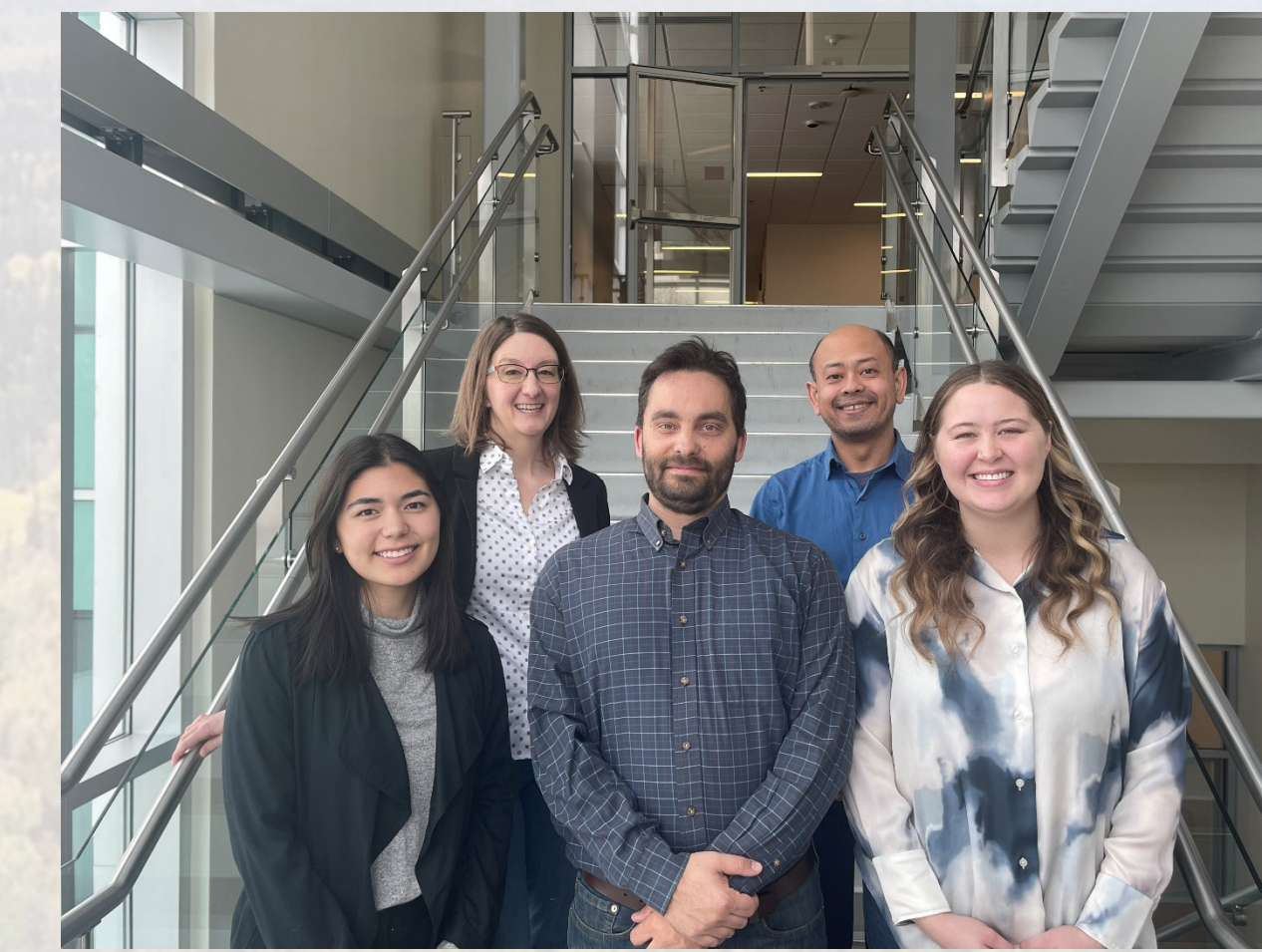


# Big Eddy Facility Improvements:

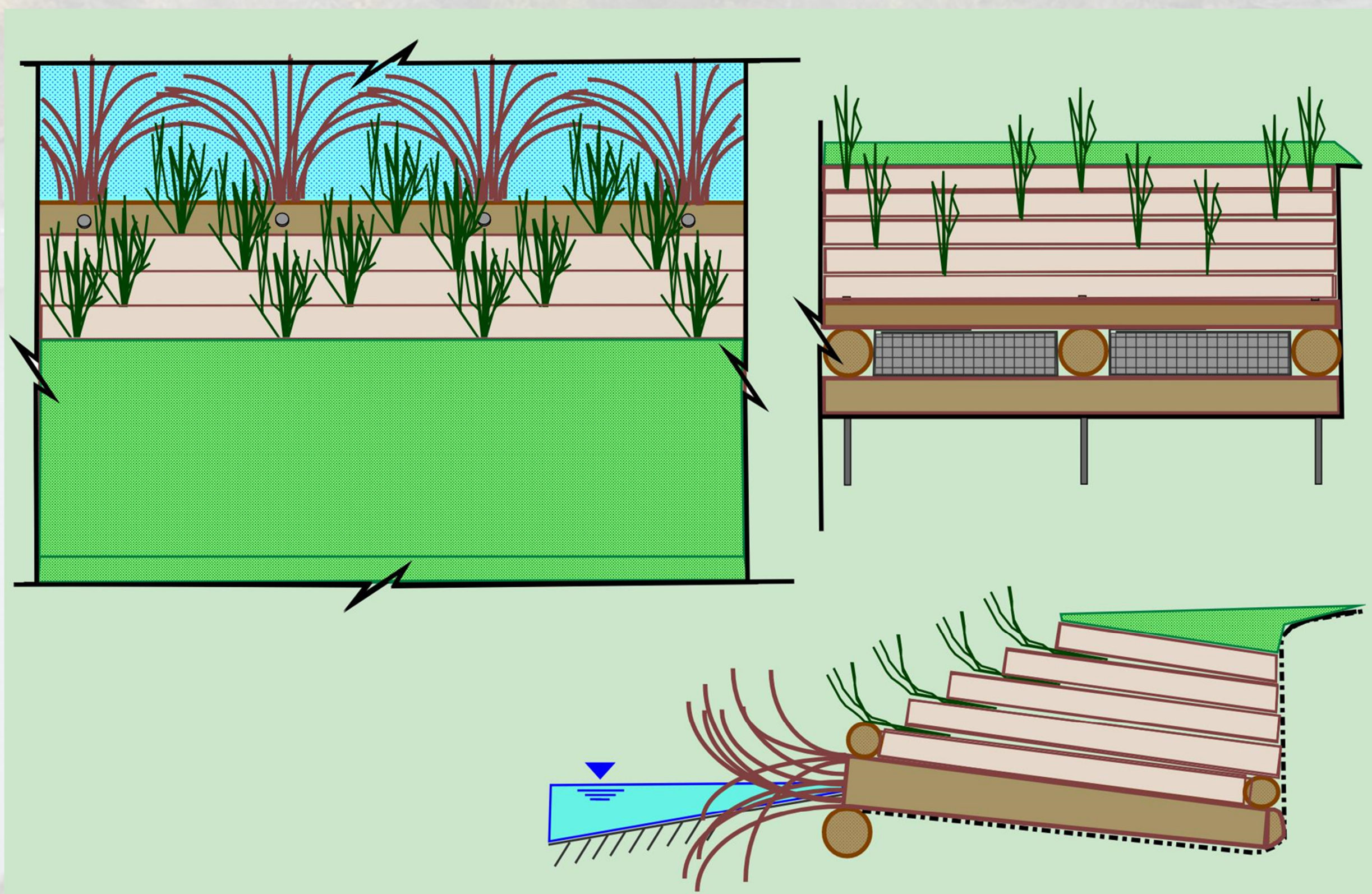
Tommi Crist, Cassie Chaney, Jacob Glick  
Department of Civil Engineering  
Project Adviser: Dr. Calhoun  
Mentor: Rys Miranda, PE  
Client: Katie Winter, PE  
04/28/2023



## Riverbank Restoration

The proposed rootwad revetment represents a bio-engineered approach for promoting natural conditions along waterways where erosion control is needed.

