

# MAUI WILDFIRE AID



## *A Letter From The Company*

BY DR. MEHROOZ ZAMANZADEH

Our hearts go out to the people of Maui and their families who have been affected by the wildfires. A few of our employees were born and raised in Hawai'i, and our company had the pleasure of visiting Maui in April of this year for an inspection project. We could never have imagined that the beautiful place we visited would experience such a tragedy. However, we know that the people of Hawai'i are very resilient and, with the entire world showing aloha, Lāhainā will be restored.

As a company that has specialized in corrosion and innovation for over a decade, we would like to offer the following pro bono services to aid in Maui's recovery:

- Analyzing structural damages on infrastructure affected by the fires
  - Pipelines
  - Communication towers
  - Galvanized towers, poles, and cables
- Assessing the health of Lāhainā's historic banyan tree through electrochemical sensing

See the following page for more details on what we can offer.

## *CONTACT US FOR MORE INFORMATION*

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# *Monitoring The Health of The Banyan Tree*

The historic 150-year old banyan tree in Lāhainā is the largest banyan tree in the United States. Following the devastating wildfire, the tree still shows signs of life. Our company is able to quantify the tree's health through our state-of-the-art sensor system called EnviroZense.

This unit provides a real time assessment on a tree's health by monitoring various electrochemical reactions which occur naturally in trees.

The sensor is installed next to the tree and the data is transmitted in real time via satellites to a base station where a web-based interface is used to analyze and monitor the condition of the tree.

By analyzing specific critical electrochemical potential values, we can determine if a tree is able to thrive and

grow. From this it can be determined if a tree is healthy or in distress. We have installed these electrochemical sensors in a multitude of locations to monitor trees and their electrochemical activities. The units will not be intrusive to the tree and will not damage the tree any further.

This particular banyan tree has endured a wildfire, and there is a collective desire to determine if it can be saved due to its significant historical value.



# *Structural Inspections*

A wildfire affects more than just the wildlife around it because it also affects critical infrastructure such as poles, towers, and cables. Simply relying on visual inspection to assess the heat damage is insufficient. It doesn't offer a quantifiable measure of the heat damage, galvanized layer melting/softening, nor does it provide insight into any adverse metallurgical

phase changes that might have occurred as a result of the fire exposure.

Loss of galvanizing without loss of strength may occur at lower temperatures and not be obvious, since such a pole/tower would still be standing. It would, however, be subject to accelerated corrosion and weakening over time. As an approximation, the bare steel will corrode in an atmospheric environment one to two orders of magnitude faster than the galvanized steel.

Our team has decades of experience in inspections and assessments of galvanized steels structures, concrete, and coatings affected by wildfires. We have also worked with major utility companies in the United States such as Southern California Edison to develop a wildfire assessment procedure.

We understand how important strong infrastructure is in rebuilding a historic community, and we want to do everything we can to kokua Maui.