Executive Summary

The Golden State Finance Authority has prepared this Draft Environmental Impact Report (EIR) to inform the community, responsible agencies, trustee agencies, and other interested agencies and organizations, of the potential significant environmental effects resulting from implementation of the Golden State Natural Resources Forest Resiliency Demonstration Project. This Executive Summary lists the potentially significant environmental impacts and feasible mitigation measures or project alternatives that would avoid or substantially reduce those impacts. This Draft EIR was prepared in compliance with the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000-21189.3) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.).

ES.1 Project Overview

1. **Feedstock Acquisition.** Feedstock generally consists of the underutilized and unmarketable forest material used to produce industrial wood pellets. As described in greater detail in Section 2.4, feedstock will typically consist of low or negative value woody biomass, such as brush, small trees designated as undesirable ladder fuels, slash piles that would otherwise be open-burned, and dead or dying trees with little or negative value as timber. Feedstock may include otherwise marketable roundwood resulting from forest fuels reduction and restoration activities, subject to the conditions and criteria discussed in Section 2.4. Feedstock would be sourced from approved salvage, prescribed green tree thinning, fuel-reduction, community wildfire protection, or other forest resiliency projects in California and adjoining forests. Section 2.4 further describes the mandatory Project Design Features established for these projects, which set significant constraints upon these activities. Feedstock sources for the project fall into three categories: (1) "GSNR Biomass Only Thinning Projects" are wildfire fuel reduction operations undertaken by GSNR, or on GSNR's behalf, and which would not occur without GSNR's proposed project; (2) "Harvest Residuals" are residual biomass material resulting from timber harvest, vegetation management, and forest management operations undertaken by third-parties unaffiliated with GSNR and which would occur regardless of GSNR's proposed project; and (3) "Mill Residuals" are residual biomass materials, including residual chips, sawdust, planer shavings, bark and other byproducts, of commercial lumbermills operated by third-parties unaffiliated with GSNR. The feedstock is transported by truck from the forest or mill to the wood pellet processing facility.
2. **Wood pellet production.** Feedstock is received at wood pellet production facilities located in the Central Sierra Nevada foothills (Tuolumne County) and Northern California (Lassen County) regions. In general, any feedstock received in roundwood form is processed through a debarker and chipper. The processed chips are conveyed to a radial stacker reclaimer where they will be combined with material that is received in residual (size reduced) form for the next processing phase. The bark from any roundwood is conveyed separately to a storage pile for use as fuel for the furnace used to heat the dryer. The wood chips are then screened for the appropriate size and transferred to the dryer. Chips that do not pass through the screens are directed to an array of hammer mills to be reduced to the appropriate size. The chips are then dried and can go through another stage of size reduction by way of hammer mills and are then sent through the pellet mill. The pellets are cooled to ambient air temperature and sent through a final screen, after which they are stored in silos awaiting loading for off-site transportation. Additional information regarding production facility design is set forth in Chapter 2 and subsequent chapters of this EIR, including mandatory Site Design Features established for these facilities.

3. **Transport to market.** The pellets are loaded onto railcars for transport to a dedicated, purpose-built export terminal at the Port of Stockton, California. At the terminal, the pellets are unloaded and stored in large domes, where they are continuously monitored while awaiting final ship load out. The domes feed covered conveyors by gravity, which transport the pellets to a shiploader, where the pellets are loaded into dedicated cargo ships for delivery to international energy markets. Additional information regarding port facility design is set forth in Chapter 2 and subsequent chapters of this EIR, including mandatory Site Design Features established for this facility.

ES.2 Summary of Impacts

Table ES-1 presents a summary of the potential environmental impacts that could result from the project, their level of significance, proposed mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures.

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
AES-1. The project would not have a substantial adverse effect on a scenic vista.	LTS *(Feedstock Acquisition and Port of Stockton)* NI *(Lassen Facility and Tuolumne Facility)*	N/A	LTS
AES-2. The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	LTS *(Feedstock Acquisition and Lassen Facility)* NI *(Tuolumne Facility and Port of Stockton)*	N/A	LTS
AES-3. In nonurbanized areas, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. In an urbanized area, the project would not conflict with applicable zoning and other regulations governing scenic quality.	LTS	N/A	LTS
AES-4. The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	PS *(Lassen Facility and Tuolumne Facility)*	**MM-AES-1:** GSNR shall install shielded, downward directed lights at the pellet facilities. GSNR shall install the minimum number of lights and intensities for the intended use and use timer or motion-controlled lighting where feasible. All exterior lighting shall be retained on-site and shall be designed not spill onto adjacent properties or illuminate directly on any surface other than	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	LTS *(Feedstock Acquisition and Port of Stockton)*	the area required to be lighted. A photometric plan shall be prepared and submitted as part of the building permit application for the pellet facilities to demonstrate compliance with this measure.	
Air Quality			
AQ-1. The project would potentially conflict with or obstruct implementation of the applicable air quality plan.	SU	**MM-AQ-1: Operational Equipment Exhaust Minimization – Tier 4 Final – Feedstock Acquisition**. During operation of feedstock acquisition activities, California Air Resources Board (CARB)-certified Tier 4 Final engines shall be used for all diesel-powered equipment pieces that are 50 horsepower or greater. In the event of changed circumstances (e.g., changes in the availability of specific types of equipment), GSNR may submit a request to the Executive Director of GSFA to apply an equivalent method that, at a minimum, would meet the anticipated criteria air pollutant emission levels after implementation of this mitigation measure (i.e., estimated criteria air pollutants assuming all diesel-powered equipment pieces that are 50 horsepower or greater equipped with CARB-certified Tier 4 Final engines). Documentation using industry-standard emission estimation methodologies supporting the alternative method request shall be furnished to the Executive Director of GSFA. The Executive Director of GSFA may approve the alternate method request at their discretion. In addition, before an exemption may be granted, GSNR shall demonstrate that at least three vendors in County of activity were contacted and that those vendors confirmed Tier 4 Final equipment could not be located within the applicable County. Required equipment fleet	SU

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		and methodologies approved by the Executive Director of GSFA shall be included as enforceable terms in any contract or subcontract by GSNR for these activities. **MM-AQ-2: Construction and Operation Limit Truck and Equipment Idling – Feedstock Acquisition, Lassen Facility, and Tuolumne Facility.** GSNR shall reduce idling time of heavy-duty trucks either by requiring them to be shut off when not in use or limiting the time of idling to no more than 3 minutes (thereby improving upon the 5-minute idling limit required by the state airborne toxics control measure, 13 CCR 2485). These requirements shall be included as enforceable terms in any contract or subcontract by GSNR for these activities and GSNR shall post clear signage reminding workers to limit idling of construction equipment and heavy-duty trucks. **MM-AQ-3: Construction and Operation Renewable Diesel Fuel – Feedstock Acquisition, Lassen Facility, Tuolumne Facility, and Port of Stockton.** Use renewable diesel fuel in diesel-powered off-road equipment and diesel trucks during construction and operation whenever commercially available. Renewable diesel fuel must meet the following criteria: ▪ Meet California's Low Carbon Fuel Standards and be certified by CARB Executive Officer; ▪ Be hydrogenation-derived (reaction with hydrogen at high temperatures) from 100% biomass material (i.e., non-petroleum sources), such as animal fats and vegetables; ▪ Contain no fatty acids or functionalized fatty acid esters; and	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Have a chemical structure that is identical to petroleum-based diesel and complies with American Society for Testing and Materials D975 requirements for diesel fuels to ensure compatibility with all existing diesel engines. Commercially available is herein defined as renewable diesel fuel sourced within 50 vehicle miles of the project/activity site and within 10% of the cost of the equivalent nonrenewable fuel. GSNR or its contractor or subcontractor performing these services must contact at least three vendors within the county of activity and submit to GSFA justification if the renewable diesel fuel is not commercially available. These requirements shall be included as enforceable terms in any contract or subcontract by GSNR for these activities. **MM-AQ-4: Construction and Operational Worker Commute Optimization – Feedstock Acquisition, Lassen Facility, Tuolumne Facility, and Port of Stockton**. GSNR or its designee will provide or cause to be provided educational materials to encourage workers to carpool to work sites and/or use public transportation for their commutes. **MM-AQ-5: Construction Equipment Exhaust Minimization – Tier 4 Final – Lassen Facility**. Prior to the commencement of construction activities for the project, GSNR shall require its construction contractor to use California Air Resources Board (CARB)-AQ-9.-certified Tier 4 Final engines for all diesel-powered equipment pieces that are 50 horsepower or greater throughout all phases of construction.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		In the event of changed circumstances (e.g., changes in the availability of specific types of construction equipment), GSNR may submit a request to the Executive Director of GSFA to apply an equivalent method of achieving project-generated construction emissions that fall below the numeric emissions standards established by the Lassen County Air Pollution Control District (Lassen County APCD) Rule 6:4 Best Available Control Technology (BACT) Requirements and the Lassen County APCD cancer risk threshold. Documentation using industry-standard emission estimation methodologies supporting the alternative method request shall be furnished to the Executive Director of GSFA. The Executive Director of GSFA may approve the alternate method request at their discretion. In addition, before an exemption may be granted, the construction contractor shall demonstrate that at least three construction fleet owners/operators in Lassen County were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within Lassen County during the desired construction schedule. Required construction equipment fleet and methodologies approved by the Executive Director of GSFA shall be included as enforceable terms in any contract or subcontract by GSNR for these activities. **MM-AQ-6: Construction Lower-VOC Paints – Lassen Facility**. During construction, the project shall use lower volatile organic compound (VOC) paint, defined as 200 grams per liter VOC or less for the purposes of this mitigation measure, for all interior and exterior paint applications for nonresidential land uses. These	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		requirements shall be included as enforceable terms in any contract or subcontract by GSNR for these activities. **MM-AQ-7: Construction Activities Notification – Lassen Facility, Tuolumne Facility, and Port of Stockton.** Prior to the commencement of any construction activities, GSNR or its designee shall designate a construction relations officer who will address community concerns regarding on-site construction activity. GSNR shall provide public notification in the form of a visible sign containing the contact information of the construction relations officer, who shall document complaints and concerns regarding on-site construction activity. The sign shall be placed in easily accessible locations along nearby roadways and noted on grading and improvement plans. **MM-AQ-8: Operational Equipment Exhaust Minimization – Tier 4 Final – Lassen Facility, Tuolumne Facility, and Port of Stockon.** California Air Resources Board (CARB)-certified Tier 4 Final engines shall be used for all diesel-powered equipment pieces that are 50 horsepower or greater. In the event of changed circumstances (e.g., changes in the availability of specific types of equipment), GSNR may submit a request to the Executive Director of GSFA to apply an equivalent method that, at a minimum, would meet the anticipated criteria air pollutant emission levels, including exhaust coarse particulate matter (PM_{10}) used as a surrogate for diesel particulate matter, after implementation of this mitigation measure (i.e., estimated criteria air pollutants assuming all diesel-powered equipment pieces that are 50 horsepower or	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		greater equipped with CARB-certified Tier 4 Final engines). Documentation using industry-standard emission estimation methodologies supporting the alternative method request shall be furnished to the Executive Director of GSFA. The Executive Director of GSFA may approve the alternate method request at their discretion. In addition, before an exemption may be granted, GSNR shall demonstrate that at least three vendors in the county of activity (i.e., Lassen County for Lassen Facility, Tuolumne County for Tuolumne Facility, and San Joaquin County for the Port of Stockton) were contacted and that those vendors confirmed Tier 4 Final equipment could not be located within the county of activity. Required construction equipment fleet and methodologies approved by the Executive Director of GSFA shall be included as enforceable terms in any contract or subcontract by GSNR for these activities. **MM-AQ-9: Operational Switcher Locomotive Exhaust Minimization – Lassen Facility.** During operation of the Lassen Facility, California Air Resources Board (CARB)-certified Tier 4-Final engine shall be used for the on-site switcher locomotive at the Lassen Facility. This measure can also be achieved by using battery-electric locomotive as it becomes commercially available in Lassen County. **MM-AQ-10: Construction Equipment Exhaust Minimization – Tier 4 Final – Tuolumne Facility.** Prior to the commencement of construction activities for the project, GSNR shall require its construction contractor to	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		use California Air Resources Board (CARB)-certified Tier 4 Final engines for all diesel-powered equipment pieces that are 50 horsepower or greater throughout all phases of construction. In the event of changed circumstances (e.g., changes in the availability of specific types of construction equipment), GSNR may submit a request to the Executive Director of GSFA to apply an equivalent method that, at a minimum, would meet the anticipated criteria air pollutant emission levels, including exhaust coarse particulate matter (PM_{10}) used as a surrogate for diesel particulate matter, after implementation of this mitigation measure (i.e., estimated criteria air pollutants assuming all diesel-powered equipment pieces that are 50 horsepower or greater equipped with CARB-certified Tier 4 Final engines). Documentation using industry-standard emission estimation methodologies supporting the alternative method request shall be furnished to the Executive Director of GSFA. The Executive Director of GSFA may approve the alternate method request at their discretion. In addition, before an exemption may be granted, GSNR shall demonstrate that at least three fleet owners/operators in Tuolumne County were contacted and that those fleet owners/operators confirmed Tier 4 Final equipment could not be located within Tuolumne County during the desired construction schedule. Required construction equipment fleet and methodologies approved by the Executive Director of GSFA shall be included as enforceable terms in any contract or subcontract by GSNR for these activities.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
AQ-2. The project would potentially result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	SU	**MM-AQ-1** through **MM-AQ-4** **MM-AQ-7** through **MM-AQ-9** **MM-AQ-11 Operational Switcher Exhaust Minimization – Port of Stockton**. If approved by the Port and its rail operator, GSNR will use a California Air Resources Board (CARB)-certified Tier 4-Final engine for the on-site switcher at the Port of Stockton. This measure can also be achieved by using battery-electric switchers as it becomes available.	SU
AQ-3. The project would potentially expose sensitive receptors to substantial pollutant concentrations.	LTS (*Feedstock Acquisition, Port of Stockton*) PS (*Lassen Facility, Tuolumne Facility*)	**MM-AQ-2** through **MM-AQ-5** **MM-AQ-8** through **MM-AQ-11** **MM-AQ-12: Operational Valley Fever Exposure Minimization – Feedstock Acquisition**. Prior to any ground disturbance activities within Madera, Merced, Fresno, and Tulare Counties, which are counties of potential project activity where Valley Fever is highly endemic, GSNR shall implement the following Valley Fever Provisions: 1) Between June 1 and November 30, when Valley Fever rates of infection are the highest, additional dust suppression measures (such as additional water or the application of additional soil stabilizer) will be implemented prior to and immediately following ground disturbing activities if wind speeds exceed 15 mph or temperatures exceed 95°F for 3 consecutive days. The additional dust suppression will continue until winds are 10 mph or lower and outdoor air temperatures are below 90°F for at least 2 consecutive days. The additional dust suppression	SU