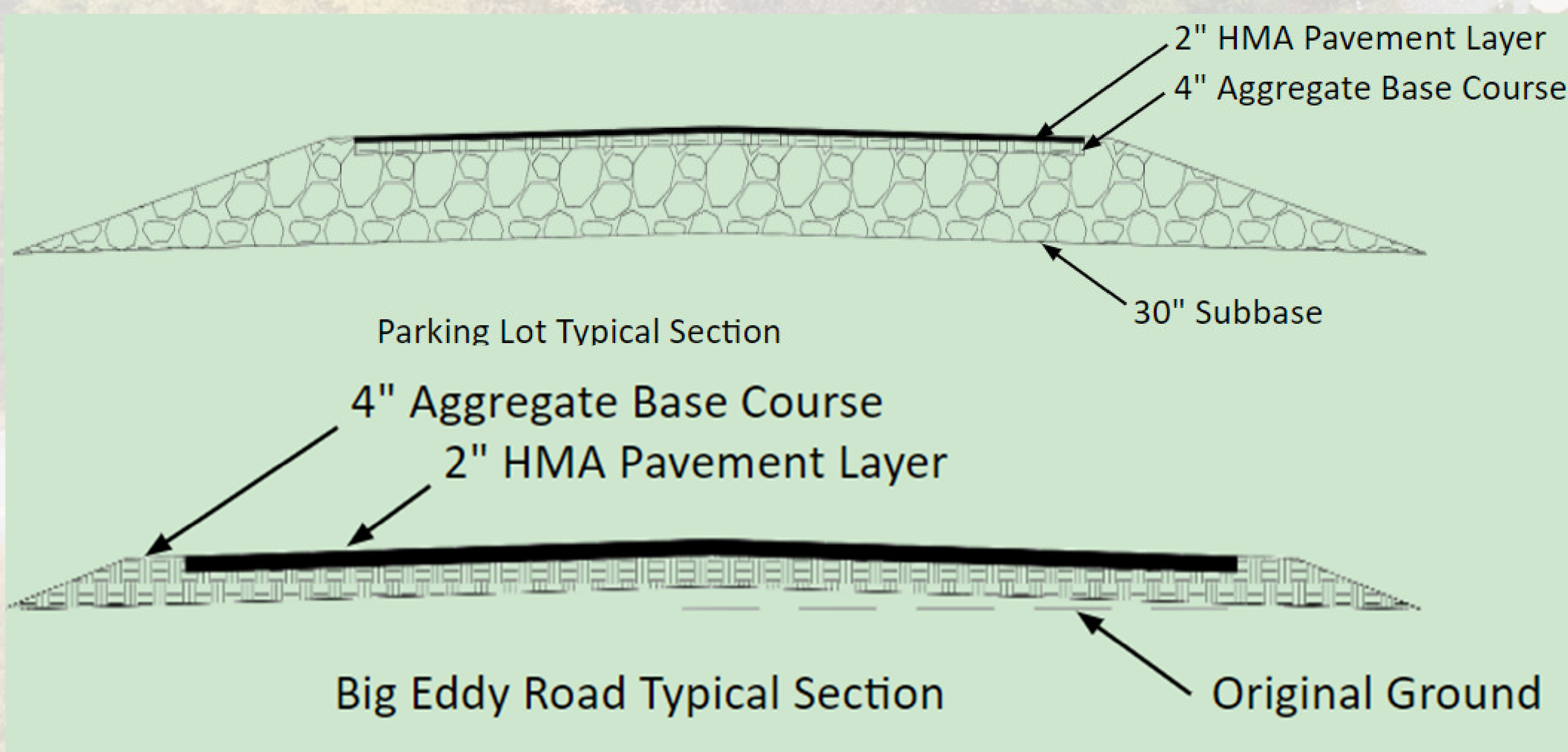
Design elements were selected with the primary objective of stabilizing and improving the quality of the fish habitat managed by DNR.



