Draft – Laguna Grande Regional Park Trail and Vegetation Maintenance Strategy

A

APPENDIX

LAGUNA GRANDE REGIONAL PARK JOINT POWERS AUTHORITY

LAGUNA GRANDE REGIONAL PARK

TRAIL AND VEGETATION MAINTENANCE STRATEGY

FEBRUARY 28, 2022

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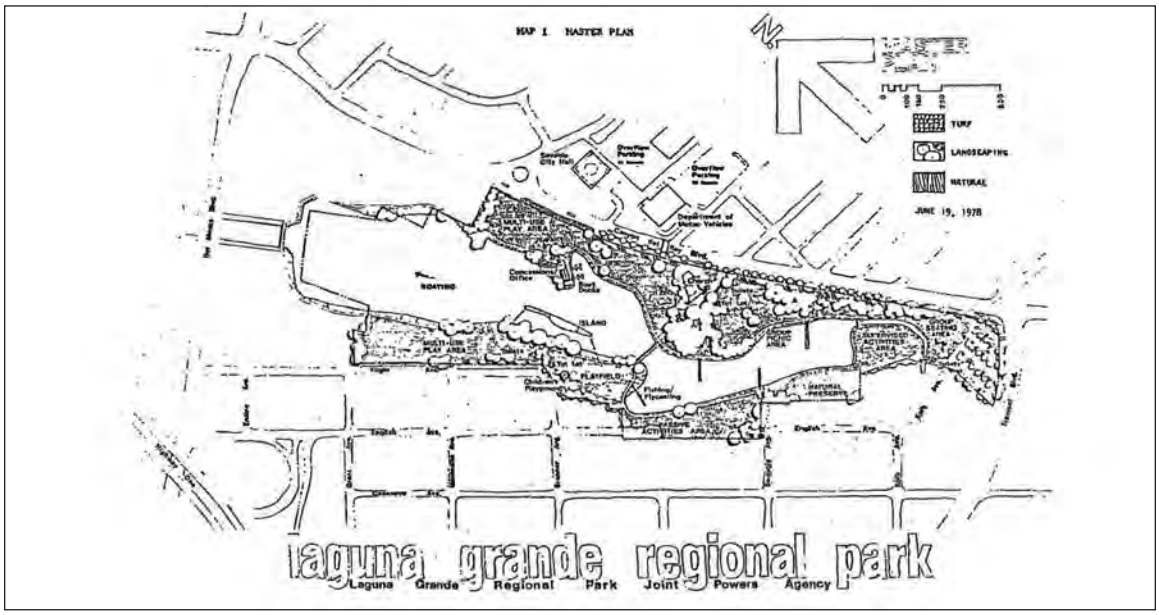
HISTORICAL NARRATIVE

Laguna Grande Lake was a flowing estuary called the Canyon Del Rey Creek, collecting runoff from the 16.8 square mile Canyon Del Rey watershed and flowing into the Monterey Bay. Laguna Grande Lake and Roberts Lake which existed as a single body of water were separated in the 1880s by the Southern Pacific Railroad. Over time the surrounding landscape developed and populations grew, the creek, the wetlands and estuary slowly filled and eventually were cut off from the bay. Slowly landfill operations filled in the marsh areas and edges of the lakes transforming this body of water into its current state.

Laguna Grande Regional Park (LGRP / Park) did not find its beginnings until the 1960's when the cities of Monterey, Seaside and Del Rey Oaks came together to petition the state for a feasibility study for developing a "Recreation and Park District for Laguna Grande". During this time there were grand visions for the park. A pamphlet from the Seaside Chamber of Commerce proudly read "It will beautify and make more attractive the City of Seaside and the entrance to the Monterey Peninsula. It should, from this standpoint, be of interest to every Peninsula community and individual." In 1968, the cities of Monterey and Seaside formed the Laguna Grande Agency to study the area. They developed the "Laguna Grande Plan" prepared by D'Amico and Associates and Charles R. Haugh. Shortly after, in 1975, the City of Seaside contracted Richard Murray and Associates to develop the "Laguna Grande Redevelopment General Conceptual Plan".

Many new developments began for LGRP in 1976. The cities of Monterey and Seaside and the Monterey Peninsula Regional Park District formed the Laguna Grande Regional Park Joint



Source: Laguna Grande Regional Park Master Plan and EIR Addendum September 11, 1978

Powers Agency (JPA) in February. That same year the Monterey Peninsula Regional Park District purchased the Laguna Grande site. The JPA adopted Seaside's 1975 conceptual plan as its' first step in preparation of a master plan. In 1978, the "Laguna Grande Regional Park Master Plan and EIR Addendum" was completed by J.P. Manachek, A.I.A, and consulting landscape architect Charles R. Haugh.

The master plan's main objective was to "preserve and enhance Laguna Grande through a water-oriented park facility." The plan proposed to dredge a portion of the southern marsh lands and add an additional 5 acres to the lake to provide more opportunities for fishing, fly-casting, and non-power boating. The lost waterfowl habitat would be relocated to Roberts Lake, while also retaining a portion of the southern marsh as a natural preserve with boardwalk paths throughout. The lake at the time was significantly polluted. The plan proposed the addition of an aeration system, silting basin, and the removal of tule growth along the edges to help decrease nitrogen levels in the water.

In 1981 the "Land Use Plan for the Laguna Grande/Roberts Lake Local Coastal Program", was completed by the cities of Monterey and Seaside to come under compliance with the Regional Coastal Commission. It was not until 1982 that the Park was opened to the public. The master plan for the Park was never fully implemented. The northern end of the park was built out with playgrounds, fields and park facilities. The south end of the park, meant to become an extension of the lake, was not completed due to lack of funds. As droughts became more frequent in California and with the slow buildup of sediments, the marshy, low wetlands to the south began to dry and more mature vegetation developed, forming a low dense woodland of willows and brambles that exist today.

REFERENCES

Schmalz, David. "Despite a persistent problem of encampments at Laguna Grande Park, the years go by, and nothing seems to change." Monterey County Weekly 07 Mar 2019. Web. 20 Oct 2021

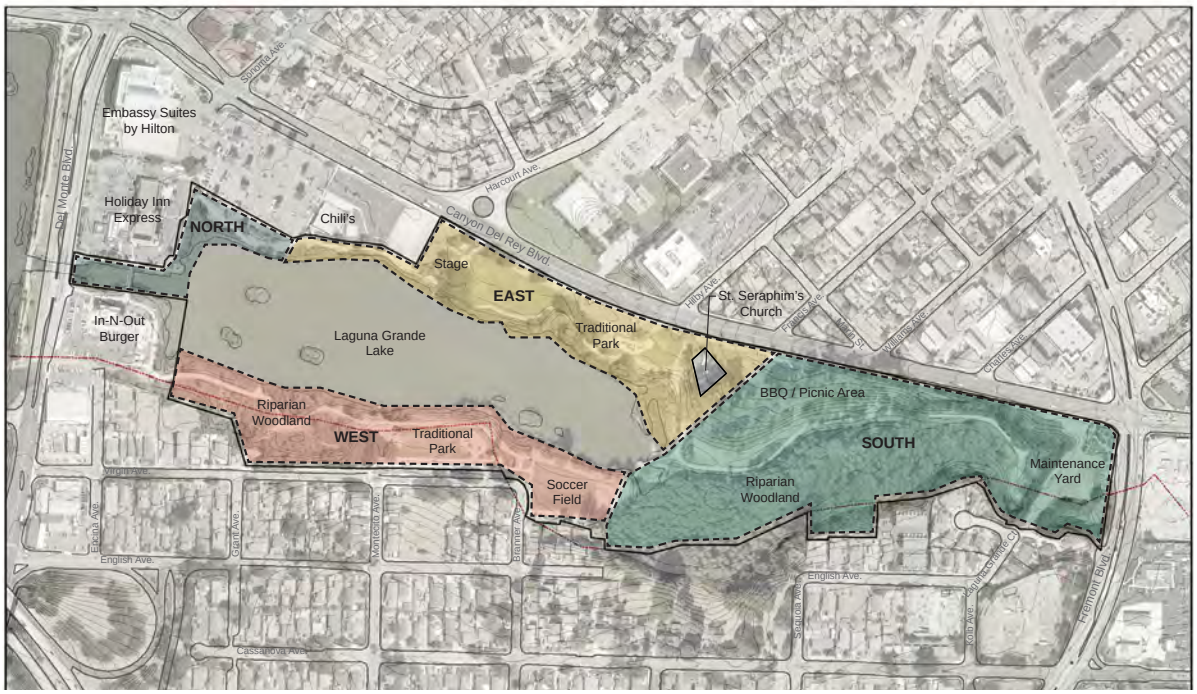
Laguna Grande Regional Park Master Plan and EIR Addendum. J.P. Manacheck, A.I.A., and Charles R Haugh. 1978

Land Use Plan for the Laguna Grande/Roberts Lake Local Coastal Program. Duncan and Jones. 1981

EXISTING CONDITIONS 02

The following section is a summary of information compiled from several field studies conducted by the consultant, interviews with staff from the City of Monterey, City of Seaside and Monterey Peninsula Regional Park District, and review of maps and plans prepared previously for Laguna Grande Regional Park. The field studies focused on vegetation and sensitive habitat, park physical features, review of park conditions for accessibility and observations of park uses by the public. Many of the studies confirmed the Park is a rich resource for wildlife, vegetation and provides the community with a diverse range of programmed uses. There are several areas of the park which are used for illegal camping and this has resulted in park safety concerns and a substantial amount of trash and debris collecting in sensitive habitat areas. Interviews with maintenance staff, fire officials and other officials has confirmed the Consultant team findings.

In order to provide a clear understanding of the park and its specific areas, below is a map highlighting key features and the areas that will be discussed throughout this plan.



AESTHETICS

Laguna Grande Regional Park is a unique aquatic landscape situated between Monterey and Seaside. There are clear views into the park from Canyon Del Rey Boulevard to the east and from the surrounding neighborhoods to the west. Interior views include: the lake, native aquatic bird species, low woodlands, and rolling grassy hills. The south end of the Park has elevated hillsides, that provide views toward the Bay.

ACCESS AND CIRCULATION

The Park provides multiple pedestrian and vehicular access points with the exception of the southern end. The southern end of the park has no accessible pedestrian or vehicular access connecting to Fremont Boulevard. An existing set of stairs leads down into the park near Canyon Del Rey Boulevard. There are no sidewalk connections to the stairs from Canyon Del Rey Boulevard or Fremont Boulevard.

Parking around the lake is facilitated with three public parking lots, two on the east and one on the west, as well as street parking on the west. Pedestrian connections to park trails are accessible from multiple points, two off of Del Monte Boulevard, four off of Canyon Del Rey Boulevard, and four off of Virgin Avenue. Trails connect to a central loop that runs along the perimeter of the lake. There is a wide path that leads to the south end of the park and dead ends with stairs which lead up to Fremont Boulevard. Secondary paths on the east and west sides of the park connect to the main loop around the lake. See Circulation Map Figure 01.

TRAIL SURFACE/MATERIAL CONDITIONS

The Park has a number of trail materials including: asphalt, concrete, gravel, decomposed granite (DG), boardwalks, and mulch. The general trail conditions are good due to weekly maintenance and repairs from the cities. All trails have been kept clear of vegetation allowing easy access. See Trail Conditions Map Figure 02.

The majority of park trails are asphalt and conditions vary. There are two areas that have been heavily impacted by root growth and become areas of concern for accessibility and safety that need replacement. Along the asphalt trails there are many areas where the edge of the path, particularly on the lake side, is deteriorating. Some areas impacted by erosion and root damage have been clearly demarcated by maintenance staff for public safety.

Asphalt Trail Root Impacts

Asphalt Trail in Poor Condition

The use of concrete throughout the park has been limited to restroom facilities and at bridge abutments on the north end of the park. The concrete throughout the park is in good condition, however, in some locations where the trail transitions from concrete to DG, rutting has occurred.

Gravel has only been used for the trail that runs to the south end of the park. This portion of the trail has been well maintained is in good condition.

DG has been used on the northwest side of the park running from the end of the traditional park on the west side up to the In-N-Out Burger to the north. The DG path has been well maintained and is in good condition with no root impacts or erosion.

Gravel Trail

DG Trail

Mulch Trail

Wood decking is limited to the two bridges and five piers around the lake. These appear to be in good condition. Accessibility to these bridges and piers varies greatly. Many of the piers are inaccessible to wheelchairs due to grade change, as well as connections to the main trail that are too steep or narrow. The bridge at the north end of the park is not considered accessible by code.

Bridge Boardwalk

The mulch trails are seasonal and have been limited to the riparian woodland along the northwest edge of the lake. These trails vary in width and condition, with some portions of the trail subsiding into wet soil. The application of new mulch has kept much of the trail in good condition.

ADJACENT ACTIVITIES / SURROUNDING LAND USE

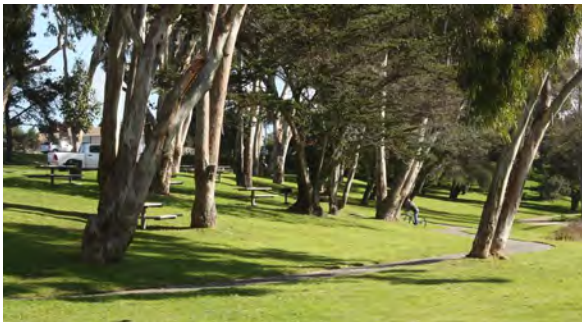
The main trail loop is surrounded by a diverse set of land uses and activities. The north end of the park is adjacent to privately owned hotels, fast food and drive-in restaurants.

On the east side adjacent to Canyon Del Rey Boulevard there is a traditional neighborhood park with an event lawn and stage, restroom facility, and playground. There is also is a private parcel with St. Seraphim's Russian Orthodox church, which is accessed through the park.

Seaside Playground

Image Credit: https://filmmonterey.org

St. Seraphim's Church



Seaside BBQ/Picnic Area

The southern portion of the park consists predominately of a riparian woodland and creek that are largely inaccessible to the public. South of the church are grassy slopes with BBQ / picnic areas and strolling paths. At the very southern tip of the park, adjacent to Fremont Boulevard, is a maintenance and storage yard for the city of Seaside.

The western edge of the park also has traditional park programming with a synthetic turf soccer field, restroom facility, playground, synthetic turf volleyball court, BBQ and picnic areas. There is also a riparian woodland with seasonal mulch trails.

Monterey Volleyball Court

Monterey Soccer Field

TOPOGRAPHY

The property rises from 12-feet above sea level at the lake water level to 50-feet above sea level at the southern end along Fremont Boulevard and Laguna Grande Court. The southern end of the park functions like a valley between two 30-foot slopes to the east, south and west. The slopes level out as they move north towards the lake. The majority of the site sits 6-feet to 8-feet above the lake water level and is relatively flat and accessible.

VEGETATION

The Park, with its unique aquatic features, hosts a wide variety of vegetation. Much of this vegetation is native to the region and provides habitat for various wildlife but has been impacted by the spread of invasive species. See appendix A and B. Vegetation is maintained by the cities on a weekly basis with a focus on the traditional park areas. Special maintenance activities, such as tree limbing and trail clearing, are performed a few times throughout the year. Dense vegetation throughout the park obstructs sight lines along the trail and to the docks and is a safety concern.

Invasive Giant Reed and French Broom

Native Lavatera assurgentiflora - Island Mallow

Refer to Appendix A – Laguna Grande Focused Plant Survey (EMC)

Refer to Appendix B – Invasive Plant Control (EMC and BRG)

WILDLIFE AND SENSITIVE SPECIES

Refer to Appendix C – Wildlife Analysis (EMC)

GENERAL MAINTENANCE

The Park is generally visited daily to clean restrooms and provide a quick visual check of park conditions. Operations improvements are scheduled weekly or monthly depending on the season. However, over the years persistent homeless encampments have considerably grown and become more permanent. City of Seaside staff are now checking encampments one to two times per week. Shelters, however, have tunneled deeper into the thickets to avoid easy observation. The increasing population has alarmed neighbors and created water quality and safety hazards for park visitors.

