



City of
Oakland

OAKLAND FIRE DEPARTMENT

DRAFT VEGETATION MANAGEMENT PLAN

PUBLIC MEETING - MAY 23, 2018

MEETING PURPOSE



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- Provide Overview of Draft Vegetation Management Plan
 - Plan Area
 - Plan Development Process
 - Plan Recommendations and Implementation
- Next Steps
- Receive Public Comment on Draft Plan

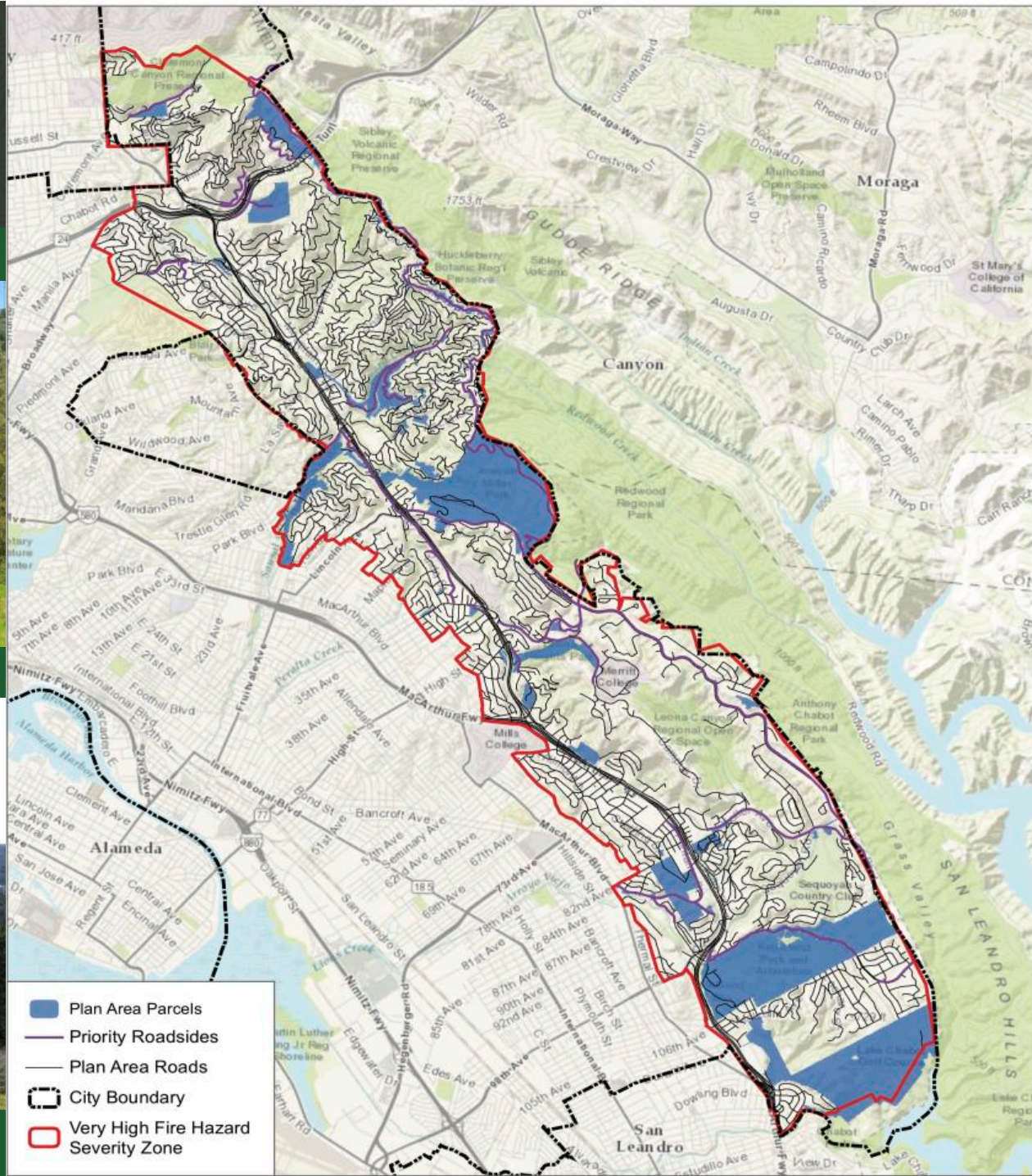
VEGETATION MANAGEMENT GOALS



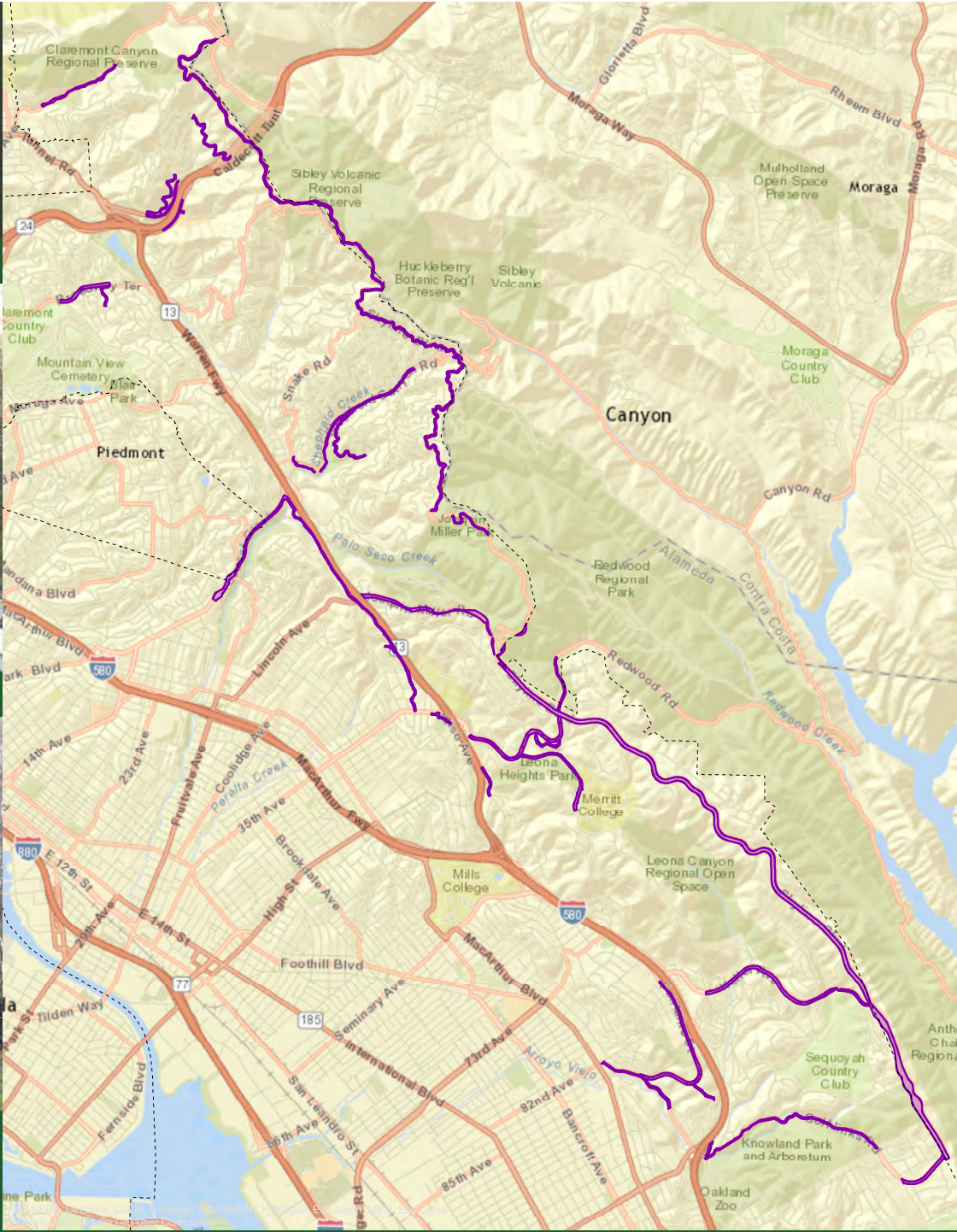
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- Reduce fire hazard on City-owned land and along