## Pavement

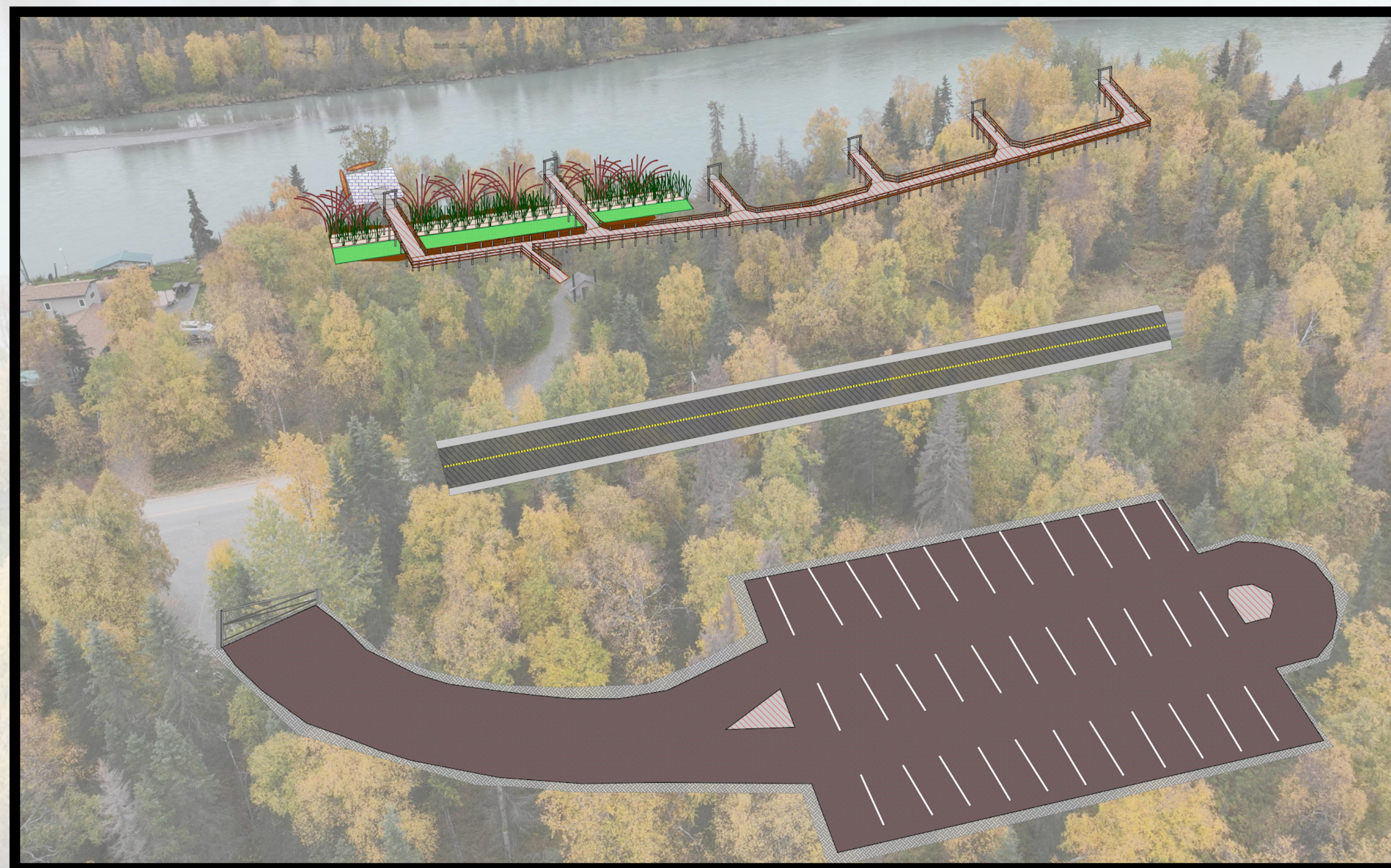
The pavement is designed in accordance with guidelines developed by AASHTO. The Big Eddy Road is made up of a two layers which will be laid on the existing road which has shown no soft spots and served as a solid road.

The parking lot pavement is designed similarly but includes a Subbase layer which will provide a solid non-frost susceptible base that will be thick enough to minimize future cracking within the pavement.



## Abstract

The Big Eddy Facility resides in Soldotna, Alaska near River Mile 16.5. The facility is a unit of the Kenai River Management Area under Alaska State Parks. Our client, Alaska DNR, has asked us to develop a 35% design package and this DSR with proposed improvements of the Big Eddy Site. These improvements include new pavement at Big Eddy Road, a 30-space parking lot, 1000' elevated light penetrating walkway, and riverbank restoration.



