

Memorandum

To: Tonka Bay City Council

From: Nick Preisler, City Engineer, WSB

Date: April 8, 2020

Re: Brentwood Avenue Drainage Complaint

On March 30th, the City's public works department received a drainage complaint from the property owner at 175 Brentwood Avenue stating that the ditches off the east end of Brentwood Avenue are full of water and not draining.

The City Engineer visited the site on March 31st and observed the drainage system that serves this area was full of water and not draining. Public works staff noted that the drainage system is very shallow and typically frozen during early spring thaws. Public works also found that a culvert underneath the access path to the LRT trail had developed a hole which is likely due to a break in the pipe.

Attached is a schematic showing the drainage system in the area. The system flows to the fire lane at the north end of Florence Drive and is drained through a french drain system. These systems are designed to allow water to weep into the surrounding soil rather than directly discharging to the lake. Due to this they freeze during the winter and are slower to thaw out in the spring. When this happens the runoff from snowmelt collects in the ditches until the french drain system thaws. This could take several weeks depending on the weather conditions each spring.

The primary issue is with the french drain system at the end of the drainage system. These systems are designed to be slow draining and aren't able to handle large rainfall events. They are also susceptible to seasonal effects such as what was encountered this spring.

A long-term solution for the drainage in the area would be to replace the system with a more freely draining outlet. Given the limited elevation change in this area it may require a lift station similar to what is located on Woodpecker Ridge Rd or within Manitou Park. This solution would most effectively be addressed with a future street project due to the impacts the project would have on the street surface. The short-term solution would be to replace the failing culvert underneath the access path to the LRT trail and to have public works continue to monitor the system each spring.

Council Action:

1. Discuss the drainage complaint and provide staff with feedback

Attachments:

1. Brentwood Avenue Drainage Map