critical access/egress routes within the City's designated Very High Fire Hazard Severity Zone;
- Reduce the likelihood of ignitions and extreme fire behavior to enhance public and firefighter safety;
- Implement practices to avoid or minimize impacts to natural resources;
- Maintain an active role in regional efforts to reduce fire hazard in the Oakland Hills.

PLAN AREA



PRIORITY ROADWAYS



BIOLOGICAL RESOURCES

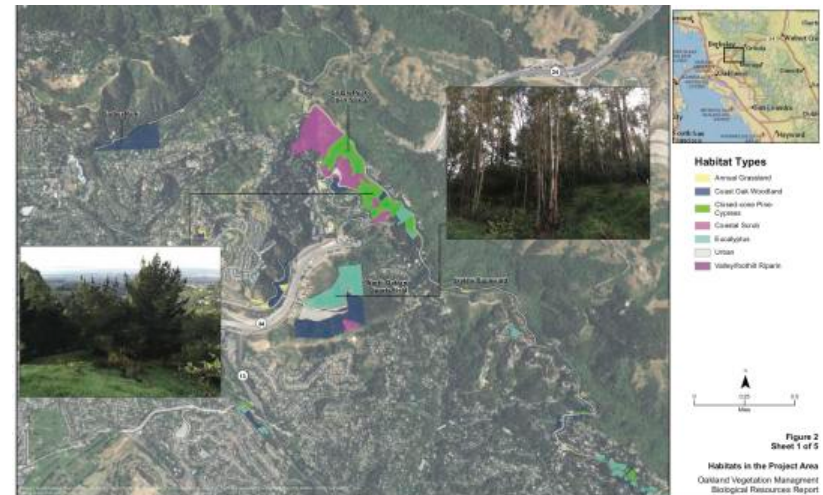


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Existing biological conditions within the Plan Area were documented through:

- Review of pertinent reference materials available from U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, California Native Plant Society (East Bay Chapter)
- Field surveys of the Plan Area
- Mapping of vegetation and land cover
- Identification of potential habitat for special-status species and sensitive natural communities

Example



VARIABLE VEGETATION CONDITIONS



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PLAN DEVELOPMENT PROCESS



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- Hazard Assessment
- Prioritization of Treatment Areas
- Vegetation Management Standards
- Treatment Techniques
- Best Management Practices
- Plan Implementation

HAZARD ASSESSMENT



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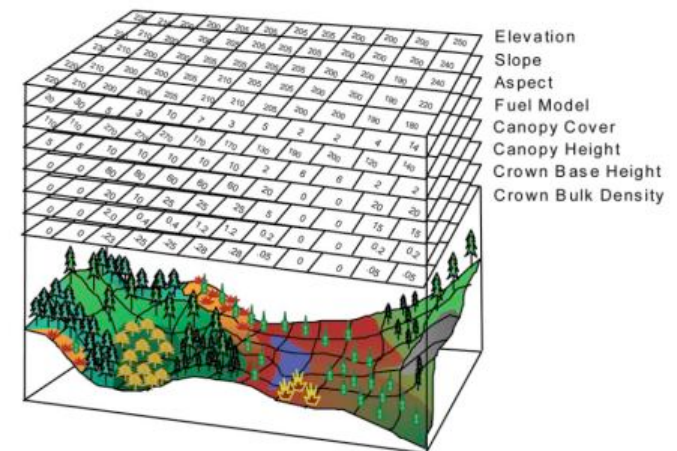
- Field Assessments
 - Terrain, fuels assessments, model typing
- GIS Analysis
 - Terrain, fuel types, structure buffers, base data development
- Fire Behavior Modeling
 - GIS-based, local terrain, fuels, and weather data
- Research
 - OFD current practices, ignition areas

FIRE BEHAVIOR MODELING



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- FlamMap software
- Terrain, fuels, weather
- Model flame length and crown fire potential
- Allows for identification of specific areas with potential for extreme fire behavior
- Results allow for prioritization of treatment areas

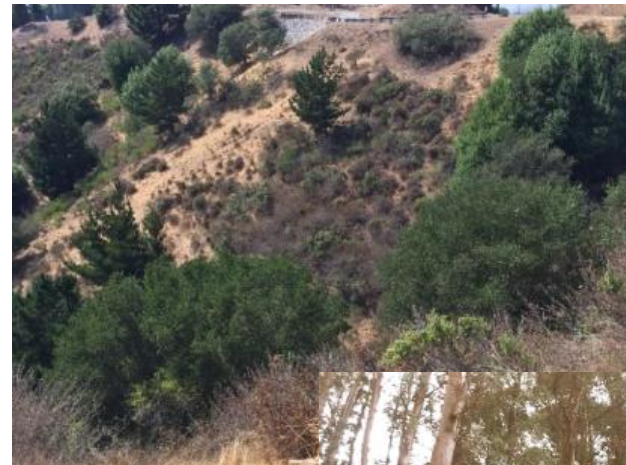


FIRE BEHAVIOR MODELING



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- Variable vegetation conditions across Plan Area



FIRE BEHAVIOR MODELING



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- Fuels classifications
- Based on field observations
- Not standardized to land cover type

