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To: "Direct to Mayor and Council - DL"

CC: "City Manager's Correspondence Group - DL"

"Dobrovolny, Jerry" <jerry.dobrovolny@vancouver.ca>

Date: 11/30/2018 4:23:54 PM

Subject: Memo - Operational Response During Heavy Rain

Attachments: ENG - Streets - Memo to Mayor and Council - Operational Response Duringpdf

Greetings Mayor and Council,

Please see attached a memo from Jerry Dobrovolny regarding the City's operational response during heavy rain. A short summary of the memo is as follows:

- The purpose of this memo is to inform you of the preparations and response undertaken during heavy rainfall events.
- Engineering has the ability to increase or decrease weather response depending on the forecasted severity of the rain and winds
- During intense rain or storm events, we partner with Park Board and 311 to provide better customer service by coordinating on downed tree removal, keeping the call center open longer, and placing storm tab more prominently on the VanConnect app.
- Following storm season, Engineering design teams review the call and flood data so any reoccurring issues or problem areas can be incorporated into the following year(s) construction plans.
- Because weather patterns are unpredictable, Engineering monitors weather reports in order to anticipate potential flooding and take proactive measures.

If you have any questions, please feel free to contact Taryn Scollard, Director of Streets, at 604.873.7789 or taryn.scollard@vancouver.ca.

Best,
Sadhu

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MEMORANDUM

November 30, 2018

TO: Mayor and Council

CC: Sadhu Johnston, City Manager
Paul Mochrie, Deputy City Manager
Lynda Graves, Administration Services Manager, City Manager's Office
Rena Kendall-Craden, Civic Engagement and Communications Director
Katrina Leckovic, City Clerk
Neil Monckton, Chief of Staff, Mayor's Office
Alvin Singh, Communications Director, Mayor's Office
Anita Zaenker, Chief of Staff, Mayor's Office
Taryn Scollard, Director, Streets Division

FROM: Jerry Dobrovolsky
General Manager, Engineering Services

SUBJECT: City Operational Response During Heavy Rain

The purpose of this memo is to inform you of the preparations and response undertaken during heavy rainfall events.

Recent Heavy Rain Event

This past Monday, November 26, 2018, we experienced heavy rain. In light of the weather forecast from our WeatherNet meteorologist, we activated our Departmental Operations Centre (DOC, pronounced "dock") for 26 hours, starting on Monday morning and ending on Tuesday at 9am. The DOC is located at National Yard, and Council may remember it from the tour earlier this month.

Engineering has the ability to increase or decrease weather response depending on the forecasted severity of the rain and winds (see chart in Figure 1). As the predicted weather gets more severe, we reallocate staff from other work to respond to flooding calls up to 24 hours a day. We have the ability to activate our DOC and triage the calls based on severity.

During intense rain or storm events such as this past Monday, we partner with Park Board and 311 to provide better customer service by coordinating on downed tree removal, keeping the call center open longer, and placing storm tab more prominently

on the VanConnect app. We also monitor social media for areas experiencing flooding and respond accordingly.

During the heavy rain on Monday, we received:

- 162 flood calls (of these, 32 were considered emergency)
- 1 media request

To provide context, below is a summary of total flooding calls received in the past two years:

	2017	2018 YTD
Non-Emergency	1659	1539
Emergency	510	276
Total	2169	1815

Following storm season, Engineering design teams review the call and flood data so any reoccurring issues or problem areas can be incorporated into the following year(s) construction plans.

Proactive Measures

Because weather patterns are unpredictable, Engineering monitors weather reports in order to anticipate potential flooding and take proactive measures. With staff on 24 hours a day, we are always ready to respond to storm events.

The storms experienced in Vancouver can on occasion exceed the design capacity of the City's original combined sewer systems. One of the key pieces of infrastructure that helps with drainage and prevents flooding is the catch basins along the curb. There are over 45,000 catch basins in the City of Vancouver. Throughout the year, we proactively remove debris and inspect their interiors to ensure they are not clogged. In advance of a heavy rain storm, we proactively visit known flood areas to remove debris from catch basin grates in an effort to prevent as much flooding ahead of time as possible.

The annual leaf clearing program (www.vancouver.ca/leaves) is managed through the Sanitation Division to remove leaves from streets between November and January, once most of the leaves have fallen. Raking or blowing leaves onto the street is a fineable offence under the Street and Traffic By-Law (up to \$10,000).

