



## Operations Committee Agenda

**Monday, April 22, 2024**

**Tom Davies Square**

**Councillor Signoretti, Chair**

2:00 p.m. Open Session, Council Chamber / Electronic Participation

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1. **Call to Order**
2. **Roll Call**
3. **Declarations of Pecuniary Interest and the General Nature Thereof**
4. **Referred & Deferred Matters**

**4.1 Request for Alteration to the Calendar of Road Work for MR15 and Montée Principale**

As presented by Councillor Fortin:

WHEREAS Council resolution CC2022-96-A1 included supplemental road work rehabilitation across the City of Greater Sudbury, including Montée Principale and sections of Municipal Road (MR) 15;

AND WHEREAS the approved four-year capital budget identifies capital work in the sum of \$5,066,000 to be completed in 2027 on Montee Principale;

AND WHEREAS the current condition of Montee Principale from MR15 to MR35 (3.5 km) is in terrible condition, such that it is of a great concern and a high priority for rehabilitation to the community;

AND WHEREAS Montée Principale is also the primary access road to the Casino, and its present condition gives a negative image to all those who visit the community;

AND WHEREAS the improvements to Montée Principale identified in the 2022 Supplemental Road Rehabilitation Program, as updated to Council on June 27, 2022, only provided temporary relief to approximately 400 m of the 3.5 km required;

AND WHEREAS this motion does not request any additional funding, or amendment to the scope of the project;

THEREFORE BE IT RESOLVED that the City of Greater Sudbury direct staff to alter the calendar of road work for MR15 and Montée Principale to ensure that Montée Principale is completed in advance of MR15, as identified in the 4-year capital outlook budget approved by City Council during the budget deliberations in December of 2023;

AND BE IT FURTHER RESOLVED that staff provide an updated report on the status of these changes in the capital outlook to the Operations Committee.

**5. Correspondence for Information Only**

**5.1 Winter Control Update – January 2024**

This report provides an overview of winter maintenance activities for the 2023/2024 winter control season up to and including the month of January 2024.

**5.2 Ensuring Quality During Construction on Linear Infrastructure Capital Projects**

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This report provides information regarding how quality is maintained during construction on linear infrastructure capital projects.

- 6. Addendum
- 7. Civic Petitions
- 8. Question Period
- 9. Adjournment

## Winter Control Update – January 2024

Presented To:	Operations Committee
Meeting Date:	April 22, 2024
Type:	Correspondence for Information Only
Prepared by:	Joe Rocca Linear Infrastructure Services
Recommended by:	General Manager of Growth and Infrastructure

### Report Summary

This report provides an overview of winter maintenance activities for the 2023/2024 winter control season up to and including the month of January 2024.

### Relationship to the Strategic Plan, Health Impact Assessment and Climate Action Plans

This report refers to operational matters. and has no direct connection to the Community Energy & Emissions Plan.

### Financial Implications

This report provides the estimated financial results for the period ending January 31, 2024. The estimated result for January 2024 is a surplus of approximately \$570,000 when compared to the 2024 year-to-date budget. The actual year-to-date result may differ from these estimates as certain estimates were necessary to account for outstanding invoices.

### Background

This report is intended to provide a summary of winter maintenance activities for the month of January 2024, including financial variances. It is important to note that due to normal lags in receipt of costs related to these activities, final costs for this period may vary from the information reported at this time.

The City of Greater Sudbury's winter maintenance service levels are defined in Council approved winter control service policies as well as guidelines within the Minimum Maintenance Standards (MMS), O.Reg. 239-02.

During the month of January, there were two winter events that required the full deployment of City crews and subcontractors. Both winter events were declared Significant Weather Events.

This report provides the estimated financial results for the period ending January 31, 2024. The estimated

result for the period ending January 31, 2024 is a surplus of approximately \$570,000 when compared to the 2024 year-to-date budget. The actual year-to-date results may differ, as certain estimates were necessary to account for outstanding invoices.