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		measures will be incorporated into the Dust Control Plan. 2) Prior to any project forest treatment activity, GSNR will prepare and implement a worker training program that describes potential health hazards associated with Valley Fever, common symptoms, proper safety procedures to minimize health hazards, and notification procedures if suspected work-related symptoms are identified during operation. The worker training program will identify safety measures to be implemented by GSNR or its contractor during operation. Safety measures will include the following: ▪ Provide HEPA-filtered air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment. ▪ Provide communication methods, such as two-way radios, for use by workers in enclosed cabs. ▪ Provide personal protective equipment (PPE), such as half-mask and/or full-mask respirators equipped with particulate filtration, to workers active in dusty work areas. ▪ Provide separate, clean eating areas with hand-washing facilities for workers. ▪ Clean equipment, vehicles, and other items before they are moved off site to other work locations. ▪ Provide training for workers so they can recognize the symptoms of Valley Fever and promptly report suspected symptoms of work-related Valley Fever to a supervisor. ▪ Direct workers that exhibit Valley Fever symptoms to immediately seek a medical evaluation.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-AQ-13: Construction Asbestos, Serpentinite, and Ultramafic Rock Management Plan (ASUR Plan) – Tuolumne Facility. Prior to any grading activities, a geologic evaluation shall be conducted to determine if naturally occurring asbestos is present within the area that will be disturbed. If naturally occurring asbestos is not present, a notice of exemption must be filed with the Tuolumne County Air Pollution Control District. If naturally occurring asbestos is found at the site, GSNR must comply with all requirements outlined in the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. These requirements shall include but are not limited to: 1) Development of an Asbestos Dust Mitigation Plan, which must be approved by the Tuolumne County Air Pollution Control District before operations begin; and 2) Development and approval of an Asbestos Health and Safety Program.	
AQ-4. The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	None	LTS
Biological Resources			
BIO-1a. The project may have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species or substantially reduce the number or restrict the range of a rare or endangered plant.	PS (*Feedstock Acquisition, Tuolumne Facility*) NI	**MM-BIO-1: Compensate for Mortality, Injury, Disturbance, or Unavoidable Loss of Special-Status Plants**. If avoidance of take of plants species that U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and/or U.S. Forest Service (USFS) list as rare, endangered, threatened, or candidate	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	(*Lassen Facility, Port of Stockton*)	is not possible, GSNR will sufficiently compensate for such impacts. GSNR will initiate consultation with USFWS, CDFW, and/or USFS, as appropriate based on the identified species. Depending on whether the species are state and/or federally listed, the following steps will be associated with consultation and implementation of mitigation. **Federal Listed Species:** If the proposed action may affect only federally listed species or critical habitat, and the action has a federal nexus (via other federal agency permit, funding, or approvals), consultation pursuant to Section 7 of the Federal Endangered Species Act (FESA) would apply. Under FESA Section 7, GSNR will need to prepare a Biological Assessment (BA) to assist the USFWS or USFS in its determination of the project's effect on species and/or critical habitat. If the action is not likely to adversely affect the listed species, no further mitigation is necessary. If the action is likely to adversely affect a listed species, then the USFWS or USFS will prepare a Biological Opinion (BO). The conclusion of the BO will state whether or not the proposed action is likely to: 1. Jeopardize the continued existence of the listed species; and/or 2. Result in the destruction or adverse modification of critical habitat that appreciably diminishes the value of critical habitat as a whole for the conservation of the listed species. If the action is reasonably certain not to jeopardize the continued existence of the listed species or diminish the value of critical habitat as a whole for the species, then the BO will include an incidental take statement with the BO. Incidental take is subject to the terms and conditions provided in the incidental take	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		statement. Examples of terms and conditions included within a typical BO are include: ▪ Monitoring ▪ Worker environmental awareness program (WEAP) training ▪ Minimization of construction-related impacts ▪ Preconstruction clearance surveys ▪ Weed management and monitoring ▪ Compensation for loss of habitat ▪ Protection of lands in perpetuity ▪ Mitigation ratios for impacts (e.g., no less than 1:1 mitigation for suitable habitat) ▪ Permanent protection and management of compensation lands ▪ Costs to acquire and manage lands ▪ Financial assurances If the action has no associated federal action, permitting pursuant to FESA section 10(a)(1)(B) will apply. A Habitat Conservation Plan (HCP) will be prepared by GSNR and an application for an Incidental Take Permit (ITP). An applicant-prepared HCP will include, at a minimum, the following measures: ▪ Preservation (via acquisition or conservation easement) of existing habitat ▪ Enhancement or restoration of degraded or former habitat ▪ Creation of new habitat ▪ Establishment of buffer areas around existing habitats ▪ Restrictions to access	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		Both State and Federal Listed Species: If a plant species is listed by both FESA and the California Endangered Species Act (CESA), Fish and Game Code Section 2080.1 allows an applicant who has obtained a federal incidental take statement (FESA Section 7 consultation) or a federal ITP (FESA § 10(a)(1)(B)) to request that the Director of CDFW find the federal documents consistent with CESA via a consistency determination per Section 2080.1 of CESA. If a consistency determination is issued, no further authorization or approval is necessary under CESA. If a consistency determination is not feasible, the process for "State Only Listed Species," as described below, will be implemented. **State Listed Species:** For species that are listed by CDFW, but not the USFWS, as endangered, threatened, candidate, or a rare plant, and where take would occur, GSNR will apply for a State ITP under Section 2081(b) of the Fish and Game Code. When an ITP is issued, included terms and conditions will ensure that the items 1 through 5 below are met. 1. The authorized take must be incidental to an otherwise lawful activity. 2. The impacts of the authorized take must be minimized and fully mitigated. 3. The measures required to minimize and fully mitigate the impacts of the authorized take: a. Are roughly proportional in extent to the impact of the taking on the species; b. Maintain GSNR's objective to the greatest extent possible; and	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		c. May be successfully implemented by GSNR. 4. Adequate funding is provided to implement the required minimization and mitigation measures and monitor compliance with the effectiveness of the measures. 5. Issuance of the permit will not jeopardize the continued existence of the CESA-listed species. **Non-Listed Rare Species:** For rare species that are not listed by the USFWS or CDFW, GSNR will implement a Compensatory Mitigation Plan (Plan), prepared by a qualified botanist, that outlines at least one or a combination of the following: ▪ The protection, through land acquisition or a conservation easement, of land that supports an equal or greater number of plants of similar health; and/or, ▪ The creation of a new population on suitable unoccupied habitat through the salvage and relocation or propagation of impacted plants, or acquisition of similar plants/seed from local genetic stock, at no less than 1:1 mitigation ratio. Plant relocation, propagation, or establishment will be subject to the following requirements: - The Plan will be prepared by a qualified biologist and include at a minimum: (1) seed/propagule collection methods, (2) identification of receiver sites or locations for relocated or propagated plants and rationale for their selection, (3) success criteria for population establishment, including a not-to-exceed threshold for invasive species cover, (4) 5 years of maintenance and	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		monitoring, (5) the adaptive management approaches that would be used to evaluate monitoring results and adjust management actions, if necessary, and (6) financial assurances for the funding of special-status plant mitigation. **MM-BIO-9: Special-Status Plant Focused/Protocol Surveys and Avoidance at the Tuolumne Facility Site.** According to CDFW (2018), plant communities dominated by short-lived perennials and annuals may require multiple surveys to adequately document baseline conditions. Focused rare plant surveys were conducted at the site in May 2021. Since construction at the Tuolumne site will occur more than 3 years from the date the rare plant surveys were last conducted, GSNR will take the following actions: ▪ A qualified RPF or botanist will conduct protocol-level surveys for special-status plant species prior to initiation of ground-disturbance. Six non-listed special-status plant species will be targeted during the survey: Beaked clarkia (Clarkia rostrate), Tuolumne button-celery (Eryngium pinnatisectum), spiny-sepaled button-celery (Eryngium spinosepalum), forked hare-leaf (Lagophylla dichotoma), veiny monardella (Monardella venosa), and Patterson's navarretia (Navarretia paradoxiclara). The survey will follow the most current and relevant agency survey protocols and guidelines for special-status plants (e.g., CDFW 2018; USFWS 2000; CNPS 2001). The protocol surveys will be conducted in suitable habitat that could be affected by the project and timed to coincide with the blooming or other appropriate	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		phenological period of the target species (as determined by a qualified RPF or botanist), or all species in the same genus as the target species will be assumed to be special-status. ▪ Should rare plants be documented within 50 feet of the construction footprint, the following actions will be implemented to avoid and minimize impacts to individual plants: ▪ Wherever feasible, adjustments will be made to the limits of grading boundaries to confine work to avoid populations of special-status plants by at least 50 feet or as otherwise determined by a qualified botanist and in consideration of the type and extent of ground disturbance, potential for indirect impacts following ground disturbance activities, topography, and other factors. ▪ Prior to construction activities, a qualified botanist will flag or fence the location of special-status plant populations and the corresponding avoidance setback. This flagging will be in addition to, and distinguished apart from, any required construction boundary fencing. The construction contractor will be responsible for maintaining the flagging through the duration of construction. The flagging (or similar) will be removed immediately following construction. ▪ If avoidance of rare plants is not feasible, a Rare Plant Salvage and Translocation Plan will be prepared by a qualified botanist prior to implementation. The Rare Plant Salvage and Translocation Plan will be approved by the County and/or CDFW and will include, at a minimum, the	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		following components: identification of occupied habitat to be preserved and removed; identification of on-site or off-site preservation, restoration, enhancement, or translocation locations; methods for preservation, restoration, enhancement, and/or translocation; goals and objectives; replacement ratio and success standard of 1:1 for impacted to established acreage; a monitoring program to ensure mitigation success; adaptive management and remedial measures in the event that the performance standards are not achieved; and financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity. **MM-BIO-16: Invasive Plant Control at the Tuolumne Facility Site.** To prevent the spread of non-native and invasive plant species and pathogens, the project will implement the following measures: ▪ The contractor will clean all construction vehicles and equipment prior to entering undeveloped portions of the site (overland travel). ▪ Rock, sand, and any other material used for erosion control purposes will originate from a weed-free source if available. Refer to the following sources for more information: - https://www.cal-ipc.org/solutions/prevention/weedfreeforage/ - https://www.cal-ipc.org/solutions/prevention/weedfreegravel/ ▪ Areas temporarily disturbed by construction will be revegetated and reseeded. Revegetation will	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		incorporate local native species to the extent practicable or sterile non-native species to reduce the spread of invasive plants in the project area. Seed collection source and species diversity will be selected to maintain the genetic integrity and diversity of native plants used for revegetation.	
BIO-1b. The project may have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species or substantially reduce the number or restrict the range of a rare or endangered animal.	PS (*Feedstock Acquisition, Tuolumne Facility, Port of Stockton)* LTS *(Lassen Facility)*	**MM-AES-1** **MM-BIO-2: Compensate for Mortality, Injury, or Disturbance and Loss of Habitat Function for Special-Status Wildlife**. If avoidance of take of wildlife species that U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and/or U.S. Forest Service (USFS) list as rare, endangered, threatened, or candidate is not possible, GSNR will sufficiently compensate for such impacts. GSNR will initiate consultation with USFWS, CDFW, and/or USFS, as appropriate, based on the identified species. Depending on whether the species are state and/or federally listed, the following steps will be associated with consultation and implementation of mitigation. **Federally Listed Species:** If the proposed action may affect only federally listed species or critical habitat, and the action has a federal agency nexus, then consultation pursuant to Section 7 of the Federal Endangered Species Act (FESA) would apply. Under FESA Section 7, GSNR will need to prepare a Biological Assessment (BA) to assist the USFWS or USFS in its determination of the project's effect on species and/or critical habitat. If the action is not likely to adversely affect the listed species, no further mitigation is necessary. If the action is likely to adversely affect a listed species, then the USFWS or USFS will prepare a Biological Opinion	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		(BO). The conclusion of the BO will state whether or not the proposed action is likely to: 1. Jeopardize the continued existence of the listed species; and/or 2. Result in the destruction or adverse modification of critical habitat that appreciably diminishes the value of critical habitat as a whole for the conservation of the listed species. If the action is reasonably certain not to jeopardize the continued existence of the listed species or diminish the value of critical habitat as a whole for the species, then the BO will include an incidental take statement with the BO. Incidental take is subject to the terms and conditions provided in the incidental take statement. Examples of terms and conditions included within a typical BO are include: ▪ Monitoring ▪ Worker environmental awareness program (WEAP) training ▪ Minimization of construction-related impacts ▪ Preconstruction clearance surveys ▪ Weed management and monitoring ▪ Compensation for loss of habitat ▪ Protection of lands in perpetuity ▪ Mitigation ratios for impacts (e.g., no less than 1:1 mitigation for suitable habitat) ▪ Permanent protection and management of compensation lands ▪ Costs to acquire and manage lands ▪ Financial assurances If the action has no federal agency nexus, permitting pursuant to FESA Section 10(a)(1)(B) will occur. A Habitat Conservation Plan (HCP) will be prepared by GSNR and an application for an Incidental Take Permit (ITP). An	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		applicant-prepared HCP will include, at a minimum, the following measures: ▪ Preservation (via acquisition or conservation easement) of existing habitat ▪ Enhancement or restoration of degraded or former habitat ▪ Creation of new habitat ▪ Establishment of buffer areas around existing habitats ▪ Restrictions to access **Both State and Federal Listed Species:** If a species is listed by both FESA and the California Endangered Species Act (CESA), Fish and Game Code Section 2080.1 allows an applicant who has obtained a federal incidental take statement (FESA Section 7 consultation) or a federal ITP (FESA § 10(a)(1)(B)) to request that the Director of CDFW find the federal documents consistent with CESA via a consistency determination per Section 2080.1 of CESA. If a consistency determination is issued, no further authorization or approval is necessary under CESA. If a consistency determination is not feasible, the process for "State Only Listed Species," as described below, will be implemented. **State Listed Species:** For species that are listed by CDFW, but not the USFWS, as endangered, threatened, candidate, or a rare species, and where take would occur, GSNR will apply for a State ITP under Section 2081(b) of the Fish and Game Code. When an ITP is issued, included terms and conditions will ensure that the items 1 through 5 below are met.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		1. The authorized take must be incidental to an otherwise lawful activity. 