THE CITY OF DAWSON

COMMITTEE OF THE WHOLE MEETING #CW22-14

DATE: WEDNESDAY November 16, 2022
TIME: 7:00 PM
LOCATION: City of Dawson Council Chambers

Join Zoom Meeting
https://us02web.zoom.us/j/86255108201?pwd=OEZnTTJOUkhsUURhTmljYkNwdHFXUT09
Meeting ID: 862 5510 8201
Passcode: 262355

1. **CALL TO ORDER**

2. **ACCEPTANCE OF ADDENDUM & ADOPTION OF AGENDA**
   a) Committee of the Whole Meeting CW22-14

3. **PUBLIC HEARING**
   a) Zoning Bylaw Amendment No. 20 – Klondike River Bench Direct Control District

4. **MINUTES**
   a) Committee of the Whole Meeting Minutes CW22-12 of September 14, 2022
   b) Committee of the Whole Meeting Minutes CW22-13 of October 19, 2022

5. **BUSINESS ARISING FROM MINUTES**

6. **SPECIAL MEETING, COMMITTEE, AND DEPARTMENTAL REPORTS**
   a) Request for Decision: 2023 Council Meeting Dates
   b) Request for Decision: 2023 Deputy Mayor Appointments
   c) Request for Direction: CBC Building Project
   d) Information Report: Art & Margaret Fry Rec Centre Update
   e) Request for Direction: Projected Budget – Revenue Considerations

7. **BYLAWS & POLICIES**
   a) Zoning Bylaw Amendment No. 20 (2022-16)-Klondike River Bench Direct Control District
   b) Municipal Civil Emergency Plan

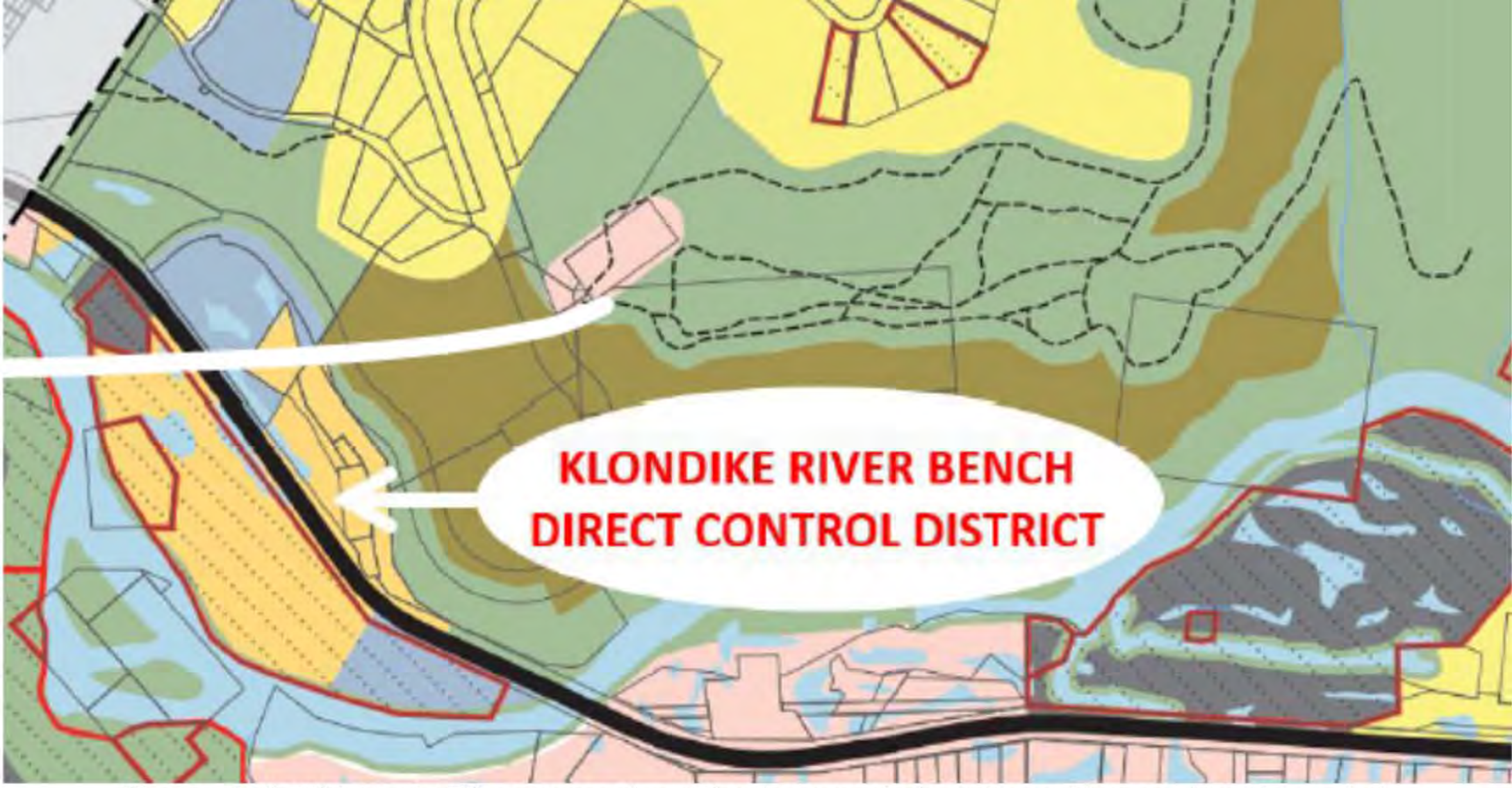
8. **CORRESPONDENCE**
   a) HAC Public Notice
   b) Bryna Cable, Director of Environmental Protection & Assessment RE: Engagement on Extended Producer Responsibility

9. **BUSINESS ARISING FROM CORRESPONDENCE**

10. **PUBLIC QUESTIONS**

11. **IN CAMERA**

12. **ADJOURNMENT**



Please note that this is not a ZBL map amendment; the above map is shown to provide general location context

CITY OF DAWSON

PLANNING AND DEVELOPMENT DEPARTMENT

Notice of Public Hearing | Zoning Bylaw Amendment | Bylaw No. 20 (Bylaw #2022-16)

Subject Property: Klondike River Bench Direct Control District
Date: November 16, 2022
Time: 7:00pm
Location: Council Chambers, City Hall
Listen to Public Hearing: Radio CFYT 106.9 FM or cable channel #12

As per the Municipal Act, S. 294, upon receiving an application for a Zoning Bylaw amendment, Council must give public notice of the application. Therefore, the City of Dawson is now requesting input from the public regarding an amendment to the Zoning Bylaw to establish the Klondike Lower Bench Direct Control District.

FOR MORE INFORMATION, PLEASE CONTACT THE PLANNING & DEVELOPMENT OFFICER USING THE FOLLOWING CONTACT INFORMATION:

Stephani McPhee
Planning & Development Officer
Box 308, Dawson City YT Y0B 1G0
planningofficer@cityofdawson.ca
867-993-7400 ext. 438

MINUTES OF COMMITTEE OF THE WHOLE MEETING CW22-12 of the Council of the City of Dawson held on Wednesday, September 14, 2022 at 7:00 p.m. via City of Dawson Council Chambers

PRESENT:
Mayor Kendrick
Councillor Somerville
Councillor Lister
Councillor Spriggs

REGRETS:
Councillor Pikálek

ALSO PRESENT:
CAO: Cory Bellmore
EA: Elizabeth Grenon
PDM: Stephanie Pawluk
Project Manager: Owen Kemp-Griffin

	1	**Call To Order** The Chair, Mayor Kendrick called Committee of the Whole meeting CW22-12 to order at 7:01 p.m.
CW22-12-01	**2**	**Acceptance of Addendum & Adoption of Agenda** Moved By: Councillor Spriggs Seconded By: Mayor Kendrick That the agenda for Committee of the Whole meeting CW22-12 of September 14, 2022 be adopted as presented. CARRIED 4-0
	3	**Minutes**
CW22-12-02	**3.1**	**Committee of the Whole Meeting Minutes CW22-11 of August 10, 2022** Moved By**:** Mayor Kendrick Seconded By: Councillor Somerville That the minutes of Committee of the Whole Meeting CW22-11 of August 10, 2022 be approved as presented. CARRIED 4-0
	4	**Business Arising From Minutes** Townhall meeting in October: - pick a date in October by September 21st - potential topics: • Municipal boundary expansion, • new Taxation of Vacant Residential Lands Policy, • Council Remuneration, • Council Term of Office (from 3 years to 4 years)
	5	**Special Meeting, Committee, and Departmental Reports**

CW22-12-03	**5.1**	**Request for Direction: Administration Building Heating Fuel Options** Moved By: Councillor Somerville Seconded By: Councillor Spriggs That Committee of the Whole forward to Council to direct administration to pursue a propane/heat pump system and continue to investigate the feasibility of a biomass system for the administration and public works building. CARRIED 4-0
	5.2	**Request for Direction: Demolitions of Historic Buildings** Council held discussion regarding Demolition of Historic Buildings. - bring back to next Committee of the Whole meeting
CW22-12-04	**5.3**	**Request for Direction: Demolition Permit Application #22-110** Moved By: Mayor Kendrick Seconded By: Councillor Lister That Committee of the Whole postpone until a future Committee of the Whole or Council meeting. CARRIED 3-1
	6	**Bylaws & Policies**
	6.1	**2022-10: Zoning Bylaw Amendment No. 17 (Infill #1)** Council held discussion regarding Infill #1.
CW22-12-05	**6.2**	**Extend Meeting** Moved By: Mayor Kendrick Seconded By: Councillor Lister That Committee of the Whole Meeting CW22-12 be extended not to exceed one hour. CARRIED 4-0
CW22-12-06	**6.3**	**2022-15: Zoning Bylaw Amendment No. 19 (East Bench DCD)** Moved By: Mayor Kendrick Seconded By: Councillor Spriggs That Committee of the Whole accept this report as information, accept the amendments to Zoning Bylaw Amendment No. 19 (Bylaw #2022-15) and forward to council for 3rd reading once the following conditions are met: 1. Signing of a statutory declaration 2. Dismissal of the judicial review on a without costs basis. CARRIED 4-0
CW22-12-07	**7**	**Correspondence** Moved By: Mayor Kendrick Seconded By: Councillor Lister That Committee of the Whole acknowledge receipt of the following correspondence: Heritage Advisory Committee Public Notice, for informational purposes. CARRIED 4-0

	8	**In Camera**
	8.1	**Personnel Related Matter**
CW22-12-08	**8.1.1**	**Move to In Camera** Moved By: Mayor Kendrick Seconded By: Councillor Somerville That Committee of the Whole move into a closed session of Committee of the Whole, as authorized by Section 213(3) of the Municipal Act, for the purposes of discussing a personnel related matter CARRIED 4-0
CW22-12-09	**8.1.2**	**Move to COW** Moved By: Mayor Kendrick Seconded By**:** Councillor Spriggs That Committee of the Whole revert to an open session of Committee of the Whole to proceed with the agenda. CARRIED 4-0
CW22-12-10	**9**	**Adjournment** Moved By: Mayor Kendrick Seconded By: Councillor Spriggs That Committee of the Whole Meeting CW22-12 be adjourned at 10:42 p.m. with the next regular meeting of Committee of the Whole being October 19, 2022. CARRIED 4-0

THE MINUTES OF COMMITTEE OF THE WHOLE MEETING CW22-12 WERE APPROVED BY COUNCIL RESOLUTION #CW22-13-XX AT COMMITTEE OF THE WHOLE MEETING CW22-13 OF OCTOBER 19, 2022.

William Kendrick, Chair

Cory Bellmore, CAO

MINUTES OF COMMITTEE OF THE WHOLE MEETING CW22-13 of the Council of the City of Dawson held on Wednesday, October 19, 2022 at 7:00 p.m. via City of Dawson Council Chambers

PRESENT:
Mayor Kendrick
Councillor Somerville
Councillor Lister
Councillor Spriggs
Councillor Pikálek

REGRETS:

ALSO PRESENT:
CAO: Cory Bellmore
EA: Elizabeth Grenon
CFO: Kim McMynn

	1	**Call To Order** The Chair, Mayor Kendrick called Council meeting CW22-13 to order at 7:00 p.m.
CW22-13-01	**2**	**Acceptance of Addendum & Adoption of Agenda** Moved By: Mayor Kendrick Seconded By: Councillor Somerville That the agenda for Committee of the Whole meeting CW22-13 of October 19, 2022 be adopted as amended. CARRIED 5-0
	3	**Delegations & Guests**
	3.1	**Casino Mining Corporation** Shena Shaw from Casino Mining Corporation presented to Council an overview of the project.
	4	**Minutes**
CW22-13-02	**4.1**	**Committee of the Whole Meeting Minutes CW22-12 of September 14, 2022** Moved By: Councillor Somerville Seconded By: Mayor Kendrick That the minutes of Committee of the Whole meeting CW22-12 of September 14, 2022 be postponed to the next Committee of the Whole meeting. CARRIED 5-0
	5	**Business Arising From Minutes**
	6	**Special Meeting, Committee, and Departmental Reports**

CW22-13-03	6.1	**Request for Decision: Better Building Program** Moved By: Mayor Kendrick Seconded By: Councillor Somerville That Committee of the Whole forward to Council to approve the City of Dawson to participate in the Yukon Government Better Building Program and to direct administration to finalize the Program Agreement with Yukon Government for signature. CARRIED 5-0
CW22-13-04	6.2	**Request for Decision: Interim Solid Waste Agreement** Moved By: Mayor Kendrick Seconded By: Councillor Somerville That Committee of the Whole forward to Council to direct administration to enter into the proposed interim solid waste management agreement. CARRIED 5-0
	6.3	**Information Report: Land Development Project Update** CAO Bellmore gave an update on Land Development projects.
	7	**Public Questions** Eric Casdonguay had questions for Council regarding the housing shortage in Dawson. Jaimee Gilson had questions for Council regarding residential lot planning and staffing shortages.
	8	**In Camera**
	8.1	**Legal and Land Related Matters**
CW22-13-05	8.1.1	**Move to In Camera** Moved By: Councillor Somerville Seconded By: Councillor Pikálek That Committee of the Whole move into a closed session of Committee of the Whole, as authorized by Section 213(3) of the Municipal Act, for the purposes of discussing a legal and land related matter. CARRIED 5-0
CW22-13-06	8.1.2	**Revert to Open Session** Moved By: Councillor Somerville Seconded By: Mayor Kendrick That Committee of the Whole revert to an open session of Council to proceed with the agenda. CARRIED 5-0
CW22-13-07	8.1.3	**Lot 40 Dome Road Subdivision** Moved By: Mayor Kendrick Seconded By: Councillor Somerville

That Committee of the Whole forward to Council to transfer title of Lot 40, Dome Road Subdivision, as per the land sale agreement.
CARRIED 5-0

9 Adjournment

CW22-13-08
Moved By: Councillor Somerville
Seconded By: Mayor Kendrick

That Committee of the Whole Meeting CW22-13 be adjourned at 8:50 p.m. with the next regular meeting of Committee of the Whole being November 16, 2022.
CARRIED 5-0

THE MINUTES OF COMMITTEE OF THE WHOLE MEETING CW22-13 WERE APPROVED BY COUNCIL RESOLUTION #CW22-14-XX AT COMMITTEE OF THE WHOLE MEETING CW22-14 OF NOVEMBER 16, 2022.

William Kendrick, Chair

Cory Bellmore, CAO

Report to Council

[X] For Council Decision [ ] For Council Direction [ ] For Council Information

[ ] In Camera

AGENDA ITEM:	Establish 2023 Regular & Optional Meeting Dates of Council and Committee of the Whole	
PREPARED BY:	Elizabeth Grenon (EA)	**ATTACHMENTS:** • Draft 2023 Calendar
DATE:	October 24, 2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: Section 206- Yukon Municipal Act		

RECOMMENDATION

That Committee of the Whole recommends Council establish regular and optional meeting dates for Council and Committee of the Whole for 2023 as presented.

ISSUE / PURPOSE

To establish regular meeting dates for Council and COW meetings for 2022.

BACKGOUND SUMMARY

As per Section 206 of the *Municipal Act*, "…Council shall have regularly scheduled public meetings as it may determine."

Following are the number of Council and Committee of the Whole Meetings for the past 3 years:

2022- COW: 14 Council: 22 (Jan-Nov) Expected total for 2022: 38

2021- COW: 31 Council: 26 Total: 57

2020- COW: 16 Council: 22 Total: 38

ANALYSIS / DISCUSSION

The training with Gordon MacIntosh brought to light the fact that COW meetings had become a "dress rehearsal" to Council meetings and that a lot of redundant information was being produced and brought forward to multiple meetings. The proposed 2023 calendar is set up to reflect the recommendation from Gordon, in that COW meetings should be meant for discussion of new topics or requests for clarification. Orange days are meant for joint meetings (HAC, TH, etc.) meetings with other organizations, budget meetings and special COW or Council meetings.

APPROVAL		
NAME:	Cory Bellmore, CAO	C Bellmore
DATE:	October 28, 2022	

2023 REGULAR & OPTIONAL COUNCIL & COW MEETNGS

Yellow = Weeks with no regular meeting scheduled

JANUARY						
SU	M	T	W	TH	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY						
SU	M	T	W	TH	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

MARCH						
SU	M	T	W	TH	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL						
SU	M	T	W	TH	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

MAY						
SU	M	T	W	TH	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE						
SU	M	T	W	TH	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

JULY						
SU	M	T	W	TH	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST						
SU	M	T	W	TH	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER						
SU	M	T	W	TH	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER						
SU	M	T	W	TH	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER						
SU	M	T	W	TH	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER						
SU	M	T	W	TH	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

	Council Meeting
	Committee of Whole Meeting
	Optional-Meeting Organizations, Joint Meeting, Council, or Committee Meeting

Deputy Mayor Appointments	
Councillor	January to March,
Councillor	April to June
Councillor	July to September
Councillor	October to December

Report to Council

[X] For Council Decision [ ] For Council Direction [ ] For Council Information

[ ] In Camera

AGENDA ITEM:	2023 Deputy Mayor Appointments	
PREPARED BY:	Elizabeth Grenon (EA)	**ATTACHMENTS:**
DATE:	October 25, 2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: Section 182- Yukon Municipal Act		

RECOMMENDATION

That Committee of the Whole forward to Council to make the following appointments for the 2023 calendar year with respect to the position of Deputy Mayor:
Councillor _____for months January, February and March,
Councillor _____for the months April, May and June,
Councillor _____for the months July, August and September,
Councillor _____for the month of October, November and December.

ISSUE / PURPOSE

To appoint Councillors as Deputy Mayor for 2023.

BACKGOUND SUMMARY

As per Section 182 of the *Municipal Act*, "The council may appoint from among its members a deputy mayor who shall:

(a) in the absence or incapacity of the mayor, have all the powers and duties of the mayor; and

(b) when the mayor is not absent or incapacitated, and subject to the mayor taking precedence, have those powers and duties the council may direct."

APPROVAL		
NAME:	Cory Bellmore, CAO	**SIGNATURE:** C Bellmore
DATE:	Nov 9, 2022	

Report to Council

☐	For Council Decision	☒	For Council Direction
☒	For Council Information		

☐ In Camera

AGENDA ITEM:	Canadian Bank of Commerce Project Update	
PREPARED BY:	Asset & Project Manager	**ATTACHMENTS:** • BOC Option 3 • BOC Option 4 • A7 windows • A6 Sections • BOC Historical Photographs • BOC Historical Drawings
DATE:	09/11/2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: •		

ISSUE / PURPOSE

To provide a project update and receive direction on the restoration of the Canadian Bank of Commerce building.

BACKGOUND SUMMARY

From CW22-06-03, “Moved by Councillor Somerville, seconded by Mayor Kendrick that Committee of the Whole direct administration to pursue the options that include a fire suppression system and one staircase as presented in NsqArchitecture report to council dated April 21, 2022. Carried 5-0”

Heritage Value

According to the Yukon Register of Historic Places, the following are the Bank of Commerce’s Character Defining Elements contributing to the heritage value:

“- Its location in Dawson's business section, relatively isolated from the predominantly wooden structures;

- Its rugged, northern setting within the Dawson Historical Complex National Historic Site of Canada, as well as its spatial relationships with other buildings within the complex;

- Its cubic two-storey massing under a very low hip roof;

- Its Renaissance Revival design with a four-bay symmetrically organized facade, side entry, classically inspired ornamentation including pilasters, dentilled cornice topped by finials, and alternating pedimented and arched window surrounds on the ground floor with bracketed mouldings above;

- Its pressed metal facing worked to resemble stone, particularly in its imitation rustication, fluted pilasters, and decorated entablature topped with anthemion;

- Its light-weight platform frame wood construction;

- Its original interior plan and remaining original interior furnishings and finishes;

- Views capes toward the building from Queen and Front streets and from the river.”

Restoration Approach

Administration has pursued a phase-by-phase design and construction approach to the restoration of the CBC as of date. The architectural firm is recommending the City of Dawson continue this restoration approach. Below are alternative restoration approach options for Council to consider and comment.

Based on previous direction, all options being pursued will not include any of the interior space design (with exception to fire code requirements). At this stage, end-use has not been decided.
Funding availability will be much larger if the planned end use is directed towards a community service.

Complete design and construction

This restoration option would involve finalizing a complete design prior to any construction.
Once the design is completed, a single General Contractor would take on the construction project.

Pros

i. Ease of administration
ii. Quickest way to complete restoration
iii. Single price for full restoration

Cons

i. Lowest likelihood of local contractor involvement
ii. Lowest Council and HAC involvement
iii. Higher need of immediate cashflow

Partial Design and construction

This restoration option will divide the restoration project into several large project phases. Construction work will proceed following each design stage, this option will include hiring a Construction Manager (CM) to oversee each construction phase.

Pros

i. The CM tenders out work and oversees construction
ii. Multiple contractors on site at a time
iii. The CM brings experience to the project

Cons

i. Higher project cost
ii. Lower likelihood of local contractor involvement

Phase by Phase design and construction

This restoration option is how Administration has been approaching the restoration process so far. Each design and construction phase will be completed one after the other.

Pros

i. Best probability of work done in 2023
ii. Highest Council, HAC, and local contractor involvement
iii. Highest chance for recurring funding availability

Cons

i. Slowest timeline to complete restoration
ii. Likelihood of higher project cost

Architectural Consultant

Since the last Council update regarding the Bank of Commerce (April 27th, 2022), the architectural firm NsqArchitecture Ltd. has terminated their involvement with this project. Their lead architect, John Keay, retired in late August 2022; the firm considered the project and decided they would not have the necessary heritage knowledge to complete the design specifications for the restoration of the Canadian Bank of Commerce. John Keay has recommended the City of Dawson enter in an agreement with Chris Gower Architect Urban Design Planner as a replacement architectural firm; John Keay has agreed to be an architectural sub-consultant with Chris Gower.

Chris Gower Architect Urban Design Planner has provided a complete exterior project proposal and has shown a keen interest in working with the City of Dawson.

Undergoing Restoration Projects

The City of Dawson has contracted the services of James Williams Construction to construct, build, and install two historic windows on the East elevation of the building.
The two windows will be composed of two different glazing options in both double pane and triple pane configurations. The windows will replicate their original function from when the building was constructed with fixed lower windows and single hung upper windows. The glazing types recommended by our building science consultant offer low reflectivity as the original single pane widows while incorporating multiple panes to allow for greater thermal efficiency. Each window will also have the decorative window corbel reattached on each side in two different colour options (sandstone and Ivory White) for Mayor and Council, along with the Heritage Advisory Committee to review and give direction on. Refer to attached document labeled *A7 windows* for details. The only exception to the drawings being the lower window will have a single vertical mullion which will split the window in two instead of four. This was suggested by Jim Williams to aid in installation and replacement should the windows ever suffer from damage or vandalism, as trying to do this with a single large pane as the windows were historically would be both fiscally and physically challenging.

The newly constructed corbels and finials have been manufactured and received; and we are exceptionally pleased with the quality.

Figure 1: Newly constructed Corbels

Figure 2: Newly constructed Finials

ANALYSIS / DISCUSSION

Historic exterior and interior considerations

One of the primary considerations regarding the restoration has been the historical significance and heritage value of the design options. The character defining elements above consider both the exterior and interior aspects of the building. Whichever option is chosen, exterior or interior historical and heritage concessions will be made. This has already been established with the repair of the parapet roof in 2018 when the buildings roof was re-sloped and its exterior appearance significantly altered as compared to the historical construction.
The following are the two options Mayor and Council directed Administration to pursue (for full design options, please refer to the attached documents; BOC option 3, BOC option 4, Section A6):

Figure 3: Bank of Commerce Option 4 - Large extension on north side of building (Vault intact – Elevator in extension)

Figure 4: Bank of Commerce Option 3 - Small extension on north side of building (Vault removed – Elevator inside)

Comparing the two options with the historical photographs (for more historical photographs, please refer to the attached documents):

Figure 5: July 16, 1901 8:00am

Figure 6: 1939

Figure 7: Approximate date of 1970's

The following are comments from Rebecca Jansen (Manager, Historic sites Yukon Government) regarding the removal of the vault. *"Ideally we would retain remaining interior heritage elements, my understanding is that may only include the vault remains. If there is any way to retain at least the door that would be preferable."* The vault door will be retrieved and implemented into the design if the vault is to be removed. The other interior heritage elements to be included are the original interior pressed ceiling tiles, and the safe located inside the vault.

The Heritage Advisory Committee have expressed preference with Option 3 – from meeting notes on May 5th 2022 *"The delegate noted that the vault takes up 12.5% of the main floor, which is valuable space. And the annual cost of having an outdoor elevator does not necessarily make sense. The removal of the vault is preferred (option 3), leaving a single staircase on the North elevation. This is exactly what the HAC wants to see."*

Finally, John Keay, who has been working with the City of Dawson on this project since 2013, has expressed the following as a conclusion in a Letter to Council dated April 21st, 2022 *"The Bank of Commerce is a significant part of the Dawson City streetscape, although there remain questions regarding use and occupancy. These can be resolved while projects such as the remediation of the basement, and windows and metal siding are undertaken.*
Each of the four proposed options resolves the requirements identified above, while varying in their impact on the building and the flexibility of interior spaces. However, in our opinion it is clear that Option 3 provides the best blend of achieving exterior restoration goals combined with space utilization, The sprinkler system enables a sympathetic reconstruction of the original stair, with full restoration of the other three sides of the exterior. Locating the service functions at one end of the building allows the restoration of much of the original banking hall with efficient and flexible space planning. The goal for the project should be as thorough a restoration as possible, with interior space that provides opportunity for redesign as requirements change over time."

When comparing with Option 4, the added risk factors of hazardous material containment and disposal along with possible structural implications denote that Option 3 will inherently be riskier than Option 4. However, leaving the vault in place adds further complication in regards to the building end use and how this feature could possibly find a practical and useful purpose for a prospective tenant. The awkward position it occupies half-way between the main floor and basement provides additional challenges for access while the northern wall that it occupies is the only elevation that contains no windows and as such lends itself readily as functional space for washrooms, plumbing & heating infrastructure as well as the proposed elevator.

Damage mitigation

The building has experienced significant water ingress in the past spring thaw, much of which has been mitigated with appropriate landscaping and grading around the building exterior. To prevent further damage in the coming years, finalizing the below-grade design is essential to plan for the proposed work in the summer 2023 season. The remaining water ingress is due to surface runoff from heaped, melting snow and underground infiltration as the ground around the building thaws. During the springtime, the basement has in the past taken on approximately 16 cubic meters of water. The basement floods upwards of 6 inches, the building maintenance team runs two sump pumps during the day to mitigate the effects of possible water damage.

Figure 8: Example of water ingress during springtime

Hazardous Material Removal

In the 2014 Hazardous Materials Risk Assessment Project #21111, the Vault was found to contain a significant amount of hazardous materials including UFFI and lead. Upon investigation by Energy North Construction, the mortar which encapsulates the vault was deemed to contain asbestos. Energy North Construction was responsible for the abatement of the hazardous material in 2015; which included the removal of the mortar for the chimney. The chimney mortar was found to contain asbestos. Both mortars are dated to the same installation period.

Abating and removing the vault will ensure there are no hazardous materials left inside the building. The remaining hazardous materials (leftover lead on exterior paint and grey asbestos paper behind the exterior cladding) will either be abated in phase 2 of the project or concealed in the renovations.

Figure 9: Picture of sealed vault

Figure 10: Current Vault Contents

Cost Analysis

The following cost estimate (from Colliers Project Leaders) compares the cost of the two northern elevation extension: Option 3 and Option 4. The cost comparison is utilizing the construction cost per square foot of the extension, an estimate for the installation of the elevator, and an estimate for the Vault removal.

Est. Construction costs

Construction Cost		$/sqft	450	500	550	600
Stair/Elevator Addition						
Structure Size	266	sqft	$119,700	$133,000	$146,300	$159,600
Vault Wall	$4,800		$4,800	$4,800	$4,800	$4,800
Elevator	$165,000		$165,000	$165,000	$165,000	$165,000
Deck	$8,000		$8,000	$8,000	$8,000	$8,000
Total			**$ 297,500**	**$ 310,800**	**$ 324,100**	**$ 337,400**
Vault Demo + Exterior Staircase						
Structure size	128	sqft	$57,600	$64,000	$70,400	$76,800
Elevator Shaft	48	sqft	$15,120	$16,800	$18,480	$20,160
Vault demo	$100,000		$100,000	$100,000	$100,000	$100,000
Elevator	$165,000		$165,000	$165,000	$165,000	$165,000
Floor replacement	$ 6,720		$6,720	$6,720	$6,720	$6,720
Total			**$ 344,440**	**$ 352,520**	**$ 360,600**	**$ 368,680**

Upcoming Project Phases

Administration will follow the restoration phases listed below.

Phase 1

i. Prepare drawings and specifications related to the building foundation and drainage work, to stabilize and upgrade foundations.
ii. Install sump, pump, perimeter drainage, storm drain connection.
iii. Construct and install window mock up.
iv. Underground electrical service to building, panel and power installed for pump.
v. Install new fire service connection.
vi. In conjunction with the City's nominated structural consultant, finalize drawings and specifications related to the building foundation and drainage.
vii. Review the existing PWF. Add new PWF sheathing, seal and waterproofing as needed.
viii. Adding 4" of rigid insulation to the exterior of the basement;
ix. Possibly adding an insulation skirt around the perimeter;
x. Insulate and waterproof membrane to foundation walls.
xi. Plan for excavated foundation materials staging.
xii. Excavate for replaced north stair for basement level, and for foundations.

Phase 2

i. Prepare staging and access areas for exterior cladding delivery, storage, and installation.
ii. Prepare staging and access areas for roof repair, including scuppers and RWLs.
iii. Review and coordination of drawings and specs for construction of exterior stair, including cladding.
iv. Prepare staging and access areas for the repair and restoration of the exterior cladding, (including the re-attachment of the rooftop finials and window corbels).
v. Reconstruction documents for the historic exterior stair project, with related exiting details.
vi. Review and coordination drawings and specs for framing for elevator.
vii. Address penetrations in the hip roof in order to limit further water ingress. In conjunction with the City's nominated building science specialist (RDH), completing design and specifications relating to installation of insulation within the main stud cavity as well as other building envelope tie-ins surrounding rough openings and other penetrations.
viii. Completing design and specification requirements related to the re-construction of the historic exterior staircase on the North elevation that extends from the basement to the second floor. This is to also include tie-in details with the main building envelope.
ix. Assign development of a Hazmat plan for lead abatement related to the existing exterior paint.
x. Plan site: rough grading, preliminary landscaping, parking, and paths within the site area, including the grading for future boardwalks to service all entrances.

Phase 3

i. Wall, roof, attic interior insulation and venting.
ii. Window installation.
iii. Elevator supply and installation.
iv. Related Hazmat work.
v. Electrical systems.
vi. General Mechanical installation, with winter heating, ventilation and humidity standards.
vii. General sprinkler systems.
viii. Coordination for finished grading, landscaping, pathways, parking, boardwalks.

Phase 4

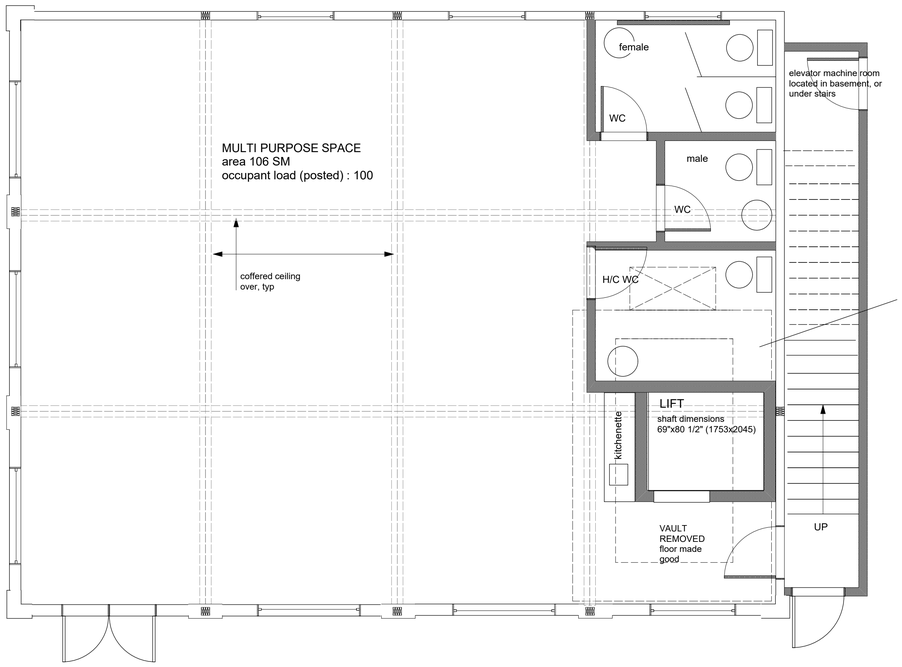
i. Program for interior space utilization.
ii. Sprinkler system completion and details for interior finishes.
iii. Design and specification for interior finishes.
iv. Design and specification for restoration of coffered ceiling.
v. Design and specification for completion of mechanical and plumbing systems.
vi. Design and specification for controls for mechanical and electrical and security system.

Conclusion

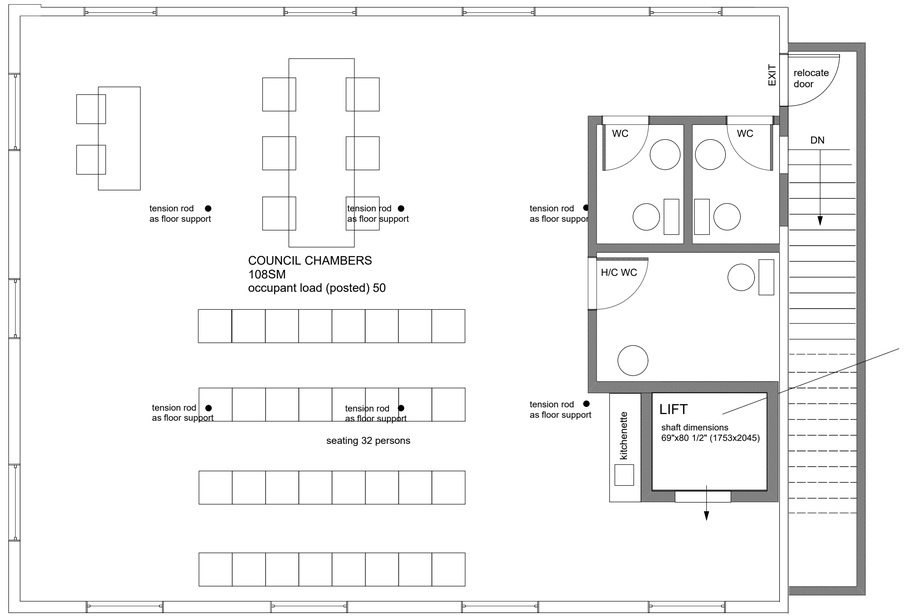
Administration recommends following the phase-by-phase design and construction approach. It provides the best chance for local contractors to successfully bid on the work, it allows Council and the HAC to review designs as they get implemented and reduces the need for immediate cashflow.

In order to finalize the below grade design, the architectural and engineering team will need direction on whether the vault will remain or be removed. Council will be presented with a bid proposal for the removal of the vault on November 30th, 2022.

