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## Public Services, Utilities, and Service Systems

This section describes existing public services, utilities, and service systems within the treatable landscape. The analysis includes a description of the existing environmental conditions including applicable regulatory requirements, the methods used for assessment, and the potential direct and indirect impacts of program implementation on public services, utilities, and service systems.

No comments received on the Notice of Preparation were related to public services. Comments on the Notice of Preparation related to utilities and service systems noted that laws to govern the disposal of organic waste are being developed and they will prohibit debris from prescribed fires from being taken to landfills (see Appendix A). The disposal of solid organic waste is addressed in this section.

### Environmental Setting

#### Public Services

##### Fire Protection

###### California Department of Forestry and Fire Protection

CAL FIRE provides fire protection services to 31 million acres of privately-owned wildlands within the SRA and provides emergency services to 150 counties, cities, and districts in California through mutual aid agreements. CAL FIRE maintains 21 operational units and 812 fire stations that are each designed to address fire suppression over a certain geographic area. Each unit operates within its local jurisdiction and strives to fulfill CAL FIRE’s mission, whether it be responding to all-risk emergencies, participating in fire safety education and educating homeowners on how to keep their property fire safe. Staffing levels include 5,300 full-time fire professionals, foresters, and administrative employees; 1,783 seasonal firefighters; 2,750 local government volunteer firefighters; 600 volunteers in prevention; and 4,300 inmates and wards that currently provide 196 fire crews (CAL FIRE 2019).

###### Local Fire Districts and Departments

Local fire districts and departments provide fire protection and emergency services in the Local Responsibility Area under the jurisdiction of local government entities (i.e., city or county fire departments) outside of the SRA. Within the SRA, these local fire districts and departments provide fire protection through mutual aid agreements or contracts with CAL FIRE for staff and/or funding resources (these are called contract counties).

##### Law Enforcement

###### California Department of Forestry and Fire Protection

CAL FIRE provides enforcement of state fire and forest laws through the employment of over 300 law enforcement officers, who are trained and certified in accordance with state standards. Duties of these officers include investigating fire causes, interviewing witnesses, issuing citations and setting up surveillance operations. The officers also provide support to state agencies and local fire and law enforcement with arson, bomb, fireworks, and fire extinguisher investigations, as well as the disposal of explosives.

###### California Department of Fish and Wildlife Officers

The California Department of Fish and Wildlife officers protect California’s diverse resources from poaching and overuse. Wildlife officers investigate reports of violations, collect and preserve evidence, write reports, and testify in court. Wildlife officers are typically assigned to and responsible for enforcing the law in a specific geographical area of the State. They enforce all Fish and Game laws related to hunting, recreational and commercial fishing, trapping, pollution, falconry, and exotic animal laws.

###### State Park Peace Officers

State Park Peace Officers (Park Rangers) provide law enforcement services within State park land. Pursuant to Penal Code Section 830.02, Park Rangers perform the full range of peace office duties and responsibilities. Duties include patrol, issuing citations, writing reports, making physical arrests, conducting investigations, taking command in emergencies, performing search and rescue activities, and providing emergency medical aid. Park Rangers can also coordinate with other law enforcement and emergency response agencies for additional or specialized support.

###### Local Sheriff and Police Departments

Law enforcement services within unincorporated county areas are generally provided by county sheriff’s departments. Services within incorporated city limits are typically provided by local city police departments. Post-secondary education institutions provide law enforcement services on campuses. In addition, non-governmental entities provide services on private properties such retail centers and commercial centers.

###### California Highway Patrol

The California Highway Patrol (CHP) provides police protection services along State and interstate highways throughout California, including highways that pass throughout the treatable landscape. CHP provides traffic law enforcement to prevent crime; manages traffic and emergency incidents; assists other public agencies with law enforcement duties; and provides protection to the public, State employees, and State infrastructure. CHP headquarters is located in Sacramento and there are a total of eight CHP Divisions throughout California, including northern, valley, golden gate, central, southern, border, coastal, and inland. Each division is charged with patrolling and administering all CHP operations within a specific geographical area.

##### Schools Districts

Public education is provided by public school districts throughout the State. Students are enrolled in a given school based on age and geographic proximity to a specific school district. Grade levels include pre-kindergarten through 12th grade. Post-secondary education is provided by private and public entities including community colleges, California State Universities, University of California, and technical colleges.

##### Libraries

Public library services are provided by city and county jurisdictions throughout California. As of 2017, there were a total of 1,119 libraries managed by 194 jurisdictions. Educational programming opportunities include audio materials, electronic collections, print collections, educational workshops, story time, school programs, and internet access (California State Library 2019).

