DAVEY
Resource Group

August 11, 2020

Warren Ontiveros
County of Los Angeles
Department of Beaches and Harbors
13403 Fiji Way
Marina Del Rey, CA 90292

RE: Evaluation of Construction Impacts on *Erythrina* caffra trees at Via Marina, As Needed Services

Dear Mr. Ontiveros

Thank you for contracting with Davey Resource Group (DRG) for your arboricultural needs. In support of your objectives, DRG is pleased to provide you with the attached report summary of the Site Visit conducted on July 29, 2020 by DRG ISA Certified Arborist, Vincent Amoroso (NY-6116A). Since the trees are part of an existing inventory, only the current condition and overall health, as well as visible critical and structural root zones were assessed. The attached report can be used to make informed decisions regarding tree protection, construction planning and mitigation for impacted trees. The survey of four *Erythrina* caffra trees determined the following:

- Two *Erythrina* caffra trees (VM-27, VM-28) have more than 50% of the roots that were severed in the tree's Critical Root Zone (CRZ) and encroached into the Structural Root Zone (SRZ) on the north and south side. These trees are recommended for removal.
- One *Erythrina* caffra tree (VM-30) had approximately 70% of the roots on the south side that were severed within the tree's SRZ. This tree is recommended for removal.
- One *Erythrina caffra* tree (VM-33) had approximately 25% of the roots that were severed in the tree's CRZ. Monitoring and selective pruning is recommended. These tree root systems will be impacted by future construction phases.

We appreciate the opportunity to submit this report and hope it provides solutions to your needs. Thank you for contracting with Davey Resource Group regarding the above project. Please feel free to contact me if you would like more information or have any questions.

Sincerely,

Vincent Amoroso
Davey Resource Group
Certified Arborist #NY-6116A
ISA Tree Risk Assessment Qualified

# Evaluation of Construction Impacts of *Erythrina caffras* at Via Marina.

## Marina Del Rey, CA

### Site Visit Summary

August 2020

# Evaluation of Construction Impacts at Via Marina Marina Del Rey, CA

Prepared for
**L.A. County, Dept. of Beaches and Harbors**
Warren Ontiveros
13403 Fiji Way
Marina Del Rey, CA 90292

July 2020

Prepared by
Davey Resource Group, Inc
Western Region Office
6005 Capistrano, Suite 100
Atascadero, CA 93422

Contact: Vincent Amoroso
Phone: (530) 902-5689
E-mail: vincent.amoroso@davey.com

www.daveyresourcegroup.com

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# Summary

In July 2020, Davey Resource Group (DRG), a division of The Davey Tree Expert Company, was contracted by the County of Los Angeles, Department of Beaches and Harbors, to conduct assessments of the *Erythrina caffra* trees undergoing root pruning activities prompted by demolition and reconstruction of the sidewalks and to provide guidance and recommendations.

An International Society of Arboriculture (ISA) Certified Arborist from Davey Resource Group conducted the evaluation of the trees on July 29, 2020. Only a visual inspection was used to assess the subject trees discussed in this report. All four trees within the construction zone were found to have roots that were already severed from previous sidewalk construction. Site visit included a visual assessment of severed roots, tree condition, structure and health, and a photographic record.

The subject trees were previously inventoried by DRG in July 2019. The trees were briefly assessed and assigned condition ratings. All four trees were given a vigor rating of 2 (Fair). Vigor ratings are a measure of the trees' health, and were rated on a scale from 1 to 4 (1=Poor, 2=Fair, 3=Good, 4=Very Good).

Significant risk of catastrophic tree failure exists if structural roots within the Structural Root Zone (SRZ) are destroyed or severely damaged. In addition, disruption to more than 30% of the Critical Root Zone (CRZ) can result in significant health impacts. Due to damage to substantial roots within its SRZ, in addition to the further impacts from planned construction activities, tree VM-27, VM-28, and VM-30 (*Erythrina)* have suffered from severe root pruning and should be removed. Preservation of these trees is not recommended due to approximately 50%-70% of the tree's SRZ and CRZ being impacted. Additionally, these trees are located along sidewalks with intermittent to frequent pedestrian use that would provide a target if the tree were to fail.

Although tree VM-33 (*Erythrina*) also presented in fair condition, it is anticipated further root pruning will occur during any sidewalk repair. Preservation of this tree may not be possible if more than 20% of the tree's CRZ is impacted. Additionally, this tree is located along sidewalks with intermittent to frequent pedestrian use that would provide a target if the tree were to fail if the SRZ is compromised. This tree is recommended for follow-up tree care practices, including monitoring for indications of decline or impending failure if standard tree protection measures can be followed.