2. The impacts of the authorized take must be minimized and fully mitigated. 3. The measures required to minimize and fully mitigate the impacts of the authorized take: a. Are roughly proportional in extent to the impact of the taking on the species; b. Maintain GSNR's objective to the greatest extent possible; and c. May be successfully implemented by GSNR. 4. Adequate funding is provided to implement the required minimization and mitigation measures and monitor compliance with the effectiveness of the measures. 5. Issuance of the permit will not jeopardize the continued existence of the CESA-listed species. **Non-Listed Rare Species:** For rare species that are not listed by the USFWS or CDFW, GSNR will implement a Compensatory Mitigation Plan (Plan), as-needed and prepared by a qualified biologist, through at least one or a combination of the following: ▪ Preserving existing species habitat outside of the treatment area in perpetuity; this may entail purchasing lands and/or mitigation credits from a CDFW- and/or USFWS-approved entity in sufficient quantity to offset the residual significant impacts to habitat.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Restoring or enhancing existing species habitat within or outside of the treatment area (e.g., decommissioning roads, installing perching or roosting structures, or removing movement barriers or other existing features that are adversely impacting the species). Prior to finalizing the Plan, GSNR will consult with any applicable responsible agencies to ensure that the Plan will satisfy responsible agency requirements (e.g., permits and approvals): ▪ For California Fully Protected Species, GSNR will submit the Plan to CDFW for review and comment. ▪ For other special-status wildlife species, GSNR may consult with CDFW and/or USFS regarding the availability and applicability of compensatory mitigation and other related technical information.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-BIO-8: Worker Environmental Awareness Program at the Tuolumne Facility Site. GSNR will require crew members and contractors to receive worker environmental awareness program (WEAP) training from a qualified biologist prior to project commencement. The training will describe the appropriate work practices necessary to effectively implement all relevant mitigation measures and to comply with applicable environmental laws and regulations regarding biological resources. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats present or with the potential to occur in the work area; impact minimization procedures; and reporting requirements. The training will instruct workers when it is appropriate to stop work and allow wildlife encountered during work activities to leave the area unharmed and to report encounters to the project biologist. The project biologist will immediately contact USFWS, USFS, and/or CDFW (as appropriate) if a special-status species is encountered and cannot leave the site on its own (without being handled). All attendees of the training will be required to sign a log documenting attendance and completion of the training. **MM-BIO-10: Nesting Bird Surveys and Avoidance at the Tuolumne Facility Site.** Tree and vegetation removal at the Tuolumne Facility site will be conducted outside of the nesting season (February through September) as feasible. If not feasible, the following measures will be implemented to avoid or minimize impacts to nesting birds:	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ A qualified biologist shall conduct a pre-construction survey for nesting birds no more than 7 days prior to vegetation or structure removal or ground-disturbing activities conducted during the nesting season (February through September). The survey shall cover the limits of construction and suitable nesting habitat within 500 feet for raptors and 100 feet for other nesting birds, as feasible and accessible. ▪ If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance shall typically range from 50 to 500 feet and shall be determined based on factors such as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground-disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers, and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. ▪ If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest. **MM-BIO-11: Northwestern Pond Turtle Protection at the Tuolumne Facility Site**. Northwestern pond turtles have been documented in the perennial pond in the northern portion of the Tuolumne site. Thus, GSNR will take the following actions: ▪ No ground-disturbance will be permitted within 1,640 feet (500 meters) of suitable aquatic habitat for northwestern pond turtle during the turtle overwintering period from October to March. ▪ No ground-disturbance will be permitted within 656 feet (200 meters) of aquatic habitat occupied by northwestern pond turtle. ▪ GSNR will implement applicable Best Management Practices (BMPs) for northwestern pond turtle in accordance with the most recent and agency-accepted guidelines available at the time of project implementation (e.g., Department of Defense (DOD) Legacy Resource Management Program 2020 and Oregon Department of Fish and Wildlife 2015).	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		- If ground-disturbance within 1,640 feet (500 meters) of suitable aquatic habitat from October to March or 656 feet (200 meters) of occupied aquatic habitat is not feasible GSNR will consult with USFWS on appropriate measures to identify and avoid take of any northwestern pond turtles nesting in the construction footprint as part of its federally listed species consultation described under MM-BIO-2. These measures may include all or a combination of the following to avoid take of nesting pond turtles: Qualified biologists shall conduct visual encounter surveys for pond turtle nests or evidence of nesting from May to June prior to any ground disturbance within the above buffers. A minimum 50-foot-radius exclusion zone shall be established around any pond turtle nests or suspected nests found during the visual encounter surveys using high-visibility fencing. The exclusion zone shall remain in effect until the biologist has verified that the nest is no longer active.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		- Occupied aquatic habitat shall be isolated from adjacent upland nesting habitat within the construction footprint before April in the year of construction. The intent of this measure is to ensure that once hatchling pond turtles leave their upland nests in April, no additional nests will be established in the construction footprint during the following season. Unclimbable, smooth fencing (e.g., Animex HDPE#2 material or wooden fencing) will be installed at the interface between aquatic and upland habitat. The fencing will be maintained between its installation and project start with regular monitoring (1 to 2 hours of observation every monitoring period) to ensure that turtles and other special-status species are not being entrapped by the fencing. **MM-BIO-12: Tricolored Blackbird Protection at the Tuolumne Facility Site.** Wetlands and riparian areas in the northern portion of the Tuolumne site provide nesting habitat for tricolored blackbird. Thus, the GSNR will take the following actions: ▪ As feasible, vegetation removal activities will be conducted outside of the nesting season for tricolored blackbird (estimated to be March through June), and ground disturbance at the site will avoid suitable nesting habitat and areas within 50 to 300 feet of suitable nesting habitat.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ A qualified biologist will conduct a pre-construction survey for nesting tricolored blackbirds no more than 7 days prior to vegetation or structure removal or ground-disturbing activities conducted during the species' nesting season (estimated to be March through June). The survey will be conducted in accordance with MM-BIO-10. ▪ If an active tricolored blackbird nesting colony is encountered during the pre-construction survey, the GSNR will postpone any work with a potential to impact the colony and implement MM-BIO-2 as appropriate. ▪ Tricolored blackbird will be included in the worker environmental awareness program, which will educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts. **MM-BIO-13: Habitat Assessment, Focused Surveys, and Avoidance of California Red-legged Frog and California Tiger Salamander at the Tuolumne Facility Site**. The Tuolumne facility site is located within the known geographic range of California red-legged frog and California tiger salamander. Thus, GSNR will take the following actions:	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ To determine if any aquatic habitat features in the northern portion of the site are occupied by California red-legged frog, a qualified biologist will conduct a single breeding season survey in accordance with USFWS' Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005). After the survey, the biologist will report the results to the appropriate USFWS office to determine if additional surveys are warranted. If the survey is negative and the USFWS determines that further surveys are unnecessary because the site is unoccupied by California red-legged frog, no additional actions would be necessary. ▪ If the California red-legged frog survey results are inconclusive and the USFWS determines that additional surveys are necessary, the biologist will conduct up to seven additional breeding surveys in accordance with USFWS (2005). If these surveys are negative, the site will be assumed to be unoccupied by California red-legged frog and no additional actions would be necessary. ▪ If California red-legged frogs are found occupying any aquatic features at any time during the above surveys, MM-BIO-2 would be implemented. Compensatory mitigation for impacts on California red-legged frog habitat will be provided at a minimum 2:1 ratio. Replacement habitat will be in-kind and located on site, if feasible.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ To address uncertainty on the status of California tiger salamander in the site vicinity, a qualified biologist will prepare a formal site assessment for California tiger salamander in accordance with USFWS' and CDFW's Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (USFWS and CDFG 2003). If the site assessment determines and USFWS and CDFW agree that California tiger salamander occurrence on the site is not expected, no additional actions would be necessary. ▪ If the site assessment and/or USFWS or CDFW determine that formal surveys are needed to determine California tiger salamander presence or absence on the site, GSNR may conduct multi-year aquatic larval and upland drift fence surveys in accordance with USFWS and CDFW (2003), or assume that California tiger salamanders are present and mitigate accordingly as part of the Section 7 consultation process described under MM-BIO-2. ▪ If California tiger salamanders are found occupying the site during surveys or are assumed present, compensatory mitigation for impacts on California tiger salamander habitat will be provided at a minimum 2:1 ratio. Replacement habitat will be in-kind and located on site, if feasible **MM-BIO-14: Native Bat Roost Protection at the Tuolumne Facility Site.** Riparian vegetation and various human-made structures at the Tuolumne site may provide	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		roosting habitat for native bats. Thus, GSNR will take the following actions: ▪ If feasible, any structure demolition and tree removal activities will be conducted outside of the bat maternity season (March 1 – August 31) to avoid potential impacts to maternity colonies. ▪ If structure demolition and tree removal activities must occur during the bat maternity season, a qualified biologist will conduct a pre-construction survey for maternity roosts within 14 days prior to construction. The survey will include a visual inspection of potential roosting features (bats need not be present) and presence of guano in the construction footprint and within 50 feet. Potential roosting features found during the survey will be flagged or marked. ▪ If bats (individuals or colonies) are detected and cannot be completely avoided, GSNR will implement measures to safely evict bats under the direction of a qualified biologist. If individuals cannot be safely evicted due to factors such as lack of alternative roosting sites, as determined by the qualified bat biologist, ground-disturbing activities within a specified distance of the roost (specified distance to be determined by the qualified biologist, based on surroundings and vulnerability of roost site, etc.) will be postponed or halted until conditions are suitable for safe eviction or the roost has vacated naturally. **MM-BIO-17: Worker Environmental Awareness Program at the Port Site.** GSNR will require crew members and contractors to receive worker environmental awareness program (WEAP) training from a qualified biologist prior	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		to project commencement. The training will describe the appropriate work practices necessary to effectively implement all relevant mitigation measures and to comply with applicable environmental laws and regulations regarding biological resources. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats present or with the potential to occur in the work area; impact minimization procedures; and reporting requirements. The training will instruct workers when it is appropriate to stop work and allow wildlife encountered during work activities to leave the area unharmed and to report encounters to the project biologist. The project biologist will immediately contact USFWS, USFS, and/or CDFW (as appropriate) if a special-status species is encountered and cannot leave the site on its own (without being handled). All attendees of the training will be required to sign a log documenting attendance and completion of the training. **MM-BIO-18: Nesting Bird Surveys and Avoidance at the Port Site.** Tree and vegetation removal at the Port site will be conducted outside of the nesting season (February through September) as feasible. If not feasible, the following measures will be implemented to avoid or minimize impacts to nesting birds:	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ A qualified biologist shall conduct a pre-construction survey for nesting birds no more than 7 days prior to vegetation or structure removal or ground-disturbing activities conducted during the nesting season (February through September). The survey shall cover the limits of construction and suitable nesting habitat within 500 feet for raptors and 100 feet for other nesting birds, as feasible and accessible. ▪ If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance shall typically range from 50 to 500 feet and shall be determined based on factors such as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground-disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers, and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. ▪ If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest. **MM-BIO-19: Protocol-Level Surveys for Swainson's Hawk at the Port Site.** A qualified biologist will conduct surveys for Swainson's hawk prior to ground-disturbing activities at the Port site, if undertaken during the Swainson's hawk nesting season (March 1 – August 31). The surveys will be conducted in accordance with the Swainson's Hawk Technical Advisory Committee (TAC) Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (TAC 2000). The survey will cover the limits of construction and suitable nesting habitat within 500 feet, to the extent feasible.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ If an active nest is observed in the survey area, construction within 500 feet of the nest will be delayed until young hawks have fledged and are independent of the nest, as determined by a qualified biologist. The qualified biologist, in consultation with CDFW, may reduce the 500-foot buffer based on the type, timing, extent, and intensity of the construction activity and other factors such as site topography and vegetation cover between the construction activity and the nest. Construction within 500 feet of the nest may reinitiate once all young have fledged and are no longer dependent upon the nest. ▪ If no active nests are identified during the survey no additional action is needed. **MM-BIO-20: Protocol-Level Surveys for Burrowing Owl at the Port Site**. A qualified biologist will conduct surveys for burrowing owl within 30 days prior to ground-disturbing activities at the Port site. The survey will cover the limits of ground disturbance and potentially suitable nesting habitat within 300 feet, to the extent feasible. If ground-disturbing activities are delayed, then additional surveys will be conducted such that no more than 7 days elapse between the survey and ground-disturbing activities. If no potential burrowing owl nests are detected during the survey, no additional actions are needed, and ground-disturbing activities may proceed.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ If nesting burrowing owls are observed during the survey, ground-disturbing activities within 300 feet of occupied burrows will be delayed until young owls have fledged and are independent of the burrow, as determined by a qualified biologist. The qualified biologist may reduce the 300-foot buffer based on the type, timing, extent, and intensity of the construction activity and other factors such as site topography and vegetation cover between the construction activity and the burrow. Once all young have fledged and are no longer dependent upon the nest burrow, the burrow exclusion procedure described below will be implemented prior to resuming construction activities in the area. ▪ If overwintering burrowing owls are observed in or adjacent to the construction footprint during the survey, construction will be postponed until the qualified biologist can fully implement a California Department of Fish and Wildlife-approved burrow exclusion plan (to be prepared by the qualified biologist). The exclusion plan will be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012). Once owls have been successfully excluded and unoccupied burrows evacuated, construction in the area may proceed. ▪ If no active nests or overwintering burrowing owls are identified during the survey no additional action is needed	
