

3.18 WILDFIRE

This section evaluates the effects of UC Santa Cruz development under the 2021 LRDP on wildfire risk and exposure. The following analysis considers drivers of wildfire risk, and the elements of development under the 2021 LRDP that could add to such risks or expose people or structures to it. This section also provides background and context related to wildfires, including the regulatory setting, and concepts such as wildfire regime and wildfire behavior, and wildfire management practices.

Comments received on the NOP (See Appendix B) related to wildfire raised concerns regarding evacuation routes and procedures, concerns regarding emergency response, questions regarding the applicability of Public Resources Code (PRC) Section 4291 requirements related to fire protection, and questions regarding how undeveloped lands would be managed to reduce fire risk.

3.18.1 Regulatory Setting

FEDERAL

There are no federal regulations related to wildfire that apply to the 2021 LRDP.

STATE

California Building Code

The California Building Standards Code (CBC) (California Code of Regulations, Title 24) provides minimum standards for the design and construction of buildings and structures in California. Minimum standards are organized under Part 1 to 12 and include code standards for buildings, mechanical, plumbing, energy, historical buildings, fire safety, and green building standards. State law mandates that local government enforce these regulations, or local ordinances, with qualified reasonably necessary and generally more restrictive building standards than provided in the CBC. Title 24 is applicable to all occupancies, or structures, throughout California, whether or not the local government takes an affirmative action to adopt Title 24.

California Fire Code

The California Fire Code (CFC) provides standards related to construction, maintenance, and use of buildings. Topics addressed in the CFC include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazard safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The CFC contains specialized technical regulations related to fire and life safety. It is located in Part 9 of Title 24 of the CCR.

CFC Chapter 49: Requirements for Wildland-Urban Interface Areas

CFC Chapter 49 provides minimum standards to increase building resistance to the intrusion of flame or burning embers projected by a vegetation fire and identifies performance and prescriptive requirements. Section 4906 provides hazardous vegetation fuel management requirements for buildings and structures located on land in a Very High Fire Hazard Severity Zone (VHFHSZ) in Local Responsibility Areas (LRAs) and land in a Moderate Fire Hazard Severity Zone (MFHSZ), High Fire Hazard Severity Zone (HFHSZ), or VHFHSZ in State Responsibility Areas (SRAs). In addition, Section 4907 requires the local entity with jurisdictional authority over areas designated VHFHSZ in LRAs to maintain defensible space near buildings and structures.

Board of Forestry and Fire Protection

The Board of Forestry and Fire Prevention (Board) is a Governor-appointed body within California Department of Forestry and Fire Protection (CAL FIRE). It is responsible for developing the general forest policy of the state, determining the guidance policies of CAL FIRE, and representing the state's interest in federal forestland in California. Together, the Board and CAL FIRE work to carry out the California Legislature's mandate to protect and enhance the state's unique forest and wildland resources.

The Board is charged with developing policy to protect all wildland forest resources in California that are not under federal jurisdiction. These resources include major commercial and non-commercial stands of timber, areas reserved for parks and recreation, woodlands, brush-range watersheds, and all private and state lands that contribute to California's forest resource wealth. In addition, the Board is responsible for identifying VHFHSZs in SRAs and LRAs. Local agencies are required to designate, by ordinance, VHFHSZ, require landowners to reduce fire hazards adjacent to occupied buildings within these zones, and maintain defensible space (Government Code Sections 51179 and 51182). The intent of identifying areas with very high fire hazards is to allow CAL FIRE and local agencies to develop and implement measures that would reduce the loss of life and property from uncontrolled wildfires (Government Code Section 51176).

PRC Sections 4114 and 4130 authorize the Board to establish a fire plan, which, among other things, determines the levels of statewide fire protection services for SRA lands. The primary goals of the 2019 Strategic Plan are focused on fire prevention efforts. Government Code Section 65302.5 gives the Board statutory authority to evaluate General Plan Safety Elements for their land use policies in the SRAs and VHFHSZs, as well as methods and strategies for wildland fire risk reduction and prevention in those areas.

California Department of Forestry and Fire Protection

CAL FIRE is the state agency, established for fire protection and stewardship of over 31 million acres of the state's privately-owned wildlands and to provide emergency services in 36 of California's 58 counties via contracts with local governments. PRC Section 4291 gives CAL FIRE the authority to enforce 100 feet of defensible space around all buildings and structures in mountainous areas, on forest-covered lands, on brush-covered lands, on grass-covered lands, or on any land that is covered with flammable material. PRC Sections 4790 through 4799.04 provide statutory authority for CAL FIRE to administer the California Forest Improvement Program. PRC Sections 4113 and 4125 give CAL FIRE the responsibility for preventing and extinguishing wildland fires in SRAs). The SRAs do not include lands within city boundaries or in federal ownership. The PRC, beginning with Section 4427, includes fire safety statutes that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment with internal combustion engines; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on site for various types of work in fire-prone areas.

2019 Strategic Plan for California

The *2019 Strategic Plan* prepared by CAL FIRE and California Natural Resources Agency lays out central goals for reducing and preventing the impacts of fire in the state (CAL FIRE 2019). The goals are meant to establish, through local, state, federal, and private partnerships, a natural environment that is more resilient and human-made assets that are more resistant to the occurrence and effects of wildland fire. The goals of the *2019 Strategic Plan* include the following:

- ▶ improve core capabilities;
- ▶ enhance internal operations;
- ▶ ensure health and safety; and
- ▶ build an engaged, motivated, and innovative workforce.

In addition to the *2019 Strategic Plan*, individual CAL FIRE Units develop Fire Plans, which are major strategic documents that establish a set of tools for each CAL FIRE Unit for its local area. Updated yearly, Unit Fire Plans identify wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their unit's geographical boundaries. The Unit Fire Plan identifies strategic areas

for pre-fire planning and fuel treatment as defined by the people who live and work locally. The plans include contributions from local collaborators and stakeholders and are aligned with other plans for the area. In April 2018, the San Mateo-Santa Cruz Unit of CAL FIRE prepared a community wildfire protection plan for its area, which includes the LRDP area.

California Vegetation Treatment Program

The California Vegetation Treatment Program (CalVTP), developed by the Board, defines the vegetation treatment activities and associated environmental protections to reduce the risk of loss of lives and property, reduce fire suppression costs, restore ecosystems, and protect natural resources as well as other assets at risk from wildfire. The CalVTP supports the use of prescribed burning, mechanical treatments, hand crews, herbicides, and prescribed herbivory as tools to reduce hazardous vegetation around communities in the Wildland-Urban Interface (WUI), to construct fuel breaks, and to restore healthy ecological fire regimes. CAL FIRE has the primary responsibility for implementing proposed CalVTP vegetation treatments, though many local, regional, and state agencies could also employ the CalVTP to implement vegetation treatments if their projects are within the scope of the CalVTP.

The Program Environmental Impact Report (PEIR) for CalVTP (State Clearinghouse No. 2019012052), certified by the Board on December 11, 2019, provides a project-specific implementation approach for streamlining CEQA review of later site-specific, vegetation treatment projects consistent with the CalVTP and this PEIR, in accordance with procedures described in State CEQA Guidelines Section 15168. The streamlined CEQA review approach would document how a project's environmental effects are covered and which feasible mitigation measures from the CalVTP PEIR are incorporated. This would include evaluation of whether later activities and impacts of site-specific vegetation treatment projects are within the scope of the CalVTP and the PEIR. A "within the scope" finding for later activities would facilitate an increase in the pace and scale of project approvals in a manner that includes environmental protections in compliance with CEQA. Where later vegetation treatment projects do not qualify for a "within the scope" finding, additional CEQA documentation would be prepared.

Executive Order B-52-18

On May 10, 2018, in response to the changing environmental conditions and the increased risk to California's citizens, California Governor Brown issued EO B-52-18 to support the state's resilience to wildfire and other climate impacts, to address extensive tree mortality, increase forests' capacity for carbon capture, and to improve forest and forest fire management. The EO requires the California Natural Resources Agency, in coordination with the Board, CAL FIRE, and other agencies, to increase the pace and scale of fire fuel treatments on state and private lands. EO B-52-18 commits additional state funds for these efforts and calls for doubling the land actively managed through vegetation thinning, prescribed burning, and restoration from 250,000 to 500,000 acres per year to reduce wildfire risk.

Senate Bill 1260

In 2018, Governor Brown signed Senate Bill (SB) 1260, which aims to help protect California communities from catastrophic wildfire by improving forest management practices to reduce the risk of wildfires in light of the changing climate. Among other things, it recognizes that prescribed burning is an important tool to help mitigate and prevent the impacts of the wildfire and includes provisions that encourage more frequent use of prescribed fire in managing California's forestlands. SB 1260 authorizes landowners to conduct prescribed burning to abate fire hazards on brush-covered land, forestland, woodland, grassland, and shrubland in an SRA. In addition, SB 1260 includes provisions for the Board's Vegetative Treatment Program EIR to serve as the programmatic environmental document for prescribed burns.

Senate Bill 901

On September 21, 2018, Governor Brown approved SB 901, which boosts government fire protection efforts by \$1 billion over the next five years. CAL FIRE will oversee those funds, generally divided into two categories: \$165 million per year for fire prevention grants to landowners and for community prevention efforts, and \$35 million to continue CAL FIRE's prescribed burning, research, and monitoring. Landowners will have new permission to help reduce overgrowth by cutting down small and mid-sized trees.

Emergency Response and Evacuation Plans

The State of California Emergency Plan, prepared by the Governor's Office of Emergency Services, was adopted on October 1, 2017 and describes how state government mobilizes and responds to emergencies and disasters in coordination with partners in all levels of government, the private sector, non-profits, and community-based organizations. The Plan, which is a requirement of the California Emergency Services Act, outlines a robust program of emergency preparedness, response, recovery, and mitigation for all hazards, both natural and human-caused. Each local government with a certified disaster council is required to develop its own emergency operations plan (EOP) for their jurisdiction that meet state and federal requirements. Local EOPs contain specific emergency planning considerations, such as evacuation and transportation, sheltering, hazard specific planning, regional planning, public-private partnerships, and recovery planning (Cal OES 2017). UC Santa Cruz adopted its current EOP in November 2016 and is continuing to implement it in compliance with state and federal requirements. The UC Santa Cruz EOP is described in further detail below (UC Santa Cruz 2016).

Prescribed Burn Planning and Implementation

Prescribed burning is a tool used for fire fuel management. Implementing a prescribed burn requires extensive planning, including the preparation of prescription burn plans, smoke management plans, site-specific weather forecasting, public notifications, environmental considerations, and ultimately, favorable meteorological conditions which dictate whether a planned burn can move forward on a given day. These planning efforts are required of any agency planning a prescribed burn and are described in more detail below.

Planning a Prescribed Burn

Areas proposed for prescribed burning are typically identified at the beginning of each season. Prescribed burning often occurs in Spring and Fall, and occasionally in Winter, depending on weather conditions. Prior to prescribed burning, fire containment lines are typically established by clearing vegetation surrounding an area proposed for burning to help prevent the accidental escape of fire.

Once areas suitable for prescribed burning are selected, prescriptions (e.g., wind direction, humidity, weather conditions) are developed in conjunction with modeling in a program to provide specific parameters for burning. The goal is to conduct understory burns, which are safer and minimize long-term damage to vegetation. The goal of understory burns is to conduct a low-intensity burn that burns only the targeted fuel types (i.e., ground and litter fuels). Specific treatment details are described in a prescription burn plan, which incorporates input from review agencies such as the California Department of Fish and Wildlife, local air pollution control districts, and regional water quality control boards, if necessary. Contents of a prescription burn plan also include the date, location, and description of the area in detail, prescriptive weather requirements, fire behavior modeling, the ignition plan, a contingency plan, public notification, a go/no go checklist, and contact information for the burn manager and others in charge of the prescription burn.

CAL FIRE Prescribed Burn Procedures

Incident Action Plan

For every prescribed burn, CAL FIRE also requires the preparation of an Incident Action Plan (IAP) that includes communications and emergency protocols, standard best management practices, and emergency procedures. Specifically, an IAP includes the burn dates; burn hours; weather limitations; the specific burn prescription; a communications plan; a medical plan; a traffic plan; and special instructions such as minimizing smoke impacts to specific local roadways. An IAP also assigns responsibilities for coordination with the appropriate air district, such as conducting onsite briefings, posting notifications, weather monitoring during burning, and other burn related preparations. Development and implementation of the IAP establishes clear safety protocols and minimizes risk during prescribed burns.

Public Notification

Prior to implementing a prescribed burn, CAL FIRE also posts burn information such as burn location and the range of dates in which the burn will occur. This information is disseminated to potentially affected communities, typically in

newspapers and on community bulletin boards. Sometimes press releases that include television and radio coverage are used, as well as social media platforms such as Twitter, to notify the public of upcoming prescribed burns. If planned burns are near public roads, signs are posted at both ends of the roadway segment where prescribed burning will occur.

Executing a Prescribed Burn

CAL FIRE staff required to execute a typical prescribed burn includes an Incident Commander and a field crew. Equipment onsite is determined by the Incident Commander on a case-by-case basis, but typically includes fire engines, large water storage containers, drip torches for ignition, and safety equipment deemed necessary by the Incident Commander. If conditions deviate from the burn plan (e.g., winds change direction, humidity decreases), the burn is rescheduled, and crews transition from active burning activities to patrolling and/or extinguishing. In the event a prescribed burn goes beyond the perimeter of its planned area, the crew on-site works to control the escape.

“Mopping up” occurs after the prescribed burn and includes extinguishing any smoldering material along a fire’s edge, and this includes ensuring logs and debris cannot roll across the fire line, making sure all burning fuel is burnt out or is spread or buried to avoid sparks traveling, and clearing all sides of the fire containment line of snags, rotten logs, stumps, singed brush, and low hanging limbs of trees. Crews monitor the area until the fire is completely out.

UNIVERSITY OF CALIFORNIA

UC Santa Cruz Office of Emergency Services

The UC Santa Cruz Office of Emergency Services (OES) was formed on July 1, 2014 under the Associate Vice Chancellor of Risk & Safety Services to house the campus fire marshal, emergency management, business continuity, public education, and mass notification (CruzAlert) functions formerly performed by the UC Santa Cruz Fire Department, as well as to manage the fire services contract with Santa Cruz Fire Department (SCFD). The Campus Fire Marshal was transferred from the UC Santa Cruz Fire Department to OES, and a new Deputy Fire Marshal position was created to assist the Campus Fire Marshal and to take over inspection activities. The Campus Emergency Manager was designated as the Director of Emergency Management and also transferred to OES to oversee emergency management, public education, and mass notification programs. The Director of Emergency Management is also responsible for the fire services contract and is the primary campus liaison to the SCFD.

Emergency Operations Plan

As noted above, UC Santa Cruz adopted its EOP in November 2016. The EOP establishes policies, procedures and an organizational structure for the preparedness, response, recovery and mitigation of disasters and events impacting the main campus and its satellite facilities. The plan also provides guidance to departments, units and activities within UC Santa Cruz with a general concept of potential emergency assignments before, during, and following emergency situations. The UC Santa Cruz EOP adopts the Standardized Emergency Management System (SEMS), an emergency management organizational structure used by emergency response agencies statewide to coordinate response to multi-jurisdictional or multi-agency incidents. By incorporating SEMS, UC Santa Cruz implements the same emergency response organization structure and terminology as other city, county, and state agencies. SEMS incorporates:

- ▶ The Incident Command System (ICS), a field-level emergency response system based on management by objectives;
- ▶ Multi-Agency Coordination, affected agencies working together to coordinate allocations of resources and emergency response activities;
- ▶ Mutual Aid, a system for obtaining additional emergency resources from non-affected jurisdictions;
- ▶ Operational Area Concept, a system for coordinating damage information, resource requests and emergency response; and
- ▶ National Incident Management System (NIMS), a system for coordinating federal resources and response.

The ICS is a foundation part of the SEMS; it provides an organizational structure that can grow rapidly in response to the requirements of an emergency. The structure identifies employee roles, activates certain positions needed to manage a particular incident or level of emergency, promotes unity of command, and establishes a unified command when multiple jurisdictions or agencies have incident response responsibilities. The UC Santa Cruz EOP also outlines evacuation procedures for building emergencies (Stage 1) and campus-wide emergencies (Stage 2). The procedures and actions that students, faculty, and staff should take during an evacuation are communicated by residential staff assigned to a college, building emergency coordinator in academic/administrative buildings, public address announcement from public safety vehicles, and the CruzAlert system. CruzAlert is the UC Santa Cruz emergency notification system used to quickly communicate information to the campus community during emergency situations (UC Santa Cruz 2016).

In May 2019, UC formed the Systemwide Air Quality Protocol Working Group to evaluate operational- and health-related issues and develop recommendations for how UC campuses should respond to various conditions and potential unhealthy air quality due to smoke from wildfire events. The working group compiled an air quality index (AQI) based decision matrix for wildfire smoke events, which was recommended for implementation at all UC campuses. As evidenced by procedures implemented as part of UC Santa Cruz's response to the CZU Lightning Complex fire, UC Santa Cruz implements the decision matrix and stages the level and type of response/requirements, based on AQI values (UC Santa Cruz 2021).

UC Santa Cruz Fire Safety Standards

As detailed in the UC Santa Cruz Annual Campus Security and Fire Safety Report for the campus, UC Santa Cruz OES conducts evacuation drills during the first few weeks of each academic year for student housing facilities and conducts evacuation drills for other buildings throughout the year. UC Santa Cruz OES also maintains an ongoing schedule of inspections for all buildings to ensure that fire hazards are mitigated and also conducts plan reviews and inspections of building construction and renovation activities. The UC Santa Cruz Physical Plant department is charged with testing and maintaining fire protection systems, including fire alarms and fire sprinkler systems, to ensure that all systems function properly.

Fire alarm systems are monitored by the UC Santa Cruz Police Department (PD) Dispatch Center, and SCFD resources are dispatched to all alarm activations or other reports of fire. Students and employees who refuse to evacuate during an alarm may be subject to disciplinary action in accordance with UC Santa Cruz policies and campus implementing regulations. Students and employees are trained to use stairwells instead of elevators during evacuations, and this is reiterated during evacuation drills. All elevators are equipped with emergency phones that connect directly to the UC Santa Cruz PD Dispatch Center for use if an individual is trapped in an elevator, and the SCFD is trained in elevator rescue techniques (UC Santa Cruz 2019).

LOCAL

As noted in Section 3.0.1, "University of California Autonomy," UC Santa Cruz, a constitutionally created State entity, is not subject to municipal regulations of surrounding local governments for uses on property owned or controlled by UC Santa Cruz that are in furtherance of its educational purposes. However, UC Santa Cruz may consider, for coordination purposes, aspects of local plans and policies of the communities surrounding the campus when it is appropriate and feasible, but it is not bound by those plans and policies in its planning efforts.

County Office of Emergency Services

The Operational Area Emergency Management Plan (EMP) outlines the County's planned response to emergency situations associated with large-scale emergency incidents within or affecting Santa Cruz County. In addition, EMP outlines the emergency management organizational structure for the Santa Cruz County Operational Area. The EMP is reviewed, updated, republished, and redistributed every four years. The County Office of Emergency Services (County OES) is responsible for maintaining records of EMP revisions (County of Santa Cruz 2015).

City of Santa Cruz Local Hazard Mitigation Plan

The City's 2018 Local Hazard Mitigation Plan, adopted by the City Council on October 9, 2018, identifies fire hazard areas within the City of Santa Cruz and identifies several wildfire mitigation actions, including cooperative fire protection agreements, reduction of fire risk through vegetation management and appropriate code enforcement, promotion of built-in fire extinguishing and warning systems, and fire prevention programs in schools and other institutions (City of Santa Cruz 2018). Fire hazard areas within the City of Santa Cruz include Pogonip City Park, DeLaveaga, Moore Creek Preserve, Arana Gulch, Arroyo Seco Canyon, and the main residential campus. Pogonip City Park is located directly east of the main residential campus, and Moore Creek Preserve is located north of the Westside Research Park. The City and UC Santa Cruz currently maintain a cooperative agreement to collaboratively avoid/minimize the threat from wildland-urban interface (WUI) fires.

City of Santa Cruz Requirements for Wildland-Urban Interface Fire Areas

The City of Santa Cruz adopted, by reference, the Building Construction Requirements and Vegetation and Fuel Management Requirements outlined in Chapter 49 of the California Fire Code. The requirements apply to the WUI areas located in the city. The southern portion of the lower campus is included in WUI Map 3 (City of Santa Cruz 2020a). The Building Construction Requirements include fire- or flame-resistant roofing material, roof vent coverings/screens, exterior siding, skylights, windows, doors, and decks. These requirements apply to all new construction, new materials used for remodels and construction, and accessory structures on the same property. The Vegetation and Fuel Management Requirements include clearing vegetation within 100 feet of structures, removing trees and branches that extend within 100 feet of a chimney/stovetop outlet, clearing roofs of vegetative debris, and maintaining vegetation adjacent to overhanging of a building (City of Santa Cruz 2020b).

3.18.2 Environmental Setting

WILDFIRE BEHAVIOR AND CONTROLLING FACTORS

To understand the context of the wildfire regime at UC Santa Cruz and the interplay of the wildland fire setting and development on campus, some basic wildfire concepts and background information are helpful. Wildfire behavior is a product of several variables, primarily weather, vegetation, topography, and human influence, which together combine to produce local and regional fire regimes that affect how, when, and where fires burn. The fire regime, meanwhile, is characterized by several factors, including fire frequency, intensity, severity, and area burned.

Human Influence on Wildfire

Human influence on wildfire is broad and can be substantial. It includes direct influences such as the ignition and suppression of fires, and indirect influence through climate change and alterations in land use patterns that support modified vegetative regimes and increased development in the WUI (refer to the "Climate Change and Wildfire" section, below, for more discussion on the indirect effect of climate change on wildfire).

Human influence on wildfire most substantially controls fire frequency (i.e., number of ignitions) because humans are responsible for most wildfire ignitions. In California specifically, humans account for starting an estimated 95 percent of wildfires (Syphard et al. 2007, Syphard and Keeley 2015). Human ignitions include a multitude of sources, including escapes from debris and brush-clearing fires, electrical equipment malfunctions, campfire escapes, smoking, fire play (e.g., fireworks), vehicles, and arson. Consequently, areas near human development generate fires at a more frequent rate than very remote or urban areas (Syphard et al. 2007, Mann et al. 2016, Balch et al. 2017). Circumstances in California have made the environment particularly vulnerable to human-caused fires with expansion of the WUI and introduction of more people in areas susceptible to wildfire at all times of the year. A 2018 study indicates that the number of houses in the WUI increased nationwide by 41 percent between 1990 and 2010 (Radeloff et al. 2018).

Climate Change and Wildfire

Wildfires are a significant threat throughout California, especially so in recent years as the landscape responds to climate change and decades of fire suppression. It is estimated that since 1985, more than 50 percent of the increase

in the area burned by wildfire in the western United States is attributable to anthropogenic climate change (Abatzoglou and Williams 2016). As climate change persists, it will produce increasing temperatures and drier conditions that will generate abundant dry fuels. The 2020 Lightning Complex fires were the result of lightning storms coupled with dry fuels that ignited a series of fires throughout Northern California, including Santa Cruz County. Wildfires tend to be larger under drier atmospheric conditions and when fed by drier fuel sources (Balch et al. 2017).

WILDFIRE RISK REDUCTION

Wildfire mitigation and prevention requires a complex and multifaceted approach. Wildfire prevention can generally be categorized as some combination of hazardous fuel reduction projects, fire prevention planning, and fire prevention education. Wildfire prevention programs and hazard reduction efforts by multiple participants, including private landowners, homeowners, non-governmental organizations, as well as local, state, and federal agencies are necessary and must work in concert to maximize effectiveness of all treatments and programs.

Vegetation Management

Vegetation management is the primary approach to wildfire management because it can reduce the intensity and severity of wildfire, slowing fire movement and creating favorable conditions for firefighting to protect targeted, high-value resources (Carey and Schuman 2003, Prichard et al. 2010). Fuel reduction has proven successful where it is targeted at protecting specific resources in limited geographic areas, such as in areas of extreme fire danger or in the WUI (Loudermilk et al. 2014). Areas that are treated often exhibit different fire progression characteristics and reduced fire severity from areas that are not treated (Lydersen et al. 2017, Johnson and Kennedy 2019). Firefighting effectiveness has been reportedly increased by vegetation management treatments, due to increased visibility in treated areas, decreased heat and smoke of wildfire, increased penetration of retardant to surface fuels, safe access to the fire, and the ability to quickly suppress spot fires in treated areas (Kalies and Yocom Kent 2016).

Where treatments have occurred, the pattern of wildfire progression may be limited in some areas to low-intensity underbrush and surface burning, which can create safe conditions for firefighters to successfully suppress fires in areas near homes or other structures, or around areas of high resource value. Fuel treatments also promote faster forest recovery post-fire by causing less damage to soils and leaving some live vegetation within burn areas (USFS 2009), increasing seedling regeneration (Tubbesing et al. 2019), protecting resources such as soils, wildlife, riparian function, and wetlands (Kim et al. 2013), and reducing drought-related tree mortality (Restaino et al. 2019).

Certain treatments, such as hand or mechanical thinning followed by prescribed fire, or prescribed fire alone, are very effective at reducing wildfire severity, and related ecological impacts are often neutral to positive (Winford et al. 2015). Quantitative modeling has provided robust empirical support for the basic principles of tree thinning treatments coupled with the reduction of surface fuels through prescribed burning (Martinson and Omi 2013). Prescribed burning as a follow-up treatment to reduce surface ladder fuels and to eliminate slash (i.e., limbs and branches) generated by mechanical thinning has shown to have the greatest benefit in moderating fire behavior (Martinson and Omi 2013).

Community Wildfire Hazard Reduction Programs

Fire-adapted communities are communities located in a fire-prone area that require little assistance from firefighters during a wildfire. The general elements of a fire-adapted community include (University of Nevada 2010):

- ▶ Community protection: well-designed fuel breaks and safe areas.
- ▶ Defensible space: proper management of vegetation surrounding the home.
- ▶ Access: good access helps emergency responders arrive in a timely manner.
- ▶ Evacuation: prepared communities can evacuate safely and effectively.
- ▶ Built environment: appropriate home construction and maintenance resists ignitions.

Implementing community wildfire hazard reduction practices is an important component of establishing a fire-adapted community; key practices include establishing defensible space and implementing home hardening features. Homes have become one of the most combustible parts of the landscape and are increasingly vulnerable as development extends into the WUI; in certain cases, trees may survive a fire while a home may burn. PRC Section 4291, "Clearance Around Structures," requires individual homeowners to clear and remove vegetation around homes and buildings. Compliance with PRC Section 4291 is required by any person who owns, leases, controls, operates or maintains a building or structure in or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material and is within the SRA. PRC Section 4291 requires 100 feet of "defensible space" (or to the property line if less than 100 feet) from every building or structure that is used for support or shelter of any use or occupancy. CAL FIRE has developed specific defensible space guidelines for homeowners per PRC 4291, to help individual homeowners implement defensible space, as well as implement home hardening techniques (CAL FIRE 2020a).

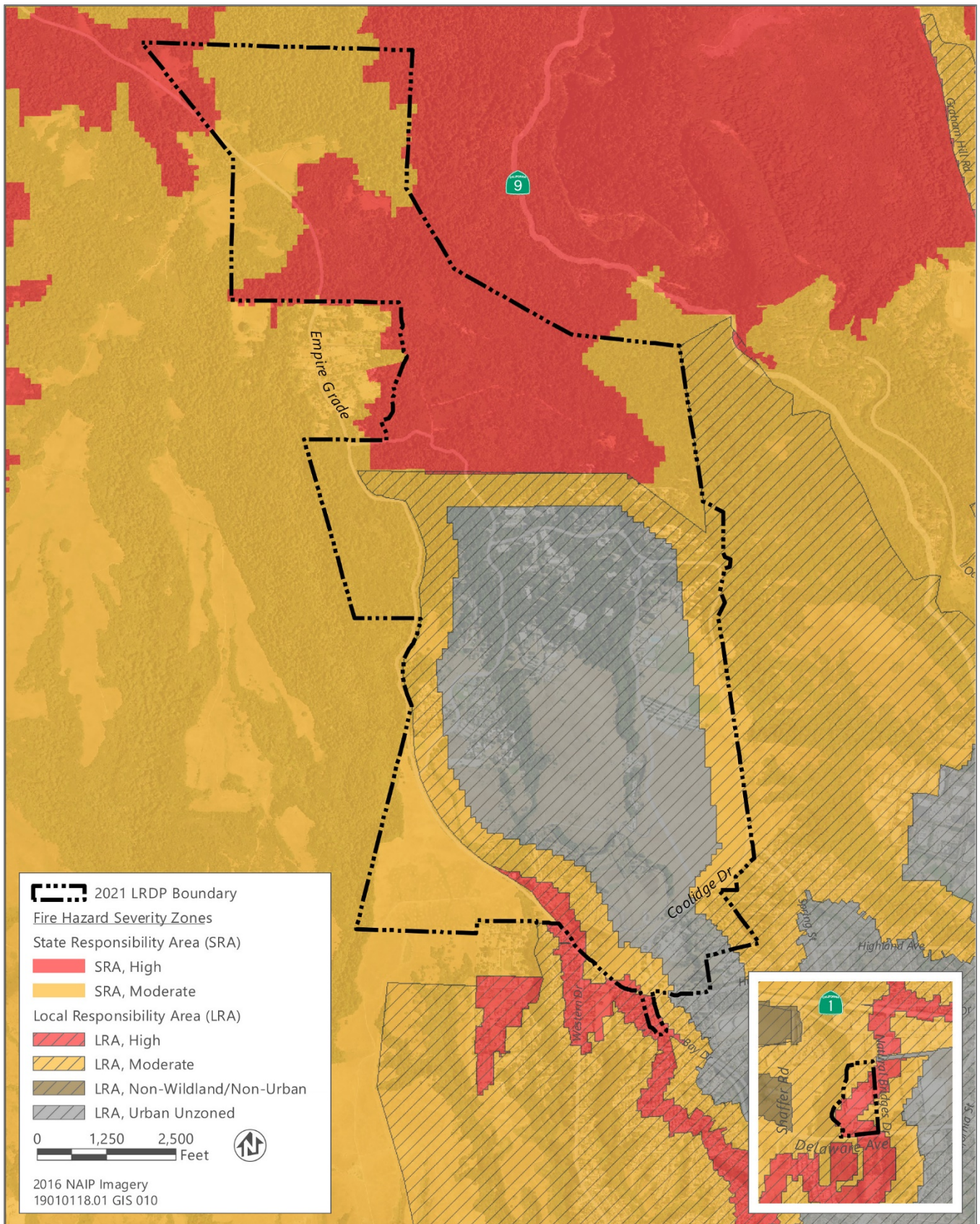
CAMPUS WILDFIRE SETTING

UC Santa Cruz main residential campus represents a diverse land use setting, which is comprised of a moderately dense clusters of academic and research facilities in a central core area, encircled by clusters of development (primarily self-contained colleges and schools) around its periphery, and low-density clusters on the lower campus. This results in a variety of wildfire risk regimes in the various parts of the campus and on adjacent lands.

CAL FIRE identifies Fire Hazard Severity Zones at the local, state, and federal level, which cover all fire-prone areas in the state, regardless of land ownership or responsibility. The main residential campus and surrounding environs represent the combination of a built environment nestled in a region of moderate to high wildfire severity. Developed portions of the central and lower campus have been classified by CAL FIRE as "urban, unzoned," with respect to wildfire hazard; however, as shown in Figure 3.18-1, the northern portion of the campus is largely rated high wildfire severity, and moderate fire severity lands encircle the main residential campus on the west, south, and east. Areas to the southeast of the main residential campus within the city of Santa Cruz are classified urban, unzoned (CAL FIRE 2007). As such, the potential danger exists for wildfire to occur both on and adjacent to the main residential campus. As shown in Figure 3.18-2, there have been several fires recorded by CAL FIRE that have occurred within a distance that could be expected to spread onto the main residential campus lands. The CZU Lightning Complex fire, which burned approximately 86,509 acres in Santa Cruz and San Mateo Counties in August and September 2020, after the NOP for the 2021 LRDP was published, is also identified in Figure 3.18-2 (CAL FIRE 2020b). The regional setting is largely forested lands with ample fuels and rugged, steep terrain that makes firefighting challenging. The fire severity at the Westside Research Park ranges from moderate to high wildfire severity. Land to the north, east, south, and west of the Westside Research Park are also ranges from moderate to high wildfire severity.

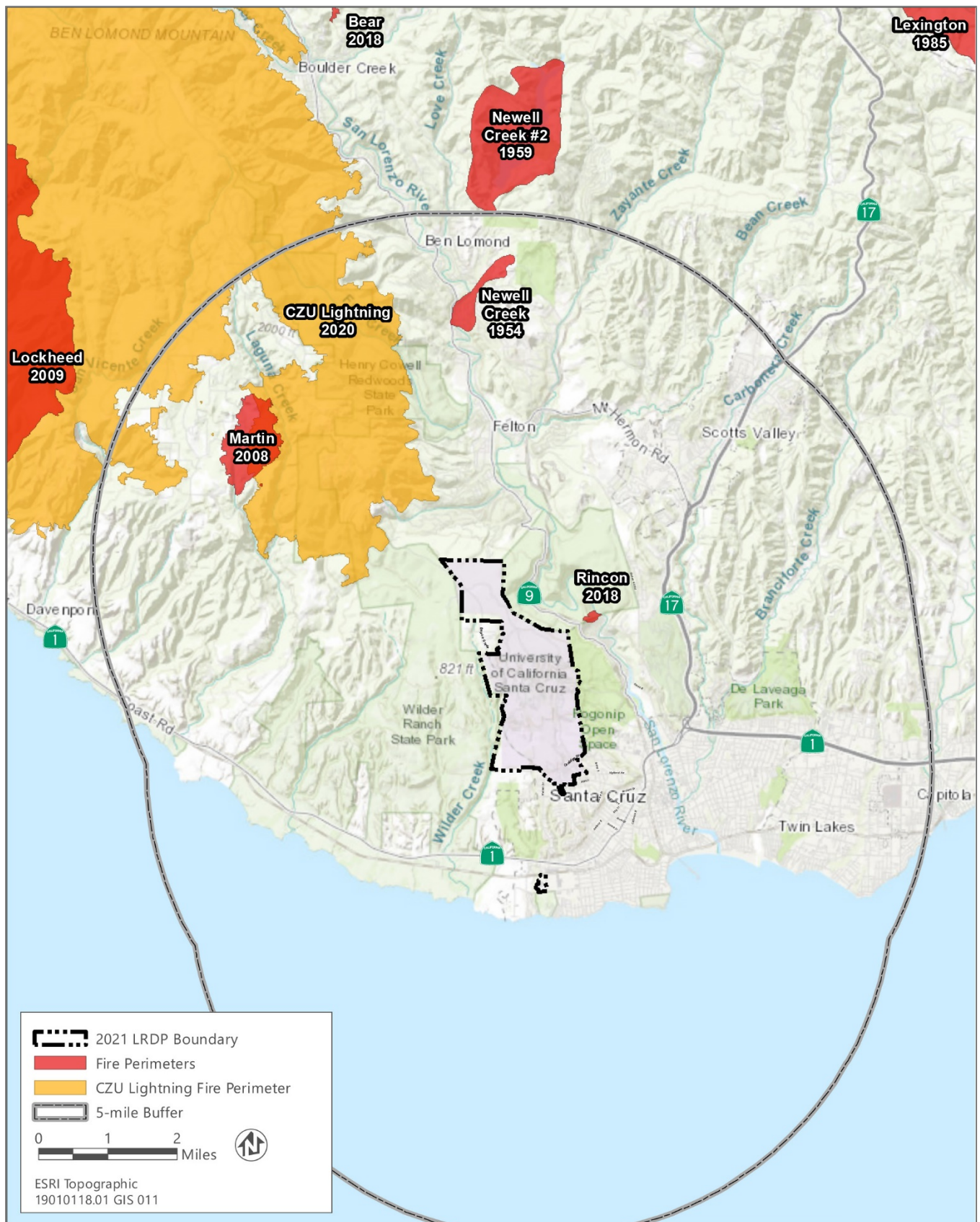
VEGETATION MANAGEMENT

In 2017, UC Santa Cruz entered into a cooperation agreement with CAL FIRE on a project to create a shaded fuel break along 3.6 miles of Empire Grade that included brush cutting and pile burning within approximately 50 feet off both sides of the road. The project also included broadcast and pile burning in a total of approximately 22 acres of coastal prairie and 12.5 acres of chaparral for a total of 34.5 acres to reduce fuel loads and benefit habitat. The project was completed in 2019. In collaboration with CAL FIRE, UC Santa Cruz plans to renew the 2017 Vegetation Management Plan. The renewal would allow CAL FIRE to maintain the shaded fuel break along the section of Empire Grade located adjacent to the main residential campus and would allow for periodic grassland burns. The agreement would last for a period of 10 years.



Source: data downloaded from CAL FIRE (adopted 2007)

Figure 3.18-1 Fire Hazard Severity Zones



Source: data downloaded from CAL FIRE in 2020

Figure 3.18-2 Fire History

UC Santa Cruz evacuated the main residential campus during the CZU Lightning Complex fire, which burned in Santa Cruz and San Mateo Counties during August and September 2020. CAL FIRE cleared vegetation and constructed two fire breaks within the LRDP area to create a physical barrier to slow the fire's progress. One fire break, located in the upper campus and measuring 13,467 linear feet, required the clearing of 9.03 acres within the LRDP area. The other fire break was located east of the main residential campus, measured 2,403 linear feet, and required clearing of 1.61 acres; however, this fire break originates on Empire Grade and extends into state-owned land.

3.18.3 Environmental Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

Thresholds of significance are based on Appendix G of the State CEQA Guidelines. The 2021 LRDP would result in a significant impact related to wildfire if it would:

- ▶ impair an adopted emergency response plan or emergency evacuation plan;
- ▶ due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- ▶ require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- ▶ expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

ANALYSIS METHODOLOGY

The impact analysis considers the potential for increased wildfire risk from the implementation of the 2021 LRDP in terms of exposure of more people and structures to wildfires, and of the potential for increased wildfire frequency and intensity. It also evaluates the effects of implementing the 2021 LRDP on emergency planning and evacuation in the event of a wildfire, and any conflicts with existing emergency plans and policies. To determine the potential increased risks associated with the 2021 LRDP, the baseline condition representing existing wildfire risk in the plan area was established as of the date of the NOP was published. In doing this, natural conditions and existing features of the campus landscape contributing to wildfire risk, as well as emergency ingress and egress, and other emergency planning features that reduce risks are presented and discussed in the impacts below. These elements have been evaluated in relation to features of the 2021 LRDP that influence wildfire risk and relate to emergency planning, and the net balance in increased or decreased wildfire risk is described.

ISSUES NOT EVALUATED FURTHER

Installation or Maintenance of Associated Infrastructure That May Exacerbate Fire Risk

The effects of the installation or maintenance of wildfire-related infrastructure on other environmental resources are addressed in the applicable resource sections throughout this EIR and are considered as part of the overall development of campus land uses as identified in the proposed land use map and envisioned development areas, as shown in Chapter 2, "Project Description." Wildfire-related infrastructure, under the proposed 2021 LRDP, would continue to include expanded fuel breaks and other vegetation management, and additional wildfire suppression equipment caches and associated storage facilities. Given the amount of development at the Westside Research Park, wildfire-related infrastructure would include vegetation management activities to reduce fuel loads consistent with the City of Santa Cruz Local Hazard Mitigation Plan. The effects associated with installation or maintenance of such wildfire-related infrastructure are varied and may affect numerous resources, and are discussed in reference to those resources, including scenic resources (addressed in Section 3.1, "Aesthetics"), biological resources (addressed in

Section 3.5, "Biological Resources"), hazards (addressed in Section 3.9, "Hazards and Hazardous Materials"), hydrology and water quality (addressed in Section 3.10, "Hydrology and Water Quality"), and emergency access (addressed in Section 3.16, "Transportation"). This section does not address the risk of wildfire that could stem from installation of power transmission or generation facilities such as power lines, because addition or expansion of these facilities is not proposed under the 2021 LRDP.

IMPACTS AND MITIGATION MEASURES

Impact 3.18-1: Compatibility with Adopted Emergency Response and Evacuation Plans

UC Santa Cruz has an adopted EOP, which comprises the entirety of emergency planning activities that govern emergency response and evacuation on the main residential campus and the Westside Research Park and would also encompass new development under the 2021 LRDP. Implementation of the 2021 LRDP would not interfere with an adopted emergency response or evacuation plan, but construction activities for projects under the 2021 LRDP could result in short-term, temporary impacts on street traffic because of roadway improvements and potential extension of construction activities into the right-of-way. This could result in a reduction in the number of lanes or temporary closure of certain street segments. Any such impacts would be limited to the construction period and would affect only adjacent streets or intersection. This would be a **significant** impact.

US Santa Cruz currently has a robust framework for emergency preparedness and response procedures that are outlined in the EOP. The EOP primarily details responsibilities and coordination among responsible parties in the event of various types of emergencies on campus, including wildfire. In addition, the UC Santa Cruz EOP outlines evacuation procedures for building emergencies and campus-wide emergencies. New development on the main residential campus and Westside Research Park would be subject to the EOP; there are no elements in the 2021 LRDP that would interfere with the emergency response and evacuation procedures set forth in the EOP. However, implementation of the 2021 LRDP could interfere with the UC Santa Cruz EOP through construction-related road closures. UC Santa Cruz requires contractors to notify the designated UC representative at least 2 weeks prior to any proposed roadway closure. In addition, when paths, lanes, or roadways are blocked, UC Santa Cruz requires detour signs to be installed that clearly designate an alternate route. The UC Santa Cruz office of Physical Planning, Development, and Operations requires that maintenance and project managers notify UC Santa Cruz PD and SCFD of road closures and alternative routes. However, notification requirements do not ensure that adequate emergency services are available.

Circulation and transportation infrastructure improvements under the 2021 LRDP are intended to enhance alternative transportation opportunities and increase connectivity within UC Santa Cruz and to the city. Several new roads would be added to the transportation network in order to provide better cross-campus transit service, create safer bicycle and pedestrian environments, and fill gaps in the existing roadway system. Existing and proposed roadways would remain accessible to emergency vehicles under the LRDP, no permanent road closures are proposed. Any roadway extensions and new streets would be designed and constructed to include bicycle, pedestrian, and transit facilities, where feasible, and in a manner consistent with UC requirements (e.g., the UC Facilities Manual that requires the UC system, as a whole and inclusive of UC Santa Cruz, to comply with Title 24 California Building Standards Code, Parts 1-12 and all amendments.) UC Santa Cruz would also comply with applicable federal and state regulations related to roadway and transportation facility design, and with local regulations where campus roadways connect to city and county facilities. As discussed in Section 3.16, "Transportation," while adequate emergency access within the LRDP area is already provided, the proposed roadway extensions and new streets would provide improved network connections that could improve emergency vehicle access throughout the LRDP area.

However, implementation of the 2021 LRDP could result in short-term, temporary impacts on emergency vehicle access and evacuation because of roadway improvements and potential extension of construction activities into the right-of-way. This could result in a reduction in the number of lanes or temporary closure of certain street segments. While such impact would be limited to the construction period and would affect only limited streets or intersections, such a blockage could slow down evacuations or emergency access; this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.9-4: Prepare and Implement Site-Specific Construction Traffic Management Plans

(Refer to Section 3.9, "Hazards and Hazardous Materials")

Significance after Mitigation

Preparation and implementation of a construction traffic management plan, as required by Mitigation Measure 3.9-4, would adequately address any potential conflicts with emergency access or evacuation routes during construction by communicating proposed lane and road closures to first responders and allowing first responders to plan accordingly to ensure that emergency response times and adequate emergency access are maintained. As a result, with mitigation this would be a **less-than-significant** impact.

Impact 3.18-2: Wildfire Risk Associated with New Development and Land Use Patterns

Implementation of the 2021 LRDP would place new development within the north campus, and along the margins of existing development on the central and lower campus. The UC Santa Cruz EOP outlines evacuation procedures for building emergencies and campus-wide emergencies, and the UC Santa Cruz OES also maintains an ongoing schedule of inspections for all buildings to ensure that fire hazards are mitigated and also conducts plan reviews and inspections of building construction and renovation activities. However, in the absence of an adopted Vegetation Management Plan, the wildfire risk associated with placing new development in close proximity to an HFHSZ and proposed changes in land use under the 2021 LRDP would be **significant**.

The 2021 LRDP would accommodate an additional 12,830 individuals on the campus above the existing daily campus population and would allow construction and operation of an additional 5,628,824 assignable square feet of building space to accommodate this additional population. The 2021 LRDP would also create changes in land use designations for some portions of the main residential campus and the Westside Research Park, resulting in both expansion and contraction of certain land uses across the LRDP area, as depicted in Table 3.18-1 and Table 3.18-2, below.

CAL FIRE identifies Fire Hazard Severity Zones at the local, state, and federal level, which cover all fire-prone areas in the state, regardless of land ownership or responsibility. The UC Santa Cruz main residential campus and the surrounding environs represent a combination of a built environment nestled in a region of moderate to high wildfire severity. As shown in Figure 3.18-1, developed portions of the central and lower campus have been classified by CAL FIRE as "urban, unzoned," with respect to wildfire hazard; however, the northern portion of the LRDP area is largely rated HFHSZ, and MFHSZ lands encircle the main campus in the west, south, and east. Areas to the southeast of the main residential campus within the city of Santa Cruz are classified urban, unzoned (CAL FIRE 2007). The fire severity at the Westside Research Park ranges from MFHSZ to HFHSZ. Land to the north, east, south, and west of the Westside Research Park also ranges from moderate to high wildfire severity. The Westside Research Park is largely surrounded by urban development to the north, east, and south, and areas directly to the east are classified urban, unzoned. Given the range in wildfire severity classifications within the LRDP area, potential danger exists for wildfire to occur both on and adjacent to the main residential campus and Westside Research Park. Additionally, as described above, the prevailing trend in California indicates an increase in the severity and frequency of wildfires over time as a result of climate change, modified vegetation regimes, and increasing human influence. Such trends are expected to continue and will pose an increasing threat to wildland areas and nearby urban environments, such as at UC Santa Cruz main residential campus and Westside Research Park, regardless of the actions that UC Santa Cruz takes in terms of the adoption and implementation of the 2021 LRDP.

The increase in the campus population associated with implementation of the 2021 LRDP, and the development of buildings to accommodate population growth, by the sheer probability of adding more people to the area, would increase the risk of wildfire on or near the main residential campus and Westside Research Park. Human-caused wildfires tend to be generated by activities such as debris and brush-clearing fires, electrical equipment malfunctions, campfire escapes, smoking, fire play (e.g., fireworks), vehicles, and arson. As discussed in Chapter 2, "Project Description," the 2021 LRDP supports a compact academic core by concentrating development areas in the already-developed portions of the central campus core, where the risk of wildfire ignitions is very low even when such

activities or risks may occur. For example, while electrical equipment malfunctions would be possible, and vehicles would be present on campus, both would be overwhelmingly likely to be located within the central campus core, which is designated “urban, unzoned,” by CAL FIRE.

Table 3.18-1 Summary of Potential Land Use Changes on the Main Residential Campus under 2021 LRDP by Land Use Type

Land Use Designations	Acreage Under the 2005 LRDP, as Amended ^{1,2}	2021 LRDP Acreage ²	Net Change
Academic Land Use Designation			
Academic & Support	132	163	+31
Residential Land Use Designations			
Colleges and Student Housing	245	277	+32
Employee Housing	75	82	+7
Open Space Land Use Designations			
Outdoor Research (Site Research and Support in the 2005 LRDP)	152	74	-78
Campus Natural Reserve	410	789	+379
Natural Space (Protected Landscape in the 2005 LRDP)	503	513	+10
Campus Resource Lands	318	—	-318
Campus Habitat Reserve ³	26	26	0
Other			
Historic District	—	28	+28
Recreation & Athletics	86	67	-19
Facilities & Operations	89	21	-68

¹ Two minor amendments were made to the 2005 Land Use Map. In 2016, Phase 1 of the Recycling Yard Project amended the 2021 LRDP by converting 1.6 acres of land from Protected Landscape to Campus Support and 2.1 acres of land from Site Research and Support to Campus Support for a total of 3.7 acres converted to Campus Support. In 2019, approximately 17 acres of land were redesignated from Campus Resource Land to Colleges and Student Housing in an LRDP amendment for the Student Housing West Project, which was approved by the Regents in 2019; however, project implementation was delayed due to a legal challenge to the EIR. The Superior Court upheld the adequacy of the EIR but overturned the approval based on issues with the Regents’ findings. It is anticipated that the Regents will consider re-approval of the Student Housing West project prior to certification of the 2021 LRDP EIR.

² Acreages are approximate, include rounding, and are based on 2005 LRDP, Draft 2021 LRDP, County parcel information, and GIS data.

³ Campus Habitat Reserve is composed of two mitigation parcels: IAD Preserve, which is 12.5 acres, and IAA, which is 13 acres. Both IAD Preserve and IAA Preserve were preserved under the HCP prepared in support of the Incidental Take Permit (ITP) for the Ranch View Terrace project. The IAA Preserve is preserved in perpetuity, and IAD Preserve is preserved through the ITP term of 60 years. The IAD Preserve has an Employee Housing overlay under the 2021 LRDP, which would require a modification to the HCP if it were to be developed in the future.

Source: UC Santa Cruz 2020.

Table 3.18-2 Summary of Potential Land Use Changes on the Westside Research Park under 2021 LRDP by Land Use Type

Land Use Designations	Acreage under the 2005 LRDP ¹	2021 LRDP Acreage ¹	Net Change
Academic & Support (Academic Core in the 2005 LRDP)	18	7	-11
Mixed Use	—	11	11

¹ Acreages are approximate, include rounding, and are based on 2005 LRDP, Draft 2021 LRDP, County parcel information, and GIS data.

Source: UC Santa Cruz 2020.

Construction and operation under the 2021 LRDP would involve the use of hazardous materials including petroleum products, biohazards, radioactive materials, volatile, flammable, and explosive substances (See Section 3.9, "Hazards and Hazardous Materials"). UC Santa Cruz Environmental Health and Safety department is charged with implementing measures, directly and through campus departments, designed to ensure compliance with applicable federal and state laws and regulations related to the proper use, storage, and transport of hazardous materials. Specifically, all individuals who handle hazardous materials are appropriately trained and are provided with Material Safety Data Sheets, which provide chemical safety information about precautions for protecting against known hazards associated with the material and identify protocols proper storage and disposal of chemicals. In addition, the Designated Campus Fire Marshall is responsible for ensuring compliance with the proper storage, handling, and use of explosive, flammable, combustible, toxic, corrosive, and other hazardous materials. Compliance with applicable federal and state laws and regulations related to the proper use, storage, and transport of hazardous materials would reduce the risk of wildfire ignition from the use of hazardous materials.

Implementation of the 2021 LRDP would place new development within the north campus area and along the margins of existing development on the central and lower campus. Specifically, the expansion of administrative and residential areas on campus (see Table 3.18-1) would require clearing of vegetation and elimination of some natural space and encroachment into undeveloped, medium and high-fire risk areas as designated by CAL FIRE. These changes would likely result in reduced wildfire risk on the newly developed lands, as they transition from natural, vegetated landscapes to a more urban environment after development. However, urban encroachment, especially in the northern portion of the campus, could lead to exposure of new development to increased wildfire risks.

Under the 2021 LRDP, future development would result in short-term soil-disturbing activities that could lead to increased erosion including grading, trenching, boring, and removal of trees and other vegetation. As discussed in Section 3.7, "Geology and Soils," UC Santa Cruz has developed erosion control standards that are based substantially on Chapter 16.22 of the Santa Cruz County Code (Erosion Control Ordinance). These standards are included in the Campus Standards Handbook and incorporated by reference. Additionally, projects involving construction sites that are 1 acre or more are required to prepare and implement a storm water pollution prevention plan (SWPPP) to comply with National Pollutant Discharge Elimination System (NPDES) requirements for construction site storm water discharges. Plans include measures such as: design and construction of cut and fill slopes in a manner that minimizes erosion, protection of exposed slope areas, control of surface flows over exposed soils, use of wetting or sealing agents or sedimentation ponds, limiting soil excavation in high winds, construction of beams and runoff diversion ditches, and use of sediment traps, such as hay bales. Compliance with UC Santa Cruz erosion control standards and NPDES requirements would ensure that implementation of the 2021 LRDP would not destabilize soils such that substantial risks related to post fire landslides or debris flow would be created.

As discussed above under Impact 3.18-1, the UC Santa Cruz EOP outlines evacuation procedures for building emergencies (Stage 1) and campus-wide emergencies (Stage 2). The procedures and actions that students, faculty, and staff should take during an evacuation are communicated by residential staff assigned to a college, building emergency coordinator in academic/administrative buildings, public address announcement from public safety vehicles, and the CruzAlert system. CruzAlert is the UC Santa Cruz emergency notification system used to quickly communicate information to the campus community during emergency situations UC Santa Cruz OES also maintains an ongoing schedule of inspections for all buildings to ensure that fire hazards are mitigated and also conducts plan reviews and inspections of building construction and renovation activities. The UC Santa Cruz Physical Plant department is charged with testing and maintaining fire protection systems, including fire alarms and fire sprinkler systems, to ensure that all systems function properly. In addition, UC Santa Cruz plans to partner with CAL FIRE to renew the 2017 Vegetation Management Plan, which included sections of UC Santa Cruz and enabled the shaded fuel break work along Empire Grade and the broadcast burns in coastal prairie and chaparral habitats. The renewal would allow CAL FIRE to maintain the shaded fuel break along the section of Empire Grade and would allow for periodic grassland burns to reduce wildfire risk in the LRDP area. However, the absence of an adopted Vegetation Management Plan, coupled with increased campus population and buildings more proximate to high fire hazard zones, increases the wildfire risk under the 2021 LRDP. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.18-2: Prepare Campus-Wide Vegetation Management Plan

Upon approval of the 2021 LRDP and certification of the EIR, UC Santa Cruz shall initiate preparation and, within 2 years, begin implementation of a campus-wide vegetation management plan. The campus-wide vegetation management plan shall identify fire hazard areas consistent with California Government Code Sections 51179 and 51182, and implement a policy framework for managing fuel loads and maintaining defensible space consistent with Public Resources Code Section 4291. Policies and implementation actions that shall be considered as part of the plan will include, but are not limited to:

- ▶ vegetation management techniques for fire hazard mitigation, including thinning, pruning, removing or otherwise altering vegetation to reduce the potential for ignitions and to modify potential fire behavior; different vegetation management techniques shall be identified, depending on vegetation type, location, condition, and configuration;
- ▶ Treatment actions will be limited to eradication or control of invasive plants, removal of uncharacteristic fuel loads (e.g., removing dead or dying vegetation), trimming of woody species as necessary to reduce ladder fuels, and select thinning of vegetation to restore densities that are characteristic of healthy stands of the vegetation types present in the LRDP area;
- ▶ vegetation management and maintenance standards for dominant vegetation types in the LRDP area, specific recommendations for key wildfire risk areas, and the procedures for identifying and planning annual vegetation treatment operations;
- ▶ fuel management requirements, including clearing vegetation within 100 feet of structures, removing trees and branches that extend within 100 feet of a chimney/stovetop outlet, clearing roofs of vegetative debris, and maintaining vegetation adjacent to overhanging of a building;
- ▶ best management practices implemented to avoid and/or minimize impacts associated with soil erosion, biological resources, and water quality, including the use of fire resistant/drought tolerant landscaping within 100 feet of new/modified structures within high or very high fire hazard zones; and
- ▶ building construction requirements for new development located in HFHSZs, including fire- or flame-resistant roofing material, roof vent coverings/screens, exterior siding, skylights, windows, doors, and decks, consistent with California Fire Code Chapter 49.

As part of this effort, UC Santa Cruz shall also consider and incorporate actions/strategies included as part of the CAL FIRE California Vegetation Treatment Program.

Significance after Mitigation

Preparation and implementation of a campus-wide vegetation management plan, as required by Mitigation Measure 3.18-2, would adequately address any potential wildfire risk associated with new development and changes in land use as proposed under the 2021 LRDP. UC Santa Cruz would be required to prepare and implement specific actions to reduce wildfire risk within the LRDP area. As a result, with mitigation this would be a **less-than-significant** impact.

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