APPROVAL		
NAME:	Cory Bellmore, CAO	**SIGNATURE:** 
DATE:	November 13, 2022	



MAIN FLOOR



UPPER FLOOR

NsqArchitecture

1060 Meares Street
Victoria, BC, V8V 3J6
p. 250.382.3823 e. nsqa@nsqa.ca

THE CANADIAN BANK OF COMMERCE
Exterior Stabilization and Restoration
Dawson City, Yukon

Seal

ISSUE DATA

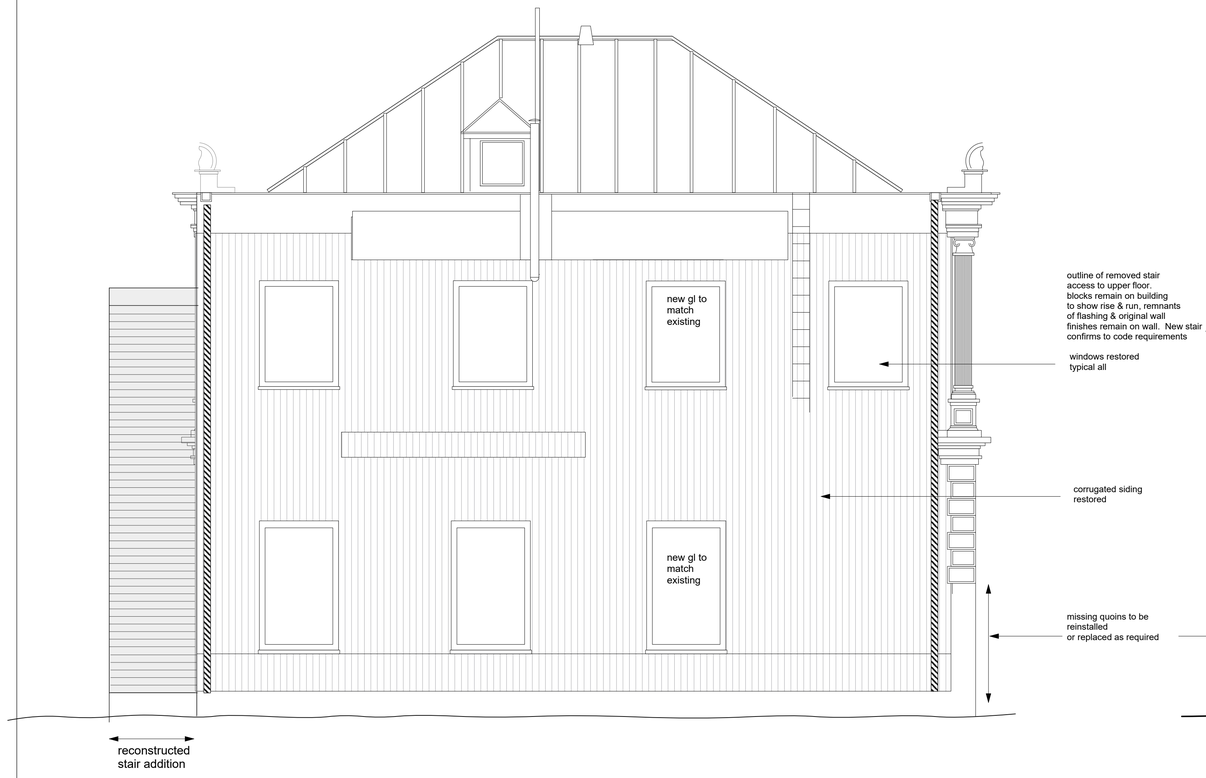
No.	DESCRIPTION	DATE	BY
1	Issued for Review	21-09-21	JK
2	Revisions	22-03-22	JK
3	Revised Options	22-04-27	JK

Option 3:
Floor Plans
Internal Elevator
Sprinklered

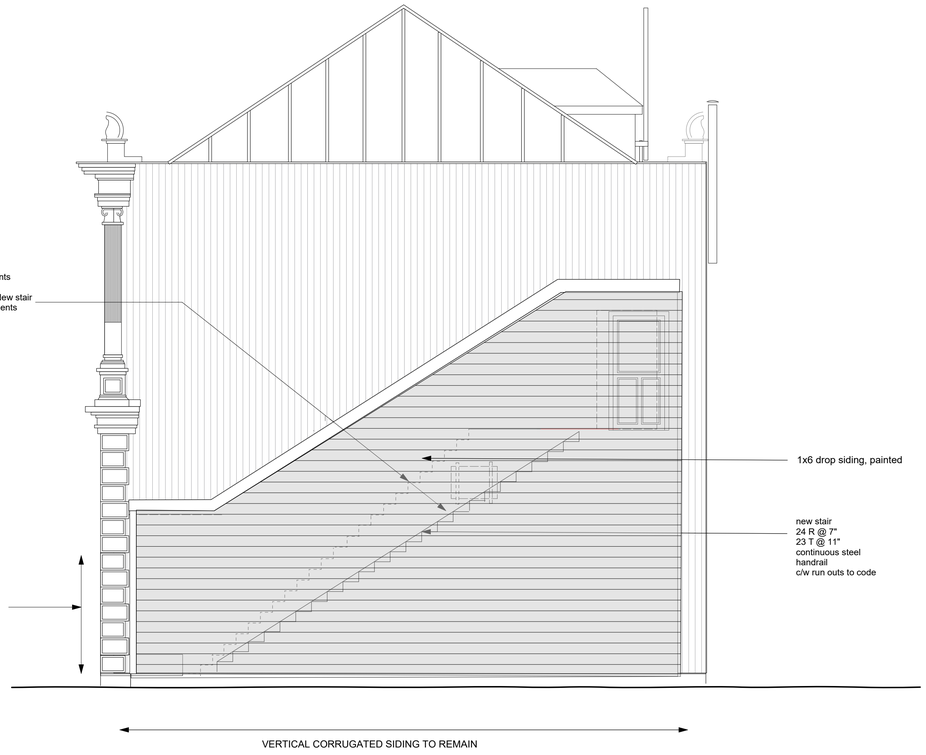
A-3.0

PLOT DATE	DRAWN
April 27, 2022	JK
SCALE	JOB No.
AS NOTED	2030

EAST ELEVATION (FRONT)



WEST ELEVATION (REAR)



NORTH ELEVATION (SIDE)

NsqArchitecture

1060 Meares Street
Victoria, BC, V8V 3J6
p. 250.382.3823 e. nsqa@nsqa.ca

THE CANADIAN BANK OF COMMERCE

Exterior Stabilization and Restoration

Dawson City, Yukon

Seal

ISSUE DATA

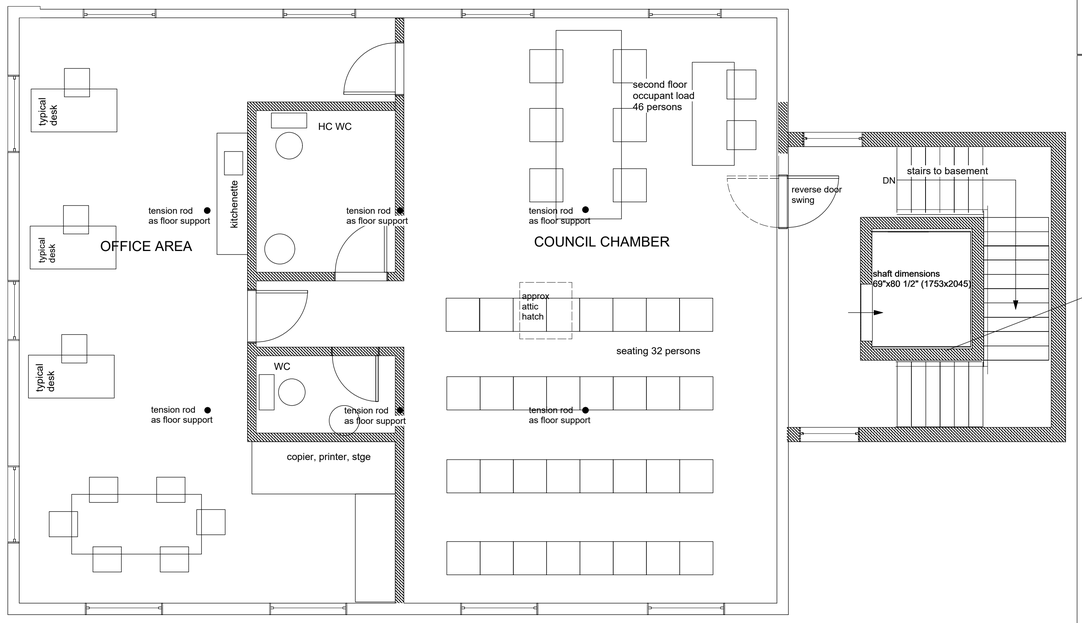
No.	DESCRIPTION	DATE	BY
1	Issued for Review	21-09-21	JK
2	Revisions	22-03-22	JK
3	Revised Options	22-04-27	JK

Option 3:
Elevations
Internal Elevator
Sprinklered

A-3.1

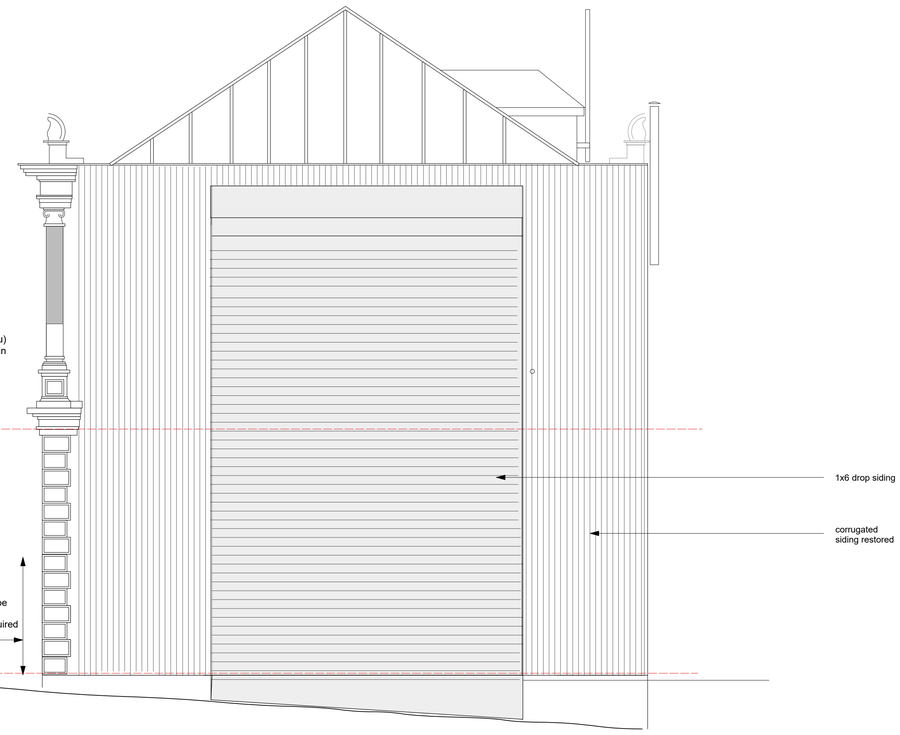
PLOT DATE	DRAWN
April 27, 2022	JK
SCALE	JOB No.
AS NOTED	2030

MAIN FLOOR



UPPER FLOOR

WEST ELEVATION (REAR)



NORTH ELEVATION (SIDE)

NsqArchitecture Ltd.
2nd Floor - 1124 Fort Street, Victoria, BC, V8V 3K8
p 250.382.3823 e nsqa@nsqa.ca

THE CANADIAN BANK OF COMMERCE
Exterior Stabilization and Restoration
Dawson City, Yukon

Seal

ISSUE DATA

No.	DESCRIPTION	DATE	BY
1	Issued for review	21-09-21	JK
2	revisions	22/3/22	JK

OPTION 4
ADDITION TO NORTH
SPRINKLERS

A-04

PLOT DATE	DRAWN
APRIL 13, 2022	JK
SCALE	JOB No.
1:50	2030

EAST ELEVATION (FRONT)
Scale: 1:50

NsqArchitecture Ltd.
2nd Floor - 1124 Fort Street, Victoria, BC, V8V 3K8
p 250.382.3823 e nsqa@nsqa.ca

THE CANADIAN BANK OF COMMERCE
Exterior Stabilization and Restoration
Dawson City, Yukon

Seal

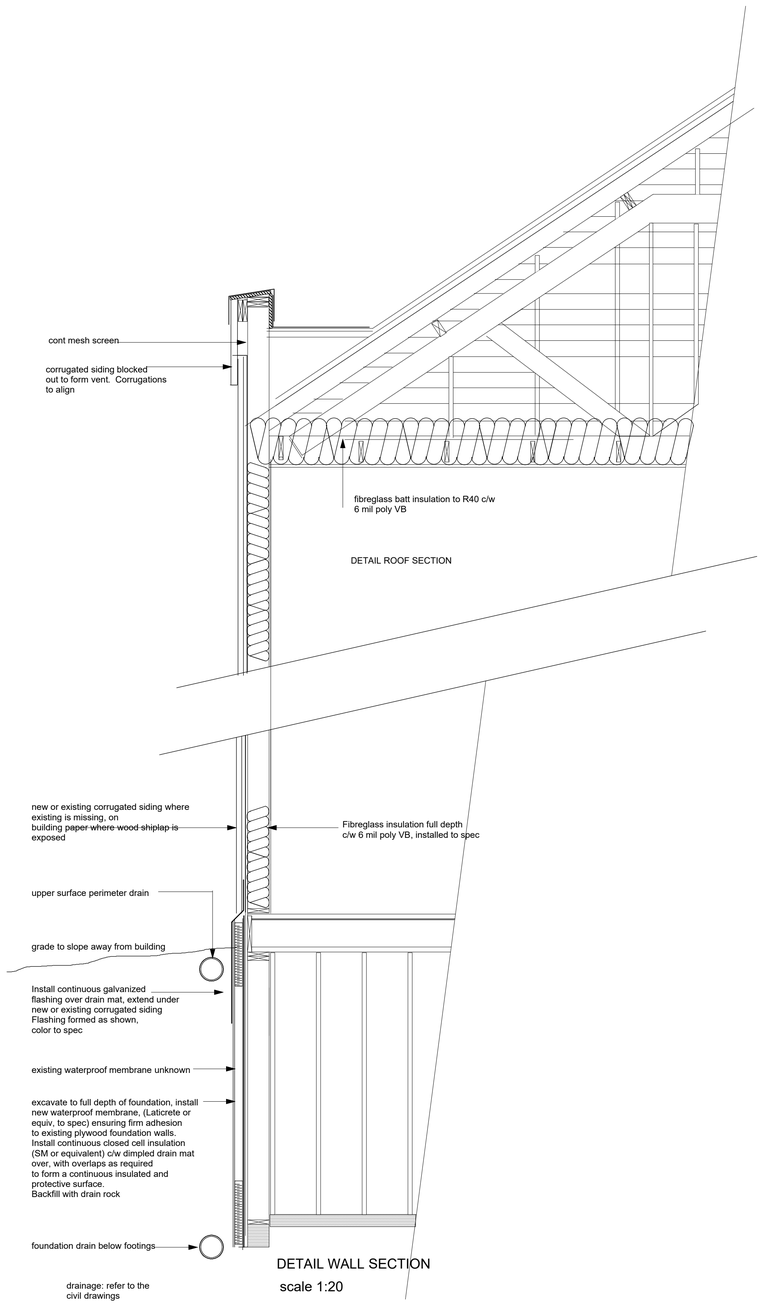
ISSUE DATA

No.	DESCRIPTION	DATE	BY
1	Issued for review	21-09-21	JK
2	revisions	22/3/22	JK

OPTION 4
ELEVATOR TO EAST,
SPRINKLERS

A-05

PLOT DATE	DRAWN
APRIL 13, 2022	JK
SCALE	JOB No.
1:50	2030

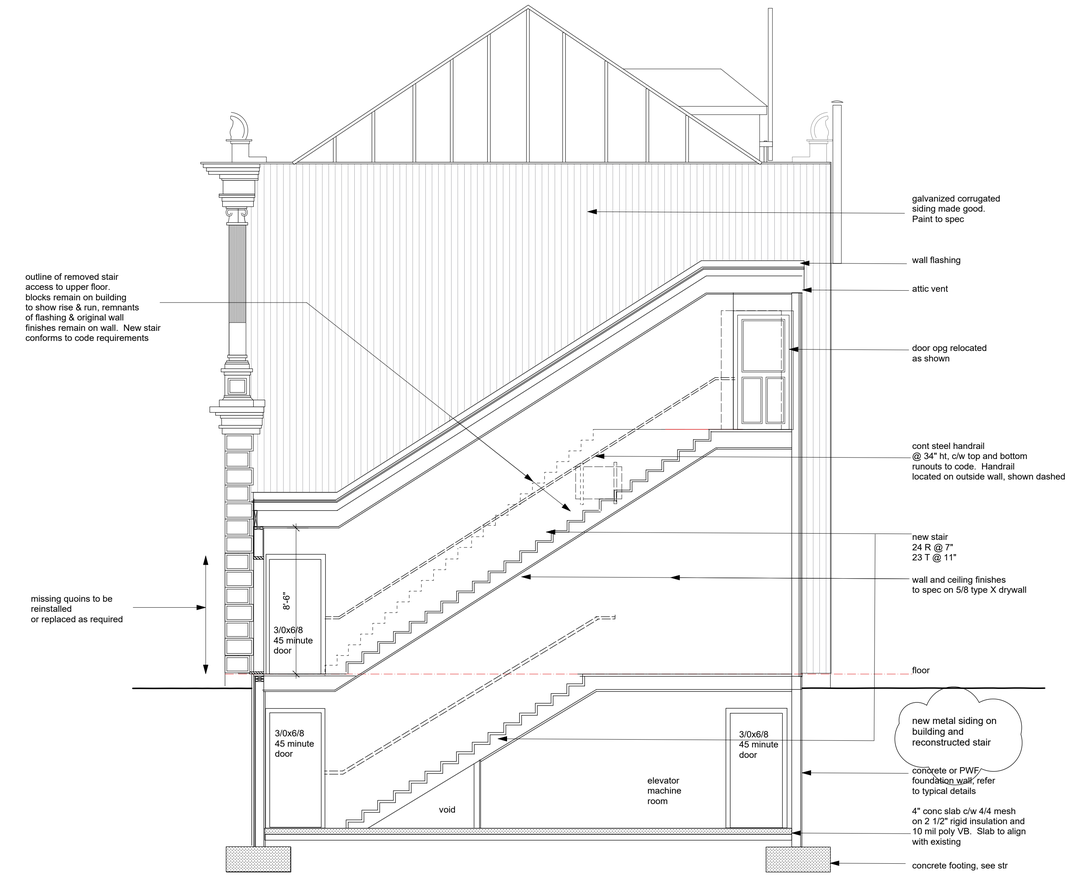


DETAIL ROOF SECTION

DETAIL WALL SECTION

scale 1:20

drainage: refer to the civil drawings



SECTION THROUGH STAIRS

NsqArchitecture

1060 Meares Street
Victoria, BC, V8V 3J6
p. 250.382.3823 e. nsqa@nsqa.ca

THE CANADIAN BANK OF COMMERCE
Exterior Stabilization and Restoration
Dawson City, Yukon

Seal

ISSUE DATA

No.	DESCRIPTION	DATE	BY
1	Issued for Review	21-09-21	JK
2	Revisions	22-03-22	JK
3	Revised Options	22-04-27	JK
4	Sections and details	26-05-27	JK

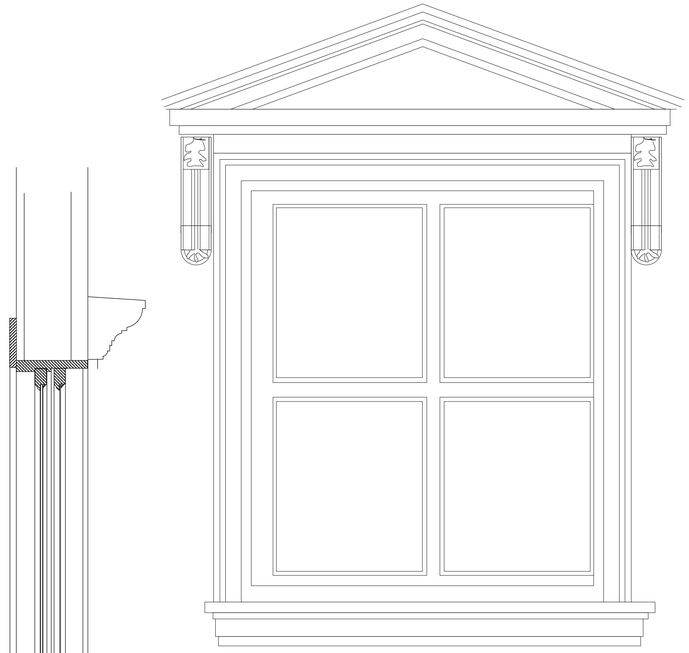
SECTIONS

A-06

PLOT DATE	DRAWN
MAY 26, 2022	JK
SCALE	JOB No.
	2030

1. east wall, upper floor, details of metal window trim.

2. east wall, lower floor



TYPICAL LOWER WINDOW, EAST AND SOUTH ELEVATIONS

new KD fir sash, fixed, profiles
to match existing. Install 1/2" double or
triple thermo glazed lites, with glazing
compound. Prime and backprime all wood
with enamel primer to spec

frame from KD fir, let in guides as shown

single glazed 4 lite exterior storm window, sash
to match existing. Windows to remain in place
Drill for ventilation at bottom, with wood cover

sill from KD fir, shaped to fit under
pressed metal finish to support glazing.
Construct wood sill from built up materials as
required, join with epoxy glue. Re and re metal
sill as required, paint finish

wood trim to detail

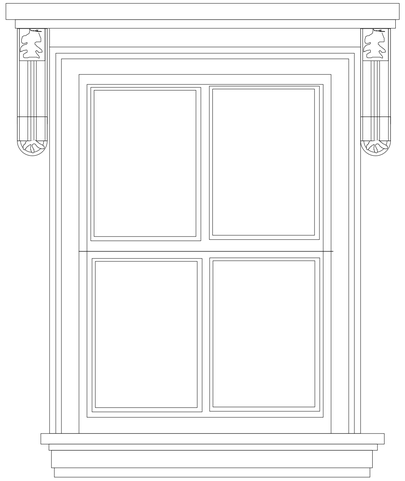
typical wall, with strapping added to interior face.

metal siding: existing to remain in place. New siding
or decorative elements to be installed on
vapour permeable moisture barier to spec on
existing sheathing on framing

NOTE:
1. apply insulating foam to seal all gaps
in framing and finish materials
2. refer to the RDH drawings which
accompany these drawings
3. refer to the specifications for
materials and finishes, including
weatherstrip and painting systems
4. repairs and installation of
decorative metalwork and trim
NIC

TYPICAL MAIN FLOOR
WINDOW DETAILS

3/4" =1'0"



TYPICAL UPPER WINDOW,
EAST AND SOUTH ELEVATIONS

new KD fir upper sash, fixed, profiles to match existing.
Install 1/4" thermo glazed lites, with glazing
compound. Prime and backprime all wood
with enamel primer to spec

frame from KD fir, let in guides as shown

new KD fir lower sash, profiles to match existing.
Provide drilled stops for opening lites. Install 1/4"
thermo glazed windows, with glazing compound.
Prime and backprime frames and sash

single glazed 4 lite interior storm window, re and re
existing frames. Match existing sash as required.
Hinge at top for opg, with strut as hold open.
Drill for ventilation at bottom,

sill from KD fir, shaped to fit under
pressed metal finish to support glazing.
Construct wood sill from built up materials as
required, join with epoxy glue. Re and re metal
sill as required, paint finish

wood trim to detail

typical wall, with strapping added to interior face.

metal siding: existing to remain in place. New siding
or decorative elements to be installed on
vapour permeable moisture barier to spec on
existing sheathing on framing

NOTE:
1. apply insulating foam to seal all gaps
in framing and finish materials
2. refer to the RDH drawings which
accompany these drawings
3. refer to the specifications for
materials and finishes, including
weatherstrip and painting systems
4. repairs and installation of
decorative metalwork and trim
NIC

TYPICAL UPPER FLOOR
WINDOW DETAILS

3/4" =1'0"

NsqArchitecture
1060 Meares Street
Victoria, BC, V8V 3J6
p. 250.382.3823 e. nsqa@nsqa.ca

THE CANADIAN BANK OF COMMERCE
Exterior Stabilization and Restoration
Dawson City, Yukon

Seal

ISSUE DATA

No.	DESCRIPTION	DATE	BY
1	Issued for Review	21-09-21	JK
2	Revisions	22-03-22	JK
3	Revised Options	22-04-27	JK
4	Sections and details	22-05-27	JK
5	Window details for review	22-06-08	JK

WINDOW DETAILS

A-07

PLOT DATE	DRAWN
JUNE 8, 2022	JK
SCALE	JOB No.
	2030


CANADIAN BANK OF COMMERCE
LAW OFFICES
CLARK WILSON
ONEER
HERN


THE CANADIAN BANK OF COMMERCE

996.39.62


CANADIAN BANK COMMERCE


THE CANADIAN BANK OF COMMERCE


THE CANADIAN BANK OF COMMERCE

THE DAWSON STAFF IN WINTER GARB 1903–4

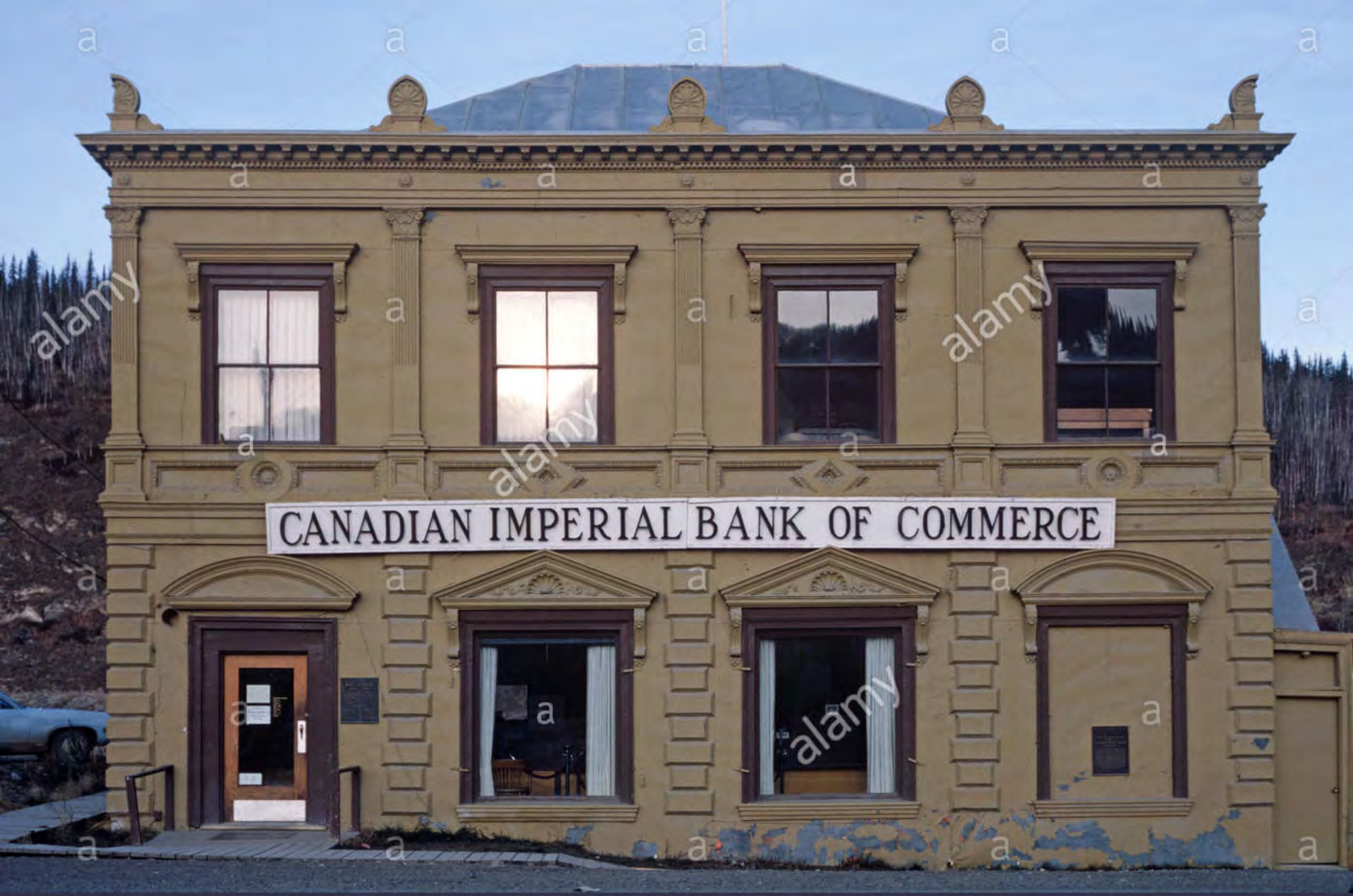
PLATE NO. 29.

TRUSTS COMPANY


THE CANADIAN BANK OF COMMERCE


CANADIAN BANK COMME


Canadian Bank of Commerce, Dawson.



Archives, University of Alaska, Fairbanks

Report to Council

[ ] For Council Decision [ ] For Council Direction [X] For Council Information

[ ] In Camera

AGENDA ITEM:	Art and Margaret Fry Recreation Centre Structural Monitoring & Energy Conservation Measures Update	
PREPARED BY:	Asset & Project Manager	**ATTACHMENTS:** • AMFRC Structural Assessment 2022 by WSP • AMFRC Roof Upgrade (IFC) • AMFRC Fuel Consumption Analysis
DATE:	11/09/2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: •		

PURPOSE

To provide Council with an update on the Art and Margaret Fry Recreation Centre's structural monitoring and energy conservation measures.

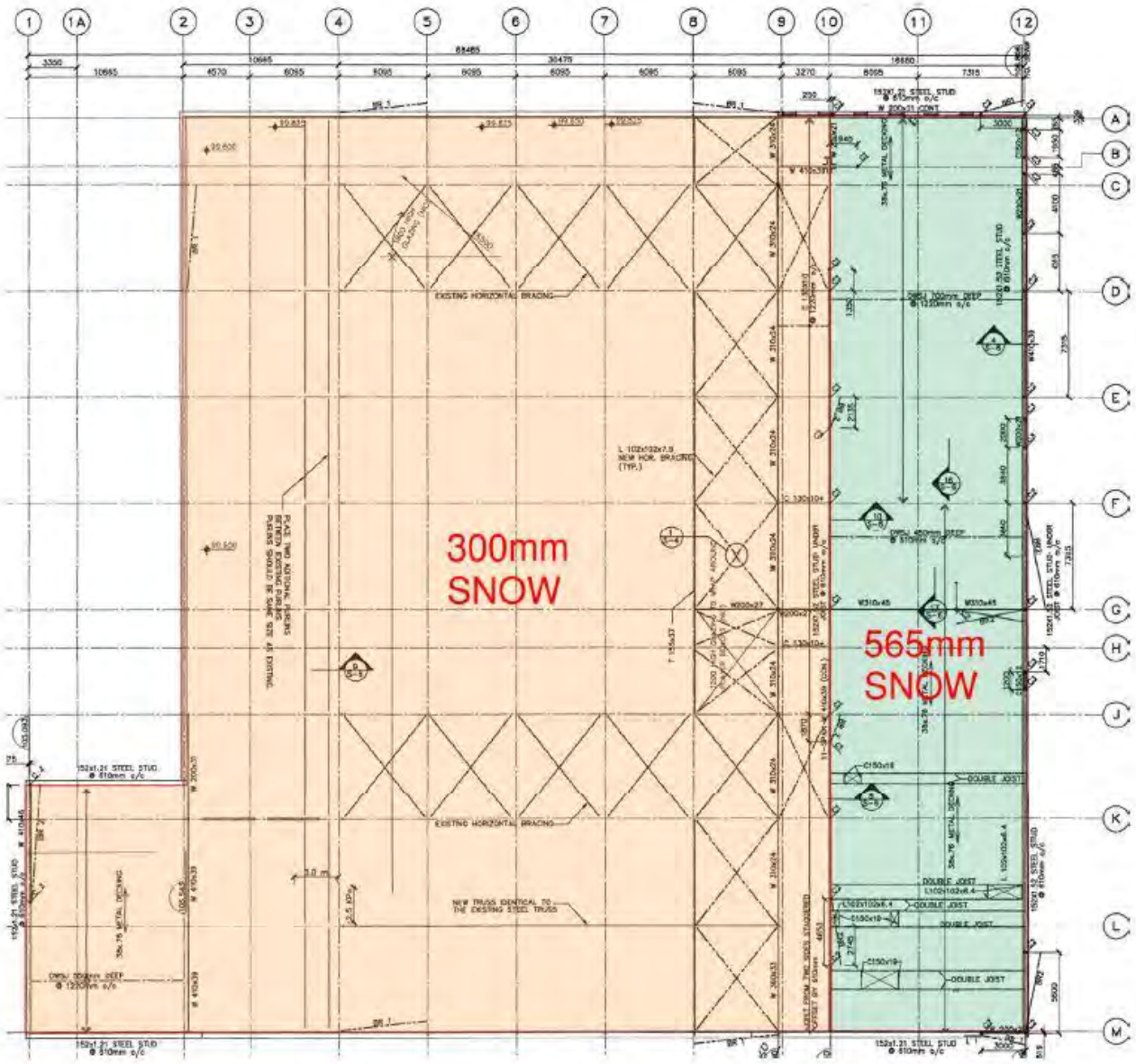
BACKGOUND SUMMARY

Ongoing Structural Monitoring

The City of Dawson is continuing the bi-annual geodetic and differential surveying of the structural columns at the AMFRC. The geodetic and differential reports are given to WSP (engineering firm) to upgrade their engineering models on the structural stability of the building. Specifically with regards to wind, snow, and seismic loads.

The primary concern is the snow load capacity of the roof at AMFRC. Due to the building's settlement, the roof load bearing capacity has been significantly reduced. WSP has updated their models and have given the City of Dawson new requirements with regards to maximum snow height on the roof. The following figure shows the maximum snow loads on the AMFRC. For more details, please refer to the attached structural assessment document.

Figure 1: AMFRC max snow height



WSP have recently completed a AMFRC roof upgrade plan (Issue for Costing) to bring the AMFRC roof back to snow load building requirements. The report is attached.

Future Structural Monitoring

The City of Dawson has enlisted the help of a contractor (Tensio Structures Inc.) to install and program sensors on selected structural members to actively monitor structural stress of these members. These sensors will be installed in late November. Using a Web-based App, the contractor and the City of Dawson will be able to monitor the building's structural stress level. The sensors are programmed to include a 7-day weather forecast to predict and estimate the future stress levels; this will allow the City of Dawson staff and hired snow-clearing contractors to remove the snow before the building hits critical stress.

WSP have advised the City of Dawson that with these new sensors, the maximum snow height requirements above are no longer required. As long as the sensors are functional, the maximum snow loads will be based on the snow weight instead of the snow height. This will likely reduce the cost of snow-removal contracted services.

AMFRC Fuel Consumption

The City of Dawson staff have been actively monitoring and implementing energy conservation measures to reduce the buildings greenhouse gas emissions and building heating costs. Table 1 shows the fuel consumption details since 2017 at the AMFRC.

Table 1: Fuel Consumption at the AMFRC 2017-2022

Month	2017 (L)	2018 (L)	2019 (L)	2020 (L)	2021 (L)	2022 (L)
January	25,927	27,421	30,506	21,337	12,927	11,671
February	18,214	28,853	21,005	15,403	12,716	6,631
March	22,775	19,168	14,224	12,299	9,326	6,700
April	15,163	14,168	6,021	6,555	5,593	4,242
May	5,062	5,263	605	4,677	2,803	3,102
September	7,191	7,516	490	4,296	1,051	2,000
October	14,061	8,717	7,583	12,768	7,552	6,200
November	24,693	18,369	15,686	18,790	11,437	10,000
December	27,097	22,949	17,771	13,640	12,102	12,000
Total (Liters)	**160,183**	**152,424**	**113,890**	**109,765**	**75,506**	**62,545**
Average	**17,798**	**16,936**	**12,654**	**12,196**	**8,390**	**6,949**
% Difference from year before		**5**	**29**	**4**	**37**	**19**

The highlighted cells are estimated based on efficiencies calculated from the 2021 season. Comparing the 2020 year with the estimated 2022 year; the City of Dawson will reduce the green house gas emissions by 55%.

For detailed analysis, refer to the attached documents.

ANALYSIS / DISCUSSION

Structural Upgrades

The structural upgrades provided by WSP to bring the AMFRC roof back to snow code are extensive. Administration doesn't have an estimated cost to complete the repairs. Administration can inquire further if Council gives direction to do so.

The estimated materials costs alone are approximately $200,000. The work would likely take an entire summer and could potentially take longer.

There is the option of completing some of the upgrades to strengthen the overly stressed members. Specifically, the structural braces listed below:

Figure 2: Load with Settlement

TABLE B: LOAD WITH SETTLEMENT

NOVEMBER 2021 SETTLEMENTS	GOVERNING MEMBER	UTILISATION	LIMITS OF EXISTING STRUCTURE
712mm Snow + Settlements	Column 572754 Brace 584164	1.72 18.55	

Figure 3: Load with Settlement

300mm Snow + Settlements	Column 518 Brace 584164	1.37 18.55	Max. snow depth for the entire building: 0.30m
Dead + Settlements Only	Column 518 Brace 584164	1.18 18.55	No snow

In the meantime, City of Dawson staff will actively be monitoring the stressed structural members and report any concerns to WSP directly for them to review.

Energy Conservation Measures

City of Dawson staff will continue energy consumption monitoring as well as measures to reduce greenhouse gas emission throughout the buildings.

New implementations this year are as follows:
- Diverting the Zamboni water fill from the boilers.
- Reducing the use of one of the air handling units with the addition of the electric Zamboni.
- The addition of LED lights over the curling and skating rink.
- The implementation of winter fuel diffusers on the burners.

APPROVAL		
NAME:	Cory Bellmore, CAO	**SIGNATURE:** C Bellmore
DATE:	November 9, 2022	

April 21, 2022

City of Dawson

Attention: Mr Brodie Klemm, projectmanager@cityofdawson.ca

Dear Brodie

Re: Art & Margaret Fry Recreation Centre-Structural Assessment and Review

1. SUMMARY OF STRUCTURAL ANALYSIS

1.1 Introduction

WSP performed a gravity and lateral analysis using a finite element model (FEM) model to determine the lateral and axial forces in the braces, columns, joists and structural steel trusses for the existing structure. The analysis was carried out using the National Building Code 2015 (NBCC 2015) calculated values for snow, snow drift, live, seismic and wind loads.

The analysis was performed first, without settlements to find out the impact of the aforementioned code loads. Also, to investigate whether it would be more economical to bring the substructure to the original level, rather than upgrading the superstructure, as it would not be impacted by the settlements. The latest geotechnical survey provided settlement results in November 2021.

The structure was modelled using a CSI commercial software SAP2000 model. Structural members have been assessed for NBCC 2015 load combinations and the results are presented in this report, noting which structural members have been overstressed.

1.2 Applied loads

Snow Load:

The ground snow load (S_s) of 2.5 kPa specified in the City of Dawson Recreation Centre drawings dated October 2000, is 0.4 kPa lower than the value currently specified in the NBCC 2015. As per the current code, a ground snow load of 2.9 kPa was used to calculate the factored roof snow load. The difference between the October 2000 and NBCC 2015 specified snow loading can be seen in Table 1 below.

Table 1: Snow design loads

	October 2000 drawings	2015 NBCC
S_s 1/50 ground snow load (kPa)	2.5	2.9

Suite 1000
840 Howe Street
Vancouver, BC, Canada V6Z 2M1

T: +1 604 685-9381
F: +1 604 683-8655
wsp.com

S_r 1/50 associated rain load (kPa)	0.1	0.1
Unfactored Roof Snow Load (kPa)	2.10	2.42
Maximum Snow Depth (mm)	618	712

The code snow depths were calculated based on the NBC 2015 snow density of 3.4 kN/m3, which are also included in the table above.

As there is an elevation difference between the roofs of the Ice Arena and Curling Rink, snow drift was taken into consideration according to NBCC 2015. The unfactored drift load value is 5.27 kPa (snow depth of 1550 mm) at the roof edges, and linearly decrease to 2.42 kPa over 4.1 metres.

Wind Load:

The original wind load applied to the building still conforms to the current design code, the 2015 National Building Code of Canada (NBCC). As per the current code, a code specified wind load of 0.31kPa was applied for a 1-50 design year period.

Seismic Loads:

An assessment was made to determine the order of magnitude increase in the seismic forces, assuming "nominal ductility" steel frames as the original (NBC 1995) condition and "limited ductility" steel frames for the current (NBC 2015) condition. With no other change in variables the seismic forces to be resisted per the 2015 code have increased by approximately 65% over the 1995 code. The existing facility therefore is deemed deficient for the current design codes under seismic loading even if all the existing foundations remain level

Settlements:

The latest Geological survey from Chilkoot Geotechnical Engineers, dated 22nd of December 2021, has confirmed that the building foundations are still settling, likely due to seasonal fluctuation of permafrost level under the foundations. Refer to the geotechnical report by Tetratech for more information. The increase in settlement at the building foundations will continue to cause an increase in stresses and strains in the various structural framing elements.

Live loads:

All live loads as specified in the City of Dawson Recreation Centre drawings dated October 2000 were applied to the analysis model except for the live load on the mezzanine floor. The load was omitted from the final analysis model since this live load on the floor will cause the supporting members (braces and columns) to be overstressed. The omission of the mezzanine load is justified by the fact the floor is not currently occupied. It is worth noting that the bearing capacity of the foundations is deemed sound to withstand the omitted load. We as WSP therefore recommended that the mezzanine floor remains unoccupied.

2. FINDINGS FROM STRUCTURAL ANALYSIS

2.1 Snow Loads:

After the completion of our structural analysis for the building we have reviewed and compared the results to the allowable steel capacities for the various elements due to snow loads.

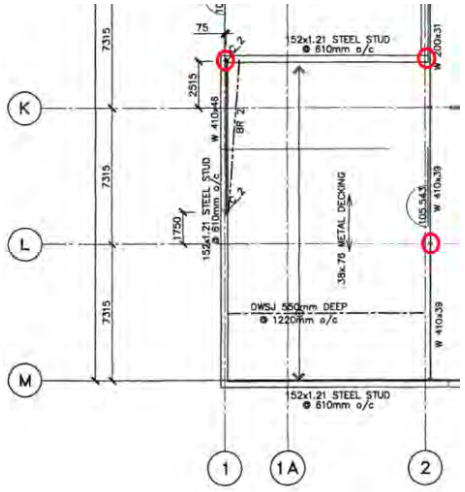
Curling Rink Lounge:

The result from our analysis shows that the roof steel joists in the Curling Rink Lounge are over-stressed due to the code specified snow loads (as noted in the Structural memorandum 31 by WSP, dated January 12, 2021).

WSP recommends upgrading the roof by installing additional members between the existing purlins. The existing roof can only withstand 340mm of snow while the current code requires 712mm snow without considering snow drift effect.

The main wide-flange beams are overstressed as well, and should be upgraded to the current code. A typical upgrade would be achieved by adding a steel plate or HSS horizontal tube to the bottom flange of each overstressed beam.

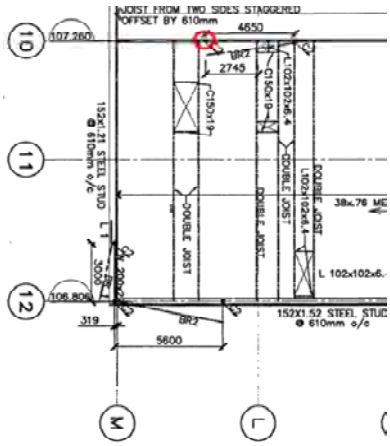
Additionally, our findings show that all but three columns are structurally sound for the code specified snow load in the Curling Rink Lounge. These under capacity columns can be upgraded by adding additional columns adjacent to the existing ones or by welding steel plates to them. The Curling Rink Lounge structure can currently withstand snow load equivalent to the snow depth of 300mm.



Admissions Building:

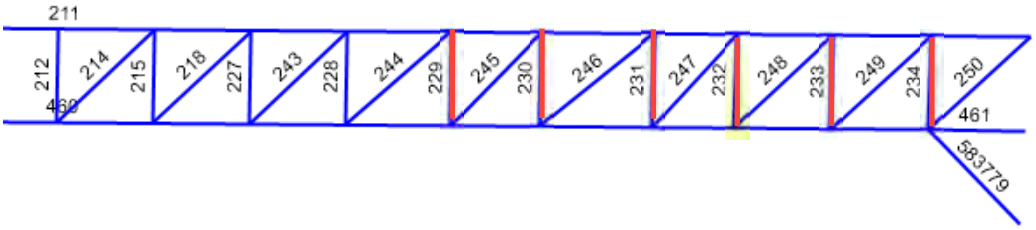
Our findings show that all the columns in the Admissions Building are structurally sound for the code specified snow load except for one column. This column can be upgraded by adding an additional column adjacent to the existing one or by welding steel plates to it. The Admissions Building structure can currently withstand snow load equivalent to the snow depth of 565mm.