BIO-2. The project may substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community.	PS (*Feedstock Acquisition)* LTS	**MM-BIO-1** **MM-BIO-2** **MM-BIO-8** **MM-BIO-9** **MM-BIO-10**	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	(Lassen Facility, Tuolumne Facility, Port of Stockton)	**MM-BIO-11** **MM-BIO-12** **MM-BIO-14** **MM-BIO-15: Native Tree Protection at the Tuolumne Facility Site.** The project applicant will minimize damage to existing native trees on the Tuolumne Facility site from construction activities and potential soil compaction in the root zone. GSNR or construction contractor(s) will implement the below measures in addition to those required for compliance with the goals and policies in the Natural Resources Chapter of the Tuolumne County General Plan. ▪ No construction vehicles, construction equipment, mobile offices (e.g., trailer), or materials will be permitted within the driplines of any native trees to be retained by the project. ▪ If work or temporary traffic must proceed within the driplines, one of the following techniques will be followed: (1) place 6–12 inches of mulch in the work or traffic area; (2) place at least 4 inches of mulch in the work or traffic area and then place sheets of 0.75-inch-thick plywood or road mats with 4-inch-thick layer of mulch; or (3) place 4 to 6 inches of gravel with staked geotextile fabric beneath. ▪ Soil surface removal greater than 1 foot will not be permitted within the driplines of retained trees. No cuts will occur within 5 feet of their trunks. ▪ To the extent feasible, earthen fill greater than 1 foot deep will not be placed within the driplines of retained trees, and no fill will be placed within 5 feet of their trunks.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		Trenching will not occur within the driplines of retained native trees. If it is absolutely necessary to install trenches within the driplines of preserved trees, the trench will be either bored or drilled, but not within 5 feet of the trunk. MM-BIO-16	
BIO-3. The project may have a substantial adverse effect on riparian habitat or other sensitive natural community.	PS *(Feedstock Acquisition, Lassen Facility)* LTS (Port of Stockton) NI (Tuolumne Facility)	**MM-BIO-3: Compensate for Unavoidable Loss of Sensitive Natural Communities and Oak Woodlands.** If significant impacts to sensitive natural communities or oak woodlands cannot feasibly be avoided, GSNR will sufficiently compensate for such impacts. Compensation shall include:	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ A qualified botanist will conduct a pre-construction survey to identify and quantify the number of plants that could be potentially removed or disturbed within the sensitive natural community or oak woodland. The botanist will prepare a mitigation plan to address implementation and monitoring requirements to ensure that project activities would result in no net loss of habitat functions and values and to offset the loss of any vegetation/plants to be removed or disturbed. The plan will contain, at a minimum: goals and objectives; a description of the extent of plants/vegetation to be removed or disturbed; plant collection, propagation, and planting methods; locations on site in which the plants will be transplanted; monitoring methods and timing; invasive species eradication methods; interim and final success criteria/performance standards; measures to be taken in the event that the propagation and planting is not successful; identification of responsible entities; and reporting requirements. The plan will be approved by the appropriate County. Propagation and planting will occur at a minimum 1:1 basis to ensure no net loss of the sensitive natural community or oak woodland. ▪ Natural areas temporarily impacted by project activities will be restored with appropriate native vegetation. Restored areas will be identified and determined to feasibly support the proposed native revegetation to adequately mitigate project impacts. Feasibility of native revegetation is primarily based on suitable soils, slopes, and aspect as well as the presence of similar native vegetation adjacent to the proposed mitigation areas.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
BIO-4. The project may have a substantial adverse effect on federally or state-protected wetlands.	PS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility, Port of Stockton)*	**MM-BIO-4: Compensate for Unavoidable Loss of Wetlands and Other Aquatic Resources.** If temporary or permanent loss of protected wetlands and other aquatic resources cannot feasibly be avoided, GSNR will implement the following actions: ▪ Prior to project activities, GSNR will coordinate with the appropriate USACE district and RWQCB regional staff to assure conformance with permitting requirements of Section 401 and 404 of the Clean Water Act and the Porter–Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional lake or streambed or associated riparian habitat, GSNR will coordinate with the appropriate CDFW regional staff to assure conformance with California Fish and Game Code Section 1600 permitting requirements. ▪ As part of the permit application process, GSNR will sufficiently mitigate to ensure no-net-loss of waters at a minimum of 1:1 with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss, or at a higher ratio if establishment or re-establishment mitigation is not available. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Should applicant-sponsored mitigation be implemented, a mitigation and monitoring plan (Plan) will be prepared in accordance with resource agency guidelines and approved by the agencies in accordance with the proposed permits. The Plan will include but is not limited to a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity. **MM-BIO-5: Worker Environmental Awareness Program at the Lassen Facility Site.** GSNR will require crew members and contractors to receive worker environmental awareness program (WEAP) training from a qualified biologist prior to project commencement. The training will describe the appropriate work practices necessary to effectively implement all relevant mitigation measures and to comply with applicable environmental laws and regulations regarding biological resources. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats present or with the potential to occur in the work area; impact minimization procedures; and reporting requirements. The training will instruct workers when it is appropriate to stop work and allow wildlife encountered during work activities to leave the area unharmed and to report encounters to the	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		project biologist. The project biologist will immediately contact USFWS, USFS, and/or CDFW (as appropriate) if a special-status species is encountered and cannot leave the site on its own (without being handled). All attendees of the training will be required to sign a log documenting attendance and completion of the training. **MM-BIO-7: Compensatory Mitigation Plan for the Permanent Loss of Wetlands and Other Aquatic Resources at the Lassen Facility Site.** The project applicant will compensate for the permanent loss of wetlands and other aquatic resources anticipated from facility construction. Compensatory mitigation to ensure no net loss of aquatic resources shall be achieved through one or a combination of the following (in order of priority): ▪ Based on site soil, hydrology, and watershed characteristics, the southern portion of the Lassen Facility site could support approximately 47.8 acres of seasonal wetland (APNs 001-270-026, 001-270-029, and 013-040-013; WRA 2024). Thus, GSNR will: - Implement on-site applicant-sponsored mitigation in accordance with an agency-approved Wetland Mitigation and Monitoring Plan (Plan). The Plan will be prepared by a qualified biologist or similar in accordance with resource agency guidelines and submitted to the relevant resource agencies (e.g., USACE, RWQCB, and CDFW) for review and approval. The Plan will include at a minimum: a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. On-site applicant-sponsored mitigation shall be conserved and managed in perpetuity. ▪ Purchase mitigation credits from an agency-approved wetlands mitigation bank or pay an agency-approved in-lieu fee. MM-BIO-8 MM-BIO-17	
BIO-5. The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	PS (*Lassen Facility, Tuolumne Facility, Port of Stockton*) LTS (*Feedstock Acquisition*)	**MM-BIO-6: Nesting Bird Surveys and Avoidance at the Lassen Facility Site.** Tree and vegetation removal at the Lassen Facility site will be conducted outside of the nesting season (February through September) as feasible. If not feasible, the following measures will be implemented to avoid or minimize impacts to nesting birds: ▪ A qualified biologist shall conduct a pre-construction survey for nesting birds no more than 7 days prior to vegetation or structure removal or ground-disturbing activities conducted during the nesting season (February through September). The survey shall cover the limits of construction and suitable nesting habitat within 500 feet for raptors and 100 feet for other nesting birds, as feasible and accessible.	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance shall typically range from 50 to 500 feet and shall be determined based on factors such as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground-disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers, and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. ▪ If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. ▪ If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest. MM-BIO-8 MM-BIO-10 MM-BIO-14 MM-BIO-17	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-BIO-18 **MM-BIO-21: Native Bat Roost Protection at the Port Site.** Riparian vegetation and various human-made structures at the Port site may provide roosting habitat for native bats. Thus, GSNR will take the following actions: ▪ If feasible, any structure demolition and tree removal activities will be conducted outside of the bat maternity season (March 1 – August 31) to avoid potential impacts to maternity colonies. ▪ If structure demolition and tree removal activities must occur during the bat maternity season, a qualified biologist will conduct a pre-construction survey for maternity roosts within 14 days prior to construction. The survey will include a visual inspection of potential roosting features (bats need not be present) and presence of guano in the construction footprint and within 50 feet. Potential roosting features found during the survey will be flagged or marked. ▪ If bats (individuals or colonies) are detected and cannot be completely avoided, GSNR will implement measures to safely evict bats under the direction of a qualified biologist. If individuals cannot be safely evicted due to factors such as lack of alternative roosting sites, as determined by the qualified bat biologist, ground-disturbing activities within a specified distance of the roost (specified distance to be determined by the qualified biologist, based on surroundings and vulnerability of roost site, etc.) will be postponed or halted until conditions are suitable for safe eviction or the roost has vacated naturally.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
BIO-6. The project may conflict with local policies or ordinances protecting biological resources.	PS (*Tuolumne Facility)* NI (*Feedstock Acquisition, Lassen Facility, Port of Stockton*)	**MM-BIO-3** **MM-BIO-15** **MM-BIO-16**	LTS
BIO-7. The project may conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state conservation plan.	PS (*Port of Stockton*) NI (*Feedstock Acquisition, Lassen Facility, Tuolumne Facility*)	**MM-BIO-2** **MM-BIO-3** **MM-BIO-4**	LTS
Cultural and Tribal Cultural Resources			
CUL-1. The project would not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.	LTS *(Feedstock Acquisition, Tuolumne Facility, Port of Stockton)* *NI (Lassen Facility)*	N/A	LTS
CUL-2. The project may cause a substantial adverse change in the significance of an archaeological resource pursuant to §15063.4 or disturb human remains.	PS *(Lassen Facility, Tuolumne Facility, Port of Stockton)*	**MM-CUL-1 Unanticipated Archaeological Resources:** All crews should be alerted to the potential to the potential to encounter archaeological material. In the unlikely event that cultural resources (sites, features, or artifacts) are exposed during creek bank stabilization activities, all	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	LTS *(Feedstock Acquisition)*	construction work occurring within 100 feet of the find shall immediately stop and GSNR contacted. A qualified specialist, meeting the Secretary of the Interior's Professional Qualification Standards, will be assigned to review the unanticipated find, and evaluation efforts of this resource for NRHP and CRHR listing will be initiated in consultation with GSNR. Prehistoric archaeological deposits may be indicated by the presence of discolored or dark soil, fire-affected material, concentrations of fragmented or whole burned or complete bone, non-local lithic materials, or the characteristic observed to be atypical of the surrounding area. Common prehistoric artifacts may include modified or battered lithic materials; lithic or bone tools that appeared to have been used for chopping, drilling, or grinding; projectile points; fired clay ceramics or non-functional items; and other items. Historic-age deposits are often indicated by the presence of glass bottles and shards, ceramic material, building or domestic refuse, ferrous metal, or old features such as concrete foundations or privies. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under NHPAA/CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted. MM-CUL-2 Unanticipated Discovery of Human Remains: Should human remains be discovered, work will halt in that area and procedures set forth in the California Public Resources Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) will be followed, beginning with notification to the ACOE (if applicable) and County Coroner. No further excavation or	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall provide recommendations on next steps within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.	
CUL-3. The project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?* b) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria*	PS *(Lassen Facility, Tuolumne Facility, Port of Stockton)* LTS *(Feedstock Acquisition)*	**MM-CUL-1**	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?			
Energy			
ENE-1. The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	LTS	N/A	LTS
ENE-2. The project would not result in conflicts with or otherwise obstruct a state or local plan for renewable energy or energy efficiency.	LTS	N/A	LTS
Geology and Soils			
GEO-1a. The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault.	NI	N/A	NI
GEO-1b. The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	NI (*Feedstock Acquisition*) LTS	N/A	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	(*Lassen Facility, Tuolumne Facility, Port of Stockton*)		
GEO-1c. The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismically related ground failure, including liquefaction.	NI (*Feedstock Acquisition*) LTS (*Lassen Facility, Tuolumne Facility, Port of Stockton*)	N/A	LTS
GEO-1d. The project would potentially directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.	LTS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility)* NI *(Port of Stockton)*	N/A	LTS
GEO-2. The project would potentially result in substantial soil erosion or the loss of topsoil.	LTS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility, Port of Stockton)*	N/A	LTS
GEO-3. The project would potentially be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	LTS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility, Port of Stockton)*	N/A	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
GEO-4. The project would not be located on expansive soil, creating substantial direct or indirect risks to life or property.	LTS *(Lassen Facility, Tuolumne Facility, Port of Stockton)* NI *(Feedstock Acquisition)*	N/A	LTS
GEO-5. The project would potentially have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	PS *(Lassen Facility, Tuolumne Facility)* NI *(Feedstock Acquisition, Port of Stockton)*	**MM-GEO-1 Engineered Septic System.** The on-site septic system shall be an engineered system to address on-site constraints including poor soil conditions (insufficient percolation) and high groundwater. The system may consist of an aerobic treatment unit or other system with equivalent pretreatment characteristics. The system, including any dispersal system, shall be located a minimum of 100 feet from any domestic water well. The system shall meet the requirements for protection of water quality of the local environmental health agency and the Regional Water Quality Control Board.	LTS
GEO-6. The project would potentially directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	PS *(Lassen Facility, Port of Stockton)* LTS (*Tuolumne Facility*) NI *(Feedstock Acquisition)*	**MM-GEO-2 Paleontological Resources.** Prior to commencement of any grading activity on-site, GSNR shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the proposed project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		(including sediment sampling for microvertebrate fossils), reporting, and collections management. The PRIMP shall also include a statement that any fossil lab or curation costs (if necessary due to fossil recovery) are the responsibility of GSNR. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find.	
Greenhouse Gas Emissions			
GHG-1. The project would potentially generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	PS	MM-AQ-2 MM-AQ-3 MM-AQ-4 MM-AQ-9 MM-TRF-1 MM-TRF-4	SU
GHG-2. The project would potentially conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	PS	MM-AQ-2 MM-AQ-3 MM-AQ-4 MM-AQ-9 MM-TRF-1 MM-TRF-4	SU

