

Appendix E

Arborist Letter



THE
LIGHTFOOT
PLANNING
GROUP

March 15, 2022

Mr. Sean Santa Cruz
Hallmark Communities, Inc.
740 Lomas Santa Fe Drive
Suite 204
Solana Beach, CA 92075

RE: 2085 N. Iris Lane – Off-Site Coast Live Oaks Along the Southern Property Line

Dear Sean:

Per your request, I have reviewed the existing conditions and project-proposed ten-foot (10') setback for the protection and preservation of existing mature and protected off-site Oaks along the southern property line and project boundary for Proposed Development Permit Project PHG20-0032, for 2085 N. Iris Lane. It is my professional opinion that the proposed ten-foot setback from the southern boundary is adequate to provide protection for the existing off-site trees and will allow them to recover and survive subject to several recommendations. These recommendations for tree preservation include establishment of a Root Protection Zone (RPZ) and protective fencing to establish the limits of disturbance, in conjunction with timely evaluation of each individual subject tree with follow-up root and canopy pruning if required. Because the existing trees along the southern boundary have relied on existing drainage and soil water conditions, it is important to maintain and preserve the existing drainage conditions there. All drainage preservation, fencing, and pruning for that area are recommended to occur prior to demolition, grading and construction activities. The best time for pruning is in early spring any time before construction begins.

I have also included general background information about the existing off-site mature and protected Oak trees, as well as information about the root system characteristics of the *Quercus agrifolia* (Coast Live Oak) species, in support of my opinion.

Tree Preservation

Preservation must focus on preventing injury to trees. First and foremost, the goal is to protect trees rather than repair injury. To be successful, tree preservation needs to be included as a component of the project planning, design, and construction drawings. It will be most effective if tree preservation processing and work does not wait until construction begins.

Existing Off-Site Coast Live Oaks on the Southern Boundary

The subject existing mature and protected Oaks are identified as a part of the Biology Report and Plans for the Tentative Subdivision Map and Planned Development Permit

Plans for 2085 N. Iris Lane, Project PHG20-0032 prepared by Helix Environmental. The location of the subject Oaks along the southern boundary is illustrated graphically on Figure 11 entitled Oak Tree Impacts. Most importantly, these Oaks are not native to the site, but were planted as slope erosion control for the existing adjacent subdivision. The trees are planted on a north-facing slope outside of the rear yard fencing of the existing subdivision, are non-irrigated and have been undisturbed. The tree canopies have full sun conditions while their root zones are mostly shaded which reduces soil moisture loss to create a favorable condition for these trees.

Fortunately, north-facing slopes with adjacency to natural drainage areas are a preferred condition for habitat of the Coast Live Oak and the trees appear to have done well regardless of years of drought conditions. In addition, the trees have been allowed to develop their root systems naturally and have not been influenced by supplemental slope surface irrigation. In terms of supplemental water, the trees do have access to supplemental water from the back yard landscape areas of the existing subdivision as well as relatively undisturbed soil water reservoir in the drainage low-point area on the proposed development site. This soil water reservoir area occurs in the setback area and the recommendation is to keep the soil water reservoir in that area as undisturbed as possible.

Root System Characteristics of *Quercus agrifolia* (Coast Live Oak) Species

Our native oaks have developed survival adaptations to the long, dry summers in Escondido. Primary to this survival is the development and characteristics of its root system. In young trees there is initial rapid development of the root system before growth above ground. The initial root is a tap root extending deep underground for dependable moisture. After which, the first few years are focused on establishing a deep sustaining root system. As the oak grows, the tap root is outgrown by an extensive lateral root system that spreads horizontally out from the trunk to and well beyond the dripline which becomes the primary supporter of the tree for its lifetime. It includes the important fine roots which absorb moisture and nutrients in the top three feet of soil. As the oak matures in dry climates, deep-growing vertical (sinker) roots form off the lateral roots usually within ten feet of the trunk. These sinker roots exploit deeper soil moisture and add structural stability to balance the increasingly large canopy. Understanding of the tree's natural root growth patterns is the basis of the recommendations for tree preservation that are proposed in this letter.