No beams in the Admissions Building were found to be overstressed.



Ice Rink Trusses:

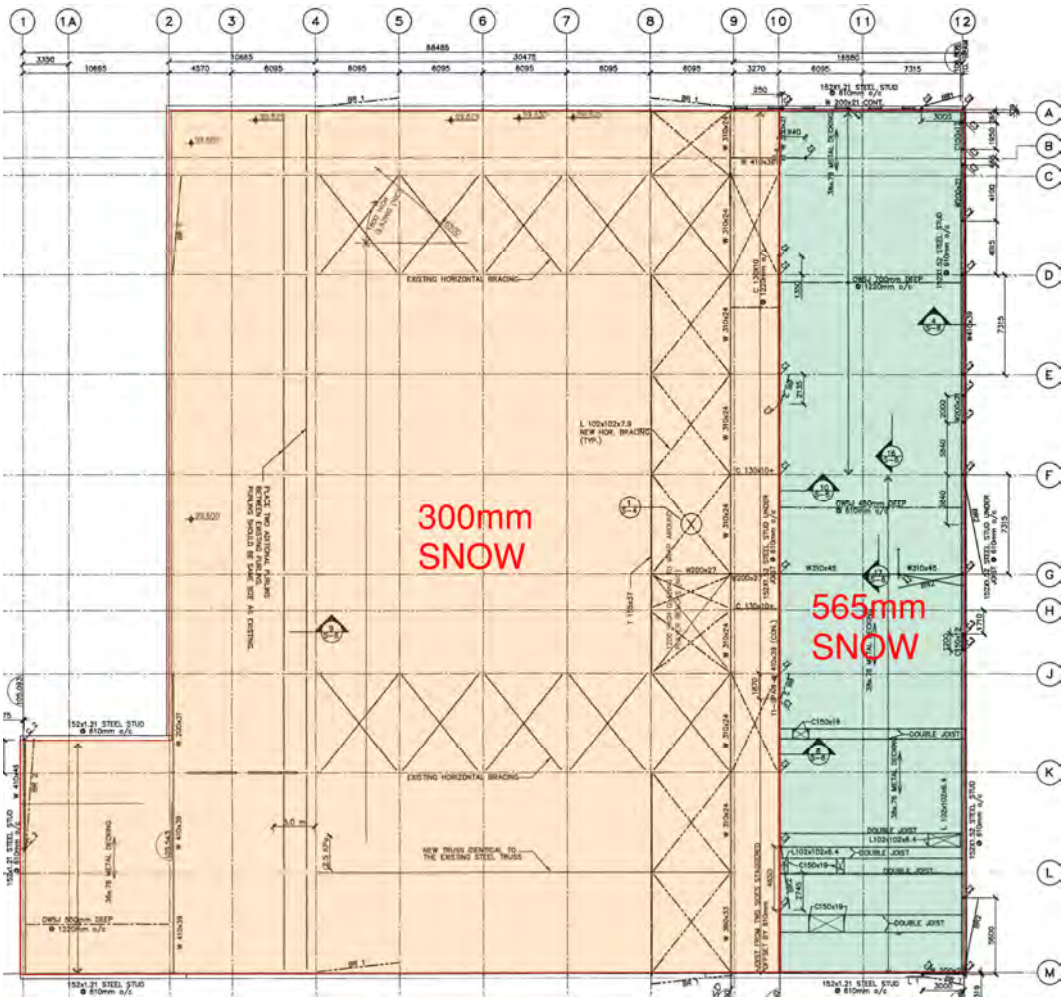
From our analysis on the structural steel trusses over the ice rink, we have found several members that are overstressed (see table 4, appendix A) from the code specified 712 mm deep snow loads component (Case #2). The trusses however were checked to see at what percentage of snow load reduction they will be structurally sound. Our analysis shows that a 42% reduction of the code specified snow load on the trusses will be required to reach the truss capacity, which translates to a maximum <u>snow depth of 300mm.</u>



*Only half of the truss is shown since it is symmetrical

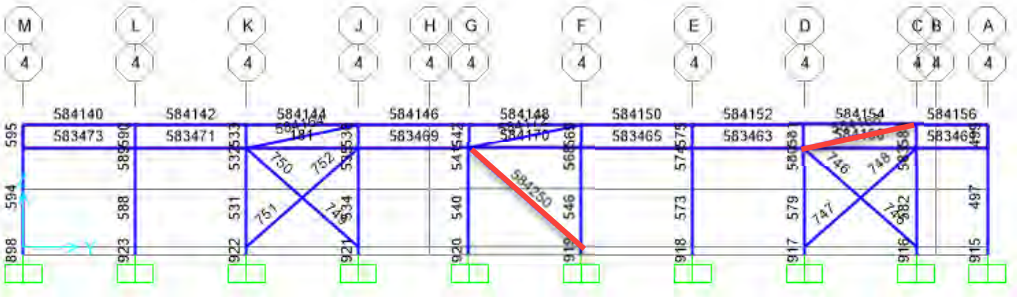
No beams in the Ice Rink Building were found to be overstressed.

See below for the roof plan showing a snow depth that the structure can currently tolerate:

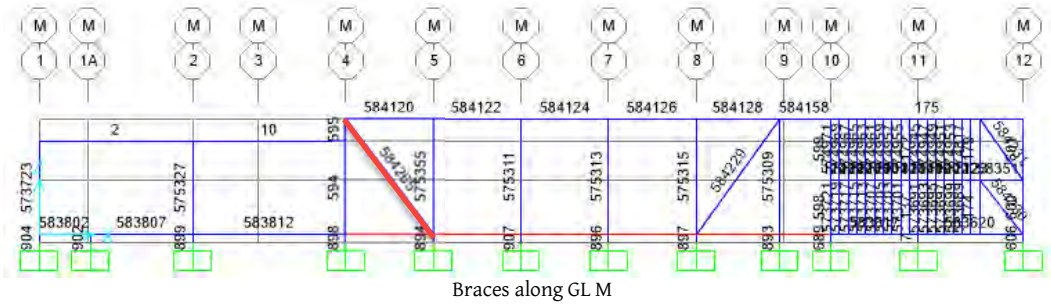


2.2 Wind Loads:

We have reviewed the results of our analysis and compared them to the steel capacities for the various elements due to wind loads. Our findings show that only three braces are significantly overstressed for the code specified wind load component of the governing load combination.



Braces along GL 4



Braces along GL M

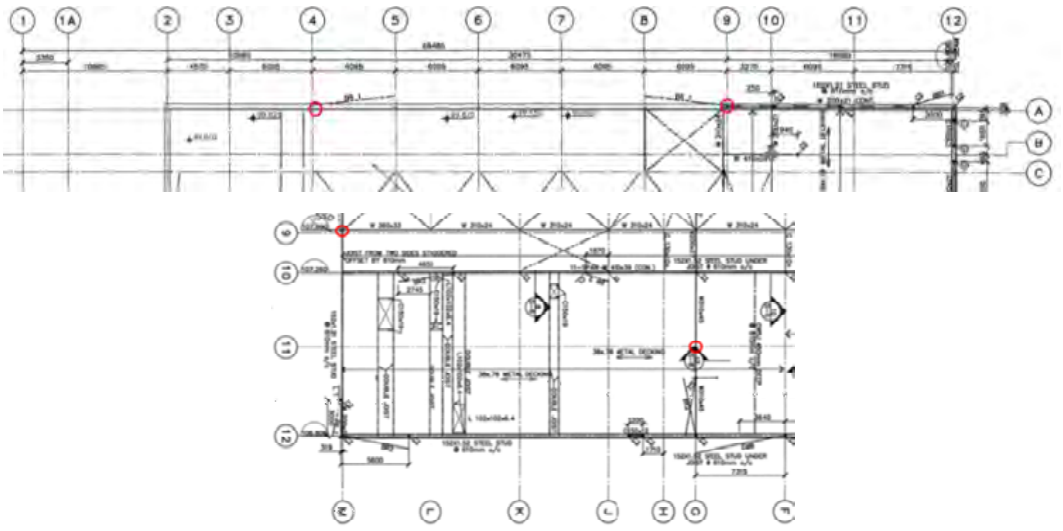
All beams along braced bay grid lines which transfer the wind drag forces were found to be structurally sound.

2.3 Seismic:

Since the seismic forces calculated by the 2015 code have increased by approximately 65% over the 1995 code, the columns and braces were analyzed to determine if they are structurally sufficient for the current design code.

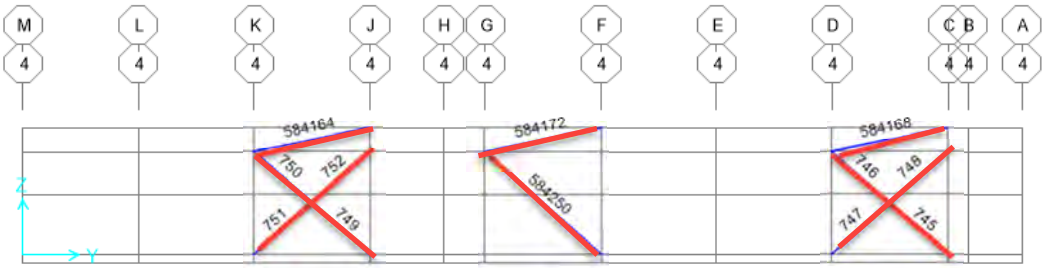
Columns:

Our finding shows that all the columns are structurally sound for the code specified seismic load except for four columns. All four of the overstressed columns are at the braced bays.

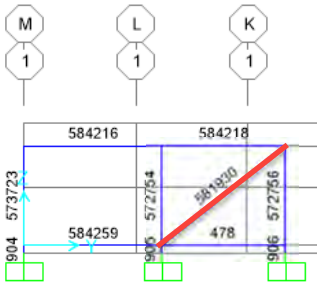


Braces:

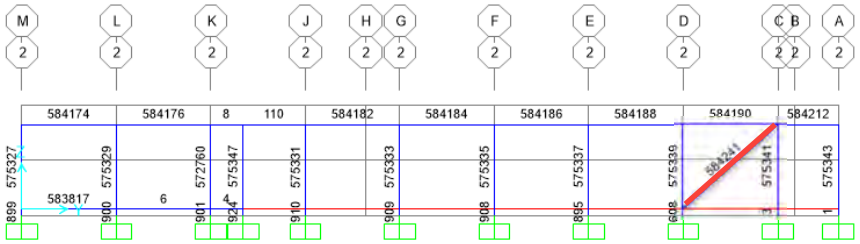
Our findings show that several braces are overstressed because of the higher seismic load. It is worth noting that all the angle braces are overstressed, as they typically have longer unsupported lengths and smaller section areas.



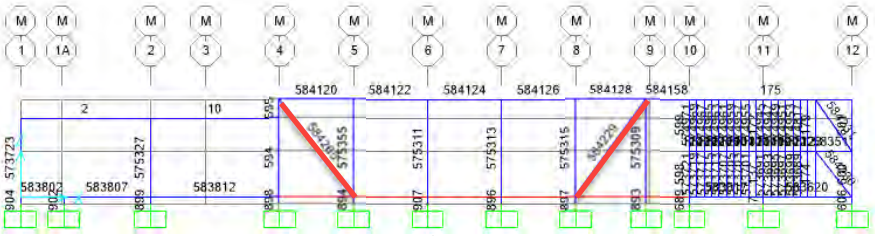
Braces along GL 4



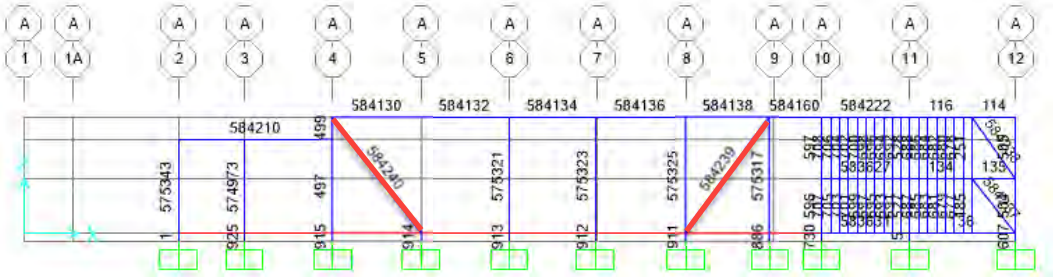
Braces along GL 1



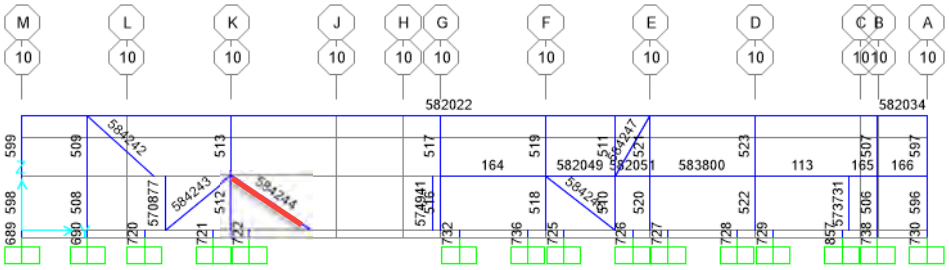
Braces along GL 2



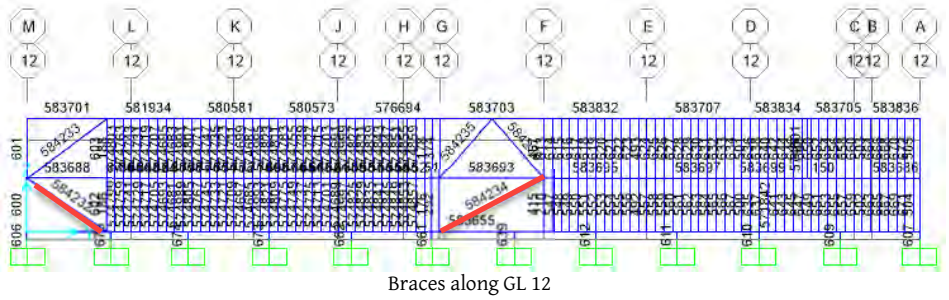
Braces along GL M



Braces along GL A



Braces along GL 10



Braces along GL 12

All beams along the braced bay grid lines which transfer the seismic drag forces were found to be structurally sound.

2.4 Settlements:

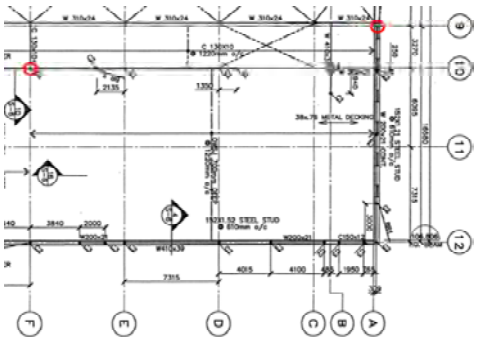
We incorporated the latest geological survey settlement readings into our structural analysis model for the building; we have reviewed and compared the results to the steel capacities for the various elements.

Three code specified load combinations were considered. One is the structural dead load plus the settlement (without snow: summer season). The second combination considered the snow load presence during winter time. The snow load used in the analysis was reduced to a load equivalent to a 300mm snow depth, which is the capacity of the existing structure without the impact from settlements. The third combination considered the code specified full snow load (712 mm), which would show how the building performs with the most conservative consideration.

2.4.1 Dead load and settlement without snow load:

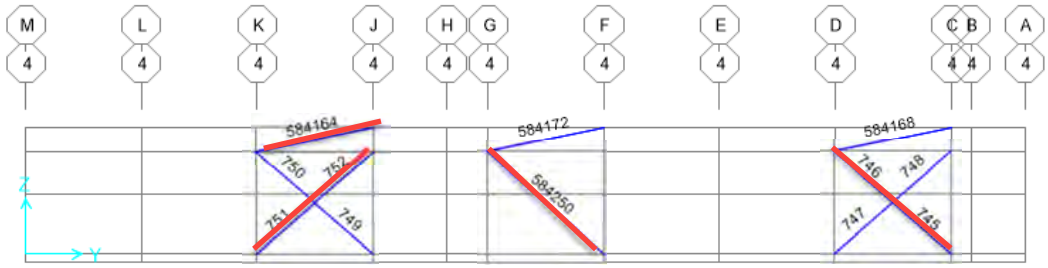
Columns:

There are two columns that are overstressed due to the current foundation settlements. For this load combination, the overstressed columns occur only in the Admissions Building.

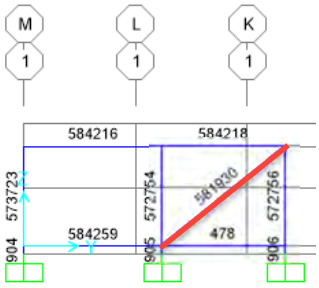


Braces:

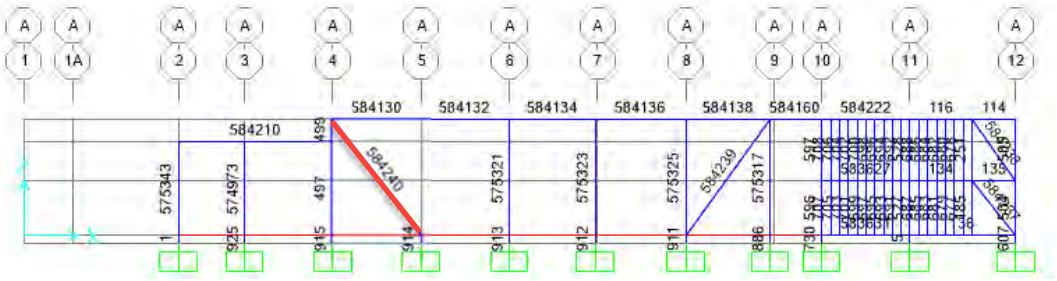
Our findings show that several braces are overstressed from the foundation settlements. The braces are not overstressed due to the settlements alone but are a results of a poorly defined load path, in the Admissions building, which distributes gravity (dead, snow, and live loads) forces into the braces.



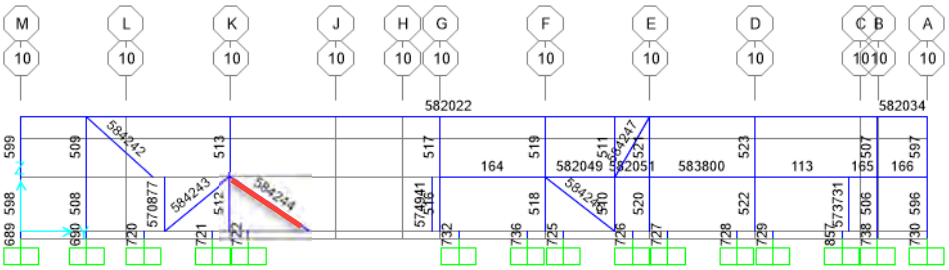
Braces along GL 4



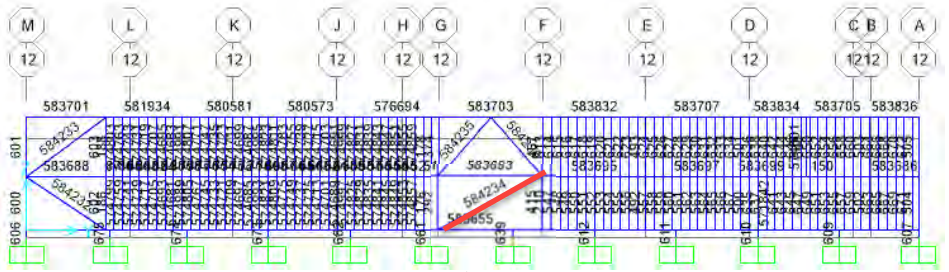
Braces along GL 1



Braces along GL A



Braces along GL 10

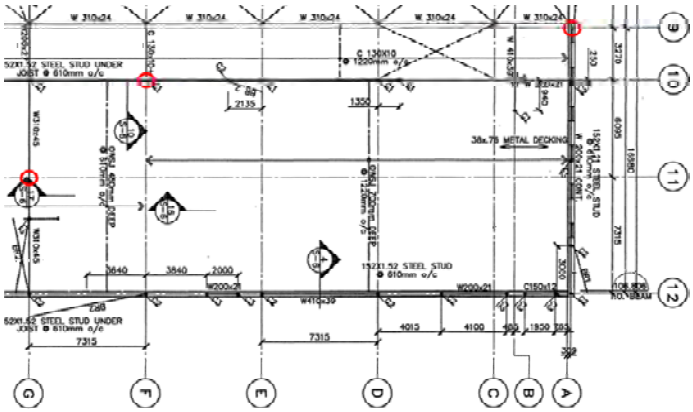


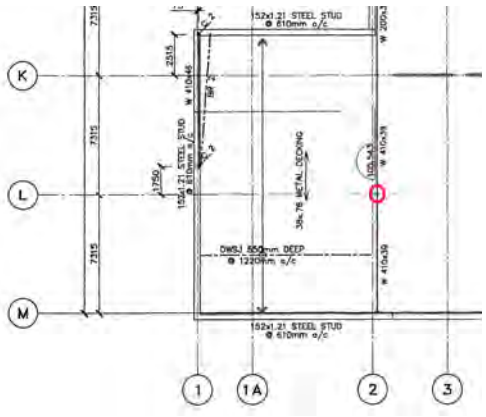
Braces along GL 12

2.4.2 Dead load and settlement with 300mm deep snow load:

Columns:

Four columns were found to be overstressed: one is located in the Curling Rink and three are located in the Admissions Building.





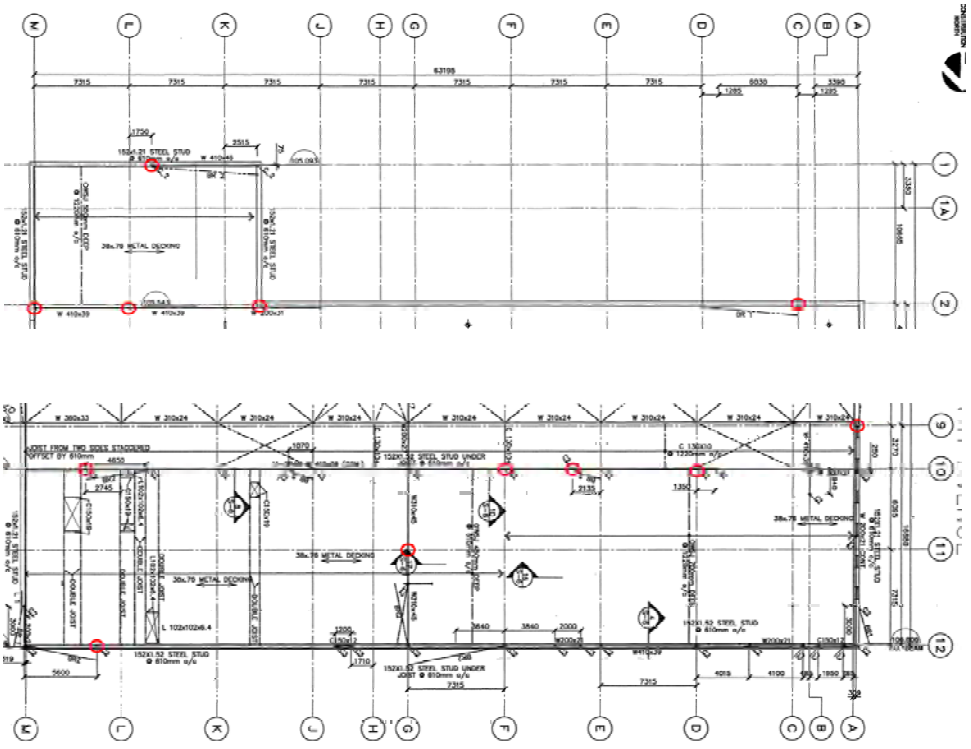
Braces:

Our findings show that all the braces noted in chapter 2.3.1 as being overstressed under the dead loads with the settlement alone are similarly overstressed when snow load is added.

2.4.3 Dead load and settlement with code required full snow load (712mm):

Columns:

Twelve columns were found to be overstressed: five are located in the Curling Rink and seven are located in the Admissions Building. This is the most critical loading scenario; most columns are already overstressed by the full snow load or settlements only.



Braces:

Our findings show that all the braces noted in chapter 2.3.1 as being overstressed under the dead loads with the settlement alone are similarly overstressed when snow load is added.

2.5 Pile Foundations:

The "pile foundations", as described in the Geotechnical Report, are precast concrete elements placed at the bottom of a large diameter augered borehole, with an attached column through which the building loads are transferred.

There are two types of piles, one with an 8" diameter and the other with a 10" diameter. The 8" piles have an axial capacity of 400 kN with a maximum 47 kN lateral force. The 10" piles have an axial capacity of 900 kN with a maximum 76 kN lateral force. The unfactored bearing resistance for the 8" piles and 10" piles are 1155 kN and 2360 kN respectively.

Our structural analysis shows that all 8" and 10" piles are structurally sound. Some of the 8" piles have higher axial forces than 400 kN in the Ice Rink building, but they are still within the bearing resistance limit. Also, some piles show higher shear forces than the maximum limit, as the piles were modelled in a simplified way with fixed supports, rather than springs. However, in reality the load will be distributed through steel beams into adjacent piles. If the reactions are spread this way, the capacity of the piles is sufficient.

3. CONCLUSIONS AND RECOMMENDATIONS

Our finding from the FEM model analysis in conjunction with our detailed analysis of various structural steel supporting elements leads us to conclude that the continued settlements underneath the foundations are of concern.

There are existing stud walls around the Curling Lounge and Admissions Building that existing drawing isn't showing clearly. Plywood sheathing on the stud walls noted previously, if applicable, need to be site verified or upgraded.

The following tables summarizes the maximum overstress of the building critical members due to different loading conditions. Utilisation (demand divided by the capacity) above 1.0 means that the structural member is overstressed.

TABLE A: LOAD WITHOUT SETTLEMENT

	GOVERNING MEMBER	Utilisation	Limits of existing structure
Snow without Settlements	Web 234 Column 575329	1.76 1.86	Max. Ice rink roof snow depth: 0.30m Max. Curling rink snow depth: 0.30m Max. Admissions Building snow depth: 0.565m
Wind without Settlements	Brace 584250	2.47	
Seismic without Settlements	Column 575309 Brace 584250	2.16 8.36	

TABLE B: LOAD WITH SETTLEMENT

NOVEMBER 2021 SETTLEMENTS	GOVERNING MEMBER	UTILISATION	LIMITS OF EXISTING STRUCTURE
712mm Snow + Settlements	Column 572754 Brace 584164	1.72 18.55	

300mm Snow + Settlements	Column 518 Brace 584164	1.37 18.55	Max. snow depth for the entire building: 0.30m
Dead + Settlements Only	Column 518 Brace 584164	1.18 18.55	No snow

Recommendations for structural upgrades due to snow load:

- Upgrade specific ice rink truss members.
- Upgrade admin roof OWSJ members
- Add curling rink roof purlins between existing purlins and upgrade main wide-flange beams.
- Upgrade existing overstressed columns and braces.

Recommendations to upgrade structure for wind:

It will be more economical to replace the weak angle braces with HSS members to resist the code wind loads. We recommend replacing existing bracing with new members, including connections, as follows:

- Brace 584168: Upgrade to HSS 89x89x6.4
- Brace 584250: Upgrade to HSS 102x102x4.8
- Brace 584265: Upgrade to HSS 152x152x6.4

The existing beams and columns do not require upgrades due to wind loads.

Recommendations to upgrade structure for Seismic:

It will be more economical to replace the weak angle braces with HSS members to resist the code seismic loads. We recommend replacing existing bracing with new members, including connections, as follows:

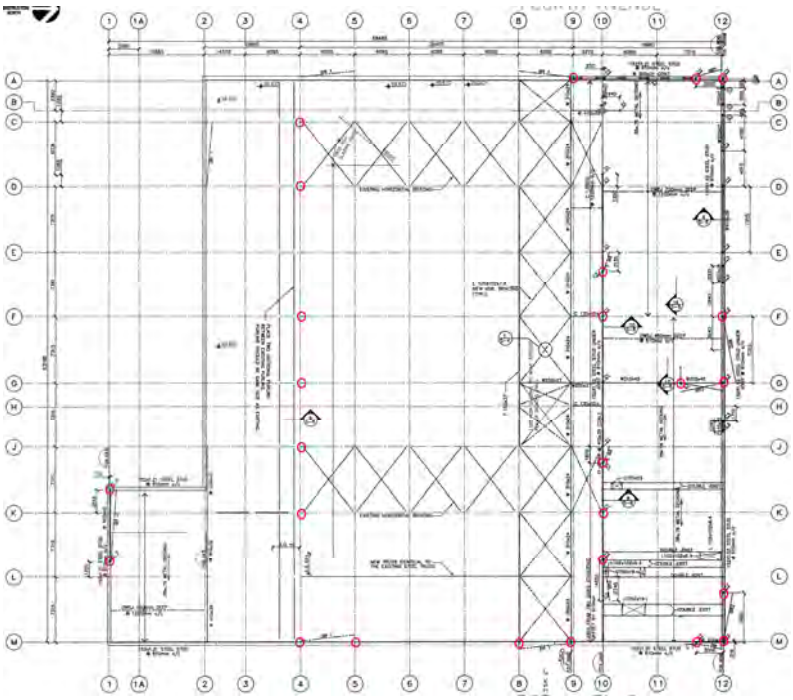
- Brace 581930: Upgrade to HSS 102x102x7.9
- Brace 584164: Upgrade to HSS 102x102x6.4
- Brace 584168: Upgrade to HSS 102x102x9.5
- Brace 584172: Upgrade to HSS 102x102x6.4
- Brace 584229: Upgrade to HSS 178x178x7.9
- Brace 584232: Upgrade to HSS 102x102x9.5
- Brace 584234: Upgrade to HSS 127x127x7.9
- Brace 584239: Upgrade to HSS 178x178x6.4

- Brace 584240: Upgrade to HSS 178x178x6.4
- Brace 584241: Upgrade to HSS 127x127x7.9
- Brace 584244: Upgrade to HSS 127x127x7.9
- Brace 584250: Upgrade to HSS 127x127x6.4
- Brace 584265: Upgrade to HSS 178x178x6.4
- Brace 745: Upgrade to HSS 89x89x6.4
- Brace 746: Upgrade to HSS 89x89x6.4
- Brace 747: Upgrade to HSS 89x89x6.4
- Brace 748: Upgrade to HSS 89x89x6.4
- Brace 749: Upgrade to HSS 89x89x6.4
- Brace 750: Upgrade to HSS 89x89x6.4
- Brace 751: Upgrade to HSS 89x89x6.4
- Brace 752: Upgrade to HSS 89x89x6.4

The existing beams and columns do not require upgrades due to seismic loads.

Recommendations to upgrade structure for settlements:

Our recommendation is that the City of Dawson jacks up/raises several columns at the braced bays (See Figure below) to reduce the loads in the columns and braces. Additionally, a long-term solution to mitigate settlements would be to install new piles at the existing columns as well as re-levelling the structure to its original geodetical elevation to alleviate the current stresses.



Lastly, WSP recommends that we continue with the survey readings of the piles semi-annually to determine whether the piles have settled further. If the next couple of sets of survey readings show no additional settlement, it would be an indication that long term repairs are not required (additional piles).

CLOSURE

We trust this satisfies your current needs. WSP would be available to assist on any further investigations if required. Please do not hesitate to contact us.

Yours sincerely,

Prepared:
Cedric Han, E.I.T, M.Eng

Reviewed:
Chelsea Paton, P.Eng

Engineer of record:
Richard Mastschuch, P.Eng

APPENDIX A

Column Results:

Object Id	Case 2 Axial (kN)	Utilization Ratio.	Case 3 Axial (kN)	Utilization Ratio.	Case 1 Axial (kN)	Utilization Ratio.	Case 5 Axial (kN)	Utilization Ratio.	Case 4 Axial (kN)	Utilization Ratio.	Case 6 Axial (kN)	Utilization Ratio.
570877	-198	0.65	-127	0.41	-35	0.16	-88	0.30	-167	0.61	-158	0.52
571842	-48	0.16	-31	0.11	-29	0.17	-40	0.21	-22	0.12	-67	0.30
572754	-123	0.92	-65	0.49	-35	0.27	-72	0.54	-43	0.32	-228	1.72
572756	-147	1.14	-93	0.70	155	0.37	27	0.04	-94	0.72	18	0.02
572760	-333	1.55	-165	0.77	-90	0.42	-188	0.88	-109	0.51	-324	1.50
573723	-16	0.09	-10	0.05	-4	0.02	-7	0.04	-7	0.04	-126	0.67
573731	-70	0.25	-66	0.25	-64	0.25	-67	0.26	-52	0.25	-71	0.26
574757	-128	0.40	-128	0.40	-83	0.28	-83	0.29	-103	0.39	-83	0.29
574761	-159	0.46	-159	0.47	-188	0.75	-189	0.75	-127	0.44	-189	0.75
574765	-144	0.43	-143	0.44	-117	0.51	-117	0.52	-115	0.42	-117	0.51
574769	-80	0.26	-83	0.26	-6	0.12	-5	0.13	-74	0.25	-5	0.14
574773	-166	0.70	-154	0.60	-201	0.82	-228	1.03	-260	1.36	-267	1.35
574777	-33	0.11	-33	0.11	-41	0.14	-41	0.14	-27	0.11	-54	0.18
574781	-43	0.13	-43	0.13	57	0.14	13	0.07	-35	0.15	11	0.07
574793	-77	0.29	-75	0.27	-128	0.47	-132	0.51	-77	0.38	-133	0.55
574795	-107	0.32	-106	0.32	-174	0.65	-175	0.66	-86	0.30	-176	0.67
574801	-22	0.07	-12	0.04	-8	0.03	-14	0.05	-8	0.03	-28	0.09
574819	-194	0.66	-99	0.33	-41	0.16	-101	0.37	-71	0.26	-184	0.67
574833	-37	0.14	-26	0.10	47	0.16	9	0.09	-37	0.15	8	0.06
574837	-51	0.16	-37	0.12	-41	0.13	-58	0.18	-89	0.28	-76	0.24
574973	-81	0.30	-41	0.15	-10	0.06	-31	0.12	-28	0.13	-61	0.21
575309	-49	0.39	-60	0.48	-17	0.13	-39	0.31	-274	2.16	-53	0.42
575311	-116	0.92	-62	0.49	-35	0.28	-70	0.55	-42	0.33	-116	0.92
575313	-116	0.92	-62	0.49	-35	0.28	-70	0.55	-42	0.33	-116	0.92
575315	-116	0.92	-64	0.50	-37	0.29	-71	0.56	-43	0.34	-116	0.92
575317	-38	0.32	-52	0.42	-145	1.16	-164	1.31	-234	1.88	-172	1.38
575319	-77	0.61	-43	0.34	-26	0.20	-47	0.37	-29	0.23	-77	0.61
575321	-76	0.60	-42	0.33	-25	0.20	-47	0.37	-29	0.22	-76	0.60
575323	-77	0.61	-43	0.34	-25	0.20	-47	0.37	-29	0.23	-77	0.61
575325	-79	0.62	-44	0.35	-27	0.21	-49	0.38	-30	0.24	-79	0.62
575327	-188	1.00	-96	0.51	-61	0.33	-116	0.62	-64	0.34	-203	1.08
575329	-402	1.86	-201	0.93	-106	0.49	-226	1.05	-132	0.61	-390	1.81
575331	-208	0.97	-102	0.48	-56	0.26	-115	0.54	-68	0.32	-196	0.91
575333	-211	0.98	-104	0.48	-57	0.26	-117	0.54	-69	0.32	-198	0.92
575335	-211	0.98	-104	0.48	-57	0.26	-117	0.54	-69	0.32	-198	0.92
575337	-211	0.98	-104	0.48	-57	0.26	-117	0.54	-69	0.32	-198	0.92

575339	-212	0.98	-105	0.49	-58	0.27	-118	0.55	-70	0.33	-200	0.93
575341	-125	0.58	-71	0.33	-154	0.72	-191	0.89	-103	0.48	-234	1.09
575343	-26	0.12	-16	0.07	-18	0.09	-25	0.12	-11	0.05	-34	0.16
575347	-53	0.29	-34	0.18	-22	0.18	-33	0.23	-25	0.14	-43	0.26
575355	-118	0.93	-64	0.50	-37	0.29	-71	0.56	-43	0.34	-118	0.93
137	-32	0.12	-32	0.12	-21	0.11	-22	0.12	-26	0.18	-26	0.14
172	-1	0.02	-1	0.03	3	0.09	0	0.10	-1	0.15	1	0.10
174	-21	0.08	-21	0.08	6	0.03	-3	0.03	-77	0.29	-16	0.07
179	-27	0.12	-21	0.10	-6	0.06	-14	0.09	-42	0.25	-24	0.12
185	-23	0.09	-25	0.09	74	0.18	17	0.09	-97	0.36	16	0.09
251	-15	0.07	-16	0.07	34	0.18	8	0.14	-48	0.24	7	0.14
292	-62	0.24	-73	0.26	32	0.20	8	0.17	-182	0.74	7	0.16
374	-19	0.15	-19	0.13	16	0.10	4	0.11	-63	0.39	2	0.14
415	-159	0.46	-115	0.34	83	0.31	12	0.19	-205	0.66	-13	0.22
457	-57	0.21	-30	0.11	-20	0.16	-38	0.23	-21	0.13	-65	0.35
492	-73	0.22	-47	0.14	-27	0.16	-43	0.22	-37	0.16	-99	0.40
493	-29	0.12	-15	0.07	2	0.06	-8	0.10	-10	0.10	-27	0.17
494	-667	0.34	-363	0.19	-204	0.14	-397	0.24	-245	0.14	-661	0.38
495	-662	0.20	-357	0.11	-199	0.10	-391	0.16	-240	0.09	-656	0.24
496	-659	0.20	-355	0.11	-197	0.11	-389	0.17	-239	0.09	-654	0.25
497	-14	0.11	-35	0.21	121	0.12	31	0.03	-210	1.70	34	0.03
499	0	0.03	-28	0.04	124	0.11	32	0.03	-205	0.22	37	0.04
500	-85	0.24	-57	0.17	-24	0.17	-42	0.23	-42	0.17	-83	0.35
501	-30	0.12	-16	0.06	-9	0.06	-18	0.09	-10	0.09	-37	0.15
502	-55	0.18	-36	0.12	-25	0.18	-38	0.22	-26	0.13	-80	0.34
503	-26	0.10	-14	0.06	-12	0.10	-20	0.13	-10	0.09	-34	0.17
504	-19	0.09	-19	0.08	-51	0.23	-56	0.25	-44	0.20	-67	0.29
505	-15	0.08	-8	0.06	-7	0.15	-11	0.17	-6	0.10	-20	0.22
506	-217	0.77	-118	0.44	-63	0.26	-126	0.45	-80	0.35	-212	0.75
507	-214	0.84	-110	0.45	-59	0.34	-125	0.59	-73	0.36	-215	0.97
508	-334	1.25	-215	0.70	-175	0.67	-258	1.00	-221	0.75	-366	1.71
509	-254	1.08	-148	0.56	-112	0.43	-187	0.74	-182	0.73	-284	1.30
510	-148	0.42	-99	0.29	-193	0.76	-232	0.91	-151	0.47	-279	1.12
511	-90	0.37	-47	0.20	-49	0.27	-77	0.39	-40	0.23	-115	0.54
512	-247	0.47	-152	0.29	83	0.16	5	0.07	-112	0.25	-61	0.16
513	-258	0.54	-133	0.29	-58	0.43	-137	0.63	-89	0.31	-245	0.93
514	-156	0.28	-94	0.18	-76	0.28	-119	0.36	-114	0.26	-206	0.52
515	-211	0.54	-127	0.31	-176	0.42	-238	0.60	-167	0.48	-305	0.83
516	-329	0.71	-190	0.39	-105	0.40	-193	0.61	-134	0.33	-336	0.98
517	-327	0.68	-169	0.35	-86	0.36	-186	0.59	-113	0.32	-323	0.93
518	-306	0.88	-196	0.57	-306	1.18	-384	1.74	-231	0.76	-488	1.35
519	-137	0.59	-140	0.54	-60	0.40	-145	0.77	-94	0.49	-261	1.51
520	-258	0.45	-170	0.30	9	0.24	-55	0.34	-201	0.38	-139	0.51
521	-207	0.50	-119	0.29	42	0.21	-21	0.21	-162	0.44	-105	0.40
522	-460	0.84	-270	0.53	-172	0.48	-292	0.71	-190	0.42	-270	0.66