# Introduction

## *Project Background*

A site visit was conducted on July 29,2020 by International Society of Arboriculture (ISA) Certified Arborist, Vincent Amoroso (#NY-6116A) at the construction site located at Via Marina, in Marina Del Rey, California. The purpose of the site visit was to evaluate current construction impacts and assess the condition of trees which have received root cutting from sidewalk repairs. In addition, future repairs/replacement are anticipated. Four trees VM-27, VM-28, VM-30, and VM-33 (*Erythrina* caffra) were located on site, and are hereon referred to as the 'subject trees'.

## *Limits of Assignment*

Many factors can limit specific and accurate data when performing evaluations of trees, their conditions, and potential for failure or response to site disturbances. No soil or tissue testing was performed. All observations were made from the ground and no soil excavation to expose roots was performed. Demolition and excavation had already begun at the time of the site visit. The determinations and recommendations presented here are based on current data and conditions that existed at the time of the evaluation and cannot be a predictor of the ultimate outcome for the evaluated trees in the future.

## *Purpose and Use of Report*

The purpose of this report is to provide a summary of the evaluation of the subject trees located in the construction zone at Via Marina, in Marina Del Rey, California. This report includes an assessment of the current condition and health, as well as providing recommendations for mitigation of future construction impacts. The findings in this report can be used to make informed decisions when deciding to remove or retain subject trees.

# Observations

## *Methods*

Only a visual inspection was used to develop the findings, conclusions, and recommendations found in this report. Since a previous tree inventory had recently collected data such as DBH, height estimation and canopy radius estimation, only a visual assessment of tree condition, on-going construction impacts, structure and health, and a photographic record were recorded. The previous inventory had numerical values assigned to grade the attributes of the trees, including structure and canopy health, and to obtain an overall condition rating. No physical inspection of the upper canopy, sounding, root crown excavation, and resistograph or other technologies were used in the evaluation of the trees.

## *Site Observations*

The subject trees are located at the south eastern side of Via Marina along the sidewalk next to Aubrey E. Austin Park. All four of the assessed trees (VM-27, VM-28, VM-30, VM-33) are in lawns with sidewalks on both sides that are showing hardscape damage and lifting from the roots. The recent sidewalk damage and construction has revealed that the trees had many roots located in the top 12" of soil which is a growing characteristic of this species. It was observed that most of the trees' roots that are growing on the lawn are causing sidewalk damage as well as creating a tripping hazard.

## *Tree Observations*

**VM-27**

VM-27 *Erythrina* caffra (Photo 1) is in Fair condition. This tree's roots were severed by approximately 50%. The SRZ and CRZ of tree VM-27 has been compromised by construction activities. Several large scaffold branches of adjacent coral trees have been failing in recent months.

**VM-28**

VM-28 *Erythrina* caffra (Photo 2) is in fair condition. This tree's roots were severed by approximately 50% during sidewalk construction that was less than two feet from the trunk. Some of these roots are greater than 3 inches in diameter. The Structural Root Zone (SRZ) of VM-28 has been significantly compromised by construction activities. Large previous failures to adjacent trees were observed.

**VM-30**

VM-30 *Erythrina* caffra (Photo 3) is in Fair condition. This tree's roots were severed by approximately 70% during sidewalk construction in a U-shape, approximately 3 feet from the trunk. The structural root zone (SRZ) has been significantly compromised.

**VM-33**

VM-33 *Erythrina* caffra (Photo 4) is in fair condition. The CRZ of this tree was severed by approximately 25%. The SRZ has not been impacted by sidewalk construction. Retain, Monitor and selective pruning to compensate for root loss is recommended.

# Discussion and Recommendations

The subject trees were assessed by Davey Resource Group (DRG) in July 2020. The trees were briefly assessed for construction impacts at the time of the visit. Based on the observations, all four trees were given an overall condition rating of Fair.

The SRZ was calculated using a commonly accepted method established by Dr. Kim Coder in *Construction Damage Assessments: Trees and Sites.* In this method, the root plate size (i.e. pedestal roots, zone of rapid taper area, and roots under compression) and limit of disruption based upon tree DBH is considered as a minimum distance that any disruption should occur during construction. Significant risk of catastrophic tree failure exists if structural roots within this given radius are destroyed or severely damaged. The SRZ is the area in which minimal or no disturbance should occur without arborist supervision. The CRZ should not be reduced to an area smaller than the SRZ. Compromising the CRZ will reduce the chances of long-term tree survival and increase the risk of tree failure or decline.