##### Effects of Wildfire on Public Services

Depending on the scale and location of wildfire incidents local jurisdictions may provide law enforcement services and fire protection services. During emergency situations, school and library facilities may be used as temporary shelters for evacuees and/or command centers for emergency personnel. Emergency operation plans, adopted by city and county jurisdiction throughout the state, typically identify designated emergency shelters and command centers for use in emergency situations.

#### Public Utilities

Utilities available within the treatable landscape include water supply, wastewater treatment, electric power, natural gas, and telecommunications. Electrical power is generated from a variety of sources, including natural gas, hydroelectric, geothermal, solar, nuclear, and wind. There is a total of 70 electricity service providers in California including seven investor owned utilities, 45 publicly owned utilities, and 18 direct access providers (CEC 2011). Natural gas in California is supplied to consumers by Pacific Gas and Electric, Southern California Gas, San Diego Gas & Electric, Southwest Gas, and several smaller investor-owned natural gas utilities. Telecommunications services within the State are provided by a variety of providers and include wireless services, landline telephone, cable, and internet service providers. Treatments implemented under the Proposed Program would not require the use of grid-sourced electric power, natural gas, or telecommunication services. Water supply and wastewater treatment are described in the subsections below.

##### Water Supply and Infrastructure

In California, water utility providers are regulated by the California Public Utilities Commission. There are 98 regulated water utility provides throughout the state with over 1.5 million service connections (CPUC 2018). Water-industry infrastructure includes the various components that pump, divert, transport, store, treat and deliver safe drinking water. These may consist of groundwater wells, surface-water intakes, dams, reservoirs, aqueducts, storage tanks, treatment facilities, and pipes. In 2015, California withdrew an estimated 28,759 million gallons of water per day for thermoelectric energy generation, irrigation, public consumption, and industrial use (USGS 2019). Treatment activities under the CalVTP would not require diversion of water in the field. If water is needed during proposed treatment activities, (i.e., for non-shaded fuel breaks on slopes with a 30 percent or less gradient and prescribed burning) fire hydrants are used or the project proponent would transport water to the treatment location via fire engine tanks and water trucks. The water supply source for fire hydrants include municipal water main systems and privately-owned systems. Typically, water trucks are connected to a fire hydrant and filled with water.

##### Wastewater

In California, 100,000 miles of sanitary sewers and more than 900 wastewater treatment plants manage the approximately 4 billion gallons of wastewater generated every day by the state’s citizens, businesses and visitors. The state’s wastewater collection, conveyance, treatment, reuse and disposal services are provided primarily by a variety of public agencies, including cities, counties, joint powers authorities and special districts such as sanitary, sanitation and community services districts. Where treatment plants are not available or feasible, such as in sparsely populated rural areas, individualized on-site sanitation systems like septic tanks and leach lines are used (Water Education Foundation 2013). Currently implemented treatment activities do not require sanitary sewer connections or access to a septic tank. Depending on the location and duration of vegetation treatment activity, portable restrooms are provided. When provided, waste from onsite portable restrooms is transported offsite for disposal.

##### Solid Waste

The California Department of Resources Recycling and Recovery (CalRecycle), along with local enforcement agencies, regulates the operation of solid waste facilities. Solid waste refers to garbage, refuse, sludges, and other discarded solid materials resulting from residential activities, and industrial and commercial operations. CalRecycle manages and mitigates the impacts of solid waste on public health and safety and the environment by enforcing compliance with regulations and State minimum standards, through integrated and consistent permitting, inspection, and enforcement efforts (CalRecycle 2019a). There are 133 landfills, 283 composting facilities, and 636 material recovery facilities. In 2016, California generated 76.5 million tons of solid waste and sent about 35.2 million tons to landfills, which translates to a per capita waste disposal of 6.0 pounds per person per day and a recycling rate of 44 percent (CalRecycle 2017).

CalRecycle’s characterization of solid waste contains an organic materials subcategory that includes wastes specifically produced from plants, such as branches, stumps, pruning and trimmings. In 2014, these materials accounted for 767,418 tons, or around 3 percent of statewide waste generated from commercial operations. 56 percent of this waste was diverted to recycling, composting, energy production and 44 percent was disposed of in landfills.

As described in Chapter 1, “Introduction,” and Section 2.3.1, “Past and Current Treatments,” vegetation treatment currently occurs around the state under several other wildfire risk reduction programs implemented by various federal, state, and local agencies. In 2017–2018, CAL FIRE treated approximately 33,000 acres in California using the same treatment activities as proposed under the CalVTP. The organic waste generated from CAL FIRE’s current vegetation treatments are typically not disposed of in landfills. Currently, 70 percent of the organic waste generated during treatment activities is managed on-site by scattering wood material within the treatment boundary, generating unburned wood piles, and blowing wood chips to the ground as mulch. During wet seasonal periods, approximately 25 percent of solid organic waste is pile burned in combination with manual and mechanical treatment activities. The remaining 5 percent is used for biomass power production, as described in the following subsection.

