



City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	Date:	March 21, 2018
From:	John Irving, P.Eng. MPA Director, Engineering	File:	10-6160-07-07/2018- Vol 01
Re:	Brazilian Elodea Management Update: Mariner's Village (11291 - 11491 7th Ave)		

Staff Recommendation

That the report titled "Brazilian Elodea Management Update: Mariners Village (11291 – 11491 7th Ave)" from Director, Engineering dated March 21, 2018 be received for information.

John Irving, P.Eng. MPA
Director, Engineering
(604-276-4140)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS:
APPROVED BY CAO	

Staff Report

Origin

At the General Purposes Committee on November 6, 2017, staff provided an update on the Brazilian elodea infestation with the following recommendation:

That a letter be sent to the BC Ministry of Forests, Lands and Natural Resource Operations, to request their immediate involvement and the allocation of appropriate funding to manage Brazilian elodea infestations in Richmond.

This report supports Council's 2014-2018 Term Goal #6 Quality Infrastructure Networks:

Continue diligence towards the development of infrastructure networks that are safe, sustainable, and address that challenges associated with aging systems, population growth, and environmental impact.

6.1 Safe and sustainable infrastructure

Background

Mariner's Village is a private condominium development, located between 11291 and 11491 7th Ave in Richmond that consists of several single- and multi-family dwellings. A water feature is located adjacent to the development on City property, situated between the site and the west dike. The water feature is approximately 500 metres (m) long by approximately 25 m wide and is a linear water feature that forms part of the City's drainage system in the area.

In 2014, staff were notified by the Strata of Mariner's Village to the presence of Brazilian elodea (elodea) in the water feature, which likely resulted from the improper disposal of an aquarium. Since 2014, the elodea has spread throughout the entire water feature. Currently there are only two known locations of elodea in BC. As such, elodea is a candidate species for the provincial *Early Detection Rapid Response* program and is recognized as a priority species under the City's *Invasive Species Action Plan*.

As requested by Council, a letter was sent to the BC Ministry of Forests, Lands and Natural Resource Operations, to request their immediate involvement and the allocation of appropriate funding to manage Brazilian elodea infestations in Richmond. Staff have been in dialogue with Ministry staff regarding funding, more information can be found below related to this topic.

Analysis

Cold Weather Trial: Phase 1

City staff, in partnership with the Province, have completed the first phase of a trial-based work plan to stress the infestation within the northern portion of the water feature. The area of the Phase 1 trial is approximately 210 metres (m) long by approximately 15 m wide. Phase 1 of the plan included draining this area to expose the infestation to colder temperatures.

Since October 5, 2017, staff have completed the following:

1. Constructed and installed a custom weir to facilitate drainage;
2. Temporarily drained the northern portion of the water feature;
3. Retained a Qualified Environmental Professional (QEP) to support wildlife salvage efforts and regulatory requirements;
4. Excavated a drainage canal within the water feature to ensure conveyance of newly introduced stormwater;
5. Coordinated a professional survey of the water feature to confirm property boundaries;
6. Coordinated a geotechnical survey to ensure retaining wall structural integrity is maintained during dewatering period;
7. Worked with the Province to initiate a Pesticide Use Permit (PUP) process for the application of aquatic herbicide within the water feature.

Results

Upon completion of the trial, the water feature was exposed to dryer, colder conditions for a total of 69 days (between January and March). Although the trial experienced milder temperatures in January and March with a mean average of 5° Celsius, significantly colder temperatures were experienced in February. During February, the elodea was exposed to 13 days (137 hours) below 0° Celsius which was better than anticipated.

Discussions with the Province have also proved to be successful. As requested by Council, staff have confirmed provincial funding for the next three years to support additional management initiatives and the Province has committed to lead the arduous process for obtaining a PUP with City support. It is anticipated that the PUP process could take up to one year to facilitate and will require various stages of public consultation, slated to begin in Spring/Summer 2018. If successful, the permit will allow for the application of an aquatic herbicide (as needed) in the water feature to manage the infestation.

With the emergence of warmer temperatures, staff are now prepared to end the trial, monitor its effects, and begin the provincially-lead PUP process. To facilitate the closure of Phase 1 efforts in the field, staff will conduct minor earth works around the water feature, remove the customized weir, and allow the water feature's water levels to regenerate naturally. Staff will continue to ensure that the extent of the current elodea infestation in the south pond does not migrate to the Phase 1 area (north of the pedestrian bridge) and will monitor the site to assess emergence of the elodea during the growing season.

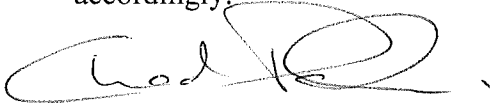
A recent discussion with representatives of Mariner's Village was consistent with the content of this report.

Financial Impact

None at this time. Future management initiatives will be further supported with an additional \$222, 500 (over 3 years) in funding from the Province, dedicated to this project to use as appropriate.

Conclusion

The first phase of the trial has been implemented successfully and a positive, ongoing dialogue with Mariners Village Strata has been maintained. Staff will continue to monitor the trial throughout 2018 and assess future management options based on best management practices and public feedback resulting from the PUP process. Staff will continue to update Council accordingly.

A handwritten signature in black ink, appearing to read 'Chad Paulin', with a large, stylized loop at the end.

Chad Paulin
Manager, Environment
(604-247-4672)

CP:th