Date: March 29, 2024

To: Elvie Camacho, Senior Civil Engineer
Wallace Group

From: Patric Krabacher, ISA Certified Arborist 11759
Denise Duffy & Associates, Inc.

RE: Arborist Report for the City of Marina Del Monte Medians and Downtown Streetscape Project

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Denise Duffy & Associates, Inc. (DD&A) is contracted by the City of Marina (City) to provide on-call environmental consulting services for City projects. The City is proposing improvements to the medians along Del Monte Boulevard as part of the City's Del Monte Medians and Downtown Streetscape Project (project), which would require tree removal. In support of this effort, DD&A conducted an inventory of trees within the vicinity of the medians which are proposed for improvements. This Arborist Report documents the results of the tree inventory, recommends tree removal where necessary to facilitate construction, and recommends mitigation to avoid, minimize, or mitigate potential adverse impacts of tree removal.

METHODS

Limitations

It is not the intent of this report to provide a monetary valuation of the trees or provide risk assessment for any tree on this parcel, as any tree can fail at any time. No clinical diagnosis was performed on any pest or pathogen that may or may not be present within the site. In addition to an inspection of the property, DD&A relied on information provided by the City and/or the City's consultants (e.g., survey boundaries, property boundaries, project description) to prepare this report, and must reasonably rely on the accuracy of the information provided. DD&A shall not be responsible for another's means, methods, techniques, schedules, or procedures, or for contractor safety or any other related programs, or for another's failure to complete work in accordance with approved plans and specifications.

Regulatory Setting

City of Marina Municipal Code

MMC Section 17.62.030 requires a tree removal permit to remove, damage, or relocate, or cause to be removed, damaged, or relocated any tree on any property within City limits, unless exempted by MMC Sections 17.62.040 or 17.62.050. MMC Section 17.62.030 also prohibits construction activities within the root zone dripline of any tree, unless these activities are conducted in compliance with tree protection guidelines adopted by resolution of the planning commission.

MMC Section 17.62.060 requires replacement trees and/or payment based upon the replacement of the healthy trees to be removed on a minimum two-for-one basis or multiplied by three for each tree removed in violation of City Code.

MMC defines "tree" as any living woody perennial plant having a single stem of six (6) inches or more diameter at breast height (DBH; measured at 4.5 feet above ground) or a multi-stemmed plant having an aggregate diameter of ten inches or more measured at DBH, and any living woody perennial plant which was planted in accordance with requirements of an approved compensation plan or was planted as part of a landscaping plan approved by the city. MMC defines "dripline" as the greater of the outermost edge of the tree's canopy, or fifteen times DBH measured from the center point of the tree. Saplings which do not meet MMC's definition of a tree (i.e., are less than six [6] inches DBH) are not protected by City Code.

California Fish and Game Code

Section 3503 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal Migratory Bird Treaty Act. Section 3800 prohibits the take of nongame birds.

Survey Methods

DD&A ISA Certified Arborist Patric Krabacher conducted an inventory of trees at the project site on March 13, 2024. The tree inventory included the mapping and tagging of all trees, as defined by City Code, within the project site. Trees were inventoried with City Code, as follows:

- All trees 6" diameter at breast height (DBH) or greater were tagged with a global positioning system (GPS) location and a numbered aluminum marker (on the most feasible/visible location possible).
- Diameter was recorded at breast height (4.5 feet above ground) or, for multi-stemmed trees, at the most representable location.
- Multi-stemmed trees were recorded as one tree if the root crown (the point where the trunk meets natural grade) was contiguous. Multi-stemmed tree DBH was calculated by taking the square root of the squared sum of all stems measured ($\sqrt{[}$Stem 1 DHB^2+ Stem 2 DBH^2+ Stem 3 DBH^2...]). This equation returns the diameter at the base of the tree (Chojnacky, 1999).
- Species, size, and health class were recorded for each tree. Tree health was recorded based on the following definitions:
    - *Good.* Tree is healthy and vigorous, as indicated by foliage color and density, and has no apparent signs of insect, disease, structural defects, or mechanical injury. Tree has good form and structure.
    - *Fair.* Tree is in average condition and vigor for the area, but may show minor insect, disease, or physiological problems. Trees in fair condition may be improved with correctional pruning.

- *Poor.* Tree is in a general state of decline. Tree may show severe structural or mechanical defects which may lead to failure, and may have insect or disease damage, but is not dead.

Tree health was evaluated by visually inspecting each tree from its root crown to its foliar canopy for signs of decay, disease, or insect infestations. In accordance with MMC's definition of a "tree," dead trees were not inventoried.

GPS data were collected using a Trimble® TDC600 GPS and were then digitized using Trimble® TerraFlex and ESRI® ArcGIS 10.4. GPS data were collected using geographic coordinate system Universal Transverse Mercator (UTM) Zone 10 North and the World Geodetic System 1984 (WGS84) datum.