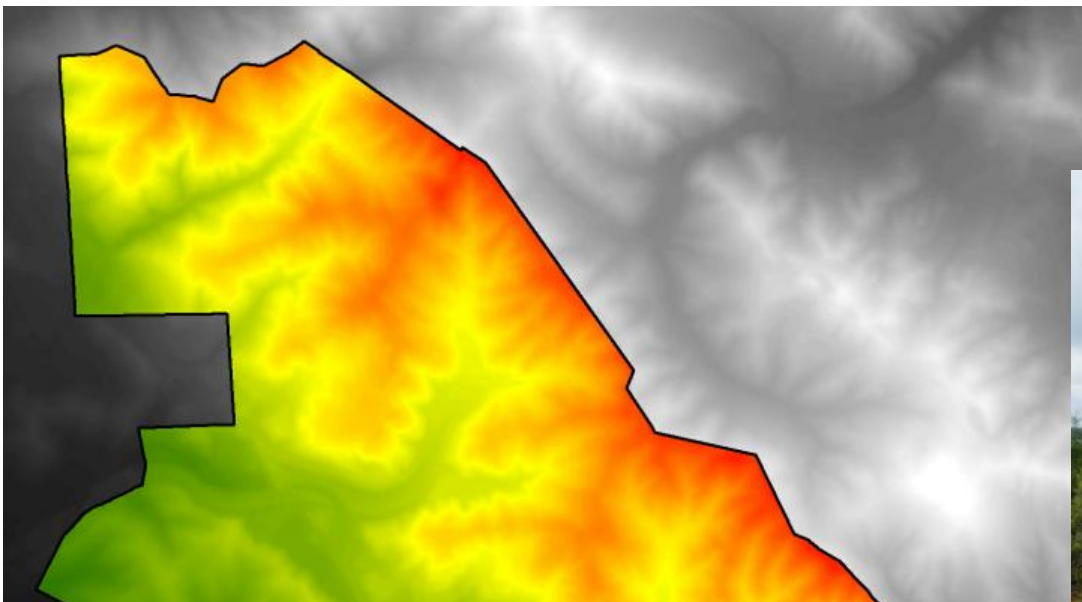
Fuel Model	Description	Land Cover*	Stand Height (ft.)	Canopy Base Height (ft.)
GR1 (101)	Short, Sparse Dry Climate Grass	Annual Grassland, Closed-cone Pine-Cypress, Coast Oak Woodland, Eucalyptus, Perennial Grassland, Redwood, Urban	0, 35, 40, 45, 50, 60, 65, 80, 100, 110	0, 3, 4, 5, 8
GR4 (104)	Moderate Load, Dry Climate Grass	Annual Grassland	0	0
GS2 (122)	Moderate Load, Dry Climate Grass-Shrub	Coast Oak Woodland, Coastal Scrub, Eucalyptus	0, 25, 35, 40, 60	0, 2, 3, 4
SH1 (141)	Low Load, Dry Climate Shrub	Coastal Scrub	0	0
SH5 (145)	High Load, Dry Climate Shrub	Chamise-redshank Chaparral, Closed-cone Pine-Cypress, Coast Oak Woodland, Coastal Scrub, Eucalyptus	0, 25, 30, 35, 40, 60, 100, 110	0, 2, 3, 4
TU1 (161)	Low Load, Dry Climate Timber-Grass-Shrub	Closed-cone Pine-Cypress, Coast Oak Woodland, Eucalyptus, Redwood	0, 45, 60, 100, 110	4, 6, 8
TU5 (165)	Very High Load, Dry Climate Timber-Shrub	Closed-cone Pine-Cypress, Coast Oak Woodland, Eucalyptus, Urban (acacia and mixed tree stand)	0, 35, 40, 45, 60, 75, 100, 110, 120	2, 3, 4, 8
TL2 (182)	Low Load Broadleaf Litter	Coast Oak Woodland, Eucalyptus, Urban, Valley/foothill Riparian	30, 35, 40, 45, 60, 100, 110	3, 4, 5
TL3 (183)	Moderate Load Conifer Litter	Closed-cone Pine-Cypress, Eucalyptus, Redwood	60, 110	4
TL6 (186)	Moderate Load Broadleaf Litter	Eucalyptus, Urban	80, 110	4, 8
TL8 (188)	Long Needle Litter	Closed-cone Pine-Cypress	35, 100	4
TL9 (189)	Very High Load Broadleaf Litter	Eucalyptus	100	8
NB1 (91)	Non-burnable	Freshwater Emergent Wetland, Urban	0, 35, 40	0, 2, 4

FIRE BEHAVIOR MODELING



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- 3-meter terrain data
- Local weather data, Diablo Wind conditions