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials			
HAZ-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	N/A	LTS
HAZ-2. The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	N/A	LTS
HAZ-3. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS (Feedstock Acquisition) NI (Lassen Facility, Tuolumne Facility, Port of Stockton)	N/A	LTS
HAZ-4. The project could create a significant hazard to the public or the environment due to being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5.	PS *(Port of Stockton)* LTS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility)*	**MM-HAZ-1: Port of Stockton. Soil Management Plan and Phase II Investigation.** Prior to issuance of a grading or building permit, GSNR shall retain a qualified environmental consultant to prepare and implement a Soil Management Plan for all earthwork activities proposed at the site. The Soil Management Plan shall be based on a review of previous environmental subsurface characterizations and in accordance with Department of Toxic Substances Control (DTSC) and/or Regional Water Quality Control Board (RWQCB) coordination. The consultant shall also prepare a Phase II Work Plan for all structures that would be occupied as part of project operations. The Phase II Work Plan shall include	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		sampling locations, depths, and analytical laboratory testing that will be done to evaluate the potential health risks associated with any existing legacy contaminants of concern that may be present in the subsurface and the potential for adverse health effects related to vapor intrusion. The work plan shall be submitted to San Joaquin County Environmental Health for review and approval prior to commencement of sampling activities at the site. The findings of the Phase II Work Plan shall be compiled in a report documenting the results of the sampling and include recommendations for any further testing or remediation, if applicable. Sampling results shall be compared to RWQCB Regulatory Screening Levels for commercial/industrial land uses and additional sampling conducted as directed by the overseeing agency whether that is San Joaquin County Environmental Health Services, DTSC, or RWQCB. Issuance of a grading or building permit shall only occur upon authority from the overseeing agency once they have determined that no further threat to human health or the environment remains in the areas of the proposed improvements intended for human occupancy.	
HAZ-5. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	N/A	LTS
HAZ-6. The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving fires.	PS *(Lassen Facility, Tuolumne Facility, Port of Stockton)* LTS	**MM-HAZ-2: Fire Prevention Plan**. GSNR shall prepare a Site Specific Fire Prevention Plan for each production and storage facility Plan (Lassen Facility, Tuolumne Facility, and Port of Stockton). Development of each Site Specific Fire Prevention Plan shall be consistent with Brown, et al., 2022, *Application of Process Hazard Analysis and Inherently Safer Design in Wood Pellet*	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	(Feedstock Acquisition)	*Production*, American Chemical Society ACS Omega 2022, 7, 47720−47733, and each Plan shall incorporate the following Inherently Safer Design features where applicable, at a minimum: ▪ Maintenance and housekeeping measures to reduce the risk of "hot spots" and potential fire risk during the production and movement of pellets. ▪ Identification of early detection measures, including belt speed and motor sensors, spark detectors, temperature sensors. ▪ Protocols to minimize the residence time of finished pellets in storage silos. ▪ On-site fire suppression facilities, including water storage and pumping. ▪ Require that pellet storage silos will be equipped with temperature monitoring systems to detect hot spots. ▪ Require that each pellet storage silo will also be equipped with an aeration system that will activate when elevated temperatures are detected and blow ambient air through the silo for cooling. ▪ Require use of an enclosed motors instead of a non-enclosed motors to ensure dust is kept out to prevent fire spots. ▪ Require multiple dust collectors with explosion panels will be installed throughout the process in order to reduce fire and explosion hazard associated with dry fiber handling generating dust. ▪ Ensure that all ductwork is designed to have a minimal number of bends to the extent feasible. The pellet production facilities shall include the following additional measures:	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Require that magnets be located throughout the process to remove ferrous objects from the feedstock and product streams to the extent feasible. ▪ Ensure quick material turnaround to minimize the risk of a deep-seated fire caused by organic material decomposition. ▪ Ensure separation of finished product silo storage and railcar from rest of the plant. ▪ Require all of the following equipment protection systems/sprinkler systems: ▪ The Fire Pump Building will be protected with a wet sprinkler system. ▪ The Bark Hog Tower will be protected with a dry pipe sprinkler system. ▪ The Green Hammer Mill Tower will be protected with a dry pipe sprinkler system. ▪ The Dry Hammer Mill Structure will be protected with a dry pipe sprinkler system. ▪ The Pelletizer Building will be protected with a wet sprinkler system. ▪ Require that each baghouse at rail loadout will be provided with fire water connections and spray nozzles. ▪ Require the inclusion of a Rail Loadout Dust Control System ▪ Require a Central Dust Control system in the balance of the production facilities. ▪ Require that well water be treated as necessary to minimize dissolved material in water to reduce scaling and clogging of water deluge systems/plugged nozzle or lines with water scale/hardness.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		Each plan shall be reviewed and approved by the Fire Marshall with authority over each site (Lassen County, Tuolumne County, and the Port of Stockton) and comply with all applicable current standards and codes set by the National Fire Protection Agency and the International Building Code as well as any additional requirements deemed necessary by the applicable local fire authority.	
Hydrology and Water Quality			
HYD-1. The project would potentially violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	PS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility, Port of Stockton)*	**MM-GEO-1** **MM-HYD-1: Protection of Existing Water Bodies.** The following measures shall be implemented to protect existing water quality during forest thinning operations: ▪ All equipment and vehicle staging areas shall be a minimum of 100 feet from existing drainages, streams, reservoirs, and lakes. ▪ Equipment watercourse crossings shall be planned, constructed, maintained, and removed according to standards described in the California Forest Practice Rules (California Licensed Timber Operators and California Registered Professional Foresters 2020) and the National Best Management Practices for Water Quality Management on National Forest System Lands, National Core BMP Technical Guide (USDA Forest Service 2012). Measures include: - minimization of the number of crossings; - selection of crossings where the erosion potential is low;	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		- use of a temporary bridge, culvert, or log culvert to minimize siltation of the stream; - using suitable drainage measures to disconnect the road from the waterbody; - providing unrestricted passage of the design flow and fish migration; and - removal and stabilization of the stream prior to the winter rainy season. **MM-HYD-2: Spill Prevention and Response Plan.** A Spill Prevention and Response Plan shall be prepared prior to forest thinning activities to provide protection to onsite workers, the public, and the environment from incidental leaks or spills of petroleum products, herbicides, or hazardous substances. The Spill Prevention and Response Plan shall be consistent with the 2011 Forest Service Region 5 Water Quality Management Handbook 2509.22, Chapter 10 (U.S. Forest Service 2011) and the National Best Management Practices for Water Quality Management on National Forest System Lands, National Core BMP Technical Guide (USDA Forest Service 2012), including, but not limited to: ▪ All water-drafting vehicles shall be checked daily and shall be repaired as necessary to prevent leaks of petroleum products from entering streams. ▪ Water-drafting vehicles shall contain petroleum-absorbent pads, which are placed under vehicles before drafting.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Water-drafting vehicles shall contain petroleum spill kits. ▪ Disposal of absorbent pads shall be completed according to a Hazardous Response Plan. ▪ Plan for appropriate equipment refueling and servicing sites during project planning and design. ▪ Allow temporary refueling and servicing only at approved locations, which are well away from water or riparian resources. ▪ Develop or use existing fuel and chemical management plans (for example, spill prevention control and countermeasures (SPCC), spill response plan, emergency response plan) when developing the management prescription for refueling and servicing sites. SPCCs measures shall include: - Install or construct the containment features or countermeasures called for in the SPCC Plan to ensure that spilled oil does not reach groundwater or surface water. - Ensure that each SPCC Plan includes a spill contingency plan at each facility that is unable to provide secondary spill containment. - Ensure that clean-up of spills and leaking tanks complies with federal, State and local regulations and requirements. - Prepare a contingency plan when quantities of petroleum products are capable of violating Regional Water Quality Control Board Basin Plan water-quality objectives. ▪ Locate, design, construct, and maintain petroleum and chemical delivery and storage facilities consistent with local, State and federal regulations.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Install contour berms and trenches around vehicle service and refueling areas, chemical storage and use areas, and waste dumps to fully contain spills. ▪ Locate new staging to avoid the potential for hydrologic connectivity with water bodies and watercourses. To determine necessary drainage, calculate the expected runoff using the appropriate design storm. Include any run-on from adjacent areas in the calculation. ▪ Use liners as needed to prevent seepage to groundwater. ▪ Provide training for all personnel handling fuels and chemicals in their proper use, handling, storage, and disposal. ▪ Avoid spilling fuels, lubricants, cleaners, and other chemicals during handling and transporting. ▪ Report spills and initiate appropriate clean-up action in accordance with applicable State and federal laws, rules and regulations. **MM-HYD-3 Protection of Existing Drainage Systems.** If a forest thinning activity is located adjacent to a roadway with stormwater drainage infrastructure, the existing stormwater drainage infrastructure shall be marked prior to ground disturbing activities. If a drainage structure or infiltration system is inadvertently disturbed or modified during project activities, GSNR shall coordinate with owner of the system or feature to repair any damage and ensure that restore pre-project drainage conditions are restored. **MM-HYD-4 Avoidance of Legacy Soil Contamination.** Areas of known or suspected contaminated soil shall be	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		avoided during forest thinning operations. Known contaminated sites shall be based on the California Department of Toxic Substances Control Cortese list, as described in Section 3.8, Hazards and Hazardous Materials. **MM-HYD-6 Lassen Low Impact Development Features.** A proprietary biotreatment unit (i.e., Modular Wetland System) shall be installed downstream of the proposed detention basin, as infiltration is not feasible at the site. The biotreatment unit shall be designed to capture and treat stormwater pollutants, consistent with commercial/industrial developments and associated parking lots, and including oil, grease, metals, trash, and debris. Treatment design shall be finalized upon completion of final project design. Source control Best Management Practices, such as secondary containment, regular inspections, and equipment maintenance, shall also be implemented whenever possible. **MM-HYD-8 Tuolumne Low Impact Development Features.** Soil infiltration testing shall be completed on-site to determine the suitability of the site for construction of a stormwater infiltration basin. In the event that the soils are suitable for infiltration, a stormwater detention/infiltration basin shall be constructed to minimize off-site transport of polluted stormwater runoff. In the event, on-site soils are not suitable for stormwater infiltration, a proprietary biotreatment unit (i.e., Modular Wetland System) shall be installed downstream of the proposed detention basin, as described in MM-HYD-7.	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-HYD-10 Stockton Low Impact Development Features. A proprietary biotreatment unit (i.e., Modular Wetland System) shall be installed downstream of the proposed detention basin, as infiltration is not feasible at the site. The biotreatment unit shall be designed to capture and treat stormwater pollutants, consistent with commercial/industrial developments and associated parking lots, and including oil, grease, metals, trash, and debris. Treatment design shall be finalized upon completion of final project design. Source control Best Management Practices, such as secondary containment, regular inspections, and equipment maintenance, shall also be implemented whenever possible.	
HYD-2. The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	PS *(Feedstock Acquisition)* LTS *(Lassen Facility, Tuolumne Facility, Port of Stockton)*	**MM-HYD-5 Minimize Soil Compaction.** Consistent with the 2011 Forest Service Region 5 Water Quality Management Handbook 2509.22, Chapter 10 (U.S. Forest Service 2011), the following measures shall be implemented to minimize soil compaction and increase infiltration of precipitation: ▪ Exclude the use of mechanical equipment in wetland and meadows except for the purpose of restoring wetland and meadow function. ▪ During road construction and maintenance, limit operation of equipment when ground conditions could result in excessive soil compaction, except on the road prism or other surface to be compacted. ▪ During restoration of equipment damaged areas, mechanically rip areas of compacted soil to allow infiltration of precipitation.	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Fell trees toward a predetermined skid pattern, also known as felling to the lead, to reduce soil disturbance. ▪ When restoring water crossings, remove all trail-hardening materials and fill, and restore the channel bottom to its natural gradient and width. If necessary, replace hardening material in the channel with cobble similar in size to the native bed-load.	
HYD-3. The project would not substantially alter the existing drainage pattern of the Master Plan area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
i. result in substantial erosion or siltation on or off site;	PS (*Feedstock Acquisition, Lassen Facility, Tuolumne Facility, Port of Stockton*)	**MM-HYD-1** **MM-HYD-5** **MM-HYD-7: Lassen Stormwater Detention.** A stormwater detention basin shall be constructed on-site and designed to provide peak flow detention for a 24-hour, 50-year storm event, with over 2 feet of freeboard during the peak of the storm event. Stormwater flow rates exiting the site shall be less than or equal to existing conditions. The top elevation of the detention basin shall be constructed a minimum of 2 feet above projected 100-year base flood elevations. **MM-HYD-9: Tuolumne Stormwater Detention.** Stormwater detention basins shall be provided for stormwater runoff flowing to the north and south of the site. The stormwater detention basins shall be designed to provide peak flow detention for a 24-hour, 50-year storm event, with over 2	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		feet of freeboard during the peak of the storm event. Stormwater flow rates exiting the site shall be less than or equal to existing conditions. **MM-HYD-11 Stockton Stormwater Detention**. A stormwater detention basin shall be constructed on-site and designed to provide peak flow detention for a 24-hour, 50-year storm event, with over 2 feet of freeboard during the peak of the storm event. Stormwater flow rates exiting the site shall be less than or equal to existing conditions.	
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	PS *(Lassen Facility, Tuolumne Facility, Port of Stockton*) LTS (*Feedstock Acquisition)*	**MM-HYD-7** **MM-HYD-9** **MM-HYD-11**	LTS
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	PS (*Lassen Facility, Tuolumne Facility, Port of Stockton*) LTS (*Feedstock Acquisition*)	**MM-HYD-1** **MM-HYD-5** **MM-HYD-7** **MM-HYD-9** **MM-HYD-11**	LTS
iv. cause the proposed development, when combined with all other existing and anticipated development, to increase the water surface elevation of the base flood	LTS *(Lassen Facility)* NI *(Feedstock Acquisition,*	N/A	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
more than one foot at any point within the community.	*Tuolumne Facility, Port of Stockton)*		
HYD-4. The project would not risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone.	LTS (*Lassen Facility*) NI (*Feedstock Acquisition, Tuolumne Facility, Port of Stockton*)	N/A	LTS
HYD-5. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	No additional mitigation measures, beyond those identified in Impacts HYD-1 through HYD-4.	LTS
Land Use and Planning			
LU-1. The project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	N/A	LTS
Noise			
NOI-1. The project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	N/A	LTS
NOI-2. The project would not result in generation of excessive groundborne vibration or groundborne noise levels.	LTS	N/A	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
NOI-3. The project is not one that is located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, that would expose people residing or working in the project area to excessive noise levels.	LTS	N/A	LTS
Population and Housing			
POP-1. The project would not induce substantial unplanned population growth in the area, either directly or indirectly.	LTS	N/A	LTS
POP-2. The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	NI	N/A	NI
Public Services			
SER-1. The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.			
Fire Protection	LTS	N/A	LTS
Police Protection	LTS	N/A	LTS
Schools	LTS	N/A	LTS
Parks	LTS	N/A	LTS
Library Facilities	LTS	N/A	LTS
Transportation			
TRF-1. The project may conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	PS *(Lassen Facility)* LTS	**MM-TRF-2: Assessment and maintenance of Babcock Road per GP Policies CE 6 and CE 10.** **Initial Assessment**	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
	(Feedstock Acquisition, Tuolumne Facility, Port of Stockton)	The project will be required to conduct an initial pavement assessment of Babcock Road from SR-299 to the project site, prior to commencement of construction of the Lassen Facility. **Biennial Pavement Assessments** Pavement within the designated area of Babcock Road will thereafter be evaluated biennially, commencing at the start of construction of the Lassen Facility, and the results of these analyses will be retained by GSNR. **Assessment Criteria** Each assessment required by the Mitigation Measure shall address the following elements: ▪ **Pavement Distress Evaluation:** quantification of the distress types, extents, and severities in accordance with the ASTM D6433 standard. A 100% assessment of the construction routes will be performed. If the existing surface is not Asphalt Concrete (AC) or Portland Cement Concrete (PCC), an alternative evaluation method such as the Pavement Surface Evaluation and Rating (PASER) methodology will be used. ▪ **Pavement Condition Index (PCI):** PCI values will be calculated using collected distress data and reported for both AC and PCC roadways. ▪ **Photo Survey:** photos of the surface will be collected and provided to the County as part of the analysis. ▪ **Road Roughness:** measurement of the International Roughness Index (IRI) for each construction route. **Rehabilitation**	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		If, through this assessment, the road is found to require resurfacing, repaving, or reconstruction in order to maintain its pre-project condition, GSNR will be required to resurface, repave, or reconstruct this section of Babcock Road, consistent with the County of Lassen requirements for Road District Four and consistent with Lassen County Code Section 10.32.050 – *Minimum Design Standards for County Road.* The road will be rehabilitated to a condition that allows for carrying 20-year Equivalent Single Axel Load (ESAL) values. (Traffic volumes along this segment of Babcock Road will be determined from the traffic report contained in this EIR. Forward-looking projections of operational traffic will be also considered to determine the 20-year ESAL count and ensure that the rehabilitated pavement sections are structurally adequate for project and non-project traffic.) The post-construction report will be signed and stamped by a California-Licensed Professional Engineer.	
TRF-2. The project would be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	PS *(Feedstock Acquisition, Lassen Facility)* LTS *(Tuolumne Facility, Port of Stockton)*	**MM-TRF-1: Provide Employee Sponsored Vanpool for Sustainable Forest Management Projects.** GSNR would be required to provide, or cause to be provided, vanpooling services consistent with CAPCOA Measure T-11 for workers traveling to jobsites when applicable (i.e., when 5 or more employees with similar work hours live close enough to one another for van pooling to be practicable). A Transportation Manager shall be designated to coordinate vanpooling for each feedstock acquisition project and provide a report detailing recorded annual vanpool usage to the County. **MM-TRF-4: Provide Electric Vehicle Charging Infrastructure and Employee Sponsored Vanpool for the Lassen Facility, the Tuolumne Facility, and the Port of**	SU