The observed sidewalk construction activities near three of the four subject trees (VM-27, VM-28, VM-30) has created severe impacts from cutting supporting buttress and other critical roots. In addition, large scaffold branches of adjacent Erythrina trees located in Via Marina have been failing in recent months with no signs or warning. This indicates the trees may be located in a poor area with no room for roots to grow and serve its purpose to support the tree structurally. Based on the significant root pruning and observed condition, all three of these trees are recommended for removal.

Tree VM-33 had minimal impacts from the construction activities and should be retained and monitored. Further improvements to the area should avoid mechanical trenching for new irrigation, grade changes and soil compaction.

For the tree that remains along the sidewalk, DRG recommends that construction plans be reviewed by an ISA Certified Arborist before construction begins. On site supervision by an ISA Certified Arborist is recommended during construction. Hand excavation of sidewalk borders is recommended to determine the impact construction will have on the subject and other surrounding trees. Construction of sidewalk will be labor intensive and could have moderate to severe impacts on VM-33. Above ground or alternative materials, such as pavers, are recommended. Measures should be taken to minimize soil compaction while working within the root zones of the tree. A four to six-inch layer of course, wood-chip mulch over the area where the root and soil disturbance is planned will help to minimize soil compaction. One-inch thick sheets of plywood placed over several inches of mulch will distribute weight more evenly for heavy equipment.

Root pruned trees should be monitored for at least two years following root pruning for signs of instability and symptoms of drought stress. Remedial action should be initiated as needed. Irrigation should be considered prior to, during, and after root pruning depending on climate and season.

Ultimately, renovation of the sidewalks in this area may be an opportunity to replace all four trees with a more suitable species.