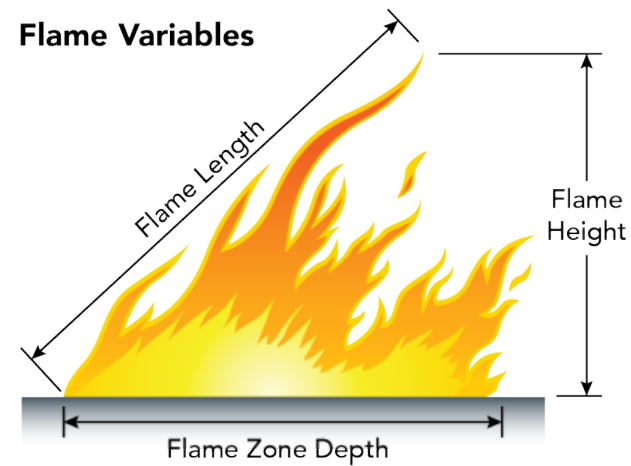


FIRE BEHAVIOR MODELING

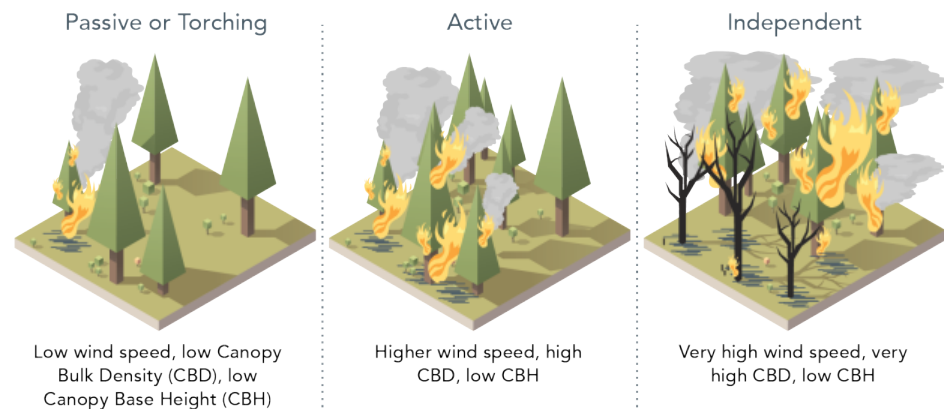


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- Model Outputs
 - Flame Length
 - Crown Fire Activity (passive, active, independent)
- Extreme Fire Behavior