RESULTS

DD&A inventoried 22 trees in the proposed project site, including nine (9) Monterey cypresses (*Hesperocyparis macrocarpa*), four (4) paperbarks (*Melaleuca quinquenervia*), four (4) myoporums (*Myoporum laetum*), three (3) silver dollar gums (*Eucalyptus polyanthemos*), and two (2) olive trees (*Olea europaea*) (**Figure 1**; **Appendix A**).

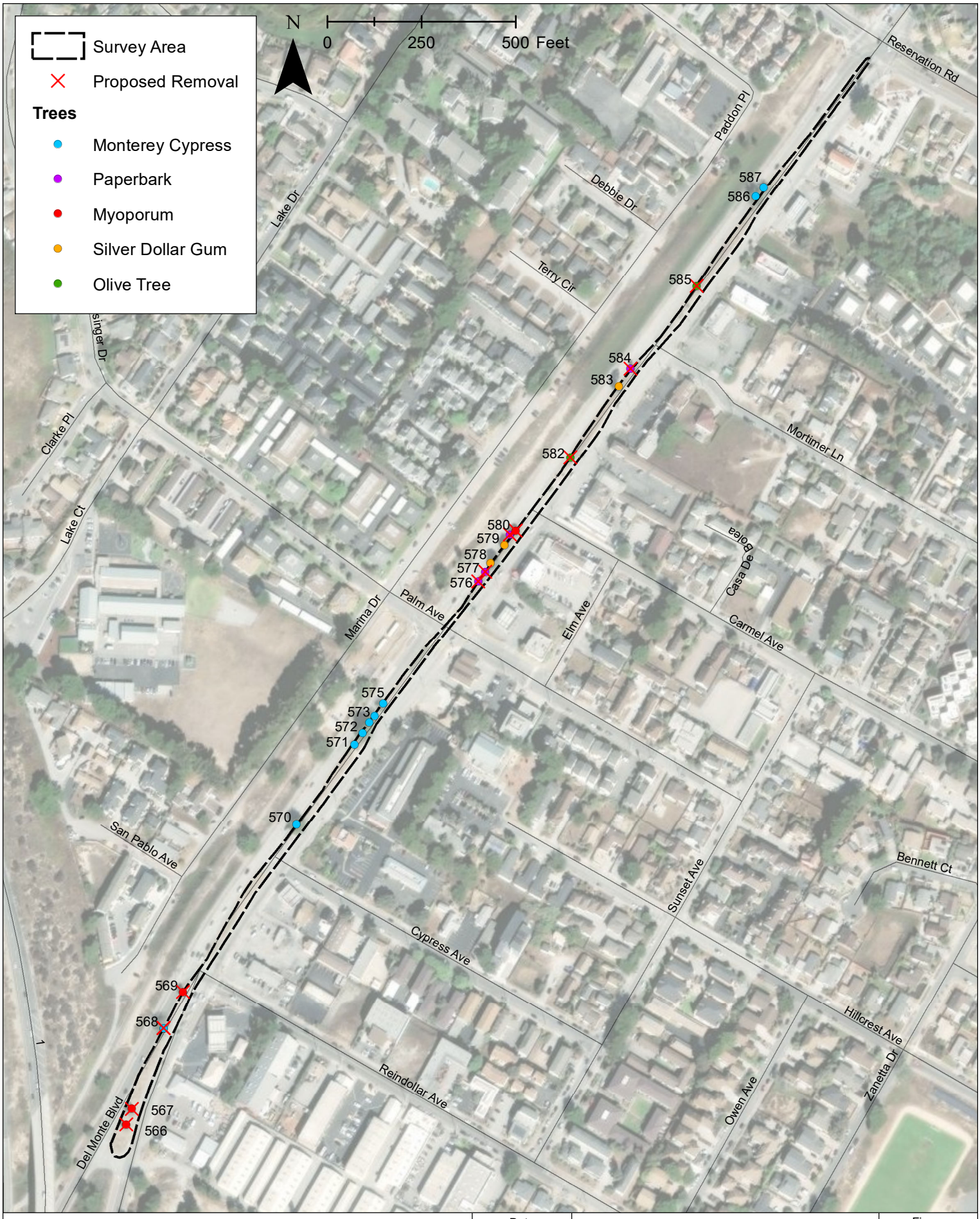
Approximately half (11) of the trees are in good or fair condition; the rest (11) are in poor condition. Observations per tree include:

- Trees 568 and 570, both Monterey cypress trees, are showing signs of boring beetles, and/or excessive pitch which is assumed to be the response to the beetles.
- Trees 579 (silver dollar eucalyptus), 566 (myoporum), 567 (myoporum), 569 (myoporum), 570 (Monterey cypress), and 581 (myoporum) have structural issues including co-dominant stems with poor response growth and/or girdling roots.
- Trees 569 (myoporum), 574 (Monterey cypress), and 575 (Monterey cypress) have crown dieback.
- Trees 576 (paperback), 577 (paperback), 578 (silver dollar eucalyptus), 580 (paperback), 584 (paperback), and 585 (olive tree) have severe leans, root collar damage, boring beetles, and crown dieback.
- Trees 582 (olive tree) and 585 (olive tree) have poor structural integrity. No symptoms of sudden oak death were observed.

