QUARTERLY STATUS REPORT

Quarterly Status Reports are required per contract terms. If no work was done during the reporting period, the CONTRACTOR must provide an explanation of the circumstances.

Project Title: Keokea Gulch Riparian Corridor Rehabilitation Project Phase II

Project Start/Completion Date: March 17th, 2022 – February 28th 2023

Estimated % of Project Completed: 20%

Estimated % of Grant Funds Previously Requested: ___0____%

Quarterly Status Report Number: __1_____

Name, telephone number, and e-mail of person to be contacted for questions regarding this report: Michael Reyes, 808-866-8619, mreyes@mauienvironmentalconsulting.com

Please provide the following information for this reporting period. Additional sheets may be attached:

This Quarterly Status Report is for the period indicated below **(check only one and insert year)**:

- ☐ January 1 – March 31, _____ (Due April 15th)
- ☒ April 1- June 30, 2022 _____ (Due July 15th)
- ☐ July 1 – September 30, _____ (Due October 15th)
- ☐ October 1 – December 31, _____ (Due January 15th)

Quarterly Status Report Number: 1

Please provide the following information for this quarter. Additional sheets may be attached.

1. Tasks started and/or completed as outlined in the Scope of Services during the **current** reporting period.

A. Summary of work completed (list all tasks and deliverables)

Task/Deliverable	Date Completed/Submitted
Michael Reyes and Katie Woodbury - Project Effectiveness Baseline Monitoring	3/21/2022
Michael Reyes and Katie Woodbury - Weekly Monitoring	4/1/2022
Michael Reyes and Richard Sylva repair to irrigation timers	4/8/2022
Michael Reyes and Katie Woodbury - Weekly Monitoring	4/15/2022
Michael Reyes and Katie Woodbury - Preparing site for planting by clearing invasives and digging holes	4/22/2022
Michael Reyes and Katie Woodbury planting 80 plants	4/29/2022
Michael Reyes and Katie Woodbury - Weekly Monitoring	5/13/2022
Michael Reyes, Katie Woodbury, Richard Sylva, and Haleakala Ranch volunteers planting 120 plants	5/20/2022
Michael Reyes and Katie Woodbury - Weekly Monitoring	5/27/2022
Michael Reyes and Katie Woodbury - Weekly Monitoring	6/10/2022
Michael Reyes and Katie Woodbury - Weekly Monitoring	6/17/2022
Greg Czar Fencing Install	6/24/2022
Michael Reyes Land Clearing and Greg Czar Fencing Instsall	6/28/2022

B. Pollutant load reductions for the **current** reporting period

Pollutant	Estimated Load Reduction from BMPs	Estimated Load Reduction from R-1 Usage in Pounds
Nitrogen (lbs/quarter)	7.95	5.71
Phosphorous (lbs/quarter)	1.4	2.1
Sediment (tons/quarter)	0.85	1.13 (Pounds)

C. Outreach and education for the **current** reporting period

Event or Activity	Date	Number of Participants/Attendees	Number of Volunteer Hours (if applicable)
Haleakala Ranch Staff and Board Planting	05/20/2022	6	24

2. Narrative Progress Report

A. Description of project progress for the **current** reporting period.
During this quarter we focused on installing the new feral ungulate fence for Phase II of the project. Due to supply issues, our fencing contractor took longer than expected but was finally able to begin work in June of 2022. We have not been able to install R-1 irrigation infrastructure or plant with the Phase II footprint, as this area is not protected from deer. Instead, we focused on kiawe removal and land clearing in preparation for irrigation infrastructure installation next quarter.

We were able to conduct an outreach event during this quarter. We invited Haleakala Ranch staff and board members to participate in a planting activity within Phase I of the project. During this planting, we addressed any plant mortalities that had occurred and continued to fill in portions of the project that have space for additional plants.

Now that we finally have Phase II fencing in place, using STEPL, the Central Maui Soil and Water Conservation District estimates these efforts will result in pollutant load reductions for both sediment and nutrients as listed above. In addition, this riparian corridor rehabilitation project provides critically needed habitat for native plant and animal species. Wetlands in South Maui have been highly impacted by development and this rehabilitation effort will ensure the stream continues to function hydrologically as well as ecologically.

As an added benefit, this project will continue to use R-1 water from the nearby Kihei Wastewater Treatment Facility. The Countywide WWRF Land Treatment Study conducted by Brown and Caldwell for the County of Maui Department of Environmental Management in May of 2018 lists the following effluent pollutant concentrations:

Parameter	Average Concentration	Removal from March to June in pounds based on 340,687 liters used per week (15 weeks times 22712.5 liters per week)
BOD	4.2mg/L	3.15
TSS	1.5 mg/L	1.13
Ammonia-N	1.0 mg/L	0.75
Nitrate-N	6.2 mg/L	4.66
Total N	7.6 mg/L	5.71
Total P	2.8 mg/L	2.10

Currently, the Keokea Riparian Rehabilitation Project uses approximately 6,000 gallons of R-1 water a week (or 22,712.5 liters per week). This amounts to approximately 5.71 pounds of Nitrogen and 2.10 pounds of Phosphorus being diverted from the injection wells and placed instead at the base of native plants via drip line infrastructure for this quarter.

B. Description of any major challenges or problems (e.g., weather, personnel, equipment, etc.) encountered and/or resolved that may have affected the CONTRACTOR's ability to complete the project as required. *If there is a material change in the Project Timeline or Budget because of these issues, please contact the Procurement Officer for more information about modifying the contract.*

   As stated above, the major challenge has been the global supply chain disruption. Our fencing contractor was not able to begin installing the feral ungulate fencing until mid June. This has caused our team to have to wait to install irrigation infrastructure as well as plants within Phase II of the project.

C. Description of any significant findings, results, or conclusions.
   We have had fairly low mortality associated with the plantings (~10%). I believe the use of R-1 water in our project provides benefit to the reef and coastal waters and have included these load reduction estimates in the reduction estimates provided in Table B.

3. Based on the Scope of Services and Project Timeline, a brief description of tasks expected to be completed in the next reporting period.
   In the next quarter, we will install R-1 infrastructure and continue to clear the site of invasive kiawe and buffel grass. We will submit a press release informing the public about the project and we will update the website with our progress.