## Weather Statistics

As shown in Table 1, during the month of January there were 2 major snow events which required the deployment of all available City and contractor snow plowing equipment. As of the end of January 2024, there have been three snow events requiring the full deployment of all available City and Contractor snow plowing equipment in the winter control season of 2023/2024.

Table 1 also highlights the statistical information for the 2023 winter season from Environment Canada, including the 10-year average (2013-2022) for snowfall. The total snow accumulation for January 2024 was 3.9 per cent more than the 10-year average for the same period. In addition, temperatures stayed consistently below or at freezing throughout the month. The total snow accumulation for the 2023/2024 winter season is approximately 31 per cent less than the 10-year average of 1.83 metres or 6.0 feet.

**Table 1 – Weather Statistics (January through December 2023)**

Month	Snow Accumulation	10 Year Average (cm) (2013-2022)	Percentage Increase/(Decrease) Compared to 10-Year Average	Snow Events	Rain/Freezing Rain Events
Jun-Sep	-	-	0.0%	0	0
Oct	8.8	6.0	47.7%	0	0
Nov	26.3	40.3	-34.8%	1	0
Dec	16.3	65.1	-75.0%	0	0
Jan	74.9	72.1	3.9%	2	0
Feb					
Mar					
Apr					
May					
Totals	126.3	183.5	-31.2%	3	0

Note: All weather data taken from Environment Canada website for weather station Sudbury A.

## Winter Control Service Categories

### 1) Roadway Snow Plowing/Sanding/Salting

Includes work activities such as plowing, sanding, salting, anti-icing roads and winter stockpile management.

#### Status Update

For the January 2024 reporting period, there were two snow events that required the full deployment of City staff and contractors and on-going precipitation throughout the month. Both of these winter events were declared Significant Winter Events and approximately 60 per cent of the total snowfall for the month were as a result of these events. This resulted in approximately 7 per cent less snow plowing/sanding/salting activities than the anticipated levels for the month.

#### Challenges

Although two Significant Weather Events were called during the month, the cleanup of these storms went as anticipated and there were no other significant challenges with roadway snow plowing/sanding/salting during the reporting period.

## **2) Snow Removal**

Includes work activities such as bus stop clearing, snow removal with loaders, snow dump operation and snowbank removal in the downtown centres.

### Status Update

While snowfall amounts for the January 2024 reporting period were above 10-year average, there was 22 per cent less snow removal completed during the month due to significantly below seasonal amounts of snow during November and December.

### Challenges

There were no significant challenges with snow removal during the reporting period.

## **3) Winter Sidewalk Maintenance**

Includes work activities such as sidewalk plowing and sanding.

### Status Update

During the January 2024 reporting period, there were two snow events that required the full deployment of City staff and contractors and on-going precipitation throughout the month. This has resulted in 12 per cent less winter sidewalk maintenance activities than the anticipated levels for the month. The enhanced sidewalk maintenance pilot project continued during January with spot sidewalk plowing and sanding completed as needed throughout the community.

### Challenges

There were no significant challenges with winter sidewalk maintenance during the reporting period.

## **4) Roadway Snow Plowing with Graders/Loaders/4x4s**

Includes work activities such as snow plowing with graders, 4x4s and loaders, municipal parking lot maintenance and snow fence maintenance.

### Status Update

For the January 2024 reporting period, there were two snow events that required the full deployment of City staff and contractors. This resulted in snow plowing activities that were 52 per cent less than the anticipated levels for the month.

### Challenges

There were no significant challenges with this activity during this reporting period.

## **5) Winter Ditching/Spring Clean Up**

Includes work activities such as winter ditch maintenance and spring clean-up with sweepers/flushers on roads and sidewalks.

### Status Update

For the January 2024 reporting period, minimal work was done related to winter ditch maintenance and sweeping. The costs incurred during this reporting period were 81 per cent less than the anticipated levels for the month.

## Challenges

There were no significant challenges with this activity during this reporting period.