Encampments in Woods

Image Credit: City of Seaside

Encampments in Thickets

FIGURE 1: LAGUNA GRANDE REGIONAL PARK CIRCULATION

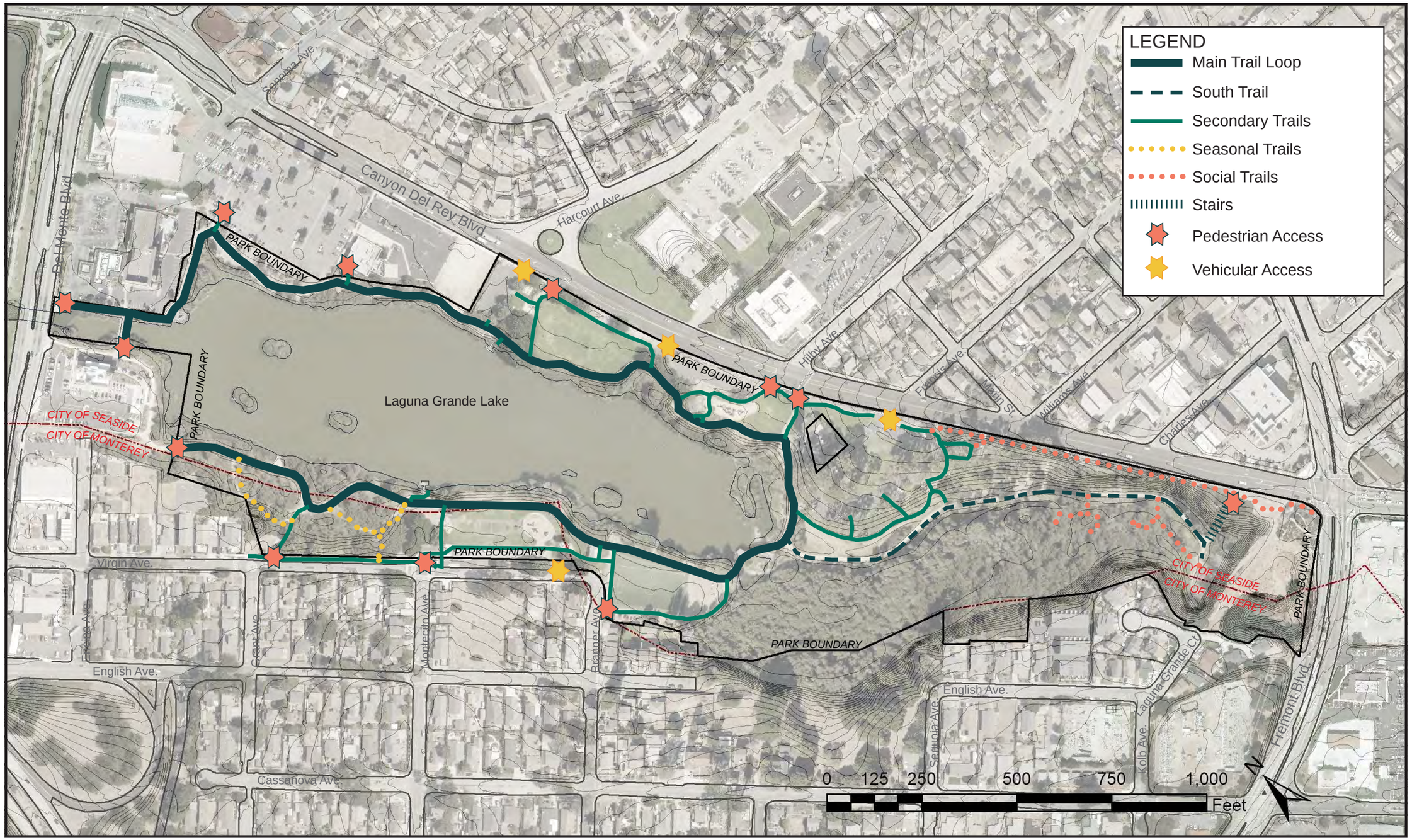


FIGURE 2: LAGUNA GRANDE REGIONAL PARK TRAIL CONDITIONS

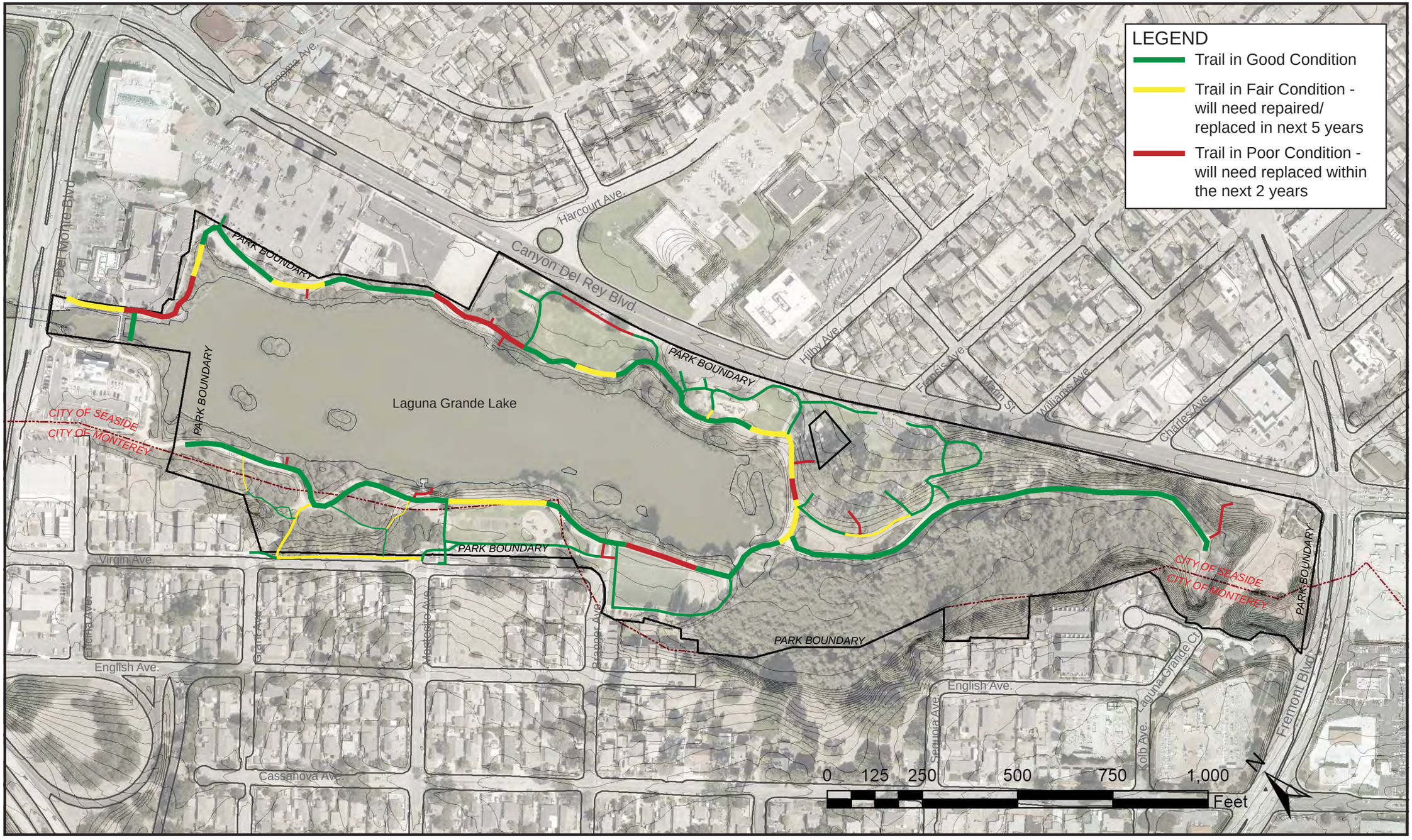
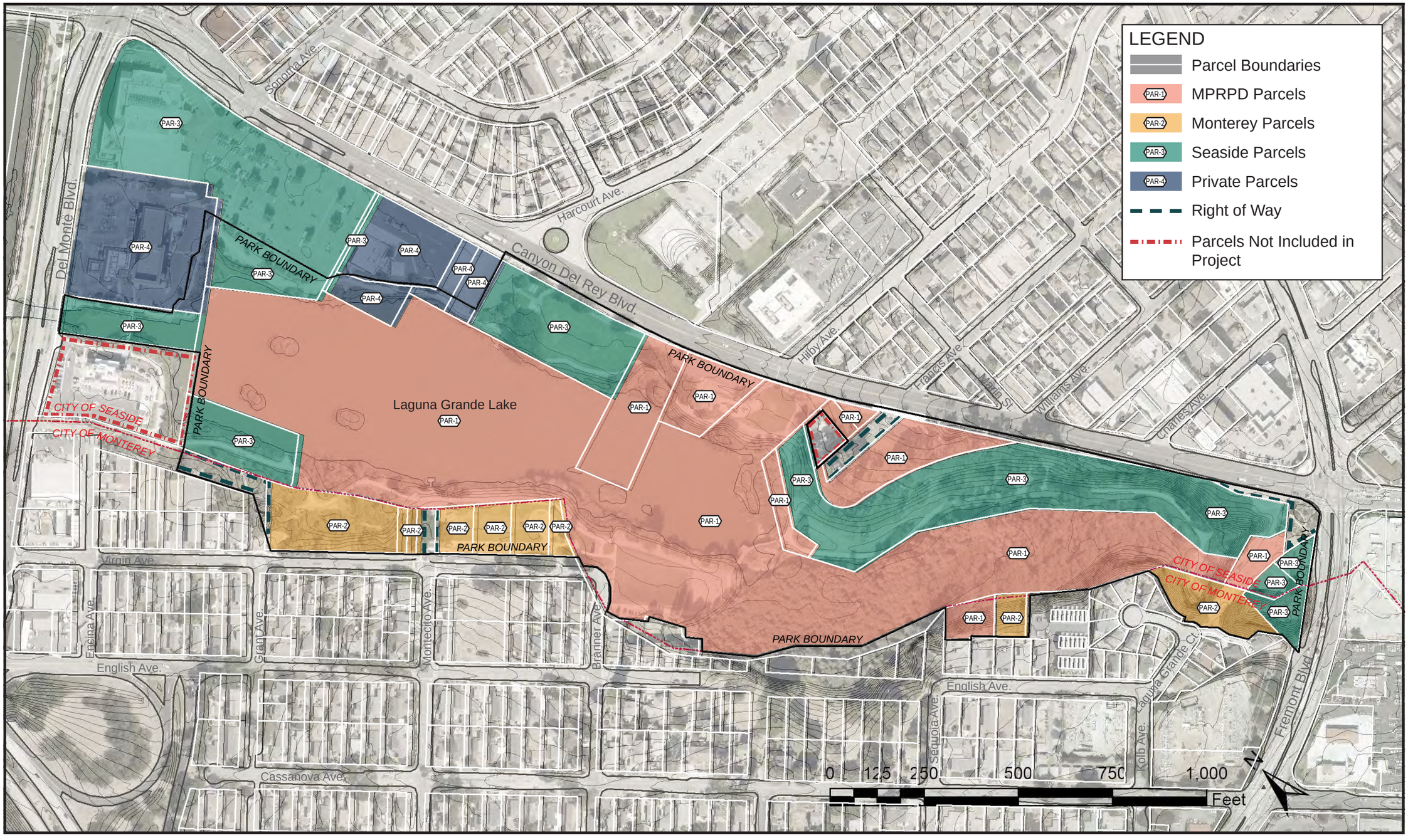


FIGURE 3: LAGUNA GRANDE REGIONAL PARK PARCEL OWNERSHIP



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FUTURE PLANNING 03

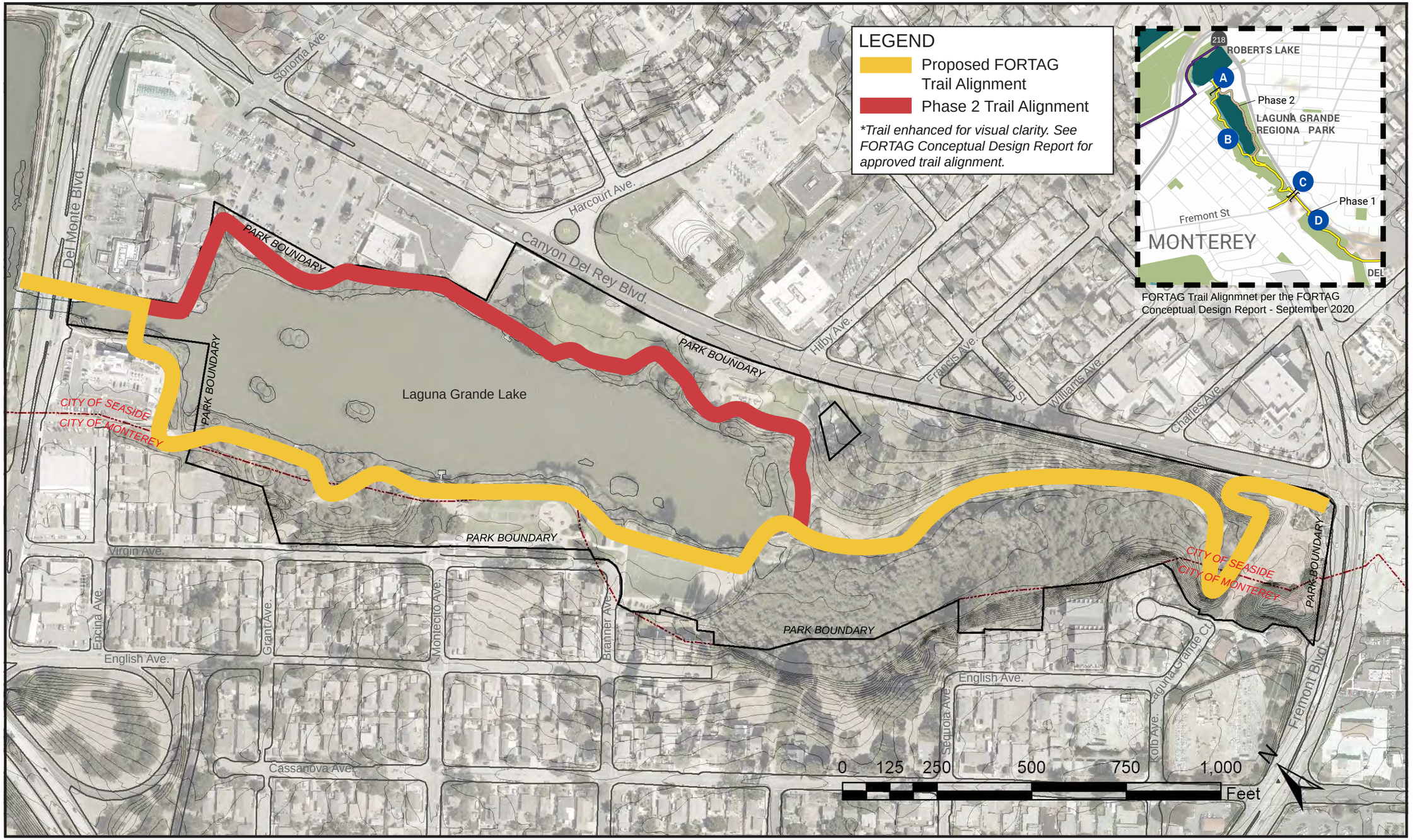
Several projects are being planned and designed in and around Laguna Grande Regional Park. Many of these projects revolve around improving trails and multi-use corridors within and around the park which will improve regional trail connectivity and create safe connections along busy street corridors. In addition to improving trails and multi-use corridors, an update to the Laguna Grande Regional Park Master Plan, dated 1978, is forthcoming. Two significant projects which will affect the park are the North Fremont Street Sidewalk Gap Closure Project and the Fort Ord Trail and Greenway (FORTAG) Canyon Del Rey/SR 218 Segment Project

North Fremont Street Sidewalk Gap Closure Project: In the summer of 2021 the City of Monterey introduced an improvement project which will construct a multi-use ADA accessible bicycle and pedestrian path along North Fremont Street between Casanova Avenue and Canyon Dey Rey Blvd. The project includes a bridge that will link the existing sidewalk and Class IV bicycle lane to the future Fort Ord Trail and Greenway (FORTAG) project. Currently the gap closure project is going through the required environmental review process and the City of Monterey is looking to secure grant funding to complete construction. This planned improvement will greatly benefit the Park. Residents will be able to utilize Fremont Street by either walking or biking and connect directly into the park at the corner of Fremont Street and Canyon Del Rey Boulevard. This project will then link to the FORTAG Project which is planned to traverse through LGRP.

Fort Ord Trail and Greenway (FORTAG) Canyon Del Rey/SR 218 Segment Project: The FORTAG Canyon Del Rey/SR 218 Segment Project is a part of a much larger trail system that will connect the Monterey Bay Sanctuary Scenic Trail, the trails of the Fort Ord National Monument and the Coastal Rec Trail into a continuous system. Spearheaded by a group of private citizens, FORTAG has many stakeholders including the Transportation Agency for Monterey County (TAMC). Part of the FORTAG

Canyon Del Rey/SR 218 Segment is planned to travel through LGRP, utilizing the existing trail system. At the north end of the end park the trail users will be provided a safe crossing at Del Monte Boulevard connecting LGRP to Roberts Lake and at the south end of the park the trail will provide much needed accessibility improvements taking trail users up to the corner of Fremont Street and Canyon Del Rey Boulevard. The anticipated trail improvements, because of the FORTAG project, will greatly benefit the park through the widening of existing trails and paving improvements improving accessibility. In March 2020, TAMC certified the FORTAG Final Environmental Impact Report and in October of 2020 Phase 1 of the Canyon Del Rey/SR 218 Segment Project was funded for engineering design and community outreach. Phase 1 of this segment covers Fremont Street to Carlton Drive.

FIGURE 4: FORTAG TRAIL - CANYON DEL REY/SR2I8 SEGMENT



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COMMUNITY OUTREACH 04

In order to provide equitable engagement to the community within the planning process, the project team set up a website, haveyoursaymonterey.org, to allow community members of varying backgrounds and ages equal opportunity to comment and engage with the plans. Community meetings, public comments, plan drafts and design team meeting minutes were all made available throughout the planning process.

The opportunity for stakeholder and community engagement included a virtual townhall held on July 28, 2021 and a community site walk held on August 14, 2021. The virtual townhall, with 40 people in attendance, provided the community with an introduction to the planning process and key objectives. Community members were invited to provide comments. Key priorities heard from the community included:

- Improve park safety
- Address and fix accessibility issues
- Maintain and improve planting
- Disclose all funding sources for improvements
- Engage neighboring businesses adjacent to the Park

After the townhall, the community was invited to participate in a site walk around the Park. The project team engaged with community members and were able to address specific concerns throughout the park. There was a total of 32 people in attendance. Key takeaways from the site walk include:

- Unauthorized encampments are a personal safety, water quality, and fire danger security issue
- Design focus should be on accessibility improvements and vegetation maintenance
- Desire for clear sight lines along trails
- Protect and extend habitat areas and resources
- Aesthetic upgrades are not a priority – the park is generally well maintained
- Community should continue to be involved in the decision-making process
- Funding sources

OUTREACH SUMMARY

The virtual town hall was recorded and made public on haveyoursaymonterey.org. A video of the site walk was created and also posted to the project website. Fliers and meeting minutes and materials for community engagement events can be seen in Appendix D. Opportunities for public comment and input will continue throughout the planning process.

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FIGURE 5: LAGUNA GRANDE REGIONAL PARK COMMUNITY SITE WALK

FIGURE 6: LAGUNA GRANDE REGIONAL PARK COMMUNITY SITE WALK

GOALS 05

The purpose of the Trail and Vegetation Maintenance Strategy (Strategy) is to provide the Joint Powers Authority (JPA) a clear set of priorities and means for maintaining the trails and vegetation throughout the Park. The proposed Plan will implement maintenance strategies to create a more accessible, safe, and long-lasting park for the surrounding community and region. Laguna Grande Regional Park is a unique landscape within the cities of Monterey and Seaside, providing visitors access to rarely seen aquatic and migratory birds, riparian vegetation, and fresh water lakes. Increased maintenance will require an intentional and thoughtful approach. The proposed Strategy provides direction to meet the regulations for maintenance of sensitive habitats and around bodies of water set forth by the State and Federal government agencies.

1. **ADDRESS ENCAMPMENT, HEALTH AND SAFETY CONCERNS**

    - Provide seasonal trails through south riparian woods for consistent monitoring
    - Access and Monitoring: clear non-native vegetation and overgrown brush to discourage illegal camping and provide maintenance for emergency services foot access

Black Crowned Night Heron (Nycticorax nycticorax)

Image Credit: www.reconnectwithnature.org

2. IMPROVE PERSONAL SAFETY

- Access and Monitoring: clear vegetation and overgrown brush to increase public visibility and surveillance and discourage illegal camping; provide on-going maintenance for access and clean up.
- Sightline Visibility: create clear sight lines at curves and corners by limbing trees and clearing understory
- Accessibility Improvements: trail maintenance and repair
- Repair existing lighting and extend new lighting where park trail has no ambient street light

3. MAINTAIN AND IMPROVE QUALITY OF NATURAL RESOURCES

- Preserve and protect existing habitat
- Remove invasive vegetation where practical
- Mitigate habitat disturbance from vegetation removal as deemed appropriate at a 3:1 replacement ratio

Mallards (Anas platyrhynchos)

TRAIL AND VEGETATION MAINTENANCE STRATEGY

The north side of the Park has a looped trail around the lake with direct neighborhood access and parking for visitors. This segment of the Park is well visited. The south end, extending back to Fremont Boulevard, does not have a looped path or easy neighborhood access. As a result, the dense vegetation has attracted homeless encampments. Warming fires are a concern to neighbors. Park visitors feel threatened by itinerant groups and observed drug exchanges.

Overall, residents feel the looped trail and active park areas are generally well maintained. Seaside and Monterey have been attentive to community needs in the primary recreation spaces. The JPA focus should begin with the southern half of the park.

As described in other sections of this report, any disturbance of identified habitat areas will be mitigated by habitat enhancement elsewhere in the park. Annually, a description and map of probable disturbance and enhancement will be submitted to the JPA for approval.

In order to meet the Goals and priorities above, the following maintenance strategies are recommended for Laguna Grande Regional Park.

1. SEASONAL TRAIL DEVELOPMENT

- Provide 8’ wide seasonal mulch trails through southern riparian woodland with seasonal foot bridges for creek crossing
- Mitigate habitat removal with invasive removal and restoration planting

2. VEGETATION CLEARING

- Clearing and limbing around trail curves and corners
- Clearing at docks
- Clearing and limbing around illegal camp sites to improve access for monitoring and cleaning
- Mitigate habitat removal with invasive removal and restoration planting

3. TRAIL MAINTENANCE AND IMPROVEMENTS

- Replace sections of trail impacted by root damage
- Repair edges of trail impacted by erosion – install header or curb to maintain trail edge along the lakeside.
- Add mulch seasonally to portions of seasonal trail that are degraded
- Repair or replace culverts under trail

- Provide formal trail connection to Fremont St
- Provide formal trail connection along Virgin St

4. ACCESSIBILITY IMPROVEMENTS

- Restore accessibility to north bridge - make compliant with local building codes
- Repair areas with trip hazards
- Install accessible paths to docks - make compliant with local building codes
- Provide accessible ingress/egress to Laguna Grande from Fremont St.

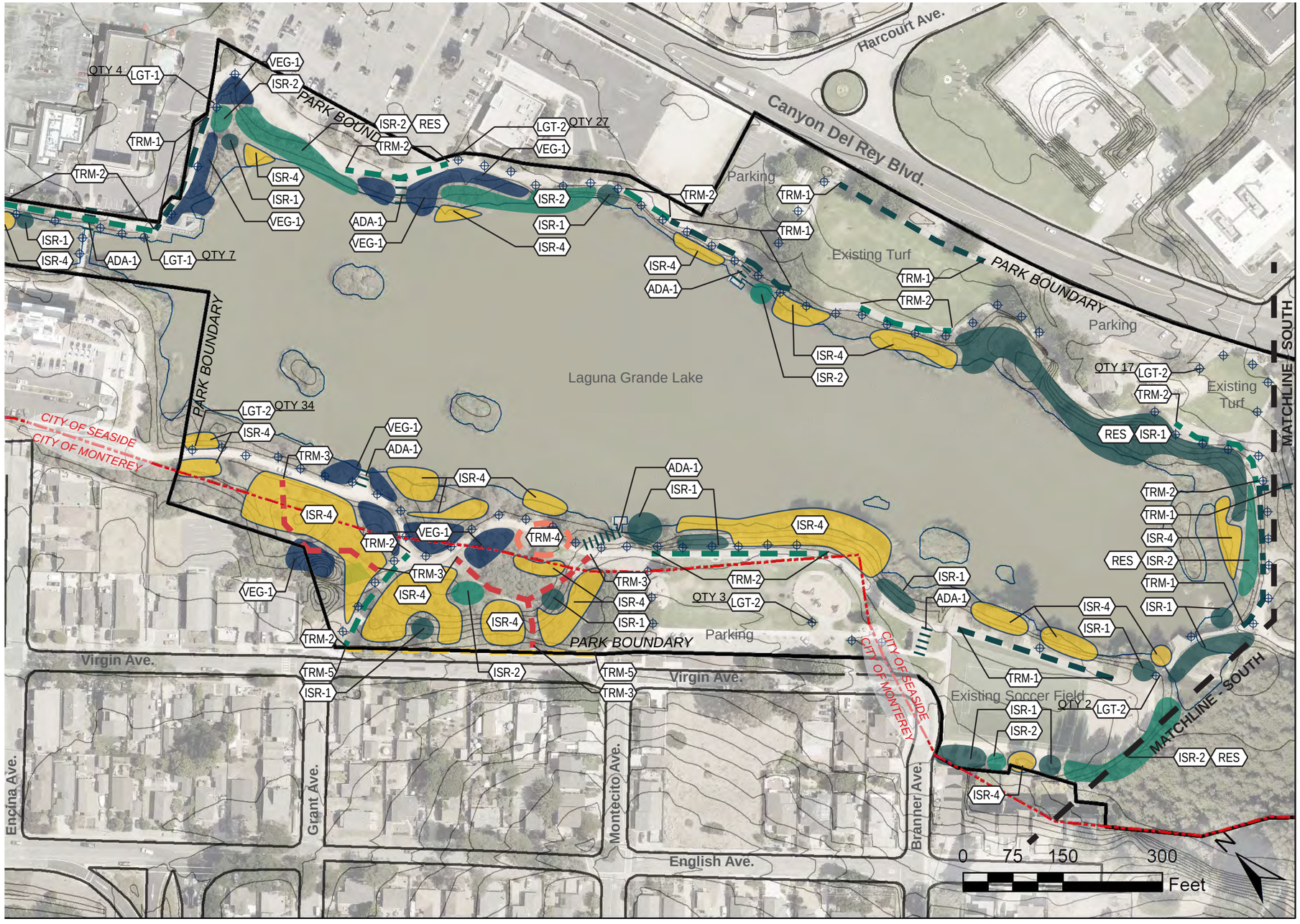
5. INVASIVE SPECIES REMOVAL AND RESTORATION PLANTING

- Priority 1 (1-3 years)
- Priority 2 (1-5 years)
- Priority 3 (6-10 years)
- Priorities 4-5
- Priority 6 (no action)
- Restore native plantings where invasives are fully removed
- Create new native habitat along southern gravel trail

6. LIGHTING

- Repair or replace existing lighting
- Extend new lighting along the southern gravel trail

FIGURE 7: OVERALL PLAN - NORTH



LEGEND

South Woods Seasonal Trail Development

- STR-1 — Enhance Existing Social Trails Similar to Seasonal Trails
- STR-2 — Seasonal Mulch Trail to Finish Loop

Vegetation Clearing

- VEG-1 — Clear and Limb
- VEG-2 — Clearing of Vegetation and Debris Consistent with Current Maintenance Practices

Trail Maintenance and Improvements

- TRM-1 — Replace Trail Impacted by Roots
- TRM-2 — Repair Edge of Trail - Erosion
- TRM-3 — Add Mulch to Seasonal Trail
- TRM-4 — Repair/replace Culverts
- TRM-5 — Provide Formal Trail Connection

Accessibility Improvements

- ADA-1 — Restore Trail Accessibility
- ADA-2 — Accessibility Improvements per FORTAG Trail Alignment. See Figure 3.

