

Project Plans and Specifications

[Girl Scouts of Northern California – Camp Butano Forest Health Project]

Project Background

In 2019, San Mateo Resource Conservation District applied for a **California Climate Investments – CAL FIRE Forest Health Grant** that was awarded in March of 2020. The program intent of CAL FIRE Forest Health Grants is to fund active restoration and reforestation activities aimed at providing more resilient and sustained forests to ensure their longevity in California while also mitigating climate change, protecting communities from fire risk, strengthening rural economies, and improving California's water & air (<https://www.fire.ca.gov/grants/forest-health-grants/>).

San Mateo Resource Conservation District's (SMRCD) Forest Health and Fire Resiliency program shares similar goals in forest and ecosystem health by considering natural systems resilience in the face of climate change with goals aimed at improving forest health and minimizing fuel loads across larger landscapes (<http://www.sanmateorcd.org/project/forest-and-fire/>).

The collaborative outcome has been the development of a forest health fuel reduction project at Girl Scouts of Northern California, Camp Butano Creek to execute a project encompassing approximately 44.3 acres of vegetative treatments (38.9 acres mechanical treatment and 5.4 acres of manual treatment) to enhance and restore a forest system challenged by lack of fire and changing climates that has many homes in close proximity to camp borders.

This project supports the intent of the Forest Health Program and California's climate goals by; 1) Proactively restoring forest health, improving ecosystem resiliency and conserving working forests by conducting targeted fuel reduction; 2) Protecting upper watersheds where the state's water supply originates by strategically placing our projects throughout the watershed; 3) Promoting the long-term storage of carbon in forest trees and soils through the reduction of dense understory vegetation thus promoting larger healthier stands of mature trees and; 4) Minimizing the loss of forest carbon from large, intense wildfires, through the reduction of ladder fuels and brush as well as through the placement of fuel breaks along ridge tops to reduce the intensity of wildfires.

Project Site and Location:

The project treatment area encompasses a total of approximately 44 acres within the Girl Scouts of Northern California Camp Butano Creek property, which is approximately 143.6 acres total. Camp Butano Creek is a private recreational property containing hiking trails, camp facilities, such as cabins, dining halls, and amphitheatres, utilized by campers affiliated with the Girl Scouts during school year weekends and summer camp sessions. Proposed mechanical treatment areas are located within the property boundary along ridges and on slopes less than approximately 40%. Any operations in proximity to the Camp Activity Line during camp sessions may require trail closures and noticing for camper and staff safety.

The property is located south of Pescadero, and east of Highway 1, along Canyon Road, off Cloverdale Road.

Project Treatments:

Treatment activities consist of approximately 38.9 acres of mechanical treatments that will occur predominately on slopes below 40%, averaging approximately 30% or less, along ridges and may occur reaching off existing road infrastructure on slopes greater than 40%. Masticators will be used to remove dense stands of understory vegetation and ladder fuels and maintain a healthy overstory. Understory vegetation, brush, and shrubs under the drip lines of trees shall be cut and masticated leaving root systems intact for resprouting. The manual and mechanical treatment crews may utilize a chainsaw and/or various other mechanized tools or hand tools to cut, clear, or prune herbaceous or woody species and ladder fuels. Manual treatments will occur over approximately 5.4 acres predominately near sensitive resources and important camp infrastructure, such as the North Commons, Penny Royal, Sequoia, amphitheater, water treatment facility, and water tanks. Some manual treatment areas will occur on steep slopes between approximately 40-50%.

The tree fuel types are dominated by second growth coastal redwood forests mixed with Douglas-fir and mixed hardwood stands. These forests have generally closed canopies with moderate to dense understory fuels. Understories located in areas that experienced the low severity burn during the 2020 CZU Lightning Complex Fires contain moderate fuel loads including dead and/or cured vegetation and a component of regenerative vegetation and tree sprouting. The removal of understory vegetation and ladder fuels in the tree fuel types would reduce the risk of future ground or surface fires spreading into the canopy. There is a small component of the shrub fuel type located in the understory that consists predominately of native shrub species, such as huckleberry, poison oak, and manzanita. Additionally, invasive species, such as French broom, have been documented in treatment areas.

Tree Treatments

1. Trees ≤ 8 inches Diameter at Breast Height (DBH) shall be removed if under an overstory canopy, focusing on the removal of tanoak and overstocked redwood areas. All live larger diameter trees remain.
 - a. The Contractor shall not remove any buckeye or big leaf maple.
2. Trees ≤ 8 inches DBH that do not have an overstory canopy shall be spaced leaving approximately 15-20 feet between tree crowns.
 - a. Consideration shall be given to maintaining a diversity of tree species in these areas where feasible.
3. Damage to residual trees shall be minimized to the greatest extent feasible.
4. Remove any standing dead trees ≤ 12 inches DBH.
5. All dead and downed trees < 12 inches in diameter will be delimbed/chipped through mastication or an otherwise agreed upon method with the remaining trunks left in place unless several trees have created a piled concentration. In this case, the remaining tree trunks will be separated by at least 10 feet from any other logs and left on site.
 - a. Dead trees > 12 inches diameter may be masticated for access around treatment areas, but should remain in place where feasible unless they create a significant fire

hazard and shall be separated by at least 10 feet from any other logs and left on site.