DISCUSSION

DD&A is recommending the removal of eleven trees, including one (1) Monterey cypress, four (4) paperbarks, four (4) myoporums, and two (2) olive trees (**Appendices A** and **B**). All trees proposed for removal are in poor condition. It is anticipated that these proposed removals would not survive construction of the project due to their declining health. It is also anticipated that the remaining trees in the project site can be avoided during construction.

In accordance with City Code, a tree removal permit from the City would be required to remove all living trees, including trees in poor condition; however, poor (or unhealthy) trees do not require mitigation in the form of replacement per City Code. Therefore, the City must acquire a tree removal permit from the Planning Commission for the eleven trees prior to construction. Tree removal must conform to any requirements established in the approved tree removal permit. In accordance with City Code and California



Tree Removal Plan

Date	Figure
3/20/2024	1
Scale: 1 in = 300 ft	

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Path: D:\GIS\GIS_Projects\2024-15 Del Monte Medians\Map Products\Fig 1 - Tree Removal Plan.mxd

Fish and Game Code, the following measures are recommended to avoid or minimize impacts potential adverse impacts resulting from tree removal:

1. Work should be timed to avoid the breeding and nesting season for raptors and other protected avian species. If work must occur during the avian breeding and nesting season (approximately February 1 through September 15), surveys for nesting birds shall be conducted no more than 15 days prior to project activities in all areas within 300 feet of the project footprint that may provide suitable nesting habitat. If nesting birds are identified during surveys, an appropriate buffer shall be imposed within which no work or disturbance will take place (generally 300 feet in all directions). A qualified biologist shall be on-site during work re-initiation in the vicinity of the nest offset to ensure that the buffer is adequate and that the nest is not stressed and/or abandoned. No work shall proceed in the vicinity of an active nest until such time as all young are fledged, or until after September 16, when young are assumed fledged.

2. To reduce impacts to trees not scheduled for removal, the tree removal contractor shall implement the best managements practices for working near trees established in **Appendix C**. Trees which will be retained on site shall be allowed to develop their natural forms and shall not be trimmed as topiaries or other unnatural forms.

3. Prior to ground-disturbing activities, the project contractor shall install protective fencing around trees directly adjacent to the work area which are not scheduled for removal. Protective fencing shall be maintained throughout the duration of construction. A qualified arborist, forester, or biological monitor shall conduct a site visit weekly throughout the duration of construction to ensure that protective fencing remains intact.

4. A qualified arborist, forester, or biological monitor shall be on-site during all initial ground-disturbing activities and vegetation removal. Following initial ground-disturbing activities, the qualified arborist, foresters, or biological monitor shall conduct a site visit weekly throughout the duration of construction to ensure that the tree protection measures identified in **Attachment C** are implemented.

Because all trees proposed for removal are in poor condition, no replacement trees are recommended or required by City Code.

If you have any comments or questions about this report, please contact Patric Krabacher at pkrabacher@ddaplanning.com or (831) 373-4341 ext. 29.

REFERENCES

David C. Chojnacky. 1999. Converting Tree Diameter Measured at Root Collar to Diameter at Beast Height.