# Appendix A – Photographs

**Photo 1 – VM-27, major structural roots causing sidewalk to lift.**

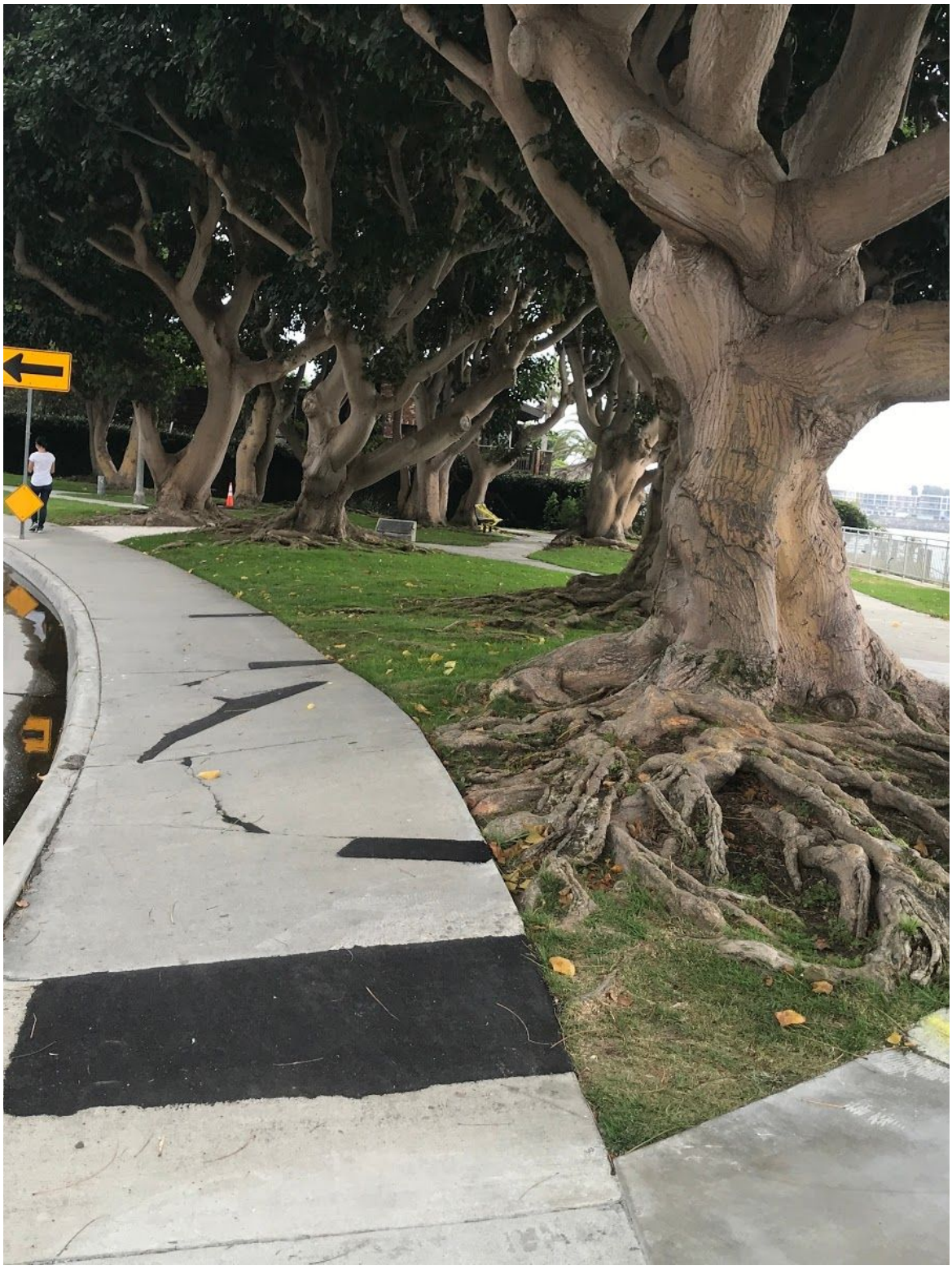

**Photo 2 – Tree VM-28, Large structural roots (>2”) being pruned for new construction to sidewalk.