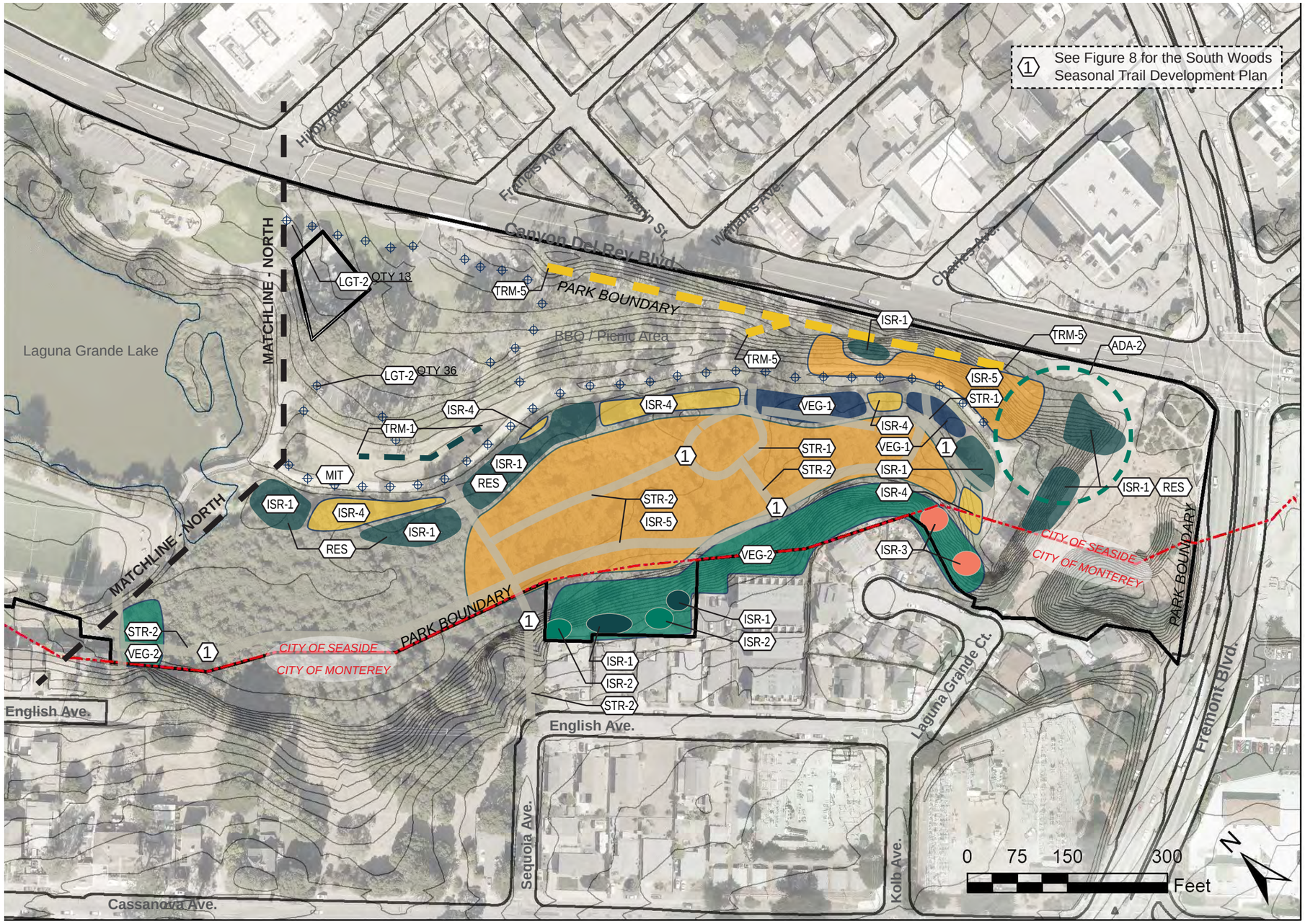
Invasive Species Clearing

- ISR-1 — Clearing - Priority 1 (1-3 years)
- ISR-2 — Clearing - Priority 2 (1-5 years)
- ISR-3 — Clearing - Priority 3 (6-10 years)
- ISR-4 — Clearing - Priority 4/5
- ISR-5 — Priority 6 - No Action
- RES — Restore Planting at Invasive Clearing Areas
- MIT — Habitat Removal Mitigation Planting

Lighting

- LGT-1 — Repair/Replace Existing Lighting
- LGT-2 — Extend New Lighting

FIGURE 8: OVERALL PLAN - SOUTH



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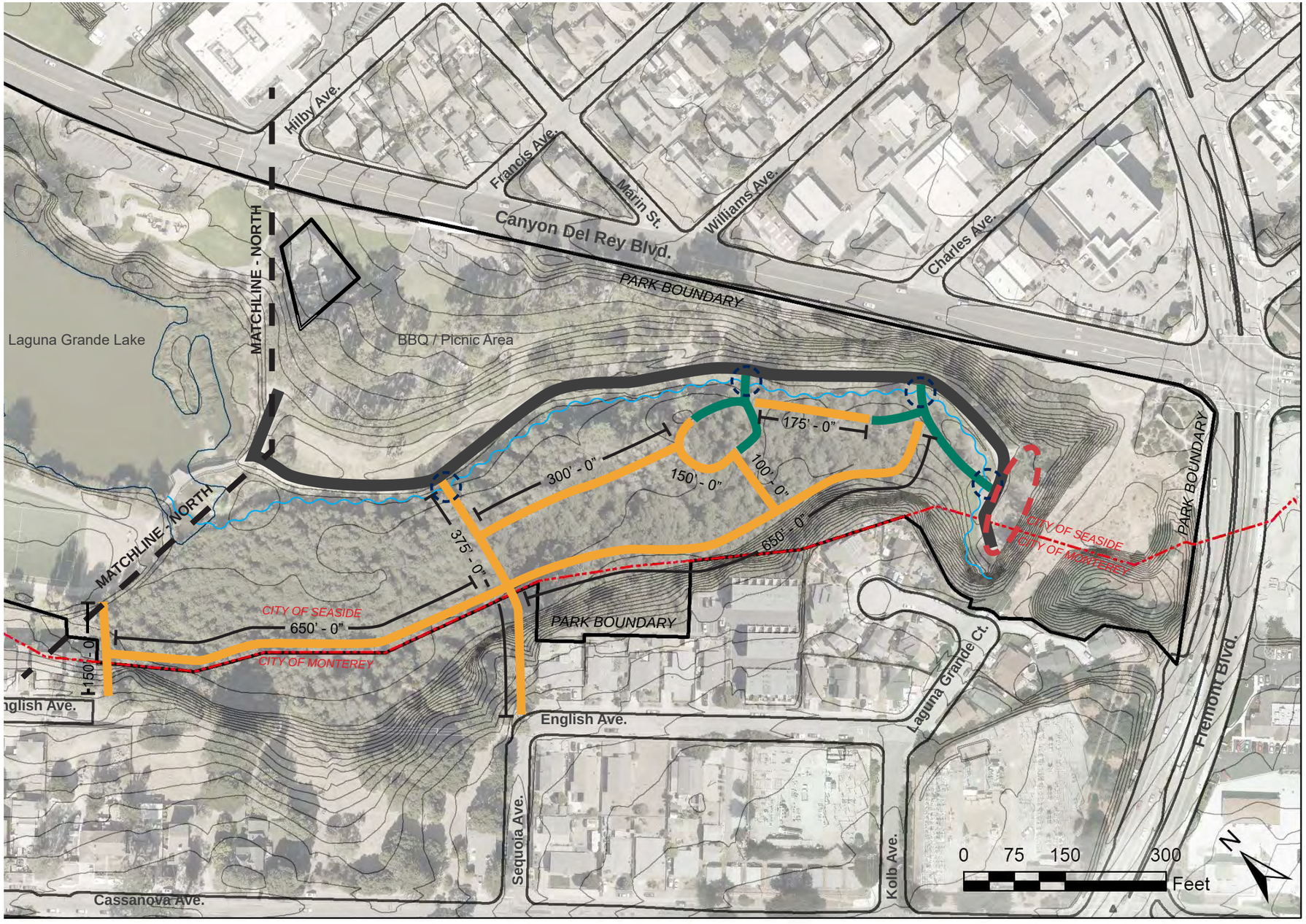
Lighting

- LGT-1 — Repair/Replace Existing Lighting
- LGT-2 — Extend New Lighting

FIGURE 9: SOUTH WOODS SEASONAL TRAIL DEVELOPMENT PLAN



LEGEND

- Existing Creek
- Existing Park Trail - Enhance trail section and width for Type 3 firetruck. Potential funding through Measure X*.
- Provide firetruck turnaround at end of trail. Potential funding through Measure X*.
- Existing Social Trails - 500 LF Adopt as Seasonal Mulch Trails. Widen to 8 feet and clear vegetation as required.
- Seasonal Mulch Trails - 2,550 LF Clear 8 foot trail with mulch top dressing. Clear vegetation as required.
- Seasonal Foot Bridge

*Measure X was a tax increase measure which was approved in 2015 and is managed under the Transportation Agency of Monterey County (TAMC).

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PHASE ONE IMPLEMENTATION 07

Implementation of the recommended maintenance and improvements will require time and approval from the governing agencies. The design team is recommending a phased approach to Strategy implementation in order to alleviate costs and to obtain permit approvals. With safety as the top priority, phase one will address these issues first. Many of the safety issues directly correlate with overgrown vegetation. Vegetation clearing and removal will require permits, but can easily be incorporated into weekly maintenance routines. Other safety items to be addressed include repairing trails heavily impacted by root damage and erosion and clearing defensible space for fire safety.

1. **SEASONAL TRAIL DEVELOPMENT**

    - Provide 8' wide seasonal mulch trail through southern riparian woodland with seasonal foot bridges for creek crossing. Connect from the gravel trail to English and Sequoia
    - Mitigate habitat removal with invasive removal and restoration planting
    - Invasive Species Removal and Restoration Planting:
    - Priority 1 (1-3 years):
        - Clear invasives where vegetation clearing for safety and defensible space will already be happening.
        - Clear invasive species where necessary to mitigate habitat removal
    - Restore native plantings where invasive species have been fully removed

2. **VEGETATION CLEARING**

    - Clearing and limbing around trail curves and corners particularly in the northwest riparian woodland
    - Clearing at docks
    - Clearing and limbing around illegal camp sites
    - Mitigate habitat removal with invasive removal and restoration planting

3. **TRAIL MAINTENANCE AND IMPROVEMENTS**

    - Replace sections of trail impacted by root damage – trail section along Canyon Del Rey in Seaside traditional park and trail section along soccer field in Monterey traditional park

4. **ACCESSIBILITY IMPROVEMENTS**

    - Restore accessibility compliance to north bridge

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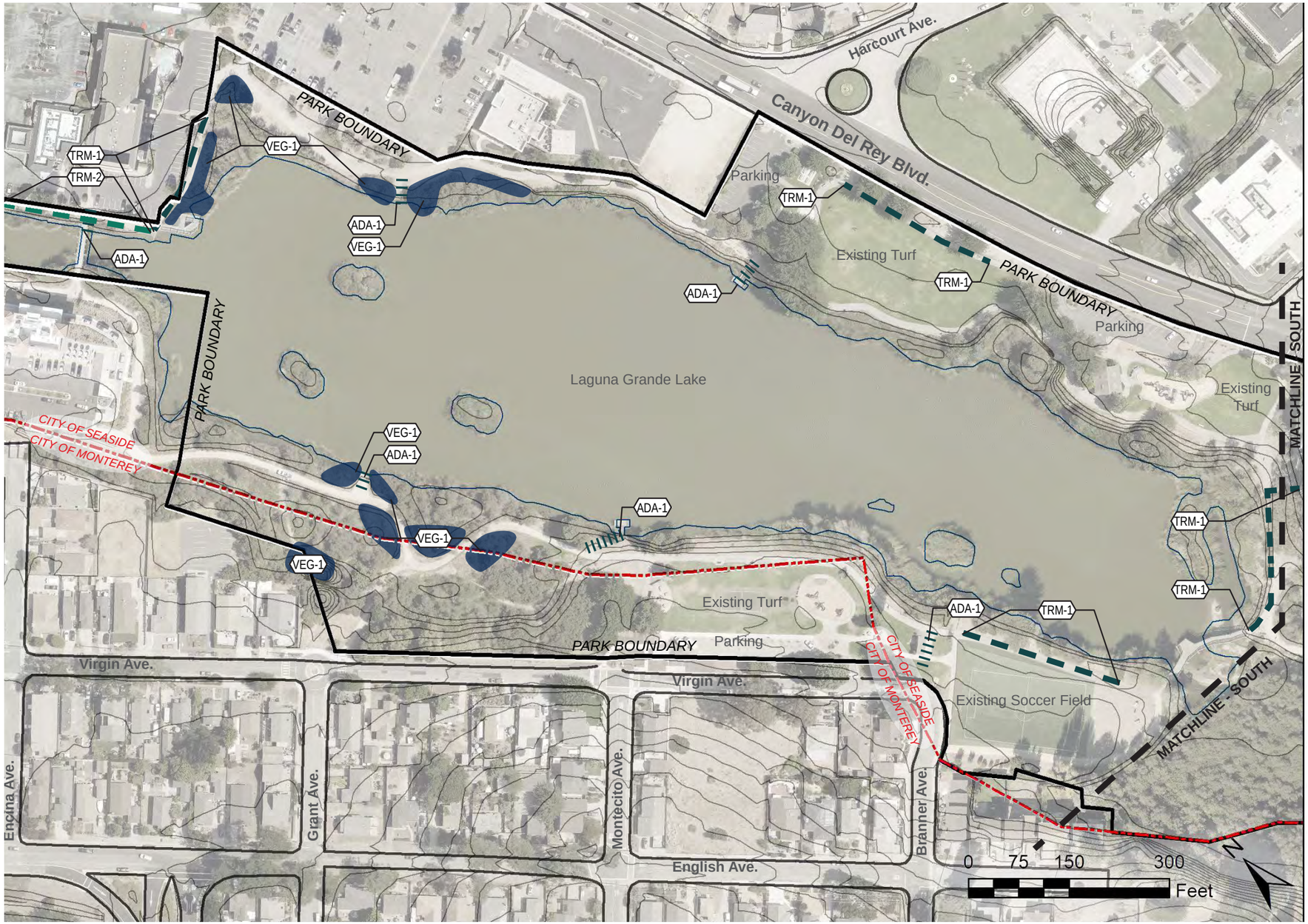
FIGURE 10: PHASE ONE PLAN - NORTH



LEGEND

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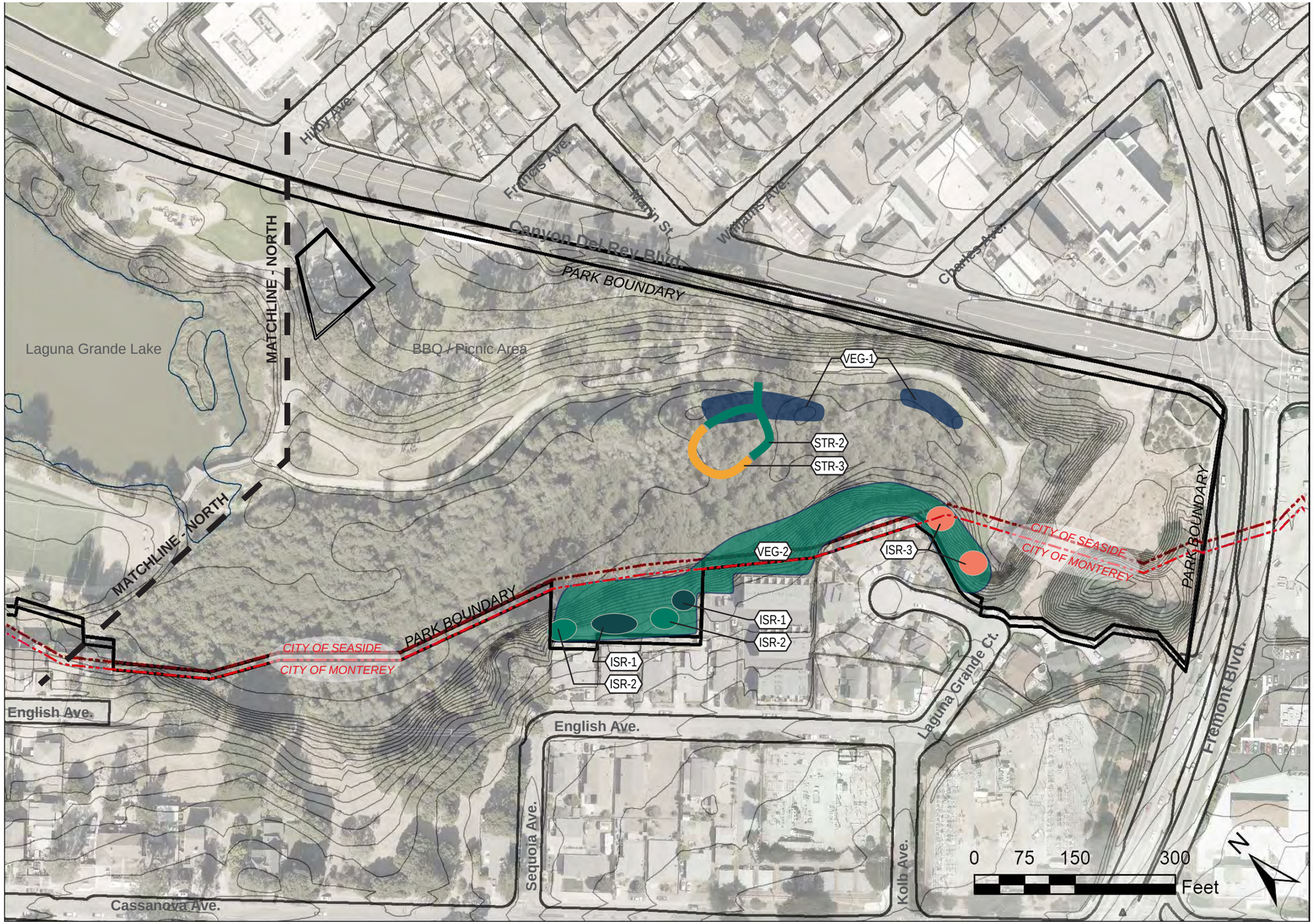
- ISR-4 — Clearing - Priority 4/5
- ISR-5 — Priority 6 - No Action
- RES — Restore Planting at Invasive Clearing Areas
- MIT — Habitat Removal Mitigation Planting

Lighting

- LGT-1 — Repair/Replace Existing Lighting
- LGT-2 — Extend New Lighting

FIGURE 11: PHASE ONE PLAN - SOUTH



LEGEND

South Woods Seasonal Trail Development

- STR-1 — Enhance Existing Social Trails Similar to Seasonal Trails
- STR-2 — Seasonal Mulch Trail to Finish Loop

Vegetation Clearing

- VEG-1 — Clear and Limb
- VEG-2 — Clearing of Vegetation and Debris Consistent with Current Maintenance Practices

Trail Maintenance and Improvements

- TRM-1 — Replace Trail Impacted by Roots
- TRM-2 — Repair Edge of Trail - Erosion
- TRM-3 — Add Mulch to Seasonal Trail
- TRM-4 — Repair/replace Culverts
- TRM-5 — Provide Formal Trail Connection

Accessibility Improvements

- ADA-1 — Restore Trail Accessibility
- ADA-2 — Accessibility Improvements per FORTAG Trail Alignment. See Figure 3.

Invasive Species Clearing

- ISR-1 — Clearing - Priority 1 (1-3 years)
- ISR-2 — Clearing - Priority 2 (1-5 years)
- ISR-3 — Clearing - Priority 3 (6-10 years)
- ISR-4 — Clearing - Priority 4/5
- ISR-5 — Priority 6 - No Action
- RES — Restore Planting at Invasive Clearing Areas
- MIT — Habitat Removal Mitigation Planting

Lighting

- LGT-1 — Repair/Replace Existing Lighting
- LGT-2 — Extend New Lighting

LAGUNA GRANDE REGIONAL PARK COST ESTIMATE

Project: Laguna Grande Regional Park - Maintenance Strategy
Client: Laguna Grande Regional Park JPA
Issuance: **Strategy Draft**
Date: February 28, 2022

Project Number: 21.019
Estimate By: DZ
Checked By: BM

BFS LANDSCAPE ARCHITECTS

item description	quantity		unit cost	item total	subtotal
ZONE 1 - LAGUNA GRANDE PARK-EXCLUDING SOUTH WOODLAND					
INVASIVE SPECIES REMOVAL					
Priority 1 (1-3 years):					
High cost (Hand removal)	24,500	SF	$0.35	$8,575	
Medium cost (Mechanical removal)	6,500	SF	$0.15	$975	
Low cost	0	SF	$0.07	$0	
Tree removal	32	EA	$500.00	$16,000	**$25,550**
Priority 2 (1-5 years):					
High cost (Hand removal)	22,250	SF	$0.35	$7,788	
Medium cost (Mechanical removal)	6,200	SF	$0.15	$930	
Medium cost (Mechanical removal) in defensible space	3,500	SF	$0.07	$245	
Low cost	0	SF	$0.25	$0	
Tree removal	2	EA	$500.00	$1,000	**$9,963**
Priority 3 (6-10 years):					
High cost (Hand removal)	2,100	SF	$0.35	$735	
Medium cost (Mechanical removal)	1,100	SF	$0.15	$165	
Low cost	0	SF	$0.07	$0	
Tree removal	0	EA	$500.00	$0	**$900**
Priority 4 (Himalayan Blackberry, English and Cape Ivy - removal will have short and long term impact on habitat)					
High cost (Hand removal)	93,750	SF	$0.35	$32,813	
Medium cost (Mechanical removal)	25,000	SF	$0.15	$3,750	
Low cost	9,600	SF	$0.07	$672	
Tree removal	0	EA	$500.00	$0	**$37,235**
Priority 5 (Himalayan Blackberry - No Action at this time)	46,500	SF	$0.00	$0	**$0**
Mitigation planting and irrigation	80,000	SF	$5.00	$400,000	**$400,000**
Fire crew savings[1 2]	1	LS	($200,000.00)	($200,000.00)	($200,000)
LIMBING, PRUNING, CLEARING					
Tree pruning and limbing	50	EA	$500.00	$25,000	**$25,000**
TRAIL REPAIRS - ROOT IMPACTS - 250 LF					
Demolition	2,500	SF	$3.00	$7,500	
Root pruning	1	LS	$8,000.00	$8,000	
Fine grading	2,500	SF	$0.25	$625	
Asphalt paving and base	2,500	SF	$8.00	$20,000	**$36,125**
TRAIL REPAIRS - ACCESSIBILITY - 325 LF					
Demolition	3,250	SF	$3.00	$9,750	
Fine grading	3,250	SF	$0.25	$813	
Asphalt paving and base	3,250	SF	$8.00	$26,000	
Concrete paving	520	SF	$16.00	$8,320	**$44,883**
LANDSCAPE MAINTENANCE					
Annual maintenance for mitigation landscape areas	1.84	AC	$13,000.00	$23,875	**$23,875**

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ZONE 2 - SOUTH WOODLAND					
INVASIVE SPECIES REMOVAL					
Priority 1 (1-3 years):					
High cost (Hand removal)	5,800	SF	$0.35	$2,030	
Medium cost (Mechanical removal)	0	SF	$0.15	$0	
Low cost	0	SF	$0.07	$0	
Tree removal	29	EA	$500.00	$14,500	
Tree removal in defensible space	8	EA	$500.00	$4,000	**$20,530**
Priority 2 (1-5 years):					
High cost (Hand removal) in defensible space	4,000	SF	$0.35	$1,400	
Medium cost (Mechanical removal)	0	SF	$0.15	$0	
Low cost	0	SF	$0.07	$0	
Tree removal	0	EA	$500.00	$0	**$1,400**
Priority 3 (6-10 years):					
High cost (Hand removal) in defensible space	4,000	SF	$0.35	$1,400	
Medium cost (Mechanical removal)	0	SF	$0.15	$0	
Low cost	0	SF	$0.07	$0	
Tree removal	0	EA	$500.00	$0	**$1,400**
Priority 4 (Himalayan Blackberry, English and Cape Ivy - removal will have short and long term impact on habitat)					
High cost (Hand removal)	31,700	SF	$0.35	$11,095	
High cost (Hand removal) in defensible space	4,000	SF	$0.35	$1,400	
Medium cost (Mechanical removal)	0	SF	$0.15	$0	
Low cost	0	SF	$0.07	$0	
Tree removal	0	EA	$500.00	$0	**$12,495**
Priority 5 (Himalayan Blackberry - No Action at this time)	179,500	SF	$0.00	$0	**$0**
Priority 5 (Himalayan Blackberry - No Action at this time) in defensible space	35,500	SF	$0.00	$0	**$0**
Mitigation planting and irrigation	35,000	SF	$5.00	$175,000	**$175,000**
Fire crew savings[1 2]	1	LS	($98,250.00)	($98,250)	($98,250)
8' SEASONAL TRAIL DEVELOPMENT - 3050 LF					
Seasonal footbridge at ditch crossing	4	AL	$6,500.00	$26,000	
Clear and grub	24,400	SF	$0.50	$12,200	
Fine grading	24,400	SF	$0.50	$12,200	
Mulch-3" depth	226	CY	$120.00	$27,120	
Mitigation planting and irrigation	24,400	SF	$5.00	$122,000	**$199,520**
Fire crew savings[1 2 3]	1	LS	($61,680.00)	($61,680)	($61,680)

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LANDSCAPE MAINTENANCE					
	Annual maintenance for mitigation landscape areas	1.36 AC	$13,000.00	$17,727	
	Seasonal trail maintenance	1 AL	$25,000.00	$25,000	**$42,727**
	TOTAL				**$1,056,602**
	Potential Fire Crew Savings				**-$359,930**

The above items, amounts, quantities, and related information are based on BFS Landscape Architects' judgment at this level of document preparation and is offered only as reference data. BFS has no control over construction quantities, costs, and related factors affecting costs, and advises the client that significant variations may occur between this estimate of probable construction costs and actual construction prices.