523	-196	*0.70*	-201	*0.59*	-103	*0.28*	-224	*0.62*	-135	*0.51*	-180	*0.64*
524	-650	*0.30*	-351	*0.16*	-204	*0.10*	-392	*0.19*	-236	*0.12*	-652	*0.31*
525	-644	*0.19*	-346	*0.11*	-198	*0.06*	-387	*0.12*	-232	*0.09*	-646	*0.20*
526	-642	*0.19*	-344	*0.11*	-196	*0.06*	-385	*0.12*	-230	*0.09*	-644	*0.20*
527	-12	*0.05*	-13	*0.05*	-36	*0.12*	-35	*0.13*	-14	*0.10*	-35	*0.14*
528	-1	*0.01*	-1	*0.02*	-23	*0.16*	-23	*0.17*	-2	*0.07*	-20	*0.16*
529	-190	*0.34*	-122	*0.23*	-24	*0.10*	-74	*0.19*	-153	*0.31*	-146	*0.32*
530	-89	*0.29*	-46	*0.16*	-53	*0.32*	-81	*0.41*	-39	*0.21*	-120	*0.55*
531	-820	*0.48*	-426	*0.26*	-671	*0.37*	-897	*0.49*	-364	*0.25*	-1252	*0.70*
532	-815	*0.36*	-420	*0.20*	-665	*0.26*	-892	*0.35*	-360	*0.21*	-1246	*0.50*
533	-592	*0.30*	-320	*0.17*	-186	*0.12*	-358	*0.19*	-215	*0.16*	-594	*0.30*
534	-809	*0.41*	-420	*0.23*	227	*0.23*	-2	*0.16*	-359	*0.22*	-285	*0.28*
535	-804	*0.28*	-415	*0.17*	227	*0.27*	3	*0.21*	-355	*0.18*	-280	*0.26*
536	-585	*0.21*	-318	*0.14*	-93	*0.23*	-263	*0.28*	-231	*0.14*	-491	*0.33*
537	-642	*0.30*	-349	*0.16*	-218	*0.14*	-403	*0.23*	-236	*0.12*	-657	*0.35*
538	-637	*0.19*	-344	*0.11*	-213	*0.11*	-398	*0.17*	-232	*0.09*	-652	*0.25*
539	-634	*0.19*	-342	*0.11*	-211	*0.12*	-396	*0.18*	-230	*0.09*	-650	*0.26*
540	-808	*0.40*	-416	*0.22*	143	*0.06*	-83	*0.06*	-354	*0.21*	-344	*0.17*
541	-803	*0.28*	-411	*0.16*	146	*0.07*	-77	*0.05*	-349	*0.16*	-339	*0.12*
542	-577	*0.21*	-310	*0.13*	-176	*0.08*	-345	*0.13*	-208	*0.12*	-577	*0.19*
543	-650	*0.30*	-351	*0.16*	-183	*0.11*	-372	*0.20*	-236	*0.12*	-631	*0.32*
544	-645	*0.20*	-346	*0.11*	-178	*0.08*	-366	*0.14*	-232	*0.09*	-625	*0.22*
545	-642	*0.20*	-344	*0.11*	-175	*0.09*	-364	*0.15*	-230	*0.09*	-623	*0.23*
546	-836	*0.42*	-422	*0.23*	-262	*0.13*	-492	*0.25*	-300	*0.18*	-810	*0.41*
568	-830	*0.29*	-417	*0.16*	-257	*0.09*	-487	*0.17*	-295	*0.14*	-805	*0.29*
569	-582	*0.21*	-315	*0.13*	-202	*0.07*	-372	*0.14*	-228	*0.12*	-608	*0.23*
570	-650	*0.30*	-352	*0.16*	-214	*0.13*	-403	*0.21*	-236	*0.12*	-662	*0.34*
571	-645	*0.20*	-346	*0.11*	-209	*0.09*	-397	*0.15*	-232	*0.09*	-657	*0.23*
572	-642	*0.20*	-344	*0.11*	-206	*0.10*	-395	*0.16*	-230	*0.09*	-654	*0.24*
573	-831	*0.45*	-417	*0.24*	-236	*0.15*	-465	*0.28*	-280	*0.18*	-779	*0.45*
574	-825	*0.33*	-412	*0.18*	-231	*0.12*	-460	*0.21*	-275	*0.15*	-773	*0.34*
575	-577	*0.26*	-310	*0.15*	-176	*0.10*	-345	*0.18*	-208	*0.13*	-577	*0.28*
576	-650	*0.30*	-351	*0.17*	-200	*0.13*	-389	*0.22*	-236	*0.12*	-648	*0.35*
577	-645	*0.20*	-346	*0.11*	-195	*0.11*	-383	*0.17*	-232	*0.09*	-643	*0.24*
578	-642	*0.20*	-344	*0.11*	-192	*0.12*	-381	*0.18*	-230	*0.09*	-640	*0.25*
579	-807	*0.50*	-418	*0.27*	-39	*0.09*	-261	*0.22*	-352	*0.24*	-544	*0.39*
580	-801	*0.39*	-413	*0.22*	-33	*0.10*	-255	*0.20*	-347	*0.20*	-539	*0.34*
581	-572	*0.32*	-309	*0.19*	-176	*0.14*	-341	*0.23*	-208	*0.16*	-569	*0.35*
582	-702	*0.48*	-369	*0.26*	-376	*0.24*	-568	*0.35*	-308	*0.23*	-837	*0.51*
583	-696	*0.39*	-363	*0.22*	-371	*0.19*	-563	*0.28*	-304	*0.20*	-831	*0.40*
584	-483	*0.33*	-266	*0.19*	-184	*0.14*	-323	*0.21*	-196	*0.16*	-515	*0.30*
585	-556	*0.26*	-306	*0.15*	-185	*0.10*	-343	*0.18*	-208	*0.11*	-560	*0.28*
586	-551	*0.17*	-300	*0.10*	-179	*0.08*	-337	*0.13*	-203	*0.08*	-555	*0.20*
587	-549	*0.18*	-298	*0.10*	-177	*0.08*	-335	*0.13*	-202	*0.09*	-553	*0.20*

588	-830	0.55	-417	0.28	-236	0.22	-465	0.35	-279	0.27	-778	0.54
589	-825	0.44	-411	0.23	-231	0.21	-459	0.31	-275	0.26	-773	0.45
590	-576	0.36	-309	0.20	-176	0.20	-345	0.28	-207	0.24	-576	0.39
591	-642	0.30	-349	0.16	-197	0.09	-382	0.18	-236	0.12	-636	0.29
592	-637	0.19	-344	0.11	-192	0.06	-377	0.12	-231	0.09	-631	0.19
593	-634	0.19	-342	0.11	-190	0.06	-375	0.12	-230	0.09	-629	0.19
594	-21	0.15	-28	0.18	-68	0.39	-73	0.40	-150	0.92	-61	0.34
595	0	0.04	-11	0.03	-58	0.07	-54	0.06	-151	0.17	-30	0.03
596	-82	0.27	-51	0.17	-62	0.34	-85	0.42	-59	0.20	-109	0.51
597	-79	0.31	-47	0.19	-42	0.36	-65	0.46	-46	0.20	-93	0.59
598	-94	0.27	-56	0.16	-50	0.21	-74	0.28	-42	0.16	-107	0.36
599	-90	0.32	-51	0.18	-37	0.12	-61	0.22	-38	0.17	-96	0.35
600	-96	0.28	-76	0.23	112	0.18	22	0.05	-164	0.54	15	0.04
601	-94	0.32	-49	0.18	-25	0.13	-54	0.23	-34	0.17	-93	0.37
602	-151	0.46	-101	0.31	-201	0.65	-237	0.77	-111	0.41	-311	1.03
603	-122	0.42	-69	0.24	-181	0.60	-219	0.71	-90	0.37	-270	0.88

*Combo 1: 1.25 Dead + 1.25 SDL + 1.0 Settlements
*Combo 2: 1.25 Dead + 1.25 SDL + 1.5 Snow + 0.4 Wind
*Combo 3: 1.25 Dead + 1.25 SDL + 1.4 Wind + 0.5 Snow
*Combo 4: 1.0 Dead + 1.0 SDL + 1.0 Seismic + 0.25 Snow
*Combo 5: 1.25 Dead + 1.25 SDL + 1.5 Snow (300 mm only) + 1.0 Settlements + 0.4 Wind
*Combo 6: 1.25 Dead + 1.25 SDL + 1.5 Snow (712 mm) + 1.0 Settlements + 0.4 Wind

Braces Results:

Object Id	Combo 1 Axial (kN)	Utilization Ratio.	Combo 3 Axial (kN)	Utilization Ratio.	Combo 4 Axial (kN)	Utilization Ratio.
581930	-322	5.84	45	0.38	-51	1.30
584164	-412	18.55	42	0.00	-69	3.10
584168	123	0.26	-41	1.87	-112	5.05
584172	124	0.26	-2	0.09	-84	3.77
584229	-17	0.20	-87	0.84	-347	2.85
584230	-22	0.12	-21	0.11	-76	0.36
584231	2	0.02	28	0.06	-41	0.22
584232	-37	0.36	-10	0.12	-140	1.78
584233	248	0.38	31	0.10	-74	0.71
584234	-447	5.22	-61	0.88	-168	1.96
584235	-8	0.07	-57	0.36	-149	0.91
584236	-46	0.29	-71	0.44	-159	0.98
584237	-91	0.44	-9	0.06	-84	0.40
584238	-49	0.27	-3	0.03	-51	0.27
584239	152	0.21	-70	0.67	-294	2.41
584240	-187	1.59	-97	1.00	-299	2.54
584241	158	0.23	-61	0.60	-125	1.35
584242	67	0.14	25	0.07	-112	0.86
584243	319	0.48	-46	0.18	-221	0.80
584244	-683	2.76	-56	0.26	-242	1.08
584245	132	0.20	-21	0.10	-110	0.47
584246	313	0.50	-50	0.21	-181	0.68
584247	-104	0.50	-21	0.11	-119	0.57
584250	-534	41.02	-32	2.47	-109	8.36
584265	27	0.09	-146	1.24	-278	2.35
741	-230	0.68	-101	0.30	-302	0.90
742	-229	0.68	-99	0.30	-301	0.89
743	184	0.28	-33	0.11	-222	0.66
744	185	0.29	-32	0.11	-220	0.66
745	-264	5.23	-41	0.82	-108	2.15
746	-263	5.21	-40	0.80	-107	2.13
747	208	0.43	-8	0.17	-70	1.38
748	209	0.43	-7	0.14	-69	1.36
749	512	1.05	-31	0.61	-113	2.25
750	512	1.05	-30	0.59	-112	2.23

751	-566	***11.21***	-40	***0.79***	-117	***2.32***
752	-565	***11.19***	-39	***0.77***	-116	***2.30***
753	-51	***0.14***	-52	***0.14***	-119	***0.18***
754	-50	***0.14***	-51	***0.14***	-118	***0.17***
755	53	***0.09***	17	***0.03***	-86	***0.13***
756	54	***0.09***	48	***0.08***	-85	***0.13***

*Combo 1: 1.25 Dead + 1.25 SDL + 1.0 Settlements
*Combo 3: 1.25 Dead + 1.25 SDL + 1.4 Wind + 0.5 Snow
*Combo 4: 1.0 Dead + 1.0 SDL + 1.0 Seismic + 0.25 Snow

Beam Results

	Combo 2: Full Snow Load			Combo 1B: Full Live Load		
Object Id	Mx (kN·m)	Vx (kN)	Utilization Ratio.	Mx (kN·m)	Vx (kN)	Utilization Ratio.
583655	74.8	158.3	**0.49**	97.1	198.0	**0.64**
584120	86.3	56.6	**0.36**	NA	NA	NA
584122	86.3	56.6	**0.42**	NA	NA	NA
584124	86.3	56.6	**0.42**	NA	NA	NA
584126	86.3	56.6	**0.42**	NA	NA	NA
584128	78.2	53.9	**0.37**	NA	NA	NA
584130	56.3	36.9	**0.29**	NA	NA	NA
584132	56.3	36.9	**0.37**	NA	NA	NA
584134	53.1	35.9	**0.36**	NA	NA	NA
584136	59.1	38.0	**0.39**	NA	NA	NA
584138	51.1	35.2	**0.35**	NA	NA	NA
584158	28.8	32.3	**0.37**	NA	NA	NA
584160	18.5	20.8	**0.51**	NA	NA	NA
167	157.2	242.9	**0.69**	126.0	219.3	**0.56**
739	45.9	97.9	**0.21**	82.0	198.6	**0.38**
740	54.0	156.4	**0.24**	97.6	221.3	**0.43**

*Combo 2: 1.25 Dead + 1.25 SDL + 1.5 Snow + 0.4 Wind
*Combo B1: 1.25 Dead +1.25 SDL +1.5 Live + 0.4 Wind

	Combo 3: Full Wind Load			Combo 4: Full Seismic Load		
Object Id	Axial (kN)	Mx (kN·m)	Utilization Ratio.	Axial (kN)	Mx (kN·m)	Utilization Ratio.
583461	18	0.3	***0.07***	18	0.3	***0.07***
583463	4	0.8	***0.07***	-8	0.6	***0.15***
583465	10	0.8	***0.08***	-1	0.6	***0.07***
583469	-2	0.8	***0.09***	-21	0.6	***0.29***
583471	24	0.8	***0.12***	-19	0.6	***0.27***
583473	12	0.8	***0.09***	-7	0.6	***0.14***
584120	0	45.1	***0.19***	NA	NA	NA
584122	-61	45.1	***0.22***	NA	NA	NA
584124	-61	45.1	***0.22***	NA	NA	NA
584126	-61	45.1	***0.22***	NA	NA	NA
584128	-54	40.9	***0.20***	NA	NA	NA
584140	-35	2.7	***0.12***	-40	2.1	***0.13***
584142	-60	2.7	***0.19***	-78	2.1	***0.24***
584144	-25	2.7	***0.09***	-68	2.1	***0.21***
584146	-12	2.7	***0.05***	-34	2.1	***0.11***
584148	-25	2.7	***0.09***	-53	2.1	***0.17***

584150	-21	2.7	***0.08***	-45	2.1	***0.15***
584152	-29	2.7	***0.10***	-35	2.1	***0.12***
584154	-16	2.7	***0.06***	-52	2.1	***0.17***
584156	-36	1.1	***0.06***	-34	0.9	***0.06***
584158	-53	14.7	***0.26***	NA	NA	NA
584166	31	0.8	***0.14***	-15	0.6	***0.23***
584170	10	0.8	***0.08***	-6	0.6	***0.12***
181	16	0.8	***0.10***	-29	0.6	***0.38***
10	-76	138.4	***0.39***	NA	NA	NA

*Combo 3: 1.25 Dead + 1.25 SDL + 1.4 Wind + 0.5 Snow
*Combo 4: 1.0 Dead + 1.0 SDL + 1.0 Seismic + 0.25 Snow

Truss Results:

Object Id	Combo 2 Axial (kN)	Utilization Ratio	300mm Snow Full Axial (kN)	Utilization Ratio
583779	0	**0.00**	0	**0.00**
212	-54	**0.18**	-32	**0.10**
214	39	**0.05**	23	**0.03**
215	-84	**0.36**	-49	**0.21**
218	123	**0.17**	73	**0.10**
227	-142	**0.60**	-84	**0.36**
228	-202	**0.86**	-120	**0.51**
229	-271	**1.15**	-161	**0.69**
230	-325	**1.38**	-194	**0.82**
231	-388	**1.65**	-233	**0.99**
232	-441	**1.45**	-264	**0.87**
233	-504	**1.66**	-301	**0.99**
234	-536	**1.76**	-320	**1.05**
243	203	**0.28**	121	**0.17**
244	299	**0.41**	179	**0.25**
245	373	**0.52**	223	**0.31**
246	489	**0.68**	293	**0.40**
247	518	**0.72**	311	**0.43**
248	629	**0.74**	377	**0.52**
249	696	**0.82**	417	**0.49**
250	784	**0.92**	469	**0.55**

*Combo 2: 1.25 Dead + 1.25 SDL + 1.5 Snow + 0.4 Wind
*300mm Snow Full Axial: 1.25 Dead + 1.25 SDL + 1.5 Snow (300mm only) + 0.4 Wind

8" Piles Results:

	Combo P1		Combo P2		Combo 3		Combo P4	
Text	Axial (KN)	D/C	Axial (KN)	D/C	Axial (KN)	D/C	Axial (KN)	D/C
871	-586.282	**0.51**	-659.797	**0.57**	-305.799	**0.26**	-259.54	**0.22**
880	-677.176	**0.59**	-763.032	**0.66**	-349.459	**0.30**	-296.293	**0.26**
886	-23.393	**0.02**	-26.387	**0.02**	-49.668	**0.04**	-237.823	**0.21**
888	-703.682	**0.61**	-793.072	**0.69**	-362.57	**0.31**	-307.772	**0.27**
889	-677.071	**0.59**	-762.919	**0.66**	-349.421	**0.30**	-296.46	**0.26**
890	-685.948	**0.59**	-773.572	**0.67**	-351.496	**0.30**	-298.114	**0.26**
891	-685.984	**0.59**	-773.614	**0.67**	-351.515	**0.30**	-298.141	**0.26**
892	-685.937	**0.59**	-773.561	**0.67**	-351.491	**0.30**	-298.13	**0.26**
893	-34.256	**0.03**	-38.211	**0.03**	-57.789	**0.05**	-280.843	**0.24**
894	-302.646	**0.26**	-341.499	**0.30**	-185.223	**0.16**	-293.862	**0.25**
896	-122.897	**0.11**	-138.736	**0.12**	-62.443	**0.05**	-53.011	**0.05**
897	-187.056	**0.16**	-210.747	**0.18**	-137.603	**0.12**	-348.257	**0.30**
898	-221.651	**0.19**	-181.777	**0.16**	-98.814	**0.09**	-263.949	**0.23**
899	-540.338	**0.47**	-485.038	**0.42**	-205.825	**0.18**	-249.789	**0.22**
900	-971.55	**0.84**	-906.261	**0.78**	-377.552	**0.33**	-437.68	**0.38**
902	-283.808	**0.25**	-256.266	**0.22**	-110.023	**0.10**	-131.721	**0.11**
903	-203.953	**0.18**	-157.303	**0.14**	-63.959	**0.06**	-97.833	**0.08**
907	-122.897	**0.11**	-138.735	**0.12**	-62.443	**0.05**	-53.011	**0.05**

*Combo P1: 1.25 Dead + 1.25 SDL + 1.5 Live + 1.0 Snow
*Combo P2: 1.25 Dead + 1.25 SDL + 1.5 Snow + 1.0 Live
*Combo P3: 1.25 Dead + 1.25 SDL + 1.4 Wind + 0.5 Snow
*Combo P4: 1.0 Dead + 1.0 SDL + 1.0 Seismic + 0.5 L + 0.25 Snow

10" Piles Results:

	Combo P1		Combo P2		Combo 3		Combo P4	
Text	Axial (KN)	D/C	Axial (KN)	D/C	Axial (KN)	D/C	Axial (KN)	D/C
5	-138.868	**0.15**	-117.715	**0.13**	-72.24	**0.08**	-121.462	**0.13**
7	-121.394	**0.13**	-111.246	**0.12**	-89.426	**0.10**	-118.826	**0.13**
9	-458.2	**0.51**	-396.143	**0.44**	-241.954	**0.27**	-387.216	**0.43**
11	-494.994	**0.55**	-432.914	**0.48**	-277.112	**0.31**	-422.459	**0.47**
13	-252.865	**0.28**	-207.738	**0.23**	-115.884	**0.13**	-143.879	**0.16**
15	-234.859	**0.26**	-190.641	**0.21**	-103.251	**0.11**	-128.498	**0.14**
17	-268.533	**0.30**	-220.882	**0.25**	-124.975	**0.14**	-149.235	**0.17**
19	-395.024	**0.44**	-333.669	**0.37**	-211.074	**0.23**	-231.823	**0.26**
21	-277.648	**0.31**	-225.137	**0.25**	-119.885	**0.13**	-148.768	**0.17**
23	-235.823	**0.26**	-187.978	**0.21**	-92.04	**0.10**	-121.683	**0.14**
25	-350.599	**0.39**	-300.323	**0.33**	-199.202	**0.22**	-210.334	**0.23**
27	-222.621	**0.25**	-171.702	**0.19**	-70.067	**0.08**	-107.367	**0.12**
29	-288.289	**0.32**	-238.71	**0.27**	-138.231	**0.15**	-166.486	**0.18**
31	-310.247	**0.34**	-255.979	**0.28**	-146.75	**0.16**	-173.346	**0.19**
111	-328.57	**0.37**	-270.291	**0.30**	-153.796	**0.17**	-181.547	**0.20**
161	-311.618	**0.35**	-259.286	**0.29**	-154.343	**0.17**	-176.692	**0.20**
498	-238.724	**0.27**	-193.215	**0.21**	-102.57	**0.11**	-128.703	**0.14**
604	-342.392	**0.38**	-285.139	**0.32**	-174.314	**0.19**	-200.683	**0.22**
605	-235.126	**0.26**	-205.73	**0.23**	-143.499	**0.16**	-148.729	**0.17**
606	-163.612	**0.18**	-165.4	**0.18**	-114.891	**0.13**	-210.218	**0.23**
607	-180.867	**0.20**	-171.245	**0.19**	-100.111	**0.11**	-140.911	**0.16**
609	-568.653	**0.63**	-541.006	**0.60**	-274.216	**0.30**	-284.656	**0.32**
610	-487.353	**0.54**	-465.87	**0.52**	-238.931	**0.27**	-247.728	**0.28**
611	-482.548	**0.54**	-458.674	**0.51**	-232.317	**0.26**	-241.539	**0.27**
612	-461.527	**0.51**	-441.984	**0.49**	-225.111	**0.25**	-241.652	**0.27**
639	-549.226	**0.61**	-518.225	**0.58**	-284.4	**0.32**	-463.616	**0.52**
661	-360.428	**0.40**	-320.366	**0.36**	-228.429	**0.25**	-467.97	**0.52**
662	-531.599	**0.59**	-511.144	**0.57**	-261.85	**0.29**	-283.769	**0.32**
673	-486.63	**0.54**	-465.504	**0.52**	-236.754	**0.26**	-250.724	**0.28**
674	-463.284	**0.51**	-442.849	**0.49**	-225.153	**0.25**	-239.945	**0.27**
675	-530.827	**0.59**	-510.195	**0.57**	-280.566	**0.31**	-377.464	**0.42**
676	-349.605	**0.39**	-298.447	**0.33**	-196.703	**0.22**	-209.488	**0.23**
689	-116.771	**0.13**	-127.135	**0.14**	-69.071	**0.08**	-63.528	**0.07**
690	-376.599	**0.42**	-395.971	**0.44**	-216.897	**0.24**	-261.134	**0.29**
720	-377.7	**0.42**	-369.728	**0.41**	-182.395	**0.20**	-218.795	**0.24**
721	-281.467	**0.31**	-274.664	**0.31**	-134.01	**0.15**	-145.449	**0.16**
722	-250.775	**0.28**	-237.541	**0.26**	-113.601	**0.13**	-121.845	**0.14**
723	-430.059	**0.48**	-436.174	**0.48**	-224.107	**0.25**	-283.907	**0.32**
724	-314.499	**0.35**	-308.277	**0.34**	-164.028	**0.18**	-161.862	**0.18**
725	-281.102	**0.31**	-275.281	**0.31**	-139.067	**0.15**	-182.485	**0.20**
726	-410.32	**0.46**	-418.333	**0.46**	-219.372	**0.24**	-254.007	**0.28**

727	-249.297	**0.28**	-233.898	**0.26**	-118.439	**0.13**	-165.026	**0.18**
728	-357.739	**0.40**	-358.454	**0.40**	-170.962	**0.19**	-169.75	**0.19**
729	-355.806	**0.40**	-357.4	**0.40**	-171.412	**0.19**	-170.426	**0.19**
730	-150.345	**0.17**	-151.065	**0.17**	-78.082	**0.09**	-76.175	**0.08**
731	-267.46	**0.30**	-258.867	**0.29**	-135.672	**0.15**	-181.131	**0.20**
732	-361.748	**0.40**	-354.901	**0.39**	-164.819	**0.18**	-171.971	**0.19**
736	-271.763	**0.30**	-264.329	**0.29**	-132.28	**0.15**	-178.947	**0.20**
738	-336.864	**0.37**	-344.298	**0.38**	-158.657	**0.18**	-155.211	**0.17**
857	-188.937	**0.21**	-161.146	**0.18**	-96.228	**0.11**	-106.495	**0.12**
887	-685.598	**0.76**	-773.212	**0.86**	-351.224	**0.39**	-298.123	**0.33**
901	-557.051	**0.62**	-559.998	**0.62**	-234.293	**0.26**	-243.098	**0.27**
904	-160.442	**0.18**	-147.165	**0.16**	-64.54	**0.07**	-74.864	**0.08**
905	-275.526	**0.31**	-290.731	**0.32**	-142.275	**0.16**	-161.107	**0.18**
906	-168.818	**0.19**	-188.467	**0.21**	-106.207	**0.12**	-117.889	**0.13**

*Combo P1: 1.25 Dead + 1.25 SDL + 1.5 Live + 1.0 Snow
*Combo P2: 1.25 Dead + 1.25 SDL + 1.5 Snow + 1.0 Live
*Combo 3: 1.25 Dead + 1.25 SDL + 1.4 Wind + 0.5 Snow
*Combo P4: 1.0 Dead + 1.0 SDL + 1.0 Seismic + 0.5 L + 0.25 Snow

GENERAL

1. THIS IS A METRIC PROJECT. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN MILLIMETERS AND ALL FORCES ARE IN METRIC UNITS.

2. PRIOR TO CONSTRUCTION, REVIEW STRUCTURAL DRAWINGS IN CONJUNCTION WITH DRAWINGS PROVIDED BY ALL OTHER CONSULTANTS. CONFIRM ALL DIMENSIONS, ELEVATIONS AND HEADROOM CLEARANCES, AND COORDINATE ALL OPENINGS, SLEEVES AND EMBEDDED ITEMS.

REPORT ANY DISCREPANCIES OR CONFLICTS BEFORE PROCEEDING WITH THE WORK.

4. DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION FROM DEPARTMENTAL REPRESENTATIVE.

5. EXISTING STRUCTURAL INFORMATION IS BASED UPON DRAWINGS PREPARED BY FERGISPM FERGUSON SIMEK CLARK ENGINEERS AND ARCHITECTS DATED OCTOBER, 2020.

6. VERIFY EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO CONSTRUCTION.

7. DO NOT SCALE THESE DRAWINGS.

8. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR WATERPROOFING, SEALERS, ETC.

9. STRUCTURAL DESIGN ASSUMES NON-LOAD RESTRICTED ULC FIRE RATED ASSEMBLIES, AND APPROPRIATE MATERIALS MUST BE USED.

10. DRAWINGS SHOW COMPLETED STRUCTURE ONLY. THEY DO NOT SHOW TEMPORARY WORKS FOR WHICH THE CONTRACTOR IS RESPONSIBLE AND WHICH MAY BE REQUIRED FOR EXECUTION OF THE PROJECT, INCLUDING TEMPORARY SHORING, BRACING, GUYS AND TIE DOWNS. CONTRACTOR TO ESTABLISH CONSTRUCTION PROCEDURE AND SEQUENCE TO ENSURE SAFETY OF THE WHOLE STRUCTURE AND ALL ITS COMPONENTS DURING ERECTION.

11. DESIGN AND CONSTRUCTION REVIEW OF ALL TEMPORARY WORKS TO BE CARRIED OUT BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED IN THE PLACE WHERE THE PROJECT IS LOCATED.

12. ANCHOR RODS AND OTHER EMBEDDED ITEMS ARE DESIGNED FOR LOADS ACTING ON THE COMPLETED STRUCTURE ONLY AND ARE NOT TO BE USED OR RELIED UPON FOR TEMPORARY SUPPORT OR BRACING DURING ERECTION UNLESS REVIEWED AND APPROVED BY THE CONTRACTOR'S ENGINEER RESPONSIBLE FOR THE ERECTION PROCEDURES.

13. CONSTRUCTION LOADS ON COMPLETED STRUCTURE NOT TO EXCEED DESIGN LOADS INDICATED ON DRAWINGS. FULL DESIGN LOADS MAY ONLY BE APPLIED TO CONCRETE ELEMENTS AFTER THE CONCRETE HAS REACHED ITS DESIGN STRENGTH.

DESIGN DATA

1. STRUCTURAL UPGRADING OF THE EXISTING BUILDING IS TO THE GENERAL INTENT OF 2015 NATIONAL BUILDING CODE (NBC 2015), SUPPLEMENTED BY THE USER'S GUIDE — NBC 2015 STRUCTURAL COMMENTARIES. THE UPGRADING IS LIMITED TO THE AREA(S) SHOWN ON THESE DRAWINGS. FOR THE REMAINDER OF THE EXISTING BUILDING, THE CURRENT PERFORMANCE LEVEL IS MAINTAINED AND SEISMIC OR OTHER STRUCTURAL EVALUATION AND UPGRADING (INCLUDING UPGRADING TO CARRY GRAVITY LOADS) IS NOT INCLUDED IN THE SCOPE OF THE PROJECT. WSP-S ACCEPTS NO RESPONSIBILITY FOR THE STRUCTURAL ADEQUACY OF THE REMAINDER OF THE EXISTING BUILDING (WHICH REMAINS THE RESPONSIBILITY OF THE ORIGINAL STRUCTURAL ENGINEER), NOR FOR POSSIBLE DETRIMENTAL SEISMIC OR OTHER EFFECTS THE REMAINDER OF THE BUILDING MAY HAVE ON THE RENOVATED AREA(S).

2. STEEL ELEMENTS ARE DESIGNED PER CSA S16-14 — DESIGN OF STEEL STRUCTURES.

3. COLD FORMED STEEL STRUCTURAL ELEMENTS ARE DESIGNED PER CSA S136-16 — NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.

4. THE VALUES FOR CLIMATIC DATA USED IN THE DETERMINATION OF DESIGN LOADS HAVE BEEN OBTAINED FROM THE NBC 2015 FOR THE SPECIFIC LOCATION OF DAWSON, YUKON.

5. BASED ON THE USE AND OCCUPANCY, THE BUILDING IS DESIGNED TO THE REQUIREMENTS OF A NORMAL IMPORTANCE CATEGORY.

6. SELF WEIGHT (SWT) IS DUE TO THE WEIGHT OF THE STRUCTURE ITSELF. IT VARIES WITH THE STRUCTURAL SYSTEM, AND INCLUDES CONCRETE TOPPINGS ON STEEL DECK.

7. SUPERIMPOSED DEAD LOADS (SDL) ARE NON-STRUCTURAL DEAD LOADS DUE TO NON-STRUCTURAL TOPPINGS, FINISHES, PARTITIONS, ROOFING MATERIALS, SUSPENDED EQUIPMENT, PAVERS, SOIL, ETC.

8. DEAD LOAD (DL) IS THE SELF WEIGHT OF THE STRUCTURE PLUS THE SUPERIMPOSED DEAD LOAD.

9. IF ONLY ONE VALUE IS GIVEN FOR A LOAD, CONSIDER IT LIVE LOAD.

10. FOR CONNECTION LOADS, "+" SIGN INDICATES TENSION AND "-" SIGN INDICATES COMPRESSION, EXCEPT FOR COLUMN LOADS WHERE "+" SIGN INDICATES COMPRESSION AND "-" SIGN INDICATES TENSION.

11. SNOW:

S_s = 2.9 kPa S_r = 0.1 kPa I_s (ULS) = 1.0 I_s (SLS) = 0.9

MINIMUM UNFACTORED SNOW LOAD = 2.42 kPa x Is

12. WIND:

q_{50} = 0.31 kPa I_w (ULS) = 1.0 I_w (SLS) = 0.75

TERRAIN TYPE: OPEN
INTERNAL PRESSURE CATEGORY: 2

13. STRUCTURAL MOVEMENTS

UNLESS NOTED OTHERWISE, MAXIMUM EXPECTED MOVEMENT OF THE BUILDING STRUCTURE (AFTER INSTALLATION OF FINISHES) WILL BE AS FOLLOWS ("L" IS THE CLEAR SPAN OF THE SUPPORTING STRUCTURAL ELEMENT, "H" IS THE STORY HEIGHT):

- VERTICAL DEFLECTION OF STEEL FRAMED FLOORS AND ROOFS: L/360 u/n
- INTERSTOREY WIND DRIFT: H/500

SHOP DRAWINGS

1. REVIEW OF SHOP DRAWINGS BY WSP-S IS ON A SAMPLING BASIS, FOR GENERAL CONFORMITY WITH STRUCTURAL CONTRACT DOCUMENTS. IT IS NOT A DETAILED CHECK AND MUST NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE WORK ACCURATE AND IN CONFORMITY WITH ALL CONTRACT DOCUMENTS, TO REVIEW SHOP DRAWINGS AND TO COORDINATE WORK OF INTERFACING TRADES AND MANUFACTURE OF INTERFACING PRODUCTS.

2. REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANTS' OR PROFESSIONALS' RESPONSIBILITIES RELATED TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THE SPECIFICATIONS.

3. ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS IN WSP-S OFFICE. ALLOW MORE TIME WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED. SUBMIT IN GENERAL CONFORMITY WITH THE SEQUENCE OF CONSTRUCTION INTENDED.

4. AFTER REVIEW, THE DRAWINGS WILL BE STAMPED AND RETURNED. DO NOT COMMENCE FABRICATION UNTIL RETURNED SHOP DRAWINGS HAVE BEEN EXAMINED.

5. SHOP DRAWINGS MARKED "**REVIEWED**" CAN BE USED FOR FABRICATION. DO NOT MAKE ANY CHANGES OR ADDITIONS TO THESE DRAWINGS WITHOUT NOTIFYING THE CONSULTANT.

6. SHOP DRAWINGS MARKED "**REVIEWED AS NOTED**" CAN BE USED FOR FABRICATION AFTER THE REVISIONS NOTED ARE IMPLEMENTED. DO NOT MAKE ANY FURTHER CHANGES OR ADDITIONS TO THESE DRAWINGS WITHOUT NOTIFYING THE CONSULTANT.

7. SHOP DRAWINGS MARKED "**REVISE AND RESUBMIT**" REQUIRE SUBSTANTIAL REVISIONS AND MUST BE RESUBMITTED FOR ADDITIONAL REVIEW PRIOR TO FABRICATION. ALL CHANGES AND ADDITIONS TO THE PREVIOUS SUBMISSION TO BE CLEARLY IDENTIFIED ON THE RESUBMITTED DRAWINGS. ONLY THE IDENTIFIED CHANGES WILL BE REVIEWED ON RE-SUBMISSION.

8. SHOP DRAWINGS MARKED "**REVIEWED FOR IMPACT ON BASE STRUCTURE ONLY**" SHOW WORKS WHICH ARE NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES BUT AFFECT BEHAVIOUR OF THE BASE STRUCTURE. WSP-S WILL NOT REVIEW DESIGN OF THESE WORKS AND ASSUMES THAT THE INDICATED WEIGHTS AND ALL OTHER LOADS IMPOSED ON THE BASE STRUCTURE ARE CORRECTLY IDENTIFIED BY THE DESIGNER / SUPPLIER OF THESE ELEMENTS.

9. DRAWINGS MARKED "**NOT REVIEWED**" SHOW WORKS WHICH ARE NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES AND DO NOT IMPACT THE BASE BUILDING STRUCTURE.

FIELD REVIEW

1. WSP-S WILL PROVIDE PERIODIC FIELD REVIEW OF A REPRESENTATIVE SAMPLE OF THE STRUCTURAL WORKS DETAILED ON THESE DRAWINGS FOR GENERAL CONFORMANCE WITH CONTRACT DOCUMENTS. THESE REVIEWS DO NOT REPLACE THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT AND MAINTAIN A QUALITY CONTROL PROGRAM, AND DO NOT MAKE WSP-S A GUARANTOR OF THE CONTRACTOR'S WORK.

2. CONSTRUCTION REVIEW REPORTS WILL OUTLINE ANY DEFICIENCIES FOUND.

3. ASSIST WSP-S DURING FIELD REVIEW, AND PROVIDE SAFE ACCESS TO WORK AREAS AS REQUIRED.

4. CHECK THE WORK PRIOR TO FIELD REVIEW TO CONFIRM IT IS COMPLETED AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.

5. BRING TO THE ATTENTION OF WSP-S ANY DEFICIENCIES FOUND IN THE WORK TOGETHER WITH A PROPOSAL FOR REMEDY. WSP-S WILL DECIDE WHAT CORRECTIVE ACTION MAY BE TAKEN AND ISSUE THE NECESSARY INSTRUCTIONS.

6. ORGANIZE FOR FIELD REVIEW OF ALL PROPRIETARY PRODUCTS AND OTHER STRUCTURAL WORKS DESIGNED BY SPECIALTY ENGINEERS. THE REVIEW TO BE BY THE ENGINEERS RESPONSIBLE FOR THE DESIGN OR BY OTHER ENGINEERS DESIGNATED BY THE ENGINEERS RESPONSIBLE FOR THE DESIGN AND LICENSED IN THE PLACE WHERE THE PROJECT IS LOCATED. SUBMIT CONSTRUCTION REVIEW REPORTS FOR CONSULTANT'S RECORD.

STRUCTURAL STEEL

1. CONFORM TO CSA S16.

2. MATERIALS: TO CSA G40.21 UNLESS OTHERWISE NOTED, WITH THE FOLLOWING GRADES:

W, WWF AND S SECTIONS, CHANNELS AND ANGLES:	350W
PLATES, BARS:	300W
HOLLOW STRUCTURAL SECTIONS:	350W CLASS "C"
BOLTS:	ASTM F3125 GRADE A325, UNLESS NOTED

3. PROVIDE SHOP DRAWINGS FOR ALL STEELWORK. SHOP DRAWINGS FOR STRUCTURAL STEEL, STEEL CONNECTIONS, AND STEEL JOISTS TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR DESIGN, RETAINED BY THE CONTRACTOR AND REGISTERED IN THE PLACE THE PROJECT IS LOCATED. ENGINEER TO CARRY MINIMUM $1,000,000 IN LIABILITY INSURANCE.

4. DO NOT CUT HOLES OR OTHERWISE MODIFY STRUCTURAL MEMBERS ON SITE.

5. CLEAN SURFACES DOWN TO BARE METAL AND APPLY TWO COATS OF ZINC-RICH TOUCH-UP PAINT TO ANY GALVANIZED SURFACE THAT HAS BEEN DAMAGED OR FIELD WELDED.

6. IF STRUCTURAL STEEL IS IN DIRECT CONTACT WITH GROUND (E.I. COLUMN BASE IS NOT ENCASED IN CONCRETE), PROTECT WITH EPOXY PAINT.

LIGHTWEIGHT STEEL FRAMING (LSF)

1. UNLESS NOTED OTHERWISE, LIGHTWEIGHT STEEL FRAMING (LSF) DESIGN AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2014 ALBERTA BUILDING CODE, AND CAN/CSA-S136.

2. LSF SPECIALIST CONTRACTOR MUST RETAIN A PROFESSIONAL ENGINEER REGISTERED WHERE THE PROJECT IS LOCATED TO PREPARE SHOP DRAWINGS AND TO PERFORM PERIODIC FIELD REVIEW. THE SPECIALTY ENGINEER TO DESIGN ALL LSF CONNECTIONS AND DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS, AND TO SEAL AND SIGN ALL SUCH DETAILS ON THE SHOP DRAWINGS.

3. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL SHOW BOTH DESIGN AND INSTALLATION REQUIREMENTS.

4. COORDINATE WITH OTHER WORK INCLUDING AIR AND VAPOUR BARRIERS, EXTERIOR SHEATHINGS AND INSULATION, STUD SPACE INSULATION, MASONRY, DRYWALL, MECHANICAL, ELECTRICAL, PLUMBING, DOORS AND WINDOWS, INTERIOR DRYWALL PARTITIONS, CONCRETE AND CONCRETE FORMWORK, AND STAIRS.

5. ALL LIGHTWEIGHT STEEL MATERIAL 0.0451" (1.146mm) OR THINNER SHALL CONFORM TO ASTM A653/653M GRADE A, 33KSI (227 MPa) MINIMUM YIELD. ALL SHEET STEEL MATERIAL 0.0566" (1.438mm) OR THICKER SHALL CONFORM TO ASTM A653/653M GRADE D, 50 KSI (345 MPa) MINIMUM YIELD. ALL STUDS AND JOISTS SHALL HAVE LIPPED FLANGE.

6. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS, OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.

7. ALIGN WEB CUT-OUTS IN STUDS AND JOISTS AS REQUIRED FOR THE INSTALLATION OF THROUGH-THE-KNOCKOUT STYLE BRIDGING AND SERVICES.