Existing Site and Drainage Conditions

Because tree preservation requires space, the more soil that can be left undisturbed the better the survival rate for any existing trees which are to remain protected-in-place because the opportunity for compaction is minimized. The project proposes a ten-foot (10') setback area for this purpose along the southern boundary. It is important to

maintain the same level of soil moisture in this setback that currently exists due to natural site drainage. From a hydrological standpoint, to eliminate site drainage to this area would likely do more harm than good for the existing trees since they have come to depend on the soil reservoir for water, that exists because of current drainage conditions. Any proposed grading work to maintain the current level of moisture provided by the existing drainage patterns should exclude excavation for swales in the setback. Rather, filling of soil to create a shallow swale at the setback edge is preferred because it is less invasive to the root system in an area termed the Root Protection Zone (RPZ). Any soil-berm activities to maintain current drainage in the RPZ and provide positive drainage away from structures should be done in conjunction with canopy and root pruning activities. The pruning and fencing activities should be scheduled to occur first to minimize the amount of overall disturbance to the tree root zones in the setback.

Timing and Installation of Fence to Create the Root Protection Zone (RPZ)

The Root Protection Zone (RPZ) defines the “limit of disturbance.” The area should be fenced off prior to any demolition or construction activity with a temporary chain link construction fence at ten (10) feet from the property line to protect areas beneath the canopies of existing off-site oak trees.

The temporary fencing around the RPZ should be sturdy enough to stand throughout the construction period, and difficult to move (to discourage construction entry). A restricted passageway should be left in the fence, only to allow access to the trees for monitoring and maintenance until construction is complete and the fence can be removed.

The main reason to establish a Root Protection Zone (RPZ) with fencing along the southern project boundary early is to help avoid the impacts of soil compaction within the RPZ, as mentioned. Since trees with root zones in that area are to remain protected-in-place the addition of the protective fencing prior to construction activities, the fencing should be included as part of the grading/demolition plans and included for discussion at pre-construction meetings prior to commencement of demolition work.

No Trenching, Filling, and Paving Should Be Allowed In Within the Limits of this Area

Since heavy equipment will compact the soil, none should be allowed in that setback before or after the installation of the RPZ fencing. No structures, fuel, chemicals, building materials or product storage shall be allowed within that RPZ area. No vehicular access or parking, or even regular foot traffic for site access should be allowed inside the RPZ fencing zone. It is recommended that three inches (3”) of bark mulch be placed in any areas likely to receive limited amounts of foot traffic to reduce the incidence of soil compaction and preserve moisture in the tree root zone area. No wood chips from diseased or pest-infested on-site oaks should be permitted as a

“mulch.” “Keep out” signage should be posted on the fencing to restrict access to the RPZ area.

The only excavation in the RPZ should be careful hand-digging to locate any structural roots, for root pruning purposes. Any trenches for root pruning, itself, should be on the outside of the RPZ fence. An International Society of Arboriculture (ISA) certified tree worker should isolate and handle the cutting of the roots before permitting the use of heavy equipment in the area near the RPZ fence. If the tree roots are not pruned in advance of grading, then heavy equipment may accidentally pull, break, tear, and damage structural, lateral, sinker or feeder root laterals that are inside the Root Protection Zone.

Pre-Construction Root Pruning Treatment

As mentioned, root pruning should be scheduled in advance of demolition and construction. The optimum time to prune is in the later winter or early spring and can be done at any time in advance of the tree preservation work. Each existing off-site Oak tree should be individually evaluated for root pruning.

A narrow three-foot (3') deep, hand-dug trench on the outside of the RPZ fence is recommended to isolate any roots that need to be pruned. Root pruning shall be performed for any Oak that is discovered to have roots extending beyond the ten-foot setback and roots shall be pruned back to that set back as noted below. Likewise, each existing off-site Oak tree shall be individually evaluated for canopy pruning. Canopies that extend beyond the ten-foot set back limit shall be selectively pruned back to the set back as noted below. Canopy pruning should be scheduled to occur before root pruning, rather than after. This will help to reduce moisture loss in the canopy and mitigate the effect of removed structural and feeder roots on canopy balance and health.

As noted, each individual off-site Oak tree along the southern boundary shall be independently evaluated for root pruning where roots are found to extend beyond the ten-foot setback and roots shall be pruned back to the setback line. If required, the root pruning work should be performed by an ISA Certified Tree Worker who understands the importance of proper timing and technique. Roots that need to be cut or removed should be severed using a sharp tool (e.g., pruning shears or a handsaw, not a chainsaw). Proper pruning requires a clean cut that leaves as small a wound as possible. The trench should be backfilled with an inert granular material and topsoil mix as soon as possible and then lightly compacted with care around the retained roots. All exposed roots should be kept moist with wet burlap until the trenches can be covered.