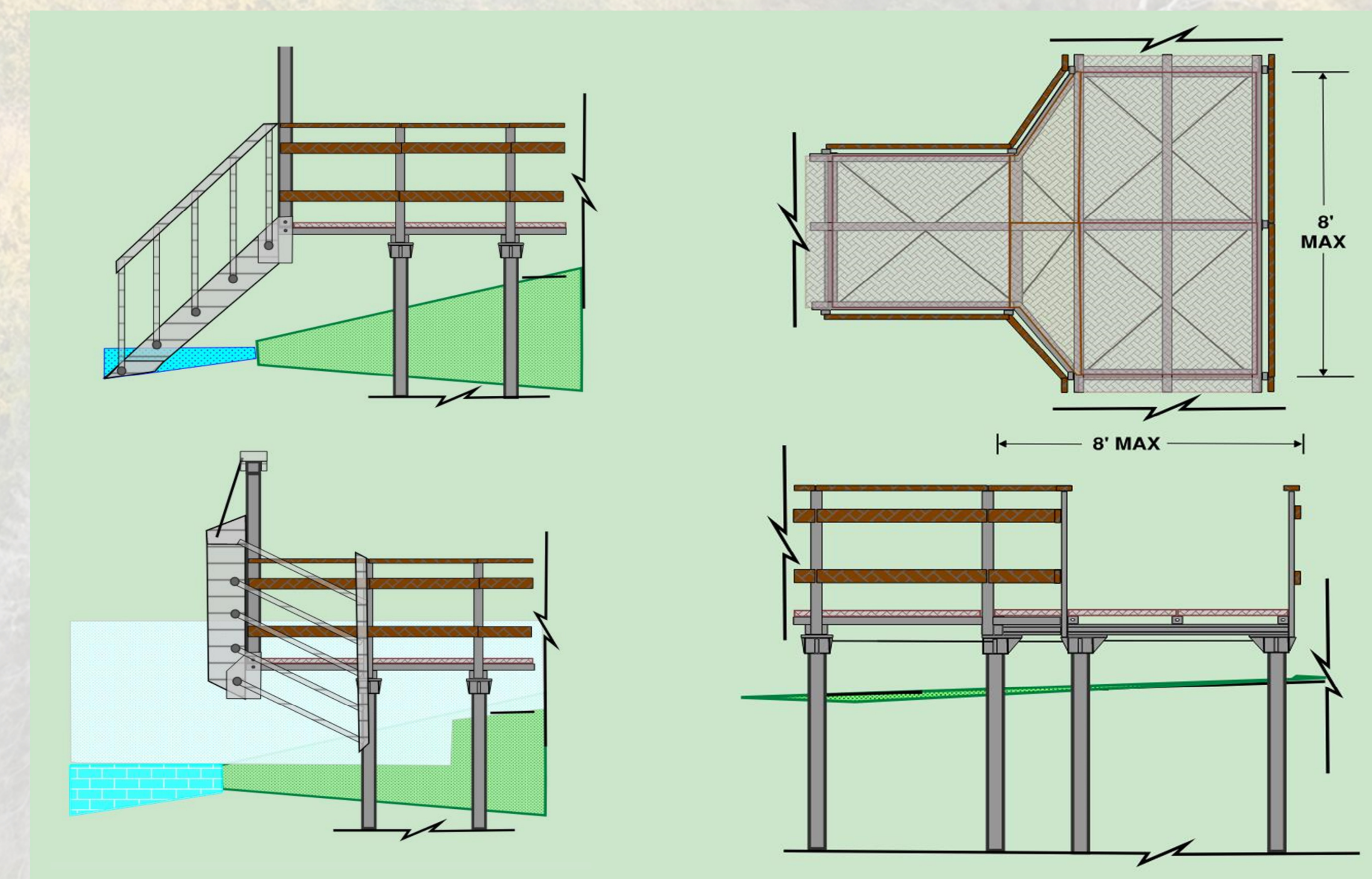
## Elevated Light Penetrating Walkway

Elevated walkways provide low-impact pedestrian access to and from the riverbank and can be constructed in a manner which minimizes disruption to sensitive riparian habitat.

Light penetration of the decking material allows for unimpeded vegetation growth within the footprint of the structure.