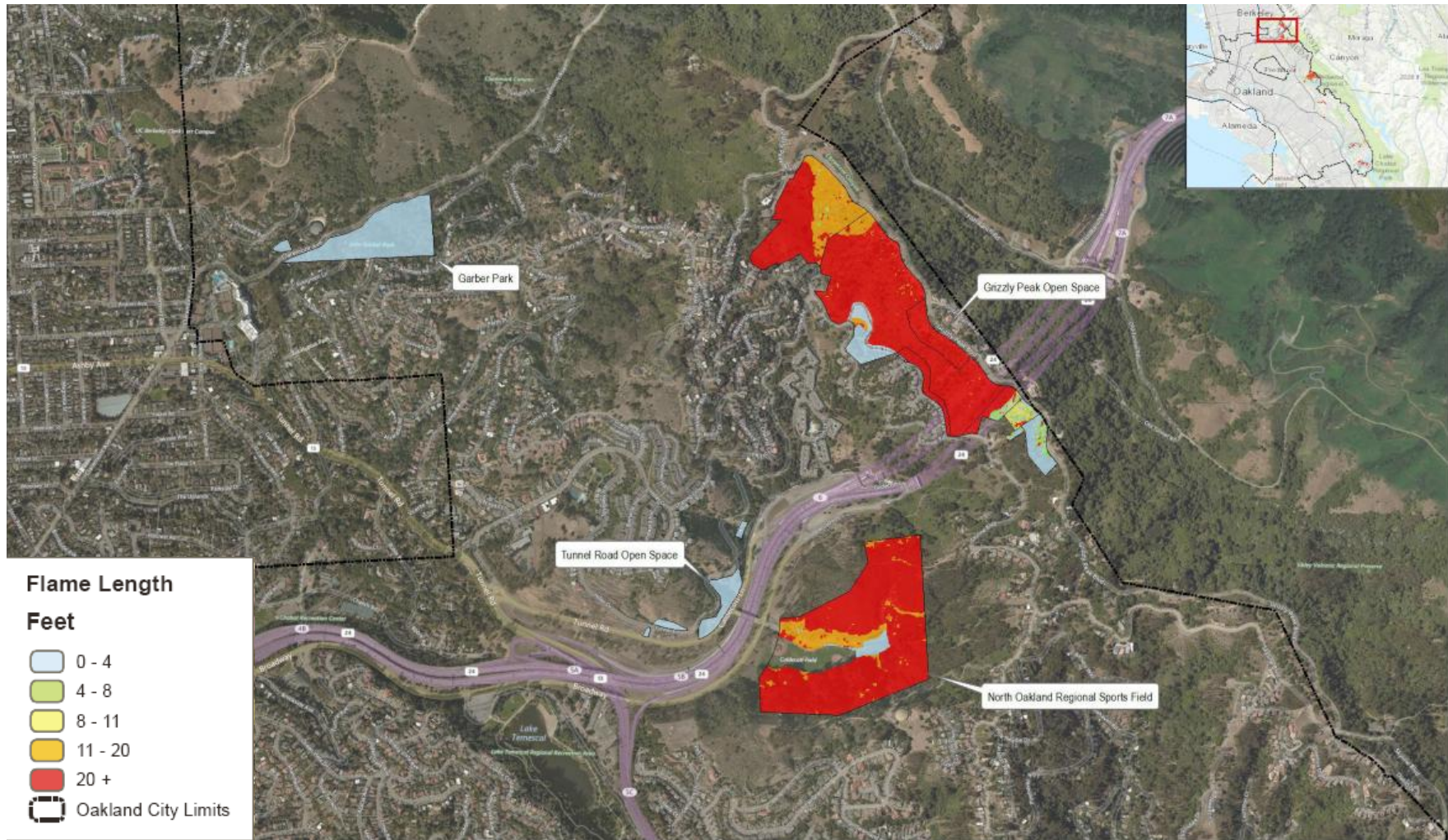
Types of Wind Driven Crown Fire



MODELING RESULTS



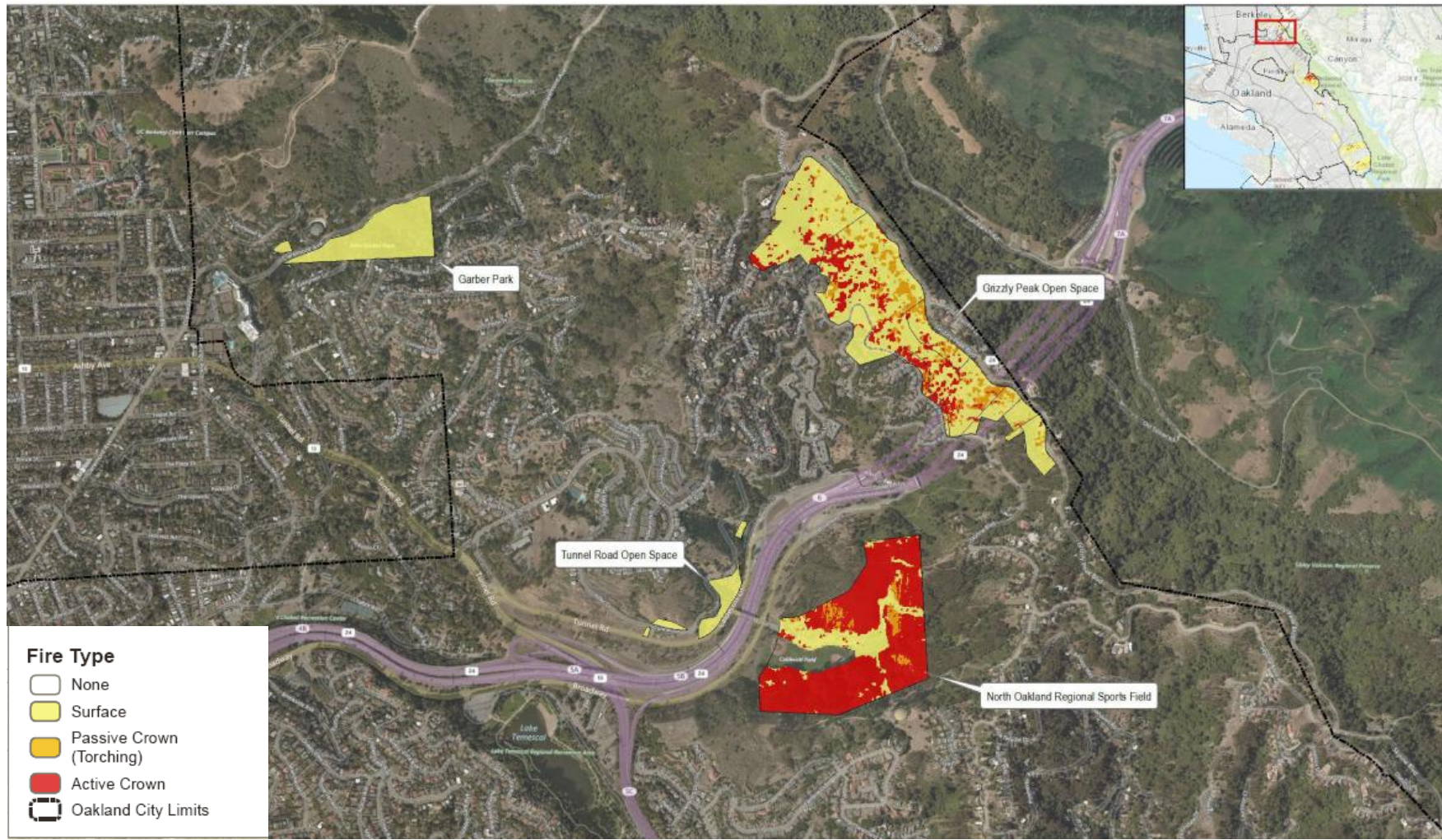
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MODELING RESULTS