NOTES

1. Fire crews consist of 12-15 crew members and a fire captain. Cost $225 a day and bring their own equipment.
2. Assumed fire crews will clear and grub at $0.25 a SF and could plant at $3.00 a SF
3. Assumed fire crews will clear and grub at $0.25 a SF and mulch at $90.00 a CY.

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LAGUNA GRANDE REGIONAL PARK PHASE 1 COST ESTIMATE

Project: Laguna Grande Regional Park - Maintenance Strategy
Client: Laguna Grande Regional Park JPA
Issuance: Strategy Draft
Date: February 28, 2022

Project Number: 21.019
Estimate By: DZ
Checked By: BM

BFS LANDSCAPE ARCHITECTS

IMPLEMENTATION PHASE 1					
item description	quantity		unit cost	item total	subtotal
LIMBING, PRUNING, CLEARING					
Tree pruning and limbing	50	EA	$500.00	$25,000	**$25,000**
LIMBING, PRUNING, CLEARING AT ENCAMPMENTS					
Tree pruning and limbing	50	EA	$500.00	$25,000	**$25,000**
TRAIL REPAIRS - ROOT IMPACTS - 250 LF					
Demolition	2,500	SF	$3.00	$7,500	
Root pruning	1	LS	$8,000.00	$8,000	
Fine grading	2,500	SF	$0.25	$625	
Asphalt paving and base	2,500	SF	$8.00	$20,000	**$36,125**
TRAIL REPAIRS - ACCESSIBILITY - 200 LF					
Demolition	2,000	SF	$3.00	$6,000	
Fine grading	2,000	SF	$0.25	$500	
Asphalt paving and base	2,000	SF	$8.00	$16,000	
Concrete paving	520	SF	$16.00	$8,320	**$30,820**
8' SEASONAL TRAIL DEVELOPMENT - 400 LF					
Seasonal footbridge at ditch crossing	1	AL	$6,500.00	$6,500	
Clear and grub	3,200	SF	$0.50	$1,600	
Fine grading	3,200	SF	$0.50	$1,600	
Mulch-3" depth	30	CY	$120.00	$3,600	
Mitigation planting and irrigation	3,200	SF	$5.00	$16,000	**$29,300**
Fire crew savings[1 2 3]	1	LS	($8,100.00)	($8,100)	($8,100)
INVASIVE SPECIES REMOVAL - NON-SOUTH WOODS					
High cost (Hand removal)	3,600	SF	$0.35	$1,260	
Medium cost (Mechanical removal)	3,000	SF	$0.15	$450	
Low cost	600	SF	$0.07	$42	**$1,752**
LANDSCAPE MAINTENANCE					
Annual maintenance for mitigation landscape	0.07	AC	$13,000.00	$955	
Seasonal trail maintenance	1	AL	$8,000.00	$8,000	**$8,955**
TOTAL					**$156,952**
Potential Fire Crew Savings					**-$8,100**

The above items, amounts, quantities, and related information are based on BFS Landscape Architects' judgment at this level of document preparation and is offered only as reference data. BFS has no control over construction quantities, costs, and related factors affecting costs, and advises the client that significant variations may occur between this estimate of probable construction costs and actual construction prices.

NOTES

1. Fire crews consist of 12-15 crew members and a fire captain. Cost $225 a day and bring their own equipment.
2. Assumed fire crews will clear and grub at $0.25 a SF and could plant at $3.00 a SF
3. Assumed fire crews will clear and grub at $0.25 a SF and mulch at $90.00 a CY.

APPENDIX A

PLANT SURVEY

EMC PLANNING GROUP INC.
A LAND USE PLANNING & DESIGN FIRM

301 Lighthouse Avenue Suite C Monterey California 93940
Tel 831·649·1799 Fax 831·649·8399 www.emcplanning.com

To: **Elizabeth Matz, BFS Landscape Architects**

From: **Patrick Furtado**

Date: **July 2, 2021**

Re: **Laguna Grande Regional Park Vegetation Mapping and Focused Plant Survey Results**

Vegetation Mapping

EMC Planning Group associate biologist Patrick Furtado, M.S. conducted geographic information system (GIS) mapping of Laguna Grande Regional Park on May 18, 2021. Plant communities and several other features including invasive plants, trails, and homeless camps were mapped using Environmental Systems Research Institute's (ESRI) Field Maps mobile mapping application and a Trimble R1 sub-meter Global Positioning System (GPS) receiver. Plant communities were classified and mapped generally according to the alliance level of the Manual of California Vegetation (Sawyer et al. 2009). Figure 1, Vegetation Map – North, and Figure 2, Vegetation Map – South, are attached to this memorandum. Electronic GIS data can be provided upon request.

Focused Plant Survey

EMC Planning Group associate biologist Patrick Furtado completed focused plant surveys for special-status plant species on May 24, 2021 and June 15, 2021 in accordance with current California Department of Fish and Wildlife (CDFW 2009) and California Native Plant Society (CNPS 2001) rare plant survey protocols. According to the United States Drought Monitor, the project site is located in an area experiencing extreme drought conditions at the time of surveys (National Drought Mitigation Center 2021).

Mr. Furtado also visited nearby special-status plant reference populations for seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*), Yadon's rein orchid (*Piperia yadonii*), and sand-loving wallflower (*Erysimum ammophilum*) to determine that these plant species were identifiable at the time of the surveys. All of these species except for Yadon's rein orchid were identifiable. Yadon's rein orchid may not be germinating or flowering in normal numbers this season due to the current extreme drought conditions (NDMC 2021). However, habitat for Yadon's rein orchid was not found on the Laguna Grande Park project site.

All suitable habitats for special-status plant species within the Laguna Grande Park survey area were systematically surveyed and plant species observed were recorded in field notes. Plant species were identified in the field or collected for subsequent identification using plant keys contained in The Jepson Manual: Vascular Plants of California (Baldwin et. al 2012). Taxonomy follows the Jepson Flora Project (2021) for scientific and common names.

Special-status species are those listed as Endangered, Threatened, or Rare, or as Candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or CDFW under the state and/or federal Endangered Species Acts. The special-status designation also includes CDFW Species of Special Concern and Fully Protected species, California Native Plant Society (CNPS) Rare Plant Rank 1B and 2B species, and other locally rare species that meet the criteria for listing as described in Section 15380 of CEQA Guidelines. Special-status species are generally rare, restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.

A total of 112 plant taxa were identified within the park boundaries, including 47 native California taxa (42 percent) and 65 non-native taxa (58 percent). No special-status plant species were observed within the Laguna Grande Regional Park survey area. Appendix A, Plant Species Observed, presents the list of all plant species that were observed at the park during the focused plant surveys.

Focused plant survey results are generally considered valid for about five years. Please contact me with any questions. I look forward to further assisting you with this important project.

Sincerely,

Patrick Furtado

Patrick Furtado, M.S.
Associate Biologist

Attachments: Figure 1, Vegetation Map – North
Figure 2, Vegetation Map – South
Appendix A, Plant List

References

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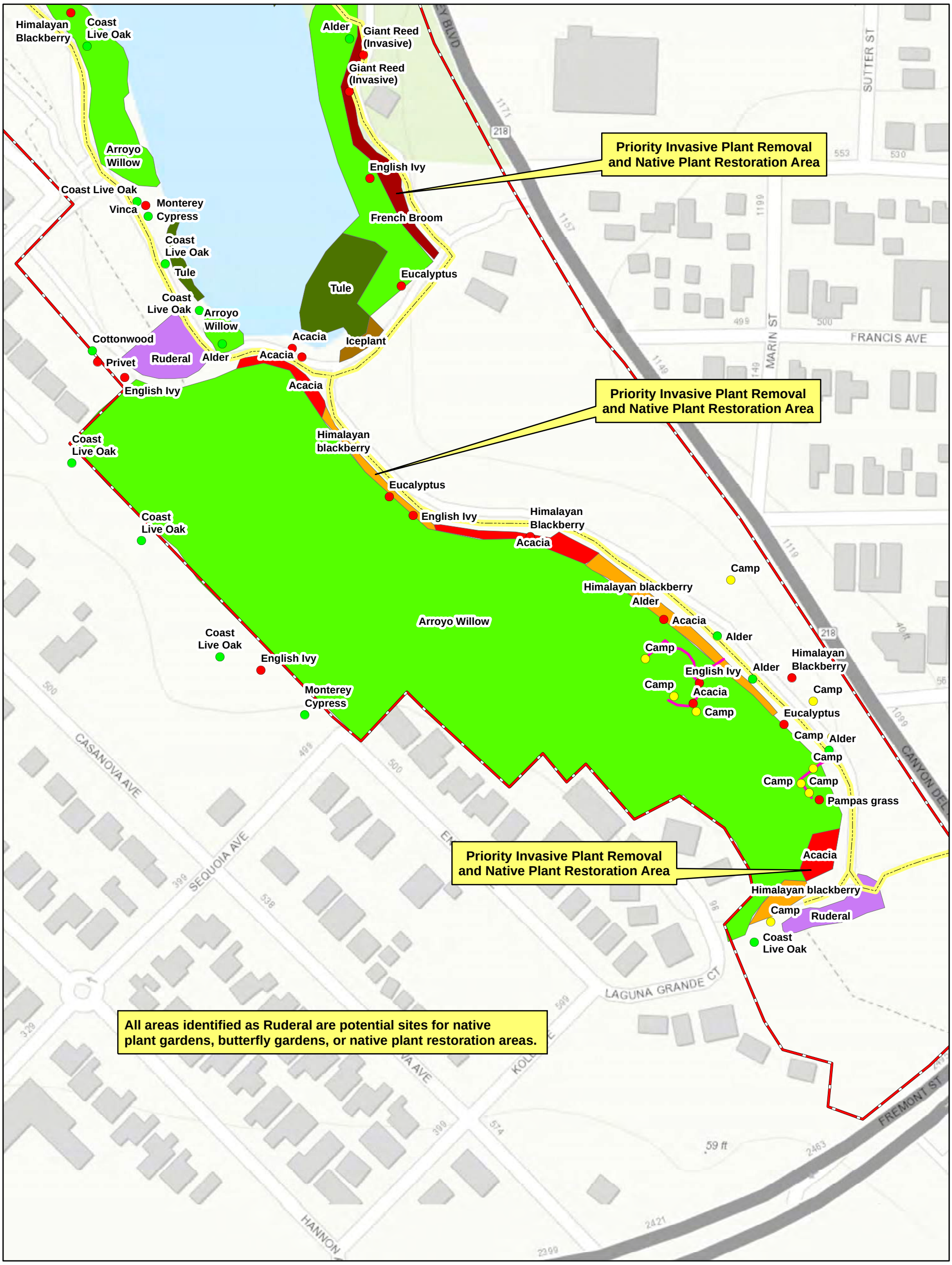
Source: ESRI 2021, Monterey County GIS 2019

Figure 1

Vegetation Map - North

Laguna Grande Trail Maintenance Strategy IS/MND



Source: ESRI 2021, Monterey County GIS 2019

Figure 2

Vegetation Map - South

Laguna Grande Trail Maintenance Strategy IS/MND

APPENDIX A

PLANT SPECIES OBSERVED MAY 24 AND JUNE 15, 2021

Appendix A: Plant Species Observed May 24 and June 15, 2021

Family	Species Name	Common Name	Native/Non-Native	Form
Aizoaceae	*Carpobrotus edulis*	Iceplant	• invasive non-native	Perennial herb
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak	native	Vine, Shrub
Apiaceae	*Apium graveolens*	Celery	non-native	Annual, Biennial herb
Apiaceae	*Conium maculatum*	Poison hemlock	• invasive non-native	Perennial herb
Apiaceae	*Foeniculum vulgare*	Fennel	• invasive non-native	Perennial herb
Apiaceae	*Oenanthe sarmentosa*	Water parsley	native	Perennial herb
Apocynaceae	*Vinca major*	Vinca	• invasive non-native	Perennial herb
Araceae	*Zantedeschia aethiopica*	Callalily	• invasive non-native	Perennial herb
Araliaceae	*Hedera helix*	English ivy	• invasive non-native	Vine, Shrub
Asteraceae	*Baccharis pilularis*	Coyote brush	native	Shrub
Asteraceae	*Carduus pycnocephalus*	Italian thistle	• invasive non-native	Annual herb
Asteraceae	*Cirsium vulgare*	Bullthistle	• invasive non-native	Perennial herb
Asteraceae	*Cotula coronopifolia*	Brass buttons	• invasive non-native	Perennial herb
Asteraceae	*Delairea odorata*	Cape ivy	• invasive non-native	Perennial herb
Asteraceae	*Helminthotheca echioides*	Bristly ox-tongue	• invasive non-native	Annual, Perennial herb
Asteraceae	*Hypochaeris glabra*	Smooth cats ear	• invasive non-native	Annual herb
Asteraceae	*Hypochaeris radicata*	Hairy cats ear	• invasive non-native	Perennial herb
Asteraceae	*Jaumea carnosa*	Marsh jaumea	native	Perennial herb
Asteraceae	*Lactuca serriola*	Prickly lettuce	• invasive non-native	Annual herb
Asteraceae	*Matricaria discoidea*	Pineapple weed	native	Annual herb
Asteraceae	*Pseudognaphalium luteoalbum*	Jersey cudweed	non-native	Annual herb
Asteraceae	*Sonchus asper*	Spiny sowthistle	• invasive non-native	Annual herb
Asteraceae	*Taraxacum officinale*	Red seeded dandelion	• invasive non-native	Perennial herb

Family	Species Name	Common Name	Native/Non-Native	Form
Betulaceae	*Alnus rhombifolia*	White alder	native	Tree
Boraginaceae	*Heliotropium curassavicum var. oculatum*	Seaside heliotrope	native	Perennial herb
Brassicaceae	*Brassica nigra*	Black mustard	• invasive non-native	Annual herb
Brassicaceae	*Hirschfeldia incana*	Mustard	• invasive non-native	Perennial herb
Brassicaceae	*Nasturtium officinale*	Watercress	native	Perennial herb (aquatic)
Brassicaceae	*Raphanus sativus*	Jointed charlock	• invasive non-native	Annual, Biennial herb
Caryophyllaceae	*Silene gallica*	Common catchfly	non-native	Annual herb
Chenopodiaceae	*Atriplex prostrata*	Fat-hen	non-native	Annual herb
Convolvulaceae	*Calystegia macrostegia*	Island morning glory	native	Perennial herb, Vine
Cornaceae	*Cornus sericea*	American dogwood	native	Shrub
Cucurbitaceae	*Marah fabacea*	California man-root	native	Perennial herb, Vine
Cupressaceae	*Hesperocyparis macrocarpa*	Monterey cypress	native	Tree
Cupressaceae	*Sequoia sempervirens*	Coast redwood	native	Tree
Cyperaceae	*Bolboschoenus robustus*	Sturdy bullrush	native	Perennial grasslike herb
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	native	Perennial grasslike herb
Cyperaceae	*Schoenoplectus acutus var. occidentalis*	Tule	native	Perennial grasslike herb
Cyperaceae	*Schoenoplectus californicus*	California bulrush	native	Perennial grasslike herb
Cyperaceae	*Schoenoplectus pungens var. longispicatus*	Common threesquare	native	Perennial grasslike herb
Cyperaceae	*Scirpus microcarpus*	Small fruited bulrush	native	Perennial grasslike herb
Equisetaceae	*Equisetum telmateia ssp. braunii*	Giant horsetail	native	Fern
Fabaceae	*Acacia dealbata*	Silver wattle	• invasive non-native	Tree, Shrub
Fabaceae	*Acacia longifolia*	Golden wattle	non-native	Tree
Fabaceae	*Acacia melanoxylon*	Blackwood acacia	• invasive non-native	Tree
Fabaceae	*Genista monspessulana*	French broom	• invasive non-native	Shrub

Family	Species Name	Common Name	Native/Non-Native	Form
Fabaceae	*Lupinus arboreus*	Coastal bush lupine	native	Shrub
Fabaceae	*Lupinus nanus*	Valley sky lupine	native	Annual herb
Fabaceae	*Medicago polymorpha*	California burclover	• invasive non-native	Annual herb
Fabaceae	*Melilotus albus*	White sweetclover	• invasive non-native	Annual, Biennial herb
Fabaceae	*Melilotus indicus*	Annual yellow sweetclover	non-native	Annual herb
Fabaceae	*Trifolium repens*	White clover	non-native	Perennial herb
Fabaceae	*Vicia sativa*	Spring vetch	non-native	Annual herb, Vine
Fagaceae	*Quercus agrifolia*	Coast live oak	native	Tree
Geraniaceae	*Erodium botrys*	Big heron bill	non-native	Annual herb
Geraniaceae	*Geranium dissectum*	Wild geranium	• invasive non-native	Annual herb
Geraniaceae	*Geranium rotundifolium*	Round leaved geranium	non-native	Annual herb
Juglandaceae	*Juglans hindsii*	Northern california black walnut	native	Tree
Juncaceae	*Juncus effusus ssp. pacificus*	Pacific rush	native	Perennial grasslike herb
Juncaceae	*Juncus patens*	Rush	native	Perennial grasslike herb
Malvaceae	*Malva pseudolavatera*	Cretan mallow	non-native	Shrub
Malvaceae	*Malva sylvestris*	High mallow	non-native	Perennial herb
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	non-native	Annual herb
Myrtaceae	*Eucalyptus globulus*	Blue gum	• invasive non-native	Tree
Onagraceae	*Epilobium ciliatum*	Slender willow herb	native	Perennial herb
Onagraceae	*Oenothera elata*	Evening primrose	native	Perennial herb
Papaveraceae	*Eschscholzia californica*	California poppy	native	Annual, Perennial herb
Plantaginaceae	*Plantago coronopus*	Cut leaf plantain	• invasive non-native	Annual herb
Plantaginaceae	*Plantago lanceolata*	Ribwort	• invasive non-native	Perennial herb
Plantaginaceae	*Plantago major*	Common plantain	non-native	Perennial herb

Family	Species Name	Common Name	Native/Non-Native	Form
Platanaceae	*Platanus racemosa*	California sycamore	native	Tree
Poaceae	*Agrostis stolonifera*	Redtop	• invasive non-native	Perennial grass
Poaceae	*Arundo donax*	Giant reed	• invasive non-native	Perennial grass
Poaceae	*Avena fatua*	Wildoats	• invasive non-native	Annual grass
Poaceae	*Bromus diandrus*	Ripgut brome	• invasive non-native	Annual grass
Poaceae	*Bromus sitchensis var. carinatus*	California brome	native	Perennial grass
Poaceae	*Digitaria sanguinalis*	Crabgrass	non-native	Annual grass
Poaceae	*Distichlis spicata*	Salt grass	native	Perennial grass
Poaceae	*Ehrharta erecta*	Upright veldt grass	• invasive non-native	Perennial grass
Poaceae	*Festuca myuros*	Rattail sixweeks grass	• invasive non-native	Annual grass
Poaceae	*Festuca perennis*	Italian rye grass	• invasive non-native	Annual, Perennial grass
Poaceae	*Holcus lanatus*	Common velvetgrass	• invasive non-native	Perennial grass
Poaceae	*Hordeum murinum*	Foxtail barley	• invasive non-native	Annual grass
Poaceae	*Pennisetum clandestinum*	Kikuyu grass	• invasive non-native	Perennial grass
Poaceae	*Phragmites australis*	Common reed	native	Perennial grass
Poaceae	*Poa annua*	Annual blue grass	non-native	Annual grass
Polygonaceae	*Persicaria amphibia*	Water smartweed	native	Perennial herb (aquatic)
Polygonaceae	*Polygonum aviculare*	Prostrate knotweed	non-native	Annual, Perennial herb
Polygonaceae	*Rumex acetosella*	Sheep sorrel	• invasive non-native	Perennial herb
Polygonaceae	*Rumex crispus*	Curly dock	• invasive non-native	Perennial herb
Polygonaceae	*Rumex pulcher*	Fiddleleaf dock	non-native	Perennial herb
Rhamnaceae	*Ceanothus thyrsiflorus*	Blueblossom	native	Tree, Shrub
Rhamnaceae	*Frangula californica*	California coffeeberry	native	Shrub
Rosaceae	*Potentilla anserina*	Silver weed cinquefoil	native	Perennial herb

Family	Species Name	Common Name	Native/Non-Native	Form
Rosaceae	*Prunus cerasifera*	Cherry plum	• invasive non-native	Tree
Rosaceae	*Prunus ilicifolia*	Holly leaf cherry	native	Tree, Shrub
Rosaceae	*Prunus virginiana*	Chokecherry	native	Tree, Shrub
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	• invasive non-native	Shrub
Rosaceae	*Rubus ursinus*	California blackberry	native	Vine, Shrub
Salicaceae	*Populus trichocarpa*	Black cottonwood	native	Tree
Salicaceae	*Salix laevigata*	Polished willow	native	Tree
Salicaceae	*Salix lasiandra*	Pacific willow	native	Tree
Salicaceae	*Salix lasiolepis*	Arroyo willow	native	Tree, Shrub
Sapindaceae	*Acer negundo*	Boxelder	native	Tree
Scrophulariaceae	*Myoporum laetum*	Ngaio tree	• invasive non-native	Tree, Shrub
Scrophulariaceae	*Verbascum thapsus*	Woolly mullein	• invasive non-native	Perennial herb
Tropaeolaceae	*Tropaeolum majus*	Garden nasturtium	non-native	Annual herb, Vine
Typhaceae	*Typha latifolia*	Broadleaf cattail	native	Perennial herb (aquatic)
Urticaceae	*Parietaria judaica*	Spreading pellitory	non-native	Perennial herb
Urticaceae	*Urtica dioica*	Stinging nettle	native	Perennial herb
Urticaceae	*Urtica urens*	Annual stinging nettle	non-native	Annual herb

SOURCE: EMC Planning Group 2021

APPENDIX B

INVASIVE PLANT CONTROL

LAGUNA GRANDE REGIONAL PARK
TRAIL MAINTENANCE STRATEGY
September 28, 2021

GUIDELINES FOR INVASIVE, NON-NATIVE PLANT REMOVAL/CONTROL

1.0 INTRODUCTION

Non-native plant species are species not present in California and/or the Monterey Bay prior to Russian, Spanish and/or European colonization. The Spanish discovery of Monterey Bay occurred in the early 1600's, yet it wasn't until 1770 that the first non-Native American settlement was established (Gordon, 1996). Available evidence indicates that the vast majority of non-native plants now established in California were introduced after this time (Cal-IPC, 2021). Settlers brought non-native plants accidentally in ship ballast and as contaminants of grain shipments, in livestock and livestock feed, as well as intentionally for food, fiber, medicine, and ornamental uses. Most non-native plants introduced to California in these early times first established at coastal sites near ports and around missions and other settlements. This is likely true for the Monterey Bay region. The majority of the first non-native plants to establish were of European origin; however, later-arriving species have origins in central and south America, and more recently from Asia and Australia. Many of the arriving non-native plant species found favorable growing conditions in coastal California and became successful in competing with native plant species for growing space, soil nutrients, and soil moisture. Of the estimated 1,800 non-native plant species established in California, only approximately 200 (11%) are recognized as serious threats to native ecosystems; yet these species have dramatically changed California's ecological landscape (Cal-IPC, 2021). Species that exhibit aggressive growth patterns that lead to a reduction in native plant diversity and cover are considered to be ***invasive, non-native*** plant species.