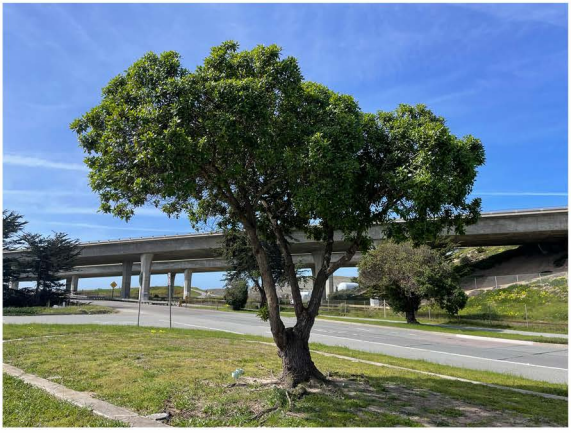
APPENDIX A

Tree Table

Tag	Scientific Name	Common Name	Individual Stem DBH (in)				Total DBH (in)	Dripline (ft)	Health	Status	Tolerance to Construction	Comments
566	*Myoporum laetum*	Myoporum	6				6	8	Fair	Remove	Medium	Codominant stems, girdling roots
567	*Myoporum laetum*	Myoporum	18				18	23	Fair	Remove	Medium	Codominant stems, girdling roots
568	*Hesperocyparis macrocarpa*	Monterey Cypress	32				32	40	Poor	Remove	Low	Boring beetle, 1/3 canopy deadwood
569	*Myoporum laetum*	Myoporum	17				17	21	Poor	Remove	Low	Girdling roots, excessive crown dieback
570	*Hesperocyparis macrocarpa*	Monterey Cypress	33				33	41	Good	Retain	Medium	Girdling roots
571	*Hesperocyparis macrocarpa*	Monterey Cypress	10				10	13	Fair	Retain	Medium	Excessive pitch, boring beetle
572	*Hesperocyparis macrocarpa*	Monterey Cypress	29				29	36	Good	Retain	Medium	Potential raptor nest
573	*Hesperocyparis macrocarpa*	Monterey Cypress	21				21	26	Good	Retain	Medium	
574	*Hesperocyparis macrocarpa*	Monterey Cypress	13				13	16	Fair	Retain	Medium	Crown dieback
575	*Hesperocyparis macrocarpa*	Monterey Cypress	14				14	18	Fair	Retain	Medium	Crown dieback
576	*Melaleuca quinquenervia*	Paperbark	12				12	15	Poor	Remove	Low	Severe lean, root collar damage, boring beetle, crown dieback
577	*Melaleuca quinquenervia*	Paperbark	12				12	15	Poor	Remove	Low	Severe lean, root collar damage, boring beetle, crown dieback
578	*Eucalyptus polyanthemos*	Silver Dollar Gum	23				23	29	Poor	Retain	Medium	Severe lean, root collar damage, boring beetle, crown dieback
579	*Eucalyptus polyanthemos*	Silver Dollar Gum	11	9	9	7	14	18	Fair	Retain	Medium	Codominant stems
580	*Melaleuca quinquenervia*	Paperbark	17				17	21	Poor	Remove	Low	Severe lean, root collar damage, boring beetle, crown dieback
581	*Myoporum laetum*	Myoporum	17				17	21	Poor	Remove	Low	Girdling roots, codominant stems
582	*Olea europaea*	Olive Tree	6				6	8	Poor	Remove	Low	Structural pruning would help tree health
583	*Eucalyptus polyanthemos*	Silver Dollar Gum	20				20	25	Fair	Retain	Medium	
584	*Melaleuca quinquenervia*	Paperbark	19				19	24	Poor	Remove	Low	Severe lean, root collar damage, boring beetle, crown dieback
585	*Olea europaea*	Olive Tree	10				10	13	Poor	Remove	Low	Severe lean, root collar damage, poor structure, crown dieback
586	*Hesperocyparis macrocarpa*	Monterey Cypress	28				28	35	Good	Retain	Medium	
587	*Hesperocyparis macrocarpa*	Monterey Cypress	17				17	21	Fair	Retain	Medium	

APPENDIX B

Photo Log



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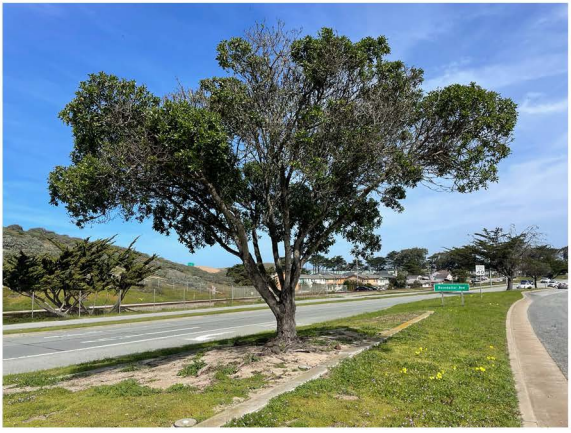

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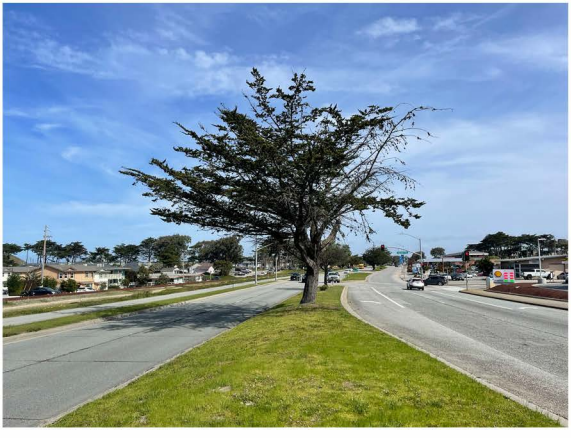

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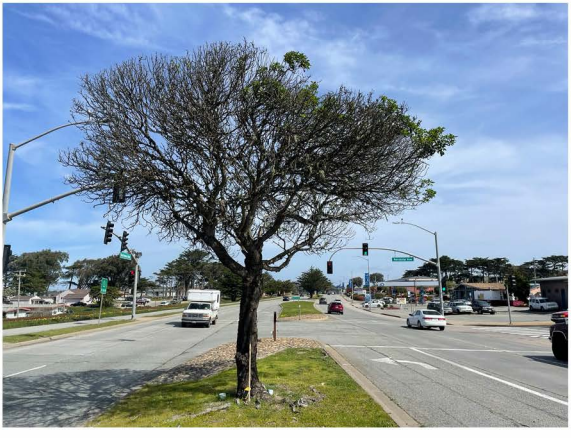