### **6) Miscellaneous Winter Maintenance**

Includes work activities such as property restoration (plow damage), pothole patching, winter road patrol, employee standby, equipment standby, health and safety training (snow school), fringe benefits and tool repairs.

## Status Update

Pothole patching and contractor standby are the main activities that have been utilized under this category during the January 2024 reporting period. There were fewer full deployments of City staff and contractors during the month than the anticipated levels which resulted in additional contractor standby pay. This resulted in 4% more miscellaneous winter maintenance activities than the anticipated levels for the season.

## Challenges

There were no significant challenges with this group of activities during this reporting period.

## **Financials**

The estimated financial results for the period ending January 31, 2024, are summarized below. As shown in Table 2, January 2024 is estimating a surplus of approximately \$570,000 when compared to the 2024 year-to-date budget. The actual year to date may differ as certain estimates were necessary to account for outstanding invoices. The winter control surplus/deficit will form part of the year-end position. Table 3 provides a breakdown of the budgeted expenses included within Miscellaneous Winter Maintenance.

**Table 2 – Financial Results**

<b>2024 Winter Summary</b>					
<b>As at January 31, 2024</b>					
	<b>Annual Budget</b>	<b>2024 YTD</b>			
		<b>Budget</b>	<b>Actual</b>	<b>Variance</b>	<b>% Spent YTD</b>
<b>Snow Plowing/Sanding/Salting</b>	8,068,135	2,123,159	1,979,008	144,151	93%
<b>Snow Removal</b>	1,281,383	327,867	255,551	72,316	78%
<b>Winter Sidewalk Maintenance</b>	1,368,470	372,118	326,734	45,384	88%
<b>Snow Plowing - Graders/Loaders/4x4</b>	1,866,543	463,099	220,961	242,138	48%
<b>Winter Ditching/Spring Clean Up</b>	3,751,462	134,709	24,987	109,722	19%
<b>Miscellaneous Winter Maintenance</b>	8,771,523	1,253,166	1,297,217	(44,051)	104%
<b>Totals</b>	<b>25,107,516</b>	<b>4,674,118</b>	<b>4,104,458</b>	<b>569,660</b>	<b>88%</b>

**Table 3 – Miscellaneous Winter Maintenance Budget Breakdown**

<b>2024 Miscellaneous Winter Maintenance</b>	
<b>Expense Type</b>	<b>Annual Budget (millions)</b>
Employee Benefits	1.98
Asphalt Patching	1.63
Internal Recoveries	1.01
Standby (Contractor Services)	0.87
Health & Safety	0.23
Other (Emergency Response, Tool Repair, Property Restoration, etc.)	0.28
Administration & Supervision	2.79
<b>Total</b>	<b>\$ 8.77</b>

Table 4 portrays a summary of winter maintenance activities for the 2023/2024 winter season which shows an estimated under expenditure of approximately \$2,865,000.

**Table 4 – 2022/2023 Winter Season Financial Summary**

<b>2023/2024 Winter Season Summary</b>			
<b>as at Jan, 2024</b>			
	<b>Season Budget</b>	<b>Season Actual</b>	<b>Variance</b>
<b>Snow Plowing/Sanding/Salting</b>	4,864,690	3,887,865	976,825
<b>Snow Removal</b>	590,494	380,955	209,539
<b>Winter Sidewalk Maintenance</b>	839,039	668,510	170,529
<b>Snow Plowing - Graders/Loaders/4x4s</b>	882,232	313,422	568,810
<b>Winter Ditching/Spring Clean Up</b>	179,651	107,227	72,424
<b>Miscellaneous Winter Maintenance</b>	4,479,473	3,611,795	867,678
<b>Totals</b>	<b>11,835,579</b>	<b>8,969,774</b>	<b>2,865,805</b>

In summary, weather conditions have caused costs attributable to winter maintenance for the 2024 fiscal year to track approximately 12 per cent under budget allocations.