8. JOISTS, OR THEIR END STIFFENERS, SHALL BE LOCATED DIRECTLY OVER AXIAL LOAD BEARING STUDS. ALTERNATIVELY A LOAD DISTRIBUTION MEMBER SHALL BE PROVIDED TO TRANSFER LOADS. THE USE OF TRACK AS A LOAD DISTRIBUTION MEMBER IS NOT PERMITTED.

9. CUT-OUTS IN STUDS AND JOISTS ARE NOT ALLOWED WITHIN 12" OF STUD/JOIST ENDS. WHERE STUDS ARE CUT OUT FOR ELECTRICAL, REINFORCE STUD WITH A 2'-0" LONG STUD BACK-TO-BACK. CUT-OUTS SHALL NOT BE LARGER THAN 1" IN DIAMETER. ADD 4 FASTENERS TO WEBS OF BACK-TO-BACK STUDS WITH A DIAMOND PATTERN AROUND THE CUT-OUT.

10. FOR JOISTS, OUT OF STRAIGHTNESS (CAMBER AND SWEEP) SHALL NOT EXCEED 1/1000TH OF THE MEMBER LENGTH.

11. SPACING OF JOISTS AND STUDS: NOT MORE THAN ±3.0 MM FROM DESIGN SPACING. THE CUMULATIVE ERROR IN THE SPACING SHALL NOT EXCEED THE REQUIREMENTS OF THE FINISHING MATERIALS.

DRAWING ABBREVIATIONS — TG-ABBR-01

ABUT	ABUTMENT	DP	DEEP	ℓ_d	TENSION DEVELOPMENT LENGTH OF REBAR	SPEC	SPECIFICATIONS
ACA	ADHESIVE CONCRETE ANCHORS, SEE GENERAL NOTES	DWG	DRAWING	ℓ_{dc}	COMPRESSION DEVELOPMENT LENGTH OF REBAR	SPF	SPRUCE PINE FIR
ADD'L	ADDITIONAL	DWL	DOWEL	ℓ_{dh}	TENSION EMBEDMENT LENGTH WITH STANDARD HOOK	SR	STUD RAIL
AEC	ARCHITECTURALLY EXPOSED CONCRETE	EA	EACH	LE	LEFT END	SS	STAINLESS STEEL
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	ECR	EPOXY COATED REINFORCEMENT	LG	LONG	ST	STRAIGHT
AIFB	ASPHALT IMPREGNATED FIBERBOARD	EBF	ECCENTRICALLY BRACED FRAME	LL	LOWER LEVEL	STD	STANDARD
ALT	ALTERNATE	EE	EACH END	LLH	LONG LEG HORIZONTAL	STE	SHEAR TRANSFER ELEMENTS
AMA	ADHESIVE MASONRY ANCHORS, SEE GENERAL NOTES	EF	EACH FACE	LLV	LONG LEG VERTICAL	STG	STAGGERED
ARCH	ARCHITECTURAL	EJ, EXP JT	EXPANSION JOINT	LONG	LONGITUDINAL	STIR	STIRRUP
A-ROD	ANCHOR ROD	ELECT	ELECTRICAL	LSH	LONG SIDE HORIZONTAL	STIFF	STIFFENER
ASPH	ASPHALT	EL	ELEVATION	LP	LOW POINT	STL	STEEL
AVG	AVERAGE	ELEV	ELEVATOR	LWT	LIGHT WEIGHT	STR	SEISMIC STRAP
B, BOT	BOTTOM	EMBED	EMBEDMENT	MAX	MAXIMUM	STRUCT	STRUCTURAL
BCE	BOTTOM CHORD EXTENSION	ENG	ENGINEER	MC	MOMENT CONNECTION (⟨ ⟩)	SWT	SELF WEIGHT
BCP	BORED CONCRETE PILE	EOD	EDGE OF DECK	MECH	MECHANICAL	SYMM	SYMMETRICAL
BEW	BOTTOM EACH WAY	EOS	EDGE OF SLAB	MEZZ	MEZZANINE	t	THICKNESS
BH	BOREHOLE	ES	EACH SIDE	MF	MOMENT FRAME	TB	TRANSFER BEAM
BLL	BOTTOM LOWER LAYER	EQ	EQUAL	MIN	MINIMUM	TBB	TOP BASIC BARS
BOF	BOTTOM OF FOOTING	EW	EACH WAY	MISC	MISCELLANEOUS	T	TOP
BOP	BOTTOM OF PILE	EX, EXIST	EXISTING	MJ	MOVEMENT JOINT	TDL	TENSION DEVELOPMENT LENGTH
BP	BASE PLATE	EXT	EXTERIOR	ML	MIDDLE LAYER	TEW	TOP EACH WAY
BRG	BEARING	FC	FUTURE COLUMN	NF	NEAR FACE	T&G	TONGUE AND GROOVE
BRP	BEARING PLATE	FD	FLOOR DRAIN	NIC	NOT IN CONTRACT	TJ	TIE JOIST
BSMT	BASEMENT	FF	FAR FACE	NOM	NOMINAL	TLL	TOP LOWER LAYER
BUL	BOTTOM UPPER LAYER	FIN	FINISHED	NTS	NOT TO SCALE	T/O	TOP OF
BUP	BOTTOM OF UNDERPINNING	FL	FLOOR	O/C	ON CENTER	TOB	TOP OF (GRADE) BEAM
C	CAMBER	FMC	FULL MOMENT CONNECTION (FOR FULL MOMENT CAPACITY)	OD	OUTSIDE DIAMETER	TOC	TOP OF CONCRETE
CA	COLUMN ABOVE ONLY (NO COLUMN BELOW)	FND	FOUNDATION	OF	OUTSIDE FACE	TOF	TOP OF FOOTING
CANT	CANTILEVER	FTG	FOOTING	OPP	OPPOSITE	TOS	TOP OF STEEL
CAT	CATEGORY (FOR AESS)	GA	GAUGE	OWSJ	OPEN WEB STEEL JOIST	TOP	TOP OF PILE
CB	COLUMN BELOW ONLY (NO COLUMN ABOVE)	GALV	GALVANIZED	PAF	POWDER ACTUATED FASTENERS	TOW	TOP OF WALL
CDL	COMPRESSION DEVELOPMENT LENGTH	GB	GRADE BEAM	PC	PILE CAP	TPC	TOP OF PILE CAP
CEL	CUT OFF ELEVATION FOR PILES	GEN	GENERAL	PL	PLATE	TRANS	TRANSVERSE
CIP	CAST-IN PLACE	GL	GRIDLINE	PROJ	PROJECT, PROJECTION	TSA	TENSION SPLICE "A"
CJ	CONTROL JOINT	GRD	GROUND	PS	PIPE SUPPORT	TSB	TENSION SPLICE "B"
CLR	CLEAR	h	TOTAL THICKNESS, SLAB THICKNESS AWAY FROM DROP PANEL	PT	POST TENSIONED	TUL	TOP UPPER LAYER
CL	CENTRELINE	hd	SLAB OVERALL THICKNESS AT DROP PANEL	PTL	PRESSURE TREATED LUMBER	TYP	TYPICAL
CMU	CONCRETE MASONRY UNITS	H, HORIZ	HORIZONTAL	R	RADIUS	U-BAR	"U" SHAPED BAR
CNT	STEEL DECK CORE NOMINAL THICKNESS	(H)	HIGH BEAM	RA	ROOF ANCHOR	UDB	UNIFORMLY DISTRIBUTED BARS
COMP	COMPOSITE	HC	HOLLOWCORE	RD	ROOF DRAIN	U/F	UNDERSIDE OF FOOTING
COL	COLUMN	HD	HOLD DOWN	RDA	REBAR DOWEL ANCHORS, SEE GENERAL NOTES	UL	UPPER LEVEL
CONC	CONCRETE	HDG	HOT DIPPED GALVANIZED	RE	RIGHT END	ULS	ULTIMATE LIMIT STATE
CONT	CONTINUOUS	HEF	HORIZONTAL EACH FACE	REINF	REINFORCEMENT	U/S	UNDERSIDE
CONT'D	CONTINUED	HIF	HORIZONTAL INSIDE FACE	REM	REMAINDER	U/N, UNO	UNLESS NOTED OTHERWISE
CONST.J.	CONSTRUCTION JOINT	HH	HOOK EACH END	REQ'D	REQUIRED	UPT	UPTURNED
CP	CONNECTION PLATE	HIC	HORIZONTAL IN CENTRE	REV	REVISION	V, VERT	VERTICAL, VERTICALS
CPL	CAP PLATE	HMA	HOLLOW MASONRY ANCHORS, SEE GENERAL NOTES	RF	RIGID FRAME	VB	VERTICAL BRACING
CS	COMPRESSION LAP SPLICE	HOF	HORIZONTAL OUTSIDE FACE	RL	REFERENCE LINE	VEF	VERTICAL EACH FACE
COV	CLEAR COVER	HP	HIGH POINT	RSS	RETAINED SOIL SYSTEM	VIF	VERTICAL INSIDE FACE
C/W	COMPLETE WITH, CONNECT WITH	HSC	HORIZONTAL SLOTTED CONNECTION	RTU	ROOF TOP UNIT	VIC	VERTICAL IN CENTRE
CWS	(SEE GENERAL NOTES)	IBI	INTEGRITY BARS INTERIOR	RET. WALL	RETAINING WALL	VOF	VERTICAL OUTSIDE FACE
CLS	(SEE GENERAL NOTES)	IBE	INTEGRITY BARS EXTERIOR	R/W	REINFORCE WITH	VSC	VERTICALLY SLOTTED CONNECTION
DCA	DRILLED CONCRETE ANCHOR, SEE GENERAL NOTES	IBA	INTEGRITY BARS ADDED	r.w.	REQUIRED WITH	WB	WALL BELOW
DEMO	DEMOLITION	IBB	INTEGRITY BOTTOM BARS (THROUGHOUT)	SDF	STEP DOWN FOOTING (IN DIRECTION OF ARROW)	WC	WIND COLUMN
DET	DETAIL	ID	INSIDE DIAMETER	SEC	SECTION	w/o	WITHOUT
D.FIR-L	DOUGLAS FIR-LARCH	INT	INTERIOR	SIM	SIMILAR	WP	WORK POINT
DIA, Ø	DIAMETER	IF	INSIDE FACE	SJ	STEEL JOIST	WSP-S	WSP STRUCTURAL
DIV	DIVIDER BEAM	JG	JOIST GIRDER	SL	SLAB, SHELF ANGLE	WWF	WELDED WIRE FABRIC
DMA	DRILLED MASONRY ANCHOR, SEE GENERAL NOTES	KB	KNEE BRACING	SLBB	SHORT LEG BACK TO BACK	ZRP	ZINC RICH PAINT
DN	DOWN	(L)	LOW BEAM	SLS	SERVICEABILITY LIMIT STATE	Y_c	CONCRETE DENSITY
DNW	DOUBLE NUT AND WASHER	2-L	BACK TO BACK ANGLES	SOG	SLAB-ON-GRADE		

DEC 2021

LOADING ABBREVIATIONS — TG-ABBR-02

Af	FACTORED AXIAL LOAD IN kN (+ INDICATES TENSION, - INDICATES COMPRESSION)
Cf	FACTORED COMPRESSION IN kN
f'c	COMPRESSIVE STRENGTH OF CONCRETE, IN MPa
fy	YIELD STRENGTH IN MPa
Mf	FACTORED MOMENT IN kN.m
Mfx	FACTORED MOMENT ABOUT X-X (STRONG) AXES IN kN.m
Mfy	FACTORED MOMENT ABOUT Y-Y (WEAK) AXES IN kN.m
MPL	MASONRY PARTITION DEAD LOAD IN kN/m
MTf	FACTORED TORSION IN KN.m
Rf	FACTORED VERTICAL REACTION IN kN
RHf	FACTORED HORIZONTAL REACTION IN kN
P	SPECIFIED (UNFACTORED) POINT LOAD IN kN
Pf	FACTORED POINT LOAD IN kN
Vf	FACTORED SHEAR IN kN
Tf	FACTORED TENSION IN kN
WT	WEIGHT OF MECHANICAL EQUIPMENT

JUNE 2021

DRAWING LIST

DRAWING No	DRAWING NAME
S100	GENERAL NOTES
S200	ROOF FRAMING UPGRADE PLAN
S400	SECTIONS AND DETAILS

wsp
1000 - 840 HOWE STREET
VANCOUVER BC, CANADA V6Z 2M1
T: 604-685-9381 | F: 604-601-6762 | WWW.WSP.COM

CONSULTANT - SUB CONSULTANT:

SEAL:

PROFESSIONAL ENGINEER — YUKON — RICHARD MASTSCHUCH — TERRITORY
2022-10-07

PERMIT TO PRACTICE
WSP CANADA INC.
SIGNATURE
Date 2022-10-07
PERMIT NUMBER PP150
Association of Professional Engineers of Yukon

CLIENT:

THE CITY OF DAWSON

CLIENT REF. #: -

PROJECT:

AMFRC ROOF UPGRADE

1054 FOURTH AVENUE
DAWSON CITY, YUKON Y0B 1G0

KEY PLAN:

ISSUED FOR - REVISION:

IS	RE	DATE	DESCRIPTION
	B	2022-10-07	ISSUED FOR COSTING
	A	2022-07-08	ISSUED FOR CLIENT REVIEW

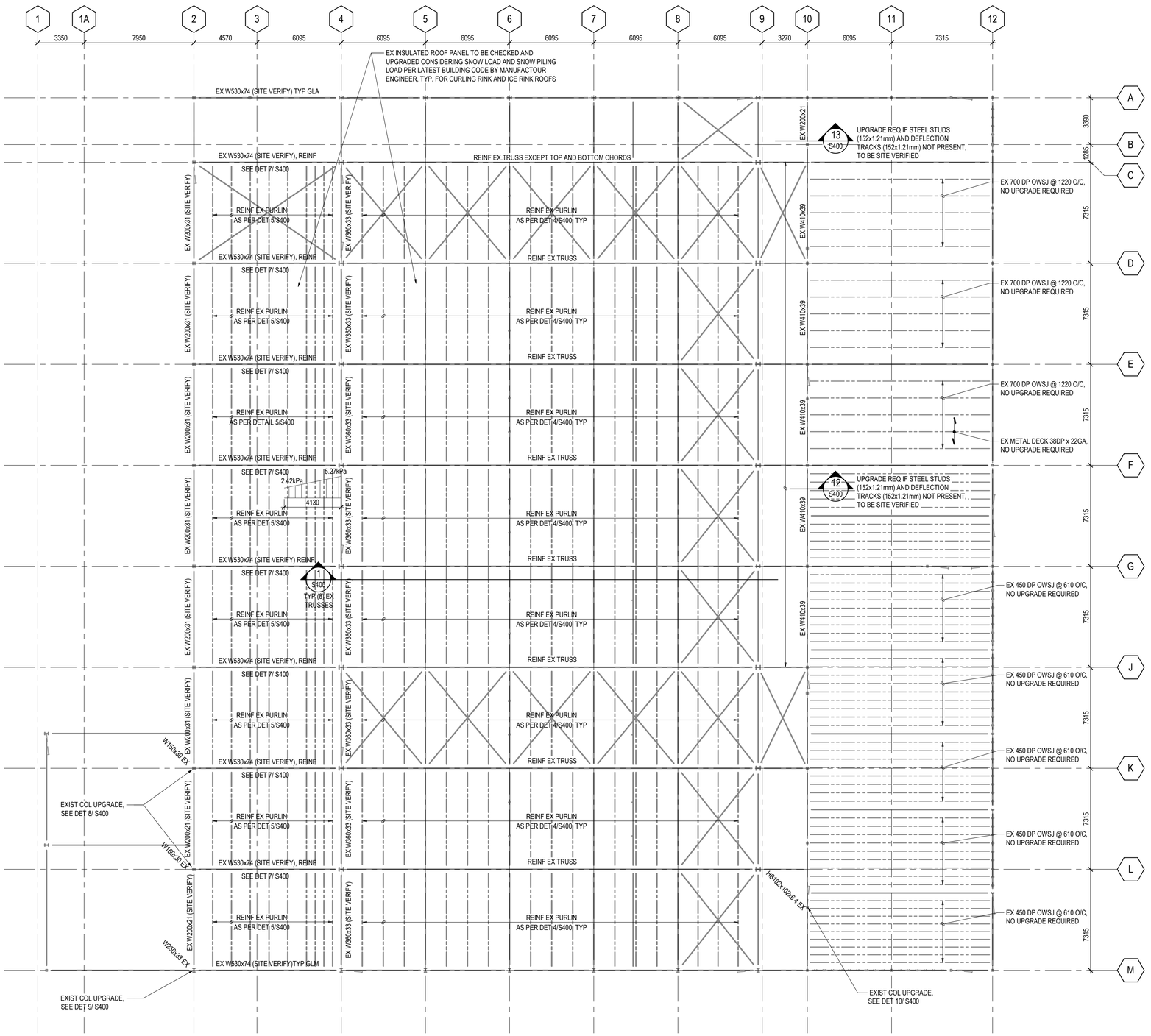
PROJECT NO: 171-16598-00
DATE: 2022-06-20
ORIGINAL SCALE: NTS
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: CH
DRAWN BY: HM
CHECKED BY: RM
25mm

DISCIPLINE: STRUCTURAL

TITLE: GENERAL NOTES

SHEET NUMBER: S100
SHEET #: OF

ISSUE: ISSUED FOR COSTING
RV.# B
DATE OF: 2022-10-07



ROOF FRAMING UPGRADE PLAN

1 : 150

NOTE:
ALL NEW STEEL AND WELDS TO BE PRIMED AND PAINTED TO MATCH EXISTING PAINT SPECIFICATION.

SCALE 1:100 (0 1 2 5 8m)

wsp
1000 - 840 HOWE STREET
VANCOUVER BC, CANADA V6Z 2M1
T: 604-685-9381 | F: 604-601-6762 | WWW.WSP.COM

CONSULTANT - SUB CONSULTANT:

SEAL:

PROFESSIONAL ENGINEER YUKON TERRITORY RICHARD MASTSCHUCH 2022-10-07

PERMIT TO PRACTICE
WSP CANADA INC.
SIGNATURE
Date 2022-10-07
PERMIT NUMBER PP150
Association of Professional Engineers of Yukon

CLIENT:

CLIENT REF. #: -

PROJECT:

AMFRC ROOF UPGRADE

1054 FOURTH AVENUE
DAWSON CITY, YUKON Y0B 1G0

KEY PLAN:

ISSUED FOR - REVISION:

IS	RE	DATE	DESCRIPTION
	B	2022-10-07	ISSUED FOR COSTING
	A	2022-07-08	ISSUED FOR CLIENT REVIEW

PROJECT NO: 171-16598-00
DATE: 2022-06-20
ORIGINAL SCALE: 1 : 150
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
25mm
DESIGNED BY: CH
DRAWN BY: HW
CHECKED BY: RM

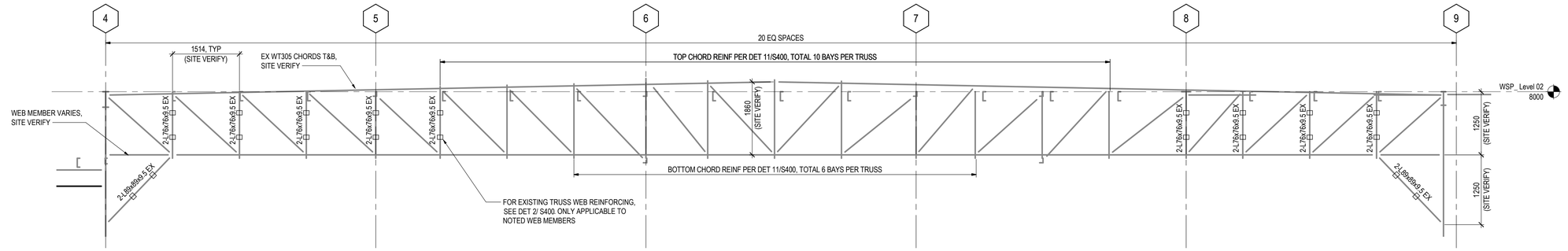
DISCIPLINE: STRUCTURAL

TITLE: ROOF FRAMING UPGRADE PLAN

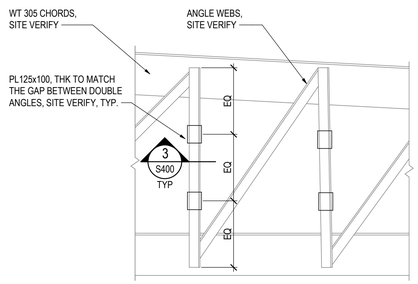
SHEET NUMBER: S200
SHEET #: OF

ISSUE: ISSUED FOR COSTING
RV.# B
DATE OF: 2022-10-07

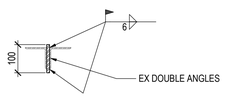
BIM 360://171-16598-02 - AMFRC Settlement - R19/S_171-16598-00_AMFRC Settlement_R19.rvt
2022-10-07 1:24:50 PM



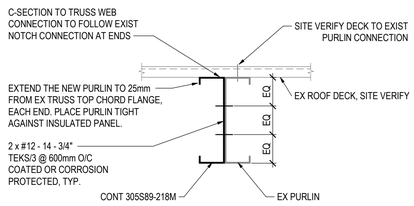
1 S200 **TRUSS REINFORCEMENT ELEVATION**
1 : 50



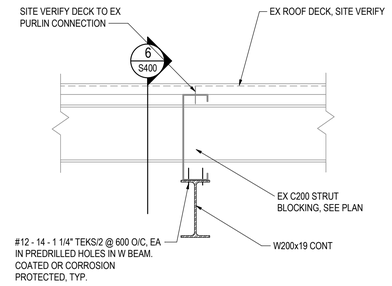
2 S400 **TYPICAL TRUSS REINFORCEMENT DETAIL**
1 : 20



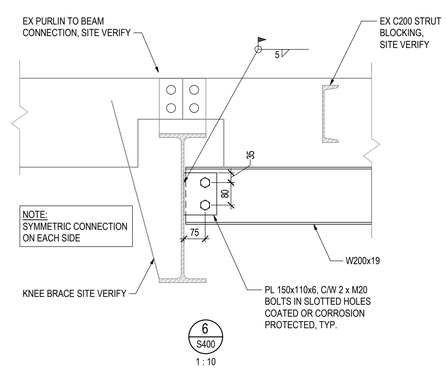
3 S400 **DETAIL**
1 : 10



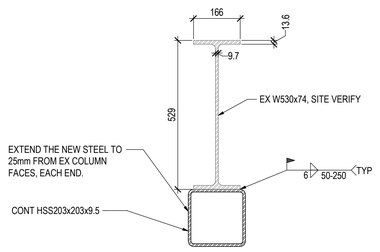
4 S400 **DETAIL AT ICE RINK ROOF REINFORCED PURLIN**
1 : 10



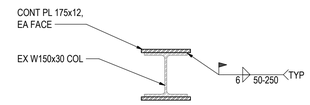
5 S400 **DETAIL AT CURLING RINK ROOF REINFORCED PURLIN**
1 : 10



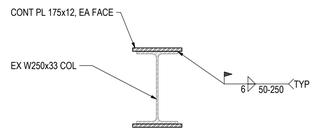
6 S400 1 : 10



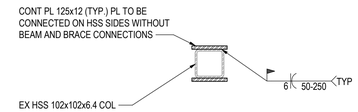
7 S400 **DETAIL AT CURLING RINK ROOF REINFORCED W530 BEAM**
1 : 10



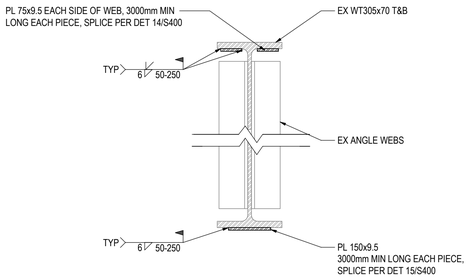
8 S400 **W150 COLUMN REINFORCEMENT DETAIL**
1 : 10



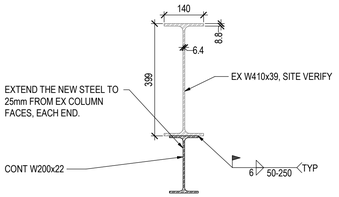
9 S400 **W250 COLUMN REINFORCEMENT DETAIL**
1 : 10



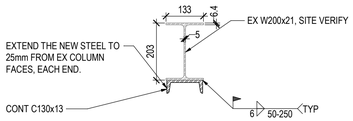
10 S400 **HSS 102x102x6.4 COLUMN REINFORCEMENT DETAIL**
1 : 10



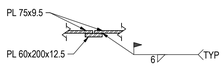
11 S400 **ICE RINK TRUSS CHORDS REINFORCEMENT DETAIL**
1 : 10



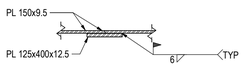
12 S200 **ADMIN ROOF W410 REINFORCEMENT DETAIL**
1 : 10



13 S200 **ADMIN ROOF W200 REINFORCEMENT DETAIL**
1 : 10



14 S400 **SPLICE DETAIL FOR PL 75x9.5**
1 : 10



15 S400 **SPLICE DETAIL FOR PL 150x9.5**
1 : 10

wsp
1000 - 840 HOWE STREET
VANCOUVER BC, CANADA V6Z 2M1
T: 604-685-9381 | F: 604-601-6762 | WWW.WSP.COM

CONSULTANT - SUB CONSULTANT:

SEAL:

PROFESSIONAL ENGINEER
YUKON TERRITORY
RICHARD MASTSCHUCH
2022-10-07

PERMIT TO PRACTICE
WSP CANADA INC.
SIGNATURE
Date 2022-10-07
PERMIT NUMBER PP150
Association of Professional Engineers of Yukon

CLIENT:

THE CITY OF DAWSON

CLIENT REF. #: -

PROJECT:

AMFRC ROOF UPGRADE

1054 FOURTH AVENUE
DAWSON CITY, YUKON Y0B 1G0

KEY PLAN:

ISSUED FOR - REVISION:

IS	RE	DATE	DESCRIPTION
	B	2022-10-07	ISSUED FOR COSTING
	A	2022-07-08	ISSUED FOR CLIENT REVIEW

PROJECT NO: 171-16598-00
DATE: 2022-06-20
ORIGINAL SCALE: As indicated
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: CH
DRAWN BY: HM
CHECKED BY: RM
25mm

DISCIPLINE: STRUCTURAL

TITLE: SECTIONS AND DETAILS

SHEET NUMBER: S400
SHEET #: OF

ISSUE: ISSUED FOR COSTING
RV.#: B
DATE OF: 2022-10-07

AFMRC Fuel consumption analysis

Fuel Consumption

Here is the overall graph of fuel use by month per heating season (there are some estimations as fuel deliveries are not consistent). Fuel data was obtained directly from North 60° and AFD delivery logs/fuel consumption reports.

Figure 1: Fuel Consumption by month 2017-2022

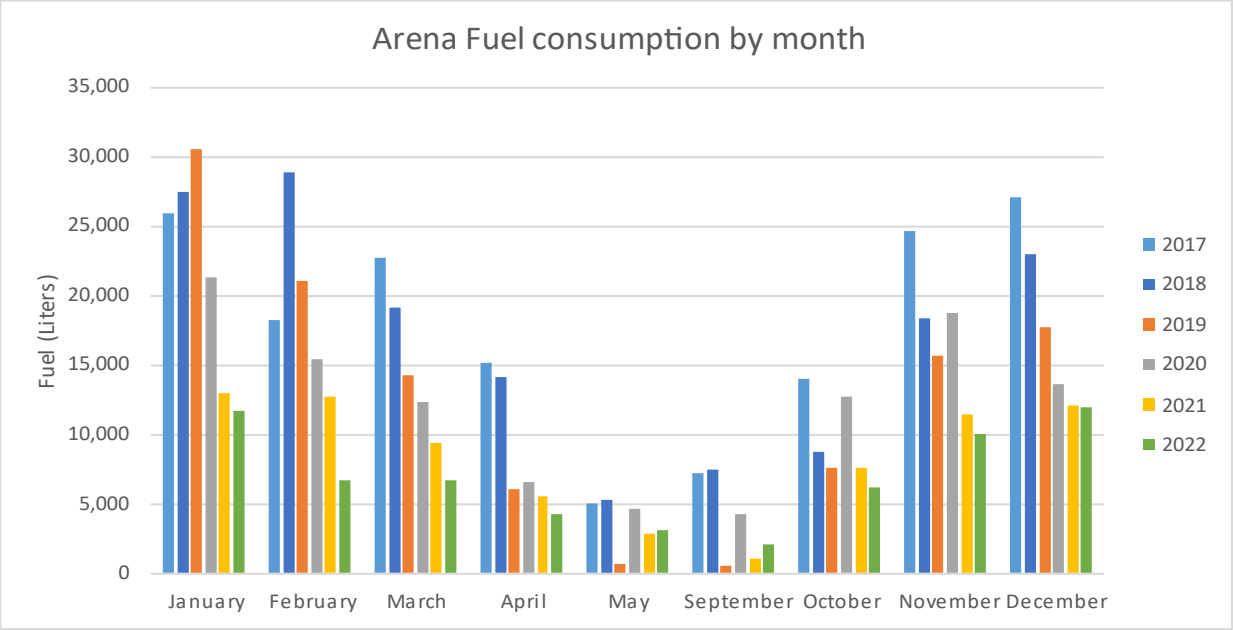
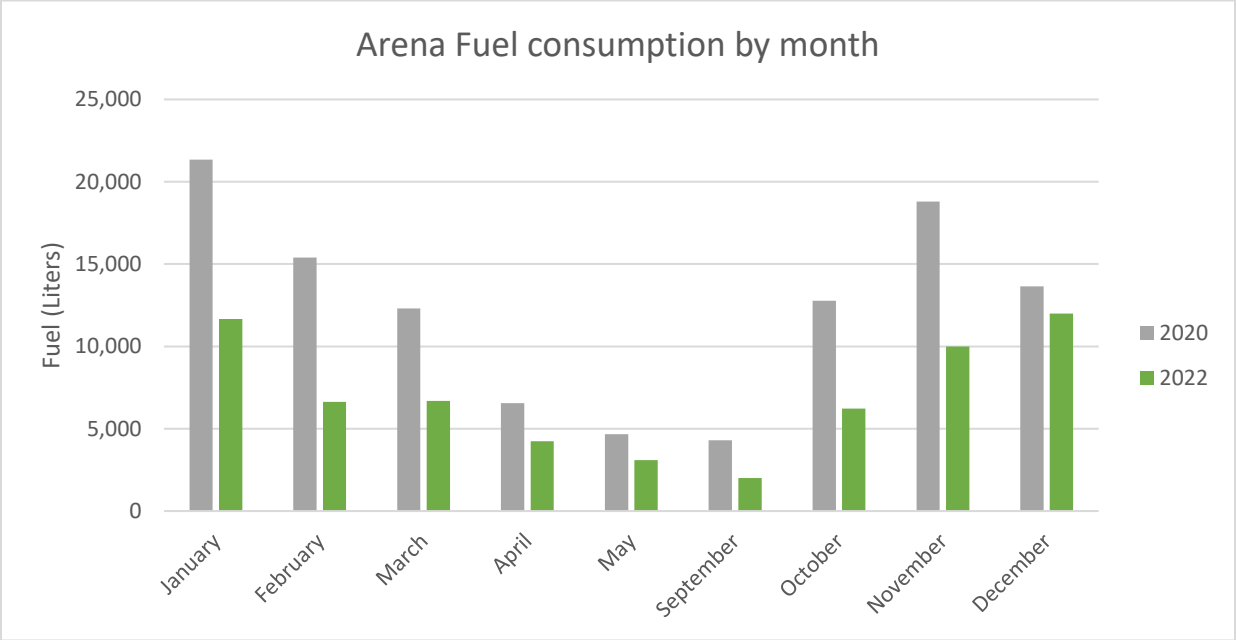


Figure 2: Comparing 2020 and 2022



Here is a table for month-to-month comparisons of fuel consumed. In yellow are estimates for the end of the 2022 season.

Table 1: Month to month comparison 2017-2022

Month	2017 (L)	2018 (L)	2019 (L)	2020 (L)	2021 (L)	2022 (L)
January	25,927	27,421	30,506	21,337	12,927	11,671
February	18,214	28,853	21,005	15,403	12,716	6,631
March	22,775	19,168	14,224	12,299	9,326	6,700
April	15,163	14,168	6,021	6,555	5,593	4,242
May	5,062	5,263	605	4,677	2,803	3,102
September	7,191	7,516	490	4,296	1,051	2,000
October	14,061	8,717	7,583	12,768	7,552	6,216
November	24,693	18,369	15,686	18,790	11,437	10,000
December	27,097	22,949	17,771	13,640	12,102	12,000
Total (Liters)	**160,183**	**152,424**	**113,890**	**109,765**	**75,506**	**62,562**
Average	**17,798**	**16,936**	**12,654**	**12,196**	**8,390**	**6,951**
% Difference from year before		**5**	**29**	**4**	**37**	**19**

From 2017 to 2022:

- A reduction of 97,621 liters consumed per year
- 88% reduction
- Approximate cost reduction per year: *$214,766* based on October 2022 fuel prices

From 2020 to 2022:

- A reduction of 47,204 liters consumed per year
- 55% reduction
- Approximate cost reduction per year: *$103,848* based on October 2022 fuel prices

Accounting for weather variations

In this case, heating degree days are used to account for weather variations when comparing fuel consumption. Degree days are sourced from “climate.weather.gc.ca” where they explain how it works.

The degree day is used to determine a “Fuel efficiency”, the amount of fuel burned per degree day (liters per degree day). Similar to vehicles calculating efficiencies with L/100km.

Here is the overall table for fuel efficiency by month per heating season. In yellow are estimates for the end of the 2022 season.

Table 2: Energy Efficiency L/DD

Month	2018 (L/DD)	2019 (L/DD)	2020 (L/DD)	2021 (L/DD)	2022 (L/DD)
January	21.4	23.3	14.0	11.1	8.6
February	23.6	17.4	12.4	9.8	6.1
March	22.0	18.9	12.1	9.3	7.5
April	24.1	12.4	11.3	9.0	6.8
May	19.0	2.8	18.7	9.2	9.5
September	18.2	1.5	12.7	2.9	7.1
October	13.2	11.9	17.2	12.7	9.7
November	18.8	16.1	15.4	10.2	10.0
December	19.9	14.2	11.0	8.9	10.0
Year Average	**20.0**	**13.2**	**13.9**	**9.2**	**8.4**
% Difference from year before		**41**	**-5**	**40**	**10**

Report to Council

[ ] For Council Decision [x] For Council Direction [ ] For Council Information

[ ] In Camera

AGENDA ITEM:	**Revenue Review**	
PREPARED BY:	Kim McMynn	- Region of Peel – Rethinking Municipal Finance for the New Economy (relevant sections only)
DATE:	November 8, 2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: Fees and Charges Amendment Bylaw Annual Operating Budget and Tax Levy Bylaw		

RECOMMENDATION

Management respectively requests feedback and suggestions on the proposed upcoming provisional budget, specifically in the areas of revenues, prior to developing the new Fees and Charges Amendment Bylaw and Tax Levy Bylaw.

ISSUE / PURPOSE

Management, in preparation for this year's provisional Budget, is requesting input from council on some possible changes to revenues, prior to the presentation to Council on November 30, 2022.

BACKGOUND SUMMARY

In the past, changes to the Fees and Charges schedule and the Tax Levy bylaw were considered by the CFO during the drafting of the Provisional Budget, and proposed changes were usually presented in the first and second reading of the Annual Operating Budget. Consideration of fee changes are usually considered in order to avoid an annual operating deficit. Prudent fiscal planning, however, should consider the changes the City might be facing going forward and ensure that factors affecting expenditures are considered for future years as well. For example, as discovered in 2022, the anticipated savings in energy costs for building and vehicles evaporated with the unexpected rise in the cost of fuel. Supply shortages and delays resulted in increased costs for most supplies. The growth in the City to provide services when existing contractors are no longer available or short-staffed and to provide green alternatives has put additional financial pressure on the City. Looking forward, the City needs to consider the adequacy of its reserves and ensure they continue to be properly funded annually. The lessons from Covid indicate that municipalities need to further fund contingency reserves in the event of unexpected closures. Although it is fiscally prudent to keep expenditures under control (and managers displayed an excellent effort to balance the amended budget for 2022 required due to rising costs, without significant lay-offs or reduction of services), the next balanced budget may not be achievable without additional revenue generation considerations.

ANALYSIS / DISCUSSION

The City has a number of options available to increase revenues. These are in the order that they appear in the budget and are not in any order of priority from management:

1) General Taxation
2) Grants in Lieu
3) Fees and Charges
4) Sale of Properties
5) Reduction of Grants and Subsidies
6) New fees and charges
7) Collaboration

General Taxation and Grants in Lieu

It is prudent to review the tax rate annually and consider a policy of increasing on a regular basis. The residential rate of general taxation has not changed since 2012 (ten years ago) and the non-residentail general tax rate last changed in 2016. Recommended increases are often based on the inflation rate, which tries to keep taxation revenue in sync with increases in the costs of providing services to the city property owners and residents. If the City were to try to catch up to inflation, the increase would be 23.22% on the residential rate and 19.02% on non-residential properties. It should be noted that the City has been able to maintain services without a taxation increase in the past, due to the incremental changes in the land and improvement values in the annual assessment roll. However, in 2023, the projections are somewhat daunting. The preliminary roll indicates that assessed values of properties increased by less than 1%, while economic analysts are predicting inflation averaging 3.4% in 2023. Therefore, a moderate increase to the general tax rates should be considered. If a 2% increase is considered, the residential rate would increase from 1.56 to 1.59. The majority of homeowners would see an increase of less than $100, with the average at $35. Non-residential rates would increase to 1.89 from 1.85. The majority of businesses would see an increase of approximately $100 to $200. Although the extra revenue generated would be approximately $40,000, it is a start at establishing a small annual increase to maintain the health of the City finances.

Fees and Charges

Incremental increases should be considered for all fees and charges. There has been some increase in revenues due to the development of new properties, but overall, expenses to provide basic services continue to rise with the increasing cost of supplies, utilities and fuel. The shortage of employees creates additional pressure on wages and benefits as we have seen a rise in overtime just to maintain basic services. This does not include the cost of coverage and overtime as a result of increased need for sick time, to protect other staff and the public. Planning and development costs have increased exponentially, due to costs of research, title issues, appeals and litigation, which are not reflected in the fees for development permits. Changes in technology, equipment and safety requirements for Protective Services have increased the cost of providing assistance, while fees have not changed.

Sales of Properties

Additional revenue could be generated by an effort to proceed through the lien process and seize properties. The time to complete this process is fairly lengthy, but the outcome would produce additional revenue for the City, after legal and survey costs are considered.

Reductions of Grants and Subsidies

Seniors Home Owners Grant: This grant is not applied fairly, and results in some seniors obtaining a $200 subsidy, while others do not qualify. For example, a senior (65+) with a property valued below or up to $51,282 will pay $300 after applying the YG Homeowners Grant of $500 and is not eligible for the City of Dawson (CoD) grant. A senior with a property assessed at $51,282 to $64,102 will also only pay $300 after applying the YG Homeowners grant as they are eligible for the CoD Senior's grant. This also applies to individuals who are between 60 and 65. Due to the fact that this policy follows the same principles as the YG Homeowners Grants for calculating and determine eligibility, First Nation governments are also eligible for this grant, while not-for-profits and government run affordable housing projects cannot access these funds. If this grant is discontinued, the City would retain revenue of $28,000.

It is also prudent annually to consider other subsidies provided by the City to external organizations. The City does assist these organizations in various ways including; granting back property taxes, cash contributions and covering costs of operations.

New fees and charges

Council may choose to consider the addition of new fees. These include tipping fees at the Landfill to cover the rising costs of maintaining a safe and efficient landfill, ground water monitoring and environmental assessments. As mentioned in the Region of Peel document, suggestions of a Hotel and Motel tax (including Air BnB's were noted. Managers would be consulted as to additional fines or charges for services that are currently not being assessed.

Collaboration

Management will continue to work closely with the Yukon Government and the Association of Yukon Communities, to ensure that territorial funding continues to address the future uncertainties faced by municipalities. This includes ensuring that Tripartite Agreements (TPA's) are reviewed with the added consideration of economic uncertainty, that resources are shared where possible, that the Comprehensive Municipal Grant (CMG) continues to address increased needs for basic services and that municipal services provided to outlying/surrounding communities are compensated.