Pre-Construction Tree Canopy Pruning

Each off-site Oak tree shall be individually evaluated for canopy pruning. Again, the optimum time to prune the canopy is in the late winter or early spring and can be done any time in advance of other preservation work. Canopy pruning is required for any tree where the canopy extends beyond the ten-foot setback and the tree should be selectively pruned back to the setback line. Canopy pruning of the adjacent off-site trees, if required, may be performed at any time prior to the demolition phase and root pruning to counteract the potential effects of moisture loss and structural imbalance of the trees. Pruning should be a certified tree worker. Topping the trees is not an acceptable option for canopy pruning. Crown reduction with selective pruning in the canopy that extends over the RPZ will provide the most aesthetic and horticulturally correct means of reshaping the tree canopies. Proper pruning will allow for the best canopy regrowth and the recovery of the trees.

Tree Pruning Qualifications for Contractors Due to the Sensitivity of Mature Oaks

There are limits to tree work that a contractor with a (C-27) Landscape Contractor License may perform in California that exclude them from this tree work. At a minimum, a C-61/D-49 License is required for this type of tree work, however the best work is likely to be provided by International Society of Arboriculture Certified tree workers who are also knowledgeable about proper canopy and root pruning techniques and work with the guidance of Certified Arborists on their team. All canopy work should be performed in conformance to the current Appendix D of the International Society of Arboriculture (ISA) Tree Pruning Specifications.

Retaining Wall Construction Adjacent to The Root Protection Zone (RPZ)

Retaining wall construction is proposed in southern portions of the site outside the RPZ. The subgrade of the footings and retaining walls will require trenching and soil compaction for structural reasons which is not allowed in the RPZ. As such, wall footing design should respect the boundaries of the RPZ, so that trenching or spread footings do not encroach into the RPZ side of the protective fencing. All wall construction activities, then, should also be performed on the outside of the RPZ fencing. If while trenching for the wall, any roots are discovered it is recommended that they be cleanly severed with a sharp blade, shears, or hand saw.

Summary

In conclusion, each off-site adjacent oak tree along the southern boundary that is subject to preservation shall be individually evaluated to determine if root and/or canopy pruning is required. If pruning is required, the recommendations for pruning will apply. In general, the addition of natural bark mulch in areas of foot traffic and the provision of a temporary chain link fence along the setback limits should keep the ten-foot setback area from the southern boundary undisturbed. If required, pre-demolition

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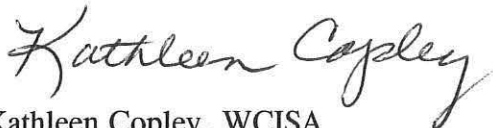
canopy and root pruning as proposed in the recommendations, should be ample to assist with continued growth and development of the existing off-site Oak trees.

No permanent irrigation or fertilization is required for these off-site trees along the southern boundary as part of the tree preservation measures since there is a continuous ten-foot setback of undisturbed area where the conditions will be equal to that which the trees have known during their years of establishment. However, maintenance of the existing grades, drainage, and equivalent-to-existing soil moisture conditions in the Root Protection Zone (RPZ) of the setback is paramount to the continued success of the trees. In the event that the drought continues, it is recommended that the landscape plans include a temporary on-grade spray irrigation system to provide "deep watering" of one to two inches (1-2") of supplemental water two (2) times a month, including the natural rainfall months of November to January in the ten-foot setback. This will assist the trees re-establish roots and foliage. Temporary irrigation should be removed after the conclusion of construction, after the trees have established and are ready to return to their existing, non-irrigated conditions.

Surface water flow should not be eliminated to this area but maintained at its current level of natural saturation to provide a continuing source of hydration for the adjacent off-site trees along the southern perimeter. Demolition/Grading plans should reflect the ten-foot setback, RPZ fencing and provide notes and appropriate grading measures to protect the existing off-site Oak trees. No pruning activities of the off-site trees is proposed beyond the initial pruning recommendations herein.

Please let me know if you have any questions or comments regarding this matter.

Sincerely,

A handwritten signature in cursive script that reads "Kathleen Copley". The signature is written in dark ink and is positioned above the printed name and title.

Kathleen Copley, WCISA
ISA Certified Arborist, WE-7337A