Memorandum

Subject: **Oyster Creek – 2022 Adaptive Management**

Date: January 18, 2023

To: Michael Baron, El Dorado Irrigation District

From: Brian Piontek, Horizon Water and Environment
Robin Hunter, Horizon Water and Environment

The El Dorado Irrigation District (EID) completed construction of the Oyster Creek Stabilization Project (Project) in October 2019. The Project used biotechnical techniques to stabilize a portion of Oyster Creek and its North Tributary.

The Project site is located in eastern El Dorado County, California (**Figure 1**). **Figure 2** provides an overview of the Project area. The Project includes two sites, the Oyster Creek and North Tributary restoration sites. The Year 3 Post-construction Monitoring Report (Horizon Water and Environment [Horizon] 2022) recommended adaptive management measures for the Project to meet its final performance criteria for plant survivorship. This memorandum describes adaptive management actions taken in October 2022, divided by activities at Oyster Creek and the North Tributary.

Adaptive management activities occurred on October 19, 2022. Activities were conducted by EID staff, overseen by Michael Baron, EID Environmental Review Analyst, and advised by Brian Piontek, Horizon Water and Environment, Senior Biologist.

Pole/Cutting Installation

Willow poles were harvested locally from dormant willows in the meadow adjacent to the restoration area. In addition, live alder cuttings were harvested from trees growing within the creek channel. Poles were soaked in water for a minimum of 30 minutes prior to planting. A digging bar and/or rebar was used to create pilot holes to install poles/cuttings. Poles were pushed or driven approximately 3-4 feet below the ground surface (bgs). Holes were backfilled with a mud slurry to reduce air pockets around the poles.

Oyster Creek Site

EID staff installed approximately 40 willow poles and 10 alder cuttings in the restoration area to increase the total number of surviving plantings. Planting concentrated on the mid- to lower slopes, where water availability was most suitable for willow growth and previous cuttings showed the highest rate of survival (see Photos 1B and 2B).

In addition, in areas where the bank was undercut, staff manually cut overhanging vegetation from the top of bank into sod blocks. The sod blocks measured 1-foot by 1-foot (minimum) and were positioned on the mid- and lower bank slopes and above the existing coir log where vegetation was absent. Two-

foot wooden stakes were used to pin the sod blocks into the bank. Soil was placed and compacted around the sod blocks. The intent of this action was to (1) control the loss of densely vegetated overhanging sections that may have otherwise naturally sheared off and dropped into the creek channel where they could become buried or wash away, (2) more effectively revegetate bank slopes otherwise void of vegetation, (3) reduce the potential for erosion (e.g., splash and sheet erosion), and (4) increase the potential for sediment accumulation behind the sod blocks thereby resulting in a more gradual bank slope. Approximately 25 linear feet of sod blocks were cut and repositioned along the bank.

North Tributary Site

EID staff installed approximately 14 willow poles and 6 aspen cuttings along the North Tributary site. Poles/cuttings were installed on the left (south) bank along the slope toe in areas generally lacking live willow poles, aspen shoots, or other natural sapling recruitment.