## Ensuring Quality During Construction on Linear Infrastructure Capital Projects

Presented To:	Operations Committee
Meeting Date:	January 22, 2024
Type:	Correspondence for Information Only
Prepared by:	Miranda Edwards Engineering Services
Recommended by:	General Manager of Growth and Infrastructure

### Report Summary

This report provides information regarding how quality is maintained during construction on linear infrastructure capital projects.

### Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

Ensuring quality during the construction of linear infrastructure projects supports Council's Strategic Plan 2019-2027 goal area of Asset Management and Service Excellence by demonstrating a commitment to ensuring infrastructure renewal projects are being completed to optimize the asset's useful service life.

### Financial Implications

There are no financial implications associated with this report.

### Background

On May 15, 2023, Operations Committee passed Resolution OP2023-11 directing staff to provide a report for information detailing construction methods and quality assurance on linear infrastructure capital projects.

Examples of linear infrastructure capital projects can include the replacement or upgrading of existing watermain, sanitary mains and storm sewer mains, rebuilding or widening of an existing road replacing the granular material and asphalt, and replacement or installation of new concrete curb and sidewalk.

Provincial and Federal legislation and guidelines, as well as engineering and industry standards and best practices govern, construction materials and methodologies, and quality, on all linear infrastructure capital projects.

### Ontario Provincial Standards for Roads and Public Works

The Ontario Provincial Standards for Roads and Public Works (OPS) organization is owned jointly by the Ontario Ministry of Transportation (MTO) and the Municipal Engineers Association (MEA) and the standards have been in use across Ontario by the MTO and municipalities since 1984. These standards provide municipalities and the construction industry with consistent, cost-effective, and dependable standards for building highways and roadways across the province.

Ontario Provincial Standard Specifications (OPSS) outline material requirements, equipment requirements, construction methods, quality control and quality assurance requirements, and payment details for construction activities. Examples of construction activities can include paving, concrete, drainage, grading and structural work.

All construction projects on the City's roadways adhere to OPSS and the standards are included in all tenders. The City of Greater Sudbury has been using these standards since its amalgamation, with the various municipalities and the Region adopting these standards throughout the 1990's. As well, all new roads built by private developers that are accepted by the City must follow OPS Specifications.

As part of Growth & Infrastructure's (G&I) commitment to continued improvement, a committee has been in place to review legislative guidelines and standards, including the OPS Specifications, and implement updates. In 2017, the committee was separated into four committees and a more formal structure, closely following the OPS structure for reviewing and updating standards, was implemented. These committees have representation across G&I, including Planning Services, Infrastructure Capital Planning Services, Linear Infrastructure Services and Engineering Services. These committees include Materials and Grading, Pipe and Appurtenances, OPSS Updates and Basis of Payment.

### **Quality Assurance**

Quality control (QC) on a construction project includes methods or testing that the Contractor must follow to ensure that the materials being placed, or the construction methodologies being used, will meet the contract requirements. Quality assurance (QA) includes methods or testing that the Owner undertakes to ensure that the products that they are receiving and making payment for meet the quality standards set out in the contract document.

OPSS requires that material testing conducted by an owner be completed by an independent laboratory certified by the Canadian Council of Certified Laboratories (CCIL). The specifications also outline the appropriate MTO laboratory standards that must be followed to complete the material testing. The laboratory standards and the certification requirements ensure consistent testing across all certified laboratories and across all projects.

Quality control and quality assurance are performed on all linear infrastructure capital projects as outlined in the OPSS, or other legislation, for the applicable construction activity being performed or material being placed.

### **Paving Works**

Examples of common paving activities include the placement of hot mix asphalt (HMA), asphalt recycling and surface treatment. Quality assurance for these works includes the sampling and testing of the asphalt cement, emulsion or rejuvenator properties, the gradation of the granular materials, meaning to ensure that the stone sizes meet the requirements for the type of granular material used in the mix of the asphalt and the in-place compaction of the asphalt material. Another common material that is evaluated in paving is tack coat. This is the sprayed liquid material placed between lifts of HMA to ensure that the layers are bonded together, achieving the desired strength and thickness of the asphalt structure.