In 2017, the City launched the 'Adopt a Catch Basin' program to promote interest in residents clearing catch basins near their property in advance of storms and to build a culture of civic pride. In many cases, the catch basin grate will be blocked by only a small amount of debris that is easily and quickly swept aside by a helpful resident. In the last year, more than 2,000 catch basins have been adopted as part of the program. To learn more about the program, please visit www.vancouver.ca/catchbasin.

The Civic Engagement and Communications Team ensures the public is aware of these initiatives in order to decrease frustration and increase adoption and compliance. Proactive messaging to residents regarding the fall leaf programs (extra leaf collection and street leaf cleaning) is done through a series of news releases and information bulletins, a print mailing to more than 80,000 homes, distribution of posters and rack cards to all community centres and libraries, VanCollect campaigns and push messages, print advertising in the Georgia Straight, the Greenest City Newsletter, 3-1-1 IVR message, and social media (Facebook, Twitter and Instagram).

In the coming weeks, as we transition from heavy rainfall events to colder temperatures, we will provide another update outlining the snow and ice response preparations.

Should you require further information, please contact Taryn Scollard, Director of Streets, at 604.873.7789 or taryn.scollard@vancouver.ca.

A handwritten signature in blue ink, appearing to read 'J. Dobrovolny', with a stylized flourish at the end.

Jerry W. Dobrovolny, P.Eng., MBA
General Manager, Engineering Services

604.873.7331 | jerry.dobrovolny@vancouver.ca

Figure 1

Planned Weather Event - Priority Response Chart

(updated Oct 2018)

Priority Response Level	Definition	Action Communication	Resources Available
Level 5	Major rainfall expected (50+ mm in 24 hour period), preceded by an event of 30+ mm within 24 hours, high tides expected, duration >12 hours	Action plan and update communication every 4 hours, or as conditions change (City Manager, GM, Directors, Managers, 311, Communications, Risk Management)	<p>WeatherNet resourced Coordinated effort between Sewers and Streets Storm Coordinator established.</p> <ul style="list-style-type: none"> • 2 x Vacuum Truck on standby • 2 x Sewer Crew on standby • 4 x Streets / Sanitation Crews • 1 x Streets / Sanitation Emergency Crew • Storm Coordinator • Sanitation resources as required
Level 4	Major rainfall expected (50+ mm in 24 hour period), duration > 12 hours	Action plan and update communicated every 8 hours, or as conditions change (City Manager, GM, Directors, Managers, 311, Communications, Risk Management)	<p>WeatherNet resourced Coordinated effort between Sewers and Streets Storm Coordinator established.</p> <ul style="list-style-type: none"> • 1 x Vacuum Truck on standby • 1 x Sewer Crew on standby • 4 x Streets / Sanitation Crews • 1 x Streets / Sanitation Emergency Truck • Storm Coordinator • Sanitation resources as required
Level 3	Heavy rainfall expected (31 -49 mm in 24 hour period), tides and duration of storm to be considered	Action plan and update communicated every 8 hours, or as conditions change (GM, Directors, Managers, 311, Communications, Risk Management)	<p>WeatherNet resourced Coordinated effort between Sewers and Streets Storm Coordinator established.</p> <ul style="list-style-type: none"> • 1 x Sewer Crew on standby • 4 x Streets / Sanitation Crews • 1 x Streets / Sanitation Emergency Truck • Storm Coordinator • Sanitation resources as required
Level 2	Rainfall expected (21 – 30 mm in 24hrs)	Action plan and update communicated every 12 hours, or as conditions change (GM, Directors, Managers, 311, Communications, Risk Management)	<p>WeatherNet resourced Coordinated effort between Sewers and Streets Storm Coordinator established.</p> <ul style="list-style-type: none"> • 1 x Sewer Crew on standby • 4 x Streets / Sanitation Crews • 1 x Streets / Sanitation Emergency Crew • Storm Coordinator • Sanitation resources as required
Level 1	Rainfall expected (0-20 mm in 24hrs)	Action plan and update communicated every 24 hours (Superintendent II)	<ul style="list-style-type: none"> • 1 x Sewer Crew on Standby • 1 x Streets / Sanitation Emergency Crew

Wind Warnings: thresholds set at 70 km/h – sustained and 90km/h – gusts; response to include Parks Board – Street Trees, Electrical Operations, Streets Operations, and Sanitation Operations (if required)