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		Stockton. GSNR would be required to provide, or cause to be provided, vanpooling services consistent with CAPCOA Measure T-11 for workers traveling to the Lassen Facility, the Tuolumne Facility, and the Port of Stockton facility when applicable (i.e., when 5 or more employees with similar work hours live close enough to one another for van pooling to be practicable). A Transportation Manager shall be designated to coordinate vanpooling for at each facility and maintain a record of annual vanpool usage. Additionally, GSNR would be required to install EV charging at the Lassen Facility, the Tuolumne Facility, and the Port of Stockton facility consistent with CAPCOA Measure T-13. Per Table A5.106.5.3.2 of the 2019 California Green Building Standards, 10 percent of total parking spaces are required to be EV charging spaces to meet Tier 2 standards. The project proponent would be required to exceed the 10 percent EV charging space requirement, consistent with CAPCOA Measure T-13.	
TRF-3. The project could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	PS *(Lassen Facility)* LTS *(Feedstock Acquisition, Tuolumne Facility, Port of Stockton)*	**MM-TRF-3: Installation of Warning Signage Along SR 299.** GSNR would be required to install CA MUTCD W2-1 warning signage per applicable standards in advance of Babcock Road and 4th Street along both directions of SR-299.	LTS
TRF-4. The project would not result in inadequate emergency access.	LTS	N/A	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
Utilities and Service Systems			
UTIL-1. The project would require the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities resulting in environmental effects.	PS *(Lassen Facility, Tuolumne Facility)* LTS *(Port of Stockton)* NI *(Feedstock Acquisition)*	MM-AQ-2 MM-AQ-3 MM-AQ-4 MM-AQ-5 MM-AQ-7 MM-AQ-10 MM-AQ-13 MM-CUL-1 MM-CUL-2. MM-WIL-2	LTS
UTIL-2. The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	LTS	N/A	LTS
UTIL-3. The project would not result in a determination by the wastewater treatment provider, that it does not have adequate capacity to serve the project's projected demand in addition to existing commitments.	LTS (Port of Stockton) NI (Feedstock Acquisition, Lassen Facility, Tuolumne Facility)	N/A	LTS
UTIL-4. The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. The project would comply with all federal, state, and local	LTS	N/A	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
management and reduction statutes and regulations related to solid waste.			
Wildfire			
WIL-1. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan.	LTS	N/A	LTS
WIL-2. The project would potentially exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	PS *(Feedstock Acquisition, Lassen Facility, Tuolumne Facility)* NI *(Port of Stockton)*	**MM-HAZ-2** **MM-WIL-1: Feedstock Acquisition Fire Prevention Plan**. Best practices and standard requirements for fire risk reduction shall be required during feedstock acquisition activities. Prior to the start of feedstock acquisition activities (e.g., prior to the use of vehicles or mechanical equipment on site), a Fire Prevention Plan shall be prepared in consultation with and for review and approval by the U.S. Forest Service, California Department of Forestry and Fire Protection (CAL FIRE), or the fire agency having jurisdiction (FAHJ). The Fire Prevention Plan shall include, but would not be limited to, the following specific measures to be implemented during feedstock acquisition activities: ▪ Responsibilities of the project applicant, its contractor(s), and fire agencies with respect to fire prevention and inspection of work areas; ▪ Designation of a Site Safety Officer responsible for overseeing the Fire Prevention Plan implementation;	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Basic fire prevention training of employees/contractors upon employment and prior to beginning work, and documentation of the training. Basic fire prevention training shall include, but would not be limited to: fire prevention, proper response and notification, initial attack firefighting (e.g., the use of fire extinguishers and hand tools), and fire reporting; ▪ Emergency communication, response, and reporting procedures. All fires shall be reported to the FAHJ; ▪ Procedures for minimizing potential ignition, including, but not limited to: vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, storage of combustible or flammable materials restrictions, proper use of gas-powered equipment, use of spark arresters; ▪ Identification of fire suppression equipment to be maintained in work areas and staging areas (e.g., portable fire extinguishers, water tender, shovels, Pulaski). The fire suppression equipment appropriate for the project shall be determined based on the project characteristics, but at minimum would include: one fire extinguisher per chainsaw and each vehicle shall be equipped with one long-handled shovel and one axe or Pulaski (PRC Section 4428); ▪ Identification of evacuation routes and procedures; ▪ Provisions for fire/emergency services access if roadway blockage or temporary closures occur; ▪ Designated worker parking and staging areas cleared of flammable vegetation; no parking or feedstock activities in non-designated areas;	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Prohibition of smoking and open fires at the project site. Prohibit smoking in vegetated areas and require that smoking is only permitted in designated smoking areas barren or cleared to mineral soil at least 3 feet in diameter (PRC Section 4423.4); ▪ Assurances that all internal-combustion equipment are equipped with appropriate spark arresters and that fire extinguishers are immediately available and maintained in readiness for use at all times; ▪ Presence of a designated fire watch personnel with appropriate firefighting equipment available at the project site at all times; ▪ Curtailment of all feedstock acquisition activities in the event of a fire or when fuel and weather conditions get into the "very high" and "extreme" ranges (Red Flag Warning), as determined by the National Weather Service, with specific project-related activities to be allowed during very high or extreme weather conditions at the discretion of the FAHJ; ▪ Information contained in the Fire Prevention Plan and location of fire-suppression materials and equipment to be included as part of the employee environmental training. **MM-WIL-2: Construction Fire Prevention Plan.** GSNR shall develop a Construction Fire Prevention Plan for review and approval by the U.S. Forest Service, California Department of Forestry and Fire Protection (CAL FIRE), or the fire agency having jurisdiction (FAHJ) prior to commencement of construction activities (prior to vehicles or equipment being brought on site). At minimum, the plan will require all of the following:	