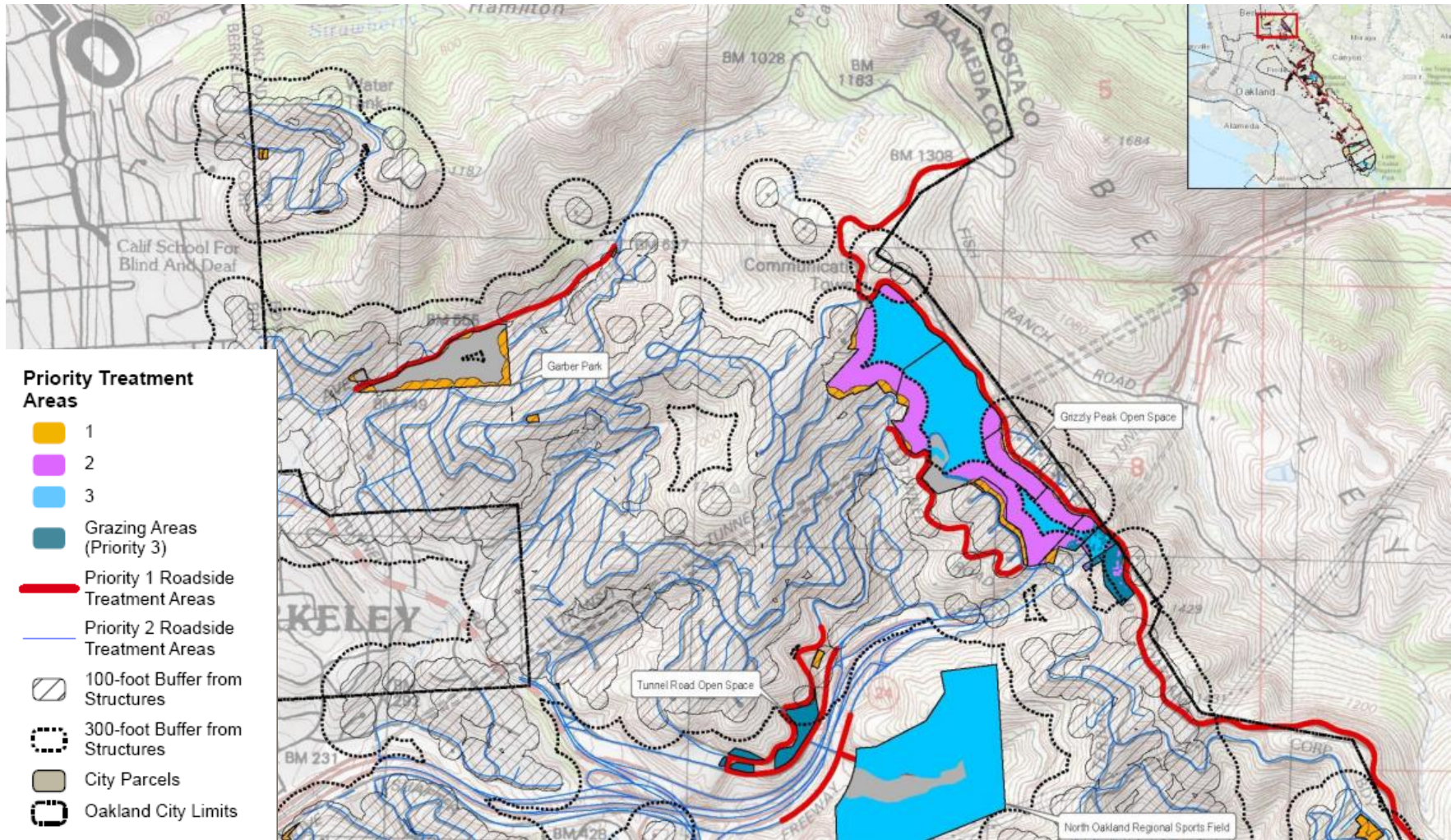
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TREATMENT PRIORITIZATION



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VEGETATION MANAGEMENT STANDARDS



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- Vegetation type standards
- Treat flashy fuels/fuel continuity
- Quantifiable/measurable standards
- Location-specific recommendations



Principle	Effect	Advantage	Concerns
Reduce surface fuels	Reduces potential flame length	Control easier; less torching	Surface disturbance less with fire than other techniques
Increase height to live crown	Requires longer flame length to begin torching	Less torching	Opens understory; may allow surface wind to increase
Decrease crown density	Makes tree-to-tree crown fire less probable	Reduces crown fire potential	Surface wind may increase and surface fuels may be drier
Keep big trees of resistant species	Less mortality for same fire intensity	Generally restores historic structure	Less economical; may keep trees at risk of insect attack

VEGETATION MANAGEMENT TECHNIQUES



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- **Biological (e.g., grazing)**
- **Hand Labor (e.g., hand pulling, cutting)**
- **Mechanical (e.g., mowing, masticating)**
- **Chemical (e.g., herbicide)**



BEST MANAGEMENT PRACTICES



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- By management technique
- Additional practices:
 - Stormwater/Erosion Control
 - Watercourses
 - Revegetation
 - Special-status Species



PLAN IMPLEMENTATION



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- Routinely assess field conditions to determine needs
- Develop annual work plans and budgets
- Prioritize vegetation treatment actions
- Select contractors or direct City staff to conduct identified vegetation management actions
- Monitor during and following operations:
 - Avoidance measures/BMPs implemented
 - Treatment standards achieved or follow-up needed
 - Needs for post-operations BMPs
 - Treatment success