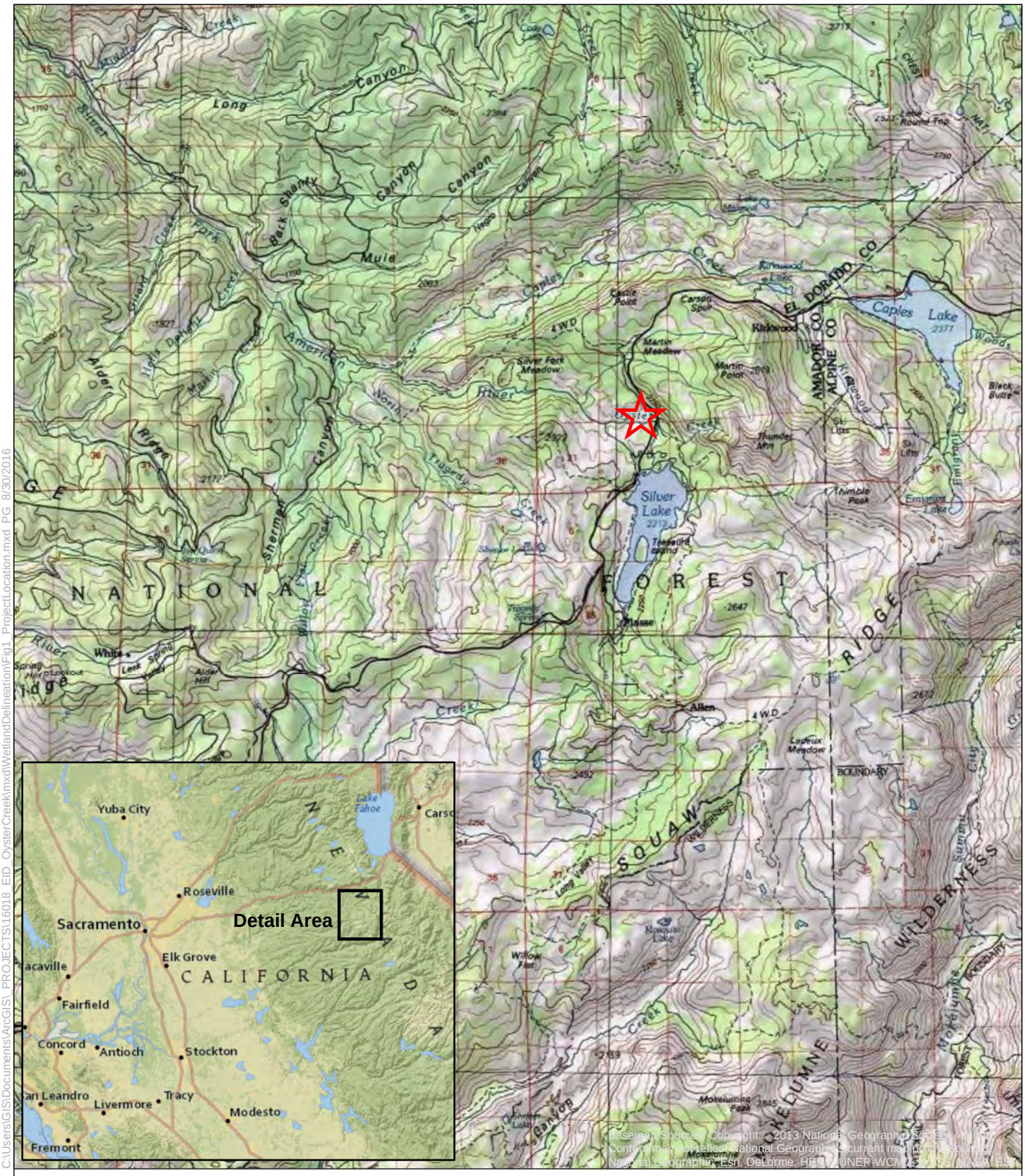
Photo No. 1A	**Photo No. 1B**
Date: 6/8/2022	**Date:** 10/18/2022
Description: Oyster Creek during Year-3 monitoring	**Description:** Oyster Creek following adapative management.
	
Photo No. 2A	**Photo No. 2B**
Date: 6/8/2022	**Date:** 10/18/2022
Description: Oyster Creek during Year-3 monitoring	**Description:** Oyster Creek following adapative management.
	

Summary and Next Steps

EID installed approximately 70 cuttings in October 2022 to increase the number of surviving plantings. These consisted of approximately 54 willow, 10 alder, and 6 aspen cuttings. Additionally, sod blocks were repositioned at the Oyster Creek site to help increase vegetative cover on the bank slopes and support channel evolution to a more stable bank slope angle. Year 4 post-construction monitoring and maintenance activities will be performed in 2023.

References

Horizon Water and Environment. 2022. Oyster Creek Stabilization Project. Post-construction Monitoring Report – Year 3. August.