###### Biomass

Biomass consists of organic materials from plants and animals that can be used as a fuel for energy or processed to create a wide variety of usable products. While the raw material used for biomass feedstocks can come from many of sources, the material that would be generated from CalVTP treatment activities would fall under the specific category of “woody biomass.” California currently has infrastructure for the processing of woody biomass for energy production and wood products, including approximately 24 biomass power plants and 77 wood product processing facilities. An additional 15 biomass power plants were reported idle in 2018 (USFS 2018). In 2017, the 24 operational biomass facilities producing electricity accepted over 3.7 million tons of woody biomass. Forest waste accounted for 13 percent of this total and the remainder came from a combination of milling, urban and agricultural wastes as shown in Table 3.16-1[[1]](#footnote-1). A limiting factor in the amount of forest waste used for electricity generation is the proximity of processing facilities to forests due to the high cost of transporting heavy materials from remote areas. This constraint typically makes forest-sourced feedstocks one of the more expensive options relative to other sources and limits the distance of forest treatment sites to biomass power plants to 50 miles or less in order for projects to have long-term economic viability due to the high cost of transporting woody biomass material from remote locations (UC Berkeley 2019).

Table 3.16-1 Sources of Woody Biomass Used in Electricity Production in California, 2017

| Source | Tons | Percentage |
| --- | --- | --- |
| Urban (trimmings/pruning) | 1,193,909 | 32 |
| Mill Residue (sawdust, waste lumber) | 1,116,881 | 29 |
| Agriculture (crop residues) | 968,426 | 26 |
| Forests (slashings, deadwood, small-diameter trees) | 503,939 | 13 |
| **Total** | **3,783,115** | **100** |

Source: CalRecycle 2017

Electric utilities in California have relied on biomass power plants to produce electricity for residential and commercial customers since the 1980s. Many of the facilities currently operating were designed in this era and are direct-combustion type plants where biomass feedstock is burned to power steam turbines that generate electricity.

The total number of operational facilities and processed material fluctuates annually based on market demand, changing energy contracts, and processing capacities, but historical data indicates an overall reduction in activity since biomass electricity generation peaked in California in the early 1990s (Forest Climate Action Team 2018, NREL 2000). The decrease in activity is attributed to a variety of regulatory and economic factors. In 2016, Senate Bill 859 was signed into law, requiring the state’s electrical utilities to collectively procure 125 MW of electricity from biomass sources, with at least 80 percent of feedstock coming from dead and dying trees from hazard zones. The utility procurement contracts signed in response to this legislation were limited to five-year terms that are set to expire around 2022.

Beyond the direct combustion of woody biomass to produce electricity, there are several other current or proposed products that can be created from biomass, as shown in Table 3.16-2. Technologies have been developed to increase the energy density of woody biomass by converting feedstock into biofuels. Gasification of woody biomass materials through pyrolysis can create a synthesis gas (syngas) that can be used as a fuel source for electricity production. Researchers have also demonstrated the ability to convert woody biomass into renewable transportation fuels that serve as additives or drop-in substitutes for fossil fuels in internal combustion and jet engines (Shelley et al. 2016). The use of biomass as a transportation fuel may have promising market potential, because of the high market value of fuels for transportation, and the availability of credits from California Air Resources Board’s (CARB) Low Carbon Fuel Standard Program (Forest Climate Action Team 2018). Although anaerobic digestion cannot be used to decompose woody biomass because of the structural characteristics of wood, the anticipated expansion of anaerobic digestion facilities statewide under SB 1383 (as described later in this section under Impact UTIL-2) may support the formation of a larger market for alternative fuels produced from solid organic waste, including woody biomass.

Woody biomass can also be processed into mass timber, a sustainable construction material for commercial and residential buildings. Mass timber describes pre-fabricated panels and framing planks produced from woody biomass combined with other materials that are engineered for a variety of structural or aesthetic applications in buildings. Accelerating the use of mass timber was recommended by the California Natural Resources Agency to the state legislature in 2017 as a strategy for developing a statewide market to utilize woody biomass removed from high hazard zones (CNRA 2017). A grant program is currently being administered by California’s Government Operations Agency to increase the in-state production capacity of mass timber using biomass materials derived from small-diameter, dead and dying trees, which are types that would be removed as part of the CalVTP program (GovOps 2019).