Attached are highlights from a 2019 document prepared for the Region of Peel titled **Rethinking Municipal Finance for the New Economy.** This document presents meaningful commentary and suggestions that may be implemented or considered as the City of Dawson plans for a financially secure future. (full version may be found at the following link)
https://www.peelregion.ca/finance/_media/rethinking-municipal-finance-new-economy.pdf

In conclusion, management is open to any suggestions and comments as we look ahead to maintaining a financially strong municipality in a future of economic uncertainty.

NAME:	Cory Bellmore	**SIGNATURE:** C Bellmore
DATE:	November 12, 2022	

MOWAT RESEARCH #187 | MARCH 2019

Rethinking Municipal Finance for the New Economy

BY SUNIL JOHAL, KIRAN ALWANI, JORDANN THIRGOOD & PETER SPIRO

Mowat Centre
ONTARIO'S VOICE ON PUBLIC POLICY

munk school
OF GLOBAL AFFAIRS & PUBLIC POLICY

UNIVERSITY OF TORONTO

EXECUTIVE SUMMARY

Governments across the world are grappling with a changing employment landscape where artificial intelligence and automation threaten jobs across sectors, digitization facilitates outsourcing and shrinks the tax base, traditional office spaces and stores become obsolete, societal inequality grows at alarming levels, and workers increasingly engage in precarious 'gig economy' jobs.

While these trends are putting pressure on government revenues globally, municipalities in Canada face an additional set of challenges as they operate in a unique context. Constitutionally, municipalities in Canada are "creatures of the province." In other words, provinces have exclusive authority over them. In Ontario, municipalities are governed by the Municipal Act, which enumerates every power that they have. Adapting to emerging realities is a challenge, as every power not explicitly granted through legislation, including the ability to levy new taxes, requires provincial approval.

Revenue sources for Canadian municipalities are limited. Apart from provincial and federal transfers, primary sources of revenue include residential and non-residential property taxes, development charges and user fees. Over the years, municipal expenditure responsibilities have also increased, while revenue growth has not kept pace. Municipalities continue to receive the smallest share of the economic pie – for every household tax dollar paid in Ontario, they collect only 9 cents.

Like the rest of Ontario and Canada, Peel Region's economy is in transition – there has been a shift from goods production to goods movement, and many manufacturing plants have been replaced by warehouses and distribution centres. E-commerce has reduced demand for retail spaces. The service sector continues to expand, with a particular emphasis on knowledge-based jobs. Workplaces are shrinking, and the average square footage per employee has declined significantly. At the same time, mobile work options such as telecommuting and hot-desking are becoming increasingly popular.

These trends are likely to further strain municipal revenues, as municipal revenue tools are inordinately reliant on land-based approaches to value that are becoming less relevant in the digital era. In Peel, the share of revenue from industrial property is on a downward trend, in large part due to the decline of the manufacturing sector. Growth in employment land consumption has also slowed. Furthermore, provincial growth forecasts have not been reflective of the actual pace of development, which has led to a shortfall in expected development charge revenue. Reliance on the residential property-tax base has been increasing, as non-residential property-tax revenue as a proportion of total tax-revenues declines. If these trends continue, property taxes will become increasingly unaffordable for residents in the years ahead.

Amidst the ongoing digital revolution and changing employment landscape, how can municipalities adapt? This study suggests that municipalities must modernize their approaches to revenue generation and governance to meet spending obligations. Less reliance on land-based tax bases is not only important to reflect the new world of work, but also because changing demographics (such as an aging population, increasing demand for social services, and challenges posed by climate change) will require municipalities to shoulder even more responsibilities going forward.

The fiscal challenges facing the Region of Peel and other municipalities won't be addressed through any single measure. Given the host of service pressures and tax base issues posed by demographic, technological and employment shifts, municipalities must consider a range of approaches and tactics to solidify their footing. To deal with the ongoing and emerging changes, the following hierarchy of approaches should guide Peel's thinking on the revenue side of the ledger:

» Advocate for and explore a **realignment of existing revenues, with both the federal and provincial governments** and engage in a meaningful dialogue with the public around how Canada's taxes and responsibilities are allocated amongst levels of government.

» Explore opportunities to **raise more revenues from existing tools**, including a comprehensive definitional review of various property types to ensure that misclassification isn't leading to tax leakage, as well as explore progressive property taxes or hiking property taxes at rates higher than historical patterns. This should also include a review of planning and forecasting assumptions to ensure that revenue projections are realistic and reflect exogenous trends.

» Then look to **new revenue tools specific to particular uses and users**.

» Finally, **explore general purpose revenue tools** (e.g., sales tax, share of income taxes).

Municipalities should also look to review their service-delivery frameworks and wring further efficiencies from existing expenditures. Furthermore, they should explore ways to realize benefits from the digital economy as well as utilize strategic foresight techniques to ensure that policies are robust and forward-looking. Finally, municipalities must recognize the value of collaboration with neighbouring municipalities to develop economic development approaches that promote shared prosperity. Taken together, these approaches will help place municipalities on surer footing in the years ahead.

Governments across the world are feeling challenged to effectively predict and plan for the future in the face of rapid changes to the economy, including the changing nature of work and its impact on people and places.

Despite the changing circumstances and increasing responsibilities, the revenue sources available to municipalities have largely remained unchanged.

6 POLICY OPTIONS

Municipalities across Canada are dealing with increasing fiscal pressures as a result of the changing nature of work, rising income inequality, growing service demands, deteriorating infrastructure and shifting demographics. Despite these changing circumstances and increasing responsibilities, the revenue sources available to municipalities have largely remained unchanged. This largely limits the ability of municipalities to implement innovative projects and effectively deal with novel 21st century challenges, such as the changing nature of work.

The following section discusses a number of policy responses that municipalities can look into to meet their revenue needs today and maintain fiscal health in the future. These include working around the margins by making improvements to currently available tools, advocating for the introduction of new revenue tools, developing innovative approaches to municipal service delivery, as well as rethinking economic development and integrated planning.

Working at the Margins

Changes to the Property Tax

Municipalities in Ontario continue to rely heavily on the property tax – a tool that is considerably exposed to the changing nature of the economy and labour market. The changing nature of work has already posed challenges: for instance, the non-residential property-tax base has declined and will likely continue to shrink over the coming years – shifting the burden on homeowners through the residential tax base at a time when work quality and wages may be deteriorating.

As property taxes are fairly inelastic, at a minimum, they should be maintained at the level of inflation, if not increased. As discussed however, property taxes are incredibly unpopular politically and as such, rate increases – particularly above the rate of inflation – are difficult to implement. In the event that overall rate increases are not feasible, many have suggested other ways of modernizing the property tax to meet the changing needs of municipal governments. Modernizing property tax is also important as it is argued that low property taxes encourage people to hold residential real estate as an investment, as the low carrying cost makes it more attractive compared to other types of investments.[110]

110 Alex Hemingway (2018) "Policy Note: Low property taxes help fuel housing crisis." Canadian Centre for Policy Alternatives, BC. http://www.policynote.ca/housing-crisis-fuel/.

It is important to note that the gap between home prices and incomes has increased significantly over the past four decades. While home prices have more than doubled after adjusting for inflation, real incomes for young Canadians have declined. A 25 to 34 year old worker in Canada with median full-time earnings now has to work for 13 years to save for a 20 per cent down payment for an average home. This is eight more years compared to the 1976 to 1980 period. This gap is even higher in Ontario, where 16 years of work is required.[111] These facts point towards the need to reform income and housing policies, as well as property taxes, to reap gains from increased housing wealth.

Some ideas to reform property taxes include:

» **Progressive Property Tax:**
A progressive property tax would be one in which the tax rate increases as the value of the property goes up – much like the way in which income is taxed in Canada. Currently, property taxes are flat – meaning that while rates differ depending on the property-tax class (e.g. residential vs. commercial), the same rate applies to all properties within that class.

Progressive property tax is a promising proposal to increase municipal revenues and obtain benefits from the increased housing wealth created by soaring property values over the past several years. However, a key challenge with reforming property tax is that it is a highly visible tax, and is therefore quite unpopular. This makes reforming property taxes politically challenging in general.[112]

To ensure that a progressive property tax does not disadvantage those who are house rich but income poor, such as seniors on fixed incomes, it has been suggested that they should be deferrable by low-income earners until the sale of the home. Certain deferral programs are already in place in some Canadian jurisdictions. Such a system would capture additional property value generated over the years without creating burden for low-income homeowners. A deferrable tax would also address the intergenerational golden rule, i.e. help pay for increased public expenditures in the midst of demographic changes, such as an aging population, without burdening the younger generation that earns lower incomes compared to historical levels, and faces higher housing costs.[113]

In Canada, the 2018 British Columbia Budget has proposed a progressive property-tax rate. This has been regarded as a positive development because real estate wealth cannot be hidden, and as a result property taxes provide a stable revenue base, and progressive rates would lead to increased revenues. To overcome the issue of increased tax burden on low-income homeowners, seniors in BC can defer the payment of the tax until the home is sold, while still realizing massive capital gains on their properties.[114]

111 Paul Kershaw (2018) "A Tax Shift that Benefits the Vast Majority: the case for more annual (deferrable) taxation of housing wealth to rebalance the mix of revenue generation tools used by Canadian government." Generation Squeeze Lab. pp. 6. https://www.citynews1130.com/wp-content/blogs.dir/sites/9/2018/05/16/Tax_Shift_2018-05-15_website.pdf.
112 Institute on Municipal Finance and Governance (2017) "Investigating Residential Property Tax and Inflation." https://munkschool.utoronto.ca/imfg/research/data-visualizations/property-tax/.

113 Paul Kershaw (2018) "A Tax Shift that Benefits the Vast Majority: the case for more annual (deferrable) taxation of housing wealth to rebalance the mix of revenue generation tools used by Canadian government." Generation Squeeze Lab. pp. 8-9. https://www.citynews1130.com/wp-content/blogs.dir/sites/9/2018/05/16/Tax_Shift_2018-05-15_website.pdf.
114 Marc Lee (2018) "Policy Note: Everything you wanted to know about the housing taxes and expenditures in BC Budget 2018." Canadian Centre for Policy Alternatives, BC. https://www.policynote.ca/everything-you-wanted-to-know-about-the-housing-taxes-and-expenditures-in-bc-budget-2018/.

Opponents of progressive property taxes argue that progressive property taxes can create negative competition between municipalities if some municipalities choose to implement a progressive property tax while others do not. High-income people may choose to move across jurisdictions unless progressive taxes are applied on a broader geographic scale. Therefore, collaboration with other GTHA municipalities would be key to avoid such competition.

» **New Tax Classes:** Observed trends in relation to the changing nature of work, such as increase in telework and home offices, have caused a rise in commercial activity in non-commercial places. These developments may exacerbate the problems facing the already-shrinking non-residential property-tax base of municipalities. To overcome this, it has been suggested that new categories of properties should be introduced that are reflective of the changing realities. These new categories may include a "home office" class that attempts to capture some of the non-residential revenue losses that have effectively been absorbed into residential spaces with higher tax rates for teleworkers, or a "co-working space" class as these become increasingly popular.

While there may be potential to introduce new categories of property, this would need to be introduced through amendments to the Assessment Act at the provincial level. There will also be administrative challenges to implementation – in particular, it is difficult to define specific tax classes. For example, in the case of teleworkers, work that is done online may not have a fixed place of work (i.e. neither home nor traditional office space). Adding new tax classes is also likely to result in an increase in the number of appeals with owners trying to get into classes with lower tax rates. Finally, addition of new tax classes will further complicate the already complex property-tax system in Ontario, which currently has over 30 different potential tax classes and subclasses, many of which are optional.

Optimizing Development Charges

Development charges are a useful tool to derive revenue in jurisdictions experiencing considerable growth, such as Peel Region. Like most Ontario municipalities outside Toronto, however, growth forecasts have not been reflective of the actual pace of development in Peel. As a result, the cost of anticipatory growth-related infrastructure has not been recovered, which tends to be the most significant challenge that municipalities face with development charges. While this is a difficult problem to get around, there are some improvements that can be made to optimize development charges as a revenue generator in this context.

To best address the challenge of growth projections, forecast models should be revised on a regular basis to keep pace with changing realities. Rates based on historical data that is too outdated can be obsolete and lead to misguided decisions in infrastructure investments. As mentioned above, new office buildings today tend to accommodate more employees with lower square footage per employee. Therefore, forecasting based on historical rates of service provision for a smaller number of people within a larger physical space, is now inaccurate.

In addition to taxes, user fees can serve as useful tools for municipalities to cover the costs of various services, while encouraging citizens to make more efficient consumption choices.

Municipalities may also be losing significant potential revenues as a result of exemptions and deferrals. Not all infrastructure is eligible for development charges, and not all of the costs are eligible. While exemptions tend to be made for strategic reasons or oftentimes must be made as a result of an appeals process, these case-by-case decisions can add up to considerable sums. To potentially increase revenues from development charges, local and regional governments should undertake a thorough analysis of these exemptions and deferrals to better understand where revenue losses might occur, and whether these are fair and justifiable. Moreover, redevelopment revenues should be reassessed to analyze whether they are sufficient to cover the costs of providing services, especially for non-residential buildings renovated to accommodate more people in the same space. Payment deferrals should also be minimized as much as possible to avoid undue financial burden on municipalities.

New or Improved User Fees

In addition to taxes, user fees can serve as useful tools for municipalities to cover the costs of various services, while encouraging citizens to make more efficient consumption choices. There is potential for municipalities to incorporate new user fees to cover the costs of essential services, although some of these options would require approval through provincial legislation. Some possibilities include:

» **Road Pricing:**
While road pricing is often politically unpopular, it has been proven to be effective in managing travel demand, reducing congestion and curbing pollution. Road pricing could take the form of high occupancy toll lanes or highway tolls.[115] In municipalities such as Peel Region however, many residents travel primarily by car, and transit is not as widespread or accessible as in fully urbanized areas. In these instances, the municipality would have to be careful in ensuring that these fees are fair and do not unnecessarily penalize citizens for driving. Having said that, similar to how public transit users pay fares, drivers can be charged a fee for the cost of maintenance of roads that they use.

» **Parking Charges:**
Another way to generate revenue is to charge parking levies in high-demand areas, as well as fees for non-residential and commercial parking spaces. These could help reduce traffic volume, easing congestion and encouraging transit use and development.[116] Such fees would also cover the cost of maintaining parking spaces.

» **Motor Vehicle Registration Fee:**
These fees can be levied annually, and be based on features such as engine size, age of vehicle, emissions and weight. While these modest levies can generate significant revenue, they are unlikely to affect travel behaviour. If it is combined with the provincial tax, it would also be easy to administer.[117]

115 Harry Kitchen and Enid Slack (2016) "New Tax Sources for Canada's Largest Cities: What Are the Options?" Institute on Municipal Finance and Governance. pp. 3-7. https://tspace.library.utoronto.ca/bitstream/1807/82858/1/imfg_perspectives_no15_newtaxsources_kitchen_slack_2016.pdf.
116 Ibid.
117 Ibid.

New Revenue Tools

Additional Taxes

HOTEL AND MOTEL TAX

The *Transient Accommodation Tax* came into effect in Ontario on December 1, 2017, allowing municipalities to implement a municipal accommodation tax.[132] The advantage of such a hotel and motel tax is that it falls largely on visitors to cities, and allows cities to be compensated for the services provided to them. Several Canadian municipalities, including Winnipeg, Montreal, Charlottetown and municipalities in British Columbia, have such a tax. As with other taxes, it would be most beneficial if it is coordinated regionally, as lack of coordination may create an incentive for visitors to stay at hotels or motels in competing neighbouring municipalities if they do not have such a tax.[133] In Peel, the City of Mississauga recently implemented such a tax.[134]

CANNABIS TAX

In 2015-2016, the direct costs of cannabis use for governments, particularly in the areas of health and criminal justice, were estimated to be around $830.3 million – 70 per cent of which were borne by municipal governments. With the 2018 legalization of recreational cannabis in Canada, it can be expected that while policing costs for enforcement will decrease for municipalities, costs to deal with cannabis-impaired driving will increase. Provinces will receive 75 per cent of the revenues from the cannabis excise tax, and will be responsible for passing a share on to municipalities.[135]

The Province of Ontario has promised to provide $40 million of the provincial portion to municipalities, and share 50 per cent of the amount in excess of $100 million received from the excise tax with municipalities.[136] However, it is currently unclear precisely what costs municipalities will incur to deal with cannabis-related challenges or what the level of strain on provincial healthcare costs will be. Therefore, it will be critical for municipalities to analyze potential risks and revenue shortfalls associated with cannabis legalization and advocate for a fair share of revenues, as well as conduct ongoing assessments to advocate for appropriate adjustments to the funding formula as necessary.

131 Harry Kitchen and Enid Slack (2016) "More Tax Sources for Canada's Largest Cities: Why, What, and How?" Institute on Municipal Finance and Governance. pp. 17-18. https://tspace.library.utoronto.ca/bitstream/1807/81209/1/imfg_paper_27_kitchen_slack_June_27_2016.pdf.

132 O. Reg. 435/17: Transient Accommodation Tax under Municipal Act, 2001, S.O. 2001, c. 25. See: https://www.ontario.ca/laws/regulation/170435.

133 Harry Kitchen and Enid Slack (2016) "More Tax Sources for Canada's Largest Cities: Why, What, and How?" Institute on Municipal Finance and Governance. pp. 20-21. https://tspace.library.utoronto.ca/bitstream/1807/81209/1/imfg_paper_27_kitchen_slack_June_27_2016.pdf.

134 See: City of Mississauga (2018) "Municipal Accommodation Tax." http://www.mississauga.ca/portal/business/municipal-accommodation-tax.

135 Erich Hartmann (2018) "Sharing the Costs of Cannabis in Canada: Key Takeaways." Mowat Centre. https://mowatcentre.ca/sharing-the-costs-of-cannabis-in-canada-key-takeaways/.

136 Association of Municipalities of Ontario (2018) "Towards a long-term vision for Municipal-use of the Cannabis Excise tax." pp. 3. https://www.amo.on.ca/AMO-PDFs/Cannabis/Towards-a-long-term-vision-for-Municipal-use-of-th.aspx.

Innovative Approaches to Service Delivery

Partnerships with the Private and Non-Profit Sectors

To deliver services in a cost-efficient manner, municipalities can look towards strategic partnerships with the private and non-profit sectors. However, municipalities must assess the risks and costs associated with contracting out services and getting into public-private partnerships, as they can often be more expensive and inefficient.

There are several examples of creative partnerships. For example, Innisfil – a growing town to the north of Toronto with a moderate to low population density, partnered with the ride-hailing company Uber to expand its public transit offerings in a cost-efficient manner. Since traditional options, such as fixed bus routes, were too expensive and would not have provided sufficient service, the town decided to partner with Uber to carry out an innovate pilot project. Residents can call an Uber on-demand (or a local taxi for accessible rides) and be driven to key destinations in the town for $3-5.[163] According to estimates, this project is leading to annual savings of over $8 million for the town compared to traditional bus services.[164]

Apart from the private sector, municipalities can also work with non-profits to deliver services more efficiently, particularly in the domain of human services, as these community organizations often have pre-established knowledge of, trust and partnerships within the community. Over the recent years, governments have increasingly relied on this sector to help with service delivery in areas such as social housing, child care, employment and social services, shelter services, cultural programming and recreation. The Region of Peel currently has two grant programs for non-profit organizations that provide human services to residents – the Community Investment Program (CIP) and the Homelessness Partnering Strategy (HPS).[165]

Partnerships with Other Governments

To deliver services more efficiently, municipalities should also consider partnering with one another to create economies of scale. In cases where a municipality does not have sufficient resources to deliver a service, they can contract another municipality to provide the service. This can lead to significant cost efficiencies by saving initial start-up costs. One example of this is transit extension agreements that several communities around Edmonton have made to extend transit services. Since establishing transit systems is extremely costly in terms of both capital and operating expenses, this has resulted in significant financial benefits.[166]

Another example of cost-effective shared services is the York-Peel Agreement instituted in 2002 between the Peel Region and York Region. Based on this agreement, Peel provides water to York, and the municipalities share infrastructure and plant operating costs. This has created a win-win situation for both municipalities. Compared to other options considered, York receives water

163 Town of Innisfil (2018) "Bringing Transit to Innisfil: Background and Answers to Frequently Asked Questions." https://innisfil.ca/mygovernment/planningforourfuture/BringingTransittoInnisfil.
164 The Canadian Press (2018) "Uber transit partnership saving Innisfil, Ont., $8M per year." Global News, March 15, 2018. https://globalnews.ca/news/4084807/uber-innisfil-transit-savings/.
165 Region of Peel (2018) "Community Investments." https://www.peelregion.ca/communityinvestments/.
166 Zachary Spicer (2015) "Cooperation and Capacity: Inter-Municipal Agreements in Canada." Institute on Municipal Finance and Governance. pp. 6. https://munkschool.utoronto.ca/imfg/uploads/318/1623_imfg_no.19_spicer_online.pdf.

from Peel at a substantially lower cost, while Peel also benefits financially. The financial benefit for Peel is estimated $152.4 million to the year 2031. Based on estimates, York Region will also contribute $340 million towards the expansion of Peel's water supply and distribution system that is necessary to meet increasing needs.[167]

The SouthWestern Integrated Fibre Technology (SWIFT) Network is another example of innovative collaboration amongst municipalities. A non-profit collective broadband initiative, SWIFT aims to provide access to high-speed broadband for communities across Southwestern Ontario, Caledon and Niagara Region – making up 3.5 million Ontarians or 25 per cent of the population. SWIFT aims to do this by building critical infrastructure that connects over 350 communities.[168] The project was built on the premise that a fast and reliable internet service is essential to promote social and economic opportunities for development, as well as to improve service delivery in various sectors including health and social services. As private telecom service providers did not invest in building this critical infrastructure due to lack of return on investment, the public sector had to take the lead. The project is funded by combined investments of $180 million from the federal and provincial governments, as well as over $17 million from municipal governments.[169] SWIFT is using an open procurement process where telecom service providers can bid to build, own and operate the network. SWIFT aims to release the final network design and begin construction in spring 2019.[170]

167 Region of Peel (2018) "York-Peel Agreement." https://www.peelregion.ca/pw/water/water-trtmt/york-peel/agreement.htm.
168 SWIFT website: https://swiftnetwork.ca/.
169 SWIFT (2018) "Briefing Note – Project Update: 2018." http://swiftnetwork.ca/wp-content/uploads/2018/03/2018-SWIFT-Briefing-Note-2.pdf.
170 SWIFT website: https://swiftnetwork.ca/.

Cutting Red Tape

Cutting red tape can help municipalities realize cost savings while improving service delivery and increasing business attractiveness. The World Bank ranked Canada 22nd out of 190 economies in its annual ease of doing business rankings – a low ranking compared to competing jurisdictions such as the United States, United Kingdom, Australia and New Zealand.[171] This highlights the burdens faced by entrepreneurs and businesses in the country. If the cost of establishing a business is too high or it takes too long, opportunities can shift to other jurisdictions. While regulation is essential to ensure considerations such as sustainability, health and safety are taken into account, they should not be too cumbersome, complex and bureaucratic. Streamlining the regulatory process and timelines can provide certainty, attract businesses and entrepreneurs, and expand the non-residential property-tax base.

Deploying municipal resources prudently by improving administrative efficiencies can also save money for taxpayers. Having said this, success in reducing red tape depends largely on the province as well, as the provincial government needs to streamline regulatory processes in areas of provincial jurisdiction.[172] Over the recent years, the Government of Ontario has taken notable steps towards simplifying processes and modernizing regulations, including the *Cutting Unnecessary Red Tape Act, 2017* and *Reducing Regulatory Costs for Businesses Act, 2017*.[173]

171 World Bank Group (2018) "Doing Business 2019, 16th Edition." pp. 5. http://www.worldbank.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf.
172 See: Michael Fenn (2017) "Reducing Business Burdens: Great Ideas from Five Innovative Ontario Municipalities." Association of Municipalities of Ontario. https://www.amo.on.ca/AMO-PDFs/Reports/2017/ReducingBusinessBurdensGreatIdeasfromFiveInnovativ.aspx.
173 See: Ministry of Economic Development, Job Creation and Trade (2018) "2018 Burden Reduction Report: Building a better business climate for Ontario." Government of Ontario. https://www.ontario.ca/page/2018-burden-reduction-report-building-better-business-climate-ontario.

Apart from the burdens faced by businesses, municipalities also face extensive reporting requirements from the province. According to research from the Association of Municipal Managers, Clerks and Treasurers of Ontario (AMCTO), the province receives about 422 reports from municipalities each year - a conservative estimate. While not all municipalities are responsible for submitting all 422 reports, there are some that submit over 200 – the City of Toronto submitted 270 reports to various provincial ministries and agencies in 2012. On the lower end, some municipalities submit as few as 90 reports – still a considerable number. These reports are time consuming and put burden on municipal resources.[174] According to a survey conducted by AMCTO, about half of the Ontario public servants believe that undertaking onerous provincial reporting impacts their ability to deliver services effectively by putting a squeeze on their already busy schedules. This is often overcome by employees working overtime or by hiring consultants, both of which add additional costs for municipalities.[175]

Planning and Economic Development

Building Livable Communities

When undertaking financial planning, it is vital for municipalities to take a holistic and long-term approach. This means realizing that positive long-term fiscal health cannot be achieved without making strategic investments in the short term. Particularly, it is essential to build livable, welcoming and inclusive communities by investing in adequate transit and cycling infrastructure, pedestrian-friendly environments with access to various amenities, entertainment options, as well as opportunities to celebrate diversity and foster social connections amongst residents. These strategic investments are essential to attract residents and position Peel as a preferred destination for workers and businesses.

Over the past decade, downtown Toronto has been the preferred destination for new office development compared to suburbs. This is mainly because of amenities such as transit accessibility, a young and qualified workforce available to businesses, and other attractions such as restaurants and shops. While suburbs offer cheaper rents, businesses and workers increasingly value the urban, amenity-rich environment.[176] Investments in such amenities may seem costly initially, but lack of investment in building livable communities and an attitude of austerity limits opportunities for long-term gains and stagnates the economy.

Attracting Investment and Business Opportunities

According to the 2017 Employment Strategy Discussion Paper prepared for the Peel Region by Cushman & Wakefield, the Region can make development more cost competitive compared to other municipalities and encourage new office development in the municipality through a range of financial incentives such as development-charges reductions, tax increment equivalent grants (TIEGs), and municipally-built parking facilities. In order for the Peel Region to do this effectively, an environmental scan should be conducted on incentives provided by other municipalities in the GTHA, and the pros and cons of any incentive should be studied beforehand.[177] It

174 AMCTO (2017) "Bearing the Burden: An Overview of Municipal Reporting to the Province (Summary Report)." pp. 4-6. https://www.amcto.com/getattachment/8a6fcf9a-c10b-4d9e-8d1a-3062d99aaf20/.aspx.
175 Ibid.

176 Cushman & Wakefield (2017) "Employment Strategy Discussion Paper." Prepared for the Region of Peel.
177 Ibid.

is also essential to avoid a race to the bottom with unnecessary incentives. Therefore, cooperation with other municipalities in the GTHA is critical.

Municipalities also need to take proactive steps to drive innovation and entrepreneurship in their jurisdictions. An example of such an initiative in the Peel Region is the Research Innovation Commercialization Centre (RICC). Founded by the City of Mississauga, City of Brampton and Town of Caledon along with educational partners, the RICC is an entrepreneur and innovation hub that provides a range of services to technology start-ups of various sizes for free. For 2018-2019, the RICC is focused on Advanced Manufacturing & Materials, Clean & Green Technologies, and ICT & Internet of Things as its main priorities.[178] The RICC currently has over 500 clients, and has so far generated $29 million in revenue, of which $17 million was in Canada.[179]

It is important to note that lower-tier governments are mainly responsible for economic development planning, rather than the upper-tier regional government. Therefore, effective collaboration amongst local governments and the Region is critical to promoting economic development.

Collaboration with Other Municipalities

Municipalities cannot operate in isolation. They must collaborate with other governments, and particularly neighbouring municipalities, in working towards shared prosperity. While it is widely believed that lower tax rates attract businesses, there is minimal evidence to prove that this is the predominant factor in a business's decision in determining its location. Therefore, it is critical when it comes to taxation policy to harmonize revenue tools amongst municipalities across the GTA and to avoid a race to the bottom in local tax competition.

An example of collaboration amongst municipalities was seen with the Amazon bid, where cities and municipalities from the Toronto region, including the City of Toronto, Peel Region, York Region, Durham Region and Halton Region came together to submit a regional bid for Amazon's second corporate headquarters in North America.[180] For the purposes of this bid, Waterloo Region and Guelph were also included in the Toronto region. The rationale for this combined effort was to leverage collective strengths to put together an attractive bid, and in particular highlight the Region as having the most educated workforce in North America.[181] The Toronto region was the only shortlisted Canadian location amongst 20 finalists announced by the company.[182]

178 RIC Centre (2018) "About RIC Centre." https://riccentre.ca/entrepreneur-and-innovation-hub/about-us/.
179 RIC Centre (2015 – 2016) "Welcome to RIC Centre's Annual General Report." http://agr.riccentre.ca/.

180 Toronto Global (2017) "Toronto Region Municipalities Join Forces to Submit Regional Bid for Amazon's New Corporate Headquarters." https://torontoglobal.ca/about-us/News/2017/Toronto-Region-Municipalities-Join-Forces-to-Submi.
181 Toronto Global (2017) "Toronto Region Bid for Amazon's HQ2 Highlights Most Educated Workforce in North America." https://torontoglobal.ca/about-us/News/2017/Toronto-Region-Bid-For-Amazon-s-HQ2-Highlights-Mos.
182 Bisnow (2018) "Amazon HQ2 Shortlist: Details On The 20 Finalists In $5B Sweepstakes." Forbes, January 19, 2018. https://www.forbes.com/sites/bisnow/2018/01/19/amazon-hq2-shortlist-details-on-the-20-finalists-in-5b-sweepstakes/#37b181eb79e6.

Implementation Challenges

As municipalities work towards diversifying revenue sources to improve their fiscal health, they can expect to confront a host of challenges. These challenges include: fiscal constraints, an uncertain operating environment, evolving demographic and economic pressures and public opinion around taxation issues. Specifically:

» The primary limiting factor for Canadian municipalities to address fiscal challenges is their limited toolkit. As it is often said, 'municipalities are creatures of the provinces.' Constitutionally, provinces have exclusive power over municipalities and they can provide powers to municipalities at their discretion.

» Depending on the province, municipal powers vary somewhat across Canada.[193] In Ontario, municipalities are governed by the *Municipal Act* which is a 'laundry list' legislation, i.e. it lists every power municipalities have. This makes adapting to new changes and emerging realities extremely difficult for municipalities, as every action not explicitly granted under legislation, including the ability to levy new taxes, requires provincial approval.

» In addition, municipalities are not allowed to run a deficit in their operating budgets. They can only incur long-term debt for capital expenditures. There is an Annual Repayment Limit, which is 25 per cent of annual own-source revenues for most municipalities less their annual long-term debt servicing costs and annual payments for other long-term financial obligations.[194] There is a fiscal imbalance in the share of revenues available to municipal governments – the resources being transferred from other levels of governments have eroded over time, while the responsibilities of municipalities to provide additional services have increased. Consequently, municipalities have increasingly been doing more for less, and as such there is limited scope to find further efficiencies. Given this scenario, a key success factor in ensuring that municipalities are able to maintain their fiscal health and deal with emerging economic challenges is on the willingness of the provincial and/or federal governments to increase contributions to municipalities, as well as expand their authority to diversify revenue sources.

» Another challenge to increasing revenues is the lack of data and uncertainty in being able to forecast the future accurately. As mentioned earlier, provincial and local forecasts have not always matched realities. This makes planning adequately extremely difficult, especially when investing in long-term infrastructure.

» When talking about the changing nature of work and threats such as automation and office space transformation, this is even more difficult as estimates vary widely. For example, based on one study about 42 per cent of Canadian jobs are at high risk of automation, while according to another only 9 per cent of the jobs face this threat.[195]

» Finally, a key challenge to successfully implementing new revenue tools, including taxes and user fees, is public opinion. There is little support for new taxes in Canada at any level of government, particularly as many Canadians face rising costs in areas such as housing, childcare and energy but with limited wage growth over the past two decades.[196]

» Any new tax or tax increase would require a clearly articulated rationale as to why other means or identifying budget efficiencies could not be accomplished as well as what the purpose of the additional taxes would be. For the Peel municipal governments, this challenge would be particularly acute, as the historic trend of property tax increases has already created a rising burden on household incomes.

193 City of Toronto (2001) "Powers of Canadian Cities - The legal framework." https://www.toronto.ca/ext/digital_comm/inquiry/inquiry_site/cd/gg/add_pdf/77/Governance/Electronic_Documents/Other_CDN_Jurisdictions/Powers_of_Canadian_Cities.pdf.
194 Ontario Ministry of Municipal Affairs and Housing (2017) "Understanding Municipal Debt." http://www.mah.gov.on.ca/Page15266.aspx.
195 Sunil Johal et al. (2018) "Robots, Revenues & Responses Ontario and the Future of Work." Mowat Centre. pp. 14-15. https://mowatcentre.ca/robots-revenues-responses/.
196 See: Sunil Johal and Armine Yalnizyan (2018) "Race to the Top: Developing an Inclusive Growth Agenda for Canada." Mowat Centre. https://mowatcentre.ca/race-to-the-top/.

Given the host of demographic challenges, service pressures and tax base difficulties posed by technological and employment shifts, municipalities must consider a range of approaches and tactics to solidify their footing.

7 RECOMMENDATIONS

The fiscal challenges facing Peel and other municipalities in the years ahead won't be addressed through any single measure. Given the host of demographic challenges, service pressures and tax base difficulties posed by technological and employment shifts, municipalities must consider a range of approaches and tactics to solidify their footing. In particular, this is critical as land consumption (which is intimately linked to existing municipal revenue tools) is increasingly becoming decoupled from broader economic growth. Increases in digital economic activities, knowledge-based jobs and a broader shift towards the service sector have decreased demand for land. For municipalities this means that their land-based revenue tools are increasingly falling further away from the realities of economic growth and activity.

As a general strategy, Peel and other municipalities need to advocate for a review of, and realignment of, the existing revenues and responsibilities of each level of government. This realignment must recognize that provinces are, by and large, in a much more fiscally precarious situation than the federal government over the long term, largely as a result of the projected increase in healthcare costs. The federal government is projected to have capacity to increase spending (or reduce taxes) by $29B a year while maintaining current net-debt-to-GDP levels, whereas provinces will over the longer-term be faced with an $18B shortfall in order to maintain current debt ratios.[197] As creatures of the province, municipalities will be further squeezed by this inexorable diminution of provincial fiscal flexibility.

Therefore, bilateral municipal-provincial conversations about realigning current revenue sources are unlikely to yield much in the way of substantive progress. The federal government must be at the table for these conversations, given its relatively rosier fiscal situation and room to potentially allow municipalities or provinces to occupy existing federal tax space or provide direct transfers to fund core services. Any conversations around re-allocating the existing revenue pie must involve all three levels of government.

Nevertheless, there is a clear opportunity for dialogue with the province around new revenue powers which could be granted to municipalities, modelled on the *City of Toronto Act* precedent. Opportunities to explore a municipal sales tax, road pricing and other measures would provide significant flexibility to mitigate the weaknesses of land-based tax bases in an evolving operating environment. However, all of these approaches will be viewed with skepticism by the public and are unlikely to generate much political support,

197 Office of the Parliamentary Budget Officer (2018) "Fiscal Sustainability Report 2018." https://www.pbo-dpb.gc.ca/en/blog/news/FSR_September_2018.

despite the fact that Canadians are taxed at lower levels than most other residents in advanced economies.

Finally, it is critical to engage in a public dialogue around these issues. Residents of Peel, and other municipalities, are taxpayers for three levels of government. The lack of transparency around which tax dollars pay for which services makes it challenging for municipalities to make a case to residents that they ought to pay higher property taxes or user fees for municipal services, let alone that new revenue tools might be required. Few residents are likely aware that municipalities are by far the lowest taxing level of government in Ontario (receiving only 9 cents of every tax dollar paid, roughly one-fifth the amount the federal and provincial governments each receive). Clearly articulating where tax dollars from residents go, and what services they directly fund, is a critical first step to gaining more public and political support for a change to the status quo.

Therefore, the following hierarchy of approaches should guide Peel's thinking on the revenue side of the ledger:

» Advocate for and explore a **realignment of existing revenues, with both the federal and provincial governments** and engage in a meaningful dialogue with the public around how Canada's taxes and responsibilities are allocated amongst levels of government.

» Explore opportunities to **raise more revenues from existing tools**, including a comprehensive definitional review of various property types to ensure that misclassification isn't leading to tax leakage, as well as explore progressive property taxes or hiking property taxes at rates higher than historical patterns. This should also include a review of planning and forecasting assumptions to ensure that revenue projections are realistic and reflect exogenous trends. (see the Working at the Margins section on page 59).

» Then look to **new revenue tools specific to particular uses and users** (ideally not out of step with neighbouring jurisdictions), including measures such as road pricing.

» Finally, **explore general purpose revenue tools** (e.g., sales tax, share of income taxes).

Municipalities should, of course, also look to review their service-delivery frameworks and wring further efficiencies from existing expenditures. Yet, ultimately, the options that the Region of Peel can consider to address revenue shortfalls stemming from a changing employment and technological landscape are proscribed by the existing roles and relationships municipalities operate within in Ontario and Canada. The existing approach to taxation by municipalities relies inordinately on land, and the consumption of land – whether through ongoing commercial and residential property taxes, or development charges. As outlined in this report, this approach is already showing significant signs of strain, and those strains are only likely to get more acute over time.

The broader, more systematic and transformational approach that would yield more revenue tools to the Region, necessarily involves authority being granted from senior levels of government, or transfers from senior levels of government. Whether through dedicated access to revenue sources such as the gas tax, a share of income-tax revenues or the right to introduce municipal income tax, or similarly sharing or introducing sales-tax revenues, these measures are well-known.

Report to Council

[X] For Council Decision [ ] For Council Direction [ ] For Council Information

[ ] In Camera

AGENDA ITEM:	Zoning Bylaw Amendment No. 20 (Bylaw #2022-16) – Designation of Klondike River Bench Direct Control District	
PREPARED BY:	Planning & Development	**ATTACHMENTS:** - Bylaw #2022-16 - Public Hearing Notice
DATE:	October 27, 2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: Municipal Act Official Community Plan Zoning Bylaw		

RECOMMENDATION

It is respectfully recommended that Council accept this report as information for the Public Hearing for Zoning Bylaw Amendment No. 20 (Bylaw #2022-16).

ISSUE / PURPOSE

The City is working to balance land planning and mineral extraction land use needs through the creation of a time limited Direct Control District (DCD) for the Klondike River Bench area that will enable mineral extraction activity in the medium term, with the longer-term goal of land development. To facilitate this goal, this DCD is being established. Additionally, it has been advised that the City require the two aforementioned conditions prior to adoption of this bylaw.

This Zoning Bylaw (ZBL) amendment establishes the Klondike River Bench Direct Control District. This is enabled by the recently passed Official Community Plan Amendment No. 6 (Bylaw #2022-05) (passed July 6, 2022) that provides for the use of DCDs in the OCP and ZBL generally, as well as the Klondike River Bench OCP Amendment No. 7 which specifically established the Klondike River Bench and passed third reading on August 31, 2022.

The purpose of DCDs generally, is to enable Council to directly regulate areas where “development may require a more specific, sensitive, and flexible means of land use and development control, including, but not limited to, time limited uses.” The purpose of the designation of the Klondike River Bench DCD “is for Council to directly control land use and development within the designated area to enable time limited mineral extraction activity until December 1, 2027.”

BACKGOUND SUMMARY

The most recently administered development permit for natural resource development activity on the Klondike River Bench is DP #19-083 (attached). This permit was issued on a legal non-conforming basis. It granted authorization to sluice pay materials, maintain a work camp, and conduct reclamation under Water Use License PM14-045. This permit expired June 1st, 2020.

Subsequently, an extension of DP #19-083 was requested; however, this request was denied on July 14, 2020 because the approval of Development Permit #19-083 was subject to the following condition: “This

permit expires as of June 1, 2020 to correspond with the expiry of WUL PM14-045. No extensions to this permit will be granted."

Following the application and denial of Development Permit #21-025 for natural resource development activity on the Klondike East Bench, the applicant appealed the decision to Council. This appeal outcome was decided by Council resolution and detailed in a subsequent letter:

> C21-18-04 Moved by Mayor Potoroka, seconded by Councilor Shore that Council denies Mr. Carey's appeal regarding Development Permit #21-025 and communicates this decision to Mr. Carey and directs administration to provide reasons for the decision.
>
> Motion Carried 3-2
>
> Excerpt from Council decision letter: "YG has been working on the Dome Road Master Plan for future development in the City, which does overlap claims in this section of town. It makes sense for both the landowner and claim holder to line up development so that both parties have the opportunity for maximum benefit for future settlement of this area."