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N

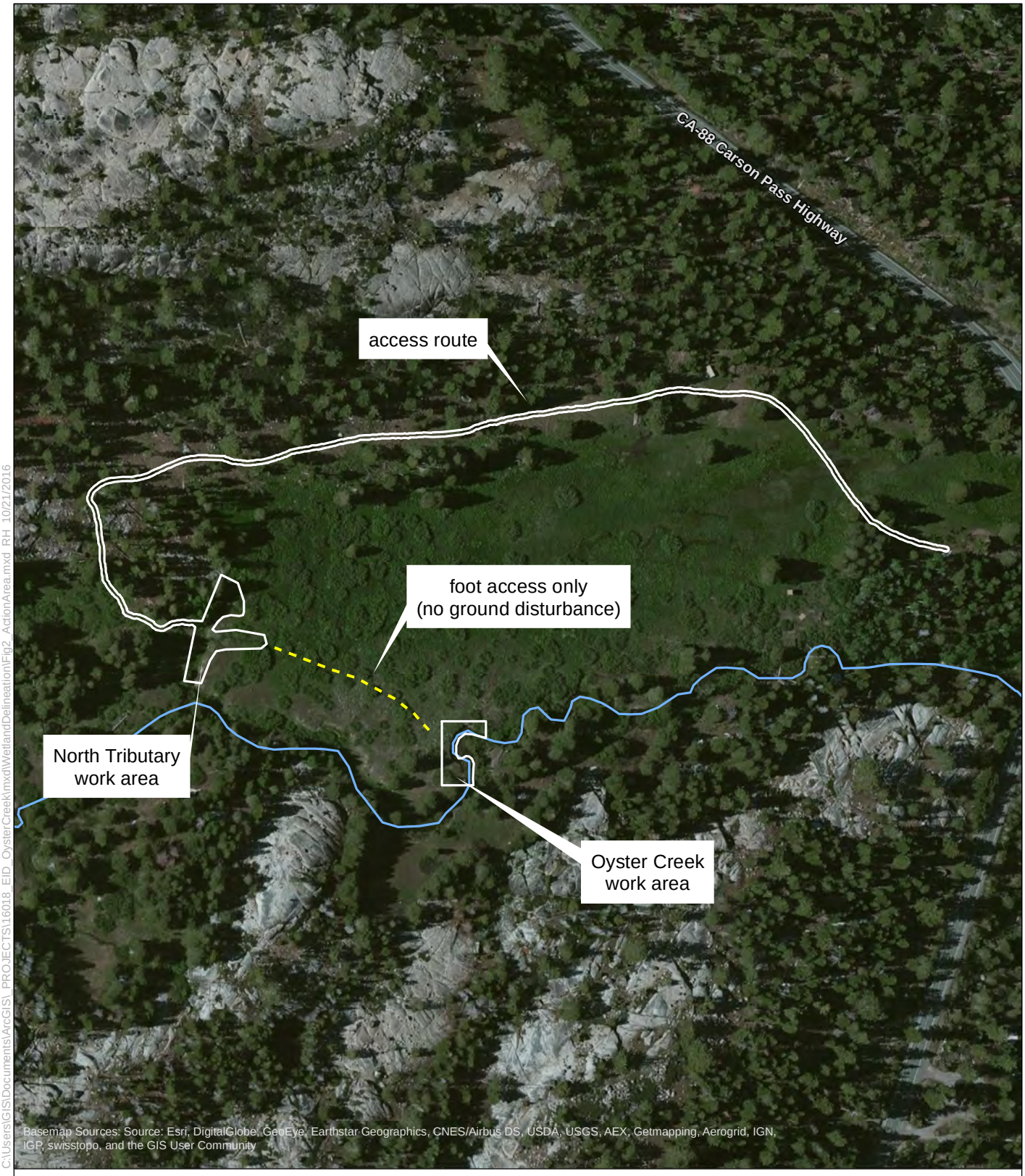
0 2.5 5
Miles

Project Location

Figure 1
Project Location

Oyster Creek
Stabilization Project

Horizon
WATER and ENVIRONMENT



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N

0 250 500

Feet

Study Area

Oyster Creek

Figure 2
Project Overview

Oyster Creek
Stabilization Project

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