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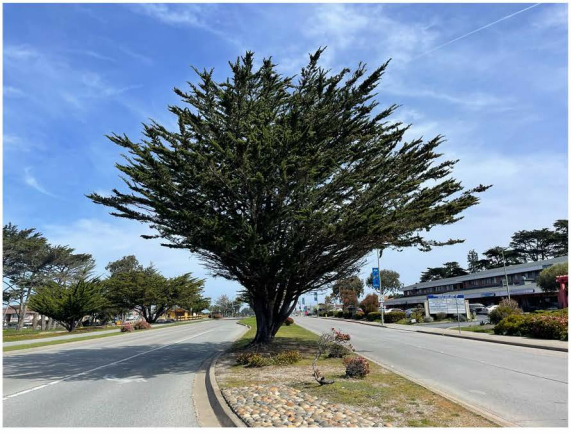

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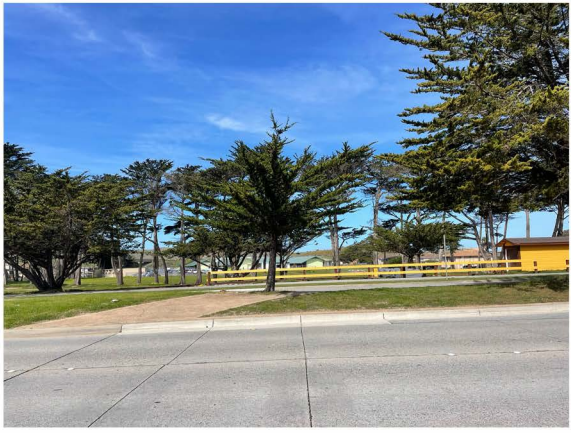

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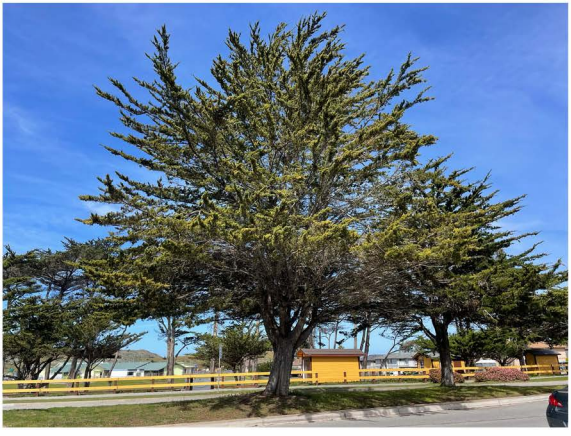

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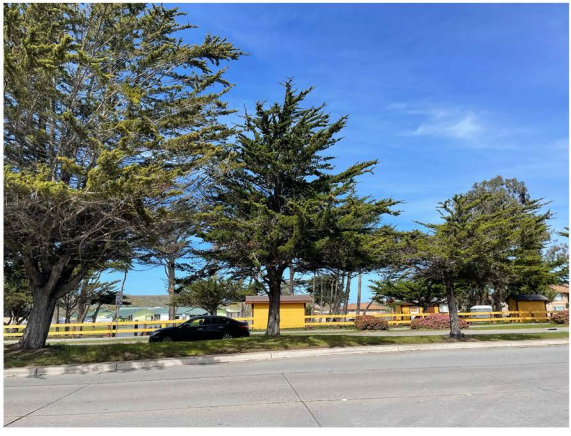

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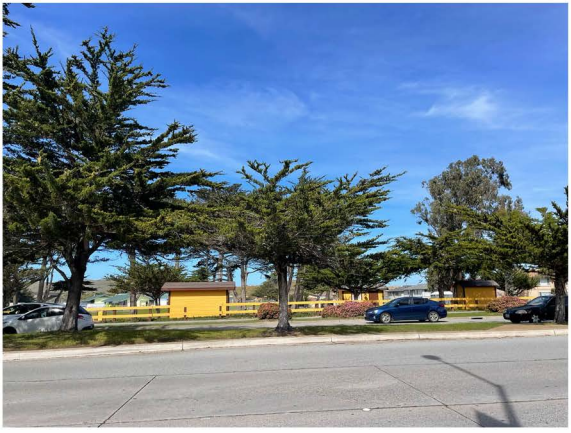

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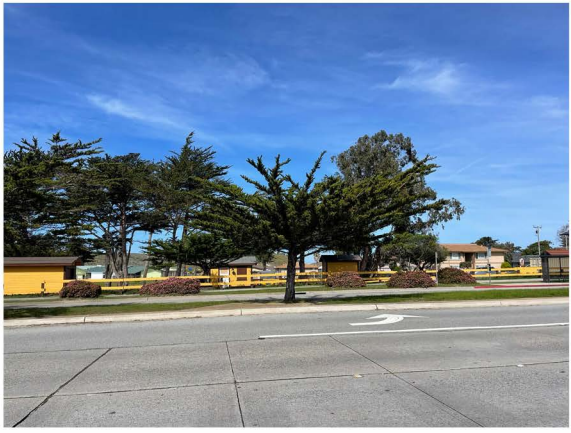