An aggressive growth pattern of an invasive, non-native plant species can result in a corresponding reduction in the diversity and health of native flora and fauna. A decrease in native plant and animal diversity can lead to a weakening of native ecosystems, making the ecosystem more vulnerable to permanent damage due to stochastic events (i.e., unpredictable events that can affect population and community dynamics, such as disease infestation, wildfire, or unintentional human damage). In addition, as native insects and wildlife rely on native plants for shelter, food and reproduction, the spread of non-utilized non-native plant species can result in the disappearance or reduced numbers and vigor of native species. A study on the ecosystems of California found the impacts of invasive species on native species include genetic impacts (i.e., hybridizing with native species), local or species-level extinctions through disease and displacement, changes in community composition and native species diversity, and altered ecosystem processes such as nutrient cycling and disturbance regimes (Mooney and Zavaleta 2016). Additionally, some invasive non-native plants are toxic to wildlife and insects. Toxic plant materials weaken or kill aquatic life. Finally, the loss of the complex plant cover and plant root systems lead to decreases in soil moisture, increases in soil temperature and changes in soil chemical composition. Soil and moisture changes can lead to increases in erosion potential and decreases in water quality.

Numerous non-native plant species have been recorded in Laguna Grande Regional Park. Some of these are invasive with infestations having negative effects on the park's upland and wetland ecosystems. A level of environmental damage has occurred within the Park from infestations of these invasive, non-native plant species. Measures to reduce damage from invasive, non-native plant species, to benefit the Park's native ecosystems, are identified in this chapter.

2.0 METHODOLOGY

The extent of invasive, non-native plant species within Laguna Grande Regional Park was assessed through literature review, review of the Vegetation Mapping and Focused Plant Survey Results (EMC Planning Group, 2021), and field observations by Kathleen Lyons (plant ecologist) and George McMenamin (restoration specialist). Field surveys were conducted on July 30, August 10 and September 7, 2021 to field-check previously mapped data, identify additional locations of invasive, non-native plant species, evaluate the level of threat an infestation poses to native resources, and evaluate measures for removal and control of infestations. The distribution of the invasive, non-native plant species was depicted onto a base map and EMC Planning Group entered data entered into a Geographic Information System (GIS).

3.0 INVASIVE, NON-NATIVE PLANT SPECIES

Over twenty-five invasive, non-native plant species were identified to be of management concern within Laguna Grande Regional Park. Most of these species are listed by the California Invasive Plant Council (Cal-IPC), as ***invasive species.*** Two species are listed as ***noxious weeds*** by the California Department of Food and Agriculture (CDFA). Table 1 lists these species and their Cal-IPC invasive rating. Figures 1 and 2 show the distribution of each species within the regional park.

Plant species have varying patterns for growth and reproduction. These patterns are considered in evaluating their ability to invade native ecosystems as well as control measures. Plants that are annual/biennial species, such as a thistle, typically grows quickly and produce large amounts of seed that is often easily dispersed by wind or by animals. Seeds from annual species typically have relatively short lifespans (1-5 years). Some perennial plants, such as French broom, reproduce by seed; however, the seed can persist in the soil for long periods of time (30+ years). Some perennial plants, such as Cape ivy, can reproduce from stem fragments. The growth habitat and primary reproductive method of the invasive, non-native plant species is presented in Table 1.

Figure 1. Invasive, Non-native Plant Species, North

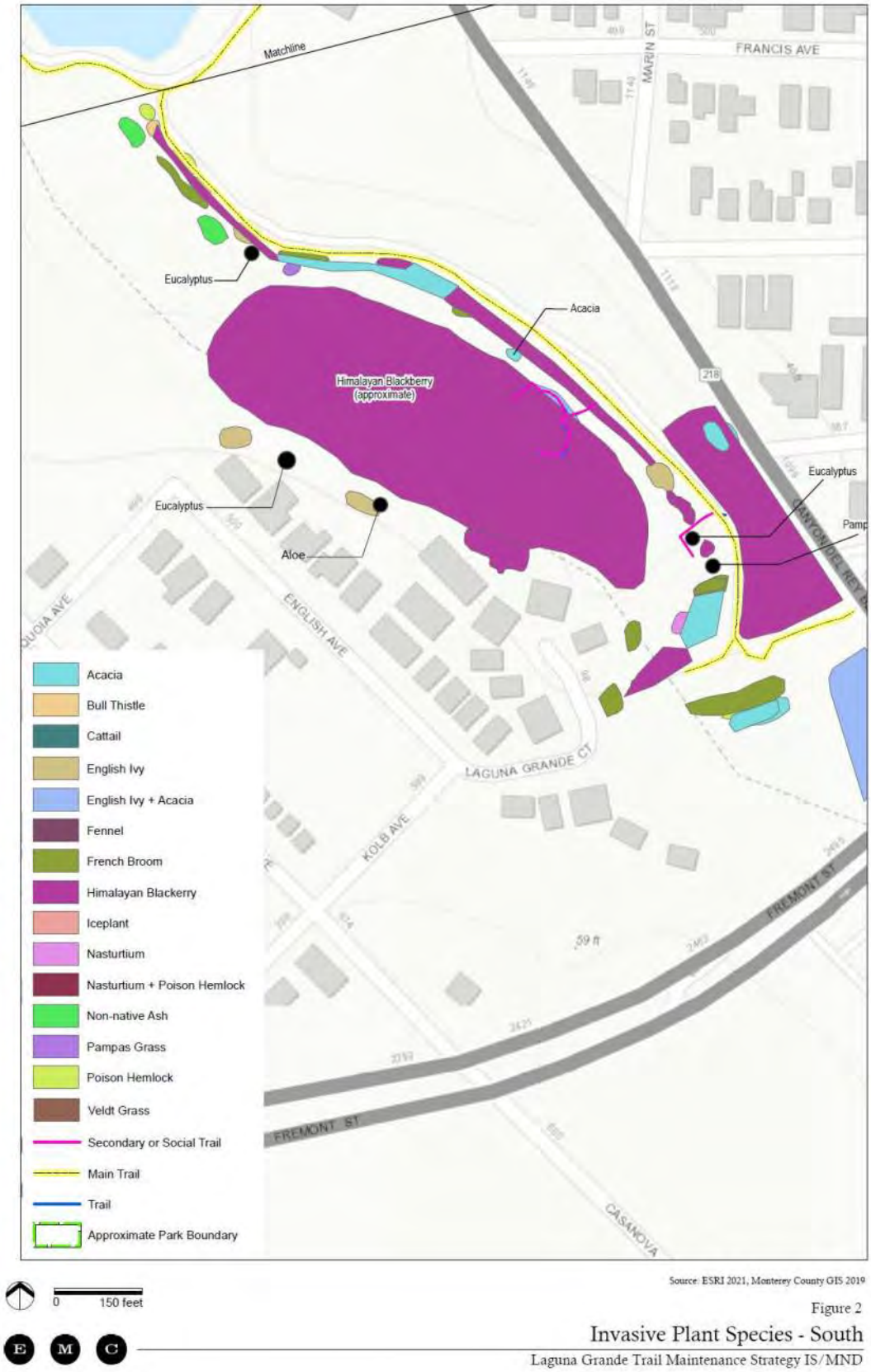


Figure 2. Invasive, Non-native Plant Species, South

Table 1. Invasive, Non-native Plant Species of Management Concern, Laguna Grande Regional Park

Common Name	Scientific Name	Cal-IPC Ranking	Growth Habit	Primary Reproduction
TREES				
Acacia	*Acacia melanoxylon* *Acacia dealbata* *Acacia longifolia*	Moderate	Perennial, evergreen	Seed, roots and stump sprouts
Blue Gum Eucalyptus	*Eucalyptus globulus*	Limited	Perennial, evergreen	Seed, stump sprouts
White Ash	*Fraxinus americana*	None	Perennial, deciduous	Seed, stump and root sprouts
Ngaio Tree (Myoporum)	*Myoporum laetum*	None	Perennial, evergreen	Seed
Cherry Plum	*Prunus cerasifera*	None	Perennial, deciduous	Seed, stump sprouts
Chinese Elm	*Ulmus parvifolia*	None	Perennial, deciduous	Seed, stump and root sprout
SHRUBS AND WOODY VINES				
French Broom	*Genista monspessulana*	High	Perennial	Seed
Glossy Privet	*Ligustrum lucidum*	Limited	Perennial	Seed
Himalayan Blackberry	*Rubus armeniacus*	High	Perennial	Seed, root fragments, cane tips
Elm-leaf (thornless) Blackberry	*Rubus ulmifolius*	None	Perennial	Seed, root fragments, cane tips
Pride of Madeira	*Echium candicans*	Limited	Perennial	Seed
NON-WOODY VINES, GRASSES, AND GROUNDCOVERS				
Aloe	*Aloe arborescens*	None	Perennial	Vegetatively, seeds
Giant Reed	*Arundo donax*	High	Perennial	Vegetatively
Short-stalked False Bindweed	*Calystegia silvatica*	None	Perennial	Seeds, roots
Italian Thistle	*Carduus pycnocephalus*	Moderate[1]	Annual	Seed
Ice Plant	*Carpobrotus edulis* *Carpobrotus chilensis*	High	Perennial	Roots, plant fragments, seed
Bull Thistle	*Cirsium vulgare*	Moderate[1]	Biennial	Seed
Poison Hemlock	*Conium maculatum*	Moderate	Biennial	Seed
Jubata Grass Pampas Grass	*Cortederia jubata* *Cortederia selloana*	High	Perennial	Seed
Cape Ivy	*Delairea odorata*	High	Perennial	Vegetatively
Panic Veldt Grass	*Ehrharta erecta*	Moderate	Annual	Seed
Fennel	*Foeniculum vulgare*	Moderate	Perennial	Seed root fragments
English Ivy	*Hedera helix* *Hedera spp. and cultivars*	High	Perennial	Seed, vegetatively
Japanese Honeysuckle	*Lonicera japonica*	None	Perennial	Seed, vegetatively
Kikuyu Grass	*Pennisetum clandestinum*	Limited	Perennial	Seed, rhizome, stolen fragments
Nasturtium	*Tropaeolum majus*	None	Annual	Seed, stem fragments
Periwinkle	*Vinca major*	Moderate		Vegetatively
Calla Lily	*Zantedeschia aethiopica*	Limited	Perennial	Seed, rhizome

[1] – species has a pest rating of "C" by CDFA: "State endorsed holding action and eradication if plant found in a nursery; action to retard spread of plant outside nursery at discretion of County Agricultural Commissioner."

Table 2 identifies the inventory categories developed by Cal-IPC to reflect the level of a species negative ecological impact in California. These categories are high, moderate, or limited. Two additional categories are "Alert" and "Watch." An Alert is listed on species with High or Moderate impacts that have limited distribution in California, but may have the potential to spread much further. Species on the "watch" list have been assessed as posing a high risk of becoming invasive in the future in California.

Table 2. Cal-IPC Ratings of Invasive Weeds

Ranking	Meaning of Ranking
High	These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate	These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
Limited	These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Source: Cal-IPC, 2021

The plant species descriptions provided in the following sections are based on general plant life cycles and growth patterns in the central coast region. The information provided should be used as a general guideline and does not replace yearly monitoring. Some biennials may become annuals or short-lived perennials based on extreme conditions, such as drought or years of high rainfall. Additionally, the timing of plant growth and flowering may change under extreme parameters.

3.1 Trees

Most non-native tree species have several common invasive characteristics. Most outcompete many native plant species by blocking sunlight, having rapid growth, and dominating soil moisture and nutrient resources.

Silver wattle (*Acacia dealbata)*, **Sydney golden wattle** *(Acacia longifolia)* and **blackwood wattle** *(Acacia melanoxylon)* are all non-native trees or shrubs. All three species are native to Australia, fast growing, fix nitrogen, and can re-sprout from cut stumps. They all produce prodigious amounts of seed and likely have leaves with allelopathic properties. The silver wattle usually reaches a height of 40-50 feet and can reproduce from both rhizomes and seed. Sydney golden wattle is usually a small tree or shrub that grows to a height of 20 to 25 feet and may form dense thickets. The blackwood wattle usually reaches heights of 40-50 feet. The blackwood wattle also develops root suckers and can form clonal populations. Both the silver and blackwood wattle may grow taller under some circumstances. All of these species are highly invasive due to their rapid growth, the allelopathic leave litter, their large, seed banks and their ability to spread by rhizome or roots. Once established, they outcompete the native plant species and alter the soil chemistry by fixing nitrogen. Additionally, they can create a significant fire hazard.

Blue gum eucalyptus *(Eucalyptus globulus)* is a large non-native tree that can grow rapidly to heights of 200 feet or more. It is native to Australia. Blue gum trees have an extensive lateral root system and can re-sprout from cut stumps and roots. Blue gum trees shed bark, leaves and drop branches continuously. This species can flower from late fall through the following spring, with seed capsules forming 10 months to a year later. The blue gum eucalyptus reproduces from seed. The species is a highly invasive tree due to its rapid growth, existing seed bank, ability to re-

sprout, and the allelopathic properties of the thick layer of leaf and bark litter. Additionally, the leaf litter, bark litter and large number of down branches create a significant fire hazard.

White ash (*Fraxinus americana)* is a non-native, evergreen to semi-deciduous tree native to southeastern Canada and midwestern United States. They can reach heights of 60 feet. Ash trees have large roots and may have adventitious roots. The trees flower in the spring with windborne pollination and they produce large quantities of viable seed. Ash trees are toxic to ruminant animals and may cause dermatitis to humans. The non-native ash species should be considered moderately invasive in riparian corridors or moist soils due to their rapid growth, potential for root sprouts and large quantities of seed.

Chinese elm (*Ulmus parvifolia)* is a non-native, semi-deciduous tree that can reach heights of 50 feet. It is native to Asia and prefers full to moderate sun. The Chinese elm sheds bark and has large roots. It flowers in late summer and produces viable seed. The seed can be carried by the wind for long distances. Chinese elms are low to moderately invasive in central coastal California, at this time, However, it is highly invasive in North Carolina and has potential to become more invasive along the central coast, due to its windborne seed and tolerance for many environmental conditions.

Cherry plum *(Prunus cerasifera)* is a non-native, often shrubby, deciduous tree that is native to Europe. Cherry plum trees can re-sprout from cut stumps and roots. This tree flowers in the spring and the plum-like fruit is often transported and spread into new areas, by animals and humans. Although this tree rarely forms groves or dominates habitat, it should be considered moderately invasive in some habitats where there is disturbance, or reduced competition and adequate resources for seedlings to become established.

Ngaio tree (myoporum) *(Myoporum laetum)* is a non-native, evergreen tree or shrub that can reach a height of 30 feet. It is native to New Zealand. Ngaio trees have a deep taproot and are drought tolerant when mature. Plants may re-sprout when the stems are cut. Ngaio trees flowers in the spring and summer and produces fruit containing 2-6 seeds. They produce large quantities of fruit which is often transported by birds. If the fruit stays intact, the seeds can survive for several years. This plant has regional toxicity if eaten, particularly the leaves. The Ngaio tree is moderately invasive in disturbed areas with sufficient soil moisture. This species can form monocultured stands due to the leaf litter and high seed production.

3.2 Shrubs and Woody Vines

French broom (*Genista monspessulana*) is a non-native, leguminous, perennial shrub with an average life span of 12-15 years. It is native to the Mediterranean region of Europe. French broom is evergreen and may reach a height of 10+ feet. French broom usually flowers in spring and early summer. A mature plant can produce thousands of seed pods per year. Each pod contains 5-8 seeds. The seed pods are dehiscent, bursting open in the summer, expelling seeds for a distance of up to 6 feet. French broom seed remains viable in and on the soil for decades. French broom seeds and flowers are toxic to humans and many domestic and native wildlife species. French broom is a highly invasive shrub that spreads rapidly. The prodigious quantities and long-term

viability of the seeds often result in a rapid expansion of the infestation. In addition, French broom will re-sprout from cut stumps unless it is cut below the root crown. Over a period of 3-6 years French broom can create a dense, monocultured stand.

Himalayan blackberry (*Rubus armeniacus*) and **elm-leaf (thornless) blackberry** (*Rubus ulmifolius*) are long-lived, non-native shrubs/woody vines that develop a perennial root system. These species grow in numerous forms and create dense thickets. Both species can assume a vine form and climb 20-30 feet into trees. Himalayan blackberry is native to Eurasia; elm-leaf (thornless) blackberry is native to Europe. Both species flower in the spring and usually produces fruit in the summer. Both of these blackberry species are highly invasive and spread quickly. They produce large quantities of berries and the seeds are often spread by birds and other animals that eat the fruit. Both blackberries develop extensive root systems and can spread vegetatively (re-sprout) from root fragments and re-rooting from cane tips.

Glossy privet (*Ligustrum lucidum)* is a non-native, evergreen tree or shrub that is native to Asia. This tree can reach heights of 40 feet and often has multiple stems. Glossy privet can re-sprout from cut stumps or roots. Glossy privet flowers in the late spring to summer. This species produces large quantities of berries that are mostly dispersed by birds. Glossy privet reproduces by both seed and roots. They may be invasive in woodlands or forest habitats where root sprouts and seed can form dense stands over time.

Pride of Madeira (*Echium candicans)* is a large, long lived, perennial shrub that is native to the island of Madeira, north of the Canary Islands. Pride of Madeira has numerous branches, woody roots and can reach heights of 8 feet. Pride of Madeira is a common landscape ornamental that has escaped cultivation in coastal regions. This species requires full sun and may bloom from April thru July, producing large quantities of viable seed. All parts of the plant are considered poisonous to ingest and can skin contact can cause dermatitis. Due to its long-life span and large quantities of seed, Pride of Madeira is moderately invasive along the central coast.

3.3 Non-woody Vines, Grasses and Groundcovers

Aloe (*Aloe arborescens)* is an evergreen, perennial succulent, native to southern Africa. Often called torch aloe, it is a large, densely growing succulent shrub that can reach 9 feet in height and spread. The stems support numerous narrow, recurved, soft-toothed margined leaves that are dull green, yellow-green to sometimes blue-green depending on the location and amount of sunlight received. Coral-red flowers bloom in late fall and early winter. Aloe spreads vegetatively, from a branch or stem and can also reproduce by seed. Due to Aloe's ability to spread both vegetatively and by seed, this species is considered somewhat invasive.

Giant reed (*Arundo donax*) is a non-native, long-lived, perennial grass that can grow to heights of 10+ feet. It is native to the Mediterranean area and tropical Asia. Giant reed has an extremely thick, aggressive, rhizomatous root system that can survive periodic flooding. Although it can flower year-round in some areas, seedlings are not encountered in California. It reproduces almost exclusively from rhizomes and root fragments which are often spread during flooding or high-water levels. In addition, Giant reed is highly flammable and can increase the risk of fire.

Giant reed is invasive, particularly in riparian corridors where it forms dense, impenetrable stands completely eliminating native plant species and greatly reducing habitat values.

Short-stalked false bindweed (*Calystegia sylvatica)* is a non-native, aggressive, perennial vine with an extensive root system. It is native to Europe. The vines are extremely aggressive climbers and grow rapidly. They can grow high into trees and can smother small trees and shrubs. The vines die back each year to the roots. Each flower produces a capsule with 2-4 seeds. Short-stalked false bindweed spreads both vegetatively and by seed. Once established, this bindweed can be difficult to eradicate due to the extensive root system and seed bank.

Bull thistle (*Cirsium vulgare*) is usually a biennial, from Eurasia and **Italian thistle** (*Carduus pycnocephalus*) is usually an annual, both native to the Mediterranean area. Bull thistle mostly flowers in late spring through the summer of the second year, with seed viability ranging from 3 to 5 years. Italian thistle usually flowers from mid-April through May and seed viability ranges from 4-8 years. Italian thistle produces 2 types of seed; one seed type usually falls near the plant and the other seed type is carried by the wind. Both species of thistle may continue to produce flowers until soil moisture becomes too low. Both of these thistles reproduce only by seed. Bull thistle represents a greatest threat in areas with soil moisture continuing later into the summer and the plant can re-sprout from cut roots, if conditions are right. Bull thistle may continue to produce some flower heads well into the fall under good conditions. Italian thistle prefers ground with reduced late spring moisture.

Ice plant (*Carpobrotus edulis/Carpobrotus chilensis* - may include hybrids) is a non-native, ground creeping, succulent, perennial shrub. It is native to South Africa. Trailing stems can reach lengths of 10+ feet and root at the nodes. Ice plant can form large, extremely dense mats of clonal plants. It is drought tolerant and often grows year around. On the central coast, ice plant flowers for most of the year and may flower year around. It produces numerous seeds with seed viability of 2 years. However, it is thought that ice plant mainly produces seedings only in disturbed soils, due to herbivory. Once introduced into an area, ice plant can be highly invasive, in full sun. Additionally, it creates high levels of organic matter that can lead to invasions by additional non-native plant species. In this area, ice plant appears to spread mainly by root or plant fragments.

Poison hemlock (*Conium maculatum*) is a non-native, biennial, invasive plant that can grow to 10+ feet in height. It is native to Europe. It does not require much light and can grow in almost full shade. Poison hemlock can grow in most habitats as long as there is sufficient soil moisture. A large plant can produce up to several thousand flowers and seeds. Poison hemlock usually flowers April through July, but can continue to flower through the summer. Damaged stems may flower into the following spring. Seed viability is thought to be 3-4 years. Poison hemlock is extremely toxic to human and animals when eaten. It can cause contact dermatitis in some humans. It is not uncommon for animals to ingest Poison hemlock in early spring or when desirable vegetation becomes scarce, in the late summer and fall. Poison hemlock is highly invasive, particularly in areas with some sunlight, and good soil moisture, although it can be invasive in most types of habitats. It does not spread vegetatively, but can re-sprout multiple times from its large taproot if the stem is cut or broken.

Pampas grass and **Jubata grass** (*Cortederia selloana* and *C. jubata)* are both non-native, perennial, densely tufted, grasses with long basal leaves and feathery inflorescence plumes. Both species are native to the Andes Mountains and several other sections of South America. The basal leaves and floral plumes can reach heights of 8-10 feet. The rhizomes and roots form a dense clump. Old pampas grass plants can have roots 10 feet deep and rhizomes 20 feet wide. Jubata grass tussocks are usually smaller than those of pampas grass. Although both species can produce large quantities of seed, pampas grass requires both male and female plants, in range, to create seed. All jubata grasses are female and produce viable seed. Each seed plume can have up to 100,000 seeds that are viable soon after emerging from the grass sheath. However, seed viability is less than 1 year and so a persisting seedbank does not occur. Pampas grass seedlings can survive a greater number of environmental conditions than jubata grass. In areas with disturbed soil, bare ground or low levels of competition from grasses or sedges, these two species can be highly invasive and greatly limit the establishment of native plant species.