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Procedures for minimizing potential ignition, including but not limited to: - Vegetation clearing - Parking requirements - Smoking restrictions - Hot work restrictions; ▪ Red Flag Warning restrictions. During Red Flag Warning events, as issued daily by the National Weather Service in State Responsibility Areas (SRAs) and Local Responsibility Areas (LRAs), and when the Forest Service Project Activity Level (PAL) is "E" on National Forest lands (as appropriate), all non-essential, non-emergency construction and maintenance activities shall cease or be required to operate under a Hot Work Procedure. The Hot Work Procedure will be in compliance with the applicable sections in NFPA 51-B "Fire prevention during welding, cutting, or other hot work" and CFC Chapter 26 "Welding and Other Hot Work"; ▪ Fire coordinator role and responsibility; ▪ Fire suppression equipment on site at all times work is occurring; ▪ Emergency response and reporting procedures; ▪ Emergency contact information; ▪ Worker education materials; kick-off and tailgate meeting schedules; ▪ Other information as provided by the FAHJ (as appropriate for each project).	
WIL-3. The project would potentially 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	PS *(Feedstock Acquisition, Lassen*	**MM-WIL-1** **MM-WIL-2**	LTS

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact	Mitigation Measure(s)	Level of Significance After Mitigation
may result in temporary or ongoing impacts to the environment.	*Facility, Tuolumne Facility)* NI *(Port of Stockton)*		
WIL-4. The Project would potentially 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.	PS *(Feedstock Acquisition)* LTS *(Lassen Facility, Tuolumne Facility)* NI *(Port of Stockton)*	**MM-HYD-5**	LTS *(Feedstock Acquisition)*