Table 3.16-2 Potential Products Generated from Woody Biomass

| Product | Examples | Sector | Market Readiness |
| --- | --- | --- | --- |
| Electricity  | Direct-combustion, Cogeneration, CHP  | Energy | Available |
| Soil Additives and Amendments | Mulch, Compost, Biochar | Agriculture | Available: Mulch, CompostR&D: Biochar |
| Engineered Wood | Cross-Laminated Timber, Medium-Density Fiberboard, Particleboard, Veneer Laminated Lumber, Oriented-Strand Board | Construction | Available |
| Firewood | Firewood and wood chips | Consumer | Available |
| Paper | Pulp Chips | Manufacturing | Available |
| Densified Wood | Compressed wood pellets, logs or bricks | Consumer | Available |
| Biofuels | Synthesis Gas (syngas), Pyrolysis Oil, Producer Gas, Ethanol, drop-in fuels (gasoline/diesel/jet fuel) | Transportation & Energy | R&D |

Notes: CHP = Combined Heat and Power, R&D = Research and Development

Source: Ascent Environmental 2019 from Shelly et al. 2016, and White 2010

###### Composting and Soil Amendments

Compost is a product that results from the controlled biological decomposition of solid organic wastes that are source separated from the municipal solid waste stream. Pursuant to PRC Section 40116, compost includes wood waste that is not hazardous. CalRecycle provides regulatory oversight to compost and mulch providers by enforcing compliance with regulations and State minimum standards. In 2010, 9.3 million tons of material was processed by 130 operating entities. Of the 130 entities, half were composters and the other half were processers/chippers and grinders. Composting facilities process an average of 49,000 tons of woody and green materials per year (CalRecycle 2019b). Additional infrastructure for the processing of organic materials into compost is expected to increase in California in response to CalRecycle’s statewide organic waste diversion regulations, which will require the construction of 60 composting facilities, as described in Short-Lived Climate Pollutants (SB 1383) (see State under Section 3.16.2, “Regulatory Setting.”

A soil amendment called biochar is created as a byproduct of converting woody biomass into biofuels through pyrolysis (McElligott et al. 2011). Biochar is currently being researched by the University of California (UC) Davis and UC Merced as a soil additive for purposes of carbon dioxide sequestration in support of the *Draft California 2030 Natural and Working Lands Climate Change Implementation Plan* (CalEPA et al. 2019). Successful demonstration of carbon dioxide sequestration potential of this material may provide an additional benefit to the conversion of woody biomass into biofuels.

### Regulatory Setting

#### Federal

No federal laws or regulations related to public services, utilities, and service systems are applicable to the program.

#### State

##### Public Services

###### California Fire Code

The California Fire Code is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The California Fire Code establishes minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings. The California Fire Code also contains requirements related to emergency planning and preparedness, fire service features, building services and systems, fire resistance–rated construction, fire protection systems, and construction requirements for existing buildings, as well as specialized standards for specific types of facilities and materials.

###### California Occupational Safety and Health Administration

In accordance with 8 CCR Section 1270, “Fire Prevention,” and Section 6773, “Fire Protection and Fire Fighting Equipment,” the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include guidelines on the handling of highly combustible materials; fire hose sizing requirements; restrictions on the use of compressed air; access roads; and the testing, maintenance, and use of all firefighting and emergency medical equipment.

###### Emergency Response/Evacuation Plans

The State of California passed legislation authorizing the Office of Emergency Services to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster. The preservation of life, property and the environment is an inherent responsibility of local, state, and federal governments. Each jurisdiction within the treatable landscape is required to prepare and implement an emergency operations plan.

##### Utilities and Service Systems

###### Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) became law on January 1, 2015 and applies to all groundwater basins in the state (Water Code Section 10720.3). (The SGMA is composed of three separate bills: Senate Bill (SB) 1168, SB 1319, and Assembly Bill (AB) 1739. All three were signed into law by the Governor on September 16, 2014.) By enacting the SGMA, the Legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdictions (Water Code Section 10720.1). The source of water for treatments implemented under the CalVTP may include groundwater to the extent that a community water system, including its fire hydrants, relies on groundwater. SGMA compliance would be required of the agency or entity providing the water to CAL FIRE and other project proponents.

###### California Integrated Waste Management Act

The California Waste Management Act of 1989 (AB 939) requires State, County, and local governments to substantially decrease the volume of waste disposed at landfills by the year 2000 and beyond. The Act allows the CalRecycle to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle. The volume of solid waste produced during treatment activities under the CalVTP would need to comply with requirements for per capita disposal rate.

###### Short-Lived Climate Pollutant Strategy/Diversion of Organic Waste from Landfills

Short-Lived Climate Pollutant Strategy/Diversion of Organic Waste from Landfills (SB 1383) (Statutes of 2016) established methane emissions reduction targets in a statewide effort to reduce emission of short-lived climate pollutants. In addition, the new law codified CARB’s Short-Lived Climate Pollutant Reduction Strategy, to achieve reductions in the statewide emissions of short-lived climate pollutants. As it pertains to activities under the CalVTP, SB 1383 established CalRecycle targets to achieve a 50 percent reduction in statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. These reductions would be enforced at the local agency level and will require, beginning in 2022, the construction of approximately 60 composting facilities and 26 anaerobic digestion (AD) facilities. Woody biomass qualifies as an organic waste subject to diversion to comply with SB 1383.

#### Local

When state agencies, including CAL FIRE, are conducting governmental activities under the authority of state law or the State Constitution, in this case, treatments implemented under the proposed CalVTP, they are exempt from local government plans, policies, and ordinances (unless a constitutional provision of statute directs otherwise). Nonetheless, CAL FIRE voluntarily seeks to operate consistently with local governance to the extent feasible. Given its statewide extent and the possible number of local and regional responsible agencies, this PEIR does not identify potentially applicable local government plans, policies, and ordinances. This PEIR assumes that any vegetation treatments proposed by local or regional agencies under the CalVTP would be consistent with local plans, policies, and ordinances, as required by SPR AD-3.

### Impact Analysis and Mitigation Measures

#### Analysis Methodology

The analysis of environmental impacts on public services focuses on the potential for physical impacts associated with the provision of new or physically altered governmental facilities, require new or expanded water, wastewater treatment, stormwater, drainage, electric power, natural gas, or telecommunications facilities. The analysis of environmental impacts on utilities and service systems focuses on the potential to exceed water supplies, negatively impact solid waste services, or conflict with federal, State, and local management and reduction statutes and regulations related to solid waste. Significance determinations account for the influence of relevant SPRs, which are incorporated into treatment design and listed below.

* **SPR AD-3 Consistency with Local Plans, Policies, and Ordinances**: The project proponent will design and implement the treatment in a manner that is consistent with applicable local plans (e.g., general plans, Community Wildfire Protection Plans, CAL FIRE Unit Fire Plans), policies, and ordinances to the extent the project is subject to them. This SPR applies to all treatment activities and treatment types, including treatment maintenance.
* **SPR UTIL-1: Solid Organic Waste Disposition Plan**. For projects requiring the disposal of material outside of the treatment area, the project proponent will prepare an Organic Waste Disposition Plan prior to initiating treatment activities. The Solid Organic Waste Disposition Plan will include the amount (e.g., tons) of solid organic waste to be managed onsite (i.e., scattering of wood materials, generating unburned piles, and pile burning) and transported offsite for processing (i.e., biomass power plant, wood product processing facility, composting). If the project proponent intends to transport solid organic waste offsite, the Solid Organic Waste Disposition Plan will clearly identify the location and capacity of the intended processing facility, consistent with local and state regulations to demonstrate that adequate capacity exists to accept the treated materials. This SPR applies only to mechanical and manual treatment activities and all treatment types, including treatment maintenance.

#### Thresholds of Significance

Thresholds of significance are based on Appendix G of the State CEQA Guidelines. A treatment implemented under the proposed CalVTP would result in a significant impact on public services, utilities, and service systems if it would:

* result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
* fire protection,
* police protection,
* schools,
* parks, and
* libraries.
* require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
* have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
* result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments;
* generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure;
* negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals; and
* comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

#### Issues Not Evaluated Further

Implementation of the CalVTP would consist of treatment activities that would modify portions of the treatable landscape to reduce wildfire risk. Treatment activities could include prescribed burning, pile burning, mechanical treatment, manual treatment, prescribed herbivory, and herbicide application. Implementation of treatment activities within the SRA would not directly affect the provision of public services, nor contribute to population growth that could result in a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for public service providers. However, implementation of the proposed CalVTP would result in the creation of new jobs on a localized basis to achieve the targeted increase the pace and scale of vegetation. As described in Section 3.12, “Land Use and Planning, Population and Housing,” the number of employment opportunities per CAL FIRE Unit would vary according to the geographic location of and selected treatment activities within the purview of each CAL FIRE Unit or project proponent. Accordingly, the number of new employees would be dispersed over a large geographic area rather than concentrated in the same location. This would disperse pressure on public services such as police, fire, schools, parks, and libraries. Therefore, implementation of the CalVTP would not require the provision of new or physically altered governmental facility, and this issue is not evaluated further.

Treatment activities would not involve development of residential communities or other similar types of development or induce population growth in an area that would require the expansion or construction of water infrastructure, wastewater treatment facilities, or storm drainage facilities. As discussed in Section 2.5.2, “Description of Treatment Activities,” implementation of treatment activities would not require connections to electric power, natural gas, or telecommunications facilities. Typically, an impact from construction or expansion of utilities and service systems results when a project induces population growth. As discussed previously, the number of new employees needed to achieve the treatment acreage targets of the CalVTP would be dispersed over a large geographic area rather than concentrated in the same location. This would disperse pressure on existing water infrastructure, wastewater treatment facilities, storm water drainage facilities, electric power, natural gas, or telecommunications facilities. Therefore, implementation of the proposed CalVTP would not require the construction or relocation of existing water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, and this issue is not evaluated further.

Depending on the location and duration of treatment activities, portable restrooms may be provided by project proponents. This would be the only source of wastewater generated by the CalVTP. Portable restrooms would be cleaned periodically, and the waste would be hauled off-site to a wastewater treatment facility for disposal. This service is typically provided by an independent contractor permitted to handle, haul, and dispose of sanitary sewage. Pursuant to 40 CFR Part 403.5, hauled waste must be disposed of at a designated publicly owned treatment facility. Typically, publicly owned treatment facilities are responsible for implementing permit programs for hauled waste and ensure that adequate treatment capacity exists. Because new employees required to implement the CalVTP would be located over a large geographic area such that it would not induce substantial unplanned population growth in any area, the demand for wastewater treatment would be minimal and dispersed. Therefore, wastewater treatment demand would not exceed the capacity of any wastewater treatment provider, and this issue is not evaluated further.

#### Impact Analysis

Impact UTIL-1: Result in Physical Impacts Associated with Provision of Sufficient Water Supplies, Including Related Infrastructure Needs

Implementation of treatment activities within the treatable landscape would require on-site water supplies for fire suppression during prescribed burning activities and for dust control during vegetation removal within non-shaded fuel breaks. Water needed to implement treatments would be minimal. Also, treatment activities would occur over a large geographic area which would disperse pressure on local water providers. Therefore, the increase in demand for water attributable to implementation of the CalVTP would be negligible and would not discernably affect the availability of water supply. This impact would be **less than significant**.

Implementation of the CalVTP would consist of treatment activities to reduce wildfire risk. Treatment activities would include prescribed burning, pile burning, mechanical treatment, manual treatment, prescribed herbivory, and herbicide application. As discussed in Section 3.12, “Land Use and Planning, Population and Housing,” implementation of treatment activities in the treatable landscape would not involve development of residential communities or other similar types of development or induce population growth in an area that would increase demand for water. A minimal amount of water would be required for fire suppression during prescribed burning activities and for dust control during vegetation removal within non-shaded fuel breaks. Depending on the location of the treatment activity, water would be supplied (from surface of groundwater by local water providers) via nearby fire hydrants or be transported to remote or undeveloped treatment areas via fire trucks. Treatment activities would occur over a large geographic area which would disperse the minimal demand on local water providers. Therefore, implementation of the CalVTP would not result in a physical impact associated with provision of sufficient water supplies, including related infrastructure needs and this impact would be **less than significant**.

##### Mitigation Measures

No mitigation is required for this impact.

Impact UTIL-2: Generate Solid Waste in Excess of State Standards or Exceed Local Infrastructure Capacity

The increase in pace and scale of vegetation treatments under the CalVTP would result in an associated increase in the volume of solid organic waste generated during treatment. The volume of biomass transported offsite to existing biomass power plants, wood product processing facilities, and/or composting facilities for processing would also increase. Although additional infrastructure for the processing of organic materials is expected to be developed in the near future in California in response to waste management statutes, expanded in-state market for wood products, and increasing demand for alternative energy sources, it is too speculative to assume that this growth would occur consistent with the increased pace and scale of vegetation treatments. Therefore, implementation of the CalVTP may generate solid organic waste in excess of infrastructure capacity. Thus, to meet CEQA’s mandate of good faith disclosure and to not risk understating potential future impacts in light of the uncertainties, this PEIR classifies this impact as **potentially significant**, notwithstanding the possibility that capacity could increase with the scale of treatments such that it would not be exceeded for most or all individual treatments.

Implementation of treatment activities within the SRA could include prescribed burning, pile burning, mechanical treatment, manual treatment, prescribed herbivory, and herbicide application. These types of activities generate solid organic waste during mechanical and manual vegetation removal, in the form of organic woody biomass. The solid organic waste generated from CAL FIRE’s current vegetation treatment activities are not disposed in landfills. Currently, 70 percent of the solid organic waste generated during treatment activities are managed on-site by scattering wood material within the treatment boundary, generating unburned wood piles, and blowing wood chips to the ground as mulch. During wet seasonal periods, approximately 25 percent of solid organic waste is pile burned in combination with manual and mechanical treatment activities. The remaining 5 percent is transported to a biomass facility for processing. Implementation of the proposed CalVTP would increase the pace and scale of vegetation treatments from approximately 33,000 acres per year (as treated by CAL FIRE in 2017/2018) to approximately 250,000 acres per year. This would increase the annual volume of solid organic waste removed during manual and mechanical treatment activities. Depending on the scale and location of the treatment activity, a significant portion of solid organic waste could be managed on-site, and pile burned during wet seasonal periods. Future disposition of solid organic waste could also include; transport to biomass power plants, biorefineries, wood product processing facilities, landfills, and/or composting facilities.

As discussed above, the solid organic waste that would be generated by CalVTP treatment activities is specifically categorized as woody biomass. California currently has infrastructure for the processing of woody biomass for energy production and wood products, including approximately 24 biomass power plants and 77 wood product processing facilities. As shown in Table 3.16-1, wood product processing facilities have the capacity to generate a variety of products from woody biomass including electricity, biofuels, paper, soil additives, and engineered wood. Although the California Natural Resources Agency has recommended the use of mass timber to the state legislature, a widespread market and processing infrastructure is still in early stages of development. With respect to biomass electricity generation, there are several factors that would limit the use of forest-sourced woody biomass in direct-combustion power plants. The number of biomass power plant facilities has declined in the last few decades and many of the existing plants are operating under energy contracts that are set to expire by 2022. Additionally, treatment sites must generally be within 50 miles or less in order for projects to have long-term economic viability because of the high cost of transporting woody biomass material from remote locations. Conversion of woody biomass into biofuels with higher energy densities, with greater portability and increased market value is currently being researched. Biochar byproducts created through the biofuel conversion process are additionally being explored as soil amendments for achieving carbon dioxide sequestration pursuant to state’s climate policies.

Solid organic waste generated from treatment activities could also be transported to nearby composting facilities. Currently, there are approximately 130 operating entities in the state with the capacity to process an average of 49,000 tons of solid organic materials per year (CalRecycle 2019b). An additional 60 composting facilities are anticipated to be added in California starting in 2022 in response to statewide solid organic waste diversion regulations mandated under SB 1383 (CalRecycle 2018). These new facilities would create additional capacity to process solid organic waste currently being disposed in landfills, which includes woody biomass waste.

Given large geographic area of the treatable landscape and the variability of organic material produces by different fuel types, it is not possible to quantify the volume of solid organic waste that would be processed offsite, and the specific method or methods of disposition for each project cannot be known at this time. SPR UTIL-1 requires proponents of projects that would transport solid organic waste offsite to prepare a Solid Organic Waste Disposition Plan that identifies the amount (e.g., tons) of solid organic waste to be managed onsite (i.e., scattering of wood materials, generating unburned piles, pile burning, mobile biofuels refinement and/or biochar generation) and transported offsite for processing (i.e., biomass power plant, wood product processing facility, composting). If the project proponent intends to transport solid organic waste offsite, the Solid Organic Waste Disposition Plan will clearly identify the location and capacity of the processing facility, consistent with local and state regulations. Implementation of SPR UTIL-1 would require that disposition of solid organic waste is adequately managed and is not transported to a facility that lacks the processing capacity. However, existing biomass power plants, wood product processing, and composting facilities may not have the capacity to process the amount of solid organic waste that could be generated by CalVTP treatment activities. Although, additional infrastructure and market demand for the processing of organic materials is expected to increase in the near future in response to state regulations, it is too speculative to assume that this growth would occur consistent with the pace and scale of vegetation treatments. Therefore, because of some uncertainty in future predictions related to the solid organic waste processing industry, to meet CEQA’s mandate of good faith disclosure (*California Native Plant Society v. City of Santa Cruz, supra,* 177 Cal.App.4th at p. 979) and to not risk understating potential future impacts in light of the uncertainties, this PEIR classifies this impact as **potentially significant**, notwithstanding the possibility that capacity could increase with the scale of treatments such that it would not be exceeded for most or all individual treatments.

##### Mitigation Measures

To reduce the potential for capacity of existing solid organic waste facilities to be exceeded, the amount of material generated during treatments under the CalVTP that requires offsite disposal would have to be reduced or the capacity of infrastructure receiving biomass would need to expand. Reduction of transported biomass would require more debris to be disposed onsite (by chipping or pile burning), which would create adverse impact trade-offs of the risk of excessive mulch from chipping or an increase in smoke emissions from pile burning. Therefore, there would be no feasible measures to adequately reduce the volume of organic waste generated by CalVTP treatment activities.

###### Significance after Mitigation

An increase in the capacity of local infrastructure to process woody biomass and other organic materials could occur over the next several years. Increased capacity for the processing of woody biomass could be added though a market response to increased supplies of feedstock material and demand for products that can be produced from these materials. The deployment of advanced processing and manufacturing techniques in recent years, such as Aerated Static Piles for composting, gasification for biomass energy conversion, and panelized building materials derived from mass timber are creating new pathways for the disposition of biomass wastes that previously did not exist. On-site chipping and blowing, pile burning or transport to direct-combustion biomass facilities are no longer the only viable options for managing the waste generated from dead and dying vegetation removed for purposes of fire fuels reduction. Technological advancements, state policies and demand for renewable fuel sources are driving a nascent market transformation for biomass that provides additional options for disposition.

A variety of programs have been implemented by state agencies to encourage alternative biomass applications. Since 2014, CalRecycle has invested $63.3 million in grants supporting the development of 14 expanded composting facilities throughout the state, some of which are capable of processing biomass. The California Energy Commission has funded research on gasification technologies for biomass, and two demonstration projects to explore the feasibility and scalability of converting forest-based fuels into renewable gas. The California Natural Resources Agency has also formed a Wood Products Working Group which has provided recommendations on expanding markets for products created from woody biomass derived from vegetation treatment activities. Through these efforts California’s solid waste infrastructure may expand and evolve into a system with long-term capacity to manage the woody biomass generated from the activities proposed under CalVTP and other organic wastes generated from statewide landfill waste diversion.

Adequate capacity to process solid organic waste must be developed through a coordinated public agency and private industry response. The success of the private sector in responding to the increase in solid organic waste cannot be predicted due to many external factors that influence investment. Furthermore, there is a geographic consideration inherent to this conclusion that recognizes that market responses do not occur uniformly across the state. This impact assessment uses the threshold of significance from State CEQA Guidelines Appendix G, which indicates that exceeding the capacity of *local* solid waste infrastructure is the primary consideration. While some localities within the state may currently have the requisite infrastructure to process woody biomass or may develop this capacity in the near future in response to the previously mentioned state policies and programs, it cannot be guaranteed, that all localities across the state would develop the capacities to process excess solid organic waste produced from treatment activities within the timeframes of the proposed activities. For this reason, because mitigation is not available, and to not risk understating potential future impacts in light of uncertainties about market response, this PEIR classifies this impact as **potentially significant and unavoidable**, notwithstanding the possibility that capacity could increase with the scale of treatments such that it would not be exceeded for most or all individual treatments. Even though the predicted outcome would be less than significant, the “potentially significant and unavoidable” determination is intended to meet CEQA’s mandate of good faith disclosure of all potential effects related solid waste capacity exceedance, in consideration of the program as a whole.

Impact UTIL-3: Comply with Federal, State, and Local Management and Reduction Goals, Statutes, and Regulations Related to Solid Waste

Implementation of the CalVTP would divert solid organic waste generated from treatment activities from solid waste facilities to biomass power plant, wood product processing facility, and/or composting for processing. This would decrease the amount of waste transported to solid waste facilities consistent with AB 939 and SB 1383. Therefore, the impact would be **less than significant**.

Treatment activities implemented under the CalVTP would not involve activities that would generate solid waste. Currently, 95 percent of solid organic waste generated during treatment activities is scattered on-site, or pile burned. Approximately, 5 percent of the solid organic waste is transported to a biomass facility for processing. Implementation of the proposed CalVTP would increase the pace and scale of vegetation treatments from approximately 33,000 acres per year (as treated by CAL FIRE in 2017/2018) to approximately 250,000 acres per year. This would increase the amount of organic waste that would be transported offsite for processing. Pursuant to AB 939, state, county, and local governments are required to decrease the volume of waste disposed at landfills by the year 2000 and beyond. In addition, SB 1383 established targets to achieve a 50 percent reduction in statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. Currently, biomass facilities help local governments by diverting 4.3 million tons of low value wood residue for fuel annually (CBEA 2019). SPR UTIL-1 requires the project proponent to prepare a Solid Organic Waste Disposition Plan that identifies the amount of solid organic waste to be transported offsite to biomass power plant, wood product processing facility, and/or composting for processing. This SPR also prohibits solid organic waste generated during vegetation treatments form being transported to a landfill for disposal. Therefore, implementation of the CalVTP would contribute to the amount of organic waste diverted from solid waste facilities consistent with AB 939 and SB 1383 and would be consistent with solid waste reduction goals. This impact would be **less than significant**.

##### Mitigation Measures

No mitigation is required for this impact.

1. In the context of the Utilities and Service Systems analysis in this PEIR, “forest” as presented in CalRecycle 2017 is encompassed within the tree fuel type described in Chapter 2, “Program Description.” [↑](#footnote-ref-1)