Cape ivy (*Delairea odorata*) is a non-native, perennial vine that is usually evergreen, but can become deciduous under drought or extreme heat conditions. It is native to South Africa. Vines can form dense patches and smother all other vegetation. Additionally, the vines can grow 60+ feet in trees. Once established, Cape ivy vines and rhizomes can have growth rates of more than 20 feet in all directions per year. In California, Cape ivy flowers in mid to late winter and early spring. Although most Cape ivy seed is not viable in California, it is viable in some other countries and has proven viable under lab conditions. Cape ivy is mildly toxic to wildlife and can become toxic to fish and aquatic wildlife, if sufficient contact with water and dissolved plant matter occurs. Cape ivy is extremely invasive in riparian or shaded habitat. Although it does not usually produce viable seed in California, it has an extremely high growth rate and spreads vegetatively. The vines, stolons, and rhizomes are easily fragmented; a fragment as small as a half inch, with a node, can develop roots and re-sprout. As Cape ivy has a high carbohydrate and water content, even if left to dry for 2 or 3 months or more, a fragment can re-sprout when it rains or contacts moisture.

Panic veldt grass (*Ehrharta erecta*) is a perennial non-native grass. It is native to South Africa. The roots usually form a shallow clump although they can grow deeper in sandy soil. Panic veldt grass can grow in conditions from full sun to almost full shade. This species can create flowers and prodigious seed year-round. On the Central coast, seeds can germinate any time of the year in areas with sufficient moisture or fog. Due to the fact that this grass grows well in almost full shade, produces ample seed and germinates year-round, it represents a serious threat to riparian, wooded or other partially shaded areas, where it can outcompete native understory plants.

Fennel (*Foeniculum vulgare*) is a non-native, perennial invasive plant that can grow to 10+ feet in height. Fennel is native to Europe. It seems to grow best in areas of soil disturbance and may inhibit the growth of native plants, possibly due to allelopathic properties. The cultivar forms used for human consumption are usually not invasive. A single plant may produce multiple stems and 1000s of flowers and seeds. It usually flowers from late spring through the end of summer. Fennel mostly reproduces by seed, but under good conditions can spread from root fragments. Fennel is invasive in some habitats and is particularly invasive in areas with soil disturbance.

Once it develops a dense stand it will exclude native plant species due to it competitive seed bank and possibly allelopathic properties.

English ivy (*Hedera helix, H. spp.* and cultivars) is a general term used for a group of species. There are over 12 *Hedera* species and hundreds of cultivars. They are morphologically similar and often require chromosome testing to identify accurately. Most plants in this area are likely one of three species with very similar morphological features and reproductive patterns. These species are native to Europe and often hybridize. English ivy is a non-native, perennial woody plant with 2 growth forms. When young it assumes a vine form that can grow upward to 100+ feet. This allows it to grow high into trees and form dense, monocultural coverage on the ground that eliminates almost all other vegetation. When it reaches the mature reproductive form, it is often erect and has tree or shrub-like stems. It mostly forms flowers in the fall and berries in the spring on vertical surfaces. Each plant can produce 1000s of seeds. English ivy is mildly toxic to wildlife and has been called a green desert. English ivy is highly invasive and spreads both vegetatively and by seed. Birds can spread the seed large distances. English ivy can grow over and smother almost all other vegetation. Additionally, it will grow up in trees and damage them from the weight, dense coverage and wind breakage.

Japanese honeysuckle (*Lonicera japonica*) is a perennial climbing and ground cover vine. It is an evergreen and is a native to eastern Asia. The vines grow rapidly and can reach lengths of 30 feet. This honeysuckle flowers in late spring throughout the summer. Japanese honeysuckle is mildly toxic to humans, but does have some edible uses. Japanese honeysuckle can be highly invasive. Japanese honeysuckle grows rapidly and can smother or girdle small trees and shrubs with its vines. As ground cover it can outcompete native plant species. It spreads by both seed and rhizomatous stems which can root at each node.

Kikuyu grass (*Pennisetum clandestinum*) is a non-native perennial grass that is native to tropical portions of Africa. It has prostate stems with a complex system of tough, branching rhizomes and stolons, mostly in the top 4-6 inches of soil. Kikuyu grass flowers from April to October and seed may be long-lived in some habitats. This grass can spread by both seed and vegetatively by rhizome or stolon fragments. When established, Kikuyu grass can form dense mat-like patches or grass areas that limit the growth of native plant species.

Garden nasturtium (*Tropaeolum majus*) is a non-native, annual or perennial, invasive garden escape. It is native to Central and South America. It can grow in multiple habitats, and often becomes invasive in riparian habitat. It has long climbing stems or vines that grow rapidly. Garden nasturtium may form a dense groundcover and cover small shrubs or trees. Garden nasturtium flowers from late spring through the summer and produces ample seed. This species reproduces from the seed and vegetatively from stem fragments. Garden nasturtium is moderately invasive, particularly in riparian habitats with ample sun and well-draining soils. It may densely cover the ground and inhibit the growth of native plants. Once established Garden nasturtium can be difficult to control with its large seed bank.

Periwinkle (*Vinca major*) is a non-native, perennial, evergreen, invasive plant that is native to Europe. Periwinkle usually flowers from April to August. However, this species stems and flowers are almost always sterile, so spread from seed is uncommon. Trailing stems have been observed as long as 6+ feet and can re-root at each node. Periwinkle spreads almost exclusively from trailing stems and stem fragments. Periwinkle is highly toxic and most species will not usually eat it, including goats.
Periwinkle is highly invasive in shaded habitats once it is introduced. It creates a dense, monocultured ground cover that prevents native seedlings or the growth of native species.

Calla lily (*Zantedeschia aethiopica*) is a non-native, perennial, monocot that is native to South Africa. It is usually deciduous in the central coast, due to the long dry season. It can grow in full shade, but usually does not bloom without some sunlight. Calla lily usually flowers in the late spring to early summer. Each seed pod can contain up to 50 seeds. All parts of a Calla lily are toxic to humans and wildlife. Calla lily is moderately invasive in riparian or partially shaded habitats with well-draining soils. However, it usually does not flower in full shade. Calla lily spreads by seed and vegetatively by rhizomes. Additionally, each plant can create large numbers of specialized buds along the rhizome the result in new stems and flowers.

4.0 PRIORITY AND TREATMENT

The management of invasive, non-native plants refers to the removal/control of species that have been considered be a significant threat to the habitat value of the park's riparian woodland and/or wetlands. To guide management actions and allocation of resources, priorities for species/occurrence removal were developed. This plan identifies six priority levels based on a species infestation, its ability to spread into habitat areas, and available removal/treatment actions. In addition, priority levels identify where removal actions may result in significant short or longer-term impacts to native riparian and/or wetland resources. Table 3 outlines the six priority levels.

Table 3. Priority Levels for Invasive, Non-native Plant Species Removal and Control

CODE	PRIORITY	RATIONALE
1	Highest	Isolated patches of highly invasive species that significantly degrade habitats. The goal is eradication in Years 1-3
2	High	Localized occurrences suitable for complete control/eradication in Years 1-5
3	Moderate	Isolated patches unlikely to spread significantly in next 5 years. If resources are not initially available treat in Years 6-10
4	Low	Occurrences confined by trails or other barriers. Occurrences are intermixed with native species and removal/control would have significant short and/or long-term impacts on native woodland/wetland habitat.
5	Lowest	Dense occurrences within inaccessible wooded terrain; heavy equipment and/or labor costs would be high for initial removal and long-term control; significant short and/or long-term impacts to native woodland habitat.
6	No Action	Occurrence does not pose a significant impact to native biotic resources or is not likely to pose a significant decline in native habitat values over time.

4.1 Removal/Control Treatments

Invasive, non-native plant species within the project area can be controlled through use of heavy equipment, hand removal/cutting, mechanical weed whipping and other tool work, and herbicide application. The most effective control techniques must take into account a species growth cycle, its flowering period, seed production/release periods, and its occurrence or level of infestation within the project area. Table 4 identifies techniques and general guidelines for invasive plant control.

General Guidelines and Specifications. The techniques to control specific invasive, non-native plants are numerous. The various techniques and methods have been tailored specifically for the plant species, conditions and locations within the park and are listed in Table 4. Figures 3 and 4 display the priority level and recommended treatment method(s) for each invasive, non-native plant occurrence. Proper training of field personnel is recommended prior to all field work, such that the method and technique is correlated to the biology of the species and the surrounding environmental conditions. Additionally, as natural environments are subject to constant dynamic processes, adjustments to methods or techniques may be required.

Field Training. Although supervision as to timing, technique and general location for invasive plant management can be provided for personnel performing invasive plant fieldwork, the personnel performing the work will need to be capable of operating independently. Untrained personnel will cause negative impacts on plant management results. Therefore, a certain level of field training is required for success. Training should include, but not be limited to, the follow skills and abilities:

- The ability to identify the key invasive plant species likely to be encountered within the work area. This could be achieved by disseminating a booklet of major invasive plants and field training sessions.
- The ability to identify the key native plants species likely to be encountered within the work area. This could be achieved by disseminating information on native plants in the project area and field training sessions.
- Although field personnel often have a high degree of skill with various types of equipment, details of proper techniques and timing should be provided to achieve maximum efficiency and success.
- Instructions should be provided so if field personnel encounter plants, animals or situations outside of their scope of training, they will know the proper course of action to take when these situations occur. General guidance should be provided to workers to limit harm to sensitive or protected habitats and species (such as dusky-footed woodrat dens, bird nests), including guidelines to employ that would limit the disruption of work.
- Use adaptive management strategies. Field personnel may have useful and efficient ideas and methods for doing a given task. Field supervisors should be encouraged to consider new ideas and potential improvements based on monitoring the effectiveness and effects of actions implemented on both the targeted species and the habitat, short and long-term.

Figure 3. Treatment of Invasive, Non-native Plant Species, North

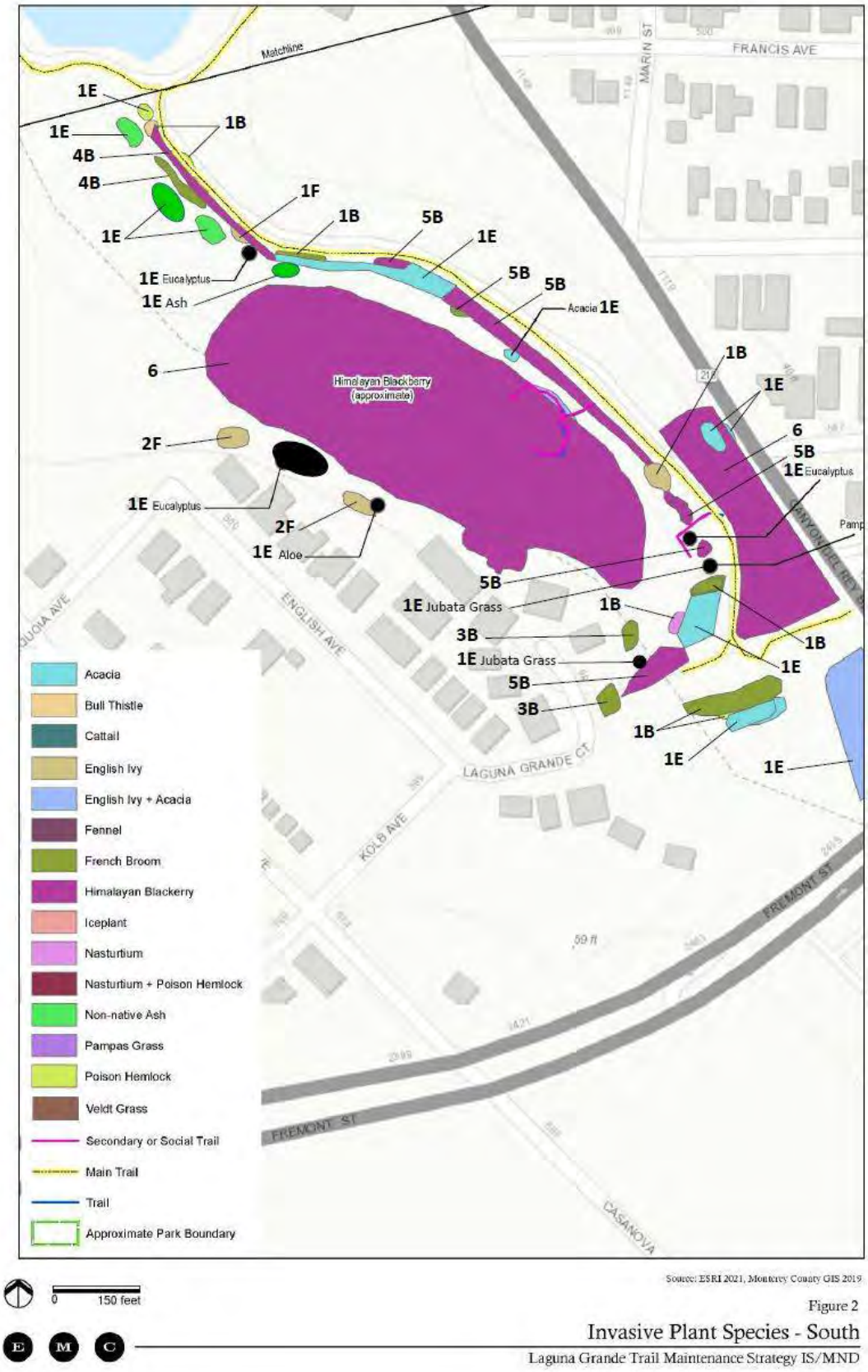


Figure 4. Treatment of Invasive, Non-native Plant Species, South

Table 4. Techniques for Removal of Invasive, Non-native Plant Species, Laguna Grande Regional Park

Code	Technique	Possible Applications	Treatment Notes
A	**Mechanical Equipment** (Includes all non-handheld mechanized equipment, such as mowers, backhoes, chippers, mulchers, brush cutters, other heavy equipment)	▪ Ice plant, Jubata grass ▪ Himalayan blackberry, English ivy in areas away from water and trees- (leave buffer zones around each of these) ▪ Maintenance and mowing of pathways, yet with care to avoid spreading periwinkle, Kikuyu grass and panic veldt grass	▪ May be used for mass clearing of areas containing invasive plant species with no desirable native plant species ▪ Mowers may be used along pathways dominated by invasive non-native plant species containing limited specific native plants that will survive the treatment ▪ Should be avoided in areas of potential erosion or sedimentation issues ▪ Use should be limited during bird nesting season
B	**Hand Removal** (includes all non-motorized, battery or electric powered) individual hand removal work, such as shovels, pick-axes, hoes, pulaskis, pruners and loppers)	▪ All species. excluding trees and shrubs with trunk diameters greater than 1” ▪ Requires removal of plant and roots for poison hemlock, fennel, bull thistle, periwinkle, nasturtium, panic veldt grass, Italian thistle, ice plant, Pride of Madeira, aloe, and calla lily ▪ Useful for removal of above-ground stems of short - stalked false bindweed and Japanese honeysuckle, yet these species may require a specific cut and paint method to kill the underground growth and roots (see E, below)	▪ Hand pull – maximize root removal, disposal options vary with species ▪ Hand pull with hand tools; tools used mostly to loosen soil around roots ▪ Surface cut of weeds (timing is critical, suitable for annual, shallow root species). ▪ Shovel cut to sever root (depth and timing are critical) ▪ Full dig (mostly biennial and a few perennial species)
C	**Herbicide Spot Spray or Cut and Spray** (with non-ionic surfactant)	▪ Jubata grass (cut and spray) ▪ Giant reed re sprouts (spot spray) ▪ Periwinkle, Kikuyu grass & calla lily (spot spray on a limited basis)	▪ See suggested guidelines and restrictions section ▪ Spot spray - should be based on herbicide restrictions and guidelines to limit the chemicals, quantities and concentrations used. ▪ Some targeted partial plant spray (terminal growth area only) after initial cutting
D	**Mechanized Hand Tools** (includes Individual methods utilizing gas, electric or battery	▪ Italian thistle (Needs to be specifically timed; hand removal is the preferred method) ▪ All trees (chainsaws followed by cut and paint herbicide; See E below) ▪ Blackberries and English ivy (Hedge trimmers and chainsaws to cut back growth)	▪ May requires specific techniques. ▪ No metal blades during dry season ▪ Timing is often critical for control and seed bank depletion

Table 4. Techniques for Removal of Invasive, Non-native Plant Species, Laguna Grande Regional Park

Code	Technique	Possible Applications	Treatment Notes
	powered equipment, such as chainsaws, hedge trimmers, augers, hammer drills, brush cutters, weed whips)	▪ Hedge trimmers and chainsaws for creating access to areas for removal of other invasive species, such as English ivy, Cape ivy, blackberries and nasturtium, yet care should be used to limit damage to desirable native plant species ▪ English ivy, Cape ivy and blackberries (large masses)	
E	**Cut and Paint Herbicide**	▪ This method is limited to perennial, woody plant species. ▪ All tree and shrub species where the trunk is greater than 1" in diameter ▪ Short-stalked false bindweed and Japanese honeysuckle may require a specific cut and paint method to kill the underground growth and roots	▪ Cut stem and paint herbicide to cut ▪ Use on woody species capable of stump re-sprouts, other vegetative growth or having rhizomatous stems ▪ Requires different concentrations and usually no surfactant ▪ Use 1" brush or small dabber ▪ Apply to cambium layer only, except for small diameter stems or *Hedera helix* ▪ Apply first treatment within 1 minute of cut ▪ A second treatment may be applied within 2 minutes of first application
F	**Removal from Tree Trunks**	▪ Intended to remove specific invasive plant species from the canopy of trees and shrubs. ▪ Mostly hand work for English ivy, Cape ivy and invasive blackberry species ▪ Chainsaws may be used to cut large-diameter English ivy vines	▪ Hand pull and cut with hand tools – maximize stem removal from lower tree trunk; allow canopy material to die on site.

Note: Eradication of Cape ivy, English ivy and Himalayan blackberry may require many or all of the treatment methods in Table 4 to be successful. As these three species are often intertwined with native plants and found in riparian woodlands to be retained, efforts at eradication could result in short and moderate-term environmental damage to these woodlands. Additionally, eradicating these three species would require a long-term substantial commitment of time and resources. Therefore, for the purpose of this section, efforts for these species have been limited to control. If eradication of these species is desired, a species-specific long-term plan should be created.

Herbicide Guidelines and Restrictions. It is suggested that herbicide and associated surfactants be utilized only when conditions and/or resources practically limit other options. Additionally, efforts should be made to limit the quantities of herbicide used, the number of applications of herbicide and to elimination the use of surfactants where possible. Some level of experimentation, within allowable agency and biological restrictions, during the first session of invasive plant control, may provide information that will assist in achieving these goals. As conditions in a particular area may allow approved, appropriate changes from standard application practices or specialized methods, factors to be considered include, but are not limited to:

- Proximity to listed or protected species, or associated habitat
- Proximity to water or seasonal flows
- Method and timing of application to maximize effectiveness
- Type and concentration of herbicide
- Type and need for surfactant
- Potential to reduce the number of applications
- Plant species to be treated
- The density of focused invasive plant species
- The density and proximity of desirable plant species
- Timing of application to avoid conflicts with governmental environmental restrictions or biological imperatives.

Input from a Certified Pesticide Advisor may be required prior to herbicide use. Any herbicide applications should follow product label requirements, at a minimum. All herbicide use must follow legal and biological requirements and restrictions for application, cleanup and disposal. These following considerations may exceed the product label requirements. Additional considerations could include:

- Herbicides potentially allowed (subject to approval and conditions). Possible herbicides that could be utilized include Milestone©, Rodeo©, Aquamaster©, Roundup Custom for Aquatic Habitats©, and Garlon 3.
- Surfactant allowed (subject to conditions, but recommend non-ionic only)
- Appropriate dye should be added to herbicide to identify placement.
- If herbicide work is to be done by non-county personnel, herbicide should be mixed on site, at a designated location from unopened containers.
- No herbicide should be used near on in running or standing water.
- No herbicide should be used within 48 hours after a rain event.
- Herbicide applications should not take place within 24 hours of a forecasted 20%+ chance of precipitation.
- No herbicide shall be used in proximity to listed species established by the appropriate agencies.
- No herbicide shall be used in proximity to nesting birds.
- No herbicide shall be used in proximity to bee colonies or like pollinators.
- Density or plant coverage protocols should be established for the types of herbicide application, when appropriate.
- Removable barriers shall be placed prior to area herbicide spraying (ex; stake and screen erosion fencing), when appropriate.

4.2 Precautions to Protect Sensitive Biotic Resources

Implementation of some invasive, non-native plant management activities has the potential to harm native plant and animal species, if such resources are present in the work area. For example, ground nesting birds can be harmed if they have nests within areas subject to vegetation removal during the bird nesting season. Dens of dusky-footed woodrat can be harmed if weed control activities inadvertently alter these dens. Measures are described in this section on actions to be implemented to avoid impacts to non-target plants and animals. In addition, work during the rainy season should be avoided, as there can be inadvertent impacts on downstream waters if sediment and soils are dislodged. If work is proposed between October 15 and April 15, work should be conducted away from the active creek channel and not in areas of standing water. If bare ground is created, consider placing erosion control features, such as straw wattles, around the perimeter of the treated area. Additional erosion control measures may be warranted. Work along the creek and pond edge should be done in a manner that avoids impacts to water quality. Worker access in the creek bed and along the pond edge should be minimized.

Pre-Construction Bird Nest Survey and Woodrat House Avoidance. When invasive plant removal work is to occur within the bird-breeding season (i.e., typically March 1 through August 31) measures are needed to ensure work does not affect nesting birds, as all migratory bird nests are protected under the Federal Migratory Bird Treaty Act.

Prior to vegetation removal the work area should be walked and inspected to determine presence/absence of nesting migratory birds. This survey should be conducted by a qualified biologist or by trained Park personnel. Meandering walking surveys should be conducted through the work area up to 7 days prior to work. If birds are found nesting within or immediately adjacent to the proposed work area, reschedule work until young have fledged, as determined by a qualified biologist, or the biologist shall establish an appropriate sized buffer zone around the nest(s) where no work shall take place until all young have fledged.

The work area should be walked to identify any wood rat houses. All stick houses are to be retained, with a minimum 10-foot buffer established around each house. Each house should be flagged and workers notified as to the location of each den.

4.3 Implementation Schedule and Adaptive Management

The removal of invasive, non-native plant species control should be timed to coincide with specific weather and plant growth conditions. As much as is possible, let the biology guide the timing of the treatment. Most invasive weed infestations can be effectively controlled when treatments are implemented prior to plant flowering, which reduces seed formation. Some biennial and perennial species are best treated after flowering, when plant nutrients are being expended and treatment actions can stress the plant, reduce its vigor, and inhibit its ability to reproduce. Other species may be best treated when they are focusing on drawing nutrients into the roots or stems for storage (i.e., English ivy, Himalayan blackberry). Table 5 displays the typical flowering period for each species.

Table 6 presents a generalized schedule of when plant species flower so as to schedule invasive weed control and maintenance. This schedule should only be used as a guide, as plant growth, including timing of flowering and seed set, are greatly influenced by rainfall and temperature

patterns. Also, various techniques may require changing patterns to maximize effects. Management actions should be updated and refined in response to weather patterns, plant responses, and as new information on weed control/treatment is gathered. All management actions should be monitored as to their effectiveness.

Tables 4, 5, and 6, used together, provide guidelines for determining the optimum timing for invasive weed control.