**

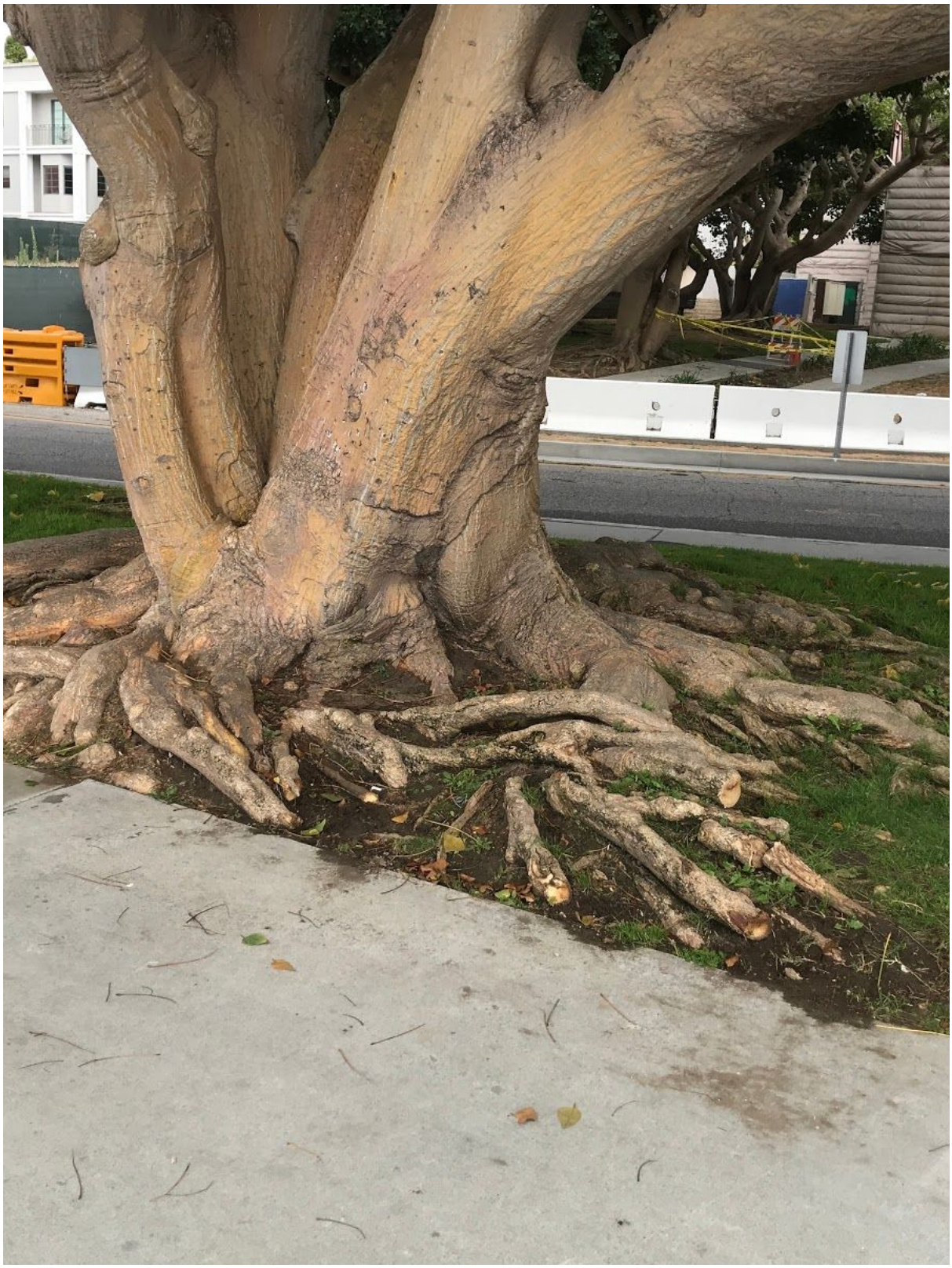

**Photo 3 – Tree VM-30, large structural roots (>3”) being pruned more than 50%.**

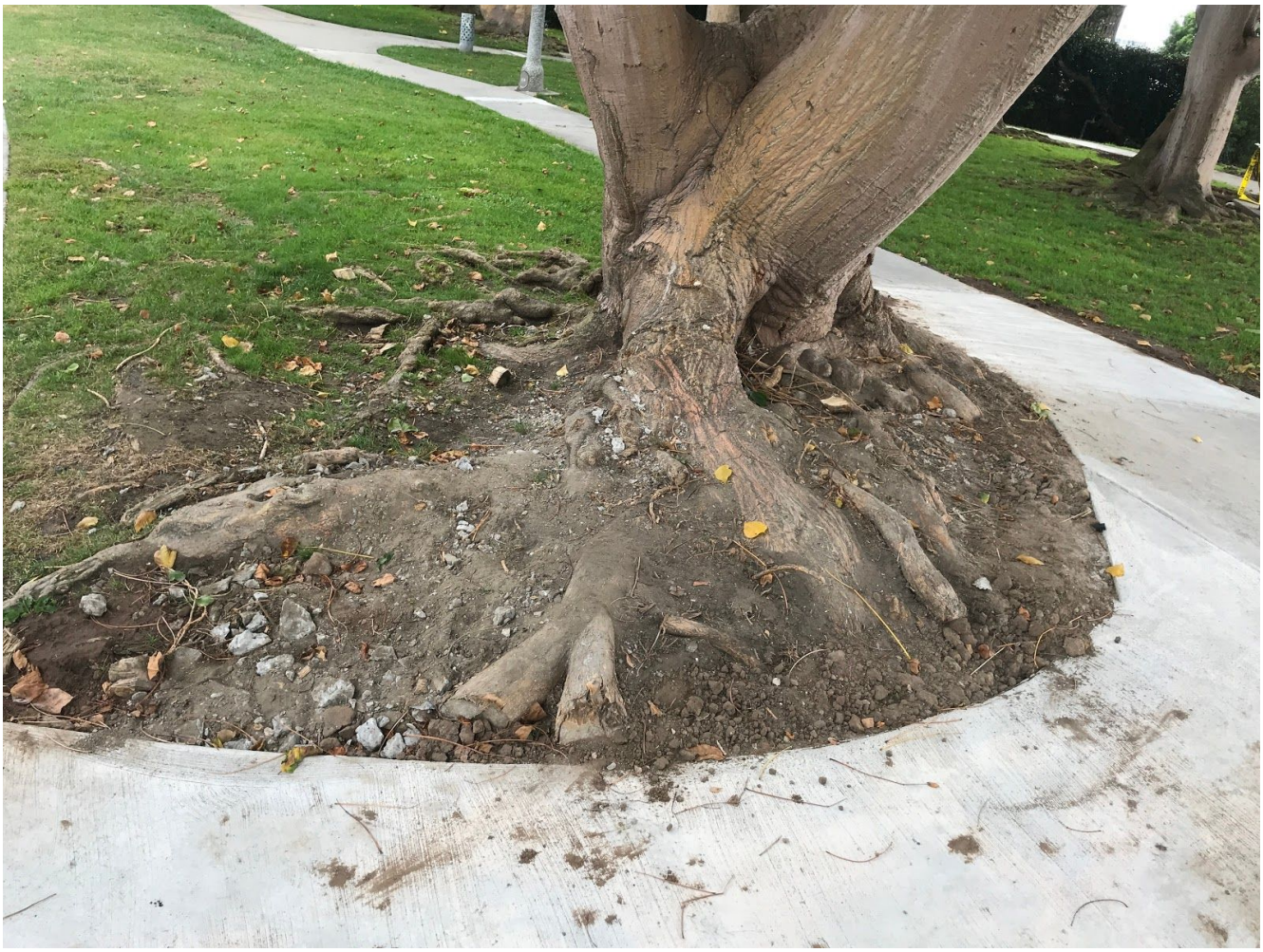

**Photo 4 – Tree VM-33 large roots causing lifting and damage to sidewalk.**