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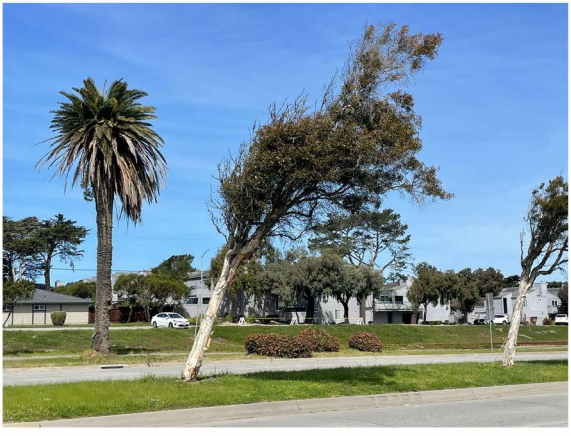

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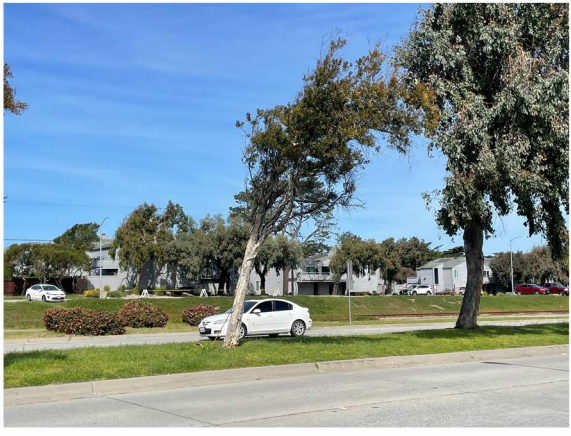

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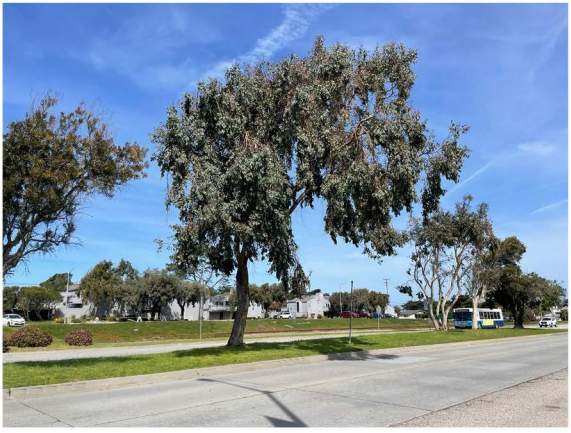

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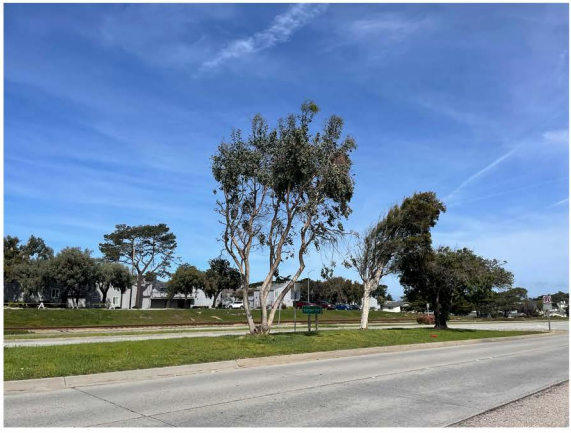

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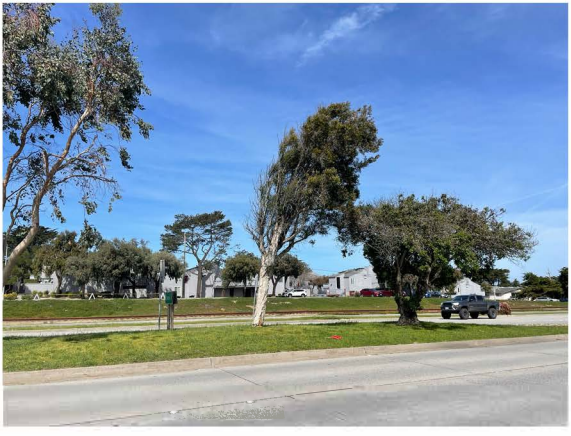

