliance for the Program:

Table 1: Green Line Safety Incident Frequency Statistics

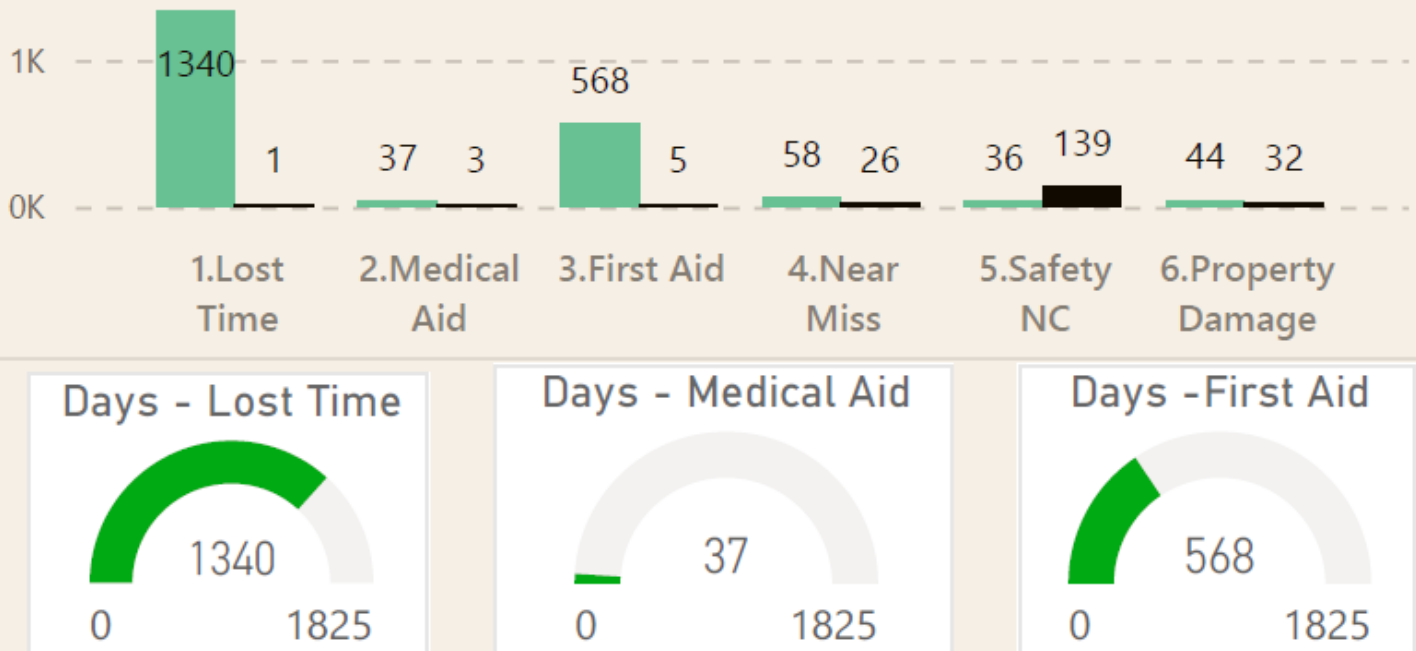
Performance Indicator		Green Line & City Staff	Contractors	Green Line, City Staff & Contractors
TRIFR: Total Recordable Injury Frequency Rate	per 200,000 hrs			
<i>*Statistics based on a rolling 12-month period from December 31, 2021, to December 31, 2022</i>				

Overview of Safety Metrics as of December 30, 2022

The safety metrics are highlighted in the chart below and represent the Program to Date (PTD).

Green Line LRT - Days Since Last Incident & Safety Indicators - PTD

● Days Since Last Incident ● Number of Incidents PTD



*NC = Non-Compliance

1825 days = 5 Years

Safety remains a focus for Green Line as BDURP construction activity continues in Beltline and Downtown. Safety Targets include zero Lost Time Incidents (LTI's) for all Green Line related work, compliance with monthly inspections on enabling works, requirement to input all safety records into the Green Line database, maintaining joint Occupational Health & Safety committee representation and performing safety audits.

Certificate of Recognitions Audit

Green Line completed the 2022 Certificate of Recognition (COR) external audit in October 2022. The final report is expected in January 2023. A subsequent safety audit action plan will be developed if any findings or opportunities for improvement are identified.



Appendix 1 – Dashboards & Financial Summary Legends

Dashboards Legends

Health and Safety	<p>Zero LTIs or</p> <p>Scheduled monthly site inspections completed with < 2 missed or Joint OH&S committee meetings and inspections on track or</p> <p>Green Line COR Internal Maintenance Audit completed with minor findings or all mandatory training complete</p>	<p>One LTI or</p> <p>≤5 scheduled site inspection not completed or missed a Joint OH&S committee meeting or inspection or</p> <p>Green Line COR Internal Maintenance Audit completed with major findings or <90% mandatory training completed</p>	<p>More than one LTI or</p> <p>>5 scheduled site inspections not completed or multiple Joint OH&S committee meetings or inspection not completed or</p> <p>Green Line COR Internal Maintenance Audit failed or less than 75% mandatory training complete</p>
TRIFR: Total Recordable Injury Frequency Rate	<p>Per 200,000 hrs</p> <p>≤1.33</p>	<p>Per 200,000 hrs</p> <p>>1.33 and ≤2.66</p>	<p>Per 200,000 hrs</p> <p>>2.66</p>
Environmental	<p>Greenline environmental requirements and permits are progressing and adhere to Municipal/Provincial/Federal Obligations.</p> <p>Quality of life impacts (noise, vibration, dust, light) resulting in minimal complaints from stakeholders or elected officials.</p>	<p>Specific Environmental permits or requirements are in progress; reliance on approving authorities timelines may cause temporary delays. Delays not expected to impact critical path.</p> <p>Quality of life impacts (noise, vibration, dust, light) resulting in moderate complaints from stakeholders or elected officials.</p>	<p>Contract requirements conflict or falling to meet the Municipal/Provincial/Federal obligations. Risk to schedule critical path or budgets.</p> <p>Quality of life impacts (noise, vibration, dust, light) resulting in significant public complaints from stakeholders or elected officials.</p>
Stakeholder Relations	<p>Minimal risk of reputational damage or localized stakeholder issues</p>	<p>Moderate risk of reputational damage or Multiple stakeholder issues that require urgent action</p>	<p>Severe risk of reputational damage or Major risk with funding partners</p>

Schedule	No delay to critical activities or critical milestones	Delay to intermediate milestones by less than two weeks	Delay to critical activities or critical milestones
Cost	Costs forecast within the budget	Costs forecast to be over budget by less than 35% of retained contingency	Cost forecast to be over budget by more than 35 % retained contingency
Quality	<p>Quality requirements adequate/defined or in progress or</p> <p>Audits performed per plan with no/minor findings or</p> <p>NCR identification and resolution are within expectations</p>	<p>Quality requirements not adequate/defined in at least one area or</p> <p>Audits performed per plan with one or more major findings or</p> <p>NCR identification and resolution are not trending downward</p>	<p>Quality requirements not adequate/defined in multiple areas or</p> <p>Audits not performed or performed with many major findings or</p> <p>NCR(s) remain open that impact the safety/security and quality of new infrastructure or would adversely affect the ability to achieve Substantial Completion or MSF Completion</p>