COMMENT ON THE PLAN



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Public Comment Period

May 11 to June 11, 2018

Submit your comments:



Email:

VMPcomments@oaklandvegmanagement.org



Mail:

Horizon Water & Environment
Attn: Ken Schwarz
266 Grand Avenue, Suite 210
Oakland, CA 94610

NEXT STEPS



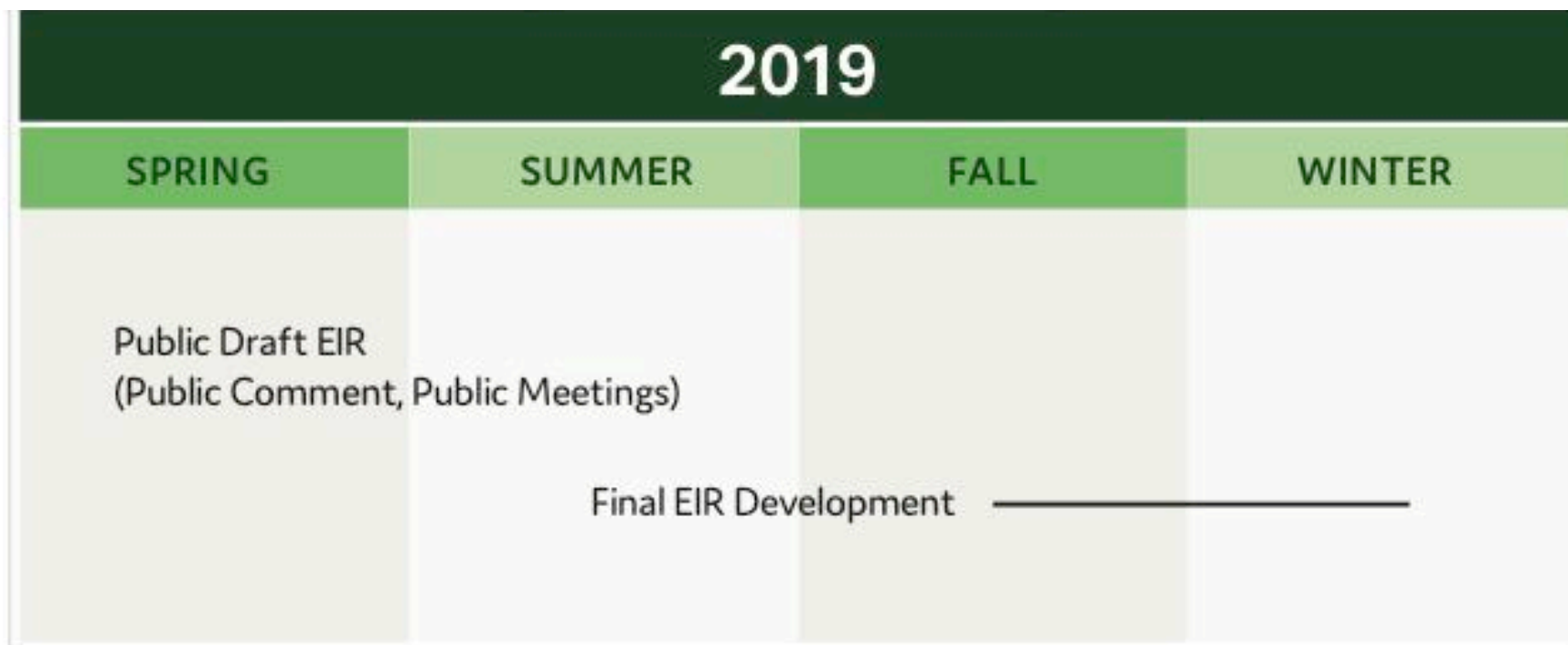
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2018		
SUMMER	FALL	WINTER
Draft Vegetation Management Plan	California Environmental Quality Act (CEQA) Notice of Preparation	CEQA Scoping (Public Comment, Scoping Meetings)

NEXT STEPS



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ENVIRONMENTAL REVIEW



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Resource areas to be studied, among others



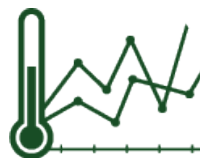
Aesthetics



Air Quality



Land Use & Planning



Climate Change &
Greenhouse Gas Emissions



Cultural Resources



Geology, Seismicity, and Soils



Recreation



Hydrology & Water Quality



Biological Resources



Traffic & Transportation

STAY CONNECTED



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Alerts: <https://oaklandvegmanagement.org/contact-us/>



Email To: info@oaklandvegmanagement.org



Mail To : **Oakland Vegetation Management**
150 Frank Ogawa Plaza, Suite 3354
Oakland, CA 94612



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PUBLIC COMMENT