



To Whom It May Concern,

On June 24<sup>th</sup> an on-site visit was conducted to address a shoreline erosion concern along Shoreview Lane, Breezy Point just south of Parcel ID 10210539. The erosion present likely stems from a combination of wave action and the usage of the area as a landing/launch point for boats, ice houses and other recreational equipment. There are several ways to address this erosion depending on the management goals of the city. The potential solutions are outlined below (Solution 1 is the SWCD recommendation):

**1.** If the goal is to stabilize this location and prevent the public from using this location as a pseudo landing, planting or live-staking a fast growing shrub such as Red Osier Dogwood (*Cornus sericea*) would suffice. Red Osier grows quickly and its root system would help hold the soil in place to prevent further erosion. It thrives in sandy soils, particularly along lakeshores. Additionally it can be trimmed like an ornamental shrub if you desire to limit the height/size of the plant. Sandbar Willow (*Salix exigua*) could also be used, but will grow much taller.

To live stake the plant you can cut a branch of an existing shrub approximately 0.5-1.5" in diameter and 2-3' long. The bottom should be cut at a 45 degree angle and placed directly into the desired location until about 1/2 - 2/3 of the stake is in the soil. Each stake should be planted 2-3 feet apart in rows. The best time to cut and plant using this method is in September or October before the ground freezes. You will likely not see any above ground growth the first year using this method because the plant is devoting its resources to extending its root system.

The toe of the bank will also need protection to prevent the continuation of the undercutting. This can be done by using a small 12" coir log to break up the wave action. A cheaper, but more labor intensive option would be to install willow wattle at the toe. A full guide on making and installing Willow Wattle can be found at <https://www.clearwaterlakemn.org/willow-wattle---diy.html> . You could perform these methods at just the cost of labor (likely 2-3 hours using 2-3 people) if you have a source for the live stakes (any existing, mature Red Osier Dogwood or Willow tree would suffice).



**2.** If the goal is to stabilize this site and allow this area to continue to be utilized as a pseudo landing, the solutions become more varied, more complicated, more costly and the risk of failure increases. Regardless, there are still viable restoration methods that could be implemented.

**2a.** The affected area can be seeded with a mix of Pennsylvania sedge (*Carex Pensylvanica*) and Beaked Sedge (*Carex rostrata*) to help stabilize the area. The seeded area should be covered with an erosion control blanket (Curlex single net) to hold the seed and soil in place during the early stages of establishment.

The toe of the bank will also need protection to prevent the continuation of the undercutting. This can be done by using a small 12" coir log to break up the wave action. A cheaper, but more labor intensive option would be to install willow wattle at the toe.

This method is somewhat risky due to its slow establishment and lack of woody roots to help anchor the bank together, but it is a viable option.

**2b.** The area where rock has already been placed could be left as-is to be used as a landing while the remaining portion of the shore is seeded with MNDOT Seed Mix #34-361 "Riparian Northeast." This will have high diversity in the area and will stabilize the shore, but is a slightly taller seed mix. An erosion control blanket may want to be placed over the seed to protect it and the bank during the early establishment period.

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This method is not as risky as 2B, but will leave less area to be used as a pseudo launch. This is still a fairly slow method though. This method will also hold the bank together better than just sedges alone.



**Estimated Costs:**

**Solution 1:** \$ 185 + 2-3 hours of labor of 2-3 people

**Solution 2a:** \$360(Coir log, seed and ECB) + Labor and maintenance during establishment.

**Solution 2b:** \$420(Coir log, seed and ECB) + Labor and maintenance during establishment



Recoverable Signature

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Jarrett Drileck

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Jarrett Drileck  
SWCD Shoreline Technician  
Signed by: Jarrett Drileck