In addition to laboratory testing completed on paving works, visual inspections are also completed. This includes review of all surfaces of placed asphalt for any defects such as segregation (which is open texture or separation of the aggregate throughout the asphalt surface), as well as smoothness of the asphalt surface.

### **Concrete Works**

Examples of common concrete activities include placement of concrete curb and gutter, concrete sidewalks, in-place construction of culverts, and bridge rehabilitation. Quality assurance for these works include the sampling and testing of the concrete material properties and strength as well as testing to identify resiliency to the elements for bridges and large culverts.

In addition to laboratory testing that is completed on concrete works, visual inspections are also completed. This includes review of the surface of the concrete for any defects such as scaling, which is when the

concrete surface flakes off in small patches.

## Pipe and Drainage Works

Examples of common pipe and drainage activities include installing watermain and sanitary forcemains (pressure mains), sanitary and storm sewer mains (gravity mains) and culverts. Quality assurance for these works include ensuring that the pipe is placed at the appropriate depths and grades (slope) as identified in the design, reviewing the inside of the gravity mains to ensure conformity and pressure testing of the pressure mains to ensure that they will withstand the designed pressures.

An important test that is completed in this category is the bacteriological testing of the watermain before it is allowed to be connected to the water system. This ensures no contaminants in the pipe. These requirements are set out by the Ministry of the Environment, Conservation and Parks (MECP) and the City of Greater Sudbury's Watermain Connection Protocol. Construction Services oversees all watermain connections, in collaboration with Distribution and Collections Services, and has approved approximately 120 watermain connections in the 2023 construction season.

## Granular Materials

Examples of granular material activities include placing material to construct a road base, and to provide support for concrete curbs, sidewalks, pipes, culverts, and bridges. Quality assurance for these works include the sampling and testing of the gradation of the granular material, meaning to ensure that the stone sizes meet the requirements for the type of granular material. This is important for compaction as well drainage. Testing also includes the in-place compaction of the material as it is placed in the roadway as well as around all pipes and structure foundations.

## Acceptance Criteria

In addition to outlining the laboratory tests to be completed on a specific material, the OPSS also outlines the sampling frequency, sampling method, type of sample to be taken, and size of the sample required for each material type that is to be tested. The Contractor is required to take the samples at locations randomly chosen by the Owner for quality control, quality assurance and for referee testing in case of dispute.

Test results are then evaluated in comparison to the criteria listed in the applicable OPSS. The OPSS identifies acceptable ranges for the material test results to be accepted into the work at full payment. There are also borderline ranges in which the material is subject to payment adjustments to be accepted into the work and there are rejectable ranges in which the material is required to be removed and replaced with acceptable material or subject to a more severe payment adjustment.

## Summary of Material Testing - 2019 to 2023

The following chart illustrates the average number of samples taken annually for each material or test and the percent of test results accepted into the work.

### Five Year Summary (2019 to 2023)

Material/Test	Number of Annual Avg. Samples	% of Results Accepted into the Work	% Results Borderline Range
Aggregate Gradation	95.2	99.7%	21.4%
Asphalt Mix Properties	135.4	98.8%	35.4%
Performance Graded Asphalt Cement (PGAC)	17.6	98.6%	0.0%
Tack Coat	20.4	89.4%	0.0%
Concrete Strength	190.2	98.9%	0.0%

Note:

1. Percent of results accepted into the work includes acceptable and borderline ranges.
2. Borderline test results are subject to payment adjustment.
3. Data reflects capital projects managed by internal resources.

## Conclusion

Engineering Services provides project management, field inspection and quality assurance coordination to ensure that all contract requirements and quality standards for construction of linear infrastructure are met. Numerous tests are completed by City staff or the City's contracting partners on every project to ensure that the City is receiving the quality and value that is expected.

## Resources Cited

1. Ontario Provincial Standards for Roads and Public Works,  
<https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/opsSplash.asp>
2. MTO Technical Publications,  
<https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx>