

### ***Riparian Corridor Enhancement***

A riparian corridor of at least 100 feet from the centerline of Kelly Creek (minimum 200 feet total) would be established. The canopy along both Kelly Creek and the D Street Tributary would be enhanced with native plantings, such as oaks, bay, buckeye, and willow. Understory species such as coffeeberry, elderberry, sedges, and rush would be planted. Native grasses and wildflowers would be seeded on any disturbed areas upslope of the creek.

### ***Setbacks and Urban Separator***

The proposed riparian corridor, described above, would provide setbacks along Kelly Creek. The 300-foot band along the southern boundary of the project site that is designated Urban Separator on the General Plan Land Use map would be dedicated through a transfer of title to the Sonoma County Regional Parks<sup>3</sup> and retained as open space and protected habitat, as part of the park extension component (see **Figure 3.0-3, Davidon (28-Lot) Residential Project Component**).

### ***Conservation Easements***

All or most of the Putnam Park Extension Project component portion of the project site would be protected by one or more conservation easements to ensure it remains protected in perpetuity. Sonoma County, through its Agriculture and Open Space District, would hold one of the conservation easements.

### ***Restrooms***

As part of the Putnam Park Extension Project component, a temporary, ADA-compliant restroom would be placed on the project site during the early phases of construction and a permanent 2-stall restroom would be constructed during the later construction phases. The permanent restroom would be near the playground area just north of the main parking lot. The permanent restroom would be a “green flush” restroom that would not be connected to the sewer system.<sup>4</sup> If the proposed permanent restroom is required to be connected to the City sewer system, an alternate location for the restroom would be in the barn center. The permanent restroom would be approximately ten feet in height, with a footprint of 10 feet by 20 feet.

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<sup>3</sup> The dedication of the 300-foot Urban Separator is included in the total 44 acres south of Kelly Creek that would be dedicated to the Sonoma County Regional Parks.

<sup>4</sup> Green Flush Technologies manufactures unique prefabricated restroom buildings equipped with flush toilets and sinks that require no on-site utility connections.

### 3.5.3 Vehicle Access, Parking, and Roadway Improvements

#### *Davidon (28-Lot) Residential Project Component*

Development of the residential component would include two new public roads (A and B Streets) that would be accessed via Windsor Drive and end in cul-de-sacs (**Figure 3.0-3, Davidon [28-Lot] Residential Project Component**).

Each of the two new public roads would be developed on a 50-foot right-of-way provided within the project site. Each roadway would be 36 feet wide curb to curb. The proposed roads would be developed with curbs, gutters, and sidewalks on both sides. The cul-de-sacs would have a 43-foot radius at the face of the curb to allow emergency vehicles to turn around.

Parking at the residential homes would include a two-car garage and a driveway for each home. In addition, the new public roads would have parking lanes on both sides that would provide on street parking for the neighborhood.

#### **D Street/Windsor Drive Roundabout**

A roundabout would be constructed adjacent to the project site, on City right-of-way at the intersection of D Street and Windsor Drive. **Figure 3.0-3, Davidon (28-Lot) Residential Project Component Site Plan** shows the configuration of the proposed roundabout, which includes single-lane approaches to slow traffic along this portion of D Street and minimize pedestrian crossing distances. The roundabout would provide crosswalks on all approaches with Rectangular Rapid Flash Beacons (RRFB)<sup>5</sup>.

#### **Sidewalks and Crosswalks**

Five-foot sidewalks would be provided along both sides of the new public roads and on the project frontage along Windsor Drive west of the new intersection of A and B Streets. A high-visibility crosswalk would also be provided on the east leg of the intersection of Windsor Drive with the proposed A and B Streets. A six-foot sidewalk would be provided on the south side of Windsor Drive from the new intersection to D Street (**Figure 3.0-3, Davidon (28-Lot) Residential Project Component**). Public benches would be installed at appropriate locations along Windsor Drive subject to the approval of the City through SPAR.

In addition, as part of the Davidon (28-Lot) Residential Project Component, the proposed project would include an improvement to an off-site sidewalk along the east side of D Street between Windsor Drive and

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<sup>5</sup> RRFBs are pedestrian-actuated conspicuity enhancements used in combination with a pedestrian, school, or trail crossing warning sign to improve safety at uncontrolled, marked crosswalks.

Sunnyslope Avenue. The sidewalk improvement would replace the existing asphalt sidewalk with City standard concrete sidewalk for a distance of approximately 800 feet, between Windsor Drive and Sunnyslope Avenue, to connect with the existing sidewalk on D Street.

### ***Putnam Park Extension Project Component***

Two public surface parking lots would be developed—a main parking lot (or lower parking lot) and an upper parking lot—to serve as a public access to the Putnam Park Extension Project component on the project site and the Helen Putnam Regional Park trail. The main parking lot along D Street would be approximately 11,000 square feet. It would contain 27 spaces and provide spots for ADA and electric-vehicle parking and charging, as well as bicycle parking. Additional amenities include park entry signage at the entrance from D Street, kiosk at the trailhead access path, and service vehicle access. The main parking lot would be set back at least 100 feet from the centerline of Kelly Creek and 50 feet from the top of the bank of the D Street tributary to Kelly Creek. If permeable paving is not used for the parking lot surface, a linear infiltration swale for parking lot runoff would be constructed immediately west of this parking lot. Overflow from the infiltration swale would discharge to the D Street Tributary through a rock channel.

The upper parking lot would be approximately 6,500 square feet and would be accessible from Windsor Drive. It would provide ten parking spaces (including one ADA spot) surfaced with concrete or other ADA compliant material. Both parking lots would include electric vehicle charging stations.

### **3.5.4 Utilities**

#### ***Potable Water***

The City of Petaluma Water Resources and Conservation Division of the Department of Public Works and Utilities would provide water service to the project site. The City purchases wholesale water from the Sonoma County Water Agency (SCWA).

Potable water service would be provided to the project residences by the existing 10-inch water main in Windsor Drive located along the project frontage. The proposed project would develop a network of public 8-inch water mains within the project site to serve the proposed residences. Water infrastructure for the remainder of the site would include a connection to a stub out located near the service vehicle entrance to the barn center along D Street to facilitate the provision of potable water to the Putnam Park Extension Project component.

Irrigation would be needed for native plantings, under the park extension component, only for an establishment period of three to five years. Minimal permanent irrigation would be required for plantings around the playground, parking lots, and barn center. Permanent irrigation demand upon project implementation would be approximately 30,000 gallons per year. Water demand for temporary establishment irrigation would be approximately 40,000 gallons per year for three to five years. The existing water wells on the project site could be used for temporary and permanent irrigation demand if feasible. As mentioned above, if a “Green flush” restroom is used, it would require approximately 18,200 gallons per year (assuming use by 100 people per day on average) and would be installed near the playground area just north of the main parking lot off D Street.

### ***Wastewater***

The City of Petaluma provides wastewater services to the project site. Wastewater generated in the City and the nearby community of Penngrove is treated at the City-operated Ellis Creek Water Recycling Facility (WRF). The proposed project would be served by the city sanitary sewer system.

Wastewater generated by the project’s residences would be collected through an on-site collection system and discharged into the existing City’s operated 8-inch sewer main at Windsor Drive near the entrance to the existing Victoria Subdivision. Wastewater infrastructure improvements would include extending the public sanitary sewer mains along Windsor Drive to serve the proposed residences at the project site. Sewer lines and other utilities would run to a stub out located near the service vehicle entrance to the barn center along D Street to facilitate the provision of wastewater to the Putnam Park Extension Project component.

The Putnam Park Extension Project component would require sewer services if the proposed “green flush” restroom is infeasible.

### ***Storm Drainage***

The project site is located in the 360-acre Kelly Creek drainage basin. Currently, runoff from the site is not maintained and is in a natural condition. Kelly Creek bisects the project site and flows under D Street through an existing 7.5 foot by 7.5 foot box culvert. Under existing conditions, the majority of the project site drains to Kelly Creek. A small portion of the project site north of Windsor Drive drains to the storm drain system at the intersection of D Street and Windsor Drive, which connects to Kelly Creek downstream of the box culvert that crosses under D Street. Another small portion of the site drains to Windsor Drive and flows west to enter an existing storm drain in Windsor Drive.

The proposed project would include storm drains in the new streets that serve the proposed residences. The storm drains would collect the runoff generated by the new impervious surfaces on the project site,

and all of the site storm drain subsystems would eventually discharge their flows into the section of Kelly Creek on the project site. This would include the areas north and south of Windsor Drive within the project site, which currently flow west to the existing Victoria storm drain at low points on Windsor Drive just east of the B Street park. Post-development, these areas would drain to the infiltration basin on the site first and then to Kelly Creek.

National Pollutant Discharge Elimination System (NPDES) regulations require peak post-development discharge not to exceed pre-development discharge levels. To meet this requirement, storm water collected at the project site storm drains would be detained and infiltrated on site before eventual discharge into Kelly Creek via a new outfall. A detention and infiltration basin would be constructed south of Windsor Drive (see **Figure 3.0-3, Davidon [28-Lot] Residential Project Component**). This detention basin would collect stormwater from the project residences and the upper parking lot.

Another detention and infiltration basin at the southwest corner of Windsor Drive and D Street would be installed to capture existing, untreated runoff from Windsor Drive. The runoff would be intercepted on Windsor Drive in a newly constructed drop inlet and flow into a vegetated swale leading to the proposed basin on the park extension area of the project site. The basin would allow all low flows to enter the creek via a vegetated, low flow bypass swale. The basin itself would be designed to capture and treat water for a 2 to 5 year storm event. The outflow of this basin would discharge into Kelly Creek just upstream of the existing storm drain outfall.

### ***Solid Waste***

The project site is served by the Sonoma County Waste Management Agency (SCWMA) and the City of Petaluma Department of Public Works. Solid waste is hauled by Recology and taken to the Redwood Landfill and Recycling Center (RLRC). Recycling service to the proposed residences would be provided by the waste hauler.

Waste and recycling receptacles would be located on the proposed surface parking lots, trailheads, and park at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.

### ***Electricity and Natural Gas***

Pacific Gas and Electric (PG&E) would provide electrical and natural gas services to the project site. New electric, gas, and communication facilities would be installed underground in a joint trench. Public utility easements would be provided along the street rights-of-way to allow for joint trench facilities such as pull boxes and transformers. Electricity lines would run to a stub out located near the service vehicle entrance

to the barn center along D Street to facilitate the provision of electricity to the Putnam Park Extension Project component.

### 3.5.5 Trees and Landscaping

There are 509 existing trees located on the project site. Of the existing trees, 478 trees are located within the proposed Putnam Park Extension Project component of the project site. Thirty-one trees are located within the residential portion of the project site and at the intersection of D Street and Windsor Drive. Nine trees would be removed to accommodate grading for the residences and installation of a sidewalk on the south side of Windsor Drive. Construction of the off-site roundabout at D Street/Windsor Drive would require the removal of nine additional trees. The residential component would remove 16 trees Protected Trees. There may be up to three trees that would require trimming or removal for the D Street off-site sidewalk improvement. As such, the residential component would result in the removal of approximately 19 trees.

Construction of the improvements for the Putnam Park Extension component, including the trail through the barn center, the footbridge over Kelly Creek, and the Class I trail adjacent to D Street, would result in the removal of 11 trees, eight of which are in fair health and three of which are in marginal health.<sup>6,7</sup>

The proposed project would replace the trees that would be removed in compliance with the City of Petaluma IZO Section 17.060 – Tree Removal. The City’s tree ordinance requires Protected Trees<sup>8</sup> determined to be in good to excellent condition to be replaced at a 1:1 trunk diameter ratio. Protected Trees determined to be in marginal to fair condition are required to be replaced at a 2:1 trunk diameter ratio. Protected Trees<sup>9</sup> determined to be in poor condition are not required to be replaced (City of Petaluma IZO Section 17.065). There are 509 existing trees located on the project site and approximately 30 trees would be removed (479 trees preserved) upon implementation of the proposed project.<sup>10</sup> The proposed project would include planting 159 Oak trees of various sizes, which would exceed the IZO requirement for replacement of removed Protected Trees.

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<sup>6</sup> Prunuske Chatham, Inc. 2019. Tree Removal for Helen Putnam Park Extension. March.

<sup>7</sup> In addition, to reduce wildfire risk consistent with the Vegetation Management Program discussed below, additional trees may need to be removed.

<sup>8</sup> As defined by the Tree Preservation Ordinance a Protected Tree is a: California native oak with a diameter at breast height (DBH) of 4 inches or greater, California buckeye with a DBH of 6 inches or greater, California bay with a DBH or 12 inches or greater, a coast redwood with a DBH of 18 inches or greater, or a tree of any species within the City right-of-way.

<sup>9</sup> Example: A 24-inch protected tree in fair-to-marginal condition must be replaced with new trees totaling 12 inches in trunk diameter.

<sup>10</sup> The 30 trees to be removed include a few trees that may require either trimming or removal for the D Street off-site sidewalk improvement.

Native trees, shrubs, and groundcover would be planted throughout the development areas. The front yards of new residences would be landscaped. Street trees and a 5-foot sidewalk would be introduced along new public streets, as required by City Standards. The proposed project would comply with water conservation standards for landscaping contained in Petaluma Municipal Code, Chapter 15.17. In addition, there would be a minimum 5-foot wildlife corridor between the fences of the project's residences and the existing fences of the adjacent Victoria subdivision.

### 3.5.6 Lighting

Proposed lighting would conform to the requirements of the City of Petaluma IZO Section 21.040.D to control glare. Street lighting within the residential project component would be installed along the new streets per City standards, and would be shielded and focused on the project site. Indoor and outdoor night lighting would be installed in and around the single-family homes. Construction lighting, if warranted, would be located and aimed away from adjacent residences and would consist of the minimum wattage necessary for safety and security.

Exterior lighting would also be installed around the barns for security and to discourage vandalism. Low lighting may also be installed on the footbridge to accommodate safe passage for any needed night crossings associated with maintenance or park events. Lighting would be solar and dark sky association approved.

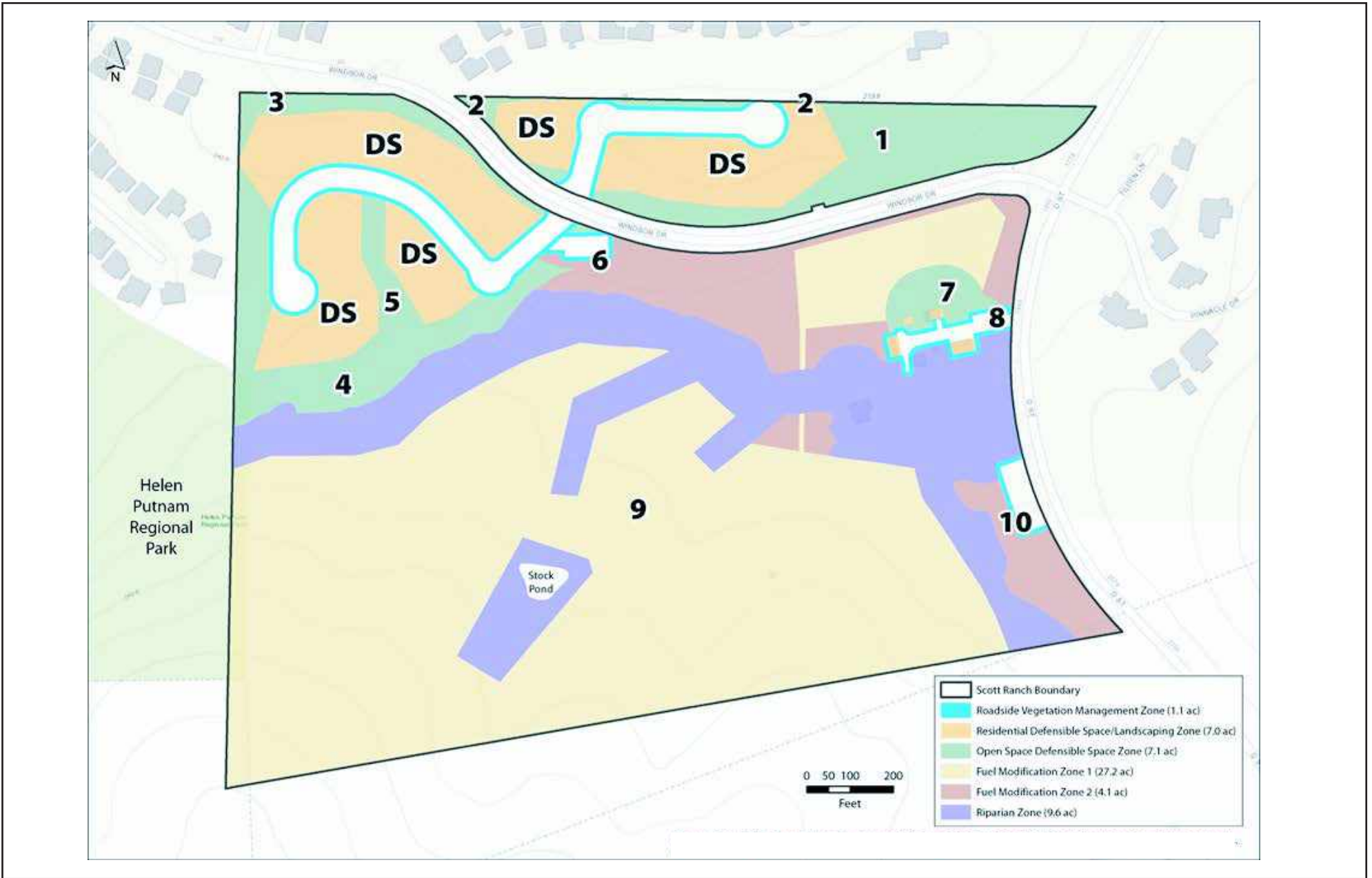
### 3.5.7 Fuel Management Program

The Fuel Management Program, identified in the *Fuel Management Plan* report prepared for the project and included in **Appendix 4.15**, would be implemented as part of the proposed project to meet fire safety requirements established by the City of Petaluma.

The Fuel Management Program describes actions needed to maintain vegetative fuels in a fire-safe condition and to make vegetation management easier to implement. The Fuel Management Program (1) delineates fuel management zones at the project site, (2) establishes appropriate treatments for each, (3) documents maintenance schedule and frequency, and (4) provides a schedule and criteria for updates to this plan. Detailed information regarding the wildfire analysis report can be found in **Section 4.15, Wildfire** of this RDEIR, a full copy of the report is provided as **Appendix 4.15** of this RDEIR.

As shown on **Figure 3.0-16, Fuel Management Zones**, the Fuel Management Program delineates six treatment zones:

- Residential Defensible Space/Landscaping Zone (gold)



SOURCE: WILDLAND RES MGT, Fuel Management Plan, November 2020.

FIGURE 3.0-16

Fuel Management Zones



- Open Space Defensible Space Zone (green)
- Roadside Vegetation Management Zone (blue)
- Fuel-Modification Zone 1 (yellow)
- Fuel Modification Zone 2 (tan)
- Riparian Zone (purple)

The **Residential Defensible Space/Landscaping Zone** and the **Open Space Defensible Space Zone** (including any barbecue areas in the developed portion of the extension of the Helen Putnam Regional Park) are designed to reduce ignitions near structures, support structural survival during a wildfire, and reduce the chance that an ignition will move off site. The Residential Defensible Space/Landscaping Zone, shown in gold on **Figure 3.0-16**, and labeled as 'DS', would be within 100 feet of the single-family residences on residential lots. The Open Space Defensible Space Zone is indicated as green on the same figure, and is comprised of Areas 1, 2, 3, 4, 5 and 7. Maintenance activities in the Open Space Defensible Space Zone would be within 100 feet of the single-family residences on homeowner association-owned open space adjacent to residential lots.

The **Roadside Vegetation Management Zone** consists of vegetation near roads, driveways and parking lots, and is designed to assist evacuation and emergency vehicle access and to limit ignitions from vehicles. It is shown in blue in **Figure 3.0-16** (Areas 6, 8, and 10) and also applies along Streets A and B. The standards and actions to comply with both the Defensible Space/Landscaping Zone and the Roadside Vegetation Management Zone are the same, with one exception. In the Roadside Vegetation Management Zone there must also be a 15-foot vertical clearance created by tree-trimming over pavement along the entire length of the roadway, parking lot, or driveway.

**Fuel Modification Zones 1 and 2** encompass the remainder of the open space portion of the project site, and ensure the fuels do not exacerbate fire hazards to adjacent landowners and structures. Fuel Modification Zone 1 (yellow) is within the fenced cattle grazing area of the proposed Helen Putnam Park Extension and is designed to limit fire intensity and spread by means of the pruning of trees, reduction of understory plants, and use of prescribed grazing activities. Fuel Modification Zone 2 (tan) is also within the proposed Putnam Park Extension Project component, but is outside the regular cattle grazing area; accordingly, options for fuel reduction other than prescribed grazing activities are more likely to be used within this zone.

The **Riparian Zone** is also within the proposed Putnam Park Extension Project component and outside the fenced cattle grazing area. This Zone covers those areas along Kelly Creek and its tributary, immediately surrounding the stock pond, and in ephemeral streams (shown in purple on **Figure 3.0-16**).

For each of the identified zones, a set of maintenance standards has been identified in compliance with the California State Public Resource Code 4291 and the Petaluma Municipal Code.

### ***Standards for Residential Defensible Space/Landscaping Zone***

1. A 5-foot non-combustible buffer zone would be maintained around structures with liberal use of hardscaping. Examples of non-combustible surfaces include hardscape surfaces (such as patios, gravel, and bare soil), and landscape materials (such as lawn and succulent herbaceous plants). Wood mulch is not considered non-combustible. Woody plants would not be placed in this zone under windows, nor within 5 feet horizontally of openings into the structure, such as doors. This will better ensure that these plants remain away from both doors and windows to help reduce the potential for heat or embers to impact these openings in the structures.
2. All dead plants and dry vegetation on all residential parcels would be removed. The following actions would provide the same level of fire safety as removing all combustible material, per local and state fire codes.
  - a. Grass and weeds would be cut to less than 4 inches in height when 30 percent of the grasses have cured. Beginning April 15, the grass would be inspected on a weekly basis to determine the state of grass curing. Grass would be cut within the week when 30 percent of the grass cover has cured, and no later than June 1. If late-season rains promote grass growth after the first cutting, grass would be removed. Cutting of native grass and wildflowers may be delayed until after seed set if the Petaluma Fire Department concurs that these plants do not constitute a means of rapidly transmitting fire to any structure.
  - b. Ground, roofs, decking, and balconies would be kept free of dead leaves or other plant debris.
  - c. Leaves, bark, and humus would be cleared under trees and shrubs (including vines and semi-woody species). At no time would a buildup of leaves and humus exceed 1 inch in depth anywhere in a landscaped area. However, bare earth would not be exposed over more than 50 percent of the site.
  - d. Dead material that drapes over ground cover (including leaves, bark, and branches) would be removed.
  - e. All dead branches from within live ground covers, vines, shrubs (including semi-woody species), and immature and landscape trees would be removed.
3. Trees and large tree-form shrubs (e.g. oaks, toyon) that are being retained would be pruned to provide clearance of three times the height of the understory plant material, or 8 feet, whichever is higher.
  - a. Limbs that are smaller than 3 inches in diameter would be pruned up to 8 feet above the ground; in young trees, branches on the lower one-third of the height of the tree would be pruned. (Thus,

if a tree is 10 feet tall, the lower 3–4 feet would be pruned and the understory plant material kept to less than 1 ft in height. Then as it grows to 24 feet in height, it can achieve the 8-foot distance from the ground, and the understory plant material can reach 2.5 feet in height.)

- b. All branches within 10 feet of any chimney, flue, or stovepipe would be removed.
  - c. A five-foot vertical clearance would be maintained between roof surfaces and overhanging portions of trees.
4. To avoid creating "ladder fuel situations" (in which a fire can climb from one vegetation layer to the next higher one), shrubs (including vines, semi-woody species, and all chaparral species) would not be planted under trees. In addition, replacement of dead plants would not be located under trees.
  5. All landscaping would be fire-resistant in nature. Planting of plants that are highly ignitable and burn with intensity would be prohibited.
  6. Individual plants or landscaping shrub masses would be managed to maintain adequate horizontal spacing. Distinct groupings of shrubs (including landscaping or native vines, semi-woody species, and all types of brush) would be designed to dampen the spread of fire.
    - a. Plant groupings would be small enough to provide adequate horizontal separation between groupings and to allow proper maintenance; groupings would not be wider than two times the grouping height, or 120 square feet. However, one row of shrubs in a linear band with a maximum width of 7 feet, located at least 10 feet from the structure, need not comply with the 120 square foot area limit.
    - b. The space between islands would be greater than three times the height of the shrubs, or 12 feet at a minimum. On emerging trees, a spacing of 12 feet from the edge of the canopy would be cleared.
  7. All cut vegetation and hazardous refuse would be removed and disposed safely.
  8. Chipped materials would remain on the site, provided the mulch layer is no greater than 2 inches in depth.

### ***Standards for Open Space Defensible Space Zone***

1. All personnel conducting fuel management in the Open Space Defensible Space Zone would be trained in identification of and avoidance of impacts to California red-legged frog, and in identification of native grasses and wildflowers.
2. All dead plants and dry vegetation would be removed. The following actions would provide the same level of fire safety as removing all combustible material, per local and state fire codes.
  - a. Grass and weeds would be flash grazed or cut to less than 4 inches in height when 30 percent of the grasses have cured. Beginning April 15, the grass would be inspected on a weekly basis to determine the state of grass curing. Grass would be cut within the week when 30 percent of the grass cover has been cured, and no later than June 1. Grass would be removed if late-season rains promote grass growth after the first cutting. Cutting of native grass and wildflowers may be delayed until after seed set if the Petaluma Fire Department concurs that these plants do not

constitute a means of rapidly transmitting fire to any structure. In graded areas seeded with native grasses and wildflowers, grazing or cutting of grasses or wildflowers would be prohibited during the first year after seeding; thereafter, this area would be subject to the same regime as the remainder of the Open Space Defensible Zone.

- b. Leaves, bark, and humus under trees and shrubs (including vines and semi-woody species) would be cleared. At no time would a buildup of leaves and humus exceed 1 inch in depth. However, bare earth would not be exposed over more than 50 percent of the site.
  - c. Dead material that drapes over ground cover (including leaves, bark, and branches) would be removed.
  - d. All vines, loose papery bark, dead branches, and live branches smaller than 3 inches in diameter would be removed from mature trees to a height of 8 ft above the ground.
  - e. All dead branches would be removed from within live ground covers, vines, shrubs (including semi-woody species), and immature trees.
3. Trees and large tree-form shrubs (e.g. oaks, toyon) that are being retained would be pruned to provide clearance of three times the height of the understory plant material, or 8 feet, whichever is higher.
- a. Limbs that are smaller than 3 inches in diameter would be pruned up to 8 feet above the ground; in young trees, branches would be pruned on the lower one-third of the height of the tree (If a tree is 10 feet tall, the lower 3–4 feet would be pruned and the understory plant material would be kept to less than 1 ft in height. Then as it grows to 24 feet in height, it can achieve the 8-foot distance from the ground, and the understory plant material can reach 2.5 feet in height.)
  - b. Tree canopy would not be thinned to avoid promoting growth of more flammable vegetation.
4. To avoid creating "ladder fuel situations" (in which a fire can climb from one vegetation layer to the next higher one), shrubs (including vines, semi-woody species, and all chaparral species) would not be planted under trees. In addition, replacement of dead plants or oaks planted as mitigation would not be located under trees.
5. All landscaping would be fire-resistant in nature. Planting of plants that are highly ignitable and burn with intensity would be prohibited.
6. Individual plants or landscaping shrub masses would be managed to maintain adequate horizontal spacing. Distinct groupings of shrubs (including landscaping or native vines, semi-woody species, and all types of brush) would be designed to dampen the spread of fire.
- a. Plant groupings would be small enough to provide adequate horizontal separation between groupings and to allow proper maintenance; groupings would not be wider than two times the grouping height, or 120 square feet. However, one row of shrubs in a linear band with a maximum width of 7 feet, located at least 10 feet from the structure, need not comply with the 120 square foot area limit.
  - b. The space between islands would be greater than three times the height of the shrubs, or 12 feet at a minimum. On emerging trees, a spacing of 12 feet from the edge of the canopy would be cleared.

7. All cut vegetation and hazardous refuse would be removed and disposed safely.
8. Chipped materials would remain on the site, provided the mulch layer is no greater than 2 inches in depth.

### ***Standards for Roadside Vegetation Clearance***

The standards for the Residential Defensible Space/Landscape Zone would apply to the strip of land within 10 feet of the pavement edge from both sides of the new roadways (A and B Streets), the driveway of the Putnam Park Extension Project, and parking lots. In the Roadside Vegetation Management Zone there would also need to be an unobstructed vertical clearance of 15 feet over the entire length of the new roadways, driveway, and parking lots. Where a Class 1 trail abuts a road, it would be part of the Roadside Zone; if the trail is 10 feet wide, treatment would only occur on the trail.

### ***Standards for Fuel Modification Zones***

The open space within the project would be managed to preclude the encroachment of shrubs (such as coyote bush, *Baccharis pilularis*), which would increase the fuel load and potential fire hazard. Maintaining the entire site as a grassland can be accomplished by many techniques, including grazing or removal of shrubs with handheld tools. Cattle grazing currently occurring on much of the site would continue within Fuel Modification Zone 1 (shown in yellow on **Figure 3.0-16**), which would be regularly grazed. Fuel Modification Zone 2 (shown in tan on **Figure 3.0-16**) would not be regularly grazed. The Fuel Modification Zones would be managed as described below.

1. All personnel conducting fuel management in the Fuel Modification Zones would be trained in identification of and avoidance of impacts to California red-legged frog, and in identification of native grasses and wildflowers.
2. Regular grazing would continue in Fuel Modification Zone 1.
3. The grass would be flash grazed or cut to less than 4 inches in height within Fuel Modification Zone 2. This maintenance activity would also apply to and Fuel Modification Zone 1 in the event that regular grazing would not reduce grasses to 4 inches in height, by June 1 unless approximately 0.85 acre of native grassland is planted on a north-facing slope within Fuel Modification Zone 1, adjacent to existing native grasslands. This area would be protected from grazing or cutting by temporary fencing for a period of five (5) years.
4. In both Fuel Modification Zones 1 and 2, cutting of native grass and wildflowers may be delayed until after seed set if the Petaluma Fire Department concurs that these plants do not constitute a means of rapidly transmitting fire to any structure.
5. The following maintenance activities would be implemented in the areas where trees have been established:

- a. Leaves, bark, and humus under trees and shrubs (including vines and semi-woody species) would be cleared. At no time would a buildup of leaves and humus exceed 1 inch in depth anywhere in a landscaped area. However, bare earth would not be exposed over more than 50 percent of the site.
  - b. Dead material that drapes over ground cover (including leaves, bark, and branches) would be removed.
  - c. All vines, loose papery bark, dead branches, and live branches smaller than 3 inches in diameter would be removed from mature trees to a height of 8 feet above the ground.
  - d. All dead branches from within live ground covers, vines, shrubs (including semi-woody species), and immature trees would be removed.
  - e. All eucalyptus trees smaller than eight inches in diameter would be removed.
  - f. Trees and large tree-form shrubs (e.g. oaks, toyon) that are being retained would be pruned to provide clearance of three times the height of the understory plant material, or 8 feet, whichever is higher.
  - g. Limbs that are smaller than 3 inches in diameter would be pruned up to 8 feet above the ground; in young trees, branches would be pruned on the lower one-third of the height of the tree (If a tree is 10 feet tall, the lower 3 to 4 feet would be pruned and the understory plant material would be kept to less than 1 feet in height. Then as it grows to 24 feet in height, it can achieve the 8-foot distance from the ground, and the understory plant material can reach 2.5 feet in height.)
  - h. The tree canopy would not be thinned to avoid promoting growth of more flammable vegetation.
  - i. Chipped materials would remain on the site provided the mulch layer is no greater than 2 inches in depth.
6. To avoid creating "ladder fuel situations" (in which a fire can climb from one vegetation layer to the next higher one), shrubs (including vines, semi-woody species, and all chaparral species) would not be planted under trees. In addition, replacement of dead plants or oaks planted as a mitigation measure would not be located under trees.
  7. Maintenance standards of the areas within 30 feet of picnic tables and 10 feet of any barbeque spaces would be similar to those identified for the Residential Defensible Space/Landscaping Zone. This would include mowing grass and removing lower tree branches.

### ***Standards for Riparian Zone***

Hand labor (or flash grazing and/or other fuel management methods if authorized by CDFW) would be used to treat fuels within the Riparian Zone to avoid trampling riparian vegetation or altering the alignment of Kelly Creek or the banks of the stock pond.

To protect wildlife habitat, maintenance activities for fire safety in the Riparian Zone would be limited and would focus on dead material, which can enhance fire safety without compromising wildlife habitat.

1. All personnel conducting fuel management in the Riparian Zone would be trained in identification of and avoidance of impacts to California red-legged frog, and in identification of native grasses and wildflowers.
2. Dead vegetation, vines, and dry fuels such as dead lower branches of trees would be removed.
3. Invasive alien plants such as French broom, yellow star thistle, and Italian thistle would be removed.
4. Living trees and shrubs would not be removed or pruned except as needed for trails, barbecue spaces and pedestrian bridges.
5. Maintenance standards of the areas within 10 feet of any barbecue spaces would be those identified for the Residential Defensible Space/Landscaping Zone. This would include mowing grass and removing lower tree branches.

### *Fire-Resistant Landscaping*

1. Spacing and design of the garden is more critical than the species planted. Horizontal spaces would be maintained between planting masses, specimen trees, and houses to create a fire-safe landscape. Similarly, vertical spaces would be maintained between tree branches, shrubs, ground cover, and the structure (particularly windows).
2. Landscapes would be designed to discourage the creation of "fuel ladders"—a continuous fuel path by which a fire can climb from the ground to a shrub, to a tree, and ultimately to the structure.

### *Species Selection*

Selected landscaping plant species would have a low fuel volume and high foliar moisture and would not have a tendency to produce and "hold" dead wood. Selected plant species would also have a proper growth form (As an example, ground covers or fruit trees, which inherently have adequate vertical spacing or branches.)

A list of prohibited plant species is provided in the Wildfire Analysis Report (**Appendix 4.15**). Prohibited species are those that can exhibit dramatic fire behavior, such as junipers that are 6 square feet in area and can produce flames over 15 feet in length.

Factors considered in rating the fire performance of plants include:

- **Total volume.** The greater the volume of plant material (potential fuel) present, the greater the fire hazard.
- **Moisture content.** High levels of plant moisture can both lower fire risk and act as a heat sink if a fire occurs, reducing its intensity and spread.
- **Amount and distribution of dead material.** The amount of dead material in a given plant influences the total amount of water in the overall plant; the dead material is usually much drier than living tissue.

Whereas dead material rarely has a moisture content higher than 25 percent, live foliage moisture content ranges from 60 to 80 percent for chaparral species in very dry conditions to a high of 200 to 400 percent for succulent plants or plants under irrigation.

- **Size of leaves, twigs, and branches.** Materials with large surface areas (such as needles, twigs, or large flat leaves) dry more rapidly under fire conditions than materials with lower surface ratios (such as branches and fleshy leaves).
- **Geometry and arrangement of the plant (overall spatial distribution of the biomass).** The shape of a plant and the way in which the biomass is distributed throughout the plant is important because this bulk density affects the air flow and heat transfer through the plant. The arrangement of material within the plant affects its fuel continuity and its tendency to undergo preheating and promote fire spread.

Project design would incorporate the recommendation of a landscape professional on plant spacing, pruning, aeration, fertilization, irrigation, and other cultivation practices.

### ***Ignition-Resistant Structures***

The City of Petaluma has adopted a rigorous set of codes that bolster ignition resistance of structures through the design and material used in construction. Although not required by code, the proposed project would incorporate the following characteristics into the proposed residences:

**Vents.** Structures would include vents, which use 1/8-inch mesh metal screens and 26 gauge G90 finish galvanized steel lock sheets to block flying embers from entering structures.

**Fences.** Backyard fences would be constructed of either noncombustible material or of timbers with a minimum of one-inch nominal thickness. Side fences may be of one-inch nominal thickness. Typical backyard fencing might include "view fencing", consisting of open wire-mesh with 4 inch posts and bottom rails of 2 inch minimum thickness. There should be a noncombustible space of a minimum of 5 feet between the structure and any wooden fence members.

The proposed project would incorporate the following characteristics into the proposed accessory buildings:

**Garden Structures.** Garden structures, such as gazebos, spas, or other outbuildings – would meet the same minimum standard for materials, timber size, and other requirements as described above for other structures and fences.

**Built-In Fireplaces.** Built-in fireplaces would be either no farther than 15 feet from a water source or be equipped with a fire extinguisher. All associated chimneys would be fitted with a spark arrestor.



**Barbecues.** Barbecues (built-in or portable) would be surrounded by at least 10 feet radius of noncombustible materials and would be located 10 feet away from all overhanging structures or trees. Barbeques are not to be left unattended when in use. No structures or trees would overhang the use area within a distance of 10 feet. No barbeque would be located farther than 15 feet from a water source (including a garden hose). Vegetation would otherwise be consistent with the requirements of the zone in which the barbecue is located.

### ***Fuel Management Responsibilities***

Fuel management and structure maintenance in the Residential Defensible Space Zone would be the responsibility of the individual landowner, enforced through covenants, codes and restrictions (CC&Rs) and, to the extent mandated by law, the Petaluma Fire Department.

The homeowners association (HOA) would be responsible for fuel management on HOA-owned property, which comprises all of the Open Space Defensible Space Zone. The HOA would also be responsible for managing Area 4 within the Putnam Park Extension Project component, shown on **Figure 3.0-16**. The HOA would also be responsible for maintaining the Roadside Fuel Management Zone along A and B Streets. Where portions of residential parcels fall within the Roadside Fuel Management Zone, CC&Rs would require homeowners to maintain the Roadside Fuel Management zone and would empower the HOA to enforce such maintenance obligations.

After transfer of title to KCCP, it would be responsible for the management of the park extension portion of the site until it is transferred to the Sonoma County Regional Parks. However, as noted above, the HOA would continue to be responsible for management of the Area 4 portion of the park extension site.

### ***Schedule of Initial Maintenance Responsibilities and Vegetation Management***

Upon Petaluma Fire Department clearance for issuance of building permits, the fuel management standards would apply to the lot encompassed by the building permit. Roadside standards would be enforced at the time the first lot is sold.

#### **Initial Treatment (Year 1)**

- Once title transfers to the KCCP project, it would be responsible only for continuing existing grazing of the park extension portion of the site until it is transferred to Sonoma County Regional Parks.
- Davidon Homes would be responsible for implementing the Fuel Management Program's maintenance standards within Area 4.

- Initial vegetation management actions for any residential lot would be completed before framing of the first lot begins (if framing takes place between June 1 and November 1). These actions would include tree removal, tree pruning, and grass cutting or grazing.
- The HOA would be responsible to ensure fuel management is completed within 100 feet of the building under construction, regardless of land ownership.

### **Maintenance Phase**

- All required clearing and grass cutting would be completed before June 1 of each year.
- No clippings would remain in piles or scattered. All brush piles and tree clippings would be removed within one week of cutting. No brush or clippings are permitted to remain in piles.
- Annual vegetation management measures would include:
  - i. Removal of all combustible vegetation along roadways, driveways, access roads, and trails according to stated standards
  - ii. Maintenance of the emergency-access easement
  - iii. Maintenance of the defensible space around structures according to stated standards for the various fuel management zones.

### **Frequency of Maintenance**

**Grass.** Grass would need to be grazed or mowed annually to a height of four inches or less in all zones other than the Riparian Zone. This would occur when 30 percent of the grass cover has cured (any time from April 15 - June 1). Should rains occur late in the season and produce more grass growth, the grass may need to be treated again by mowing or grazing.

**Shrubs and Seedlings.** The frequency of treatment of shrubs and removal of seedlings below the canopy of landscaping trees is estimated as every three years to five years. Shrubs may need to be pruned of dead wood or shortened, shrub groupings minimized in size, or new shrubs/ tree seedlings removed under tree canopies. Shrub removal or pruning may be done any time of year.

Application of an herbicide to prevent re-sprouting may be more effective in the spring, but would follow the licensed Pest Control Advisor recommendation.

**Trees.** Because trees typically grow from the top and ends of branches, subsequent pruning needs would occur only every five years to ten years, depending on the rate of growth, and significant events which may cause dead wood to develop or breakage to occur. Pruning of landscape trees and tree-like shrubs can be done at any time of the year, depending on recommendations from a professional arborist.

A rotation of pruning may be scheduled so that approximately one-third to one-fifth of the area is treated yearly.

### **Process for Plan Updates**

The Petaluma Fire Department would have authority to review periodically the condition of vegetative fuel, in order to provide input and direction. Potential issues that would be addressed during this review include:

- Changed fuel hazard conditions including: height of tree branches, size, density or species of vegetation, or fuel load and erosion control or slope stability conditions.
- Lot line adjustments that may change the distances and areas for which the Property Owner is responsible.
- Changes in land use of adjacent properties.

An initial three-year interval of review would take place, with a five-year interval review thereafter. For example, if the expansion of shrub cover warrants additional action, this process provides for revisions of required maintenance options. Input of the Petaluma Fire Department would be based on site visits, results and observations from the annual inspections conducted by the Petaluma Fire Department and experiences from recent wildfires or changes in ordinances or regulations.

If any changes are proposed, the HOA would submit this plan, along with suggested revisions to the Petaluma Fire Department for their input. The fire district input would be incorporated, and the plan revised. The revised plan would be implemented the following year.

For the Putnam Park Extension Project component, Sonoma County Regional Parks would be responsible for the Fuel Management Program updates.

## **3.6 CONSTRUCTION ACTIVITIES AND SCHEDULE**

### **3.6.1 Davidon (Lot-28) Residential Project Component**

Construction of the Davidon (28-Lot) Residential Project Component would begin with removal of trees and clearing of vegetation. Following site clearing, construction areas would be graded, and the proposed roadways, the D Street/Windsor Drive roundabout, and utility infrastructure, including the two infiltration basins and associated grassy low flow bypass swale, would be installed. Grading of the parking lots would be completed as part of the grading phase for the residential component.

Subsequent construction phases would include building construction, completion of exterior improvements, and installation of landscaping. **Figure 3.0-17, Limits of Disturbance - Davidon [28-Lot] Residential Project Component**, shows the limits of ground disturbance associated with the Davidon (28-Lot) Residential Project Component.

Depending on the slopes of each lot, cut and fill would be used to create the building pads and the driveways. Retaining walls would not exceed five feet in height. In some cases, tiered walls are implemented allowing landscaping in between walls for aesthetic enhancement (See **Figure 3.0-10, Retaining Walls Design**).

Preliminary grading studies indicate that cut and fill would be balanced on the project site, totaling approximately 224,000 cubic yards (cy), consisting of approximately 112,000 cy of cut and 112,000 cy of fill material on-site.

As shown in **Figure 3.0-2, Existing Conditions**, Davidon (28-Lot) Residential Project component's geotechnical consultants identified two small landslides, labeled E and F, in the southwest corner of the residential development area. Peer review by the City's geotechnical consultant questions whether Landslide F actually exists. To be conservative, **Figure 3.0-2, Existing Conditions** continues to show Landslide F; Davidon Homes would excavate both labeled landslides and, pursuant to current industry standards, replace them with engineered fill keyed into competent material.

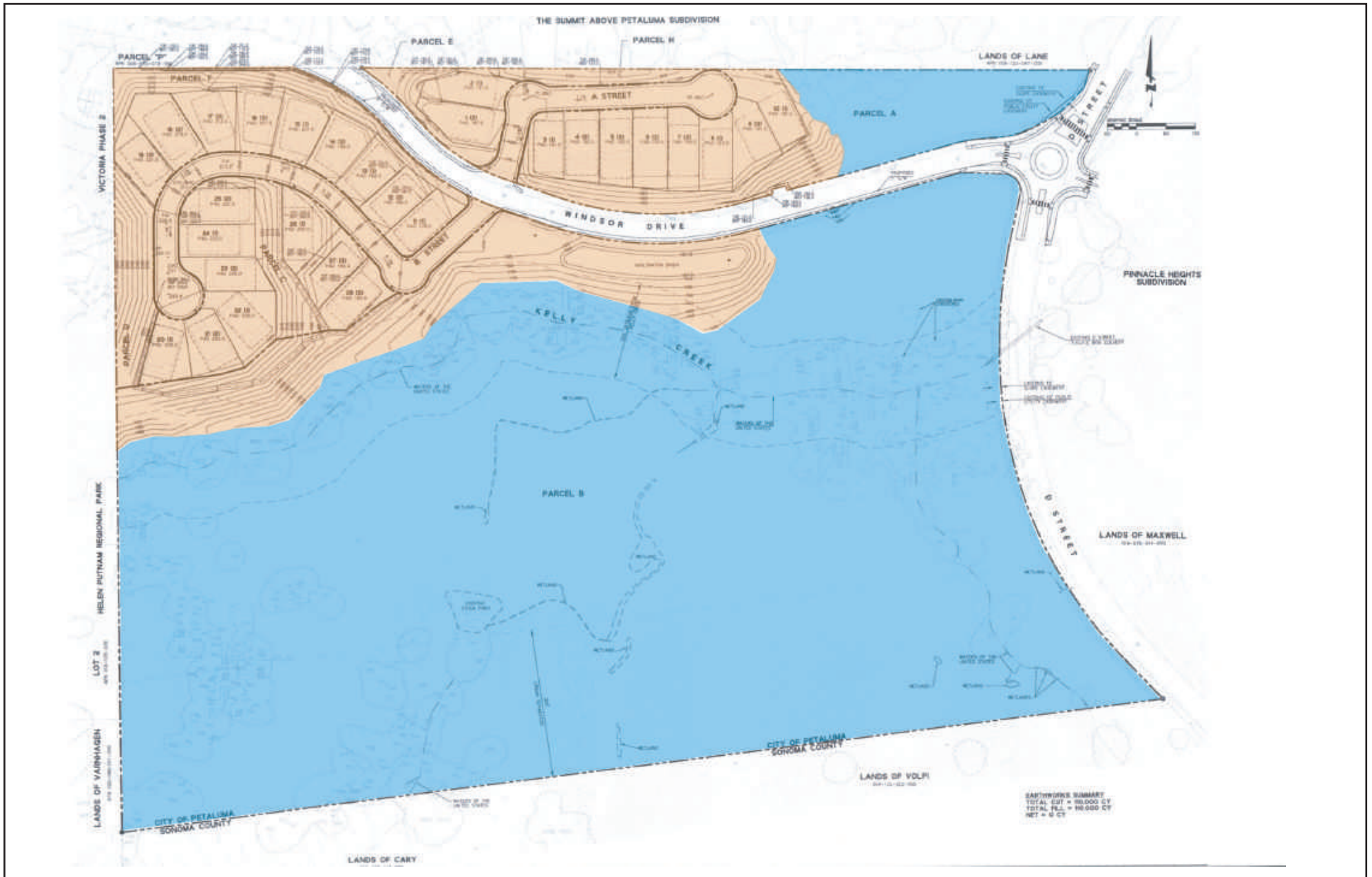
Project construction would involve the use of scrapers/graders, bull dozers, tractors, front loaders, backhoes, folk lifts, cranes, jack hammers, concrete mixers and pumps, pavers, air compressors, generators, and haul trucks. All equipment 50 horsepower or above would be Tier 3 or better. Construction staging would occur on-site within the areas proposed for development.

Site clearing, grading, and trenching for the Davidon (28-Lot) Residential Project component is anticipated to last for nine months, while construction of the residences is expected to take about 21 months, for an overall construction period of approximately 30 months.

### **3.6.2 Putnam Park Extension Project Component**

#### ***Barn Center***

Construction activities related to the barn center would include demolition of the existing mobile home and collapsed farm house, general clean-up of the area, and minor grading for the purposes of drainage improvements and ADA compliance. The area between the barns and the service vehicle entrance would



SOURCE: BKF, 2019

FIGURE 3.0-17

Limits of Disturbance

be paved with asphalt or a natural material such as decomposed granite. An appropriate section of base rock and paving material would be installed. The existing asphalt on the service vehicle entrance would be removed and replaced. The existing service vehicle entrance may also need widening to accommodate turning radii for emergency vehicles. The widening would occur in the direction of the pasture (to the north) and would not encroach on the creek. This widening would result in lifts of compacted fill on the north side of the existing drive. The existing eucalyptus in the barn center would be trimmed and protected to accommodate the construction activity. Signage, bike parking, trash and recycling receptacles and other site furnishings would be installed. The existing gate providing access from D Street would be replaced. Other improvements would include the construction of an amphitheater in the location of the old mobile home. The amphitheater would be constructed of stone or wood. Vegetable boxes may also be installed. Depending on the availability of funding, the existing barns may be restored to become interpretive centers for farm equipment or to demonstrate farming practices. The barns may be relocated as needed for stabilization and preservation purposes; however, they would remain in the same area of the site. One of the three barns would be improved for use as service vehicle parking. The degree of restoration on the barns is unknown at this time. Working and demonstration livestock corrals may also be constructed with tee (or wood) posts and wire fencing.

### *Trails*

Construction of the trails loop trail north and south of Kelly Creek would include the removal of vegetation and branches as well as low lying saplings, weeds, and brush along the trail length. This would be followed by grading and trail paving. Mature trees would not be removed as part of trail construction, with the exception of the eucalyptus noted on the tree removal list. The north segment of the loop trail would be a 10-foot wide asphalt trail. The trail would primarily be excavated in cut to install the appropriate section of base rock and then paved with a surface of decomposed granite or asphalt. The trail would have 12"-18" shoulders of compacted native soil. To limit the concentration of water, trails would be outsloped and runoff would flow over the surface as opposed to being intercepted in an inboard ditch. Grading would be required to create a stable cross slope and minimize the running slope as needed for ADA compliance. **Figure 3.0-18, Limits of Disturbance - Putnam Park Extension Project Component**, shows the limits of ground disturbance associated with the Putnam Park Extension Project component. Dozers and excavators may be used for initial grading and excavation. Construction equipment such as skid steers, dozers and bob cats would be used to move soil and earth materials that may be generated during trail construction; it is anticipated that cut and fill would be balanced, totaling approximately 3,400 cubic yards of cut and 3,400 cubic yards of fill, and off-haul of materials would not be required. The entire trail would be paved with decomposed granite or asphalt. Where the trail approaches Helen Putnam Regional Park at the west property boundary, the width would be reduced to 4-foot wide due to topographic constraints. The trail

south of Kelly Creek would be 4-feet wide. In addition, the trail to the south of Kelly Creek may not be excavated/cut in, but rather built up on a gravel lens that allows the migration of storm water underneath and perches the trail (by approximately 18") so it stays dry in the winter. Exposed soil in all trail construction areas would be seeded with native grasses suitable for the site.

Where the trails cross drainages, footbridges or puncheons would be installed. Rolling dips, switchbacks, and other hydrologic control measures may be incorporated in order to limit concentration of flow on long sections of the trail. In addition, appropriate erosion control and runoff protection measures would be incorporated at and near streams and crossings to provide additional protection. There would be a designated cattle crossing located across Kelly Creek, that crosses both the north and south trails.

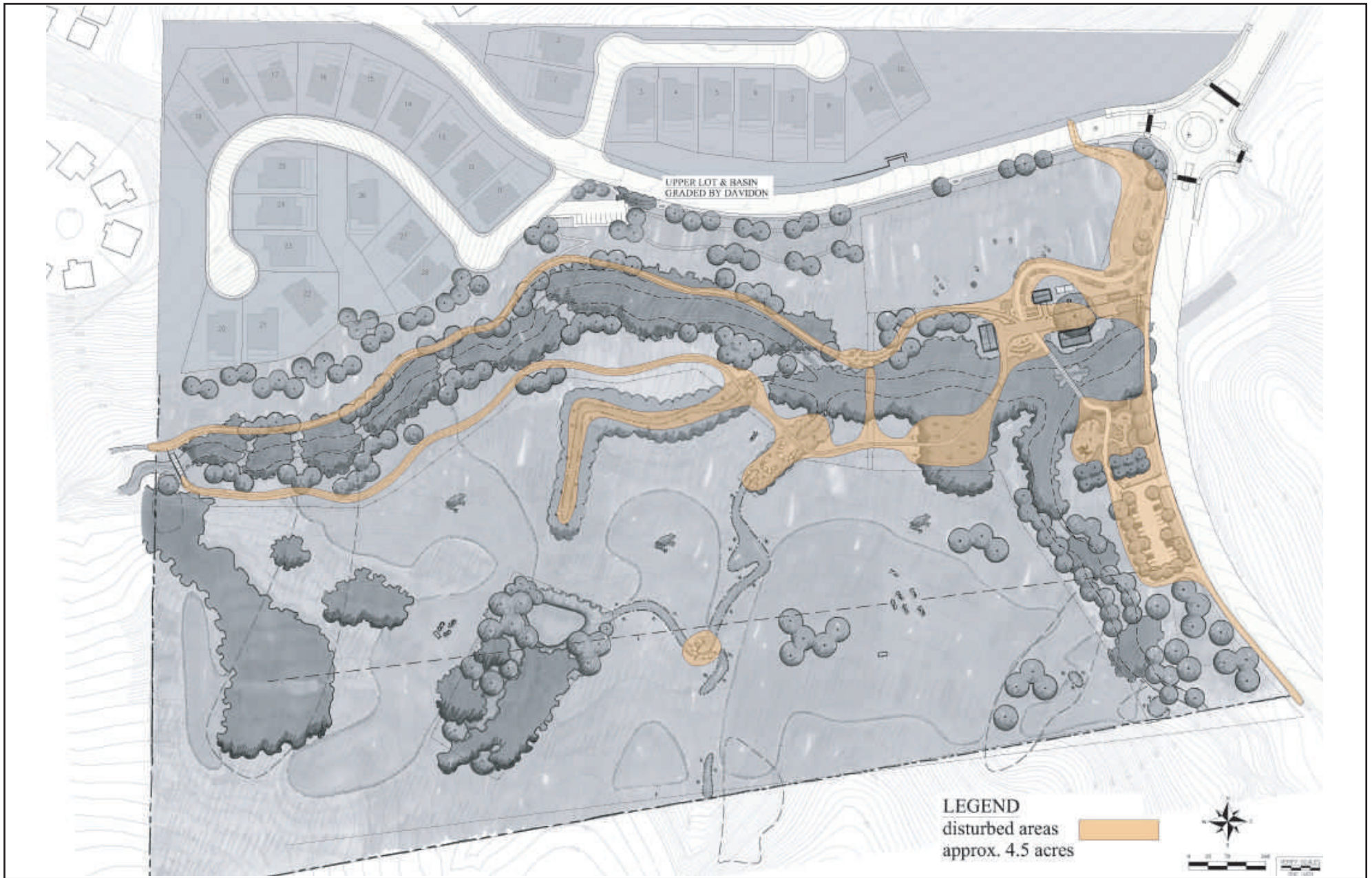
Landscaping for the trail would be primarily composed of the riparian enhancement/restoration plantings, as the creek is adjacent to the majority of the trail. The trail would be set a minimum of 10-feet from the top of the creek bank.

### ***Parking lots***

As noted above, grading for the parking lots would occur as part of the grading for the residential component. Construction of the park extension component would include paving and striping the parking lots, as well as the installation of four electrical vehicle charging stations (2 in each parking lot).

### ***Construction Schedule***

The timing and implementation of the Putnam Park Extension Project component would depend on the availability of funds and priorities of Sonoma County Regional Parks after the transfer of title to Regional Parks. The various elements of the Putnam Park Extension Project component would be implemented in three phases: Phase 1 would last approximately three to four months and would include grading the upper parking lot and completing the construction of the lower parking lot, two pedestrian bridges, temporary restroom, associated infiltration basin, north segment of the loop trail with connection to Helen Putnam Regional Park and the barn center. Phase 2 would last approximately six to nine months and would include construction of the upper parking lot off Windsor Drive, permanent restroom, playground, group picnic area, trail along D Street and Windsor Drive to the barn center, internal bracing of the barns, ephemeral drainages restoration, pasture improvements, planting, and irrigation. Phase 3 would last approximately three to four months and would include completion of the loop trail, installation of the third footbridge, and barn restoration. Should funding allow, the proposed park extension component would be



SOURCE: Prunuske Chatham, 2019

FIGURE 3.0-18

Limits of Disturbance - Putnam Park Extension Project Component



implemented in fewer phases. Phase 1 elements would be constructed concurrently during the last construction stages of the residential component and are expected to be completed once the new homes begin to be occupied. The timing and implementation of the other phases would depend on the availability of funding and the priorities of Sonoma County Regional Parks.

### 3.7 PROJECT APPROVALS

#### 3.7.1 City of Petaluma

The City of Petaluma is the Lead Agency for purposes of complying with CEQA and is the primary public agency responsible for approving the project. Several discretionary actions by the City will be necessary for this project, including but not limited to:

- General Plan Amendment to modify the language contained in General Plan Policy 2-P-68;
- General Plan Amendment to modify General Plan Figure 5-2, Bicycle Facilities;
- Rezoning of the site from Residential 1 (R1) to a Planned Unit District (PUD);
- Adoption of related Planned Unit Development Plan and Guidelines;
- Vesting Tentative Map to subdivide two existing parcels to accommodate the proposed development; and
- Future Site Plan and Architectural Review (SPAR).<sup>11</sup>

#### 3.7.2 Other Agencies

Federal, state and regional agencies that may have jurisdiction over the project include, but are not necessarily limited to:

- U.S. Army Corps of Engineers (Corps)
- State Water Resources Control Board and the Regional Water Quality Control Board (RWQCB)
- U.S. Fish and Wildlife Service (USFWS)
- California Department of Fish and Wildlife (CDFW)
- Sonoma County Water Agency

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<sup>11</sup> SPAR has not been requested at this time by the Applicants, but this review will be required before the homes are constructed on the site.

- Sonoma County Permit and Resource Management Department
- Sonoma County Regional Parks

### 3.8 REGIONAL PARK TRAIL PROJECT

#### 3.8.1 Description

Sonoma County Regional Parks (SCRP) has a trail connection point at the common boundary of the project site and the existing Helen Putnam Regional Park, located to the west of the project site. This connection point would allow for an extension of the Putnam Park Extension Project component's on-site multi-use trail through Helen Putnam Regional Park to eventually connect to an existing trail on the Regional Park property. Approval of the trail is within the review authority of the SCRCP. If approved, construction of this trail connection is expected to be completed by the time Phase 1 of the Putnam Park Extension Project component is completed and opened to the public.

**Figure 3.0-19, Regional Park Trail Section**, presents the approximate alignment of this regional park trail, as outlined by the SCRCP. Based on the conceptual design prepared by the SCRCP, the regional park trail would be constructed from the western boundary of the project site to connect with the existing Ridge Trail located west of the Victoria Subdivision as shown in **Figure 3.0-19**. The trail would be approximately 0.5 mile long and four feet wide, which is the average standard width for trails according to the National Park Service. Similar to other regional park trails, the trail would not be paved. Due to the hilly terrain in which it would be located, the trail would not be ADA compliant. The trail would traverse an area with a large number of trees and drainages. Rolling dips, switchbacks, and other hydrologic control measures would be incorporated in order to limit concentration of flow on long sections of the trail.

The regional park trail is analyzed in this RDEIR as a related project. Construction of the proposed multi-use trail on the project site would create conditions that could lead to the construction of the regional park trail on the Helen Putnam Regional Park property. While there is no guarantee that the regional park trail would be constructed, with the access provided by the project site multi-use trail between D Street and the eastern boundary of the regional park, the probability that the regional park trail would be constructed would increase. Therefore conservatively, this RDEIR analyses the regional park trail as a related project and presents the environmental consequences that could result from its construction and operation. This EIR may be used by the SCRCP if and when it decides to construct the regional park trail.

#### 3.8.2 Construction Activities

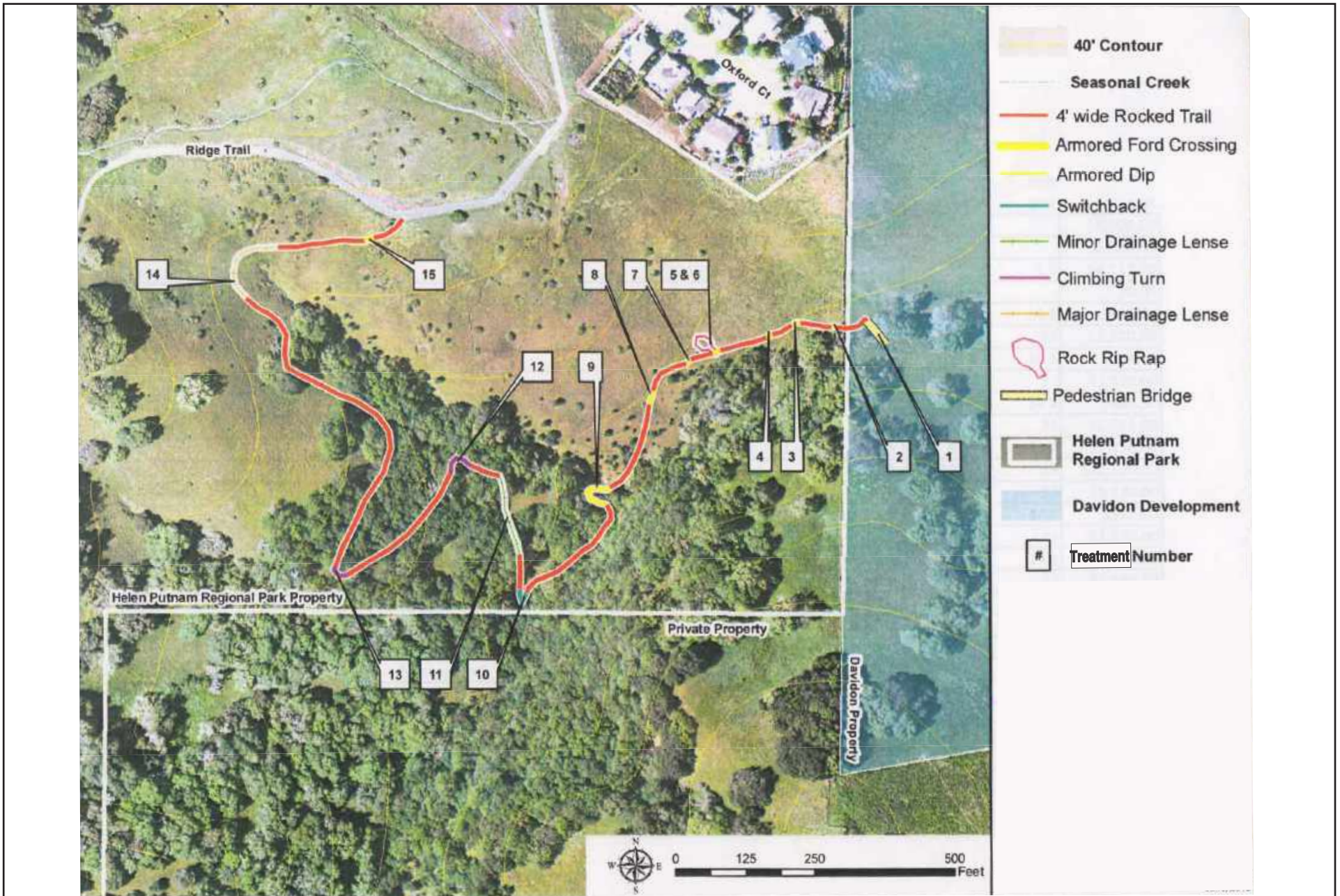
Trail construction would require the removal of overhanging vegetation and branches as well as low lying saplings, weeds, and brush along the trail length. Mature trees would not be removed as part of trail

construction. Some grading may be required to create a shelf for the trail depending on the hillside slope and to achieve trail slopes that are usable. Trail dozers may be used for initial grading and excavation. Small construction equipment such as power wheel barrows and bob cats would be used to move soil and earth materials that may be generated during trail construction; it is anticipated that cut and fill would be balanced and off-haul of materials would not be required. The final trail construction would be done by hand. The trail would be composed of compacted earth with gravel used only where needed to provide stability. Exposed soil in the construction area would be seeded with a native seed mix.

A number of erosion control features such as a rock rip rap area, drainage lenses, and armored dip would be constructed along the trail to control erosion at the locations where the trail would cross or be close to drainages (**Figure 3.0-19, Regional Park Trail Section**).

Appropriate erosion control and runoff protection measures would be incorporated at and near streams and crossings to provide additional protection. There would be an armored ford crossing (installation of rip rap in the creek bed) in one area of the trail. A switchback and climbing turn element would be constructed at approximately the half way point of the trail which would allow larger elevation changes while limiting steep trail slopes to maintain the integrity and usability of the trail.

There would be no landscaping associated with the regional park trail, although areas disturbed during construction would be hydroseeded with native grasses to help reestablish the vegetation and avoid erosion. The construction of the trail section would take up to 4 months to complete, including mobilization, grading, waiting for grades to settle, final grading, etc. Construction would not be continuous during the overall four-month construction period.



SOURCE: Sonoma County Regional Parks, 2013

FIGURE 3.0-19

Helen Putnam Regional Park Trail Section