Notes: LTS = Less than Significant, N/A = Not Applicable, NI = No Impact, PS = Potentially Significant, SU = Significant and Unavoidable

ES.3 Analysis of Alternatives

Alternatives Considered

Alternatives to the proposed project are discussed in Chapter 4. This discussion includes alternatives that were identified but dismissed from further consideration. Four feasible alternatives were identified that would avoid or substantially lessen one or more project impacts. They are summarized below.

- **No Project Alternative** - The No Project Alternative are the circumstances under which the proposed project does not proceed.
- **Wood Product Alternative** - This alternative involves producing an alternative wood product at the site, as opposed to wood pellets. Woody material would be harvested to produce either oriented strand board (OSB) or medium density fiberboard (MDF).
- **Biochar Alternative** - This alternative involves producing biochar at the production facilities, as opposed to wood pellets. Biomass would still be harvested per the proposed project.
- **Alternative Layout at Northern California Facility** - This alternatives would change the facility layout at the Northern California (Nubieber) site to maximize avoidance of jurisdictional waters (waters of the US and the State).

No Project Alternative

CEQA Guidelines Section 15126.6(e) generally provides that "[t]he 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, … as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." Section 15126(e)(3)(B) provides that, where, as here, a proposed project is something "other than a land use or regulatory plan," the "No Project" Alternative is "the circumstance under which the project does not proceed." The purpose of describing and analyzing a No Project Alternative is to allow decision - makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project (CEQA Guidelines Section 15126.6[e][1]). "[W]here failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (CEQA Guidelines Section 15126.6[e][3][B]).

Under the No Project Alternative, GSNR would not construct any facilities, nor engage in Sustainable Forest Management projects to promote forest resiliency and reduce the effects of catastrophic wildfire in California. The No Project Alternative would not meet any of the project objectives, including wildfire management objectives, biological and cultural resource objectives, nor economic and community development objectives.

Project construction, operations, and transportation impacts would be avoided. However, benefits accruing to reduction of catastrophic wildfire would not occur. While other local, state, and federal programs would continue to engage in vegetation management, the significant increase in this activity enabled by the GSNR project would not occur. Most estimates show increasing incidence, severity, and size of wildfires, particularly in the Sierra Nevada and Southern Cascades in the absence of increased management actions (CCST 2020). Catastrophic wildfire results in the release of carbon as a result of combustion, and may also slow the uptake in carbon sequestration that typically results from regrowth following a fire (Hemes 2023).

Wood Product Alternative

Under this alternative, woody material would be harvested to produce either oriented strand board (OSB) or medium density fiberboard (MDF), instead of wood pellets. The rationale behind this alternative is to preserve carbon from forest vegetation in the final product, as opposed to a fuel use.

OSB is an engineered wood that is formed by adding adhesives and compressing layers of wood strand. It is often used in residential and commercial construction due to its ability to resist deflection, delamination, and warping, making it an ideal material for load bearing uses such as flooring (APA – The Engineered Wood Association 2024). Similar to the proposed project, the primary source of GHG emissions in OSB production is the drying process, which requires thermal energy production (Puettmann, Karstmer, and Taylor 2016). OSB strands, which are compressed into OSB sheets, are produced by thinly slicing logs (typically 8 to 12 inches in diameter) into wood flakes that are approximately 0.5 in by 3 inches by 0.02 inch, depending on process and material ((Fisette 2005; Hiziroglu 2017). Currently, OSB waste can only be incinerated; there are no alternatives for disposal (The Upstyle Wood Guide.org, n.d.)

MDF is a different engineered wood product that is often used in furniture and interior construction (such as cabinets, countertops, and trim). Its smooths surface and uniform density make it ideal for shaping (Travis Perkins 2024). However, while OSB is made by compressing wood strands that are a few inches in length, MDF is made by adhering fine wood fibers together, from hard or softwood (Travis Perkins 2024). Recycling options for MDF are still being investigated, as most MDF waste is currently landfilled (Zimmer and Bachmann 2023). Studies indicate during decomposition, OSB and MDF offgas toxic compounds, originating from formaldehyde, urethane, and/or melamine used in their production.

The wood materials alternative would achieve many of the proposed project objectives, but to a lesser degree than the proposed project. These alternative products require larger diameter feedstock material and do not provide an outlet for smaller diameter materials such as slash, thereby reducing the extent to which they can achieve the project's wildfire fuel reduction objectives. Further, softer market demand for these products is likely to limit the ability for the project to sustain treatment activities in practice. Finally, unlike wood pellets, manufacture of these materials requires adhesives, including synthetic resin binder and wax, which may result in the generation of toxicants including formaldehyde, urethane, and melamine.

Biochar Alternative

Under this alternative, the GSNR facility would produce biochar instead of wood pellets. Biochar is a charcoal-like substance that is made by burning organic material from agricultural and forestry wastes (also called biomass) in a controlled process called pyrolysis. Biochar is applied to agricultural soils using a variety of application rates and preparation techniques. Biochar production is a carbon-negative process, which means that it actually reduces CO_2 in the atmosphere. In the process of making biochar, the unstable carbon in decaying plant material is converted into a stable form of carbon that is then stored in the biochar. The release of heat energy from this process can be also captured and used to create steam which is used to generate electricity (Spears 2018, Levitan 2010).

Biochar technology has not been employed, either domestically or internationally, at the scale to accomplish the treatment goals of the proposed project – raising critical issues of feasibility. Currently, there are only approximately 150 companies in the United States, mostly small suppliers, selling biochar worldwide. These producers generally work at a scale of, at most, thousands of metric tons per year (Thengane, et al 2021). This scale would not be sufficient to meet the project objectives for fuel reduction, as the project would need to produce hundreds of thousands of metric tons of biochar to achieve stated objectives. (The proposed project would produce up to

1,000,000 metric tons of product.) The small market size makes it challenging to assess the overall feasibility of this alternative.

The biochar alternative would achieve many of the proposed project objectives, but to a lesser extent than the proposed project. Due to the underdeveloped nature of the biochar market, it is unclear if this alternative could achieve economic self-sufficiency, necessary to sustain forest resiliency activities. Domestic and international demand for biochar remains unclear, with limited production and high costs (Thengane, et al 2021). The ability of this alternative to feasibly achieve the same scale as the proposed project is further limited by the numerous technological barriers associated with biochar production, application, and forest management practices. Thus, this alternative may not achieve long-lasting community benefits in historically overlooked and underinvested California communities, nor achieve the same amount of wildfire fuel reduction treatment as the proposed project.

Alternative Layout at Lassen Facility

This alternative presents a maximum avoidance design for on-site jurisdictional waters, including wetlands. This design would reduce, but not entirely avoid impacts to waters of the US and waters of the state. However, this alternative layout creates serious operational challenges, including a lengthy conveyance of feedstock from the woodyard to the production facility, which would increase costs and decrease reliability (by creating additional maintenance challenges).

While this alternative would accomplish most of the key objectives, reduced efficiency at the plant may impair the project's ability to offset wildfire fuel management costs by making productive use of low-value forest materials, thereby jeopardizing achievement of the project's forest resiliency treatment objectives.

ES.4 Areas of Controversy

The notice of preparation (NOP) for the Golden State Natural Resources Forest Resiliency Demonstration Project was distributed on November 18, 2022 and recirculated on June 1, 2023, to responsible agencies, as well as private organizations and individuals that may have an interest in the project. GSFA held public scoping meetings on November 28, 2022, November 29, 2022, November 30, 2022, December 6, 2022, and June 20, 2023 to provide information on the proposed project and solicit public input on the scope and content of the PEIR.

While numerous comments were received (see Appendix A), concerns were centered on the following areas of controversy:

Greenhouse Gas Emissions and Climate Change

Many commenters identified greenhouse gas (GHG) emissions associated with the project as an area concern and potentially significant impact. Potential GHG sources of emission include construction of facilities, off-road equipment for in-forest operations, transportation to and from the pellet facilities, pellet production, port operations, and combustion of wood pellets. This also was raised in the context of carbon sequestration – the potential loss of existing stored forest carbon and loss of future carbon uptake.

Some commenters have stated that wood pellets, or bioenergy more broadly, should therefore not be considered a "renewable" energy source. For example, statements have been made whether or not the Intergovernmental Panel on Climate Change (IPCC) identifies biomass, or bioenergy, as a renewable energy source. While this is controversial, both the IPCC and the European Union (EU) identify bioenergy as a category of renewable energy.

This is not to say that bioenergy is carbon neutral. The carbon impact of a particular bioenergy product or process will vary.

This EIR examines the above topics, including GHG emission sources during project construction and operations, and the effects on carbon storage and future sequestration in the forests and the effects of wildfire on treated and untreated forest lands.

Air Quality

GHG is not the only emission associated with the construction and operation of the project. Commenters noted the potential adverse effects on air quality due to facility construction, operation, and transportation (truck, rail, and ship). Pollutants of concern include particulate matter, volatile organic compounds (VOCs), toxic diesel particulate emissions, and hazardous air pollutants (HAPs). Commenters have stated that environmental health impacts may be felt most strongly by disadvantaged communities, such as South Stockton.

Forest Treatment

If, and how, California's forests should be managed to minimize the risk of catastrophic wildfire is an area of controversy. Adverse effects identified by commenters include impacts to special status wildlife and plants, destabilization of soils and subsequent erosion, impacts to water quality, and loss of recreational opportunities. Some commenters expressed concern that the proposed project was a means to reinstate large scale logging in California.

The potential impacts of the proposed sustainable forest management activities are analyzed in this EIR. A wide range of required project development features are incorporated into those activities to avoid or reduce potentially significant impacts while providing opportunities for improved forest sustainability and wildfire resilience.

It is noted that the State of California has identified 500,000 acres per year as a treatment goal for wildfire resilience (Wildfire Task Force 2021). This is matched by the U.S. Forest Service, which has also identified 500,000 acres per year as their treatment goal.

ES.5 Issues to be Resolved by the Lead Agency

The CEQA Guidelines, Section 15123(b)(3), require that an EIR contain a discussion of issues to be resolved. The GSFA Board of Directors (Board) must consider whether or not to approve the proposed project, or one of the project alternatives, and must further consider the terms and conditions of a public-private partnership agreement between GSFA and GSNR, including terms and conditions that implement environmental protections. GSFA will thereafter be required to consider approval of all sources of harvest residuals procured and used by GSNR, and all biomass-only thinning projects undertaken by GSNR.

ES.6 References

APA – The Engineered Wood Association. n.d. Oriented Strand Board (OSB). Accessed August 22, 2024 at https://www.apawood.org/osb.

CCST (California Council on Science and Technology). 2020. The Costs of Wildfire in California. Full Report. October 2020.

Fisette, Paul. 2005. "Choosing Between Oriented Standboard and Plywood". Building and Construction Technology. University of Massachusetts Amherst Department of Environmental Conservation. Accessed September 10, 2024 at https://www.umass.edu/bct/publications/articles/choosing-between-oriented-strandboard-and-plywood/.

Hemes, Karl, et al. 2023. "The Magnitude and Pace of Photosynthetic Recovery After Wildfire in California Ecosystems." Proceedings of the National Academy of Sciences. Vol. 120 No. 15. January 26, 2023.

Hiziroglu, Salim. N.d. "Oriented Strand Board as a Building Material." Robert M. Kerr Food & Agricultural Products Center. FAPC-145. March 2017. Accessed August 22, 2024. https://extension.okstate.edu/fact-sheets/print-publications/fapc-food-and-agricultural-products-center/oriented-strand-board-as-a-building-material-fapc-145.pdf.

Levitan, Dave. 2010. "Refilling the Carbon Sink: Biochar's Potential and Pitfalls". Yale Environment 360. December 9, 2010. Accessed August 22, 2024. https://e360.yale.edu/features/refilling_the_carbon_sink_biochars_potential_and_pitfalls.

Puettmann, Maureen, Dominki Kasestner, and Adam Taylor. 2016. CORRIM Report-Module E Life Cycle Assessment of Oriented Strandboard (OSB) Production. Accessed August 22, 2024. https://corrim.org/wp-content/uploads/Module-E-OSB-Final-w-survey.pdf.

Spears, Stefanie. 2018. What is Biochar? Regeneration International. May 16, 2018. Accessed August 22, 2024. https://regenerationinternational.org/2018/05/16/what-is-biochar/.

The Upstyle Wood Guide.org. n.d. OSB. Accessed September 5, 2024. https://www.woodguide.org/guide/osb/.

Thengane, Sonal, et al. 2021. "Market prospects for biochar production and application in California." Biofuels, Bioproducts, & Biorefining. Vol. 15 Issue 6. August 16, 2021.

Travis Perkins. n.d. What is MDF? Everything You Need to Know. Accessed August 22, 2024. https://www.travisperkins.co.uk/content/what-is-mdf#:~:text=What%20does%20MDF%20stand%20for%3F%20MDF%20stands%20for,of%20applications%2C%20from%20furniture%20making%20to%20decorative%20mouldings.

Zimmer, André, and Suyanne Angie Lunelli Bachmann. 2023. "Challenges for recycling medium-density fiberboard (MDF)". Results in Engineering. Vol. 19. July 14, 2023.

INTENTIONALLY LEFT BLANK