- b. Contractor shall consider maintaining an appropriate number of snags and downed woody debris within the treatment areas. Target snags should be ~1-2 per acre and similar for downed woody debris >12 inches in diameter.
6. A tree of any size considered a hazard and direct threat to personal safety or infrastructure may be removed.
 7. San Mateo Resource Conservation District or their supervised designee reserve the right to reasonably adjust tree treatments in areas where additional sensitive resources are identified and may adjust the treatment prescription as needed.

Tree Pruning Treatments

1. Conifer trees >8 inches DBH will be pruned (live and dead limbs) up to a minimum height of 8 feet, except next to camp infrastructure and road surfaces where the minimum pruning height is 12 feet. No pruning will be done to a height greater than 50% of total tree height. Only dead limbs shall be pruned off hardwoods.
2. Conifer limbs may be pruned with a masticator but pruned ends shall have a smooth appearance with no frayed material visible especially in proximity to camping areas and access roads. Note: This may require follow-up handwork.
3. In areas where damage to secondary lateral hardwood limbs is expected due to mechanical mastication, hardwoods shall be pruned by hand to facilitate access for mastication equipment and minimize damage to hardwoods species. It is expected that the amount of hand pruning will be minimal. The San Mateo Resource Conservation District will provide instruction on hardwood pruning techniques.

Understory Vegetation, Brush, and Shrub Treatments

1. All understory vegetation, brush, and shrubs under the drip lines of trees shall be cut and masticated leaving root systems intact for resprouting except:
 - a. Contractor shall not masticate, or remove through handwork, hydrophytic riparian species such as chain fern (*woodwardia*), *carex* sp., rushes, blue elderberry, and red elderberry.
 - b. Where significant stands of huckleberry, toyon, and hazelnut occur under the drip line of trees, Contractor shall maintain a component of these shrubs at a spacing between 25 – 50 feet for each species occurrence, whose shrub crown is approximately 10-15 feet wide. Spacing may be closer to 25 feet on flatter ground and 50 feet on steeper ground or proximity to infrastructure or homes within treatment areas.
2. Outside of the drip line of retained trees, brush and shrubs shall be cut and masticated leaving root systems intact for resprouting to achieve a horizontal crown separation of approximately

25 to 50 feet. Spacing may be closer to 25 feet on flatter ground and 50 feet on steeper ground or proximity to infrastructure or homes within treatment areas. Remaining clumps of brush and shrubs should not exceed approximately 10-20 feet in diameter and will consist of healthy appearing specimens where feasible. A minimum of 35% relative cover of existing brush, shrubs, and understory vegetation shall be retained in a mosaic pattern across treatment areas.

- a. Consideration shall be given to maintaining a diversity of understory vegetation, brush, and shrub species in these areas.
3. Damage to residual understory vegetation and brush shall be minimized to the greatest extent feasible.
 4. The San Mateo Resource Conservation District, or their supervised designee, reserve the right to reasonably adjust understory vegetation and brush treatments in areas where additional sensitive resources are identified and may adjust the treatment prescription as needed.

Treated Vegetation within Treatment Areas

1. The residual masticated material shall remain uniformly spread to the extent feasible within the project area, shall not exceed a depth of six inches (6") and should average approximately three inches (3"), and individual pieces shall not exceed two feet (2') in length or three inches (3") in diameter at the large end to support regeneration in the understory.
2. Excessive residual masticated material shall not obstruct water flow in drainage features such as ditches and culverts. Such material shall be removed by the Contractor prior to a forecasted 30% precipitation event or upon completion of operations, whichever occurs first.
3. Residual masticated material should be utilized to cover approximately 75% of any areas bared during operations and shall not be piled at the base of remaining trees or sensitive vegetation.
4. Upon completion of a treatment area the contractor shall ensure that trails are left open and passable.
 - a. Scattered debris is acceptable on the trail surface, but not to the point that it creates any significant tripping hazards or the trail alignment is indiscernible.
5. Damage to residual trees and brush shall be minimized to the greatest extent feasible. If there is excessive damage to residual trees or brush, the Contractor shall remove those specimens.
6. All stump heights will be cut no higher than 6 inches above the ground. All cuts will be a flat or parallel cut to the ground and will have a smooth appearance with no frayed material visible.