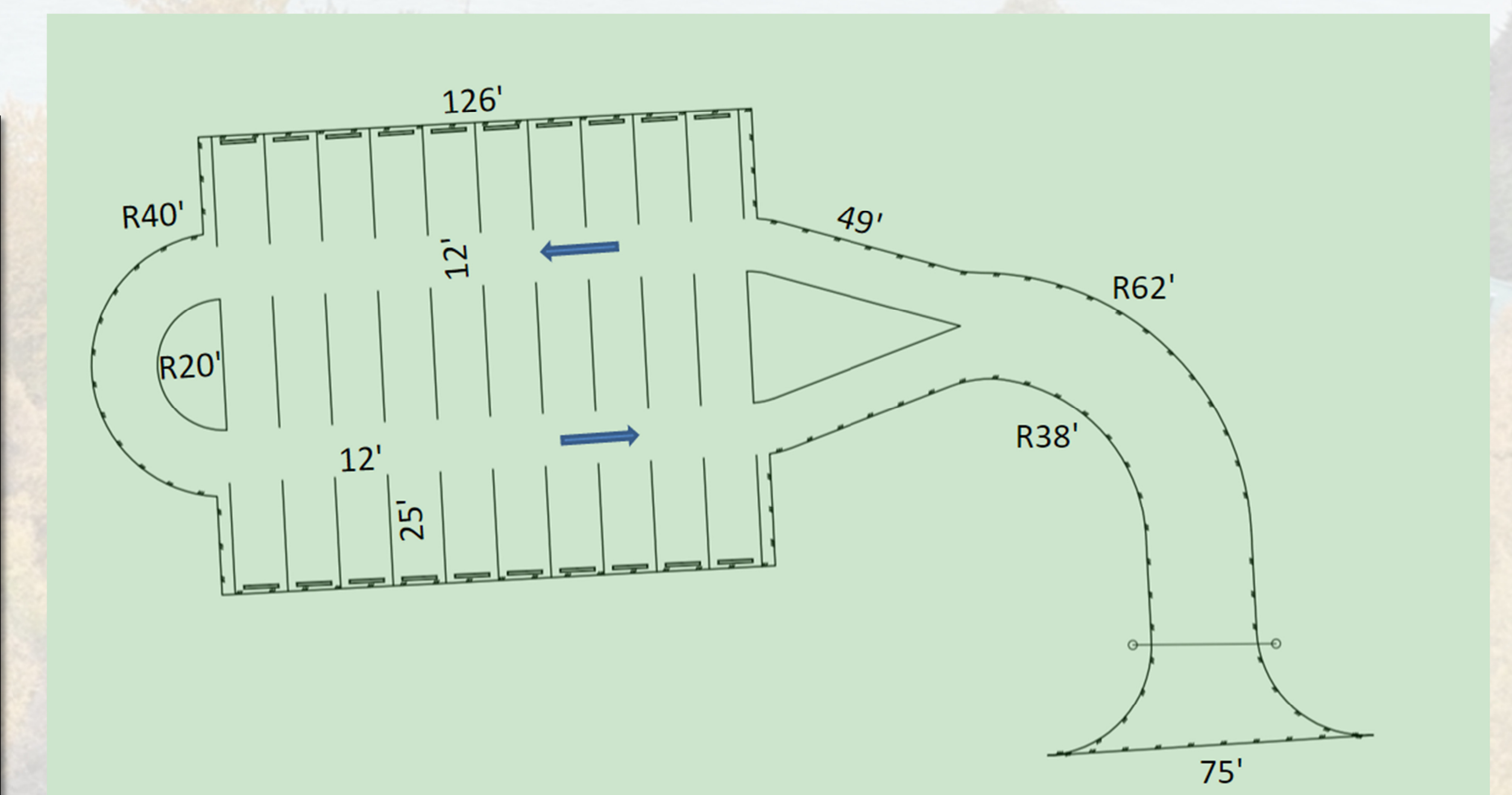
Pile caps and lateral tension systems are adjustable to compensate for frost jacking or differential settlement.

Hinged stairs can be removed from the river during winter shutdowns.



## Parking Lot

The proposed plans are to create a drive lane that leads back into the property into a new 30-space parking lot. The two-way driveline will split into a one-way lane in the parking lot with a turnaround at the west end. Each parking stall will be 12' wide and 25' long



Total Displacement Due To Max Design Load (inches)