Administration explored the feasibility of different options to implement the above-noted Council direction for both the Klondike East Bench and Klondike River Bench areas; direct control districts were identified as the most viable and appropriate tool.

Recent case law examples show that municipalities have the right to enact an OCP and ZBL, and to plan areas for future development, regardless of subsurface rights that may exist. It also shows that municipalities have the right to require the permitting process for mineral extraction activities, and that this requirement is not considered expropriation.

There is no further direction from YG on the matter of mining within the municipality. As a result, the municipality is doing the best it can with limited resources and antiquated legislation to address mining applications on a one-by-one basis, given the individual complexities, in a fair and equitable way. It is believed that Direct Control Districts provide a path forward in addressing numerous mineral extraction activities in the municipality as this form of development does not fit well within the existing framework of the Zoning Bylaw.

ANALYSIS

Direct Control Districts

S. 291 of the Municipal Act (M.A) under Division 2: 'Zoning Bylaws' provides a zoning tool that enables municipalities to create direct control districts in both the OCP and ZBL to directly regulate land use and development of selected area(s). Direct control districts are intended to provide for development that may be outside of the land uses and regulations of standard zoning. It is a short section with three clauses:

1. *The council of a municipality may designate direct control districts in its official community plan if it wants to directly control the use and development of land or buildings in the area individually rather than establish rules common to all buildings and land in the area.*
2. *If a direct control district is designated in a zoning bylaw, the council may, subject to the official community plan, regulate the use or development of land or buildings in the district in any manner it considers necessary.*
3. *In respect of a direct control district, the council may decide on a development permit application itself, or may delegate the decision to a development authority that may be created under section 191 with directions that it considers appropriate.*

The powers granted to municipalities under the Yukon M.A to create direct control districts are broad and, once created, Council has significant discretion in how a development in a direct control district is regulated.

The Yukon M.A requires both the designation of direct control districts in the OCP and the designation of direct control districts in the ZBL.

The implementation of DCDs is unprecedented in the Yukon. The only known instance of a municipality exercising S. 291 is the City of Whitehorse. CoWH has designated a DCD in the OCP, but never designated the DCD in the ZBL and therefore has not yet implemented this tool.

Klondike River Bench Direct Control District

Council may wish to add or alter the regulations for this DCD outlined in the draft bylaw. Things Council may wish to consider:

- Timeline:

  Council to decide the end date for the time limited DCD. The Placer Land Use Permit has an end date of December 1, 2027, but further states:

  "The Operator may operate for no more than two operating seasons. For greater clarity, the two operating seasons may either be consecutive or intermittent."

  Council may decide to limit the end date to December 31, 2024 to permit two consecutive seasons beginning in the 2023 season, for the purpose of expediting the natural resource development activity so as to enable land development activity to occur in 2025. Alternatively, Council may decide to establish an end date of December 1, 2027, which would provide maximum flexibility for natural resource development.

- The requirement of a natural treed buffer maintained between land uses and roads could be included for the purpose of mitigating noise, visual, and dust impacts.

Figure 1. GeoYukon shows the three claims; however, it has been noted by Yukon Government that the location of the claims shown on this map is inaccurate due to georeferencing inadequacies.

This DCD map (Figure 2) was created based on the attached YG EMR map of September 23, 2021 (snapshot in Figure 3), which outlines the pay dirt piles to be sluiced. The red on the DCD map shows the area encompassed by the DCD. The DCD area is smaller than the claims as it excludes roads and privately owned properties.

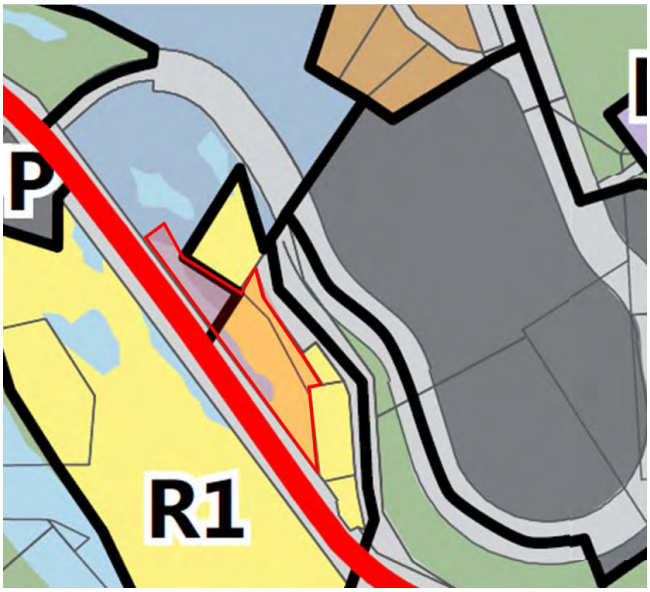


Figure 2. Klondike River Bench Direct Control District Area

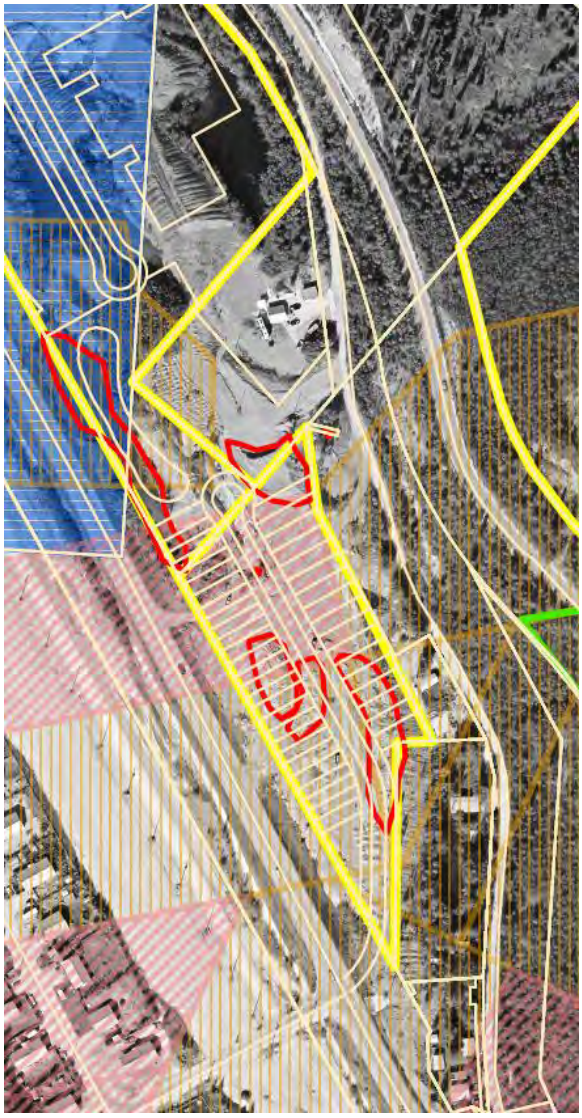


Figure 3. YG EMR map of September 23, 2021

APPROVAL		
NAME:	Cory Bellmore, CAO	**SIGNATURE:** C Bellmore
DATE:	November 13, 2022	

THE CITY OF DAWSON

Zoning Bylaw Amendment No. 20 Bylaw

Bylaw No. 2022-16

WHEREAS section 265 of the Municipal Act, RSY 2002, c. 154, and amendments thereto, provides that a council may pass bylaws for municipal purposes; and

WHEREAS section 289 of the Municipal Act provides that a zoning bylaw may prohibit, regulate and control the use and development of land and buildings in a municipality; and

WHEREAS section 294 of the Municipal Act provides for amendment of the Zoning Bylaw;

THEREFORE, pursuant to the provisions of the Municipal Act of the Yukon, the council of the City of Dawson, in open meeting assembled, **ENACT AS FOLLOWS**:

PART I - INTERPRETATION

1.00 Short Title

This bylaw may be cited as the ***Zoning Bylaw Amendment No. 2022-16.***

2.00 Purpose

2.01 The purpose of this bylaw is to provide for the designation of the Klondike River Bench Direct Control District.

Table of Contents

3.00 Definitions

3.01 In this Bylaw:

(a) Unless expressly provided for elsewhere within this bylaw the provisions of the *Interpretation Act,* RSY 2002, c. 125, shall apply;

(b) "City" means the City of Dawson; and

(c) "Council" means the Council of the City of Dawson.

PART II – APPLICATION

4.00 Amendment

4.01 Council designates the Direct Control District titled "Klondike River Bench Direct Control District" under subsection 15.3.2 as follows:

"The purpose of the Klondike River Bench Direct Control District is for Council to directly control land use and development within the designated area to enable time limited mineral extraction activity until December 1, 2027. For greater certainty, the allowable mineral extraction uses in the Klondike River Bench Direct Control District will expire on December 1, 2027.

The area of the Klondike River Bench Direct Control District is depicted by the map amendment in section 8 of this bylaw (the "Amended Area"). This specifically includes the Grant Numbers listed in Table 1 of this bylaw".

4.02 Insert "Permitted Uses" under subsection 15.3.2 as follows:
"The following use(s) are permitted in the Klondike River Bench Direct Control District:

1. Land development preparation
2. Natural resource development
3. Reclamation
4. Remediation"

4.03 Insert "District-Specific Regulations" under subsection 15.3.2 as follows:

1. “Granular material excavated from any mining operations site may be relocated from one area of the site to another, but no material may be removed from the site, other than for a permitted Natural Resource Extraction use.
2. No quarrying activity is permitted.
3. Mining operations must at all times be in compliance with the Property Maintenance & Nuisance Abatement Bylaw #07-03.
4. Hours of operation for mining operations sites shall be limited to 9:00 a.m to 5:00 p.m on Mondays, Tuesdays, Wednesdays, Thursdays and Fridays.
5. The Operator must not operate on Saturdays or Sundays.
6. Vehicles that may rut, mark, or otherwise damage a road may not be operated on a City road right-of-way. Any violations will be subject to the terms, conditions and penalties set out under the Traffic By-Law #00-21.
7. A person operating a mining operations site shall post adequate notices on the boundaries of the active mining area notifying the public that they are entering an active mine site. The notices posted must be visible and legible to the public at all times.
8. A person operating a mining operations site must report any suspected naturally occurring asbestos immediately to both the City and to the Medical Officer of Health with Yukon Government, Health and Social Services.
9. A person operating a mining operations site shall contact the City immediately in the event of a reportable petroleum hydrocarbon spill.
10. No activity shall take place within 100 m of curtilage of an existing residence (defined as the developed areas of a property) unless the person operating a mining operations site provides the City with written approval from all affected residents to operate within that buffer zone.
11. The only septic system allowed for a mining operation is a septic holding tank which is to be operated in accordance with the Public Health and Safety Act, RSY 2002, c. 176.
12. In addition to the above-listed conditions, all mining operations must comply with all applicable municipal bylaws and policies, and non-compliance will be subject to any applicable enforcement and penalties as set out in the applicable bylaws and policies.”

4.04 The zoning maps attached to and forming part of Zoning Bylaw 2018-19 are hereby amended by changing the zoning of a portion of the Amended Area from Single Detached and Duplex Residential to Klondike River Bench Direct Control District, as shown in Appendix 1, until December 1, 2027.

4.05 The zoning maps attached to and forming part of Zoning Bylaw 2018-19 are hereby amended by changing the zoning of a portion of the Amended Area from Institutional to

Klondike River Bench Direct Control District, as shown in Appendix 1, until December 1, 2027.

PART III – FORCE AND EFFECT

5.00 Severability

5.01 If any section, subsection, sentence, clause or phrase of this bylaw is for any reason held to be invalid by the decision of a court of competent jurisdiction, the invalid portion shall be severed and the part that is invalid shall not affect the validity of the remainder unless the court makes an order to the contrary.

6.00 Enactment

6.01 This bylaw shall come into force on the day of the passing by Council of the third and final reading.

7.00 Bylaw Readings

Readings	Date of Reading
FIRST	**September 21, 2022**
PUBLIC HEARING	
SECOND	
THIRD and FINAL	

William Kendrick, Mayor

Presiding Officer

Cory Bellmore, CAO

Chief Administrative Officer

8.00 Appendices

Appendix 1. Amended Area

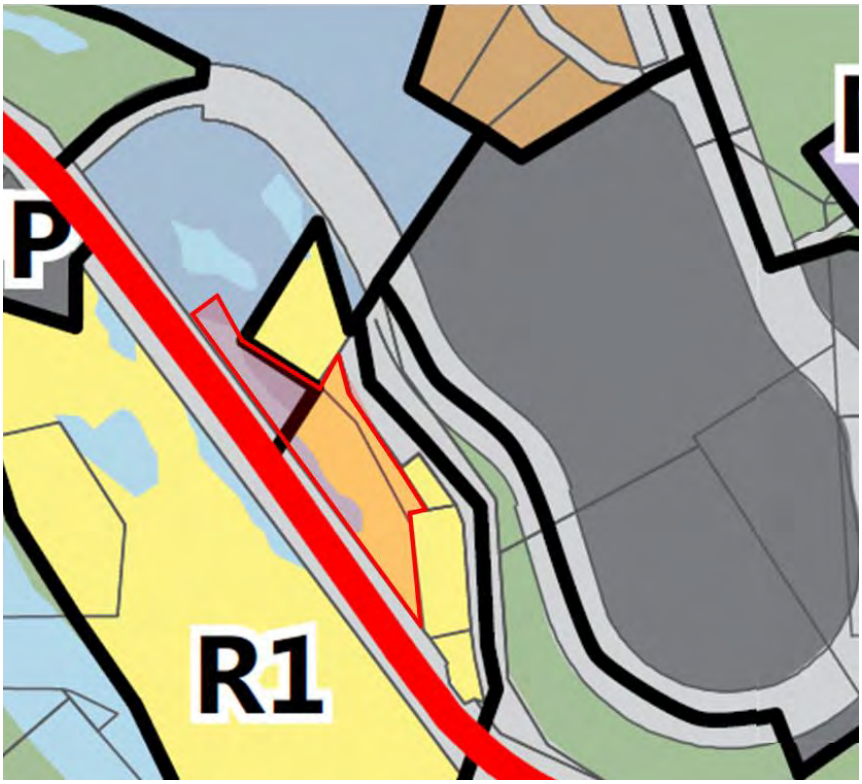


Figure 1. Map amendment.

P 34307	P 34309	P 36298

Table 1. Grant Numbers within the Amended Area as per the active Placer Land Use Approval and Water License.

Report to Council

[x] For Council Decision [ ] For Council Direction [ ] For Council Information

[ ] In Camera

AGENDA ITEM:	**Municipal Civil Emergency Plan update**	
PREPARED BY:	Protective Services/CAO	- Bylaw #11-10 Emergency Measures Bylaw - Municipal Civil Emergency Plan
DATE:	Nov 12, 2022	
RELEVANT BYLAWS / POLICY / LEGISLATION: Bylaw #11-10 – Emergency Measures Bylaw		

RECOMMENDATION

That Committee of the Whole forward to council to accept the addition of **Avalanche, Land Slide, or Rock Slide** to the Annex D: Specific Event Guideline of the Municipal Civil Emergency Plan

ISSUE / PURPOSE

Update the Municipal Civil Emergency Plan to include a Specific Event Guideline for Avalanche, Land Slide or Rock Slide

BACKGOUND SUMMARY

Recent events in or near the City of Dawson in relation to studies and monitoring of the Moosehide Slide as well as other slide events has prompted the need to update the Municipal Civil Emergency Plan to include a specific guideline for this type of incident. (page 43)

Work underway to continue the North End Development also requires the municipality to ensure that we had an updated plan in place as part of the project.

ANALYSIS / DISCUSSION

As required in Sec 3.03 Emergency Measures Bylaw, it is required of the CEMC to ensure that the Emergency plan is created and maintained.

It is also important to ensure we are providing due diligence and planning in relation to potential incidents for the residents of the City of Dawson in relation to emergency response. Once we start receiving the information from the monitoring equipment installed and being monitored by Yukon Government – Yukon Geological Services, we will be able to further update potential plans.

This update is specific to the inclusion of this new specific guideline, continued review and exercising of the Municipal Civil Emergency Plan is required.

APPROVAL		
NAME:	C Bellmore	**SIGNATURE:** C Bellmore
DATE:	Nov 13, 2022	

MUNICIPAL CIVIL EMERGENCY PLAN

Adopted By Council
May 14, 2013
Resolution #C13-12-08

Table of Amendments

#	Date	Amendment/Addition	Replaces	Notes

List of Abbreviations

CEMC	Civil Emergency Measures Commission
CAO	Chief Administrative Officer (City of Dawson)
CEC	Civil Emergency Co-ordinator/Fire Chief
EMO	Emergency Measures Organization
EOC	Emergency Operations Centre
TSB	Transportation Safety Board

Table of Contents

Annexes

Section 1 - Introduction

Municipalities routinely respond to situations that require responses from Fire, Police, Emergency Medical Services and Public Works. Large-scale emergencies such as chemical spills, plane crashes, floods, earthquakes and forest fires can severely deplete available resources and require additional personnel, equipment and expertise. In cases such as these, municipalities must implement an Emergency Plan.

Response to a large-scale emergency requires as assessment of the situation, an effective determination of resources and the efficient deployment and management of resources. The primary function of the Emergency Plan is to provide the organizational framework within which the coordinated response will take place and present key officials, agencies and departments within the City of Dawson with a general guideline for the initial response to an emergency and an overview of their responsibilities during an emergency.

For this plan to be effective, it is important that all concerned be made aware of its provisions and that every official, agency and department be prepared to carry out their assigned functions and responsibilities in an emergency. The following provides an overview of the background and some of the highlights of this plan.

Aim

The aim of this plan is to make provisions for the efficient administration, coordination and implementation of the extraordinary arrangements and response measures taken by the City of Dawson to protect the health, safety and welfare of the residents of Dawson City during any emergency.

Scope

An emergency may result from an existing danger or it may be a threat or an impending situation abnormally affecting property or the health, safety and welfare of the community. Its nature and magnitude requires a controlled and coordinated response by a number of agencies, both government and private, under the direction of the Civil Emergency Measures Commission (CEMC). The response is distinct from routine operations carried out by emergency services personnel (e.g. firefighting, emergency medical services or police activities).

The Civil Emergency Measures Act defines an emergency as: **“a peacetime disaster or a war emergency”**. Further to that, an emergency is “a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is

caused by the forces of nature, a disease or other health risk, an accident or an act whether international or otherwise".

While almost every type of emergency could occur with the City of Dawson, the most common that could occur are:

Natural Emergencies: Floods, earthquakes, blizzards, forest fire (not caused by human)

Human-Caused Emergencies: transportation accidents involving hazardous materials, explosions, aircraft crashes, toxic or flammable gas leaks, electrical power blackouts, building or structural collapse, uncontrolled fire, or any other incident accidentally or willfully caused by people which is likely to endanger property, health, safety and welfare of the community.

Whenever an emergency occurs or threatens to occur, the initial and primary responsibility for providing immediate assistance and control rests with the affected department or agency within the municipality.

The Municipal Civil Emergency Plan in itself cannot guarantee an efficient, effective response to an emergency. It must be utilized as a tool to assist emergency and municipal services and officials in their emergency responsive activities. The Plan must be flexible enough to adapt to a broad spectrum of disasters and must be supported with:

- adequate personnel, equipment and expertise from the responding agencies
- awareness of resources available from neighbouriing communities and the private sector, supplemented by pre-arranged agreements
- testing of the Plan on a regular basis
- review of the Plan following any incidents or exercises where it is implemented.

In the event of an emergency beyond the capability of the community, the Government of Yukon can be called to provide direction and management of the emergency. Such request can be done by contacting the Emergency Measures Organization at: **(867) 667-5220.**

Potential Hazards – Hazard Risk Identification Assessment

The City of Dawson has identified and analyzed all realistic hazards that may occur and assessed them in terms of frequency, or likelihood of occurrence and magnitude of consequences or impact.

The following is the resulting list of Hazard Identification and Risk Assessment (HIRA) events for the City of Dawson.

Priority	Hazard	Description
1	Severe Weather	Snowstorm, Flood, Ice, Hail, Extreme Temperature
2	Fire	Fire, Explosion
3	Transportation Incident	Ground or Airline Crash, Waterway
4	Critical Services Disruption (Infrastructure)	Telecom, Potable Water, Wastewater, Electrical, Transportation Routes
5	Hazmat Release	In-transit, Fixed location
6	Infectious Disease	Pandemic Human
7	Collapse	Major Structural Collapse, Earthquake

Legislation

The Civil Emergency Measures Act is the legal authority for this plan.

The Civil Emergency Measures Act requires each municipality to establish a Municipal Civil Emergency Plan.

The Civil Emergency Measures Act states that:

"The mayor of a municipality may declare that a state of emergency exists in the municipality if:

a) the mayor has reasonable grounds to believe and does believe that a substantial danger to public safety or to property in the municipality exists or is imminent as the result of fire, explosion, flood, earthquake, landslide, weather, epidemic, transportation accident, electrical power failure, nuclear accident or any similar disaster; and

b) the mayor is authorized to declare the state of emergency by resolution of the council passed after its consideration of the

occurrence of events that reasonably may be expected to lead to the need to declare the state of emergency.

The Civil Emergency Measures Act specifically requires that every municipality shall by bylaw establish a municipal civil emergency plan and that the plan shall:

a) *specify the powers and duties of the Civil Emergency Measures Commission established under subsection 192(1) of the Municipal Act – Which sates "Subject to the provisions of the Civil Emergency Measures Act, council shall by bylaw establish a civil emergency measures commission and appoint its members". As per subsection 192(2) of the Municipal Act, Council may appoint a civil emergency co-ordinator who shall carry out the instructions of the commission.*

b) *assign to municipal officers and employees those responsibilities necessary for the effective implementation of the plan in the case of a declaration of a state of emergency in or including the municipality under this Act.*

Regular exercise and assessment will be conducted to ensure the arrangements embodied in this plan are kept current, that all personnel are kept familiar with its provisions and that the content reflects best practices. The City of Dawson should likewise develop, implement and maintain emergency management programs that define departmental procedures and arrangements for responding to a municipal emergency.

Plan Definition

The **"Plan"** means a plan formulated pursuant to City of Dawson Emergency Measures Bylaw; governing the provisions of necessary services during an emergency and the procedures under and manner in which employees of the City of Dawson and other persons will respond to an emergency.

Format

The main body of this plan identifies the membership, roles and responsibilities of the City of Dawson Civil Emergency Measures Commission (CEMC) and the authority and manner under which this body plans to respond to and emergency in the municipality. This portion of the plan is a public document.

A series of annexes following the main body include specific contact and resource information vital to effective response. Due to confidentiality reasons, this portion of the plan is not to be made public and should only reside with the owner of this document.

Amending Formula

Amendments to this plan are recommended to the CEMC by and through the Civil Emergency Co-ordinator/Fire Chief. The CEMC, upon review of proposed changes may accept, reject or modify such changes.

CEMC approved changes to the main bode of the plan will be presented to (council) for approval as required.

CEMC approved changes to appendixes and minor changes to the plan stand as amended by the CEMC.

Section 2 – Emergency Notification Procedure

Reporting an Emergency

A responding agency or municipal department is likely to be the first on site authority to an emergency. The ranking officer for fire, police, emergency medical services or a senior municipal official (or their designate) should personally assume control at the site of an emergency or arrange for someone on-site to take charge immediately until an Emergency Incident Commander is appointed.

If, in the judgment of the senior on-site official, the situation requires a more coordinated response or resources are required beyond their immediate control, the senior on-site official must contact their most senior departmental official in accordance with any existing departmental reporting procedure.

Section 3 – Declaration of an Emergency

Action Prior to the Declaration of an Emergency

When an emergency exists, but has not yet been declared to exist, municipal employees are authorized to take such action(s) under this emergency plan as may be required to protect the lives and property of the inhabitants of the City of Dawson.

Declaring an Emergency

Declaring an emergency within the City of Dawson is not required prior or subsequent to activation of this Emergency Plan. An Emergency Declaration is not required prior to any personnel taking actions under this plan to protect the lives, health and property of the inhabitants of the City of Dawson.

An Emergency Declaration however, may create greater understanding and promote a sense or urgency to the public regarding the severity of an emergency situation. An Emergency Declaration may be useful if the CEMC will be requesting the public and private sector to do something out of the ordinary and give the Mayor extraordinary powers (not contrary to law) such as approving expenditures without Council approval. It will also allow for possible funding of costs by the Territory.

Every registered volunteer participating in a Declared Municipal State of Emergency will be considered a municipal employee and protected under the provisions of the Yukon Workers' Compensation Health and Safety Board (WCB).

Authority to Declare a Municipal State of Emergency

Only the Mayor or Acting Head of Council (Deputy Mayor) has the authority to declare a Municipal State of Emergency to exist within the boundaries of the municipality.

The decision to declare a Municipal State of Emergency will be made by the Mayor in consultation with the members of the Civil Emergency Measures Commission. The Mayor has the ultimate responsibility for making this decision. When a declaration to declare a Municipal State of Emergency is made, a declaration of a Municipal State of Emergency form outlined in **Appendix B** must be completed and faxed to the Emergency Measures Organization.

Notification of Declaration of State of Emergency

Upon making a Municipal State of Emergency Declaration the Mayor will ensure that the following are immediately notified:

- City of Dawson Council Members
- Emergency Measures Organization
- the Local media
- the general public

Section 4 – Termination of a Municipal State of Emergency

Prior to Terminating a Municipal State of Emergency

Termination of a Municipal State of Emergency Declaration usually comes as the result of a significant reduction in the severity of the emergency situation. The action of formally terminating a Declaration of a Municipal State of Emergency Declaration is required to advise that the emergency is over.

A Termination of a declaration of a Municipal State of Emergency Form, outlined in **Appendix B,** must be completed and faxed to the Emergency Measures Organization.

Terminating a Declared Municipal State of Emergency will cause WCB coverage of volunteers to cease.

Authority to Terminate a Declaration of a Municipal State of Emergency

A Municipal State of Emergency declared by the mayor of a municipality may be cancelled by order of the Minister.

Notification of Termination of a Municipal State of Emergency

Upon terminating a municipal state of emergency, the Mayor will ensure that the following are immediately notified:

- City of Dawson Council Members
- Emergency Measures Organization
- the local media
- the general public

Section 5 – Emergency Operations Centre (EOC)

In the event of an emergency, the Emergency Operations Centre (EOC) will be activated. The CEMC and the Civil Emergency Measures Committee will congregate and work together at the EOC to make decisions, share information and provide strategic “off scene” management as required to mitigate the effects of the emergency.

The Primary Emergency Operations Centre is located at the Dawson City Administration Building, 1336 Front Street.

The Secondary Emergency Operations Centre could be located at the Dawson City Community Chapel or the Ski Hill Chalet depending on the nature and location of the emergency.

The Emergency Operations Centre should consist of:

- the Civil Emergency Measures Commission meeting room
- base radio, phones, access to a fax machine, photocopier, printers and computer connections
- a media information area
- adequate parking for all staff
- an adequate back-up power supply
- break out rooms for small group meetings

Civil Emergency Measures Commission Meeting Room

The CEMC meeting room is a secure board room or chambers where the CEMC can conduct business cycle meetings to address the current situation and mitigate the emergency. This room is to be free of distractions and limited to the community’s top decision makers, their supporting personnel and invited members.

The CEMC meeting room should contain the following:

- sufficient tables and chairs for all present
- an accurate clock, synchronized with all other EOC clocks
- maps of suitable scale for depicting and updating emergency operations
- a visual board or flip chart for logging emergency operations status, key decisions and other information
- devices for recording the CEMC meetings
- maps
- all necessary stationary requirements and office supplies for those present to take notes and record information

Registration and Security

Once the EOC has been activated, the facility must be made secure and all personnel attending the EOC must sign in and out. All personnel entering the EOC must report to registration and be duly registered.

Only the following persons are normally allowed into the facility:

- CEMC members and their alternates
- Civil Emergency Measures Committee members and their alternates
- police personnel for facility security
- members at large specifically invited by the CEMC members

The following are NOT normally allowed in the EOC:

- members of the media
- members of City Council
- members of the public
- any persons without direct business with EOC operations

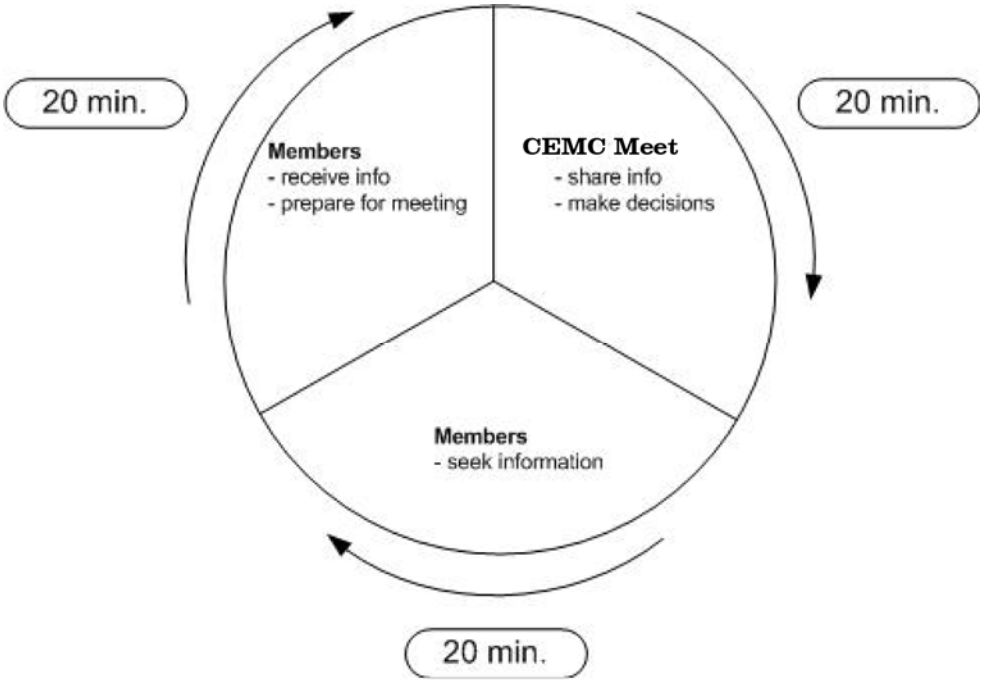
Business Cycle

Members of the CEMC will gather at regular intervals to inform each other of actions taken and problems encountered. Frequency of meetings and agenda items will be established by the Chief Administrative Officer (CAO). Meetings will be kept as brief as possible thus allowing members to carry out their individual responsibilities.

A regular meeting cycle will be approximately an hour long. At the top of the hour the entire CEMC will meet to discuss the situation, share information and make decisions. This should take approximately 20 minutes then the meeting is adjourned.
Members of the CEMC then consult with the support group members, on site responders and/or external agencies to see if any new information has developed. This again lasts approximately 20 minutes. The final 20 minutes are used by the individual members of the CEMC to condense the information and prepare for the next meeting at the top of the hour.

This meeting cycle is then repeated as many times as necessary. The amount of time scheduled between each formal meeting may vary according to the severity of the emergency and needs/requirements of the CEMC.

Business Cycle Diagram



When the CEMC meets according to the meeting cycle, there will be no interruptions, (unless urgent), until the meeting is concluded. When a meeting commences, all CEMC members will come to the table and each member will briefly update the group on the actions of their respective department, identify issues needing resolution and seek input from the group as a whole.

The CAO will be the chairperson to CEMC meetings. Meetings serve as an opportunity for agency updates and provide a forum for discussion between the CEMC as a whole. All CEMC members must be present at each meeting to hear reports from, and give reports to the group as a whole.

Section 6 – Civil Emergency Measures Commission (CEMC)

The emergency response operations will be directed and controlled by the CEMC comprised of elected and appointed officials listed hereunder. The CEMC will assemble at the Emergency Operations Centre and will be responsible for providing the essential services necessary to minimize the effects of the emergency in the community.

The CEMC shall consist of the following officials or their designate:

- Mayor
- Chief Administrative Officer
- RCMP Superintendent
- Fire Chief/Civil Emergency Co-ordinator
- Emergency Medical Services
- Such other members that may be appointed by the city

The CAO shall be the coordinator of the CEMC and shall oversee the activities of the group. The CAO may appoint an alternate from among the members to assume the position of coordinator, should the need arise.

Additional agencies and/or personnel that could be called or added to the CEMC may include;

- Supervisor of Public Works
- First Nations Representation
- Search and Rescue
- Health Authority
- Social Services
- School District Authority
- Any other person/agency required

Civil Emergency Measures Commission Operations

The role of the Civil Emergency Commission probably can best be accomplished by round table assessment of the events (as discussed in Section 5 – Business Cycle) as they occur and by agreeing to a course of action to overcome specific problem areas or situations. Normally, an agreed course of action will be implemented by municipal department functioning primarily within their own spheres.

However, from time to time, it may become necessary for the CEMC to adopt and implement a joint plan of action which could involve two or more department operation unison. In this latter situation, it would be necessary for the CEMC to determine which department will have the greater commitment and to appoint an on-site coordinator accordingly.

Thereafter, until emergency operations conclude and in conjunction with CEMC directions, other departments will act in support of whichever department is exercising on-site coordination of operations.

Communication and Coordination

An important function of every department is to provide timely information for the benefit of the CEMC decision-making process. This will necessitate reliable systems of communications between the emergency site and the CEMC and every department involved.

Once decisions have been made by the CEMC it is essential they be quickly and accurately passed to every response agency and, where necessary, to the public. This vital functions will normally fall to the CAO (or other appointee) who will set up a media centre co-located but under the direction of the CEMC and be responsible for coordinating the activities of the EOC and for ensuring good communications between all agencies involved in emergency operations.

Responsibilities

Group Responsibilities

The Civil Emergency Measures Commission is responsible for advising the Head of Council on all actions taken to support emergency workers at the emergency site, evacuation centre's or any other location where staff, people or volunteers are working to respond to an emergency.

These actions include informing the public regarding issues of concern, issuing authoritative messages to the public through the media, providing the coordination and support necessary to respond to and mitigate the emergency situation, and ensuring that adequate emergency resources are maintained outside of and apart from the emergency site.

The primary role of the CEMC is to coordinate a multi-disciplinary response to the emergency.

The collective responsibilities of the CEMC include, but are not limited to the following:

a) declaring an "emergency" to exist
b) designating any area in the municipality as an "emergency area"
c) authorizing expenditures of funds for implementing the emergency plan
d) evacuating those buildings or sections within an emergency area which are themselves considered to be dangerous or in which the occupants are considered to be in danger from some other source
e) dispersing people not directly connected with the operations who by their presence are considered to be in danger or whose presence hinders in any way the efficient functioning or emergency operations

f) discontinuing utilities or services provided by public or private concerns without reference to any consumers in the municipality, or when continuation of such utilities or services constitutes a hazard to public safety within an emergency area
g) arranging for accommodation and welfare on a temporary basis, of any residents who are in need of assistance due to displacement as a result of the emergency
h) calling in and employment of any municipal personnel and equipment which is required in the emergency
i) arranging assistance from senior level of government and of other personnel and equipment of volunteer and other agencies not under municipal control as may be required by the emergency
j) establishing an information centre for issuance of accurate releases to the news media and for issuance of authoritative instructions to the general public
k) maintaining a log of actions taken during the emergency
l) establishing a reporting and inquiry centre under the direction of the City to handle individual requests for information concerning any aspect of the emergency; and
m) ensuring communications with the Yukon Government, other municipalities, hospitals and radio stations in the event of a failure of telephone services. The CEMC will ensure that:
    - operators are detailed to man the radio system
    - the generator and lighting equipment are ready for use, if required
    - supplies or fuel are available for the generator; and
    - additional communications available with Emergency Measures Organization is completed as necessary.

Individual Responsibilities

Mayor

The Mayor or alternate will perform the following responsibilities:

a) declare a Municipal State of Emergency to exist
b) ensure the Emergency Measures Organization has been notified
c) make decisions, determine priorities and issue operational direction through the CEMC and the heads of municipal departments
d) request assistance from senior level of government, when required
e) approve new releases and public announcements; and
f) terminate the emergency at the appropriate time and ensure all concerned have been notified

Chief Administrative Officer

The Chief Administrative Officer will perform the duties and responsibilities of an "operations Officer" as such he/she will:

a) chair business cycle meetings of the CEMC
b) organize and supervise the EOC and in particular, make arrangements for obtaining and displaying up-to-date information at all times
c) advise the Mayor on administrative matters, and
d) be responsible for media arrangements and assist in the preparation and issue of press and public announcements

RCMP Superintendent

Upon learning of a potential emergency, the RCMP Superintendent or alternate should consider the possible need for activation of the emergency plan and if warranted, he/she should trigger the notification system. Thereupon he/she would report to the EOC to sit as a member of the CEMC and perform or delegate responsibility for the following additional functions and responsibilities:

a) provide the Mayor with information on law enforcement matters
b) if appropriate, appoints an "on-site coordinator" to control operations at the scene of the emergency
c) seal off the area of concern
d) control and if necessary, disperse crowds within the "emergency area"
e) control the movement of emergency vehicles to and from the site of the emergency
f) coordinate police operations with other involved municipal departments and arrange for additional supplies and equipment when needed, i.e., barriers and flashers, etc
g) conduct evacuation of buildings or areas when ordered by Mayor
h) arrange for maintenance of law and order in temporary facilities, e.g., evacuation centres
i) protect evacuated buildings and other property in the emergency area
j) arrange for additional "police assistance", if required; and
k) advise the Coroner in the event of fatalities and perform whatever additional responsibilities may be necessary under the Coroners Act.

Civil Emergency Co-ordinator (Fire Chief)

Upon learning of a potential emergency, the Fire Chief or alternate should consider the possible need for activation of the emergency plan and if warranted, he/she should trigger the notification system. Thereupon he/she would report to the EOC to sit as a member of the CEMC and perform or delegate responsibility for the following additional functions and responsibilities:

a) provide the Mayor with information and advice on fire fighting matters
b) develop and maintain a system for alerting CEMC members in an emergency
c) if appropriate, appoint an “on-site co-ordinator” to control operations at the scene of an emergency
d) trigger mutual aid arrangements for the provisions of additional fire fighting personnel if needed
e) determine if additional or special equipment is needed and recommend possible sources of supply, e.g., breathing apparatus, protective clothing, etc.
f) provide assistance to other municipal departments and agencies and be prepared to take charge or contribute to non-fire fighting operations if necessary, e.g., rescue, medical assistance, casualty collection, etc.
g) advise on all matters as the Civil Emergency Co-ordinator; and
h) ensure that the EOC has been set up

Public Works Superintendent

Upon learning of a potential emergency, the Public Works Supervisor or alternate should consider the possible need for activation of the emergency plan and if warranted, he/she should trigger the notification system. Thereupon he/she would report to the EOC to act as a member of the CEMC and perform the following additional functions and responsibilities:

a) provide the Mayor with information and advice on engineering matters
b) if appropriate, appoint an “on-site coordinator” to control operations at the scene of the emergency
c) maintain a liaison with flood control, conservation and environmental agencies and be prepared to conduct relief or preventative operations
d) assist traffic control, evacuations etc., by clearing emergency routes, marking obstacles, providing road signs, etc.
e) maintain liaison with public/private utility companies (energy, telephone, etc.) and make recommendations for discontinuation of any utility, public or private, where necessary in the interest of public safety
f) make recommendations and demolish unsafe structures if ordered by the Mayor
g) reestablish essential services at the conclusion of an emergency; and
h) provide public works vehicles and equipment as required by any other emergency services

Director of Health Services

Upon learning of a potential emergency, the Director of Health Services should consider the need for possible activation of the emergency plan, and if warranted, trigger the emergency notification system. Thereupon he/she should report to the EOC to act as a member of the CEMC and either perform the following functions, or report the situation to the Health Unit who would then take such appropriate action, in conjunction with the CEMC as the situation warrants.

Public health matters are normally the responsibility of the Medical Officer of Health who will normally take charge in such situations and:

a) Provide advice on public health maters to the CEMC
b) Arrange for dissemination of special instructions to the population on matters concerning public health
c) Arrange for mass immunization where needed
d) arrange for testing of water supplies and, when warranted, make recommendations for arranging alternate supplies
e) notify other agencies and senior levels of government about health related matters; and
f) consult with the Ministry of Environment and Ministry of Health and Long Term Care to provide the CEMC with additional information that may impact the perimeter of the affected area or management of the emergency response.