Table 5. Typical Flowering Period of Invasive, Non-native Plant Species, Laguna Grande Regional Park

Common Name	Scientific Name	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
TREES													
Acacia	*Acacia melanoxylon; A. dealbata; A. longifolia*												
Blue Gum Eucalyptus	*Eucalyptus globulus*												
White Ash	*Fraxinus americana*												
Ngaio Tree (Myoporum)	*Myoporum laetum*												
Cherry Plum	*Prunus cerasifera*												
Chinese Elm	*Ulmus parvifolia*												
SHRUBS AND WOODY VINES													
French Broom	*Genista monspessulana*												
Glossy Privet	*Ligustrum sp.*												
Himalaya Blackberry	*Rubus ameniacus*												
Elm-leaf (thornless) Blackberry	*Rubus ameniacus*												
Pride of Madeira	*Echium candicans*												
NON-WOODY VINES, GRASSES, AND GROUNDCOVERS													
Aloe	*Aloe arborescens*												
Giant Reed	*Arundo donax*												
Short-stalked False Bindweed	*Calystegia silvatica*												
Italian Thistle	*Carduus pycnocephalus*												
Ice Plant	*Carpobrotus edulis; C. chilensis*												
Bull Thistle	*Cirsium vulgare*												
Poison Hemlock	*Conium maculatum*												
Jubata Grass Pampas Grass	*Cortederia jubata; C. selloana*												
Cape Ivy	*Delairea odorata*												
Panic Veldt) Grass	*Erharta erecta*												
Fennel	*Foeniculum vulgare*												
English ivy	*Hedera helix; H. spp.*												
Japanese Honeysuckle	*Lonicera japonica*												
Kikuyu Grass	*Pennisetum clandestinum*												
Nasturtium	*Tropaeolum majus*												
Periwinkle	*Vinca major*												
Calla Lily	*Zantedeschia aethiopica*												

Table 6. Invasive, Non-native Plant Treatment, Suggested Implementation Schedule, Years 1-10

	Winter		Spring			Summer			Fall			
Task	**Jan**	**Feb**	**Mar**	**Apr[1]**	**May**	**Jun**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
Yearly Tasks												
Develop work plan plan for year, including procurment of specilized personnel, equipment, and/or services.												
Conduct field inspection to monitor plant growth and progress of flowering stalks on invasive weed species. Update distribution maps as needed.												
Years 1 -3: Highest Priority Occurrences												
Year 1 - Priority 1 Trees: Cut and remove priority 1 trees; cut and treat stumps as needed.												
Years 2-3: Cut and re-treat any re-sprouting trees												
Years 2-3 - Priority 1 Shrub/Groundcovers/Grasses: Remove priority 1 occurrences of giant reed, French broom, English ivy, Cape ivy, palm, veldt grass, Jubata grass, Pride of Madeira, aloe. Re-treat re-sprouts as needed.												
Years 1 -5: High Priority Occurrences												
Priority 2 Shrub/Groundcovers/Grasses: Remove priority 2 occurrences of French broom, Ngaio tree, ice plant, English ivy, bindweed, Himalaya blackberry, nasturtium.												
Cut and re-treat any re-sprouting Priority 1 and 2 occurrences												
Years 6 -10: Moderate Priority Occurrences												
Priority 3 Shrub/Groundcovers/Grasses: Remove priority 3 occurrences of English ivy, kikuyu grass, Himalaya blackberry, nasturtium.												
Develop long-term plan for Years 10-20.												

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APPENDIX C

WILDLIFE ANALYSIS

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DRAFT WILDLIFE ANALYSIS FOR THE BIOLOGICAL RESOURCES SECTION OF THE INITIAL STUDY

Introduction

This section is based on reconnaissance-level biological field surveys conducted by EMC Planning Group biologist Patrick Furtado, M.S., on May 18, May 24, and June 15, 2021, to document existing plant communities/wildlife habitats and evaluate the potential for special-status species to occur on the project site. Biological resources were documented in field notes, including species observed, dominant plant communities, significant wildlife habitat characteristics, and riparian and wetland habitat. Qualitative estimations of plant cover, structure, and spatial changes in species composition were used to determine plant communities and wildlife habitats. Habitat quality and disturbance levels were also described.

Prior to conducting the survey, Mr. Furtado reviewed aerial photographs, natural resource database mapping and reports, and other relevant scientific literature. This included searching the U.S. Fish and Wildlife Service (USFWS) Endangered Species Database (USFWS 2021), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2021), and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021) to identify special-status plants, wildlife, and habitats known to occur in the vicinity of the project site. Special-status species in this report are those listed as Endangered, Threatened, or Rare, or as Candidates for listing by the USFWS and/or CDFW; as Species of Special Concern or Fully Protected species by the CDFW; or as Rare Plant Rank 1B or 2B species by the CNPS.

A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for the target Seaside USGS quadrangle, and eight surrounding quadrangles (Monterey OE N, Marina, Salinas, Monterey, Spreckels, Soberanes Point, Mount Carmel, and Carmel Valley) to generate a list of potentially occurring special-status wildlife species in the project vicinity (CDFW 2021). Records of occurrence for special-status plants were also reviewed for those twelve USGS quadrangles in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021). A U.S Fish and Wildlife Service (USFWS) Endangered Species Program threatened and endangered species list was generated for San Benito County (USFWS 2021). Appendix X, Special-Status Species in the Project Vicinity, presents tables with CNDDB results, which lists special-status species documented within the project vicinity, their listing status and suitable habitat description, and their potential to occur on the site. Figure X,

Special-Status Species Known to Occur in the Project Vicinity, presents a map with CNDDB results.

Critical habitat is a designation used by the USFWS for specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. The project site is not within a critical habitat area.

Wildlife species identified with the potential to occur on the project site include:

- California red-legged frog (*Rana draytonii*);
- Coast Range newt (*Taricha torosa*);
- Western pond turtle (*Emys marmorata*);
- Burrowing owl (*Athene cunicularia*);
- Tricolored blackbird (*Agelaius tricolor*);
- American badger (*Taxidea taxus*);
- Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*);
- Monterey shrew (*Sorex ornatus salarius*);
- Hoary bat (*Lasiurus cinereus*); and
- Townsend's big-eared bat (*Corynorhinus townsendii*).

Special-Status Amphibians and Reptiles

The following special-status amphibian and reptile species occur in the project vicinity and were assessed for the potential to occur on the project site:

- California red-legged frog, federally listed as Threatened and a California Species of Special Concern;
- Coast Range newt, California Species of Special Concern; and
- Western pond turtle, California Species of Special Concern.

California Red-legged Frog

A federally-listed Threatened species and California Species of Special Concern, California red-legged frog occurs in lowlands and foothills primarily in perennial or ephemeral ponds, pools, and streams where water remains long enough
(14-28 weeks) for breeding and metamorphosis of tadpoles. Specific breeding sites include streams, creeks, ponds, marshes, sag ponds, deep pools, backwater areas, dune ponds, lagoons, and estuaries. California red-legged frog may disperse from their aquatic breeding habitats to upland habitats during the dry season. They prefer upland habitats that provide

moisture to prevent desiccation and protection from predators, including downed logs, woody vegetation, boulders, moist leaf litter, or other refugia during the dry season. In areas where upland habitats do not contain structure, they take refuge in burrows. However, if there is sufficient water at their breeding location, they may remain in aquatic habitats year-round instead of moving to adjacent uplands.

During wet seasons, frogs can move long distances between habitats, traversing upland areas or ephemeral drainages. Dispersal distances are typically less than 0.3 mile, with a few individuals moving 1.2-2.2 miles. Seeps and springs in open grasslands can function as foraging habitat or refugia for wandering frogs.

CNDDB records indicate that the closest known occurrence of California red-legged frog is approximately 2.5 miles south of the project site (Occurrence No. 939, CNDDB 2021). There are no known occurrences within the project area lake or drainages, however breeding and upland habitat is potentially present. If impacts to California red-legged frog occur, they could be significant. Implementation of mitigation measures BIO-X and BIO-X would reduce this potential, significant impact to California red-legged frog to a less-than-significant level.

BIO-X Prior to ground disturbance, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of special-status species potentially occurring in the project vicinity, including, but not limited to, California red-legged frog, Coast Range newt, western pond turtle, burrowing owl, tricolored blackbird, American badger, Monterey dusky-footed woodrat, Monterey shrew, special-status bats, and nesting birds and raptors. Their habitats, general measures that are being implemented to conserve species as they relate to the project, and the boundaries within which construction activities will occur will be explained. Informational handouts with photographs clearly illustrating the species' appearances shall be used in the training session. All new construction personnel shall undergo this mandatory environmental awareness training.

The qualified biologist will train biological monitors selected from the construction crew by the construction contractor (typically the project foreman). Before the start of work each day, the monitor will check for animals under any equipment such as vehicles and stored pipes within active construction zones. The monitor will also check all excavated steep-walled holes or trenches greater than one foot deep for trapped animals. If a special-status species is observed within an active construction zone, the qualified biologist will be notified immediately and all work within 50 feet of the individual will be halted and all equipment turned off until the individual has left the construction area.

The Laguna Grande Regional Park Joint Powers Authority shall document evidence of completion of this training prior to ground disturbance.

BIO-X A qualified biologist shall conduct preconstruction surveys following the guidance documented in the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005) no more than two weeks (14 days) prior to the start of construction activities. The project site will be surveyed for potential migratory and/or upland activity. The qualified biologist shall prepare a report documenting the results of the preconstruction surveys for submittal to the Laguna Grande Regional Park Joint Powers Authority prior to ground disturbance.

If California red-legged frog is found, the Laguna Grande Regional Park Joint Powers Authority will coordinate with the USFWS and/or CDFW to determine the appropriate course of action per the requirements of FESA and/or CESA (e.g., obtaining Incidental Take Permits) and implement the permit requirements prior to ground disturbance.

3. The following measures from the *USFWS Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Projects that May Affect the Threatened California Red-legged Frog in Nine San Francisco Bay Area Counties, California* (USFWS 2014) shall be implemented:

   a. Construction documents shall delineate a 100-foot boundary from the outer edge of riparian vegetation along the lake and drainages.

   b. A qualified biologist shall be on site during all activities within 100 feet from the outer edge of riparian vegetation along the lake or drainage that where California red-legged frog may be encountered.

   c. To the extent possible, all ground-disturbing work within 100 feet from the outer edge of riparian vegetation along the lake and drainage shall be avoided between November 1 and March 31, the time period when California red-legged frogs are most likely to be moving through upland areas.

   d. All ground-disturbing work within 100 feet from the outer edge of riparian vegetation should be accomplished during the dry season, with no construction activities occurring during rain events or within 24 hours following a rain event.

e. Prior to construction activities, exclusionary fencing shall be placed to keep construction vehicles and personnel from impacting potentially jurisdictional waters and riparian/wetland habitat outside of work areas. A biological monitor shall supervise the installation of exclusionary fencing and monitor at least once per week until construction is complete to ensure that the protective exclusionary fencing remains intact. Exclusion fencing material shall be selected to avoid accidental entrapment of wildlife species, such as fencing with a smaller gauge or no gaps at all (e.g., Animex™ fencing).

f. To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, equipment staging, storage, parking, and stockpile areas.

g. If a California red-legged frog is encountered, all activities which have the potential to result in the harassment, injury, or death of the individual shall be immediately halted. A qualified biologist shall then assess the situation and select a course of action that shall avoid or minimize adverse effects to the animal.

h. Uneaten human food and trash attracts crows, ravens, coyotes, and other predators of the California red-legged frog. A litter control program shall be instituted at each project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers shall be removed from the project site at the end of each working day.

i. Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not entangle, block escape or dispersal routes of the California red-legged frog.

j. No insecticides or herbicides shall be used at the project site during construction or long-term operational maintenance where there is the potential for these chemical agents to enter the river, or uplands that contain potential habitat for the California red-legged frog.

k. No pets shall be permitted at the project site, to avoid and minimize the potential for harassment, injury, and death of the California red-legged frog.

l. For on-site storage of pipes, conduits, and other materials that could provide shelter for special-status species, an open-top trailer shall be used to elevate the materials above ground. This is intended to reduce the potential for animals to climb into the conduits and other materials.

m. To the maximum extent possible, night-time construction shall be minimized or avoided because dusk and dawn are often the times when the California red-legged frog is most actively moving and foraging.

n. Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall not be used at the project site because California red-legged frogs can become entangled and trapped in them. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer, or other synthetic materials shall not be used.

o. Trenches or pits one foot or deeper that are going to be left unfilled for more than 48 hours shall be securely covered with boards or other material to prevent the California red-legged frog from falling into them.

Coast Range Newt

Coast Range newt is a California Species of Special Concern. This species is endemic to California and distributed along the coast and coast range mountains from central Mendocino County south to San Diego County. It is found from sea level to at least 1,280 meters on Mt. Hamilton in Santa Clara County. Coast Range newt burrows in or uses soil, fallen logs, or debris for cover. Central California localities are found in wet forests, oak forests, chaparral, and rolling grasslands. It will occupy upland habitats when not breeding. During reproduction, Coast Range newts will migrate to intermittent streams, rivers, lakes, and ponds where they lay eggs in shallow water attached to submerged rocks or twigs. CNDDB records indicate one occurrence of Coast Range newt approximately six miles southwest of the project site (Occurrence No. 70, CNDDB 2021). There are no known occurrences within the project area lake or drainages, however breeding and upland habitat is potentially present. Mitigation measure BIO-X, presented above, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X and BIO-X, which require preconstruction surveys and measures for the protection of California red-legged frog would also protect Coast Range newt, if present. Implementation of these measures would reduce the potential, significant impact to Coast Range newt to a less-than-significant level and no additional measures are recommended.

Western Pond Turtle

Western pond turtle is a California Species of Special Concern. It is uncommon to common in suitable aquatic habitat throughout California including freshwater marshes, stock ponds, lakes, rivers, and streams. This species is considered omnivorous. Aquatic plant material, including pond lilies, beetles and a variety of aquatic invertebrates as well as fishes, frogs, and even carrion have been reported among their food. Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Turtles slip from basking sites to underwater retreats at the approach of humans or potential predators.

CNDDB records indicate one occurrence of western pond turtle approximately 3.5 miles southwest of the project site (Occurrence No. 1014, CNDDB 2021). There are no known occurrences within the lake or drainages, however breeding and upland habitat is potentially present. Mitigation measure BIO-X, presented above, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X and BIO-X, which require preconstruction surveys and measures for the protection of California red-legged frog would also protect western pond turtle, if present. Implementation of these measures would reduce the potential, significant impact to western pond turtle to a less-than-significant level and no additional measures are recommended.

Special-Status Birds

The following special-status bird species occur in the project vicinity and were assessed for the potential to occur on the project site:

- Burrowing owl, California Species of Special Concern;
- Nesting birds; protected under the federal Migratory Bird Treaty Act and California Fish and Game Code; and
- Tricolored blackbird, California Species of Special Concern.

Burrowing Owl

Burrowing owl is a California Species of Special Concern. Burrowing owls live and breed in burrows in the ground, especially in abandoned California ground squirrel burrows. Optimal habitat conditions include large open, dry and nearly level grasslands or prairies with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals. A general, non-specific record for this species has been recorded approximately 900 feet north and west of the project site (Occurrence No. 574, CNDDB 2021). The project site's non-native grassland provides marginally suitable foraging habitat for burrowing owl, and a few scattered small mammal burrows on the site could be utilized for nesting habitat, but burrowing owl has low potential to occur on the site. If burrowing owl is present on or adjacent to the project site, construction activities could result in the loss or

disturbance of individual animals. This would be a significant adverse environmental impact. Implementation of mitigation measures BIO-X, presented earlier, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X would reduce this potentially significant impact to less than significant.

Mitigation Measure

BIO-X To avoid/minimize impacts to burrowing owls potentially occurring within the project site, a biologist qualified in ornithology shall conduct surveys for burrowing owl. The approved biologist shall conduct a two-visit (i.e., morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the project site boundary no less than 14 days prior to the start of construction or ground disturbance activities. Surveys shall be conducted according to the methods for take avoidance described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). If no burrowing owls are found, a letter report confirming absence will be prepared and submitted to the Laguna Grande Regional Park Joint Powers Authority and no further mitigation is required.

Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012), shall be in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas based on the time of year and level of disturbance (CDFW 2012), unless a qualified biologist approved by the CDFW verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance Buffers (meters)		
		Low	Med	High
Nesting Sites	April 1 – Aug 15	200 m	500 m	500 m
Nesting Sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Sites	Oct 16 – Mar 31	50 m	100 m	500 m

If burrowing owl is found and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after

the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows shall be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance during project activities shall be conducted at a rate sufficient to detect burrowing owls if they return.

If surveys locate occupied burrows in or near construction areas, consultation with the CDFW shall occur to interpret survey results and develop a project-specific avoidance and minimization approach. Once the absence of burrowing owl has been confirmed, a letter report will be prepared and submitted to the Laguna Grande Regional Park Joint Powers Authority.

Nesting Birds

Protected nesting birds have the potential to nest in buildings or structures, on open ground, or in any type of vegetation, including trees, during the nesting bird season (January 15 through September 15). The project site contains a variety of potential habitats for nesting birds. Construction activities, including ground disturbance, can impact nesting birds protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, should nesting birds be present during construction. If protected bird species are nesting adjacent to the project site during the bird nesting season, then noise-generating construction activities could result in the loss of fertile eggs, nestlings, or otherwise lead to the abandonment of nests. Implementation of Mitigation Measures BIO-X, presented above, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X would reduce potential, significant impacts to nesting birds to less than significant.

Mitigation Measure

BIO-X To avoid impacts to nesting birds during the nesting season (January 15 through September 15), all construction activities should be conducted between September 16 and January 14, which is outside of the bird nesting season. If construction occurs during the bird nesting season, then a qualified biologist will conduct a pre-construction survey for nesting birds to ensure that no nests would be disturbed during project construction.

If project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), a qualified biologist shall conduct nesting bird surveys.

a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public areas. If no nesting birds are found, a letter report confirming absence will be prepared and submitted to the Laguna Grande Regional Park Joint Powers Authority and no further mitigation is required.

b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman shall have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active. Once the absence of nesting birds has been confirmed, a letter report will be prepared and submitted to the Laguna Grande Regional Park Joint Powers Authority.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is a California Species of Special Concern found mostly throughout the Central Valley and San Francisco Bay Delta regions. Tricolored blackbirds forage in annual grasslands; wet and dry vernal pools and other seasonal wetlands; and croplands. They also forage occasionally in riparian scrub habitats and along marsh borders. Tricolored blackbirds nest near freshwater marshes. There are CNDDB records indicating tricolored blackbird activity within five miles of the project site, and

riparian and wetland vegetation along the lake and drainage may support this species. Measures recommended for the protection of nesting birds (above) are anticipated to determine if tricolored blackbirds are present and provide protection during construction, if needed.

Special-Status Mammals

The following special-status bird species occur in the project vicinity and were assessed for the potential to occur on the project site:

- American badger, California Species of Special Concern;
- Monterey dusky-footed woodrat, California Species of Special Concern;
- Hoary bat, California Species of Special Concern; and
- Townsend's big-eared bat, California Species of Special Concern.

American Badger

American badger is a California Species of Special Concern. It is an uncommon, permanent resident found throughout most of the state, except in the northern North Coast area. This large member of the weasel family uses most shrub, forest, and herbaceous habitats with friable soils suitable for burrows. Prey species include fossorial rodents such as rats, mice, chipmunks, ground squirrels, and pocket gophers. Badger diet shifts seasonally depending on the availability of prey and may also include reptiles, insects, earthworms, eggs, birds, and carrion. Mixed oak woodland, coastal scrub, and grassland habitats provide cover, drier soils for burrowing, and prey resources for this species. A historic record for American badger was recorded approximately 700 feet east of the project site (Occurrence No. 171, CDFW 2021), and a more recent (1992) observation was recorded approximately 2.3 miles east of the project site (Occurrence No. 241, CDFW 2021). Open grassland areas and openings along trails provide suitable habitat for the American badger. American badgers are known to occur in the region and could den and forage on the project site. Ground disturbance could result in impacts to this species from direct mortality or injury. Loss or harm to American badger is considered a significant adverse impact. Implementation of Mitigation Measure BIO-X, presented above, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X would reduce potential, significant impacts to American badger to less than significant.

Mitigation Measures

BIO-X Not more than 14 days prior to the commencement of ground-disturbing activities, a qualified wildlife biologist shall conduct surveys of the grassland habitat on site to identify any potential American badger burrows/dens. If the survey results are negative (i.e., no badger dens observed), a letter report

confirming absence will be prepared and submitted to the Laguna Grande Regional Park Joint Powers Authority and no further mitigation is required.

If the results are positive (badger dens are observed), the qualified biologist shall determine if the dens are active by installing a game camera for three days and three nights to determine if the den is in use.

a. If the biologist determines that a den may be active, coordination with the CDFW shall be undertaken to develop a suitable strategy to avoid impacts to American badger. The strategy may include the following: the biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated with hand tools to prevent badgers from reusing them. If the biologist determines that the den is a maternity den, construction activities shall be delayed during the maternity season (February to August), or until the badgers leave the den on their own accord or the biologist determines that the den is no longer in use.

b. If the game camera does not capture an individual entering/exiting the den, the den can be excavated with hand tools to prevent badgers from reusing them.

After dens have been excavated and the absence of American badger confirmed, a letter report will be prepared and submitted to the Laguna Grande Regional Park Joint Powers Authority.

Monterey Dusky-Footed Woodrat

The Monterey dusky-footed woodrat is a California species of Special Concern typically found within dens chaparral or oak woodland habitats with moderately dense understory growth and abundant dead wood for nest construction. Monterey dusky-footed woodrat is known to occur in the project vicinity and woodland and riparian habitat at the project site is considered potential habitat. Removal or disturbance of habitat during nesting season is considered a significant impact. Implementation of Mitigation Measure BIO-X, presented above, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X would reduce potential, significant impacts to Monterey dusky-footed woodrat to less than significant.

Mitigation Measure

BIO-X A qualified biologist shall conduct pre-construction surveys for woodrat nests within the trail improvement area. All woodrat nests shall be flagged for avoidance of direct construction impacts where feasible. If impacts cannot be avoided, woodrat nests shall be dismantled no more than three days prior to

dismantling so that the occupants do not attempt to rebuild. Nests are to be slowly dismantled by hand in order to allow the occupants to disperse.

Monterey Shrew

The Monterey shrew is a California species of Special Concern. This species is an endemic subspecies of shrew occurring only on the Monterey Peninsula. Preferred habitats include riparian areas and other moist microclimates with available insect prey. Little is known about this species, since it is difficult to locate and does not survive well in traps due to very high metabolic rates. A general observation of this species has been recorded to include the project site; however, the record is from 1919 and it the current distribution of Monterey shrew in the area is unknown (Occurrence No. 3, CDFW 2021). Riparian and woodland habitats within the project area could support this species, if present. Construction activities at the project site could result in the loss of individuals on or adjacent to the project site. Mitigation measure BIO-X, presented above, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X and BIO-X, which require preconstruction surveys and measures for the protection of California red-legged frog would also protect Monterey shrew, if present. Implementation of these measures would reduce the potential, significant impact to Monterey shrew to a less-than-significant level and no additional measures are recommended.