Girl Scouts of Northern California, Camp Butano Creek - Treatment Areas
 San Mateo County, Pescadero, USGS 7.5' Quadrangle. Franklin Point, T8S, R4W, MDBM, Portion of the Northwest 1/4 of Section 20

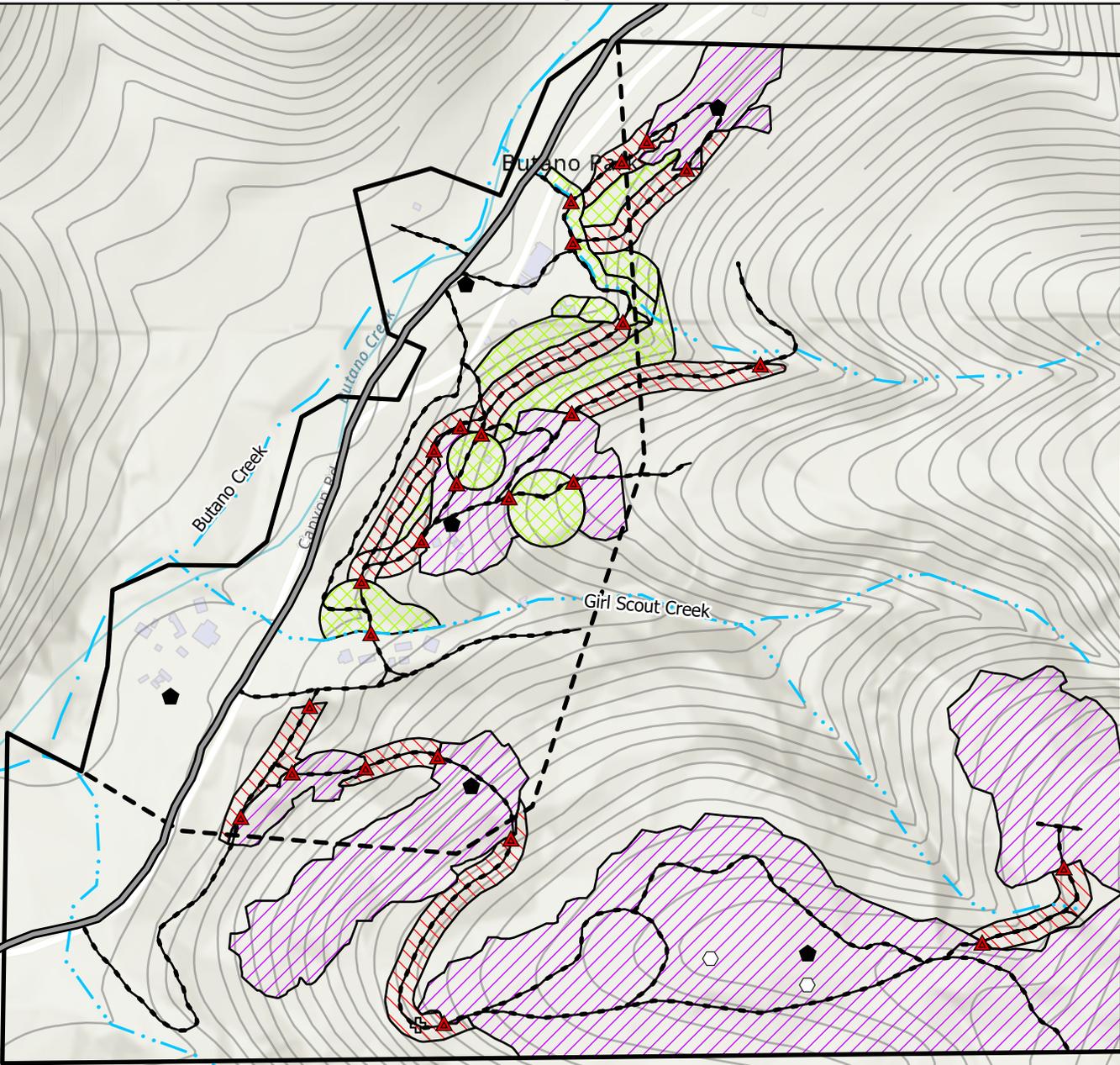
Legend

Treatment Type: Total 41.4 acres

- Handwork - 4.6 acres
- Mechanical - 30.4 acres
- Road Mastication - 6.3 acres
- Equipment Access
- Staging Areas
- Seasonal Roads
- Canyon Road
- Camp Activity Line
- Property Boundary
- Class I Stream
- Class II Stream
- Class III Stream
- 40 Foot Contours

Operator Notes

- Woodrat Nest
- Limited Cell Service
- Emergency Phone



In Case of Emergency:
 Nearest Care

1. PUENTE Urgent Care - 620 North St., Pescadero (13 min)
2. Dominican Hospital and ER - 1555 Soquel Drive, Santa Cruz (56 min)
3. Sequoia ER - 170 Alameda de las Pulgas, Redwood City (58 min)

0 250 500 750 1,000 US Feet

SCALE 1:5,000 JD 10/29/21