Arrangements for coping with mass casualties are made jointly by the health care facility and emergency medical services which serve the local area. Such arrangements will normally have been worked our beforehand to provide the following activities:

- bringing casualties to a central point for triage and afterwards, arranging a balanced distribution of casualties to appropriate health units/hospitals; and
- provision of first aid for minor casualties who would not require transportation to a health unit or hospital

CAO Executive Assistant/Clerk

The CAO Executive Assistant/Clerk, as a member of the CEMC will:

a) ensure the effective administrative operation of the EOC with the CEMC
b) coordinate with the Mayor and CAO to ensure that all council members are advised of any declaration of a Municipal State of Emergency or the termination of a Municipal State of Emergency
c) log all decisions made by the CEMC
d) coordinate the provisions of administrative staff for the EOC
e) record minutes of the Business Cycle meeting; and
f) ensure food and hot/cold beverages are available for the CEMC

Public Information Officer

If required, the Public Information Officer will:

a) coordinate all media releases with the assistance from the CAO and input from departmental representatives
b) coordinate media briefings and press conferences
c) monitor the media for incorrect information and amend all rumours
d) coordinate the opening of the media centre

Section 7 – Municipal Support Group

The Municipal Support Group is comprised of municipal and/or other non-governmental officials, who may be required to advise and assist the Mayor and the CEMC during an emergency.

Municipal Support Group Responsibilities include:

- collecting and disseminating information on the emergency
- ensuring emergency information is disseminated to their respective departments and agencies; and
- maintaining a log outlining communications and actions taken

The Municipal Support Group drawn from organizations listed hereunder may be called upon individually or be asked to deliberate and make recommendations collectively.

Not all Municipal Support Group members may be called upon to attend the EOC, even during a “Full Notification” of the CEMC. Support Group members may be notified at the beginning of an emergency, for the duration of the emergency or periodically throughout the emergency at the request of the CEMC. Municipal Support Group membership is highly dependant upon the circumstance of the emergency event and may include members not listed in this section.

Members of the Municipal Support Group include:

- All Municipal Department Heads
- Canadian Rangers
- Dawson Highways
- Dawson Humane Society
- Health and Social Services
- Klondike Fire Department
- Klondike Wildland Fire Centre
- McDonald Lodge
- Medical Officer of Health
- Northwestel
- Parks Canada
- Property Management
- Religious Affiliations
- Tr’ondek Hwech’in
- Yukon Energy
- Yukon Housing

Section 8 – Assistance – Other Agencies

There exist agencies external to the municipal response structure that may be required to provide assistance during an emergency either by virtue of their specialized knowledge and expertise, or by reason of legislation or regulation. The more common of these are listed below.

Natural Resources – Yukon Government – Water Resources

Through their expertise and monitoring, the water resource authority will be warning of an impending flood situation in advance of the actual event. Appropriate warnings will be sent by the authority to the city. Should the situation develop to require a plan/EOC activation, Territorial Ministries not already known to be responding will be notified by the CEMC through the Emergency Measures Organization. A representative from the authority may be asked to join the EOC as an ad hoc member.

Occasionally, an event originating from within the city and impacting conservation lands or jurisdiction may occur. In these cases, the lead agency for the municipal response is responsible for ensuring the appropriate authority is contacted.

School Boards/Boards of Education

Public and/or Private schools are an excellent resource to be used during emergencies. If there is a need to evacuate residents, schools are generally the first choice for use as reception/evacuation centres to temporarily shelter persons displaced by the emergency. It is the responsibility of Social Services to coordinate, and liaise with the local School Boards/Boards of Education to ensure that agreements are in place to facilitate access to, and use of their facilities when and if required. These provisions are included within the Social Services emergency plan.

Nursing Station

During an emergency, the Nursing Station will be responsible for:

- Implementing their own internal nursing station emergency plan as required
- Liaising with the Medical Officer, and Emergency Medical Services in the EOC regarding issues of mutual concern; and
- Evaluating any requests for the provision of emergency medical teams at the emergency site

Utility Suppliers

Public, Private and Territorial Utilities may be requested to assist during a municipal emergency, and to provide a representative to advise the CEMC. Arrangements must

be in place through their own emergency plans to coordinate and liaise with the CEMC regarding issues of mutual concern, and the potential disruption of any utility service.

Section 9 – Assistance – Territorial and Federal

If locally available resources, including those which might be available from bordering municipalities are insufficient to meet emergency requirements, then assistance may be required for the Territorial or Federal government. Assistance can take many forms including, additional personnel, specialized materials, equipment, or specific expertise.

Federal Assistance

Federal assistance cannot be obtained directly by a municipality but must be requested through the Territorial Government. Municipalities are directed to the Emergency Measures Organization for this resource.

Territorial Assistance

Where territorial assistance is required, which is outside of normal departmental or service working arrangements, the request will be made to the Emergency Measures Organization in the Joint Emergency Operations Co-ordination Centre (JEOCC). The JEOCC is operational 24/7/365.

If the Municipality makes the request directly to the Territorial Government, the Municipality must be prepared to be billed for services rendered.

Other Territorial Departments may have a role to play in a municipal emergency. Some ministries have their own emergency plans and procedures for dealing with certain emergency scenarios. They may also have specialized resources and/or equipment that may be requested to provide assistance during municipal emergencies. Overviews of Territorial departments that may be requested to assist or which may have certain duties to perform during emergencies are provided in the following table.

DEPARTMENT	JURISDICTION
Community Services	• Health and safety of emergency responders • Coordinating the territory's preparedness for, response to, and recovery from, major emergencies and disasters, including fire, flood, power failure, toxic spills and extreme weather • Emergency shelter, food and clothing, victim registration and inquiry and personal services required in support of all emergencies • Coordination of extraordinary territorial expenditures for emergencies
Energy, Mines and Resources	• Energy supply matters • Agriculture and food emergencies
Environment	• Spills of pollutants to the natural environment
Health and Social Services	• Large scale human health emergencies and epidemic emergency health services • Emergency health services
Highways and Public Works	• Highway and other transportation services

Section 10 – Emergency Public Information

During an emergency, it is essential that the City of Dawson be able to coordinate the release of appropriated and factual information, issue authoritative directives to the public, and respond to, or redirect requests for information regarding any aspect of the emergency. In order to accomplish this, an Emergency Public Information Officer will coordinate all emergency public alert functions and operate out of the EOC.

The lead spokesperson will always by the Mayor for the City of Dawson, or their official designate. He/she has the responsibility and authority to speak to the media on behalf of the City of Dawson regarding any and all aspects of the emergency and municipal emergency operations.

The Emergency Public Information Officer will coordinate all media releases with the CAO with assistance from respective department representatives as per emergency event. The Emergency Public Information Officer will also coordinate all scrums, press conferences, and media briefings.

Media monitoring is very important during an emergency event. The Emergency Public Information Officer will monitor to ensure that the public is receiving the information they require and that the information received is factual and correct.

If the emergency is large scale and has significant impact in the community, a media centre will be opened to coordinate personnel from the media and to ensure the accurate and timely communication of all pertinent information.

Section 11 – Plan Maintenance and Testing

Plan Maintenance

The CAO is ultimately responsible for ensuring that this Municipal Civil Emergency Plan is maintained and tested.

While the CAO is ultimately responsible for the Emergency Plan, the Civil Emergency Co-ordinator/Fire Chief is responsible to coordinate, facilitate, implement and test the Emergency plan based on the recommendations and directions of the Civil Emergency Measures Commission.

Annual Review

Any proposed changes to this Emergency Plan will be submitted to the CEC. All proposed changes to this Emergency Plan will be presented for review to the CEMC. Each review will be coordinated by the CEC, and conducted on or before the end of each calendar year.

Revisions

Any proposed major revisions to this Emergency Plan must be presented to the CEMC. Major revisions to this Plan sill only be approved through a recommendation of the CEMC, and may be presented to Municipal Council, at the direction of the CEMC.

Minor revisions to this Emergency Plan will be coordinated by the Fire Chief and may be brought before the CEMC.

All amendments to the Plan will be recorded and logged on an “Amendment Sheet” to be located immediately following the table of contents, at the front of each copy of the Municipal Civil Emergency Plan.

Plan Distribution

If any major revisions are made to this Emergency Plan, the amended plan may be reprinted and re-circulated in its entirety, and distributed according to the “Distribution List”.

If minor revisions are made to this Emergency Plan, only a notice of the amendment and any other required changes will be distributed according to the “Distribution List”.

Testing the Municipal Civil Emergency Plan

This Emergency Plan will be tested on a regular basis to ensure that the contents remain current and up to date.

Annual Exercise

The Emergency Plan will be tested a minimum of once annually using exercise. Exercises will be coordinated by the CEC to test the effectiveness of the Emergency Plan and to train municipal emergency personnel.

Agency Responsibility

Each organization and department noted in this Municipal Civil Emergency Plan is responsible for forwarding information concerning this plan to any agencies and organizations with which they entertain links related to emergency preparedness and response. At the same time it is the responsibility of such organization and department to relay to the CEC any information obtained from their linked agencies that may have an impact on the Emergency Plan. It is also the responsibility of such organizations and departments to ensure the coordination and facilitation of roles and responsibilities among its partners are fulfilled.

Annex A: Municipal Civil Emergency Plan Contact List

Annex B: Notification Form for Civil Emergency Measures Commission

Declaration of a Municipal State of Emergency

I _____ hereby declare a municipal state of emergency
(Mayor or Elected Head of Council)

In accordance with the Civil Emergency Measures Act s.7 due to the emergency described herein:

_____
_____
_____
_____

for an emergency area or part thereof described as:

_____
_____
_____
_____

City officials have been delegated the authority to implement powers that are set out in the Civil Emergency Measures Act.

As required the City of Dawson officially informs Emergency Measures Organization, and also the population inside the affected area, that a municipal state of Emergency exists.

_____	_____	_____
Mayor, City of Dawson	Date	Time

(Note: Fax to EMO Duty Officer – 867-393-6266)

Termination of a Declaration of a Municipal State of Emergency

I _____ hereby declare a municipal state of emergency
(Mayor or Elected Head of Council)

terminated In accordance with the Civil Emergency Measures Act s.7 due to the emergency described herein:

_____
_____
_____
_____

for an emergency area or part thereof described as:

_____
_____
_____
_____

_____ _____ _____
Mayor, City of Dawson Date Time

Annex C: Resource Inventory

Available Equipment Resources Inventory

Equipment	Owner/Operator	Address	Phone
Backhoe			**Home:** **Work:** **Cell:**
Pickup Truck			**Home:** **Work:** **Cell:**
Heavy Truck			**Home:** **Work:** **Cell:**
Trailer			**Home:** **Work:** **Cell:**
Power Generator			**Home:** **Work:** **Cell:**
Loader			**Home:** **Work:** **Cell:**
Power Saw			**Home:** **Work:** **Cell:**

The phone numbers and other contact information for individual are confidential to the Civil Emergency Measured Commission. While it is integral to the Municipal Civil Emergency Plan it is not available to the public.

Equipment	Owner/Operator	Address	Phone
Water Pump			**Home:** **Work:** **Cell:**
Crawler			**Home:** **Work:** **Cell:**
Excavator			**Home:** **Work:** **Cell:**
200 Gallon Water Tank			**Home:** **Work:** **Cell:**
Trucks used for Water Supply			**Home:** **Work:** **Cell:**
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**

The phone numbers and other contact information for individual are confidential to the Civil Emergency Measured Commission. While it is integral to the Municipal Civil Emergency Plan it is not available to the public.

Equipment	Owner/Operator	Address	Phone
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**
			Home: **Work:** **Cell:**

The phone numbers and other contact information for individual are confidential to the Civil Emergency Measured Commission. While it is integral to the Municipal Civil Emergency Plan it is not available to the public.

Available Building Resources Inventory

Building	Address	Phone
School		
Nursing Station		
Public Works		
Recreation Centre		
Fire Hall		
RCMP		
Tr'ondek Hwech'in Community Hall		
Churches/Chapels		
Churches/Chapels		

Other Available Community Resources Inventory

Resource	Address	Phone
Restaurant		**Business:** **Home:** **Cell:**
Hotel/Motel		**Business:** **Home:** **Cell:**
Tourist Camp		**Business:** **Home:** **Cell:**
Grocery Store		**Business:** **Home:** **Cell:**
Gas Station		**Business:** **Home:** **Cell:**
		Business: **Home:** **Cell:**
		Business: **Home:** **Cell:**
		Business: **Home:** **Cell:**

Annex D: Specific Event Guideline

Avalanche, Land Slide, or Rock Slide

MAJOR CONCERNS: Life Safety, Damage to Property, Transportation, Problems, Isolation

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO, Fire Dept, EMO
Assessment of Situation	• See if additional resources needed • See if mutual aid agreements need to be engaged • Determine potential risk of secondary hazards (utility Failure)	Fire Dept, RCMP, GSAR, CEMC.
Instruction of Residents	• "Slide Warning" to residents in the fall out plain • "Slide Watch" to residents in fall out areas	Fire Dept, RCMP, GSAR, CEMC.
Evacuation Decisions	• Determine if residents need to be removed to a safe central place • Open evacuation center	Fire Dept, RCMP, GSAR, CEMC.
Rescue of Stranded People (particular attention to the elderly)	• Remove people from danger	Fire Dept, RCMP, GSAR, EMS, (volunteers)
Injuries	• Evacuate for medical treatment	EMS, (volunteers)
Traffic Control	• Keep residents away from danger areas	RCMP, (volunteers)
Communications	• Up to date information flow amongst parties involved in Emergency Response	CEMC, EMO, Fire Dept, RCMP, EMS, Public Works, Radio, Etc.
Refreshment Centre(s)	• Provision of food for those in evacuation center; for those engaged in Emergency Response	CEMC, EMO, Fire Dept.
Barricades, Signs, etc.	• To isolate area of danger • Provide Warnings	Public Works Superintendent, Public Works, Fire Dept.
Public & Media Information; Instructions to Residents	• Ensure consistent messages to residents and others	Media Coordinator

FLOOD

MAJOR CONCERNS: **Safety of Lives, Damage to Property, Transportation Problems, Isolation**

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO
Assessment of Situation	• See if additional resources needed • See if mutual aid agreements need to be engaged • Determine potential risk of secondary hazards (utility Failure)	CEMC, EMO, Fire Dep't RCMP
Instruction of Residents	• "Flood Warning" to residents in the flood plain • "flood Watch" to residents in low level areas	CEMC
Evacuation Decisions	• Determine if residents need to be removed to a safe central place • Open evacuation centre	CEMC
Rescue of Stranded People (particular attention to the elderly)	• Remove people from danger	Fire & Rescue Team (volunteers)
Injuries	• Evacuate for medical treatment	EMS (volunteers)
Traffic Control	• Keep residents away from danger areas	RCMP (volunteers)
Communications	• Up to date information flow amongst parties involved in Emergency Response	CEMC, EMO, Fire Dep't, RCMP, EMS, Public Works, Radio, Etc.
Refreshment Centre(s)	• Provision of food for those in evacuation centre; for those engaged in Emergency Response	CEMC
Barricades, Signs, etc.	• To isolate area of danger • Provide Warnings	Public Works Superintendent, Public Works
Public & Media Information; Instructions to Residents	• Ensure consistent messages to residents and others	Media Coordinator
Sand Bags	• Prepare and place where needed to protect property	Public Works (volunteers)

WILDFIRES

MAJOR CONCERNS: Safety of Lives and Property, Utilities Failure

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO
Assessment of Situation	• See if additional resources needed • See if mutual aid agreements need to be engaged • Determine potential risk of secondary hazards (utility Failure)	CEMC, EMO, Fire Dep't, RCMP
Fire Fighting	• Direct engagement at the fire site	Fire Dep't, assistance from mutual aid (as required)
Relocation/Evacuation	• Movement of people and animals • Identify evacuation relocations	CEMC, RCMP, Fire Dep't, Humane Society (volunteers)
Injuries and Rescue	• Remove from danger; provide medical treatment	EMS, Fire Dep't (volunteers)
Communications	• Up to date information flow amongst parties involved in Emergency Response	CEMC, EMO, Fire Dep't, RCMP, EMS, Public Works, Radio, etc.
Traffic Control	• Coordinate traffic control and routes for emergency Response	RCMP (volunteers)
Public & Media Information; Instructions to Residents	• Provisions of consistent information	Media Coordinator
Security Control	• Coordinate protection of property /relocation of resources • Secure scene for subsequent investigation	RCMP
Return to Evacuated Area	• Decision that if it is safe for residents to return	CEMC
Road Clearance	• Provide safe access and movement	Public Works
Damage Assessment	• Determine extent of Damage	CEMC, EMO
Refreshment Centres	• Provision of food to those engaged in Emergency Response • Provision of shelter and food for those evacuated	CEMC

SEVERE WEATHER

Including: Snowstorm, Ice Storm, Hail Storm, Thunderstorm, Windstorm
MAJOR CONCERNS: Safety of lives, Loss of Property, Damage to Property

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO
Assessment of Situation	• Define areas of risk • Determine the potential risk of secondary hazards (fire, utility failure)	CEMC, EMO, Fire Dep't, RCMP
Notification System	• Notify local emergency responders, public works, utility company, health care facility	CEMC, Communications Coordinator
Rescue & Fire Fighting	• Transportation of injured to medical facility • Coordinate search for trapped persons	Fire Dep't, Search & Rescue Team, EMS, Public Works
Traffic Control	• Ensuring road closures • Identification of alternate transportation routes • Coordinate routes for emergency vehicles and transportation of essential staff • Coordinate protection of property	RCMP (volunteers)
Relocation/Evacuation	• Establish public shelters, refreshment centres and feeding facilities • Transport residents to a safe location • Coordinate provision of food, fuel and medical supplies	CEMC, Fire Dep't, EMS, External Agencies (volunteers)
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP/Coroner's Office
Communications	• Provide liaison amongst parties involved in Emergency Response • Warn adjacent areas	CEMC, EMO, Fire Dep't, RCMP, EMS, Public Works, Radio, etc.
Public& Media Information, Instruction to residents	• Ensure consistent messages, including instructions to public	Media coordinator
Damage Assessment	• Determine extent	CEMC, EMO
Site Clean-Up and Restoration	• Contract equipment • Coordinate utility services, restore essential services • Coordinate disposal of debris	CEMC, EMO, Public Works

UTILITIES FAILURE

Including: Electric, Water, Drainage and Communications
MAJOR CONCERNS; Safety of Lives and Property

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO
Assessment of Situation	• Determine extent of problem • Define affected area • Decide if additional resources are required • Determine the potential risk of secondary hazard(i.e. fire)	CEMC, Fire Dep't, RCMP, Public Works
Relocation/Evacuation	• Determine need for Relocation/Evacuation • Identify evacuation locations • Establish emergency facility • Coordinate supply of required resources • Coordinate transportation of residents out of emergency zone	RCMP, Fire Dep't, Public Works (volunteers)
Repairs and Restoration of the Service	• Contract equipment • Coordinate with utility services restoration of essential services	CEMC, Utility Provider, Public Works, External Agencies
Communications	• Provide liaison amongst parties involved in Emergency	CEMC,EMO, Fire Dep't, RCMP
Traffic Control	• Coordinate provisions or required resources to points of need	RCMP (volunteers)
Public & Media Information Instruction to Residents	• Ensure consistent messages, including instructions to public	Media Coordinator
Security Control	• Coordinate the protection of property and relocation of resources where necessary	RCMP
Return to Evacuated Area	• Decision that it is safe for residents to return	CEMC
Damage Assessment	• Determine extent of damage	CEMC, EMO

DANGEROUS GOODS/HAZARDOUS MATERIALS INCIDENT

MAJOR CONCERNS: Casualties, Deaths, Contamination of Water Supply, Disruption of Traffic, Explosions and Fire, Hazards to Humans, Interruption of Communications, Evacuation

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO
Assessment of Situation	• Determine extent of problem • Define affected area • Decide if additional resources required • Determine potential risk of secondary hazards (i.e. fire, utilities failure, contamination of soil, air, water)	CEMC, RCMP, Fire Dep't, Public Works
Rescue & Evacuation	• Coordinate supply of required resources (i.e. gas masks, drinking water, food, pharmaceutical supplies) • Determine need for evacuation • Identify evacuation relocations • Establish emergency health facilities, shelters, refreshment centres and feeding facilities	RCMP, EMS, External Agencies, Volunteers
Instructions to Residents	• Issue instructions to public and advise them on protective and self-help measures	CEMC, Radio, RCMP, Fire Dep't
Eliminate Further Escape of Dangerous Goods	• Isolate immediate area • Monitor potential spread of hazardous material/dangerous goods	RCMP, Fire Dep't, External Agencies
Notification System	• Notify local health-care facility of casualties (number/type)	CEMC
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Communications	• Up to date information flow among parties involved in Emergency	CEMC, RCMP, Fire Dep't, EMS, Radio
Traffic Control & Securing Emergency Site	• Coordinate traffic control and routes for Emergency Vehicles • Isolate the scene for subsequent investigation	RCMP
Public & Media Information, Instructions to Residents	• Establish new release system • Establish public inquiry system	Median Coordinator
Site Clan-Up and Restoration	• Contract available equipment • Coordinate restoration of essential services • Coordinate disposal of debris	CEMC, Public Works, External Agencies
Damage Assessment	• Determine extent of the damage	CEMC, RCMP, EMO

CIVIL OF POLITICAL DISORDER

Including: Armed Conflict, Demonstration, Economic Emergency, Hostage Incident, Riot or Violence, Strike of Lockout, Sabotage
MAJOR CONCERNS: Fire, Injuries and Fatalities, Explosion, Damage to Property, Disruption of Traffic and Communications, Sudden Health Centre Requirements

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CAO
Assessment of Situation	• Determine extent of problem • Define affected area • Decide if additional resources required • Determine the potential risk of secondary hazards (i.e. fire, utilities failure, dangerous goods, hazardous material incident)	CEMC, RCMP, Fire Dep't
Notification System	• Notify ambulance • Notify local health care facility of casualties (number/type) • Notify Fire Dep't, public works)	CEMC
Traffic Control	• Coordinate traffic routes for emergency vehicles • Coordinate elimination of hazards from roads • Coordinate protection of property	RCMP, Public Works (volunteers)
Crowd Control	• Coordinate convergence of media, photographers, politicians • Coordinate convergence of supporters	CEMC, RCMP
Communications	• Provide liaison amongst parties involved in Emergency Response	CEMC, RCMP, Fire Dep't, Public Works, Radio, EMO
Public & Media Information, Instructions to Residents	• Establish new release system and provision of consistent information • Establish family inquiry system	Median Coordinator
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Site Clean-Up and Restoration	• Contract required equipment • Coordinate restoration of essential services and damaged infrastructure	CEMC, Public Works
Damage Assessment	• Secure the scene for subsequent investigation • Determine extent of the damage	CEMC, RCMP, EMO

CONTAMINATION OF SOIL, AIR, DRINKING WATER, FOOD

MAJOR CONCERNS: Casualties, Deaths, Loss of Property, Disruption of Traffic, Sudden Health Centre Requirements, Evacuation

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CEMC
Assessment of Situation	• Define affected area • Decide if additional resources required • Determine potential risk of secondary hazard (i.e. civil disorder)	CEMC, RCMP
Preventing Spread of Contamination	• Assist in identification of contaminant • Monitor potential spread of contaminant • Isolate immediate area • Investigate contamination cause	Fire Dep't, RCMP, EMO
Instruction to Residents	• Issue instructions to public and advise them on self-help measures	CEMC, Radio
Notification System	• Notify ambulance • Notify health care facility of casualties (number/type)	CEMC
Rescue and Evacuation	• Coordinate supply of required resources (i.e. gas masks, drinking water, food, pharmaceutical supplies) • Determine need for evacuation • Identify evacuation relocations • Establish emergency health facilities, shelters, refreshment centres and feeding facilities	RCMP, EMS, External Agencies, (volunteers)
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Communications	• Up to date information flow among parties involved in Emergency	CEMC, RCMP, EMO, Radio
Traffic Control & Securing Emergency Site	• Coordinate traffic control and routes for emergency vehicles • Coordinate protection of property • Secure the scene for subsequent investigation	RCMP
Public & Media Information, Instructions to Residents	• Establish news release system • Establish public inquiry system	Median Coordinator
Site Clean-Up and Restoration	• Contract required equipment • Coordinate restoration of essential services	CEMC, Public Works, Utilities
Damage Assessment	• Determine extent of damage	CEMC, RCMP,

TRANSPORTATION INCIDENT – PASSENGER

Including: Air, Highway, Water
MAJOR CONCERNS: Casualties, Deaths, Contamination of Soil and Water, Property Loss/Destruction, Disruption of Traffic, Explosions and Fire, Evacuation

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CEMC
Assessment of Situation	• Define affected area • Decide if additional resources required • Determine potential risk of secondary hazard (i.e. fire, dangerous goods/hazardous materials incident, contamination of water bodies and soil)	CEMC, RCMP, EMO, Transportation Safety Board (TSB)
Rescue & Injuries	• Remove people from danger • Provide medical treatment • Establish emergency health facilities, shelters, refreshment centres and feeding facilities • Transportation of injured to medical facilities	RCMP, EMS, Fire Dep't, Rangers, Public Works, External Agencies, Volunteers
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Notification System	• Notify local emergency responders • Notify health facility of casualties (number/type) • Notify Public Works Dep't	CEMC
Communications	• Up to date information flow among parties involved in emergency response	CEMC, RCMP, Fire Dep't, EMO, Public Works, Radio
Traffic Control & Securing Emergency Site	• Coordinate traffic control and routes for emergency vehicles • Coordinate protection of property • Secure the scene for subsequent investigation	RCMP, Volunteers
Public & Media Information, Instructions to Residents	• Establish news release system • Establish public inquiry system	Median Coordinator
Site Clean-Up and Restoration	• Contract required equipment • Coordinate restoration of essential services	CEMC, RCMP, Public Works
Damage Assessment	• Determine extent of damage	CEMC, RCMP, EMO, TSB

BRIDGE OR BUILDING COLLAPSE

MAJOR CONCERNS: Injuries, Fatalities, Fire, Disruption of Utilities and Traffic, Property Loss and Destruction.

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resourced	CEMC
Assessment of Situation	• Decide if additional resources required • Determine potential risk of secondary hazard (i.e. fire, utilities failure)	CEMC, RCMP
Injuries and Rescue	• Coordinate search for trapped persons • Provide medical treatment • Establish medical health facilities, shelters, refreshment centres and feeding facilities • Transportation of injured to medical facility	RCMP, EMS, Fire Dept', External Agencies, Volunteers
Notification System	• Notify ambulance • Notify local emergency responders, public works Dep't, utility company, medical facility	CEMC
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Communications	• Up to date information flow among parties involved in emergency response	CEMC, RCMP, EMO, Radio
Traffic Control & Securing Emergency Site	• Coordinate traffic control and routes for emergency vehicles • Identification of alternate transportation routes • Coordinate protection of property • Secure the scene for investigation	RCMP (volunteers)
Refreshment Centres	• Provision of food for those in evacuation centre: for those engaged in emergency response	CEMC, Volunteers
Public & Media Information, Instructions to Residents	• Establish news release system • Establish public inquiry system	Media Coordinator
Site Clean-Up and Restoration	• Contract available equipment • Coordinate with utility services restoration of essential services and damaged infrastructure • Coordinate disposal of debris	CEMC, Public Works, External Agencies
Damage Assessment	• Determine extent of damage	CEMC, RCMP, EMO

EARTHQUAKE

MAJOR CONCERNS: Injuries, Fatalities, Fire, Disruption of Utilities and Traffic, Property Loss/Destruction, Flood, Hazardous Materials Incidents, Contamination of Water

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CEMC
Assessment of Situation	• Decide if additional resources required • Determine potential risk of secondary hazard (i.e. fire, utilities failure, escape of dangerous gases, contamination of normal water supplies0	CEMC, RCMP
Injuries and Rescue	• Coordinate search for trapped and injured persons • Provide medical treatment • Establish emergency medical facilities, shelters, refreshment centres and feeding facilities • Transportation of injured to medical facilities	RCMP, EMS, Fire Dep't, External Agencies, Volunteers
Notification System	• Notify ambulance • Notify local emergency responders, public works dep't, public utility company, health care facility	CEMC
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Communications	• Up to date information flow among parties involved in emergency response	CEMC, RCMP, Fire Dep't, EMO, Radio
Traffic Control & Securing Emergency Site	• Coordinate traffic control and routes for emergency vehicles • Identification of alternative transportation routes • Coordinate protection of property	RCMP, (volunteers)
Refreshment Centres	• Provision of food for those in evacuation centre; for those engaged in emergency response	CEMC, Volunteers
Public & Media Information, Instruction to Residents	• Establish news release system • Establish public inquiry system	Media Coordinator
Site Clean-Up and Restoration	• Contract available equipment • Coordinate with utility services restoration of essential services and damaged infrastructure • Coordinate disposal of debris	CEMC, Public works, Local Utilities, External Agencies
Damage Assessment	• Determine extent of the damage	CEMC, RCMP,

EPIDEMIC/DISEASE

MAJOR CONCERNS: Casualties, Fatalities, Disruption of Traffic, Sudden Health Centre Requirements, Evacuation, Civil Disorder (Panic)

EMERGENCY RESPONSE	RATIONALE	ACTION BY
Activate Emergency Plan	• Coordinate all resources	CEMC
Assessment of Situation	• Decide if additional resources required • Determine potential risk of secondary hazard (i.e. civil disorder)	CEMC, Health Authority
Instructions to Residents	• Issue instructions to public and advise them on protective measures	CEMC, Radio
Rescue and Evacuation	• Coordinate supply of required resources (i.e. gas masks, drinking water, food, pharmaceutical supplies) • Determine need for evacuation • Identify evacuation relocations • Establish emergency public health facilities, shelters, refreshment centres and feeding facilities	RCMP, EMS, Fire Dep't, External Agencies, Volunteers
Preventing Spread of Disease	• Assist in identification of disease and its vector • Monitor potential spread of disease • Isolate immediate area	RCMP, EMO, Territorial Health & Social Services (H&SC)
Notification System	• Notify ambulance • Notify local health care facility of casualties (number/type)	CEMC
Establish Temporary Morgue (if required)	• Protect bodies of deceased persons	RCMP, Coroner's Office
Communications	• Up to date information flow among parties involved in Emergency Response	CEMC, RCMP, H&SC, EMO, Local Health, Radio
Traffic Control & Securing Emergency Site	• Coordinate traffic control and routes for emergency vehicles	RCMP
Public & Media Information, Instructions to Residents	• Establish news release system • Establish public inquiry system	Media Coordinator

Annex E: Hazard Identification and Vulnerability Assessment

In order to determine the risk level of potential hazard, and, therefore, priority of emergency response for each hazard; the answers for the following questions need to be completed and recorded in the Rating Chart, provided below:

1. **HISTORICAL OCCURRENCE** – Could this hazard affect our community? (If you answered **YES**, continue answering questions 2, 3, 4, and 5. If you answered **NO**, continue with the next question.

2. **PROBABILITY OF OCCURRENCE** – What is the likelihood of the event occurring in our community? (Choose among: **LOW, MODERATE, and HIGH**)

3. **PROPERTY IMPACT** – Could property damage or loss of the use of the property result if this event occurred? (YES or NO)

4. **HUMAN IMPACT** – Could any person be killed or injured if this event occurs? (Answer **YES or NO**)

5. **BUSINESS IMPACT** – Could businesses be impacted if this event occurred? (Answer **YES or NO**)

If you answered **YES** to either question #3, #4, or #5 for a hazard, then this hazard is significant to the community and it must be addressed in the Emergency Plan. If you gave a MODERATE or HIGH rating to question #2, you must periodically reassess condition in question #3, #4, and #5, even though they are currently not a threat, so as to take into account changing conditions – such as construction – in the area.

HAZARD IDENTIFICATION AND VULNERABILITY RATING CHART

HAZARD	HISTORICAL OCCURRENCE	PROBABILITY OF OCCURRENCE	PROPERY IMPACT	HUMAN IMPACT	BUSINESS IMPACT
Avalanche					
Blight or Infestation					
Building or Bridge Collapse					
Civil or Political Disorder (armed conflict, demonstration, economic					

HAZARD	HISTORICAL OCCURRENCE	PROBABILITY OF OCCURRENCE	PROPERY IMPACT	HUMAN IMPACT	BUSINESS IMPACT
Emergency, hostage incident, riot or violence, strike or lockout, sabotage					
Contamination of food, drinking water, air or soil					
Dam failure					
Drought					
Earthquake					
Energy shortage or power or utility failure					
Epidemic, disease					
Erosion					
Flood					
Heat Wave					
Hazardous Materials Incident – Marine Oil Spill					
Hazardous Materials Incident – being transported (air, highway)					
Landslide					

HAZARD	HISTORICAL OCCURRENCE	PROBABILITY OF OCCURRENCE	PROPERY IMPACT	HUMAN IMPACT	BUSINESS IMPACT
Summer Storm – Severe					
Subsidence					
Transportation Incident – Passenger (air, highway, water)					
Structural or Building Fires					
Forest Fires					
Winter Storm – Severe					
Other Hazard					
Other Hazard					
Other Hazard					
Other Hazard					

Annex F: Community Volunteer Registration

DATE: _____

EVENT: _____

NAME	HEALTH #	ADDRESS	ASSIGNED	SIGNATURE

THE TOWN OF THE CITY OF DAWSON
BYLAW #11-10

A Bylaw to provide for the establishment of a Civil Emergency Measures Commission and a Municipal Civil Emergency Plan.

WHEREAS, Section 192(1) of the Municipal Act provides that a municipal Council shall by bylaw establish a Civil Emergency Measures Commission and appoint its members; and

WHEREAS, Section 5(1) of the Civil Emergency Measures Act provides that the Council of every municipality shall by bylaw establish a Municipal Civil Emergency Plan; and

WHEREAS, Section 216 of the Municipal Act provides that unless expressly required to be exercised by bylaw, all powers of a council may be exercised by bylaw or resolution;

NOW THEREFORE, the Council of the Town of the City of Dawson in open meeting assembled, hereby ENACTS AS FOLLOWS:

1.00 SHORT TITLE

1.01 This Bylaw may be cited as the **Emergency Measures Bylaw.**

2.00 DEFINITIONS

2.01 For the purpose of this Bylaw:

(1) The definitions contained in the Municipal Act (RSY 2002, c. 154) and the Civil Emergency Measures Act (RSY 2002, c. 34), or any successor legislation, shall apply;

(2) Unless expressly provided for elsewhere within this bylaw the provisions of the Interpretations Act (RSY 2002, c. 125) shall apply.

(3) “CITY” means the Town of the City of Dawson.

(4) “CIVIL EMERGENCY CO-ORDINATOR” means the coordinator appointed by council to coordinate the activities of the Civil Emergency Measures Commission.

(5) “CIVIL EMERGENCY MEASURES COMMISSION” means those members appointed by Council under the provisions of Section 192(1) of the Municipal Act.

(6) “DECLARATION OF A STATE OF LOCAL EMERGENCY” means a declaration of a state of emergency by resolution of the council under Section 7 of the Civil Emergency Measures Act.

(7) "MUNICIPAL CIVIL EMERGENCY MEASURES PLAN (Emergency Plan)" means the organization, plans, and procedures established within the City for combating emergencies and disasters.

3.00 ADMINISTRATION

3.01 There is hereby established a Civil Emergency Measures Commission (CEMC), the membership of which shall consist of the following members:

a. a member of Council as appointed by resolution of council;
b. Civil Emergency Co-ordinator; and
c. such other members that may be appointed by Council.

3.02 Council hereby appoints the Chief Administrative Officer as the Civil Emergency Co-ordinator.

3.03 The CEMC shall ensure that A Civil Emergency Measures Plan is created and maintained. This plan shall:

a) Specify the powers and duties of the Civil Emergency Measures Commission established under subsection 192(1) or the Municipal Act; and

b) Assign to municipal officers and employees those responsibilities necessary for the effective implementation of the plan in the case of a declaration of a state of emergency in or including the municipality under this Act; and

c) Be reviewed semi-annually; and

d) Be exercised annually.

4.00 DECLARATION OF A STATE OF EMERGENCY

4.01 The Mayor is hereby authorized to declare a state of local emergency if they have reasonable grounds to believe that a substantial danger to public safety or to property in the municipality exists or is imminent as the result of fire, explosion, flood, earthquake, landslide, weather, epidemic, transportation accident, electrical power failure, nuclear accident or any similar disaster.

4.02 If, and only if, neither the Mayor nor Deputy Mayor can be located, a state of local emergency may be declared by any two (2) members of council.

5.00 ENACTMENT

5.01 This Bylaw shall come into full force and effect upon the final passing thereof;

5.02 Bylaw #01-05 is hereby repealed.

READ A FIRST TIME THIS 13th DAY OF April, 2011.

READ A SECOND TIME THIS 27th DAY OF April, 2011.

READ A THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August, 2011.

Originals signed by
Peter Jenkins
Mayor

Originals Signed by
Jeff Renaud,
Chief Administrative Officer

August 12, 2011
Date of Final Signature

City of Dawson
PUBLIC NOTIFICATION – Heritage Advisory Committee

The City of Dawson is soliciting 1 volunteer to sit on its Heritage Advisory Committee.

The Heritage Advisory Committee (HAC) is a council appointed citizen committee. Terms for voting members are a two-year period. The position available will run from September 30th, 2022 to September 30, 2024.

The HAC:

- considers and makes recommendations to the Development Officer regarding:
  - heritage aspects of development permit applications in the historic townsite,
  - historic resource permit applications, and
  - nominations for the designation of a Municipal Historic Site based on publicly available evaluation criteria.
- provides a list of proposed heritage-related projects once per fiscal year for consideration in the Council annual operating budget process, and
- provides feedback and input to the Development Officer to assist with the development and maintenance of a development & heritage guide to provide a consistent framework for decision making.

HAC Meetings: Regular HAC meetings are held on the 1st & 3rd Thursday of each month in Council Chambers. Meetings are open to the public and have a standard start time of 7:00 PM.

The HAC also sits on the Board of Variance. The Board of Variance hears and decides upon applications for variances before the board in accordance with the provisions of the *Yukon Municipal Act*. Within 30 days of receipt of an application, the Board of Variance shall approve, refuse, or approve with conditions an application that, in the board's opinion, meets the four tests as outlined in the *Zoning Bylaw*, and preserve the purposes and intent of the *Dawson City Heritage Management Plan*.

Board of Variance Meetings: Board of Variance meetings are held as required and depending on when applications are received.

Written self-nominations, briefly outlining the applicant's statement of intent and relevant experience, may be emailed to planningofficer@cityofdawson.ca and physically delivered to City Hall at 1336 Front St., or may be addressed to:

PDO, City of Dawson
PO Box 308
City of Dawson, YT
Y0B 1G0

This posting will remain open until filled, however applications submitted by **November 25th at 5:00pm** will be given first consideration. Apply soon!

If you have any questions or require any further clarification concerning HAC membership, please contact Stephani McPhee, the City of Dawson's Planning & Development Officer by email at planningofficer@cityofdawson.ca, or by phone at 867-993-7400 – extension 438.

Department of Environment
PO Box 2703, Whitehorse, Yukon Y1A 2C6

November 1, 2022

Dear Stakeholder:

Re: Engagement on Extended Producer Responsibility

The Government of Yukon is pleased to announce that we are starting public and stakeholder engagement on Extended Producer Responsibility (EPR) under s.29 of the *Environment Act*.

EPR is an environmental and economic policy approach for recycling. It means that the producers of products and packaging must make sure these products and packaging are properly managed when they reach the end of their life cycle.

The three priority categories of materials to be managed under EPR are:

- printed and packaging products, such as blue box type items (excluding beverage containers);
- household hazardous waste, including waste paints, fuels and solvents; and
- automotive wastes, such as waste oil, waste antifreeze and their containers.

This engagement is the next step towards fulfilling the Government's commitment under *Our Clean Future* to implement EPR in the Yukon by 2025.

You are receiving this invitation because you may become an obligated producer under the proposed regulation or otherwise have an interest in this issue.

You are invited to provide feedback. There are several options for you to share your thoughts:

- Respond to the Discussion Paper to provide input on the stakeholder issues at 2022 Yukon Recycling Engagement Survey.
- Fill out Public Survey to provide input on issues regarding public and business waste generator expectations of EPR at Extended producer responsibility (EPR) in the Yukon | Government of Yukon.
- Attend an in-person engagement session at the Recycling Summit on November 2, 2022, at Kwanlin Dün Cultural Centre in Whitehorse at 2:15 pm – 2:30 pm.
- Attend one of the virtual engagement sessions. Schedule of the upcoming sessions will be posted at https://yukon.ca/en/engagements/extended-producer-responsibility-epr-yukon.

.../2

- Reach out to Natalia Baranova at Natalia.Baranova@yukon.ca or 867-667-5076 to set up a phone call or a meeting.

Engagement will be open until January 27, 2023. We look forward to hearing from you.

Sincerely,

Bryna Cable
Director of Environmental Protection and Assessment
Department of Environment