Bats

Trees and/or buildings or structures on or adjacent to the project site could provide roosting habitat for state-listed species of special concern hoary bat and Townsend's big-eared bat. Hoary bat is a solitary species that generally prefers dense foliage of medium to large trees. Townsend's big-eared bat prefers roosting and nesting found in caves, tunnels, mines, and buildings. These species have been identified as occurring within 1.2 and seven miles to the west and east of the project site, however little is known about their distribution in the project vicinity (CNDDB 2021). Construction activities at the project site could result in the disturbance of roost and natal sites occupied by special-status bats on or adjacent to the project site, if present. Implementation of mitigation measures BIO-X, presented earlier, which requires a training session on special-status species potentially present on the construction site for all personnel, and BIO-X would reduce this potential, significant impact to special-status bats to a less-than-significant level.

Mitigation Measure

BIO-X Approximately 14 days prior to tree removal or construction activities, a qualified biologist shall conduct a habitat assessment for bats and potential roosting sites in trees to be removed, in trees within 50 feet of the construction easement. These surveys shall include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within the project site,

construction access routes, and 50 feet around these areas. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats shall be surveyed. Assumptions can be made on what species is present due to observed visual characteristics along with habitat use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an "Anabat" unit. Potential roosting features found during the survey shall be flagged or marked.

If no roosting sites or bats are found, a letter report confirming absence shall be prepared and submitted to Laguna Grande Regional Park Joint Powers Authority and no further mitigation is required.

If bats or roosting sites are found, bats shall not be disturbed without specific notice to and consultation with CDFW.

If bats are found roosting outside of the nursery season (May 1 through October 1), CDFW shall be consulted prior to any eviction or other action. If avoidance or postponement is not feasible, a Bat Eviction Plan will be submitted to CDFW for written approval prior to project implementation. A request to evict bats from a roost includes details for excluding bats from the roost site and monitoring to ensure that all bats have exited the roost prior to the start of activity and are unable to re-enter the roost until activity is completed. Any bat eviction shall be timed to avoid lactation and young-rearing. If bats are found roosting during the nursery season, they shall be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the CDFW) shall be established around the roosting site within which no construction activities including tree removal or structure disturbance shall occur until after the nursery season.

SOURCES

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11. USFWS. 2021. National Wetlands Inventory online database. U.S. Department of the Interior. Washington, D.C. http://www.fws.gov/wetlands/

12. USFWS. 2021. Endangered Species Program online database. Species list for San Benito County. Washington, D.C. http://www.fws.gov/endangered/

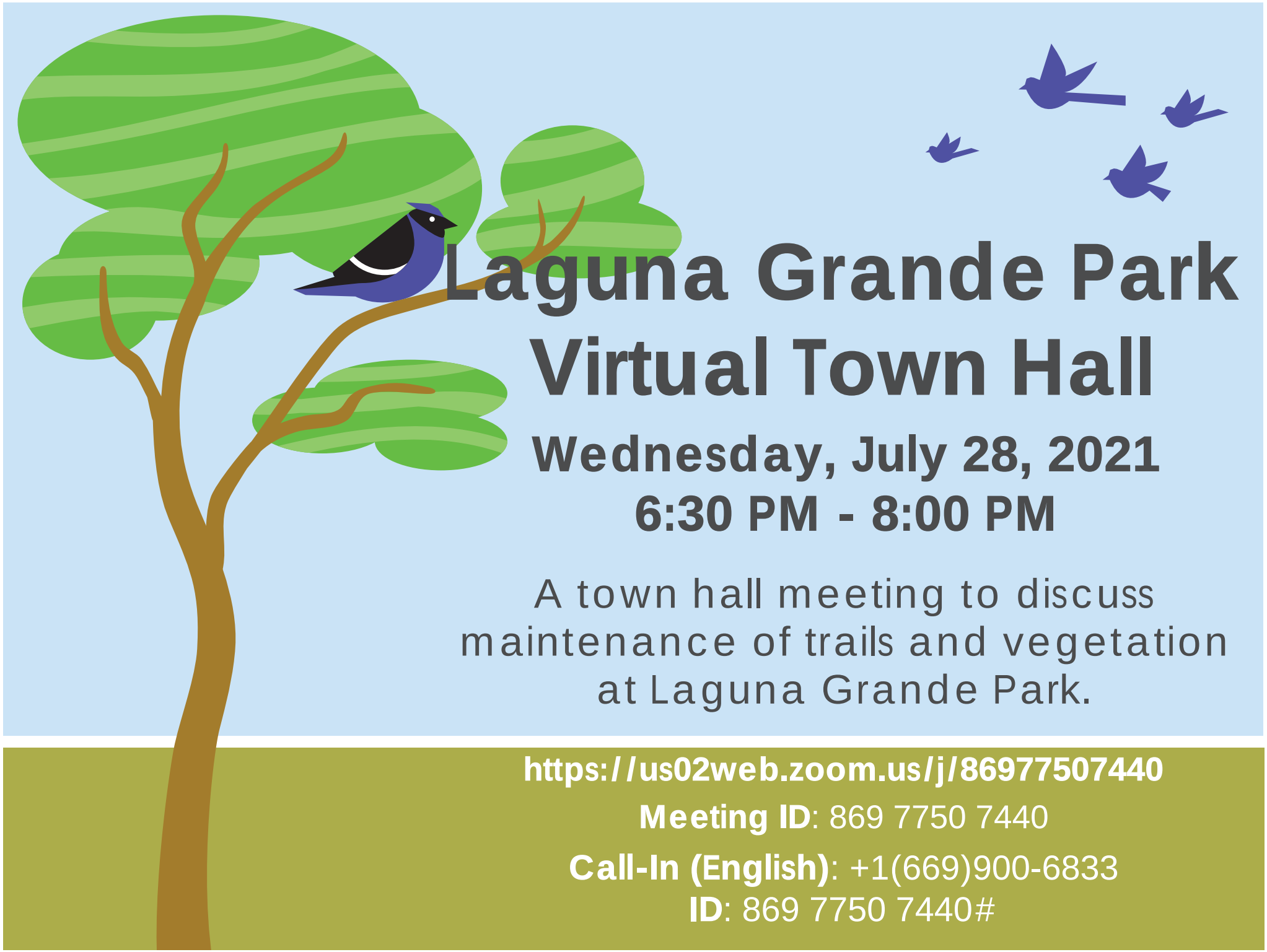
Figure X

Special-Status Species Known to Occur in the Project Vicinity

Laguna Grande Trail Maintenance CEQA

APPENDIX D

COMMUNITY OUTREACH MATERIALS



Laguna Grande Park Virtual Town Hall

Wednesday, July 28, 2021
6:30 PM - 8:00 PM

A town hall meeting to discuss maintenance of trails and vegetation at Laguna Grande Park.

https://us02web.zoom.us/j/86977507440

Meeting ID: 869 7750 7440

Call-In (English): +1(669)900-6833
ID: 869 7750 7440#

Laguna Grande Park
Junta Comunitaria

Miercoles, 28 de julio de 2021
6:30 PM - 8:00 PM

Una junta comunitaria para discutir el mantenimiento de los senderos y la vegetación en Laguna Grande Park

https://us02web.zoom.us/j/86977507440

Meeting ID: 869 7750 7440

Llamada (Ingles): +1(669)900-6833
ID: 869 7750 7440#

August 02, 2021

LANDSCAPE ARCHITECTS

MEMO TO: Chris Schmidt / Planner
City of Monterey

CC: City of Seaside and Monterey Peninsula Regional Park District
FROM: Beth Matz, BFS Landscape Architects

RE: LAGUNA GRANDE VIRTUAL TOWNHALL JULY 28th, 2021 – MEETING MINUTES & PUBLIC COMMENTS

6:30- 6:50: BFS and City of Monterey presented presentation virtually to the community. BFS counted 40 attendees in the meeting.

6:50 – 7:30: Community members were given a forum to either ask questions or provide comments. Community members could talk virtually or leave comments in the chat box. The following comments were provided virtually:

7:30: Community was invited to the next community event- The site walk around Laguna Grande Park on August 14, 2021 at 10:00 a.m.

1. Laura Nagel –
    a. Does not feel safe in the park
    b. Need balance of nature with habitat
    c. Need to keep eyes on / in the park
    d. Is Roberts Lake included?

Response: Roberts Lake is not included in the project scope.

2. Esther Malkin –
    a. Lighting?
    b. Acquisition of additional property
    c. Park needs playground upgrade like Montecito Park
    d. Need bathrooms on both sides of the park
    e. Senior workout area
    f. Has a sketch – available at the state level

Response: Due to sensitive habitat lighting will have to be studied carefully and will be part of the CEQA review process.

3. Tammy Jennings –
    a. Wheel chair accessibility needed
    b. Not safe in early morning or late evening

BFS Landscape Architects ▪ bfsla.com
425 Pacific Street, Suite 201, Monterey, California 93940 ▪ (831) 646-1383 P ▪ (831) 373-8653 F
1580 West El Camino Real, Suite 11, Mountain View 94040 ▪ (650) 326-6622 P ▪ (650) 963-9421 F

4. Diane Nielsen –
    a. Concern with more planting!
    b. Eucalyptus trees – fire risk, Elkhorn Slough is removing trees
    c. Take care of community planting @ Canyon Del Rey and Fremont Blvd

5. Kevin Roskoff (MPRPD)
    a. Schedule to get started!
    b. Community concerns

6. Joseph –
    a. Lives behind soccer field
    b. Likes proposed pruning

7. Kay Cline (Seaside Resident) –
    a. Is this jointly supported?
    b. Who are city staff?
    c. Park is a gem to be cared for

8. Mayor Clyde Roberson (Monterey) -
    a. No notes

9. Anne –
    a. Goose excrement a super big problem!
    b. Bridge condition, upgrade?

10. Scott Hanson (Monterey Resident near park) –
    a. North Fremont area is most problematic
    b. City of Monterey does a good job

11. Chris Parsons (Villa Del Monte / Monterey) –
    a. What I like – city maintenance does a great job
    b. Get businesses involved!!
    c. Native plants for wildlife and safety
    d. Likes mixed recreation uses
    e. Trash along water edge is an issue

12. Online chat –
    a. Goose excrement!
    b. Stop removing water fountains and fix the existing ones

13. Stephen –
    a. Funding source?

Response: Funding to be provide through the JPA-which is a comprised of City of Monterey, City of Seaside and Monterey Peninsula Regional Park District

14. 277-0563 Chuck Hallbeck –

a. Add shade at playground and parcourse equipment
b. Basketball court
c. Lighting
d. Likes Montecito Park
e. Questions if people want to see the encampments
f. Does not like dogs on the bike path

The following comments were provided through the chat function:

1. Carmen: Will be the recording be emailed;
   Response: We will post the link on the Have your Say Website

2. Susi Allen: Add more garbage cans

3. Esther Malkin: Has a budget been set? Where is the funding coming from?
   Response: A budget will be developed as a part of this project. We are looking at the entire park. We will be working with all jurisdictions on funding options.

4. Esther Malkin: Hoping the picnic area on the Monterey Side will get an upgrade. Upgrade tables, trash cans, bbqs, The whole area is ratty looking. The kids playground by the soccer field could use an upgrade like Montecito Park got and the bathrooms on both sides of the park.

5. Esther Malkin: I approached Chili's & IN/Out yrs ago to join the effort (ie vegetation maintenance).
   Scott Hanson: I lobbied the manager at Holiday Inn to become involved-he was helpful but more can be done.

6. Mayor Roberson: thank you everyone for your concern and care for the park. We will continue to work together as neighbors and concerned citizens.

7. Esther Malkin: I'm happy to engage more on the work we've done over the past 7 yrs to get to this point. esthermalkin@yahoo.com. We looked at adding some senior workout equipment that would be great to get in

8. Chuck H: I do always carry pepper spray or a knife while walking. There was a bear in the park once. Precautions. Work tickets are not easy to put in

9. Gina Garcia: Can you speak on what is the current status of the structure near the kids playground on the Seaside side? Looks like a church or hall? Any plans for that structure?
   Response: The structure is a church – St. Seraphim of Sarov Parish

–END–

Laguna Grande Park Community Site Walk

Saturday, August 14th 2021
10 AM - 12:00 PM

Meet at Hillside BBQ Space #1
Parking at the Eucalyptus Lot

Seeking public input on the maintenance of trails and vegetation at Laguna Grande Park

https://haveyoursaymonterey.org/laguna-grande-park-plan

Caminata por el sitio de la communidad Laguna Grande

Sábado, 14 de agosto de 2021
10:00 AM - 12:00 PM

Nos reuniremos en Hillside BBQ, espacio #1

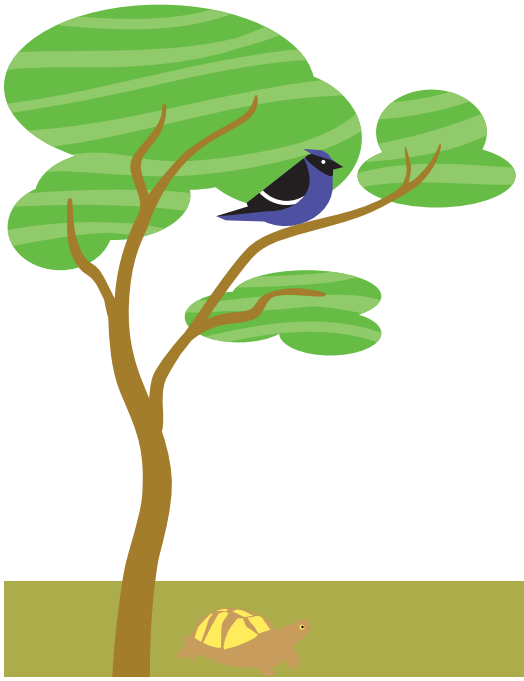
Estacionamiento en Eucalyptus

Estamos buscando ideas y sugerencias sobre el mantenimiento de los senderos y de la vegetación del parque Laguna Grande

https://haveyoursaymonterey.org/laguna-grande-park-plan

Laguna Grande Park Site Walk

August 14th, 2021



Site walk notes

Stop #1

Stop #2

Stop #3

Site walk notes

Stop #4

Stop #5

Stop #6

Laguna Grande Park

www.haveyoursaymonterey.org/laguna-grande-park-plan

LAGUNA GRANDE

FORTAG TRAIL ALIGNMENT OPTIONS

LAGUNA GRANDE

WHERE DO YOU LIVE?

LAGUNA GRANDE

MONTEREY

NORTH FREMONT STREET

CASANOVA AVE.

ENGLISH AVE.

L. GRANDE CT.

BRANNER AVE.

MONTECITO AVE.

ENGLISH AVE.

GRANT AVE.

VIRGIN AVE.

CANYON DEL REY BOULEVARD

DEL MONTE AVENUE

CANYON DEL REY BOULEVARD

HARCOUT AVE.

SONOMA AVE.

Alnus rhombifolia - White Alder

Phragmites australis - Common Reed

Salix lasiolepis - Arroyo Willow

Schoenoplectus acutus - Tule

Invasive Species

HABITAT COMMUNITIES

August 23, 2021

MEMO TO: Chris Schmidt / Planner
City of Monterey

CC: City of Seaside and Monterey Peninsula Regional Park District
FROM: Beth Matz, BFS Landscape Architects

RE: LAGUNA GRANDE SITE WALK AUGUST 14th, 2021 – MEETING NOTES & PUBLIC COMMENTS

ATTENDEES:

City of Seaside:	MPRPD:	City of Monterey:	BFS Landscape Architects:
Ian Oglesby	Kevin Raskoff	Thys Norton	Mike Bellinger
Dave Pacheco	Caine Camarillo	Louie Marcuzzo	Beth Matz
Daniel Meewis		Chris Schmidt	Payam Ostovar
			Daniel Zuercher

MEETING AGENDA MINUTES:
10:15 – 10:30: Attendees gathered at the Hillside BBQ space in the Eucalyptus parking lot. While waiting attendees were able to review maps of the park outlining habitat communities and showing proposed FORTAG trail alignment options. Attendees were asked to identify areas of concern with orange stickers. See maps below. See Sign-in Sheets for event participants.

10:30 – 11:15: The (32) attendees were split into two groups to begin the site walk around the lake and discuss key points of the park. See map below for key points:

11:15: The two groups reconvened at the south bridge to walk and discuss the forebay section of the park.

12:15 – 12:30: The group returned to the Hillside BBQ space, finishing the site walk.

MEETING SUMMARY:

1. Primary urgency for residents was the forebay area
2. Participants favored both accessibility improvements and vegetation maintenance
3. Participants were not overly interested in adding 'more' lake access points or extending sightlines across the lake
4. Participants desire to have sightlines along the main path be clear and vegetation be managed to open up views around the curves of the path and where the paths or lake access points branch off of trail
5. Participants were supportive to protect habitat areas and extend habitat resources
6. Participants want a transparent decision-making process and the opportunity to review materials and decisions being made

7. Participants want clear delineation on where the City of Seaside and City of Monterey boundary occurs in the park
8. Aesthetics of the park was not a priority; many participants enjoy the park character as is
9. Participants are frustrated by the slow-moving process for mitigating and reducing illegal camping. Participants feel like they've been put on the backburner for 10 years.

ACTION ITEMS AND NEXT STEPS

1. BFS and JPA staff to respond to participant questions by September 24th.
    a. Where are the City property lines
    b. Is trail resurfacing apart of the project
    c. What is the schedule for the project
    d. What lighting levels are optimal for park safety
    e. What is the budget for the strategy plan and for the maintenance work to occur? Where is funding coming from?
2. Action Item: BFS to provide schedule for project webpage to show deliverables, public meetings, and process
3. Action Item: BFS to provide meeting minutes and site video for project webpage
4. Action Item: JPA provide noticing for next public meeting

SITE WALK COMMENTS:

<u>Stop 1: Eucalyptus Parking Lot and Picnic Area</u>

- Concern about the JPA making decisions without the community's input
- Concern about water quality of lake and the ditch around the perimeter of the forebay
- Comment: Adjust benches to enhance visibility
- Question: Are trails to be resurfaced as part of maintenance plan?
- Question: What is the maintenance plan for the bridge?

<u>Stop 2: Lakeside Parking Lot and Picnic Area</u>

- Comment: Preference for consistent paving materials throughout the park
- Comment: Repair all trails and pathways within the park
- Comment: Preference for D.G. paving materials due to its natural look and maintenance
- Comment: Improve visibility of docks from path, need to be able to see if someone is using the dock
- Comment: Improve accessibility to docks from pathway
- Comment: Open up views to the lake, add more benches for better views
- Comment: Cut back vegetation at curves in pathway to open-up sightlines
- Comment: Sightlines across lake not as important as sightlines along path
- Comment: There are not enough trash cans
- Question: Why is there wire fence along lake edge?

<u>Stop 3: North Bridge adjacent to Holiday Inn Express</u>

- Comment: There are not enough trash cans and litter is thrown in the reeds/vegetation
- Comment; Adding benches and picnic tables would be nice along the trail
- Question: What level of lighting is allowed in habitat areas
- Comment: Current light fixtures are not attractive

- Comment: Light fixtures need to be tamper proof
- Comment: The section of park path near the large viewing dock is low and floods during wet season
- Comment: Nearby businesses need to get involved
- Comment: Clear out vegetation around the dock
- Comment: There is so much vegetation around the lake that you can't tell there is a trail. Open up site lines to rest of trail to help draw people into the park
- Question: Will the plan address accessibility issues? (ie gap at bridge and trail)
- Question: Is it feasible to use goats for vegetation maintenance?
- Question: Who is responsible for maintenance?
- Question: How is maintenance funded and budgeted?

Stop 4: North-Western Habitat Area at English Street

- Comment: Clean up understory and limb up canopy to allow views around corners of trail
- Comment: Culverts are eroded and need repair / replacement
- Comment: Thys Norton from Monterey Parks does a good job keeping trail areas clear
- Comment: Monterey did major clearing along the informal trails to access illegal camping in this area; residents were not happy, but it has grown back very quickly
- Comment: Mowing the bull rush is good, but it does grow back quickly
- Comment: The mulched trails in the area helped reduce the encampments
- Comment: Check out the website birdability.org-Advocates to create birding opportunities for everyone
- Comment: Monterey Audobon members acknowledge this as a prime bird area
- Concern: Accessibility varies through the park and the trails. Habitat area is not accessible
- Question: Are there noise abatement options?
- Comment: There are several feral cats that live with in the park
- Question Is boardwalk decking an option in low lying areas?
- Comment: There is car camping around the perimeter of the park and the parking lots
- Comment: Resident still doesn't go into the habitat areas where trails have been cleared. Resident doesn't like not being able to see what she is walking up too (ie people congregated or hanging out)
- Comment: Strong support for the habitat area from Monterey Audobon member-would like more park spaces like this space

Stop 5: Laguna Grande Park Soccer Field/Playground/Picnic Area at Virgin Street

- Comment: Move playfield fence to the water side of the trail
- Comment: This is a good area to install senior work out equipment, similar to El Estero Park
- Comment: There are issues with soccer balls going over the fence and into the lake . People go past fence to access the lake
- Question: Should the pathway fence taller?
- Comment: Lift understory and canopy to open up views to lake
- Concern that the reeds will fill in the lake
- Comment: Eating areas and trash cans should be in one place
- Comment: Add benches or picnic table for watching soccer and enjoying the area
- Comment: Pathway sightlines are well maintained in this stretch of the park

- Comment: Not a priority to add more lake access along western side of park
- Question: Where are the city property lines?

Stop 6: Southern Park Extents

- General consensus: Majority of group do not go back into this space, most do not feel comfortable or safe in this space
- General Consensus: Deter illegal camping, open sightlines and provide access for emergency services
- Comment: Pathway width is comfortable and D.G. material is consistent with park character
- Comment: Lack of comfort is due to the limited outlet
- Question: Is the water quality of the ditch going to be tested?
- Discussion: Re-alignment of existing pathway (potentially to become the FORTAG trail connector) to be closer to Canyon Del Rey
    - Opportunities: improve pathway visibility
    - Opportunities: expand habitat space to offset mitigation required to further develop trails within sensitive habitat areas
    - Opportunities: adding more bioswales and drainage features will continue to add to habitat diversity
    - Clarification: The FORTAG Trail connector is not a part of the project and development of the trail will not be given priority over mitigating the safety issues of concerned residents
    - Comment: Residents were promised for multiple years an action plan to deal with illegal camping
    - Comment: Vegetation maintenance and new trail development in the 'forebay' habitat area should be the number one priority for the strategy plan
- Comment: Trails in the forebay area can be mulch similar to the north-west habitat area.
- Question: Who manages the forebay area? Which City is the forebay area located in?
- Comment: Residents have proposed to City staff the desire for a dog park in the Seaside maintenance/storage area. Dog Park would provide "eyes on" / visibility and extra egress from the forebay
- Comment: Adding lighting would help with safety concerns.
- Comment: Noise from the illegal camping does impact residents
- Comment: Fire danger from illegal camping is a concern. Residents acknowledge improvements due to consistent vegetation maintenance – but they want to know the plan
- Comment: Provide accessible route from corner of N. Fremont down into the park.
- Comment: Illegal camping has noticeably been reduced, thanks to the municipalities
- Comment: Prioritize the forebay – that's what has been promised
- Question: What is the project schedule?
- Question: What happened to the MPRPD budget of $65,000 that was set aside for the project
- Question: How much is the consultant getting paid
- Question: When is the masterplan scheduled to occur?
- Question: What is the next step? How does the review process work