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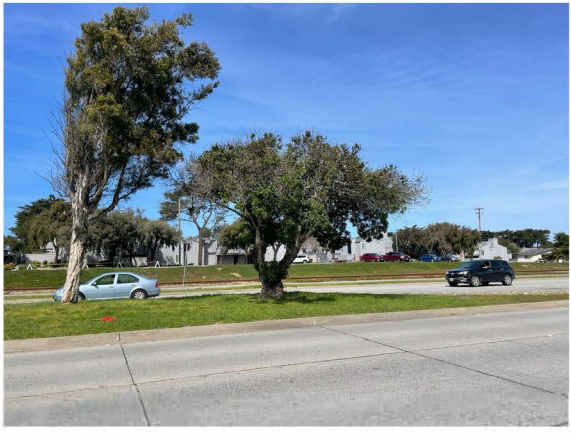

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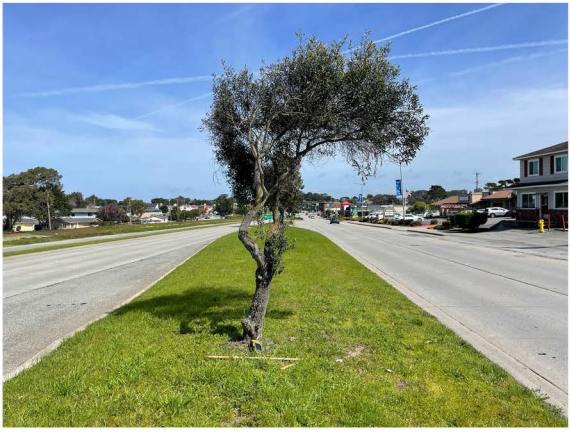

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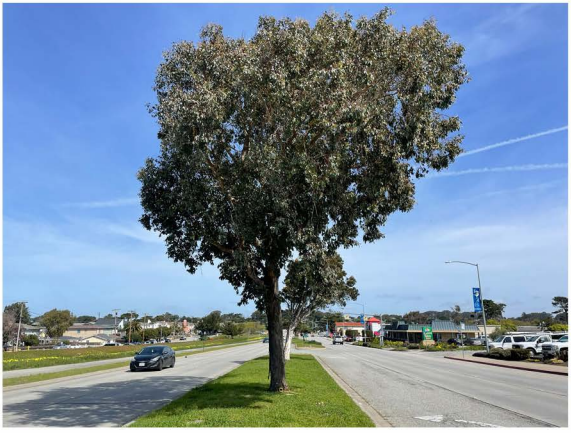

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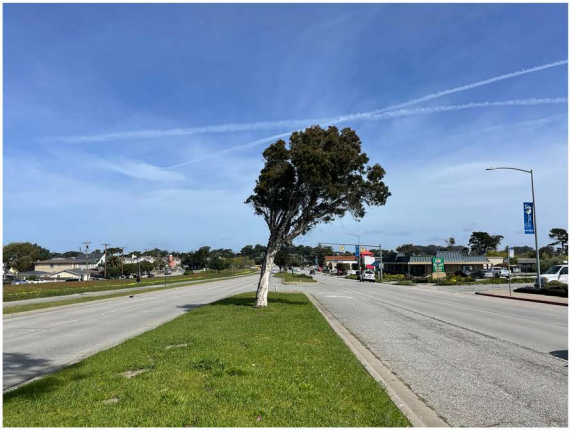

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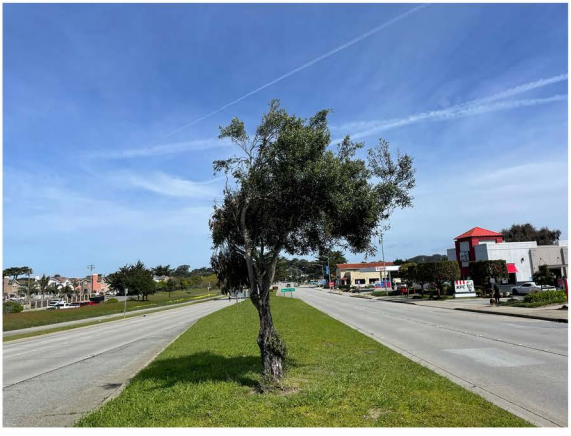

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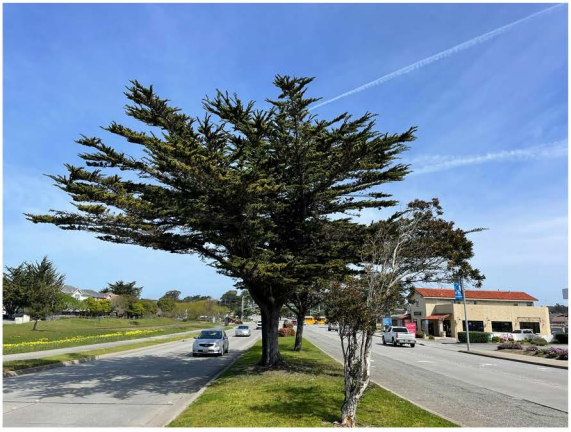

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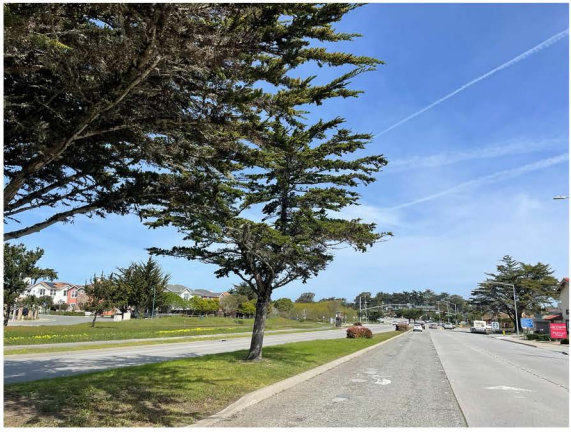

Tree #587

APPENDIX C

Best Management Practices for Working Near Trees

Tree Protection and Best Management Practices (BMPs)

Prior to the commencement of project related activities, the following tree BMPs shall be implemented and approved by a qualified arborist or forester:

- Trees located adjacent to the construction area shall be protected from damage by construction through the use of temporary fencing and wrapping of trunks with protective materials.
- Fencing shall consist of chain link, supported snowdrift or plastic mesh, hay bales, or field fence. Fencing shall have cross bracing (typically 2x4 material) on both the top and lower edges of the fencing material to prevent sagging and provide lateral support. Fencing shall stand a minimum height of four feet above grade and be placed to the farthest extent possible from the base of the trees, protecting the trees drip line area (typically 10-12 feet away from the base of a tree).
- In the cases where access or space is limited it is permissible to protect trees within the 10-12-foot distance after determination and approval are made by a qualified forester or arborist.
- Soil compaction, parking of vehicles or heavy equipment, stockpiling of construction materials, and/or dumping of materials is not permitted adjacent to trees on the property, especially within fenced areas.
- Fenced areas and the trunk protection materials shall remain in place during the entire construction period. Torn or damaged roots shall be cleanly cut to sound wood wherever possible to minimize decay entry points. Any roots found that must be cut should be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment. No tree seals shall be used as the seal material only promotes decay.
- A mulch layer up to approximately 4 inches deep should be applied to the ground under-protected trees following construction. Only 1 to 2 inches of mulch should be applied within 1 to 2 feet of the trunk, and under no circumstances should any soil or mulch be placed against the root crown (base) of trees. The best source of mulch would be from chipped material generated on-site.
- Irrigation should be that of normal for exterior planting. Normal watering means that soil should be kept evenly moist and watered regularly, as conditions require. Most plants prefer one (1) inch of water a week during the growing season, but care needs to be taken not to over water. It is better to water once (1) a week and water deeply (over 24 inches), than to water frequently for a few minutes.

Tree Pruning

It is to be understood that the pruning of retained trees is expected for this site. Pruning shall conform to the following standards:

- Clear the crown of diseased, crossing, weak, and dead wood to a general minimum size of 1-1/2 inch in diameter.
- Remove stubs, cutting outside the wound wood tissue that has formed around the branch.
- Interior branches shall not be stripped out.

- Reduce end weight on heavy, horizontal branches by selectively removing small- diameter branches, no greater than three (3) inches, near the ends of the scaffolds. In some cases, larger diameters may be removed depending on the situation (where critical for safety).
- Pruning cuts larger than four (4) inches in diameter, except for deadwood, shall be avoided, unless deemed crucial for safety (broken, cracked, crossing, rubbing, etc.). Pruning cuts that expose heartwood shall be avoided whenever possible.
- Pruning shall not be performed during periods of flight of adult boring insects because fresh wounds attract pests (generally spring). Pruning shall be performed only when the danger of infestation has passed.
- All pruning shall be performed by a qualified arborist or under the supervision of an ISA Certified Arborist or Tree Worker. Arborists are required to have a State of California Contractors License for Tree Service (C-61/D49) and provide proof of worker's compensation and general liability insurance.
- All pruning shall be following the Tree Pruning Guidelines (International Society of Arboriculture) and/or the ANSI A300 Pruning Standard (American National Standard for Tree Care Operations) and adhere to the most recent edition of ANSI Z133.1.
- No more than 20 percent of live foliage shall be removed within the trees.
- Brush shall be chipped, and chips shall be spread underneath trees within the tree protection zone to a maximum depth of 6 inches, leaving the trunk clear of mulch.

Following construction, a qualified arborist should monitor trees adjacent to the area of the improvements and if any decline in health that is attributable to the construction is noted, additional trees should be planted on the site.

Root Barriers

Severe pruning of tree roots may lead to a major decline or tree death. The best solution is to select trees that are less likely to become a problem or to plant further away from foundations, curbs, gutters, parking lots, sidewalks, and driveways to reduce tree growth or to allow them to grow in another direction. Place barriers in the soil to a depth of 18 to 24 inches (see landscape details) by trenching along the area to be protected at a distance of five (5) times the trunk diameter. In the cases where access or space is limited, it is permissible to reduce the distance after determination and approval are made by a qualified forester or arborist.